As sales increase, you improve your profit. Substantial sales and certain profits make a successful business.

**PROFITS**

Peerless performance and economical operation mean satisfied customers. Satisfied customers lead to additional sales.

**SATISFACTION**

Peerless design, demonstrated performance, low price and easy payments under FHA. Moderate means can buy a Peerless as a definitely profitable investment. Low selling price and easy payments make a Peerless as a definitely profitable investment. Low selling price and easy payments under FHA. Write or wire for full information. A few openings for resident managers.

**THE PEERLESS MANUFACTURING CORPORATION**

1407 W. Ormsby St. Louisville, Ky.

The new Peerless stoker is outstanding in beauty of design, top-quality in engineering efficiency and rugged in construction. With every approved stoker feature, Peerless is mechanically the best buy at any price and definitely first in eye appeal. Every home owner and even tenants of moderate means can buy a Peerless as a definitely profitable investment. Low selling price and easy payments under FHA. Write or wire for full information. A few openings for resident managers.

**FREE**

Ask today for your free copy of "Manual on the Use of Electric Hand Saws in House Building." It shows how contractors and builders in every section of the country are saving time and making more money with Speedmatic Saws.

**The PORTER-CABLE MACH CO.**

1727-8 N. SALINA ST. SYRACUSE, N. Y.

**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 in 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 and not at 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 worthwhile 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."
For Beautiful OAK FLOORS like this

IN PLANK, PARQUET, OR STANDARD STRIP

"This FREE Book really tells you how. Write for your copy today!"

ARKANSAS OAK FLOORING COMPANY, Pine Bluff, Ark.

WESTBOARD
PLYWOOD
A PRODUCT OF THE "ROLLING MILL"
OF THE LUMBER INDUSTRY—
IT'S LIGHTER AND STRONGER—
COSTS LESS AND LASTS LONGER
See your Lumber Dealer to-day

WASHINGTON VENEER CO.
OLYMPIA, WASHINGTON

FOR GREATER SPEED • SAFETY • ECONOMY!
"TROUBLE SAVER"
Nail Attached

BRACKETS

Right Lite the start—free Tai-
ker—on building and
muling—-and get the
ning points of the
ning. For more than
house or garage,
ning. Write for
on.

All ends and
ured to be
ure an
vironmental

affects
sens-
on
more
to
ement-
condi-
struct-

1. 10 Spoke Wheels
2. Channel Steel Legs
3. Self Lubricating Bearings
4. Malleable Axle Brackets
5. Malleable Wheel Guards
6. Interchangeable Parts
7. Square Bent Leg Shoes
8. V-Braces and Braces Supports
9. Clear Maple or Tubular Handles
10. Weled Tows

STERLING WHEELBARROW CO. MILWAUKEE, WISCONSIN
For the Service of Builders, Contractors, Architects, Dealers

The publications listed below may be obtained without charge either by using the coupon, listing the numbers desired and mailing to American Builder, 105 West Adams Street, Chicago, or by applying on your business stationery to the manufacturers direct, in which case kindly mention this publication. Either the titles or the numbers may be used in ordering. This list is an editorial feature for convenience of our readers.

194—Termitie 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—Selector—Interesting new data sheets give information regarding this most modern method of opening garage doors and gates. Selector 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 completely with prices.—SASGEN DERRICK CO., 3101 Grand Ave., Chicago, III.

198—New International Diesel Crawler Tractor—An attractive brochure 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.

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 showers, 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 these balances if 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., 3250 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 4-stright at Pen Argyl, Pa., 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, moldings, edgings and ornamental metal moulds for modernistic effects using wallboard 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—"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., 3250 Goldner Ave., Detroit, 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 and BUILDING AGE, with which are incorporated National Builder, Permanent Builder and the Builder’s Journal, is published on the first day of each month by the SIMMONS-BOARDMAN PUBLISHING CORPORATION, 105 West Adams Street, Chicago, Ill. NEW YORK 30 Church Street. NATIONAL PRESS BUILDING, WASHINGTON, D. C. SEATTLE 1038 Henry Bldg. SAN FRANCISCO 485 California St. LOS ANGELES 530 West 6th St.

Publisher’s Page—by Samuel O. Dunn

Extra Bath in Small Space

"Home Maintenance"

Walls Molded Flat, Then Raised

Window Conditioning—What It Is, What It Does

TruCost Figures for American Builder Home Designs

TruCost Brings Order Out of Chaos

Practical Job Pointers

What’s New Department

Letters from Readers

Catalogs Reviewed

Index to Advertisers

JOSEPH B. MASON, Eastern Editor
LYMAN M. FORBES, Research Editor

AMERICAN BUILDER and Building Age
NAME REGISTERED U. S. PATENT OFFICE AND CANADIAN REGISTRAR OF TRADE MARK
SEPTEMBER, 1938
Vol. 60—No. 9

Publisher’s Page—by Samuel O. Dunn

Extra Bath in Small Space
Easy Remodeling Turns Wardrobe Corner Into Complete Bathroom
"Home Maintenance"
Troy, N.Y., Realtor Finds Money-Making Sideline
Walls Molded Flat, Then Raised
Cement Association Engineers Develop Novel Method to Cut Cost of Concrete Houses
Window Conditioning—What It Is, What It Does
Tables Show Fuel Saved by Use of Storm Sash for "Window Conditioning"
Practical Job Pointers
What’s New Department
News of the Month
Letters from Readers
Catalogs Reviewed
Index to Advertisers

BERNARD L. JOHNSON, Editor
ROBERT H. MORRIS, Associate Editor
A. W. HOLT, Contributing Editor


Subscription price in the United States and Possessions and Canada, 1 year, $2.00, 2 years, $3.50, 3 years, $4.00; foreign countries, 1 year, $4.00, 2 years, $7.00, 3 years, $10.00. Single copies 25 cents each. Address B. E. McCandless, Circulation Manager, 10 Church Street, New York, N.Y.

Member of the Associated Business Papers (A. B. P.) and of the Audit Bureau of Circulation (A. B. C.).
This newest member of a famous family offers all the well-known Wyteface advantages, at a moderate price.

The black-on-white markings are easy to read, even in poor light—a great convenience and a safeguard against errors. The crack-proof white surface, permanently bonded to the steel, protects the line from corrosion and rust. This new kind of tape is hard to curl, hard to kink—good for a long, useful life.

Favorite Wyteface is made in 25, 50, 75 and 100 ft. lengths; long-wearing leatherite case; nickel-plated mountings; sturdily, simplified center; patented friction brake.

Over the past four years, surveyors and engineers have bought thousands of higher-priced Wyteface Tapes. Favorite Wyteface—sold by hardware and building supply dealers—represents real value. If your dealer hasn’t yet stocked Wyteface, use the coupon to secure illustrated folder and complete prices.

KEUFFEL & ESSER CO., Dept. 15, Hoboken, N. J.
Send illustrated folder and complete prices on Favorite Wyteface.

Name...........................................
Address........................................
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 period 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?
CONCRETE 'DIMPLE'
MADE WATERTIGHT WITH 'INCOR'

LINED with 'Incor' concrete, the bed of a small pond (above), was converted into a swimming pool, on West Acres estate, New Lebanon, N. Y., in the beautiful Berkshires.

It is easy to get watertight concrete: A good mix; place carefully; then, keep the concrete wet until thoroughly cured. Use either Lone Star Cement or 'Incor' 24-Hour Cement, depending on job conditions. Both are quality Portland cements; both give you watertight concrete. Only difference is, 'Incor'* cures thoroughly in 24 to 48 hours. That makes curing easier and surer. Write for copy of "Watertight Concrete." Lone Star Cement Corporation, Room 2225, 342 Madison Avenue, New York.


LONE STAR CEMENT CORPORATION
MAKERS OF LONE STAR CEMENT...‘INCOR’ 24-HOUR CEMENT
Home Builder, Home Owner

The Place of Each in Building Market

We 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
Tale of Three Cities

HOME 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, 4 1/2 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—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-
American Builder, September 1938.

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, 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 made 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 account of history of mortgagor.

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"

WAT 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.

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—one 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.

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
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 units, 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 Warterfield, former president of the Chicago Real Estate Board and vice president of the Starrett Brothers; Arthur Kruggel, 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-
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 investors."

(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

The 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

By Joseph B. Mason
Eastern Editor

YES, 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 apparemly 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 weatherstripping 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
American Builder, September 1938.

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 much a 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)
CONSTRUCTION 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, 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.


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.

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

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

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

By 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
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..."
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.’

"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

American Builder, September 1938.

PHOTO OPPOSITE

First Floor Plan

Second Floor Plan

Front Elevation

South Elevation

North Elevation

West Elevation

Basement Plan

45
9 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.
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, Ilg exhaust fan in kitchen, Kohler fixtures and Dowagiac winter conditioning system.
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.

THE dining room above has wainscotting 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 sec-
ond floor as shown in plan
below. The first floor con-
tains 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 con-
struction 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 con-
cern have the space necessary for gracious family life.
Enterance halls are large enough to lend a welcome atmos-
phere; 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 liva-
bility.

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 shut-
tered windows and decorative cornice. The other house
presents an interesting contrast with rough laid brick chim-
nay, trowel marked stucco, shingles laid with irregular butt
line and steel casement sash.
INTERIORS. EFFICIENT KITCHENS AND GOOD STYLING

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.
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.
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.
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 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 area. 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.
the Country
Can Now be Financed under FHA

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 mitered 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.
# TruCost Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

<table>
<thead>
<tr>
<th>Unit of Construction</th>
<th>Sept., 44</th>
<th>Sept., 46</th>
<th>Sept., 47</th>
<th>Sept., 48</th>
<th>Sept., 49</th>
<th>Sept., 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basement Walls, lin. ft.</td>
<td>120</td>
<td>170</td>
<td>143</td>
<td>191</td>
<td>136</td>
<td>132</td>
</tr>
<tr>
<td>Trench Walls, lin. ft.</td>
<td>83</td>
<td>44</td>
<td>32</td>
<td>105</td>
<td>0</td>
<td>38</td>
</tr>
<tr>
<td>Basement Floor, sq. ft.</td>
<td>848</td>
<td>1506</td>
<td>1058</td>
<td>0</td>
<td>1048</td>
<td>958</td>
</tr>
<tr>
<td>Garage Floor, sq. ft.</td>
<td>180</td>
<td>0</td>
<td>0</td>
<td>320</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Excavation per ft. deep, cu. yds.</td>
<td>37</td>
<td>65</td>
<td>46</td>
<td>0</td>
<td>44</td>
<td>43</td>
</tr>
<tr>
<td>Holt Rate on following items</td>
<td>1.687</td>
<td>2.272</td>
<td>1.123</td>
<td>1.680</td>
<td>1.774</td>
<td>1.860</td>
</tr>
<tr>
<td>Outside Walls, squares</td>
<td>20.4</td>
<td>23.5</td>
<td>14.0</td>
<td>21.8</td>
<td>23.1</td>
<td>26.0</td>
</tr>
<tr>
<td>First Floor, squares</td>
<td>8.5</td>
<td>15.1</td>
<td>10.6</td>
<td>12.1</td>
<td>10.5</td>
<td>9.6</td>
</tr>
<tr>
<td>Second Floor, with Fin. Flg., sqs.</td>
<td>6.5</td>
<td>8.8</td>
<td>0</td>
<td>0</td>
<td>10.0</td>
<td>10.3</td>
</tr>
<tr>
<td>Second Floor, without Fin. Flg., sqs.</td>
<td>1.2</td>
<td>6.3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1.0</td>
</tr>
<tr>
<td>Ceiling, sqs.</td>
<td>8.5</td>
<td>15.1</td>
<td>10.6</td>
<td>12.1</td>
<td>10.5</td>
<td>10.3</td>
</tr>
<tr>
<td>Roof Pitch, ins. rise per ft. run</td>
<td>113°</td>
<td>14°</td>
<td>6°</td>
<td>3°</td>
<td>10°</td>
<td>10°</td>
</tr>
<tr>
<td>Roof, squares</td>
<td>14.4</td>
<td>24.4</td>
<td>12.6</td>
<td>19.8</td>
<td>14.5</td>
<td>15.7</td>
</tr>
<tr>
<td>Hips &amp; Valleys, lin. ft.</td>
<td>24</td>
<td>65</td>
<td>84</td>
<td>30</td>
<td>147</td>
<td>0</td>
</tr>
<tr>
<td>Cornice, type and size of</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cornice, lin. ft.</td>
<td>0</td>
<td>8&quot;-92</td>
<td>0</td>
<td>12&quot;-164</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Partition, lin. ft.</td>
<td>191</td>
<td>335</td>
<td>158</td>
<td>151</td>
<td>213</td>
<td>227</td>
</tr>
<tr>
<td>Inside Finish OS Walls, lin. ft.</td>
<td>232</td>
<td>238</td>
<td>143</td>
<td>191</td>
<td>272</td>
<td>270</td>
</tr>
<tr>
<td>Front &amp; OS French Doors, opgs.</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Rear &amp; Grade Doors, opgs.</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Garage Doors 8 ft. wide</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inside Doors &amp; Cased Opqs., opgs.</td>
<td>15</td>
<td>26</td>
<td>13</td>
<td>14</td>
<td>17</td>
<td>19</td>
</tr>
<tr>
<td>Windows &amp; Casements, opgs.</td>
<td>22</td>
<td>23</td>
<td>14</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>Gable Sash &amp; Louvers, opgs.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chimney, lin. ft.</td>
<td>32</td>
<td>34</td>
<td>27</td>
<td>16</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>Main Stairs</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Porch Floor, sqs.</td>
<td>1.4</td>
<td>1.8</td>
<td>2.6</td>
<td>0</td>
<td>1.8</td>
<td></td>
</tr>
<tr>
<td>Porch Ceiling, sqs.</td>
<td>1.4</td>
<td>1.8</td>
<td>2.6</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porch Beam, lin. ft.</td>
<td>45</td>
<td>44</td>
<td>52</td>
<td>0</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Porch &amp; Bal. Post &amp; Newels, No.</td>
<td>8</td>
<td>4</td>
<td>10</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Porch Roof, sqs.</td>
<td>1.9</td>
<td>2.2</td>
<td>3.4</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porch Cornice, lin. ft.</td>
<td>50</td>
<td>44</td>
<td>20</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porch &amp; Deck Rail, lin. ft.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>38</td>
<td></td>
</tr>
<tr>
<td>Unit of Construction</td>
<td>Sept., 51</td>
<td>Sept., 52</td>
<td>Sept., 53</td>
<td>Sept., 54</td>
<td>Sept., 55</td>
<td>Sept., 56</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td>Basement Walls, lin. ft.</td>
<td>217</td>
<td>114</td>
<td>113</td>
<td>144</td>
<td>140</td>
<td>136</td>
</tr>
<tr>
<td>Trench Walls, lin. ft.</td>
<td>116</td>
<td>0</td>
<td>0</td>
<td>72</td>
<td>76</td>
<td>81</td>
</tr>
<tr>
<td>Basement Floor, sq. ft.</td>
<td>1164</td>
<td>809</td>
<td>776</td>
<td>1008</td>
<td>1016</td>
<td>860</td>
</tr>
<tr>
<td>Garage Floor, sq. ft.</td>
<td>370</td>
<td>0</td>
<td>0</td>
<td>190</td>
<td>351</td>
<td>370</td>
</tr>
<tr>
<td>Excavation per ft. deep, cu. yds.</td>
<td>60</td>
<td>33</td>
<td>32</td>
<td>48</td>
<td>48</td>
<td>44</td>
</tr>
<tr>
<td>Hour Rate on following items</td>
<td>2.341</td>
<td>1.510</td>
<td>1.496</td>
<td>2.083</td>
<td>1.498</td>
<td>1.466</td>
</tr>
<tr>
<td>Outside Walls, squares</td>
<td>34.3</td>
<td>21.1</td>
<td>21.4</td>
<td>27.2</td>
<td>23.9</td>
<td>22.0</td>
</tr>
<tr>
<td>First Floor, squares</td>
<td>11.6</td>
<td>8.1</td>
<td>7.8</td>
<td>10.1</td>
<td>10.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Second Floor, with Fin. Flg., sqs.</td>
<td>10.2</td>
<td>8.1</td>
<td>8.1</td>
<td>10.4</td>
<td>0</td>
<td>5.5</td>
</tr>
<tr>
<td>Second Floor, without Fin. Flg., sqs.</td>
<td>.8</td>
<td>0</td>
<td>0</td>
<td>1.6</td>
<td>0</td>
<td>1.8</td>
</tr>
<tr>
<td>Ceiling, sqs.</td>
<td>15.3</td>
<td>8.1</td>
<td>8.1</td>
<td>12.0</td>
<td>10.2</td>
<td>8.6</td>
</tr>
<tr>
<td>Roof Pitch, ins. rise per ft. run</td>
<td>14&quot;</td>
<td>10&quot;</td>
<td>12&quot;</td>
<td>12&quot;</td>
<td>8&quot;-10&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>Roof, squares</td>
<td>23.6</td>
<td>11.6</td>
<td>12.4</td>
<td>18.5</td>
<td>19.4</td>
<td>17.8</td>
</tr>
<tr>
<td>Hips and Valleys, lin. ft.</td>
<td>70</td>
<td>88</td>
<td>96</td>
<td>40</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>Cornice, type and size of</td>
<td>C&amp;F-190</td>
<td>6&quot;-118</td>
<td>C&amp;F-146</td>
<td>C&amp;F-190</td>
<td>C&amp;F-170</td>
<td>C&amp;F-210</td>
</tr>
<tr>
<td>Cornice, lin. ft.</td>
<td>8&quot;-132</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Partition, lin. ft.</td>
<td>258</td>
<td>170</td>
<td>181</td>
<td>272</td>
<td>128</td>
<td>114</td>
</tr>
<tr>
<td>Inside Finish OS Walls, lin. ft.</td>
<td>406</td>
<td>228</td>
<td>230</td>
<td>290</td>
<td>140</td>
<td>132</td>
</tr>
<tr>
<td>Front &amp; OS French Doors, opgs.</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Rear &amp; Grade Doors, opgs.</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Garage Doors 8 ft. wide</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Inside Doors &amp; Cased Opgs., opgs.</td>
<td>24</td>
<td>16</td>
<td>16</td>
<td>21</td>
<td>12</td>
<td>15</td>
</tr>
<tr>
<td>Windows &amp; Casements, opgs.</td>
<td>20</td>
<td>17</td>
<td>18</td>
<td>20</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>Gable Sash &amp; Louvers, opgs.</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chimney, lin. ft.</td>
<td>35</td>
<td>36</td>
<td>38</td>
<td>37</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>Main Stairs</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Porch Floor, sqs.</td>
<td>0</td>
<td>.7</td>
<td>0</td>
<td>1.3</td>
<td>1.3</td>
<td>.4</td>
</tr>
<tr>
<td>Porch Ceilings, sqs.</td>
<td>0</td>
<td>.7</td>
<td>0</td>
<td>1.3</td>
<td>1.3</td>
<td>.4</td>
</tr>
<tr>
<td>Porch Beam, lin. ft.</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>33</td>
<td>24</td>
<td>10</td>
</tr>
<tr>
<td>Porch &amp; Bal. Post &amp; Newels, No.</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>14</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Porch Roof, sqs.</td>
<td>0</td>
<td>.9</td>
<td>0</td>
<td>1.5</td>
<td>1.7</td>
<td>0</td>
</tr>
<tr>
<td>Porch Cornice, lin. ft.</td>
<td>0</td>
<td>28</td>
<td>0</td>
<td>36</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>Porch &amp; Deck Rail, lin. ft.</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>33</td>
<td>24</td>
<td>0</td>
</tr>
</tbody>
</table>

**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:

- Arreways, Cellar 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 TrueCost figures, don't forget to include OVERHEAD AND PROFIT.
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 EACH AND EVERY OTHER相關 work so that 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 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 OPERA-

"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' 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 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

"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 on 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."

### 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 tiles is equivalent to 3 brick and 1/2 brick long. Therefore 1 tile will be required for every 4 1/2 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.

The tile tables were figured by dividing 144 square inches per square foot by the area of the tile plus the mortar joint, as explained for brick in the August issue. Even though one seldom has occasion to figure brick or tile walls, it is well to know the comparative cost of masonry walls and frame construction. This is a matter for individual choice—the TruCost areas for all American Builder home designs will be the same regardless of specifications desired.

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

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, 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.
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 when 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 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."
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:  
“T’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 the 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 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 supplement 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. The area 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 the brick with metal ties every third course. Each of these tile is equivalent to 3 brick high and 1 ½ 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
680 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.

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.

The tile tables were figured by dividing 144 square inches per square foot by the area of the tile plus the mortar joint, as explained for brick in the August issue. Even though one seldom has occasion to figure brick or tile walls, it is well to know the comparative cost of masonry walls and frame construction. This is a matter for individual choice—the TruCost areas for all American Builder home designs will be the same regardless of specifications desired.

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

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.

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.

An important item of the new equipment was a Weisway standard corner entrance cabinet, 36 x 36 x 76 inches, 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.
Troy, N. Y., Realtor Finds Money-Making Sideline in

"HOME MAINTENANCE"

CLYDE 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 in to regard properties as they are in need of new facelifts, and to make them rentable to the public. He finds that the idea of maintaining the property is more important than the idea of buying it. When the property is ready to be rented then the rented income can be more than enough to make up for the cost of maintaining.

An income maintenance business, with a real estate office as a dragnet, serves as a kind of a property maintenance division. This is the idea of Heer, and it is an idea of which he is very proud. He has been able to keep the lights that he has invested in the real estate business sharp for the maintenance of real estate. Heer's office is very active in the field of both business and property maintenance.
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.
Walls Molded Flat, Then Raised

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

Minimum 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 ornamental members for corners are also advantageous.
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 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 6x6x3½-in. angle 5 ft. long fitted with a skid shoe and hook con-

(Continued to page 100)
Window Conditioning—What It Is, What It Does

TODAY’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-glazing). 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 result in fuel savings of 30 per cent. In those cases where the temperature outside the windows was 0°F. and indoor temperature 70°F. and indoor relative humidity 40%, the fuel savings were 30 per cent on the original investment.

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 facts 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 result in fuel savings of 30 per cent. In those cases where the temperature outside the windows was 0°F. and indoor temperature 70°F. and indoor relative humidity 40%, the fuel savings were 30 per cent on the original investment.

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

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.

GUIDE LINE FRAMING

Scored lines one inch apart are pressed in squarely across the face of each piece, with numbers 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.

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,
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.
duction 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 to those affected 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 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-glassed 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 in winter air conditioning equipment. Such units humidify, or "moist-" the air to the point recommended by health author-

(Continued from page 68)

HOW MUCH FUEL WINDOW CONDITIONING SAVES

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

<table>
<thead>
<tr>
<th>City</th>
<th>Oil saved in gallons</th>
<th>Coal saved in pounds</th>
<th>Gas saved per heating season</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baltimore, Md.</td>
<td>.77—1.26</td>
<td>10.0—16.2</td>
<td>17—28</td>
</tr>
<tr>
<td>Boston, Mass.</td>
<td>1.04—1.69</td>
<td>13.3—21.8</td>
<td>23—38</td>
</tr>
<tr>
<td>Buffalo, N. Y.</td>
<td>1.04—2.24</td>
<td>15.8—25.8</td>
<td>34—45</td>
</tr>
<tr>
<td>Chicago, Ill.</td>
<td>1.12—1.82</td>
<td>14.3—23.4</td>
<td>25—41</td>
</tr>
<tr>
<td>Cleveland, Ohio</td>
<td>.90—1.46</td>
<td>11.5—18.8</td>
<td>20—33</td>
</tr>
<tr>
<td>Denver, Colo.</td>
<td>1.03—1.68</td>
<td>13.2—21.5</td>
<td>23—38</td>
</tr>
<tr>
<td>Des Moines, Iowa</td>
<td>1.14—1.88</td>
<td>14.5—23.8</td>
<td>25—42</td>
</tr>
<tr>
<td>Helena, Montana</td>
<td>1.43—2.34</td>
<td>16.8—30.0</td>
<td>22—33</td>
</tr>
<tr>
<td>Indianapolis, Ind.</td>
<td>1.96—1.57</td>
<td>13.2—20.1</td>
<td>21—35</td>
</tr>
<tr>
<td>Kansas City, Mo.</td>
<td>.87—1.42</td>
<td>11.2—18.3</td>
<td>19—22</td>
</tr>
<tr>
<td>Louisville, Ky.</td>
<td>.79—1.29</td>
<td>10.0—16.5</td>
<td>17—29</td>
</tr>
<tr>
<td>Milwaukee, Wis.</td>
<td>1.25—2.02</td>
<td>15.7—26.1</td>
<td>27—46</td>
</tr>
<tr>
<td>Minneapolis, Minn.</td>
<td>1.42—2.31</td>
<td>18.1—29.1</td>
<td>31—42</td>
</tr>
<tr>
<td>New York, N. Y.</td>
<td>.92—1.51</td>
<td>11.9—18.4</td>
<td>20—34</td>
</tr>
<tr>
<td>Oklahoma City, Okla.</td>
<td>.54— .95</td>
<td>7.5—12.2</td>
<td>13—21</td>
</tr>
<tr>
<td>Omaha, Neb.</td>
<td>1.18—1.86</td>
<td>13.9—22.6</td>
<td>24—40</td>
</tr>
<tr>
<td>Philadelphia, Pa.</td>
<td>.82—1.34</td>
<td>10.5—17.1</td>
<td>18—30</td>
</tr>
<tr>
<td>Pittsburgh, Pa.</td>
<td>.97—1.69</td>
<td>12.5—20.4</td>
<td>21—36</td>
</tr>
<tr>
<td>Portland, Maine</td>
<td>1.26—2.04</td>
<td>16.1—26.2</td>
<td>28—46</td>
</tr>
<tr>
<td>Spokane, Wash.</td>
<td>1.13—1.85</td>
<td>14.5—23.8</td>
<td>25—42</td>
</tr>
<tr>
<td>St. Louis, Mo.</td>
<td>.83—1.36</td>
<td>10.7—17.4</td>
<td>18—31</td>
</tr>
</tbody>
</table>

* Use the larger figure if your windows are weather stripped or tightly fitted. Use the smaller figure if you are applying storm windows over loosely fitted single pane or installing double-glassing, weather-stripped casements. If you are building a new house, use the larger figure. Still larger savings are possible under severe weather conditions.

** For natural gas divide by two.

(Continued to page 102)
HIDE THAT AWNING!

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 aluminized 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.
The Bareo! OVERdoor
THE IMPROVED OVERHEAD DOOR

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

The Improved Overhead Door

The Bareo 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 Bareo OVERdoor.

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.

Adjustable Saw Horse

Adjustable Saw Horse

CONSTRUCTION details for adjustable saw horse.

Barber-Colman Company • Rockford, Illinois

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 babbit-faced hammer.
BRIXMENT IS WATERPROOFED

NO 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
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

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 stormproof, 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.
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.

SKILSAW, INC., Dept. A, 3314 Elston Ave., Chicago
244 E. 40th St., New York * 52 Brookline Ave., Boston 1629 Spring Garden, Philadelphia * 1223 S. Flower St., Los Angeles * 2065 Webster St., Oakland

MAIL TODAY.
HENRY WEIS MANUFACTURING CO., INC.
901 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 moldings, 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

American Builder, September 1939.

(Continued from page 76)

be firesafe, sound retardant and also provide for carrying pipe, 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 38 1/2 inches, the width 25 1/4 inches and the length 36 1/4 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.

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 38 1/2 inches, the width 25 1/4 inches and the length 36 1/4 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.

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
**TODAY'S 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**

Permits hollow wall 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 DUNBRICK-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. 24TH ST., HOLLAND, MICHIGAN

---

**McKinney Manufacturing Company • Pittsburgh, PA.**

**DESIGNERS AND MANUFACTURERS OF GOOD HARDWARE FOR 72 YEARS**

**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.
FOR MORE SALES...QUICKER SALES...
Afford Home Buyers
Marlite's EXTRA VALUES!

- 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

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.

RETURN air is preheated in new Majestic furnace.

PREFabricated fireplace unit allows construction economies for low cost homes and insures efficient operation.
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 Wallboard 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.
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 throughout, including patented "V" Bottom Drum that doubles the mixing action.

"UTILITY" 3½S

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

Load while you mix and discharge—fast as a power loader—mixes all the concrete most jobs can handle, at about 1/2 the cost of heavy 5S non-tilts.

Get Our New Low Prices!

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 8 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 1931, 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.
American Builder, September 1938.

MODERN HEAT

in "MODEL HOMES"


MORE EVIDENCE OF THE ADVANTAGES OF ANTHRACITE HEAT AND AIR CONDITIONING

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

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

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.

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.
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.

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

DURING 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.

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, 10½ by 8½ 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—

Clearlite

BUY WINDOW GLASS MADE IN U. S. A.

FOURCO GLASS CO. • CLARKSBURG, W. Va.

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
OF A THOUSAND USES
A MISSISSIPPI PRODUCT
SOLD BY LUMBER DEALERS EVERYWHERE

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

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 ______

Plywood Association Buys Dri-Bilt House

The Dri-Bilt plan of house construction as developed by Jacques Willis of the C-W Plywood Company in 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 and Canada. 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 Seal 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 and in the United States and Canada.

Carstenite is the invention of A. N. Carstens, and is patent under United States Patent No. 1,997,996. It is the only wall covering of its particular type on the market. The manufacturer claims 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 the 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 3/4-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 chemical 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. Davis, has been and will be enlarged by W. E. Armstrong, and the original plans and specifications will be used to form the basis of the enlarged project.

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."
MODERN FLOORS
Can help put NEW SALES LIFE into old houses

HERE'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.

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.

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
We can build you a HOUSE
Near the woods from its trees
That's the pride of your state
With barns for your cattle
For HOUSES are HOUSES
And shed for bees
And shelter for MAN
And laboratories of MAN
And warm, friendly windows
And a jewel-studded dome
We can't build your HOME.

But houses are HOUSES
And all these are just HOUSES
We can't build your HOME.

For HOUSES are HOUSES
We can't build your HOME.

Want "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-
American Builder, September 1938.

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

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

"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 INGOT IRON
A NAME KNOWN TO MILLIONS
LETTERS DEPT.

(Continued from page 58)

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 TrueCar 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. CHRISTIENSEN

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 $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. SINV.
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.


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

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

And the price will surprise you.

The NEW C.M.C.
3½ End Discharger

It hits the "spot" with contractors and builders everywhere. Big Mixer efficiency with small Mixer speed and handling ease. The price makes it today's best buy in the 3½ yd. mixer field. Write.

CONSTRUCTION MACHINERY COMPANY
WATERLOO, IOWA

"$76.00 SAVED ON FIRST JOB"

Says New Jersey Builder:

Just finished a school addition in Teaneck — there were 70 doors, oak and chestnut — and the Carter Door Set, while new to the men, turned out the work so fast we saved $76.00.

This is just one example of how contractors all over the country are making money the Carter way. Send coupon for complete information.

(Name on request)

R. L. CARTER DIVISION, The Stanley Works
133 ELM ST., NEW BRITAIN, CONN.

Carter Power Plane fits doors, sash, transoms, etc., accurately and five times faster. Patented Spiral Cutter driven at 18,000 R.P.M. makes every cut smooth regardless of wood grain. Plane sharpens its own cutters. Can be mounted on a bench and used as a jointer.

Carter Lock Mortiser — assures accurate work! Every lock centered — no chance of damaging door — every lock fits perfectly. Cut a mortise a minute with this speedy mortiser.

Carter ½ H.P. Hinge Butt Router — accurate depth adjustment to the hundredth of an inch. The resulting smooth, flat mortise gives a solid foundation for the butt, assuring a perfect fit every time.

SAMSON SPOT SASH CORD

Made in only one quality—the best we can make after more than half a century's experience. No sash cord can be too good. One replacement job makes the cheapest cord cost more for a whole house than Spot Cord. It outwears any other material, and is noiseless. Substitution can be readily detected, because the Colored Spots (Reg. U.S. Pat. Off.) identify it. Write for samples and specification data.

S A M S O N
C O R D A G E W O R K S
BOSTON, MASS.
Fall is the Time to Fix Up GARAGES

Owners are thinking about putting the garage in shape for rough weather. Modern 50-50 "Push-Over" doors are the best way to bring an old garage up to date. This set is quickly installed on old doors or new—works like a charm—and it's priced to sell. You can use the "50-50" as a business getter . . . right now!

The ALLITH Catalog shows door hardware for every job. Write for a copy.

ALLITH-PROUTY, Inc., Danville, Ill.

ALLITH

50-50 "PUSH-OVER"

HOW TO LAY and FINISH 'PERFECTION'

BRAND OAK FLOORS

THIS BOOKLET TELLS HOW TO HAVE BETTER OAK FLOORS FOR THE MONEY. Write for YOUR FREE COPY TODAY

Specity

PERFECTION

ARKANSAS OAK FLOORING COMPANY

PINE BLUFF, ARKANSAS

Rental Housing

(Continued from page 31)

INTERIOR view of Fort Hill Village apartment showing use of red 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.
Double Everything!

Double Profits
Double Production
with this Double-duty Speedmatic Saw

Builders! Contractors! Use this Porter-Cable double-duty Speedmatic Electric Saw two ways. As a portable hand-saw, save time and money or use the same saw on the radial arm...attack it in less than a minute—works on “ganged” material and cuts duplicate parts in half the time. Hundreds of contractors use this complete building equipment for more profitable building operations.

Get wise to this rig that works both ways. You’ll save lots of money both on investment and operation. You’ll be many dollars ahead by asking for complete details without obligation. We also build a complete line of floor sanding machines and portable belt sanders. Write right now to—

The PORTER-CABLE MACH CO
1721-9 N. SALINA ST. SYRACUSE, N. Y.

CALK all Joints
WITH PECORA COMPOUND

MAKE any comparison you wish, you cannot buy a better calling material than Pecora. First choice with leading Builders because of its absolute dependability. Will not dry out, crack or chip when properly applied. Calk your next house with Pecora and see the difference.

This Gun
With 3 Nozzles and 4 Cartridges of approx. 1 qt. each
Shipped Ready to Use
Collect for $7.00

This new type, high pressure Cartridge Calking Gun (patent applied for) is a great time and material saver. Pecora Calking Compound is specially packed for this gun in non-refillable metal cartridges of approximately one quart and one pint capacity.

FAMOUS FEATURES

Sword surfaces right up to the quarter-round.
Runs up all dirt and dust.
Puts a ballroom finish on every floor.
Voltage change switch for 110 or 220 volts.
Full Y-Drive.

MAIL COUPON TODAY

PECORA PAINT COMPANY, Inc.
Established 1862 by Smith Bowen
Member of Producers' Council, Inc.

SASH PUTTIES
MORTAR STAINS
FURNACE CEMENT
PECOMASTICS
for Structural Glass

Lincoln-Schlueter
Calo Machinery Co., Inc.
224 W. Grand Ave., Chicago, III.
Send full details of your 5-DAY FREE TRIAL OFFER. Also tell me how I can own it. Interested in time payments.

NAME
ADDRESS
CITY
STATE
YOUR OPPORTUNITY
STUCCO SPRAYING

THIS NEW MACHINE AND PROCESS fuses a water-proofed, plastic mixture on any masonry, old or new. It fills all cracks and can be applied in any thickness desired and in 30 beautiful colors and shades. Its permanence has been fully proven by over twelve years actual use under all conditions and every climate.

PROGRESSIVE BUILDERS ARE STRIVING for greater permanence, beauty and salability in their new construction at lower cost. Owners everywhere want to enhance present values and make their buildings more attractive and livable.

WITH COLORCRETE STUCCO SPRAYING you can supply both of these waiting markets and can offer permanent, colorful surfacing at amazingly low cost. Operators report costs of 2c and up per square foot and sell up to 7c. Some have paid for their equipment from first couple of jobs. Machine capacity up to 1,000 sq. ft. per hour.

GET THE FACTS. Write today for new Colorcrete Books. Theytell the whole story, which may mean business independence for you.

COLORCRETE INDUSTRIES, INC.
500 Ottawa Ave., Holland, Mich.

TRAIL-SMITH


Handy 2-Wheel Trailer Mixer

Write for bulletin.

SMITH MIXERS
THE BOULDER DAM MIXERS

A 2304-14

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.

"TruCost" in Book Form Later; Now Only in American Builder

To the Editor:

I would like to know if you have the TruCots of houses by A. W. Holt printed in book form. If so, please let me know what the price is of the book. I think it is a remarkable way to get accurate estimates.

I saw them in the American Builder, but it would be more handy to have it in book form.

E. W. DOMBACH

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)
American Builder, September 1938.

**Cottage or Castle**

**FITS EVERY PURSE AND PURPOSE**

by

No building budget is too modest nor plans too simple for "OVER THE TOP" Door Equipment. Its simplicity pleases every prospect... saves installation... keeps costs low. It's Headroom Required

LOW ceilings, which eliminate many types of "over head" doors, offer no prob-

lem to "Over-the-Top" Door Equipment. If a 13' door is used, then 21/4" of head-

room is all that is required; thicker doors need proportionately more.

**ONLY 21/4 IN.**

**OVER-THE-TOP**

**DOOR EQUIPMENT**

**CARPENTRY and JOINERY WORK**

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School,

Cincinnati, Ohio

The new second edition has been thoroughly revised.

The manuscript was carefully checked by a former con-

tractor and ex-editor so that this book combines the practi-

cal outlook with the author's trade teaching experience. The
cardinal principles of modern residential construction are

set forth simply and logically with the aid of many photo-
graphs and line drawings. The Second Edition contains 90

revised pages with new illustrations and descriptions of new

methods and materials.

The program of study as presented in this latest textbook

for students of carpentry work involves class discussion,

practical job work and related studies. These include

Architectural Drawing, Plan Reading, Carpenter Mathema-
tics, Business English, Applied Science, Civics and First

Aid.

This book will be very useful to any man entering the

home building field. Contractors can safely recommend it
to apprentices and rough carpenters who wish to improve

their knowledge of the work. The complete index makes

it useful as a general reference book.

280 pages, illustrated, 8½x11 inches. Cloth Bound, $3.00

**BOOK DEPARTMENT**

AMERICAN BUILDER AND BUILDING AGE

30 Church Street

New York, N. Y.

**WE'LL SHOW YOU HOW DeWALT SAVES YOU MONEY!**

Wm. A. Worral, Contractor, writes—

My first job on which I used the DeWalt was building

5 houses. Just a year before I built 5 identical houses, cut-

tting all material by hand. I kept accurate cost records on both

jobs and my records disclose a "Saving of $550.00." Any

wonder I am enthusiastic—paid for its cost on my first job.

EASY TO OWN—Here is a popular priced model you can buy on Easy

Payment terms. It has all the flexibility and accuracy of heavier DeWalt.

ideal because easily portable right to the job. Quickly financed through the

savings effected.

MAKE A DATE NOW AND LEARN HOW

America's leading builders

save 20 to 30%. We'll show

you how right on your job—

no obligation. Write today.

**WARNING to builders!**

Cooking odors are dangerous to sales... protect yourself... install an electric kitchen exhaust fan in every home you build!

Women want freedom from cooking odors

and greasy fumes. They know they can have

it with a Victor In-Bilt Ventilator in the

kitchen. Don't risk losing a sale because

you forgot a ventilator. Write for our free data book on home ventilation today! Tells all about Victor's complete line of kitchen ventilators and describes Victor's many important features, such as automatic operation, weather-tight shutters, easy installation and Victor's own super-power motors. Write for free copy now!

VICTOR ELECTRIC PRODUCTS, INC.

729 Reading Road Cincinnati, Ohio

**THE DE LUXE**

A powerful exhaust fan for large kitchens—features three speed control, easy cleaning and special quiet blades.

**THE STANDAR**

Ideal for average size home, easy to install in upper or lower cabinets, bookcases or closets. Made of steel. 9" round throat. Complete with motor and simple exhaust pipe.

**THE MASTER**

For small kitchens and apartment bathrooms. Also the perfect motor for your own ventilator.
HOMES built today must be built to endure. Not only to stand up under today's long-term financing, but also to meet the prevailing popular demand, now educated up to quality construction and protected by codes that eliminate all gamble in home building.

They must also be of such modern architectural design as not soon to be outmoded.

AMERICAN BUILDER Big-Value Homes—all of them, and in every detail—splendidly come up to these specifications.

They are the last—and best—word in modern planning, quality materials, sound construction and lasting livability.

Moreover, they can be reproduced in today's market at such reasonable cost as to make them 25% to 40% better home values than were ever before attained.

This superb plan book presents 90 examples of today's Quality Homes, of such wide variety in style, size, equipment and cost as to be a dependable guide and useful sales manual for any up-and-doing Architect, Contractor, Dealer and Developer.

On The Side Lines

Here and there throughout the book are special articles, written by experts, demonstrating the reason why homes of today are of ever so much better value per dollar spent, and how to achieve certain successful results in the modern way.

SOME CONVINCING WHYS'

Pictograph Analysis of Increase in Home Values

Reduced Financing Costs
Leave More Money for Actual Home Construction

Scientific Methods Reduce Home Costs

FHA Amended Rules
Help Toward Low Cost Homes

Ten Favorable Factors in Holding Down Home Costs

Home or Stocks? Which the Better Investment?

THE SIX CHAPTERS

1. "Value in Today's Homes"
2. "Big-Value Small Houses"
3. "Low Cost Homes that Pay their Way"
4. "Larger Homes with Added Value"
5. "Modern Homes for Economy"
6. "Savings in Group Home Building and Apartment Houses"

172 pages
8 1/2 x 11 1/2
More than 300 Illustrations

12 pages in four rich colors
Cloth strip reinforced heavy canvased paper binding

SOME HELPFUL HOWS'

Perfecting a Home Plan over a period of three years

How to Build
To Save Fuel
Common Sense in Kitchen Planning

How to Build
Modern Coal Bins and Double Bunks

Camera Study of the construction methods of one of the nation's most successful builders

Two Basement Transformations that are no less than amazing
To get a copy of "American Builder Big-Value Homes" absolutely FREE with your American Builder subscription or renewal order, accompanied by $2 for one year, $3 for two years, or $4 for three years,

(Continued from preceding page)

Some of the
"LOW COST HOMES THAT PAY THEIR WAY"
Presented in Chapter 3

"Dri-Bilt" House in Ashland, Ohio
An all-lumber home, having 7 rooms and attached garage. Exterior designed in the popular Cape Cod style. Large bay in the dining room, conveniently located, well lighted breakfast alcove. With outline specifications and charming view of the den, with adjoining lavatory, which can be used as an extra guest room when needed.

Mayfair Gardens House at Demarest, N. J.
Features a downstairs bedroom and bath, an attractive rear terrace with screened porch and a deeply recessed front door, giving life to the white brick facade.

Four-Room Bungalow
A practical one-story house, without basement, that proved to be immensely popular on Long Island. A boiler and utility room off the kitchen is an unusual feature. Well proportioned, with a generous front porch.

Hillside Heights Colonial
Only 28' x 28', yet has 4 bedrooms. With two exterior views showing interesting possible variations. The floor plans of this home have been extensively studied for economical construction.

Cape Cod in Glen Ellyn, Ill.
A most charming cottage planned for effective use of a natural setting, as shown in the several exterior views, and for maximum interior convenience, as shown in the floor plan.

$35 per month
Colonials
Four of them, located at Ridgewood, N. J. Each has 4 rooms and bath, full basement and large attic. Sold, with a down payment of $1,000, for $35 a month, which includes all interest, taxes, fire insurance and reduction of principal. Moderate in price only because they are small, not because they are lacking in quality.

Six-Room Cape Cod
at Westbury, L. I., with a modern arrangement of the interior that is unusual and interesting. Views are given of the well-equipped kitchen, flagstone floored hall and beautiful beamed-ceiling living room, with huge brick fireplace, and a 2-car garage built to resemble a colonial barn.

Use This Form

<table>
<thead>
<tr>
<th>Name</th>
<th>Street</th>
<th>City</th>
<th>State</th>
<th>Occupation</th>
<th>$</th>
<th>New</th>
<th>Renewal</th>
</tr>
</thead>
</table>

This offer good only in United States, Possessions and Canada

Six-Room Colonial
A well-proportioned little house, featuring up-to-date materials and equipment, including winter air conditioning. Its 13'x24' living room has French doors leading to an open porch.

With Outdoor Barbecue Fireplace
A 7-room Los Angeles house with spacious living room, den and bedroom fronting on the street. The outdoor fireplace and lounging terrace heighten the Bohemian mood which predominates this studio-type cottage.

6 Rooms, Attached Garage, No Basement
Attractive Colonial cottage at Kenilworth, Ill., whose architect has concentrated on space and construction economy. The results are unique in compactness and livability.

California Frame—Stucco Bungalow
Contains 8 rooms, including 3 master bedrooms, 2 tile baths, exceptionally large living room, cozy den, full tile kitchen, combination breakfast room and cocktail lounge and well-planned patio. All within 25,000 cubic feet.

THE ABOVE homes comprise the partial contents of but one of the six chapters. And list but fourteen of the ninety outstanding homes described and illustrated in "American Builder Big-Value Homes." The other five chapters teem with equally good types of modern homes that can be built today for less than ever before. Each has exterior views and well dimensioned floor plans. Many are accompanied by beautiful interior views, detailed specifications, material lists and cost breakdowns. Get YOUR copy today.
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 much larger (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 the opinion of 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."
No Admittance TO DUST, COLD, RAIN or HEAT...When Homes Are Safeguarded By

MASTER METAL WEATHERSTRIPS

Thousands of MASTER installations in all parts of the country are proving that homes can be made more healthful and comfortable to live in—they pay for themselves in fuel and cleaning savings.

Specified by architects who know that MASTER Strips are built for a lifetime of trouble-free service.

Agents: Many territories open
— Write for details

MASTER METAL STRIP SERVICE
1720 North Kilbourn Ave., Chicago, Ill.

The New 1938 BOOK GUIDE SUPPLEMENT of
American Builder and Building Age

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.

Table of Contents


We will send you the BOOK GUIDE or Supplement or Both, free on request

Book Service Department
American Builder and Building Age
30 Church Street
New York, N. Y.
Walls Molded Flat
(Continued from page 67)

connections. 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 concrete is poured into the wall. 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, % 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.
To add comfort and promote health by eliminating that chilly feeling in bathrooms, children's bedrooms, dressing rooms, etc. — on days when it doesn't pay to have the regular heating plant in operation — install the electric Quikheter, flush type. It furnishes quick, safe, clean, economical heat by taking cool air from the floor and moving it up through and out of the heating chamber with a velocity necessary to circulate the warmed air throughout the room.

Furnished in small sizes of 1000, 1250, and 1500 watts, and large sizes of 1500, 2000, and 3000 watts capacity.

Frank Adam
ELECTRIC COMPANY
ST. LOUIS

1938 Supplement
Now Ready. Send for Your Free Copy.

If you have a copy of the 1937 Book Guide you know how helpful it is in locating information you need. The 1938 Supplement is now ready. It brings the Book Guide right up-to-date and gives you a classified list of 750 books and pamphlets covering every subject connected with small house building. If you have the 1937 Book Guide send for the 1938 Supplement. If you do not have it send for both booklets.

Book Service Department
AMERICAN BUILDER AND BUILDING AGE
30 Church Street
New York, N. Y.
TruCost Brings Order Out of Chaos
(Continued from page 72)

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 neces-
sary 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 con-
stant 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 tempera-
ture—thus condensation is avoided, high relative humid-
ities 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 unhealthful. On the other hand, if additional humid-
ification 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
drapery 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 cer-
tain rooms when cold weather sets in.

In summer, too, Window Conditioning is of value.
KEES GOSSETT HANGERS

Make Storm Sash EASY TO PUT UP!

Kees Gossett Hangers are economical, easy to apply, ... the quickest, simplest way to put up or take down storm sash. No fuss. No trouble. The special flange guides sash right into place. Once up, sash is perfectly secure, yet may swing open for ventilation. Screens and storm windows interchangeable—one set of hooks attached to building serves both.

FREE. Get Free sample. Also FREE KEES Catalog of Builders Hardware and Hardware Specialties. Write.
F. D. KEES MFG. CO.
Box 293
Beatrice, Neb.

KIMBALL HAND POWER ELEVATORS

A complete line of efficient Hand Power and Electric Elevators built to suit any requirement. Fitted for rapid installation in your building. These scratch-line-drive machines are little giants of lifting power and are surprisingly nominal in cost.

FREE Engineering Data Give us your problems and let our engineers help you. Full descriptive literature on request.
KIMBALL BROS. CO.
915-989 Ninth Street Council Bluffs, Iowa

WALLACE NO. 1 RADIAL SAW

X-CUTTING MITERING RIPPING SHAPING ROUTING DADOING

Write today for full facts about how other contractors are saving money with this portable and powerful tool.
J. D. WALLACE & CO.
138 S. CALIFORNIA AVE.
CHICAGO, ILL.

WESTBOARD PLYWOOD

A PRODUCT OF THE "ROLLING MILL" OF THE LUMBER INDUSTRY—IT'S LIGHTER AND STRONGER—COSTS LESS AND LASTS LONGER

See your Lumber Dealer to-day
WASHINGTON VENEER CO.
OLYMPIA, WASHINGTON

MAKE EXTRA PROFITS ON DENNIS DOUBLE CUSHION BRONZE WEATHER STRIPS

Easily installed without removing sash or doors!
Now you can make quick, new profits by selling genuine Dennis Double Cushion Spring Bronze Weather Strips for modernizing jobs and new homes. The easiest to install—comes attached to new parting stop. Patented "S" fold gives double spring action. Prevents cold air leaks. Makes snug weather-proof seal conforming to all warping, shrinkage and expansion of sash and doors. Endorsed by architects and builders for saving fuel. Ask your jobber or write for illustrated Weather Strip Catalog.
W. J. DENNIS & CO.
2110-20 WEST LAKE ST., CHICAGO

QUICK CHANGE from Level to Transit

Try it FREE

Two motions shift it from level to transit. One-piece standard casting gives great rigidity and strength. Built especially for contractors.
Try the Universal Avoid Costly Errors
$10 brings you the "Universal" Level-Transit. One hour teaches you how to accurately check up survey, avoid costly errors. Money-back guarantee. Easy Payments. Use instrument. If not satisfied, return and your money is refunded. Or keep on easy monthly payments. Particulars on request.
Ask for FREE booklet "New to Me, Building too."
DAVID WHITE CO.
311 W. Court Street
Milwaukee, Wis.

TRAVELER'S TRUNKS

We Do
Expert
Repairing
Tapes
Supplies
Rods

FREE. Write for complete information and recommendations.
KINNEAR MFG. CO.
1544-58 FIELDS AVE.
COLUMBUS, OHIO
SELEC TED CATALOGS

For the Service of Builders, Contractors, Architects, Dealers

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 theModerator mixing valve. The operation of this automatic anti-scalding valve is revealed, with practical suggestions for its use.—JOHNSON 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.

226—Marlite—"Marlite for Creating Beautiful Home Interiors" is a new 8-page brochure in full color illustrating modern kitchens and bathrooms with walls done in Marlite panels. Beautiful in coloring and impervious to water and wear.—MARSH WALL PRODUCTS, Inc., Dover, O.

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—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—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., 770 S. Chicago Ave., Chicago, Ill.

231—"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.

232—"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.

233—Jaeger Mixers—A de luxe 42-page catalog presents the Jaeger line of non-tilt mixers, tilting mixers, platter-motor 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.

The publications listed below may be obtained without charge either by using the coupon, listing the numbers desired and mailing to American Builder, 105 West Adams Street, Chicago, or by applying on your business stationery to the manufacturers direct, if what you need appears in publication. Either the titles or the numbers may be used in ordering. This list is an editorial feature for convenience of our readers.

American Builder, 105 W. Adams St., Chicago, Ill.

Please have the following Catalogs listed in this issue sent me—

Numbers ........................................

Name ........................................ .................................  

Street ........................................ .................................  

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

OCCUPATION* ........................................

*Please note that occupation must be stated if full service is to be given.
IRON RAILING

of every description
FOR INTERIOR AND EXTERIOR USE
Also Iron Fence, Gates, Iron and Wire Window guards, Chals Link Wire Fence, etc.,
Send measurements showing your requirements and we will forward illustrations suitable for your enclosure.

CINCINNATI IRON FENCE CO., INC.
3411 Spring Grove Ave.
OHIO

“BRADLEY BRAND”
the standard of comparison
in HARDWOOD FLOORING
OAK - - - - - BEECH
ALSO
GUM + OAK TRIM AND MOULDINGS
AT YOUR DEALERS
BRADLEY LUMBER COMPANY
OF ARKANSAS
WARREN, ARKANSAS

“ROOF FRAMING TABLES”
For Steel Square and Protractor
By Ira S. Griffith
These tables provide in the most condensed form the necessary information for framing the various members of square cornered and octagonal roofs, both in degrees and by means of the steel square. The tables are read through slits in the celluloid cover and the tabular card is operated in a manner similar to using the slide rule. A booklet gives directions for using the tables and furnishes example problems for laying out the miter cut of a plate, and common, hip, valley and jack rafters, with either steel square or protractor. With these tables you can save the time necessary to figure layouts and cuts.

4½ x 5 inches, with 8-page booklet, in leather slip case, $1.00.

Money Back if Not Satisfactory
Book Department
American Builder and Building Age
30 Church Street, New York

<table>
<thead>
<tr>
<th>NUMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
</tr>
</tbody>
</table>

FINISH like Hardwood
MAKES soft wood
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, seals and doors against swelling, bending, weather and wear before and after construction. Costs 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.

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"

with

MILCOR Metal Lath

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. 224,929, 1,742,920

MILCOR STEEL COMPANY
MILWAUKEE, WISCONSIN CANTON, OHIO
Chicago, Ill. Kansas City, Mo. La Crosse, Wis.
Atlanta, Ga. New York, N. Y.
INDEX TO ADVERTISERS

SEPTEMBER, 1938

| A | Accurate Metal Weatherstrip Co. | 102 |
|  | American Builder | 102 |
|  | American Electric Company | 101 |
|  | All-Tech, Inc. | 92 |
|  | Allmetal Weatherstrip Co. | 101 |
|  | Aluminum Company of America | 101 |
|  | American Builder | 22-96-97-99-101-105 |
|  | American Floor Surfacing Machine Company, The | 90 |
|  | American Gas Association | 90 |
|  | American Rolling Mill Company, The | 89 |
|  | American Telephone & Telegraph Co | 108 |
|  | Anheuser-Busch Urban & Regional | 93 |
|  | Arkansas Oak Flooring Company | 92 |
|  | Armstrong Cork Products Company | 88 |
|  | Barber-Colman Company | 74 |
|  | Binkert Co., F. D. | 70 |
|  | Bradley Lumber Company of Arkansas | 105 |
|  | Brown Mfg. Co. | 102 |
|  | Bruce Co., E. T. | 26 |
|  | Burnham Boiler Corporation | 105 |
|  | Carey Company, The Philip | 91 |
|  | Carter Division, R. I. | 2 |
|  | Christy Corporation, The | 105 |
|  | Cincinnati Iron Fence Co., Inc. | 94 |
|  | Colburn & Ingle, Inc. | 91 |
|  | Construction Machinery Company | 14 |
|  | Crane Co. | 14 |
|  | Curtis Companies Service Bureau | 21 |
|  | D | Dennis & Co., W. J. | 103 |
|  | De Wall Products Corporation | 95 |
|  | Douglas Fir Plywood Corporation | 81 |
|  | Dunn Mfg. Co., W. E. | 79 |
|  | Edwards Manufacturing Co., The | 98 |
|  | F | Ford Motor Company | 6 |
|  | Fouco Glass Co. | 85 |
|  | Frantz Mfg. Co. | 95 |
|  | H | Hillwood Mfg. Co. | 102 |
|  | I | Jager Machine Company, The | 82 |
|  | John-Mauville | 25 |
|  | K | Kiewner Company, The | 73 |
|  | Kidley & Mattison Company | 15 |
|  | Knox Mfg. Co. | 103 |
|  | Krueffel & Eser Co. | 28 |
|  | Kuna Mfg. Co. | 103 |
|  | Kimberly-Clark Corporation | 11 |
|  | Kiser Mfg. Co. | 103 |
|  | Kitchen Maid Corp. | 98 |
|  | Knud-Mix Concrete Mixer Co. | 99 |
|  | L | Laclede, Inc., J. F | 105 |
|  | Leahy Portland Cement Company | 93 |
|  | Libby-Owens-Ford Glass Company | 91 |
|  | Lincoln-Schneiter Floor Machinery Co., Inc. | 93 |
|  | Long Life Cement Corporation | 93 |
|  | Louisville Cement Company, Incorporated | 93 |

M

|  | Mall Tool Company | 104 |
|  | Maple Flooring Manufacturers Association | 89 |
|  | Marquette Cement Manufacturing Company | 19 |
|  | Marub Wall Products, Inc. | 80 |
|  | Masonite Corporation | 85 |
|  | Master Metal Strip Service | 99 |
|  | McKinley Manufacturing Company | 79 |
|  | Meade Bros. | 87 |
|  | McEve Steel Company | 106 |
|  | Michau Co., Inc. | 104 |

N

|  | National Manufacturing Company | 4th Cover |
|  | O | Overhead Door Corporation | 9 |

P

|  | Paine Lumber Co., Ltd. | 24 |
|  | Parks Woodworking Machine Co., The | 99 |
|  | Paye Hardware & Supply Co., Inc. | 94 |
|  | Pecora Paint Company, Inc. | 93 |
|  | Pilgrim Manufacturing Corp. | 100 |
|  | Pittsburgh Corning Corporation | 45 |
|  | Pittsburgh Plate Glass Company | 45 |
|  | Porter-Cable Machine Co., The | 71 |
|  | Protec Weatherstrip Mfg. Co. | 105 |

R

|  | Red Cedar Shingle Bureau | 20 |
|  | Round Oak Company, The | 76 |
|  | Rowe Manufacturing Co. | 18 |
|  | Ryerson & Son, Inc., Joseph T. | 93 |

S

|  | Samson Cordage Works | 91 |
|  | Sedgwick Machine Works | 102 |
|  | Siddow, Inc. | 73 |
|  | Smith Company, The T. L. | 94 |
|  | Stanley Works, The | 94 |
|  | Steel Scaffolding Co., Inc., The | 100 |
|  | Sterling Wheelbarrow Co. | 101 |

T

|  | Tile-Tex Company, The | 87 |
|  | Truscon Steel Company | 3 |

U

|  | United States Gypsum Company | 7-13-23 |

V

|  | Victor Electric Products, Inc. | 95 |

W

|  | Wallace & Co., J. D. | 103 |
|  | Warren-Knight Co. | 103 |
|  | Washington Veneer Co. | 103 |
|  | Wess Manufacturing Co., Inc., Henry | 77 |
|  | Western Pine Association | 94 |
|  | Weyerhaeuser Sales Company | 75-71 |

NOTICE TO ADVERTISERS—Forms for the October number of the American Builder and Building Age will close promptly on September 15. New copy, changes, or order for omissions of advertisements must reach our business office, 186 West Adams Street, Chicago, not later than the above date. If new copy is not received by the 16th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unsold 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.
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.
American Builder, October 1938

FIRST AWARD for

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.
"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."


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

Basic tables giving materials and labor for practically every type of frame construction.

Tables giving materials and labor for 23 different kinds of brick, tile, and brick and tile walls of various bonds.

Roof Area tables that give the length of rafters, hips, valleys and everything about roofs. Gable Area tables—dormers and everything you want for your ideal estimating book.

MAIL this Coupon TODAY and Get HOLT'S ROOF RULE FREE

Send No Money

This remarkable roof gauge, no larger than a folding pocket ruler, enables you to determine the pitch and figure the area of any roof from plans, elevations, or for re-roofing jobs on existing homes from the ground. It will take the "guestimating" out of your roof jobs. Nothing like it.

Easy to use. Anyone can learn to figure roof areas quickly and accurately with this handy "slide rule" of roof areas. Printed on celluloid, with roof data on one side, a 12-inch rule and ¼ scale on the other.

HOLT PUBLISHING CO., LUMBER EXCHANGE, MINNEAPOLIS, MINN.

Please send one Holt's KwicKost Estimating Systems.

I/We will pay the postman $7.00 plus postage (in full) upon delivery. And include, without additional charge or obligation, one Holt's Roof Rule, as advertised.

Name ___________________________
Address _________________________
City ____________________________ State __________________________

SIMPLE—QUICK—ACCURATE

With KwicKost you actually can figure and quote a complete, accurate price on a house job during an interview with prospective owners. Nothing else you can do will so much impress them with your ability as a builder. Furthermore, you can immediately quote costs of proposed changes in plans or materials. What is more, KwicKost will save you hundreds of tedious hours of night figuring. Its accuracy will amaze you. It will eliminate risks of omissions and other errors that might so frequently cost money.

The "Cost Rate" section of Holt's KwicKost Estimating Systems is the fourth edition of the original ratio-of-cost principle of estimating introduced in 1927, and which has proved to be the greatest stop-loss checker against any method of estimating.

In Short,—

Holt's KwicKost 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.

HOLT'S ROOF RULE FREE

G A T E 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, 3¼" x 6¼" contains a whole library of estimating information, arranged in logical order, tabbed and indexed for handy reference.

HOLT PUBLISHING CO., LUMBER EXCHANGE, MINNEAPOLIS, MINN.

Please send one Holt's KwicKost Estimating Systems.

I/We will pay the postman $7.00 plus postage (in full) upon delivery. And include, without additional charge or obligation, one Holt's Roof Rule, as advertised.

Name ___________________________
Address _________________________
City ____________________________ State __________________________

SIMPLE—QUICK—ACCURATE

With KwicKost you actually can figure and quote a complete, accurate price on a house job during an interview with prospective owners. Nothing else you can do will so much impress them with your ability as a builder. Furthermore, you can immediately quote costs of proposed changes in plans or materials. What is more, KwicKost will save you hundreds of tedious hours of night figuring. Its accuracy will amaze you. It will eliminate risks of omissions and other errors that might so frequently cost money.

The "Cost Rate" section of Holt's KwicKost Estimating Systems is the fourth edition of the original ratio-of-cost principle of estimating introduced in 1927, and which has proved to be the greatest stop-loss checker against any method of estimating.

In Short,—

Holt's KwicKost 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.

MAIL this Coupon TODAY and Get HOLT'S ROOF RULE FREE

Send No Money

This remarkable roof gauge, no larger than a folding pocket ruler, enables you to determine the pitch and figure the area of any roof from plans, elevations, or for re-roofing jobs on existing homes from the ground. It will take the "guestimating" out of your roof jobs. Nothing like it.

Easy to use. Anyone can learn to figure roof areas quickly and accurately with this handy "slide rule" of roof areas. Printed on celluloid, with roof data on one side, a 12-inch rule and ¼ scale on the other.

HOLT PUBLISHING CO., LUMBER EXCHANGE, MINNEAPOLIS, MINN.

Please send one Holt's KwicKost Estimating Systems.

I/We will pay the postman $7.00 plus postage (in full) upon delivery. And include, without additional charge or obligation, one Holt's Roof Rule, as advertised.

Name ___________________________
Address _________________________
City ____________________________ State __________________________

SIMPLE—QUICK—ACCURATE

With KwicKost you actually can figure and quote a complete, accurate price on a house job during an interview with prospective owners. Nothing else you can do will so much impress them with your ability as a builder. Furthermore, you can immediately quote costs of proposed changes in plans or materials. What is more, KwicKost will save you hundreds of tedious hours of night figuring. Its accuracy will amaze you. It will eliminate risks of omissions and other errors that might so frequently cost money.

The "Cost Rate" section of Holt's KwicKost Estimating Systems is the fourth edition of the original ratio-of-cost principle of estimating introduced in 1927, and which has proved to be the greatest stop-loss checker against any method of estimating.

In Short,—

Holt's KwicKost 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.

MAIL this Coupon TODAY and Get HOLT'S ROOF RULE FREE

Send No Money

This remarkable roof gauge, no larger than a folding pocket ruler, enables you to determine the pitch and figure the area of any roof from plans, elevations, or for re-roofing jobs on existing homes from the ground. It will take the "guestimating" out of your roof jobs. Nothing like it.

Easy to use. Anyone can learn to figure roof areas quickly and accurately with this handy "slide rule" of roof areas. Printed on celluloid, with roof data on one side, a 12-inch rule and ¼ scale on the other.

HOLT PUBLISHING CO., LUMBER EXCHANGE, MINNEAPOLIS, MINN.

Please send one Holt's KwicKost Estimating Systems.

I/We will pay the postman $7.00 plus postage (in full) upon delivery. And include, without additional charge or obligation, one Holt's Roof Rule, as advertised.

Name ___________________________
Address _________________________
City ____________________________ State __________________________

SIMPLE—QUICK—ACCURATE

With KwicKost you actually can figure and quote a complete, accurate price on a house job during an interview with prospective owners. Nothing else you can do will so much impress them with your ability as a builder. Furthermore, you can immediately quote costs of proposed changes in plans or materials. What is more, KwicKost will save you hundreds of tedious hours of night figuring. Its accuracy will amaze you. It will eliminate risks of omissions and other errors that might so frequently cost money.

The "Cost Rate" section of Holt's KwicKost Estimating Systems is the fourth edition of the original ratio-of-cost principle of estimating introduced in 1927, and which has proved to be the greatest stop-loss checker against any method of estimating.

In Short,—

Holt's KwicKost 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.

MAIL this Coupon TODAY and Get HOLT'S ROOF RULE FREE

Send No Money

This remarkable roof gauge, no larger than a folding pocket ruler, enables you to determine the pitch and figure the area of any roof from plans, elevations, or for re-roofing jobs on existing homes from the ground. It will take the "guestimating" out of your roof jobs. Nothing like it.

Easy to use. Anyone can learn to figure roof areas quickly and accurately with this handy "slide rule" of roof areas. Printed on celluloid, with roof data on one side, a 12-inch rule and ¼ scale on the other.

HOLT PUBLISHING CO., LUMBER EXCHANGE, MINNEAPOLIS, MINN.

Please send one Holt's KwicKost Estimating Systems.

I/We will pay the postman $7.00 plus postage (in full) upon delivery. And include, without additional charge or obligation, one Holt's Roof Rule, as advertised.

Name ___________________________
Address _________________________
City ____________________________ State __________________________
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

CONCEALED

Now you can give customers wallboard walls and ceilings that take any type of decoration nailed. It can be easily cut to odd sizes to fit around openings.

USG will gladly help you line up Sheetrock remodeling jobs. Write today for the big book showing its many uses and types of jobs on which Sheetrock may be used —and for information on how you can develop prospects into actual jobs.

United States Gypsum Company
300 WEST ADAMS ST.
CHICAGO, ILLINOIS

Recessed Edge Sheetrock and Perf-A-Tape are easy for you to apply. Sheetrock comes in big, light sheets. It does not warp or buckle—stays in place when nailed. It can be easily cut to odd sizes to fit around openings.

ALL over the country, hundreds of contractors like yourself are using the new Recessed Edge Sheetrock* and Perf-A-Tape* to give customers the kind of remodeling and repair jobs impossible just a few years ago. They've found that the strong, smooth, good-looking walls and ceilings possible with these two materials exactly fill customers' wants—encourage them to do more work than they'd originally planned.

Now available to help you increase remodeling and repair sales

THE USG MONTHLY-PAYMENT PLAN can be used to finance all types of remodeling—regardless of the USG materials used on an individual job. Write for complete details.
How Hardwood Flooring HELPS YOU GIVE MORE HOUSE FOR THE MONEY

Patterned Hardwood is popular parquet-type flooring—the floor sensation of the decade! It gives more for the money—a smart design plus a finish superior in beauty and durability.

Patterned Hardwood Gives Owners—
- A modern block design that is individual and charming, a definite aid to distinctive room decoration.
- A superior finish—the most durable, most beautiful hardwood has ever had.
- A wide selection of woods, grades and finishes to satisfy every taste and fit every budget.

Patterned Hardwood Gives You—
- A dependable, uniform hardwood flooring with quality assured.
- A factory-finished flooring that saves time and eliminates guesswork as to the appearance of the finished floor.
- A flooring easy to install in old or new buildings. Just nail over wood or lay in mastic over concrete.

Patterned Hardwood Floors are made from Bruce Finished Blocks, fabricated squares of genuine hardwood flooring.

Scientific finishing, even to waxing and polishing, makes Patterned Hardwood Floors ready to use as soon as they are laid. This factory-finishing saves time on the job—assures a uniform, durable finish that retains its beauty indefinitely.

Bruce Blocks are sold by reliable dealers everywhere. Ask your lumber dealer or use this coupon to get complete information.

E. L. BRUCE CO., Memphis, Tenn.

E. L. BRUCE CO.
Dept. AB-10, Memphis, Tenn.
Please give me full details on PATTERNED HARDWOOD.
Name
Address
City
State
My lumber dealer is

BRUCE PRODUCTS...
HARDWOOD STRIP FLOORING • SOLID OAK FLOOR PLANKS BRUCE FINISHED BLOCKS • YELLOW PINE • SOUTHERN HARDWOODS MOULDING AND TRIM BRUCE FLOOR FINISHES • HARDWOOD DIMENSION • BRUCE PRESERVATIVES CEDA LINES TERMINIX

PATTERNED HARDWOOD GIVES OWNERS...

PATTERNED HARDWOOD GIVES YOU...

THERE IS NO SUBSTITUTE FOR HARDWOOD FLOORS

Please give me full details on PATTERNED HARDWOOD.
Name
Address
City
State
My lumber dealer is