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AMERICAN BUILDER
and Building Age

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MAY, 1938

60th Year Vol. 60—No. 5

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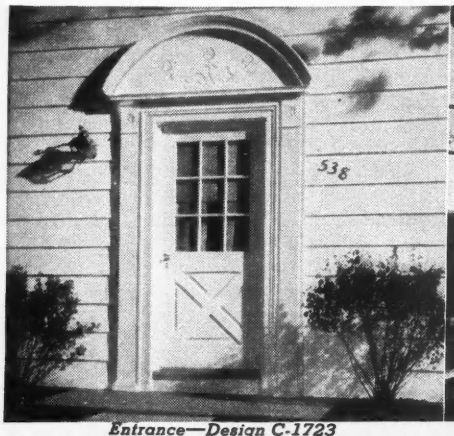
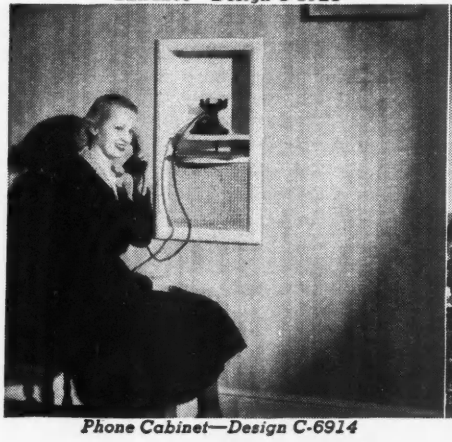


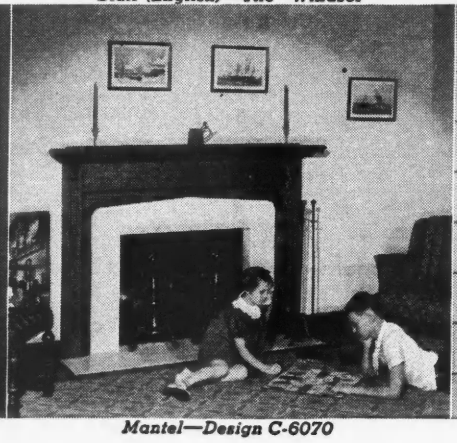
Entrance—Design C-1723

Stair (English)—The "Windsor"

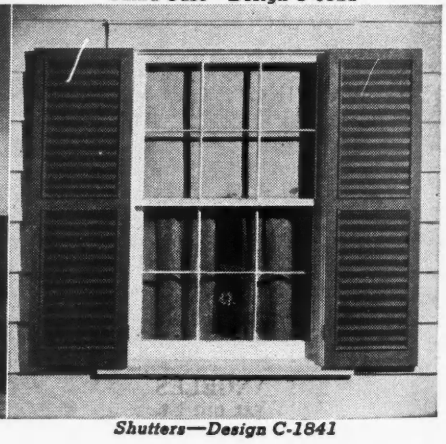
China Case—Design C-6521



Phone Cabinet—Design C-6914



Mantel—Design C-6070



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PUBLISHER'S PAGE

Economists Versus Politicians

IF YOU are not a doctor, would you disagree with them if virtually all the members of the American Medical Association voted one way on a medical question? Probably not.

If you are not a lawyer, would you disagree with them if virtually all the members of the American Bar Association voted one way on a question of law? Probably not.

If you are not an economist, would you disagree with them if virtually all the members of the American Economic Association voted one way on a question of economics? Perhaps you would; for most of the American people did in 1936—and often do.

At least 90 per cent of the economists in this country who have a high reputation *among economists* agree upon the *principal* reasons and remedies for existing bad economic conditions in the United States.

A FEW business men have studied economics enough to be rightly called "economists." Most real economists, however, are professors of economics in our colleges and universities. If you don't believe they know the subject best, why do you send, or want to send, your sons and daughters to them to be taught? If you do believe they know the subject best, why support politicians who advocate and adopt government economic policies that at least 90 per cent of economists oppose and condemn as contrary to the welfare of all the people because tending to prevent recovery and increase of the nation's total income?

We hire lawyers when we get into legal difficulties, We call doctors when we are sick. But when we get into difficulties that make us all *economically sick,* o we get and take advice from those who have spent their lives studying just such economic problems as the nation is now confronted with? By no means. We trust and pay them to *teach our children*—and then turn our great, immediately pressing economic problems over to politicians most of whom know and care nothing about them excepting as another means of getting votes.

FOR some years important economic problems have been discussed on this page. But the views expressed here have seldom been original with the writer. Ninety per cent of the leading economists of the United States would agree with them—because the data given, the conclusions drawn, the arguments presented have been derived mainly from these leading economists.

Business will fully recover and prosperity return when—and only when—a large majority of us quit getting our treatment from doctors of *politics,* who can think of nothing except *starving and bleeding* the patient, and begin getting it from doctors of economics who believe in *feeding* him.

Samuel O. Dunn

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POUR TODAY—STRIP TOMORROW

NET savings of 38¢ to $1.49 a cu. yd. on recent jobs prove that money can usually be saved on any concrete job where there is an opportunity to re-use forms. Simply by estimating the concreting schedule which shows the lowest overall cost of time, forms and cement. Example:

Coca Cola Bottling Plant addition, Washington, D. C., was needed in a hurry to expand mid-summer production. E. W. Kryz, concrete contractor, estimated three concreting schedules: 7-day form removal and one form set showed the lowest cost, but took 27 days, too long for this job; he also figured one-day form removal with 'Incor' 24-Hour Cement, against 7-day form removal with two form sets. Both of these schedules reduced erection time to 15 days, but 'Incor'* and one form set was $375 cheaper. The job was finished on time, and the contractor saved 53¢ a cu. yd. of concrete.

Lone Star's new book, "Cutting Concrete Costs," gives you a quick, easy method for estimating the cheapest erection schedule on any concrete building job. In some cases, faster schedules are cheaper; in others, the reverse is true. Which means that on some jobs, 'Incor's 24-hour service strength gives you maximum economies; while, on others, Lone Star Cement is the better buy. Chances are you can save money by estimating with both cements. Write for a copy today. Lone Star Cement Corporation, Room 2227, 342 Madison Avenue, New York. *Reg. U. S. Pat. Off.

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AMERICAN BUILDER
AND BUILDING AGE

More of "The Three Skills" Needed

AFTER attending conventions and conferences without limit, where the pros and cons of home building and of housing have been discussed and many "short cuts" proposed for energizing this industry, *American Builder* would like to get back to fundamentals. What the building industry needs today—and every day—in the opinion of this publication is more of "The Three Skills."

These Three Skills are:

1. Skill in planning (the architectural function).
2. Skill in job management and execution (the contractor and mechanic function).
3. Skill in salesmanship or customer-mindedness (an all-important function for all).

Now as to Skill No. 1—skill in planning, design, the exercise of creative imagination and of good taste—we will all agree that the American public is becoming more and more discriminating. It is demanding more competency from the building industry in this function. It wants good looks, good layout, effectiveness with economy. Many architects possess this competency; many builders possess it also. Our thesis is that for building to prosper in this country, we must have more of the planning skill and more of educated taste throughout the industry's entire personnel, so that good design is understood and good planning is appreciated and willingly paid for wherever building—even low-cost housing—is carried on.

And then we have Skill No. 2—the skill of efficiency on the job, of better organization of local industry factors under experienced contractor-builder management so that the public may be better served and will have confidence to believe and know that it will be better served. This Skill encompasses (1) proper local warehousing of building materials and supplies with their timely delivery to the building site; (2) proper skilled labor supply eager to demonstrate its efficiency of production and its enthusiasm for craft-quality at a stabilized wage rate; and (3) contractor skill at laying out the job and putting it through on schedule.

More Consideration for Buyers

Then last, and most important of the Three Skills, is skill in salesmanship or customer-mindedness. Here the building industry has a lot to learn and a long way to go. Certain individuals are officially known as "salesmen," and certain groups, such as the retail material dealers, are supposed to be engaged primarily in selling. Yet these are not the only ones, by any means, of the great army of building industry men who must maintain at all times a *customer-minded* attitude, if the general public is to increase in any large measure its utilization of the materials and services of the building industry. This industry is in competition for the consumer's dollar with factory, mass-production, consumption goods that are easy to buy, easy to guarantee as to quality, easy to finance. If there are any "sore heads" along down the production line, they are not in evidence when these goods are displayed and sold over the counter or in the local showroom. But the product of the building industry is manufactured right out in the presence of the buyer and user.

How Good Will Is Torn Down

If the mechanic who fits and hangs a door is clumsy or grouchy while the owner is inspecting the progress of the job, there will be fewer jobs authorized on which to hang doors.

If the contractor is surly or makes a project seem complex and difficult, he is tearing down his own and the industry's market.

If the local dealer is listless or "behind the times" in his stock of goods or in his service, sales and business for all that might have developed and spread just naturally shrivel and die.

If architects use *negative* salesmanship against other building industry groups, confidence is hurt and the courage to go ahead with needed and hoped for building improvements is weakened.

Better than any "Short Cut"

So we maintain that true salesmanship and customer-mindedness is needed today throughout the entire personnel of the building industry—from high to low, including architects, contractors, mechanics, dealers and manufacturers—in order to restore and build back the confidence of the great American public in the ability and the determination of this industry to produce and deliver a great big dollar's worth of new homes and new commercial buildings.

More of these "Three Skills" widely distributed throughout the building world will assure a growing volume of customer confidence, the cornerstone of buying.

American Builder's New Estimating System

UNIT quantity survey figures for every house design illustrated in this publication have been accurately computed according to *American Builder's* "TruCost" system; and these figures are tabulated on page 59 for the information of building industry men who can combine these fixed quantities with their variable local unit costs to determine quickly and accurately the cost to build any one of these illustrated designs in any locality regardless of variations in labor rates, materials costs or changes in specifications.

A full explanation of this "TruCost" system is presented on pages 60 to 66 by A. W. Holt, well known estimating authority and inventor of this new method of home costing. Other articles making clear the scope and possibilities of "TruCosting" will follow in this series.

The basic idea of "TruCost" is simple. Instead of the customary detailed and itemized Bill of Material often involving two or three hundred separate items, the "TruCost" survey covers the job more accurately with only 20 to 30 units of surface measurement, linear distance and piece count. The building contractor, architect and materials dealer are shown how to compile and verify their own local costs for each of these "TruCost" units. Then, when anyone—*anywhere*—wants a bid price on any one of these illustrated designs, it is only the work of a very few minutes to apply local unit price to the published "TruCost" unit figures to give the complete cost to build.

Can YOU Answer Quickly?

"How much will it cost to build this house?" is the first question the prospect asks. No experienced home building editor would attempt to print an answer to this question on anything but a very limited LOCAL scale. Unit costs for labor and materials vary too much in different localities, and there are too many local variations in methods and materials of construction, to say nothing of wide differences in mechanical equipment and fixtures, for anyone but the local experienced building industry man to take these varying factors into account and name the proper local cost to build.

American Builder believes that "TruCost" figures will prove a real help to its readers,

—FIRST by cutting the time and drudgery of making out detailed estimates the old way.

—SECOND by avoiding costly mistakes through this simplified system.

—THIRD by assuring a proper profit on all jobs because "Overhead and Profit" are figured into every unit price.

—FOURTH by promoting sales and satisfied customers through the ability to quote quickly and confidently and in a way that the customers can understand.

If any reader has neglected the recording and compiling of his local costs, this will be an excellent time to take up that important study. Arrange your unit costs to conform with *American Builder* "TruCost" figures and get the full benefit from this new service. Each and every home design from now on will be "TruCosted."

Stock Plans and the A.I.A.

AT THE annual meeting of the American Institute of Architects, New Orleans, week of April 23rd, stock plans for average size homes were officially approved!—

Only you must not call them "stock plans." No, to be ethical these useful and popular money-savers must be referred to as "standardized service documents."

Well, that's O.K. with this publication, and the Editor, after attending all these sessions and listening to the arguments *pro* and *con,* would congratulate the Institute, and more particularly Chairman Walter R. McCornack of its Housing Committee, for taking this step.

It gives official sanction to an old established custom in the house building field and should permit the undoubted talents of Institute members to be more widely utilized.

American Builder does not deal either in "stock plans" or in "standardized service documents." Its policy is to leave home planning strictly to its readers who are qualified for this work, each in his own local community. Experience shows that the personal interest, service and supervision of the *local* man, even though not the world's best, produce better results than an *imported* "plan" or "document," no matter how eminent its original author.

All plans are more or less modified in construction; the success of the outcome depends on the experience, skill and taste of all three factors involved; namely, of designer, builder, owner.

The Institute Report stresses the importance of competent *supervision* in connection with the use of stock plans. This is highly important and *American Builder* heartily agrees. Too often the layman, or so-called "home builder," totally ignorant of the many technicalities involved, has bought a blueprint or house pattern from some magazine and, thinking to save himself some money, has tried to go ahead with miscellaneous skilled and unskilled local labor—without either supervision or management such as the experienced building contractor would bring to the job. The results have, of course, ranged from disappointing to disastrous.

Amateur bungling has all too frequently been charged up against the professional building industry as "jerry building."

All jobs handled *by competent local building men who know* should be the objective in home building. The action of the A.I.A. in approving standardized plans and in urging competent local supervision and management in their use should prove helpful—assuring the general public more home value today in style and service for the building dollar.

Signs of Better Times

HOME BUILDING is leading the nation back to recovery. The statistics show it and the signs show it. From almost zero in February, residential volume climbed back to 1937 records, holding promise of an active building season. One of the most cheering sights of the day for all American business is the bright new signs announcing "Homes for Sale" that have appeared. Seven shining examples are shown above. Bright, cheerful colors predominate. Nearly all feature FHA. Some stress the 10 percent down payment. Others the monthly carrying cost. Truly signs of better times, not only for builders but for all business.

Small Home Financing Under Title I FHA

Builders of Small Homes in Outlying Sections Have Money Available Under Revised Act. Demonstration Homes to Show What Can Be Built for $2,500.

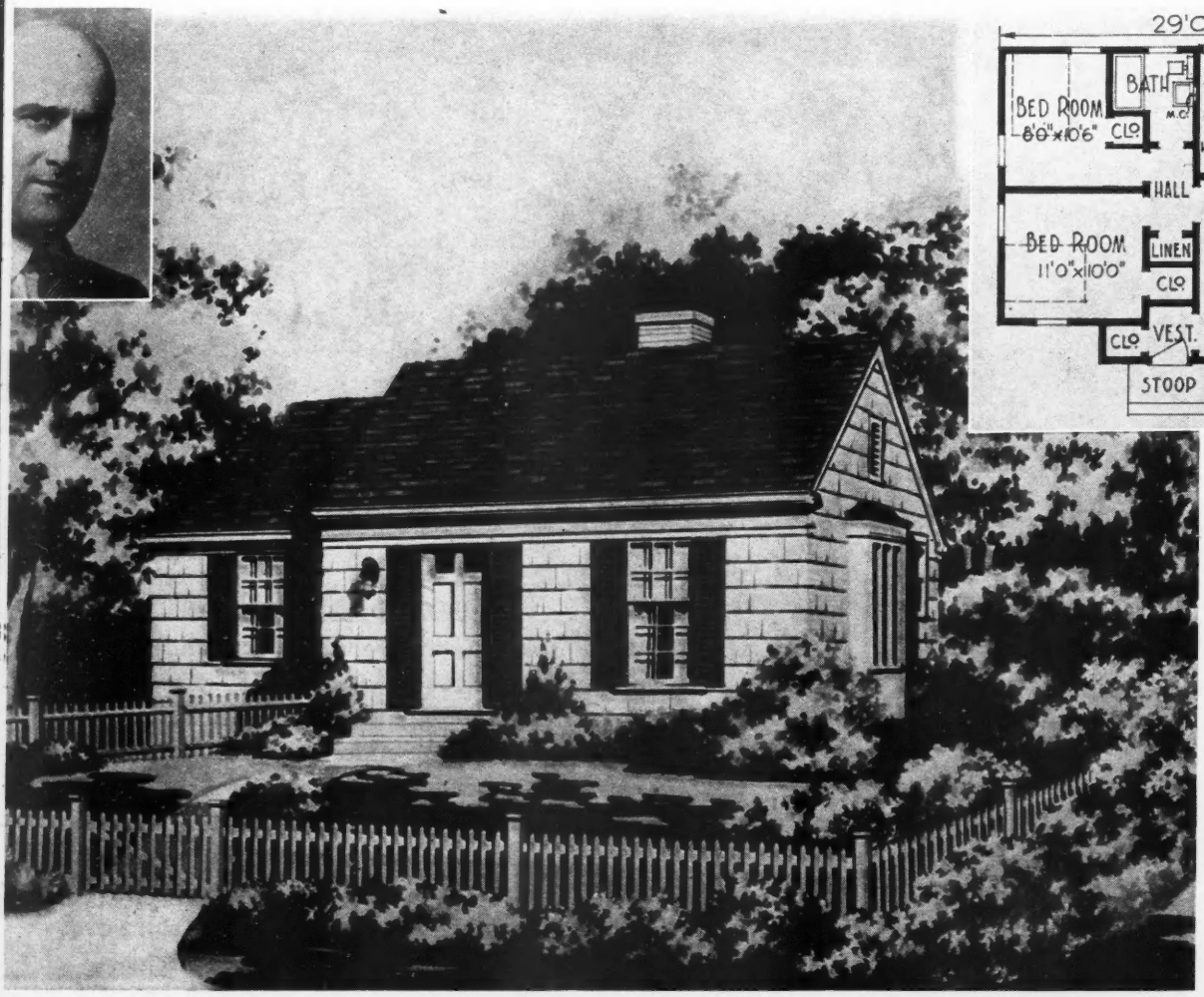
MANY builders will find an answer to their new, small home financing problems in Title I of the amended National Housing Act. Although this portion of the Act is primarily known for its modernizing provisions, loans under Class 3 are available for the construction of new homes costing $2,500 or less; the regulations allow great latitude in the matter of building location, making the average suburban and rural site eligible under FHA.

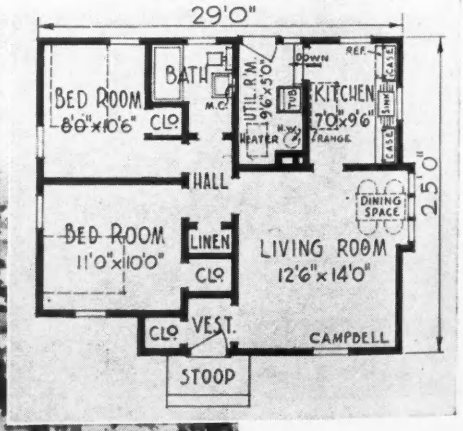
Numerous institutions are again functioning under Title I and, since these are more generally found in smaller communities than those also operating under Title II, such builders can benefit by the wider availability and more lenient conditions of Title I financing. Helpful information on this subject is given in the booklets, FHE 1 and FHA No. 145, both of which can be secured from local FHA offices or by writing to the Federal Housing Administration, Washington, D.C.

The maximum charge on loans for new homes under Title I is the equivalent to a $3.50 discount per $100 original face amount of a one-year note payable in equal monthly installments; the maximum period to maturity is seven years and thirty-two days. On the largest amount which can be borrowed, $2,500, running for the longest time permitted, this means that $3,092.87 must be repaid within 84 months or $36.82 monthly repaid during the 7-year and 32-day maturity period. Smaller principal amounts running for the same or shorter periods call for proportionately smaller payments.

To show what can be built within the limitations of this part of the Act, ground was broken early in April near Washington, D.C., for five small homes which were designed to meet all requirements under Title I; based on average costs throughout the country, it should be possible to build any one of them for $2,500 or less. These cottages will be known as the "Certigrade Quintuplets" and are the latest addition to the 1938 National Small Homes Demonstration. In size they range from 9,450 cubic feet to 11,250 cubic feet; names of five well known officers of the National Retail Lumber Dealers Association have been given to them. All five cottages are presented on these pages in order of their size, showing perspectives, floor plans and photographs of the important personages whose names identify them.

These "Quints" are being built by the Red Cedar Shingle Bureau, and feature double crossed Certigrade red cedar shingle sidewalls and shingle roofs. For representative costs, all materials are being purchased exclusively through recognized lumber dealers and construction is being handled by a recognized contractor.

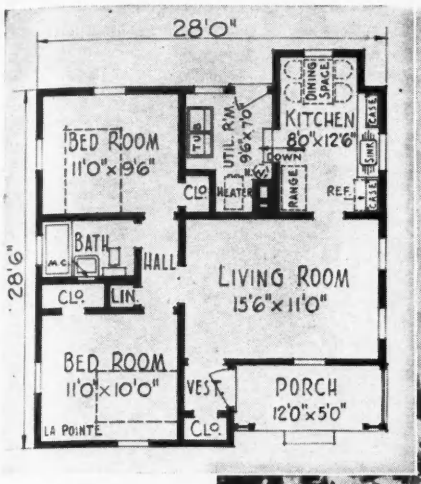




CAMPBELL MODEL Quint Cottage, named for Don A. Campbell. Cubic contents are 9,450 cu.ft. Designed by National Plan Service, Inc., Chicago.

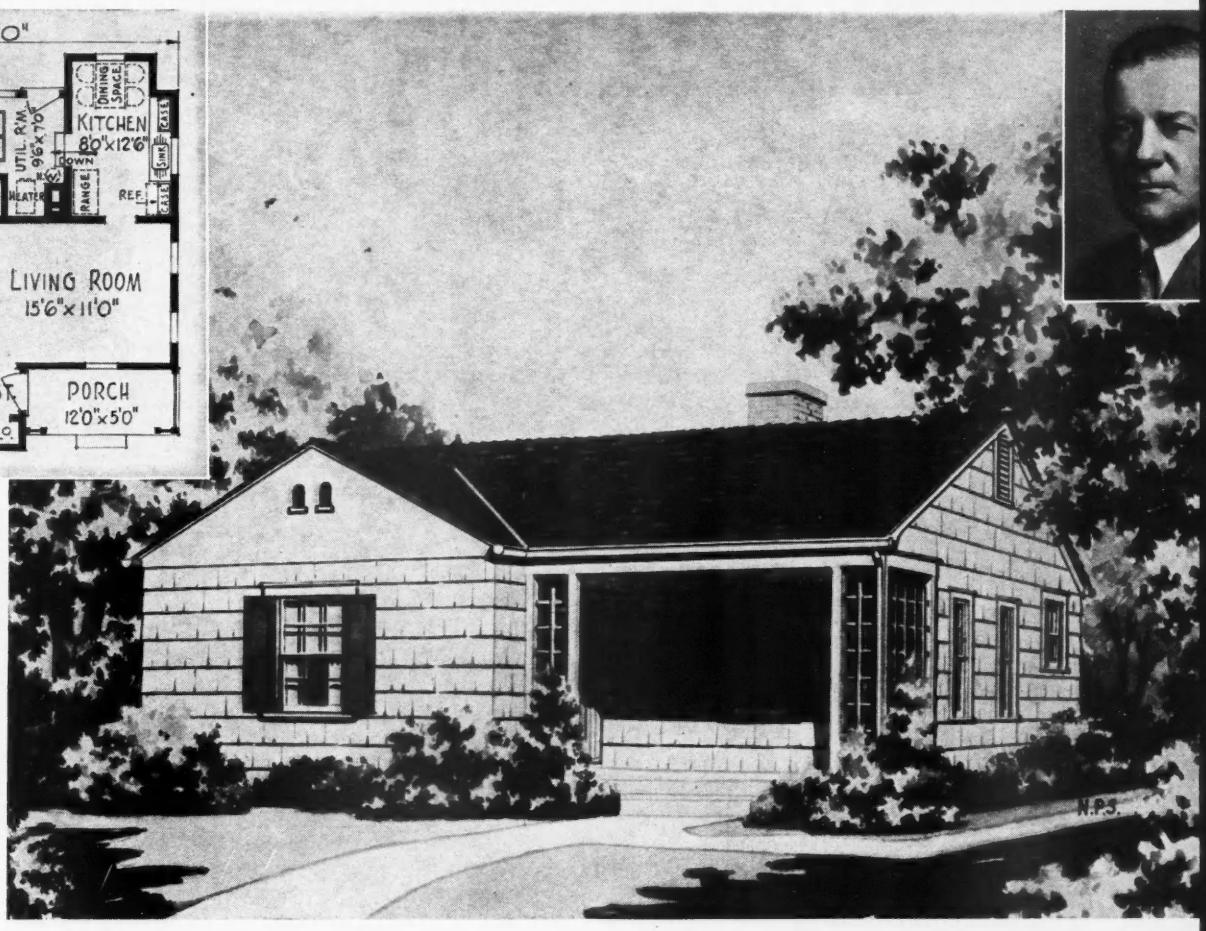
PLAN FEATURES: Dining space in living room bay, closet and vestibule at front entrance and large linen closet.

AMERICAN BUILDER
The Cost FIGURES FOR THIS HOUSE ON PAGE 59



PLAN FEATURES: Dining space in kitchen, double laundry trays, covered front porch, ample closet space and good ventilation.

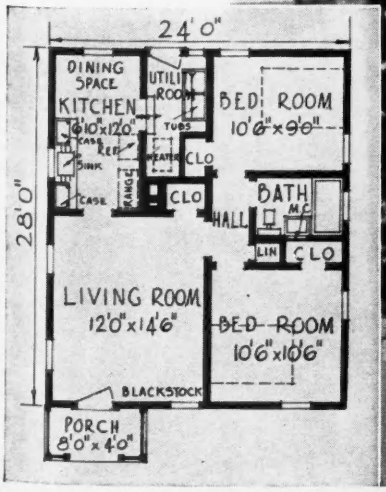
AMERICAN BUILDER BuCosT FIGURES FOR THIS HOUSE ON PAGE 59

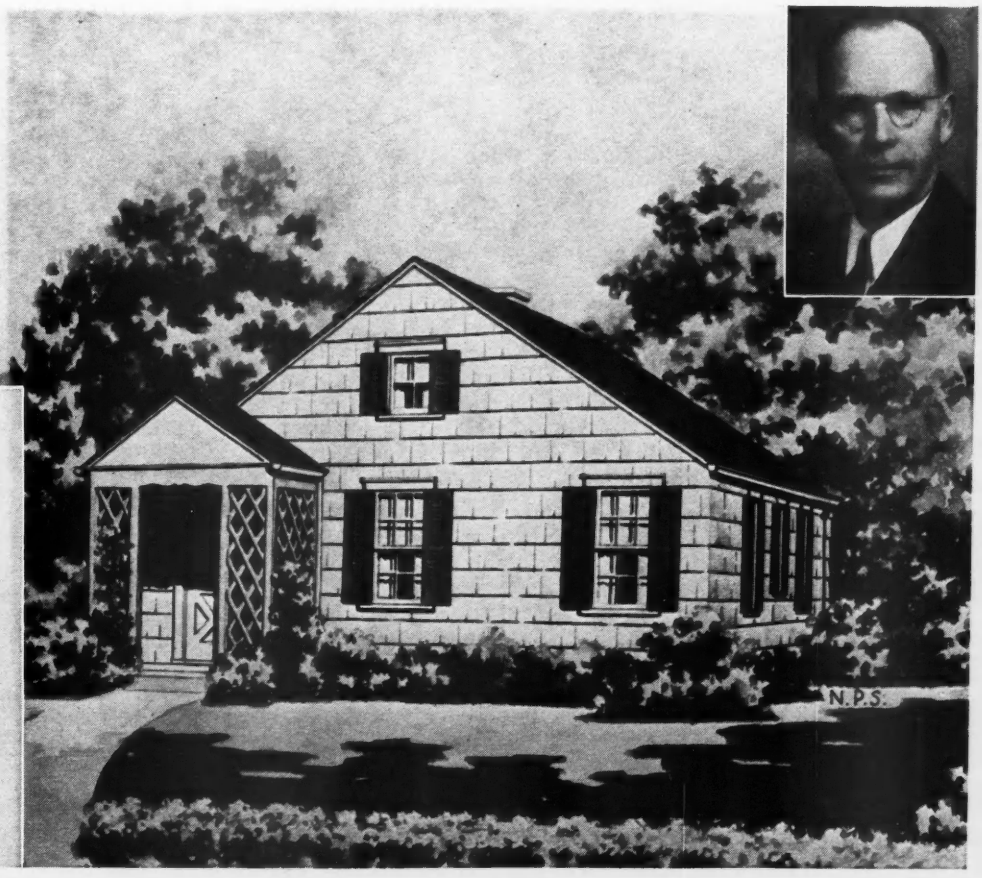


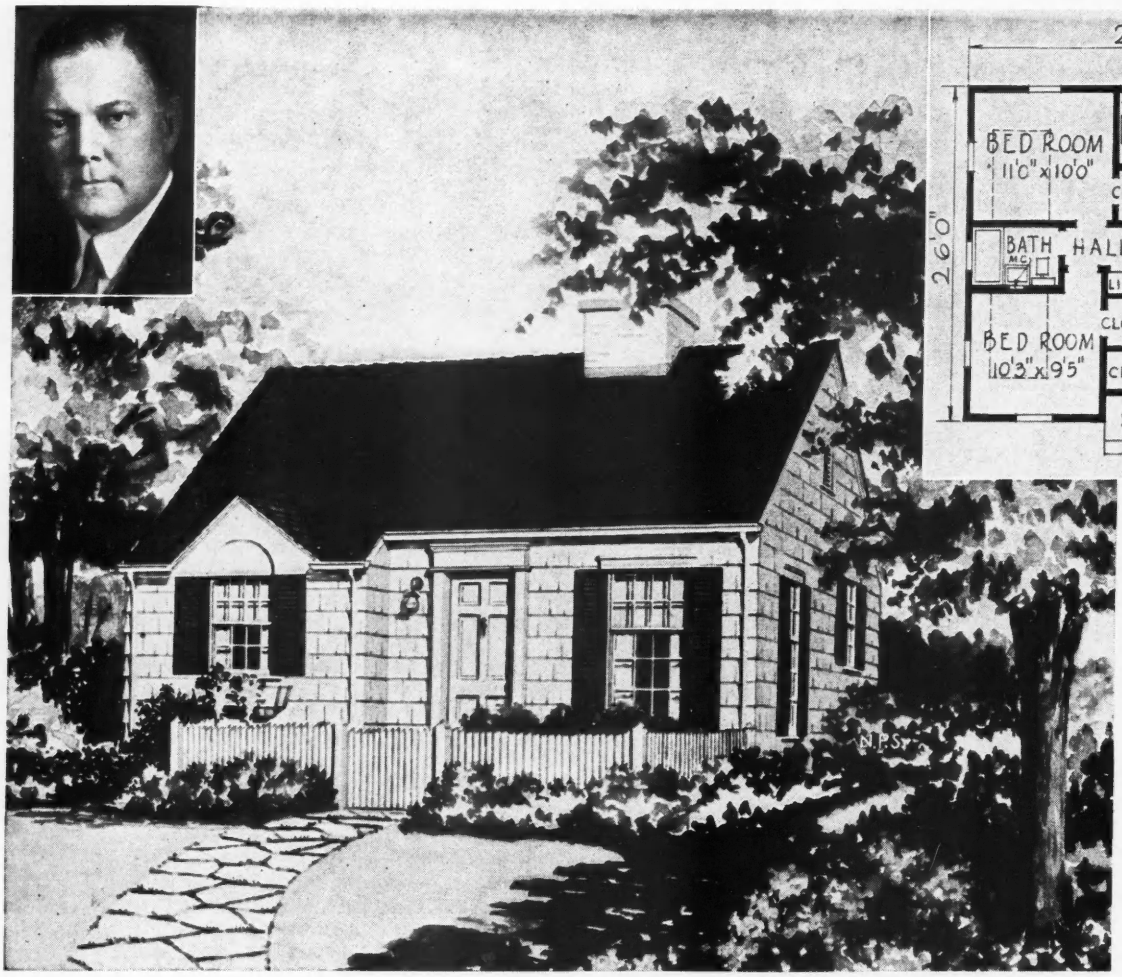
ABOVE: LA POINTE MODEL Cottage, named for George W. La Pointe. Four rooms; cubic contents, 9,760 cu. ft.
BELOW: BLACKSTOCK MODEL named for Carl Blackstock. Same size as La Pointe but different in arrangement.

PLAN FEATURES: Sheltered entrance, closet off living room, compact kitchenette, simple and economical roof design, and minimum of hall area.

AMERICAN BUILDER BuCosT FIGURES FOR THIS HOUSE ON PAGE 59



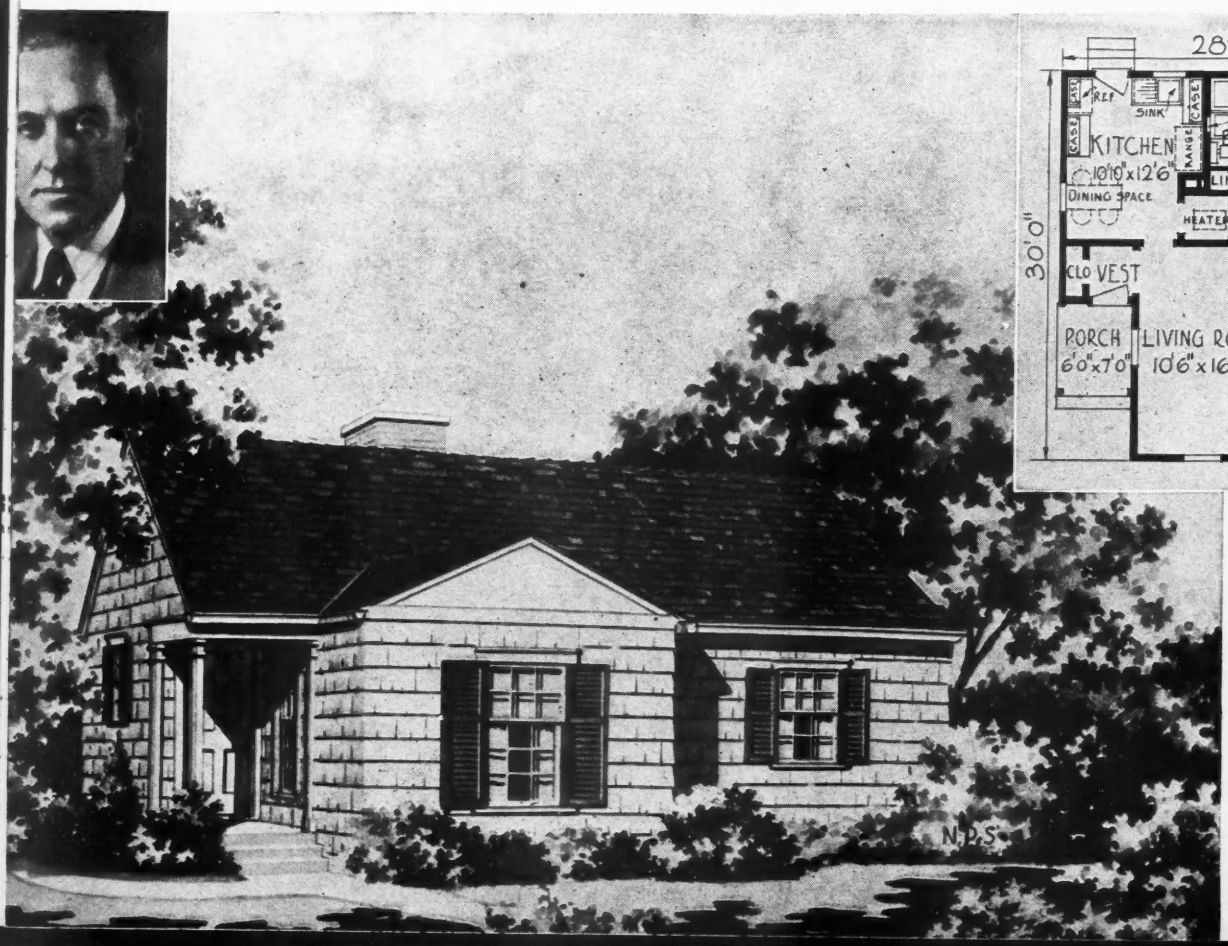




PLAN FEATURES: Extra closet in kitchen for brooms, well lighted dining nook, good wall space for placing furniture and small hall area.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 59

ABOVE: CARNAHAN MODEL Cottage, named for Frank Carnahan. Contains 10,100 cu. ft. of space well utilized.
BELOW: BALDWIN MODEL named for Spencer D. Baldwin. This is largest of Quints; cubic contents, 11,250 cu. ft.

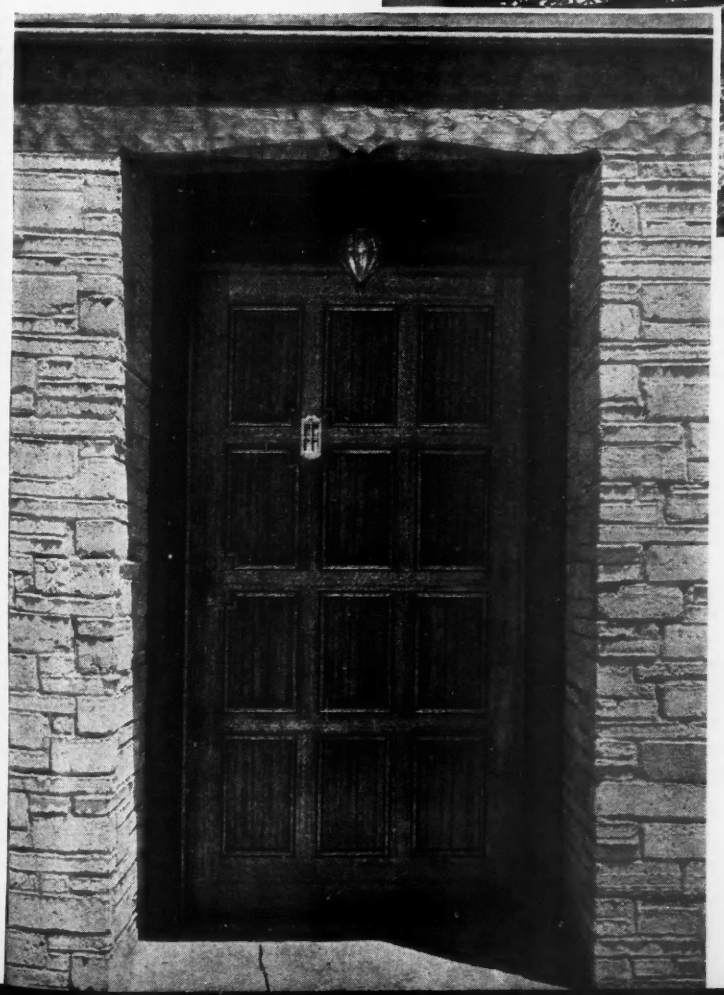


PLAN FEATURES: Good circulation with one end of living room completely free of doors; large kitchen and entrance porch to vestibule.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 59

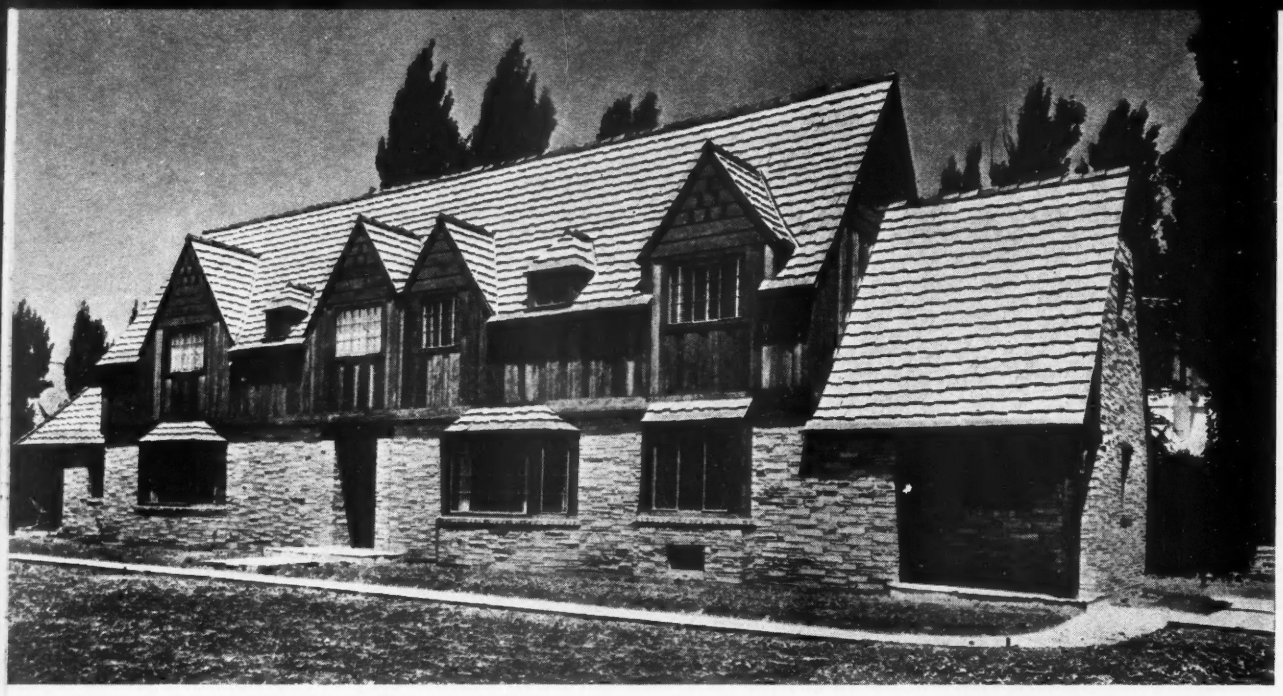
The Charm of Friendly Wood

UPON LOOKING into the den at the right and viewing the front entrance below, the beauty of fine wood is well shown as used in a Los Angeles home designed by Architect Gerity of the firm of Hibbard, Gerity & Kerton of that city. These two details are executed in Philippine mahogany which readily lends itself to the fine craftsmanship. Other views and plans of this house, which features the use of wood both for interior and exterior, are illustrated on next page.



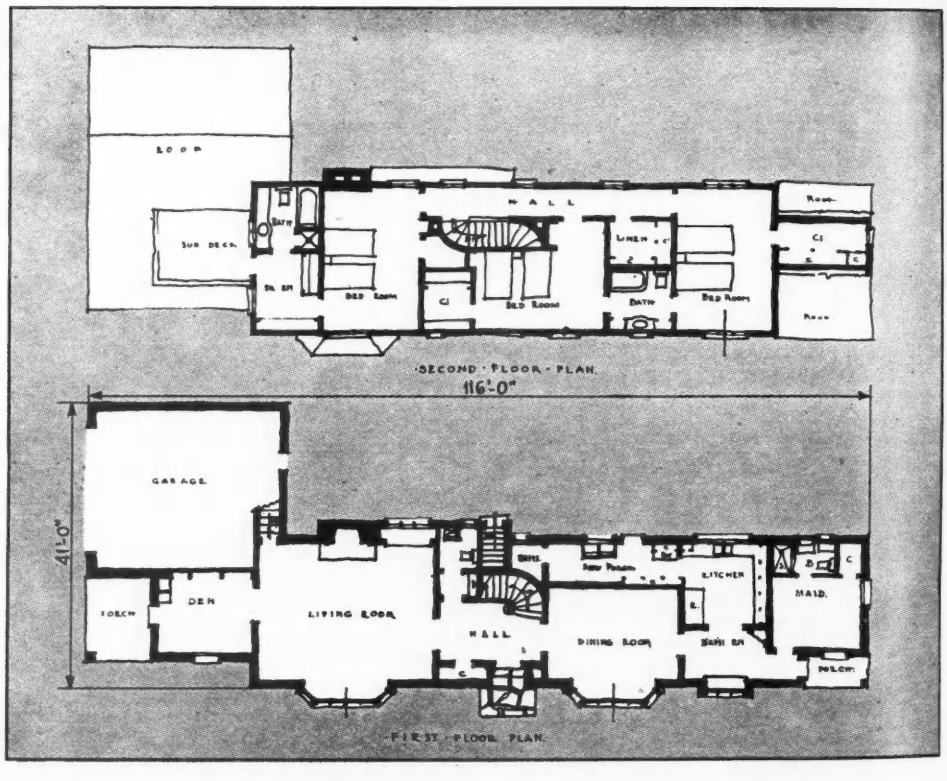
A Selection of Cost-Surveyed Home Designs

American Builder Presents the New System of TRUCOST FIGURES with Homes in the Following Design Section



THE INTERESTING rustic exterior of this California house was obtained through a combination of random ashlar for the first floor, vertical boards and battens above, wide rough siding in the gables and heavy shake roof. Heavy hand adzed timbers add to the effect.

AMERICAN BUILDER
TruCost FIGURES
FOR THIS HOUSE
ON PAGE
59

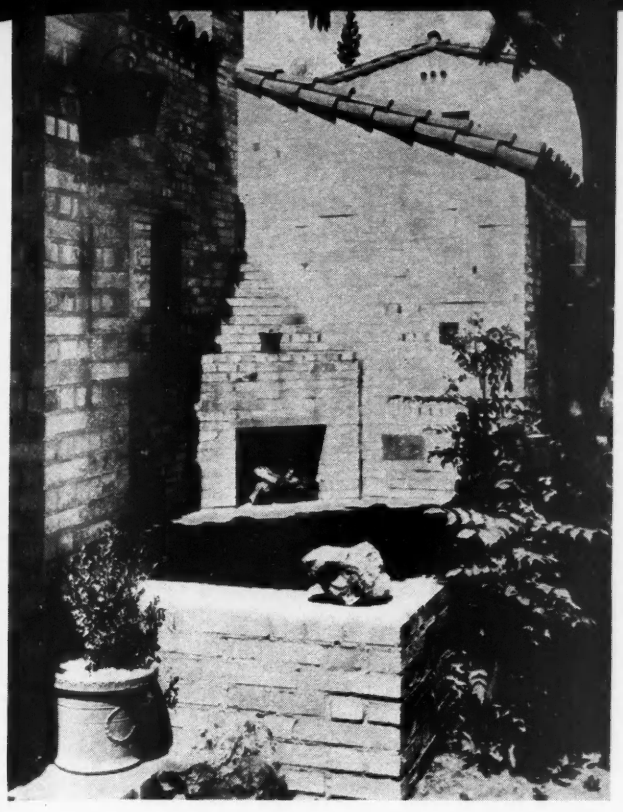


LIVING ROOM fireplace mantel, like other millwork shown on preceding page, is done in Philippine mahogany. Two fluted pilasters carry all the way to the ceiling with the beautiful graining of the wood forming a decorative panel above the shelf. Brickwork set in herringbone pattern for the hearth and plain wall treatment give good contrast.

FINE WOOD DETAILS IN CALIFORNIA HOME

THIS RAMBLING Los Angeles house was designed by Architect Gerity along lines not usually associated with architecture of that section of the country. However, many of the rooms extend across the house for good ventilation and the laundry trays are placed in first floor service porch, two features generally found in California houses. There are ample closets and dressing space for the three large bedrooms, all rooms taking twin beds.

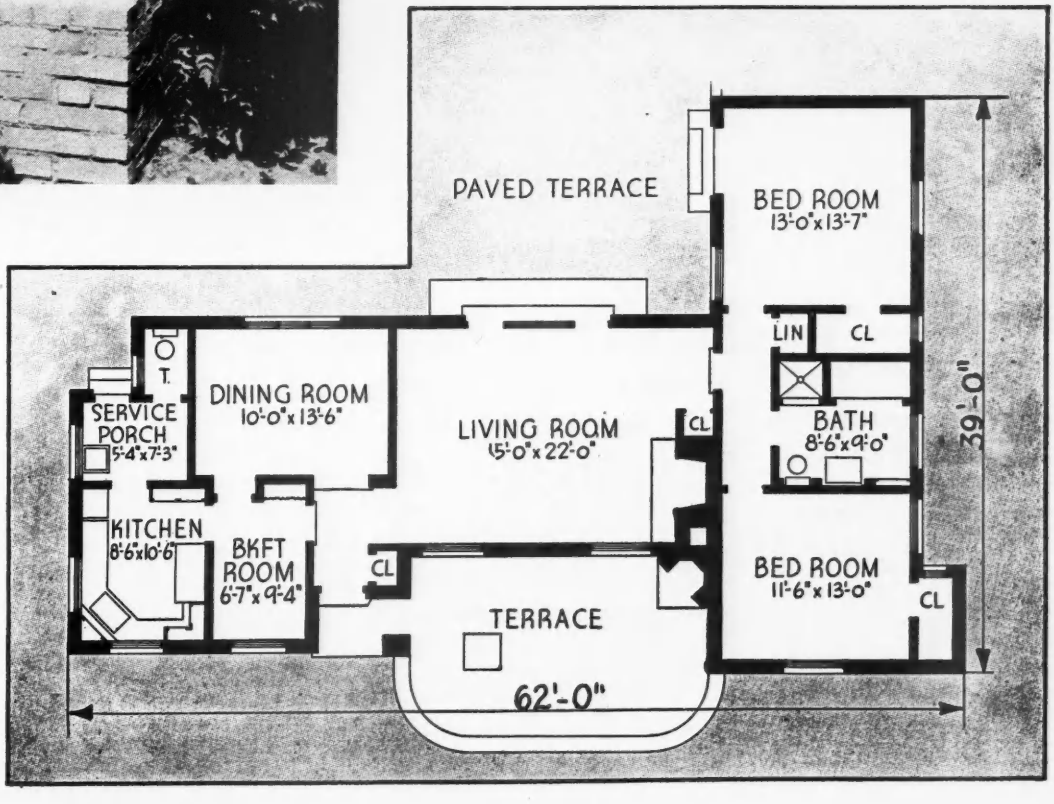
6 ROOMS AND 2 TERRACES



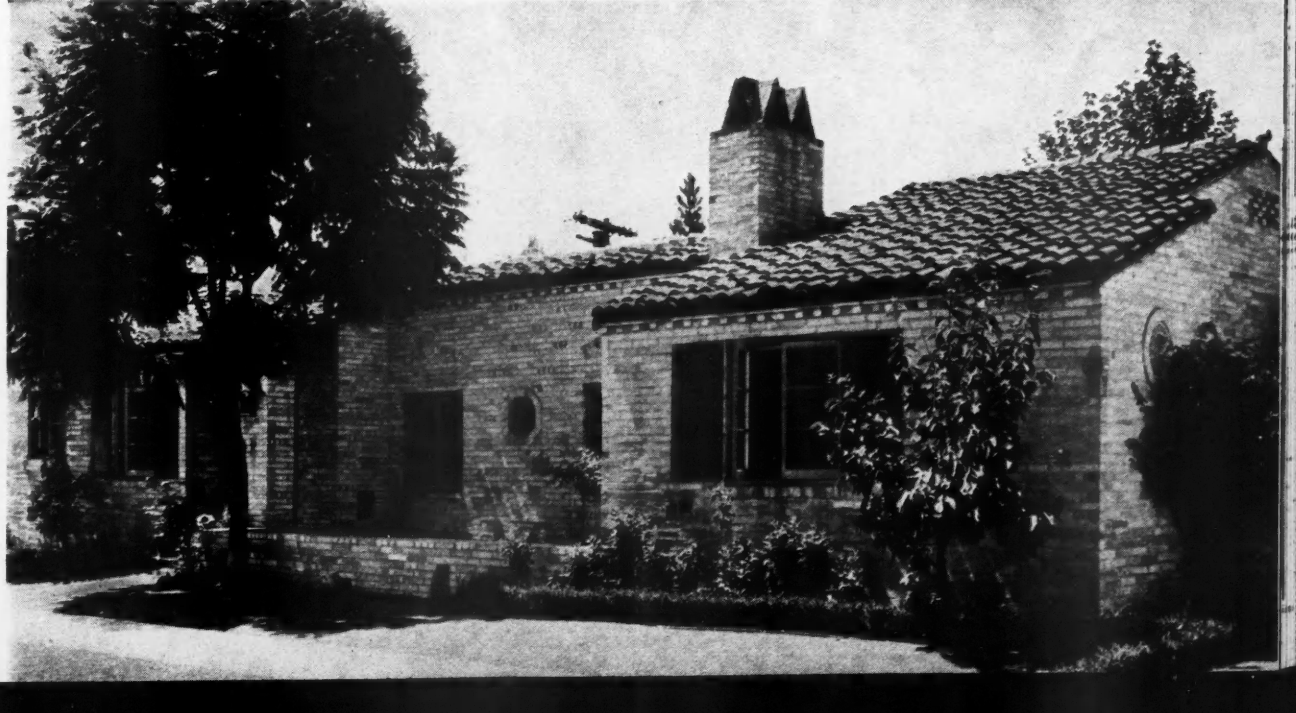
ABOVE: The front terrace is enclosed by a low wall and has a fireplace located in one corner; another terrace at the rear gives additional space for enjoyable outdoor living.

ANOTHER Los Angeles home is shown below and this one is more typical of the California style 6-room bungalow. Honorable mention was recently awarded to the designer, George J. Adams, when it was submitted in the Clay Products Competition. The brick walls, tile roof and terra cotta decoration combine very well.

A good sized living room at a lower floor level divides the sleeping quarters from the dining and service wing. The latter consists of dining and breakfast rooms, kitchen and service porch with laundry tray and toilet, all compactly and conveniently arranged.



AMERICAN BUILDER Price Cost FIGURES FOR THIS HOUSE ON PAGE 59



AS BUILT the living porch is located at the side; plans on opposite page show alternate location to the rear which allows placement on a narrower lot.

CAREFULLY PLANNED

Built at Brantwood, Highland, Indiana, by William J. Brant

Willard Walker, Chicago, Architect

THOROUGHLY planned for construction economy without sacrifice of appearance or convenience, this 5-room house has many commendable features. Numerous built-ins such as closets in front and rear halls, corner cases in dining room, kitchen cupboards and linen cabinet, seat and wall closet along the rear of the second floor give much appreciated storage space frequently lacking in small houses. The well lighted kitchen has good work areas; wood-burning fireplace is central feature of living room; all rooms have cross ventilation. Contents with full basement: 19,650 cubic feet.

AMERICAN BUILDER
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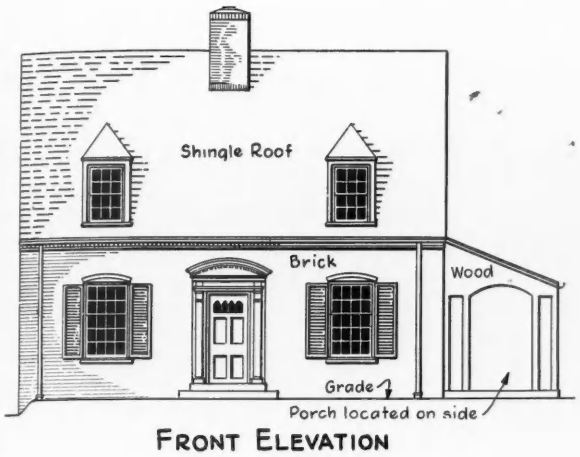
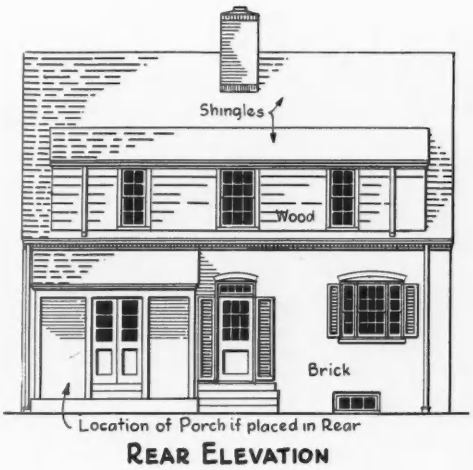
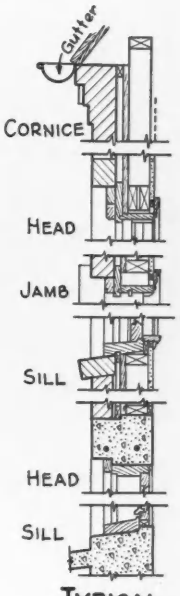
THE ARCHITECT'S rendering at the right when compared with the illustration above shows the accuracy possible in building from carefully designed and engineered plans. This house is one of a group prepared by Architect Walker for his "House of the Month Service" which includes similar houses in a range of 15,000 to 23,000 cu. ft. size. This plan has three alternate exteriors in Cape Cod, American Colonial and French Provincial styles as well as the one shown; all are simple, direct and in good proportion.



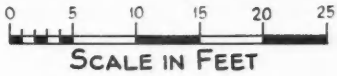
FRONT ELEVATION



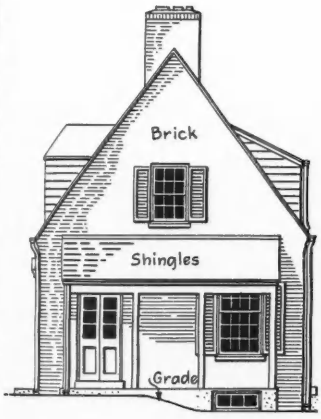
REAR ELEVATION



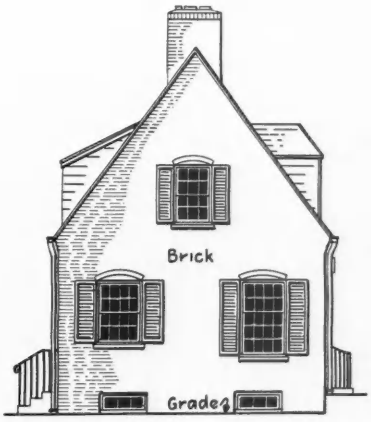
TYPICAL WALL SECTION



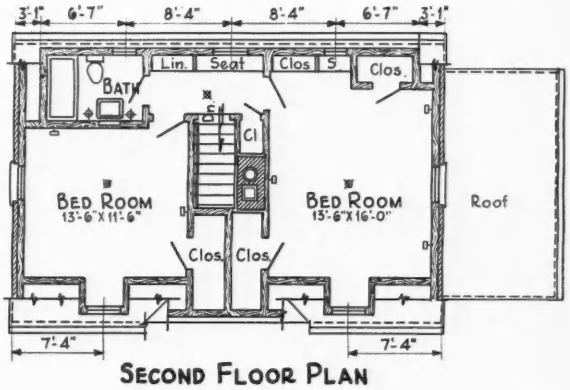
SCALE IN FEET



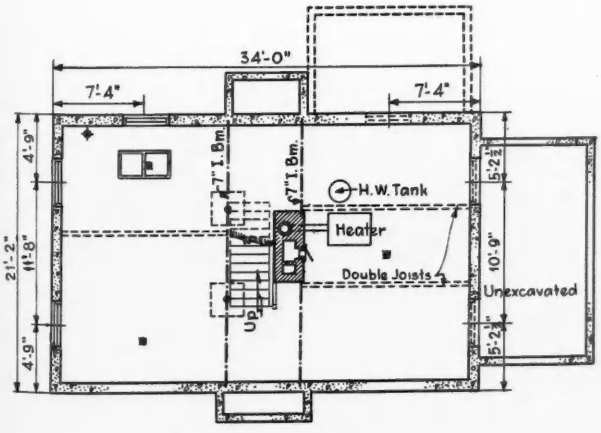
RIGHT SIDE ELEVATION



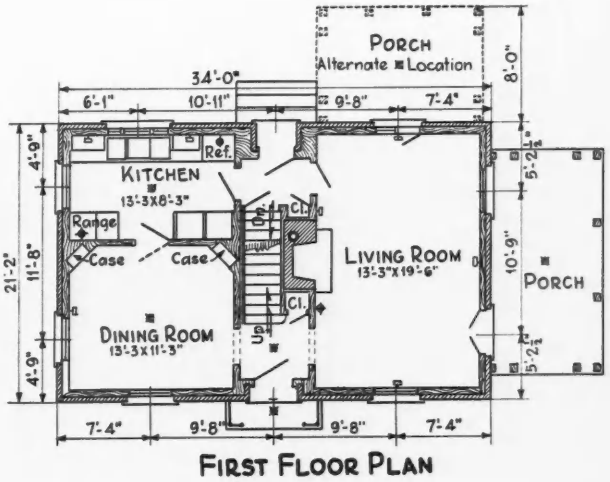
LEFT SIDE ELEVATION



SECOND FLOOR PLAN



BASEMENT PLAN



FIRST FLOOR PLAN

FLOOR PLANS, elevations and wall section prepared from the more completely detailed drawings of Architect Willard Walker.

NEAT entrance patio and a large dining room bay window distinguish this modern bungalow. Concrete masonry walls are finished outside with coral tint cement paint and furred and plastered inside. Roof is concrete tile; trim, cypress.

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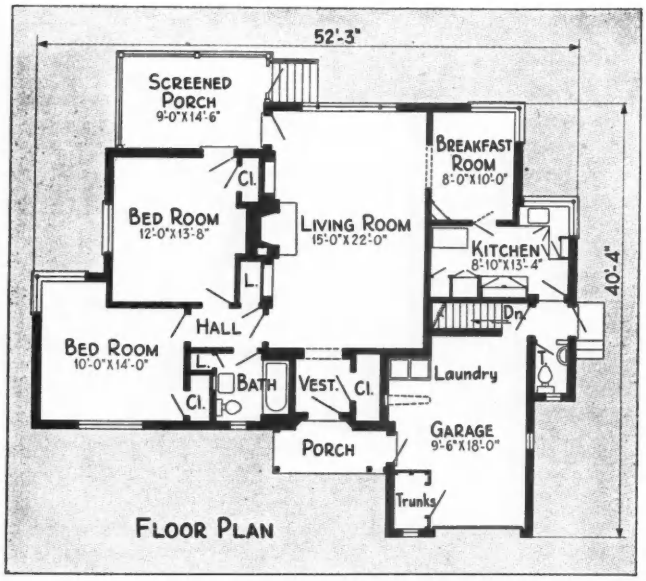
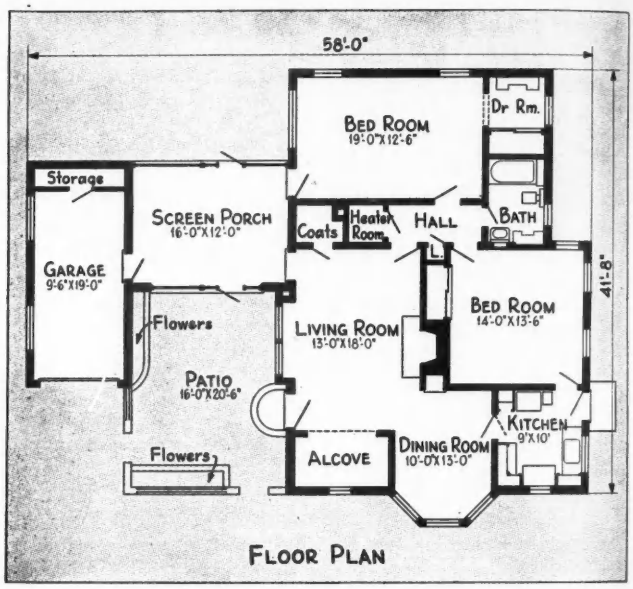
FLORIDA BUNGALOWS IN CONCRETE MASONRY

Kiehl and Stevens, Orlando, Fla., Designers and Builders





VERSATILITY in range of design is demonstrated with these two bungalows planned and built by Kiehl and Stevens of Orlando, Fla. Both are well done, 5-room homes, one handled in a decidedly modern manner, the other along more conservative lines. The plans show good use of space and properly provide the necessary cross ventilation and enclosed porch areas. Both have attached garages, efficient kitchens, living room fireplaces and plenty of closets.

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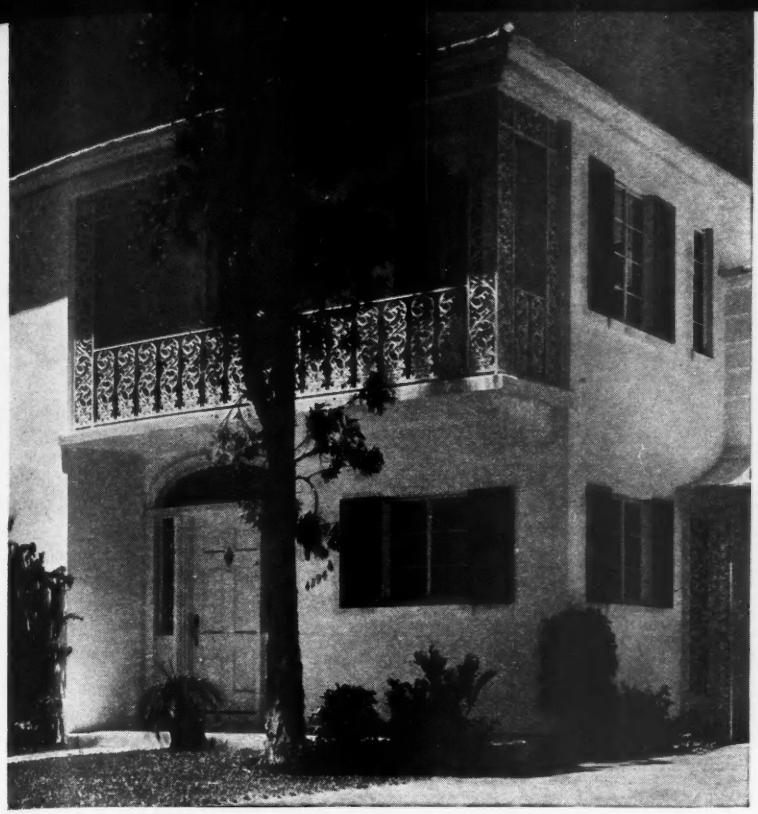
CORNER WINDOWS are unusual in this type of house but here they work out to advantage in three of the rooms. Exterior concrete walls are painted white; roof is slate. Laundry and storage are handily located in the garage.

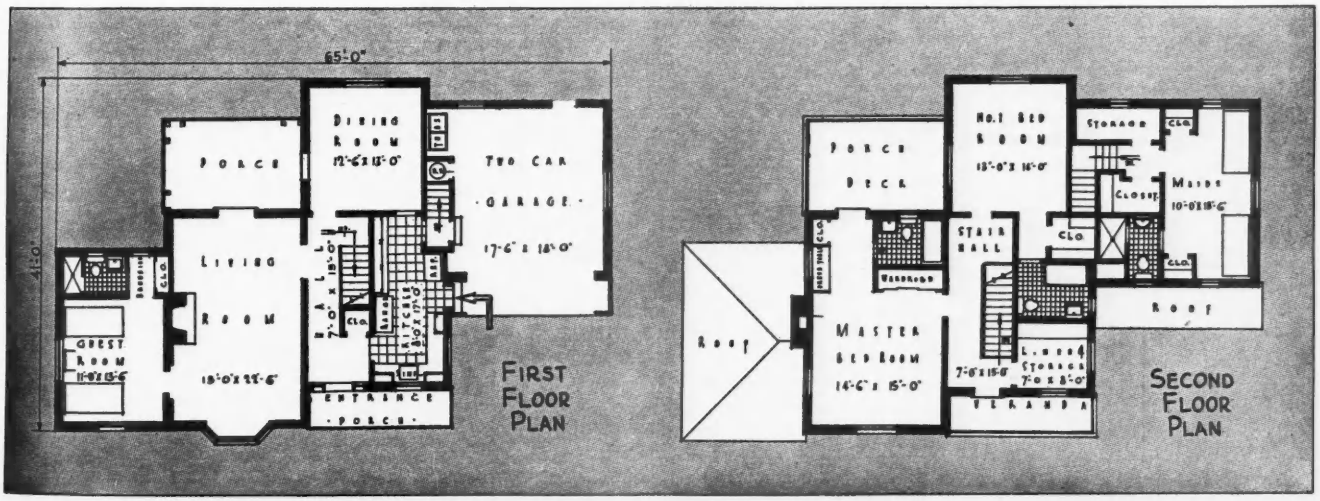


DESIGNED to offer the most in comfortable living for a house of 7-room size, this gem-like home is outstanding among those recently built in Miami Beach, Fla. It is adapted from the New Orleans Colonial style, with fine entrance doorway and white painted cast iron overhead balcony in a beautiful design. This lacy detail has been repeated at the sides of the garage doors. The white exterior is painted and waterproofed stucco over masonry; hand run stucco forms the trim.

FIRST FLOOR wing off living rooms furnishes separate guest space of bedroom, bath and dressing nook. Entrance hall divides the service portion of the house from the living side. Kitchen and 2-car garage with laundry trays, hot water heater and rear stair to second floor are compactly grouped together. A rear porch is reached from both living and dining rooms. On the second floor there are two bedrooms with baths, maid's quarters and a sun deck.

MODERN VERSION OF NEW ORLEANS COLONIAL

Designed by E. N. Phillips, Built by R. W. Edholm, Inc., Miami Beach, Fla.



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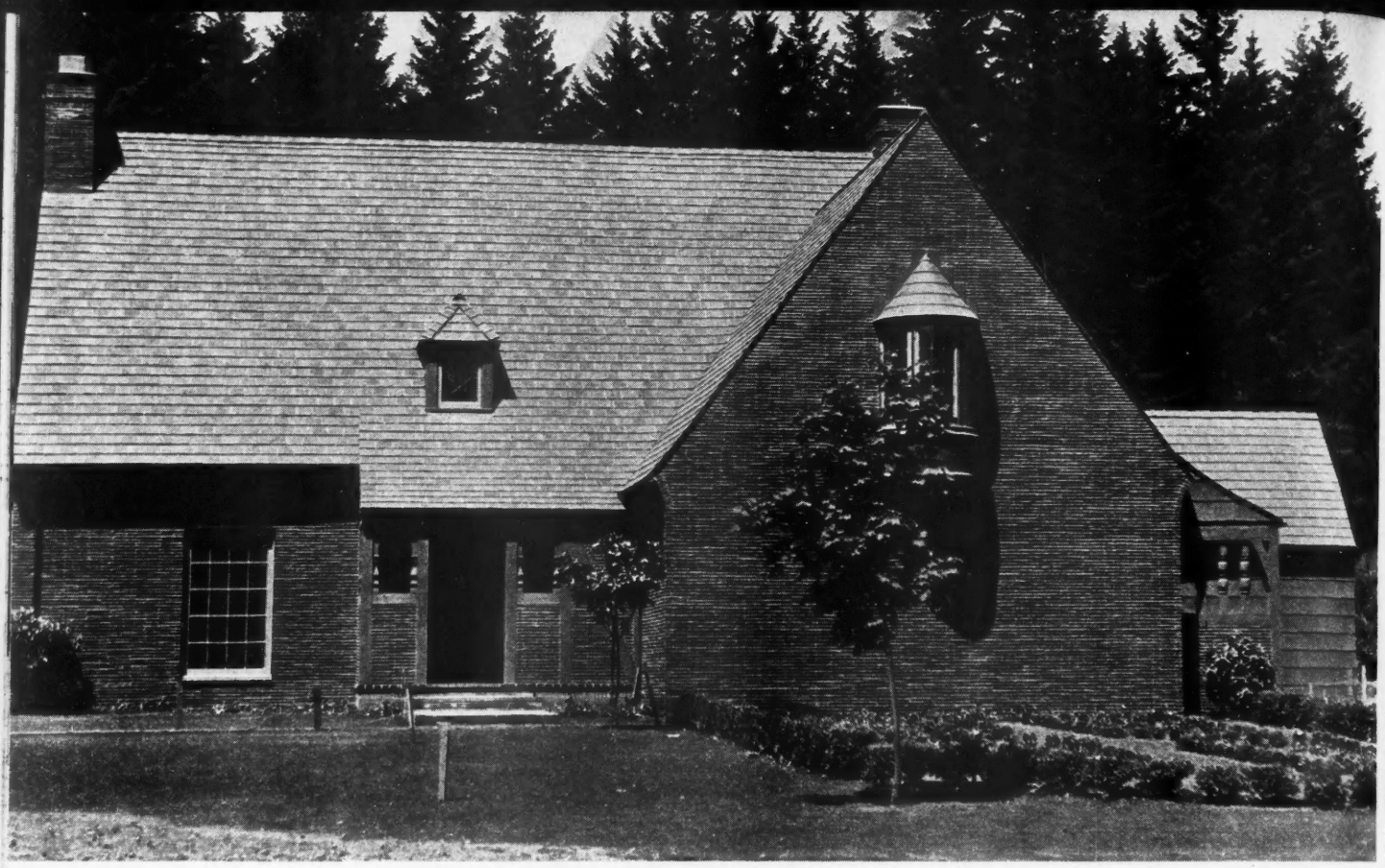
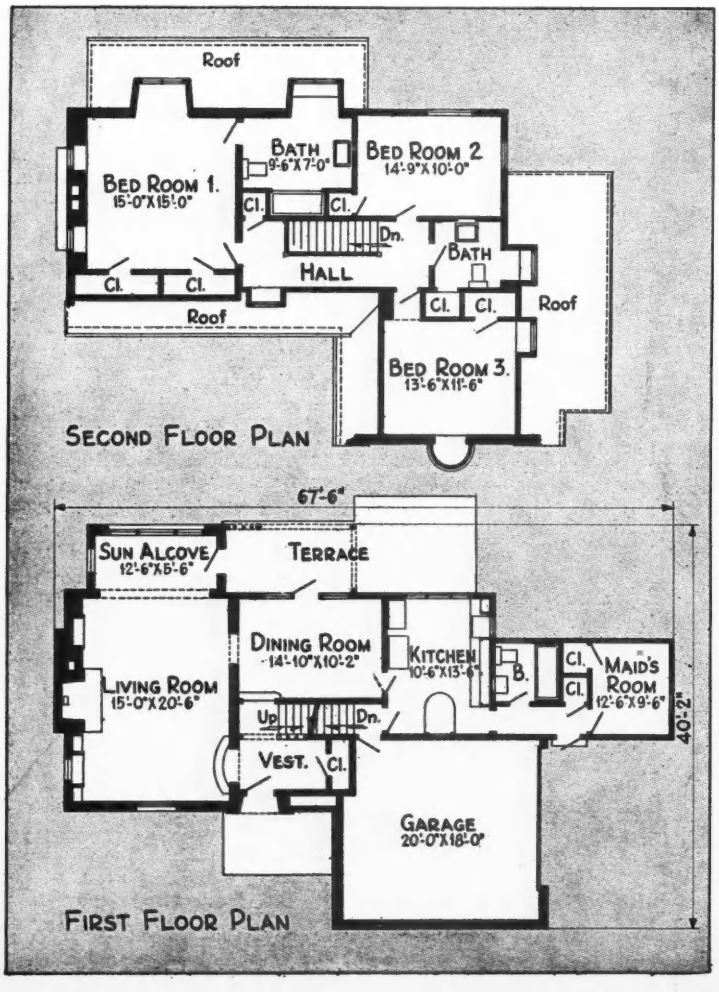
THE INTERESTING pattern of bright surfaces and deep shadows adds to the attractiveness of this fine Florida home. Good cross ventilation and insulated concrete masonry walls keep it as cool as it looks.



AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 59



PORTLAND, OREGON, MODEL HOME WITH GOOD LIVING SPACE

THIS J-M triple-insulated model home in the Lake Oswego development of the Ladd Estate Co., near Portland, Ore., attracted more than ten thousand visitors during a six weeks period. It was designed by Architect Richard Sundeleaf and built by the Lake Oswego Construction Co.

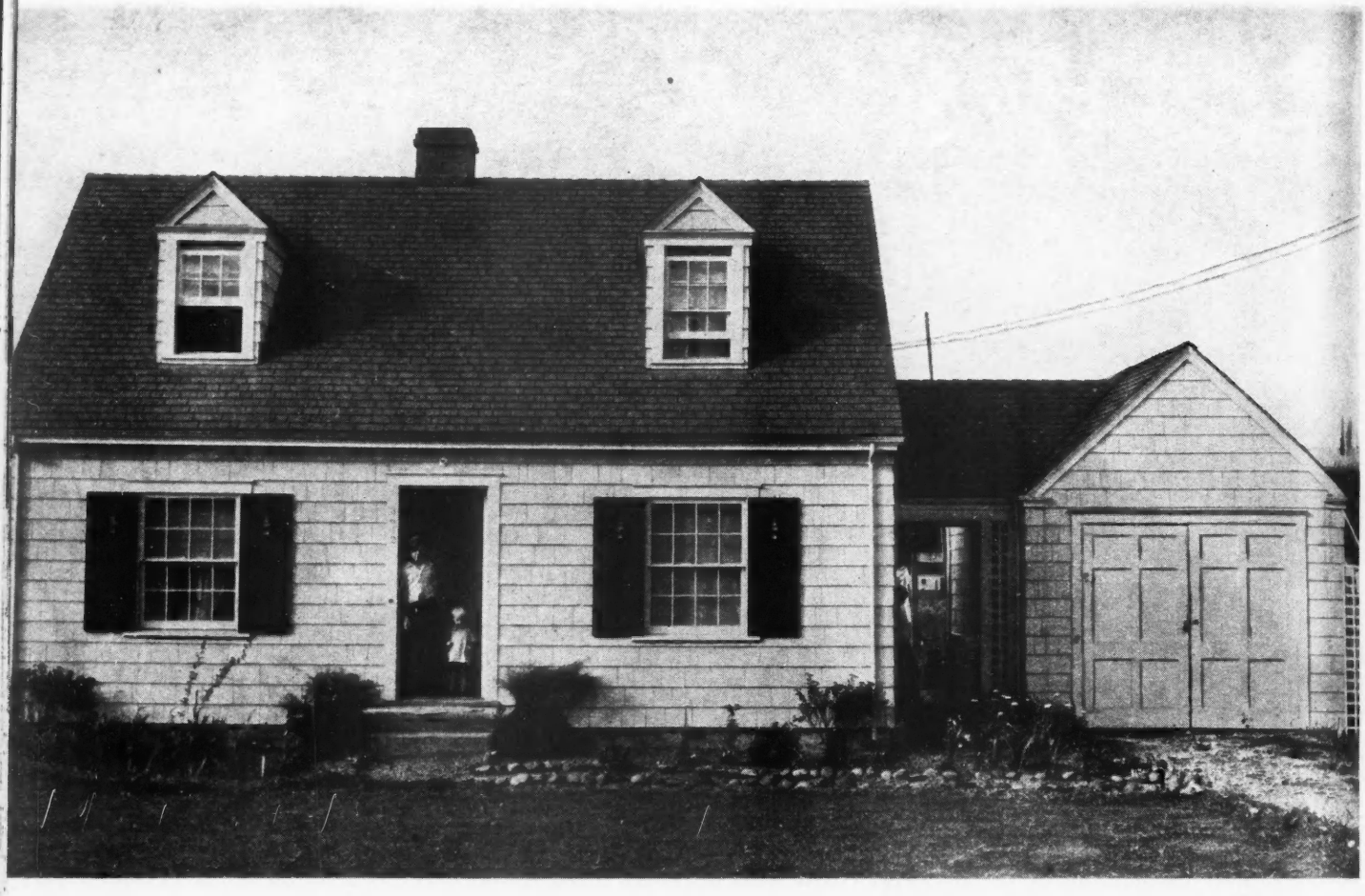
Johns-Manville products used in this home include Steeltex lath, asbestos shingles, rock wool insulation, asbestos wall panels, sound absorbing ceiling blocks, and asphalt floor tile.

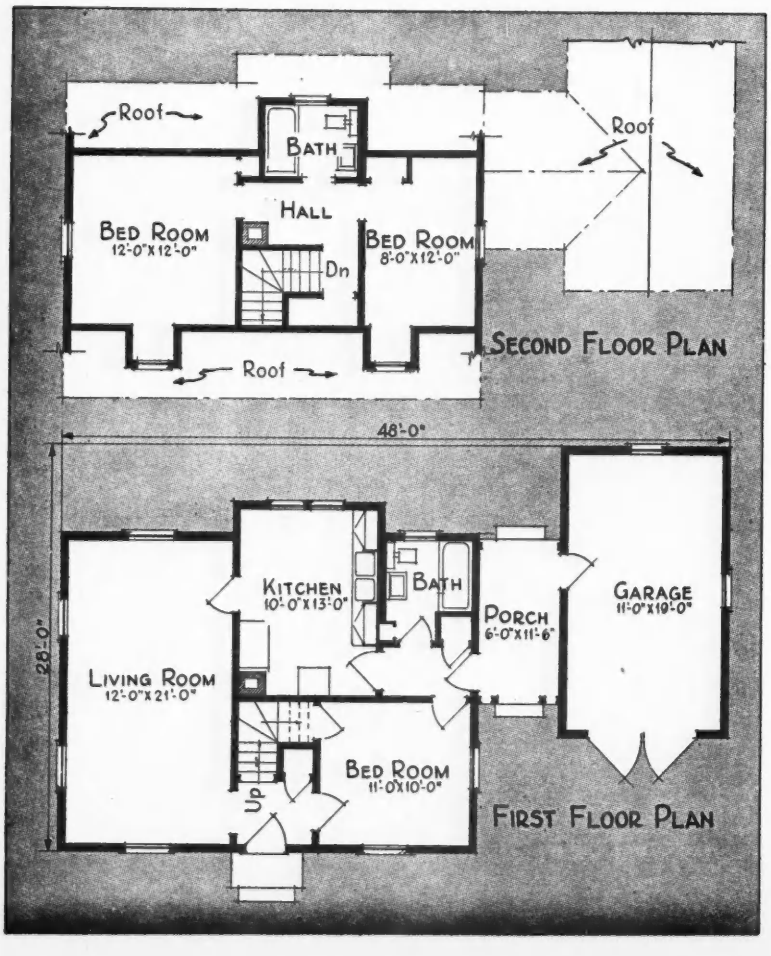
Other features are the General Electric kitchen, Gar Wood air conditioning system, Westwind ventilation, and "Overhead" garage doors.

Rough textured Roman type brick twelve inches long with a four-inch face, a recent product of the Columbia Brick Works of Portland, gives an unusual exterior treatment. Gutters, downspouts, flashing and oriel window are made of 14 oz. copper. All woodwork and panels are straight grained Oregon fir.

The garage is concealed under the high gabled roof at the right side of the house, and has inconspicuous entrance from the side. First floor features are the paving brick entrance terrace, tile floor in entrance hall, paneled and beamed living room with relief mantel panel (illustrated on opposite page) by a noted Portland architectural sculptor, oak floors and tile bathroom in maid's quarters, efficient kitchen arrangement.

LIVING AND RECREATION SPACE has been carefully planned in this Portland, Ore., model home designed by Architect Sundeleaf. The large living room, above, for more formal occasions has a large fireplace with side bookshelves and a cheerful alcove at the far end; paneling and beams are of Oregon fir. Play space is provided by the basement recreation room, below, and outdoor living can be enjoyed on the rear terrace seen at the right.





BUILT FOR LUMBER WORKERS

BUILT for lumbermen, near Longview, Wash., this compact little house would appeal to many a more prosperous American citizen. In a cubage of only 13,500 cu. ft., space is provided for 3 bedrooms and 2 baths. The second story may be left unfinished at start for economy. Kitchen and bathroom plumbing is economically grouped. The attached garage is attractive. The first floor bedroom could be used as an office or dining room or for an invalid "in-law."

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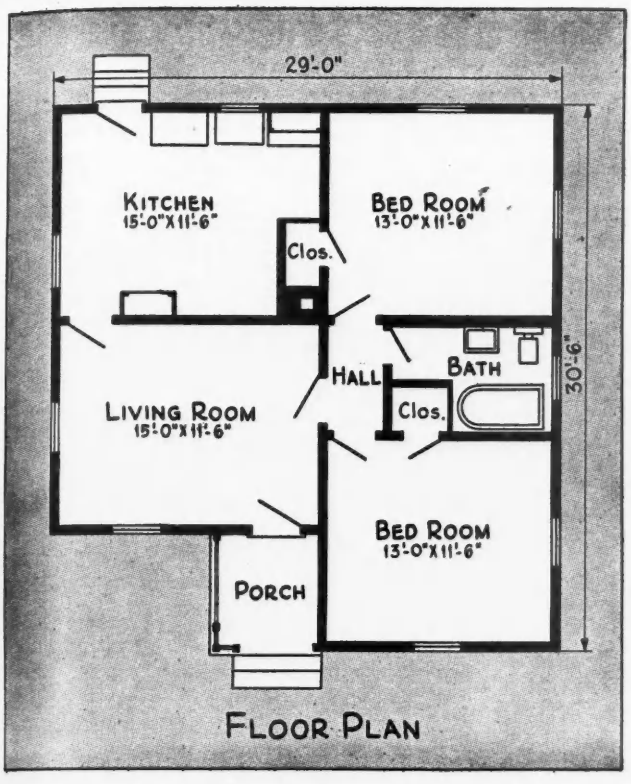
THIS is one of 60 Resettlement Administration homes in the Longview project, each located on about 2 acres of land. The project is managed by a nonprofit community association and financed over a long term of years. Average income of families is $1,000.



FLOOR PLAN

TEXAS COTTAGE
11,350 CU. FT.

SIXTY-TWO HOUSES of this type have been built on plots averaging 3 acres each in the Resettlement Administration near Wichita Falls, Tex.| Each homestead also has a combination garage, storeroom and chicken house, and 49 have cow barns. The houses are small, compact, of Colonial design, with a cubage of 11,350 cu. ft. and would also be suitable as summer cottages with a few changes.

THIS PROJECT is owned by a nonprofit local community association which deals with the individual homesteader. Occupants are low-income families who become members of the association and elect a board of directors. Project is subject to local taxation.

THE FLOOR PLAN has been designed to meet requirements of a warm climate, with cross ventilation in bedrooms and louvres in outside walls to ventilate attic. The bathroom is located between bedrooms and away from living quarters.

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New Practice Wedded to Old Style

OF THE HOUSES completed this spring, one in Plainfield, Ill., is attracting considerable attention because, like the proverbial "something old and something new" theme, it combines a version of the old traditional Cape Cod style with new materials and modern planning practice.

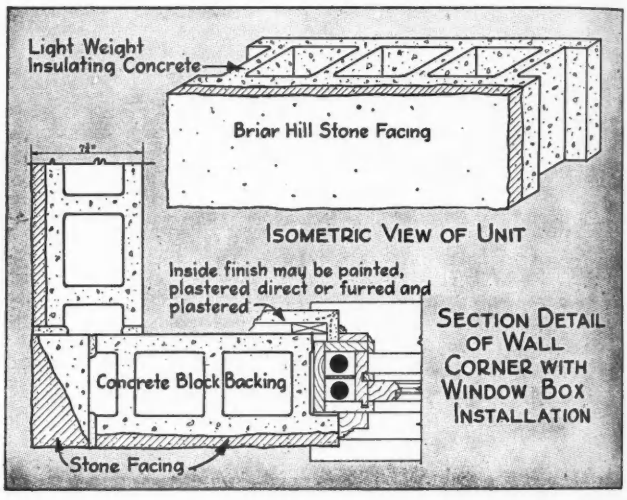
The attractive exterior to all appearances is laid of selected Briar Hill sandstone; actually this stone facing is an integral part of new factory-made wall units called Instone. These consist of light weight, insulating, hollow concrete backing cast to the 2-inch thick pieces of face stone. The drawing at the right shows one of these units and a wall section of them at a corner. Laboratory tests have demonstrated that the bond between the natural stone facing and the concrete body of the block will withstand crushing tests after numerous freezing and thawing cycles without failure at this point.

A. J. Kruegel of Joliet, Ill., the architect who designed the house for the owner and builder, R. H. Powers, president of the Joliet Material Company, says that the stone has proved satisfactory on this first job and "the ease with which it is placed in the wall gives one a stone wall at nominal cost." The interior of the wall can be furred, lathed and plastered, as was done in this case, or finish applied direct, as on any other concrete block surface. Precast concrete joists and slabs were used for the first floor; other construction highlights of this unusual little house are given in the outline "specs" on the opposite page.

In line with present advanced practice, the floor plans have been worked out by Architect Kruegel for maximum flexibility with minimum of waste space. The first floor has a large livingroom, one end of which could be used for formal dining; a good sized dinette provides a handy place for family meals while the bedroom, if not needed for guests or maid quarters, would provide a separate dining room. The small L-shaped hall in the center gives access to kitchen, basement, lavatory, bedroom and storage closets; circulation is extremely good with this arrangement.

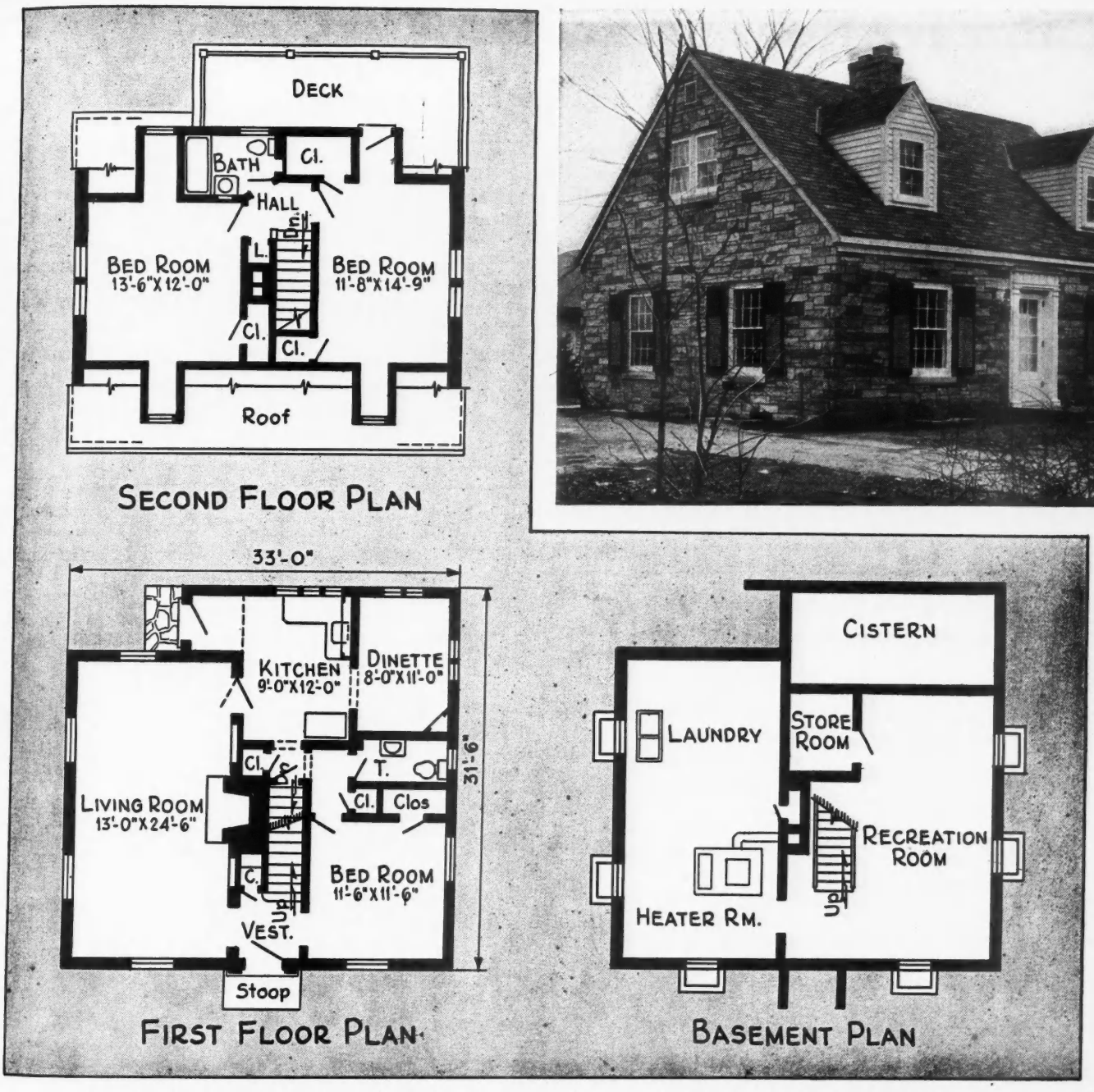
Two well proportioned bedrooms and a bath are located on the second floor, with a dormer door leading out onto a sun deck at the rear. In the basement, heating plant and laundry are separated from the recreation space by a load-bearing masonry wall.

This well handled 6-room house adequately combines the necessary elements of high value construction and planning with the homelike styling and livability which buyers are seeking in today's market.



AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 59

EXTERIOR of Cape Cod cottage designed by Architect A. J. Kruegel of Joliet, Ill., is pleasingly done in Briar Hill Instone units; the natural colors contrast nicely with dark green blinds, white trim and variegated roof. Although the basement is full height, excavating was carried deep enough so that the first floor level is just one step above grade; this has maintained the snug appearance which is desirable in Cape Cod styling. Later, base plantings will properly tie the house to the site.



ABOVE: Side view and floor plans indicate the thorough consideration which was given to the planning of this house.

OUTLINE SPECIFICATIONS

FOUNDATION: Monolithic concrete, colored concrete floors in basement. Waterproofing, emulsified asphalt.

STRUCTURE: Exterior walls Insulated Natural Stone with air space, walls furred, lathed with Certain-teed gypsum lath and plaster. First floor construction precast concrete joist, Universal Cast Stone Co. and reinforced concrete slab. Interior partitions, second floor construction and roof, frame construction.

ROOF: Certain-teed asphalt shingle variegated colors.

SHEET METAL: Copper gutters and flashings.

INSULATION: Exterior walls—Certain-teed reflective type lath; ceilings—Schundler-Mica Pellets.

WINDOWS: Wood double-hung Andersen casements, glazed with S.S.A.

FLOOR COVERING: Kitchen, dinette, lavatory and bath—Tiletex asphalt tile. Remainder of first floor, Bigelow carpet. Second floor—select red oak flooring.

WALLS: Colored plaster.

WOODWORK: Trim, doors, kitchen cupboards, etc., white pine.

HARDWARE: Stanley butts; Barrows locks.

PAINTING: Exterior trim—three coats lead and oil. Interior trim—four coats enamel, walls of kitchen, dinette, lavatory and bath three coat enamel.

ELECTRICAL INSTALLATION: Basement in conduit, remainder B-X. Arrow-Hart & Hegeman panel board and switches. Lightolier and Mobridge fixtures.

PLUMBING FIXTURES: Standard Sanitary kitchen sink; other fixtures, Kohler.

HEATING AND AIR CONDITIONING: Fox Furnace oil-burning Sunbeam furnace.

FIREPLACE: Wood-burning fireplace; Bennett heating unit.

Efficient Housing for Two Families

Compact and Attractive Kansas Duplex Is Result of Improved Planning

FAR from being the uninteresting, poorly-lighted, cramped structure which was once known as a "double house," this duplex located in Wichita, Kans., would be a welcome relief to many tenants. It represents a forward step in two-family rental property; attractive exterior with a homelike appearance, rooms with plenty of light and air, good sized closet areas, compact "U" kitchen, and handy motor room give the structure the important features of modern single-family houses. John R. Butler, Wichita architect, was the designer.

The two units are identical, the half plan being reversed. Each contains five rooms and attached garage, yet the overall dimensions of this compact building are only 38 by 46 feet, allowing it to be placed on as little as 45 foot frontage. Brick veneer below the front gable ties in with the massive chimney which carries the flues for the two ingle nook fireplaces and heating plant. Corner windows complete the clean-cut effect and provide a sunny corner in the living rooms.

Other construction features are as follows:

Foundation—Cement block walls, with reinforced concrete footings.

Siding—¾" x 9½" clear white pine, bevel siding.

Interior Walls—Wood lath and plaster; interior stucco in living rooms, dining rooms and second floor halls.

Floors—13/16" No. 1 white oak, Armstrong linoleum for baths, kitchens, and counter tops.

Roof—No. 1 16" edge grain red cedar shingles.

Insulation—Complete insulation of second floor, and exposed first floor ceiling with 1" blanket type insulation.

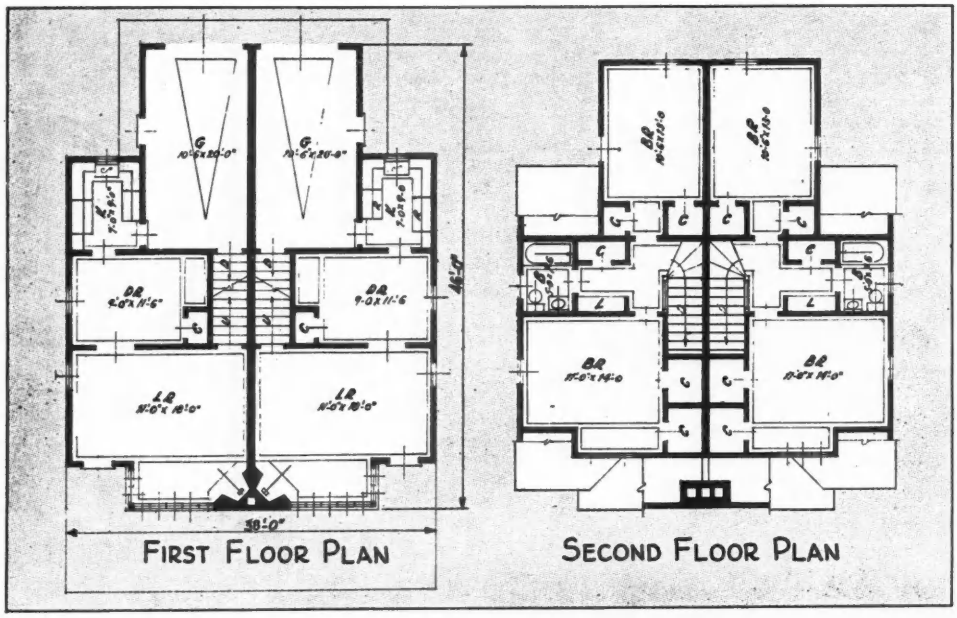
Garage—Overhead door.

Windows—Stock white pine double-hung sash with narrow interior and exterior trim, Andersen casements, Fenestra basement sash.

Plumbing Fixtures—Crane.

Heating—Winter air conditioning system.

Painting—3 coats lead and oil for exterior, 2 coats Cabot's stain for roof and shutters.



FRONT VIEW of this Wichita, Kans., duplex shows the design possibilities in a well handled two-family house planned by Architect John R. Butler. In the plan, above, there is a minimum of unusable space. Windows are placed to take advantage of two views—a park to the front and a river to the rear.

AMERICAN BUILDER TruCost FIGURES FOR THIS HOUSE ON PAGE 59

"TruCost" Figures for American Builder Homes

HOME DESIGNS ON PAGES AS NUMBERED

Unit of Construction	May, 42	May, 43, Top	May, 43, Bottom	May, 44, Top	May, 44, Bottom	May, 46	May, 47	May, 48
Basement Walls, lin. ft.	110	118	104	112	116	304	214	110
Trench Walls, lin. ft.	0	0	0	0	0	115	34	54
Basement Floor, sq. ft.	707	745	672	706	716	2216	1490	714
Garage Floor, sq. ft.	0	0	0	0	0	660	0	0
Excavation per ft. deep, cu. yds.	30	32	29	30	31	103	66	34
Outside Walls, squares	12.3	13.2	11.8	13.1	13.2	53.8	21.8	17.6
First Floor, squares	7.1	7.5	6.7	7.1	7.2	22.2	14.9	7.1
Second Floor, with Finish Floorings, sqs.	0	0	0	0	0	17.9	0	5.7
Second Floor without Fin. Flooring, sqs.	0	0	0	0	0	1.9	0	1.4
Ceiling (attic flg. and stair extra) sqs.	7.1	7.5	6.7	7.1	7.2	29.0	14.9	7.8
Roof Pitch, inches rise per foot run	8"	5"	8"	10"	8"	14"	5"	16"
Roof, squares	9.2	9.5	8.7	9.9	9.9	50.6	17.6	12.1
Hips and Valleys, lin. ft.	0	24	0	11	16	220	20	20
Cornice, size and lin. ft.	C-F-130	C-F-130	C-F-118	C-F-128	C-F-130	C-F-430	C-F-224	C-F-210
Cornice, size and lin. ft.	0	0	0	0	0	12" 152	0	0
Partition, lin. ft.	104	103	98	100	101	408	149	160
Inside Finish OS Walls, lin. ft.	110	118	104	112	116	524	214	202
Front and OS French Doors, openings	1	1	1	1	1	3	4	2
Rear and Grade Doors, openings	1	1	1	1	1	4	1	1
Garage Doors 8' wide (attached garage)	0	0	0	0	0	2	0	0
Inside Doors and Cased Opgs., openings	11	11	10	10	11	25	14	15
Windows and Casements, openings	12	11	11	10	9	57	17	16
Gable Sash and Louvers, openings	2	4	2	2	2	0	0	0
Chimney, lin. ft.	28	27	28	30	28	38	24	34
Main Stairs	0	0	0	0	0	1	0	1
Porch Floor, squares	0	.6	.3	0	.4	1.7	2.6	1.4
Porch Ceiling, squares	0	.6	.3	0	.4	1.7	0	1.4
Porch Beam, lin. ft.	0	17	16	0	13	34	0	33
Porch and Balcony Post and Newels, no.	0	4	5	0	2	2	0	9
Porch Roof, squares	0	0	.5	0	0	0	0	1.8
Porch Cornice, lin. ft.	0	0	15	0	0	0	0	36
Porch and Deck Rail, lin. ft.	0	0	0	0	0	22	0	0

Unit of Construction	May, 50, Top	May, 50, Bottom	May, 51	May, 52	May, 54	May, 55	May, 56	May, 58
Basement Walls, lin. ft.	152	169	178	189	110	119	129	164
Trench Walls, lin. ft.	98	90	98	74	64	12	0	49
Basement Floor, sq. ft.	1292	1314	1236	1162	693	787	995	1075
Garage Floor, sq. ft.	245	140	403	418	240	0	0	460
Excavation per ft. deep, cu. yds.	61	62	61	55	34	34	42	50
Outside Walls, squares	21.0	20.9	38	29.3	21.3	12.3	20.9	27.7
First Floor, squares	12.9	13.1	12.4	11.7	6.9	7.9	10.0	10.8
Second Floor, with Finish Flooring, Sqs.	0	0	13.8	11.1	4.2	0	6.7	12.2
Second Floor without Fin. Flooring, Sqs.	0	0	0	4.7	2.7	0	2.0	3.2
Ceiling, (attic flg. and stair extra) sqs.	12.9	14.5	16.4	15.8	6.9	7.9	8.7	15.4
Roof Pitch, inches rise per foot run	3"	4"	2"	16"	11"	6"	14"	10
Roof, squares	20.7	16.9	21.6	30.0	14.2	10.0	14.1	21.0
Hips and Valleys, lin. ft.	210	70	140	64	52	72	24	82
Cornice, size and lin. ft.	12"-232	C-F 115	6"—306	C-F-110	C-F-268	C-F-126	C-F-260	C-F-240
Cornice, size and lin. ft.	0	12"—95	0	12" 157	0	0	0	12" 10
Partition, lin. ft.	138	157	342	261	136	84	192	371
Inside Finish OS Walls, lin. ft.	220	189	408	311	166	119	226	297
Front and OS French Doors, openings	4	4	5	3	1	1	1	2
Rear and Grade Doors, openings	1	1	2	1	2	1	2	2
Garage Doors 8' wide (attached garage)	1	1	2	2	1	0	0	2
Inside Doors and Cased Opgs., openings	11	15	22	22	15	7	19	28
Windows and Casements, openings	18	34	35	30	16	9	22	32
Gable Sash and Louvers, openings	2	5	0	0	0	1	0	0
Chimney, lin. ft.	24	25	34	37	32	24	35	33
Main Stairs	0	0	2	1	1	0	1	2
Porch Floor, squares	2.0	1.8	3.0	.9	.7	.4	0	0
Porch Ceiling, squares	2.0	1.8	3.0	.9	.7	.4	0	0
Porch Beam, lin. ft.	32	44	24	20	12	13	0	0
Porch and Balcony Post and Newels, No.	4	7	6	4	2	4	4	0
Porch Roof, squares	0	2.2	1.6	1.6	1.0	0	0	0
Porch Cornice, lin. ft.	0	18	48	20	12	0	0	0
Porch and Deck Rail, lin. ft.	26	28	48	0	0	0	38	0

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:

Areaways, 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. And don't forget Overhead and Profit.

ANNOUNCING

TruCost Estimating Service

New "American Builder" Unit Quantity Surveys Help to Quick, Accurate Cost Pricing by Local Contractors, Builders, Architects and Dealers in Each and Every Community—All home designs in "American Builder" will carry TruCost Figures for benefit of local building men.

THE EDITORS present herewith a new feature never before offered the building public, the *American Builder* "TruCost" estimating figures for every house design illustrated in this issue so that every contractor, builder and dealer can *quickly supply his own accurate local building cost.*

This new TruCost system is the result of twenty years of practical estimating experience. It has been perfected and is here offered for the benefit of readers, not only in respect to the pricing of the designs illustrated monthly in the *American Builder* but also covering estimating in general, and the quick, accurate pricing based on local costs of ANY house design.

Readers will note that on the preceding page, in tabular form, the "TruCost" estimating data are given for each house in the home design section, pages 42 to 58, immediately preceding. Then, to make this matter clear, we present herewith an explanatory article by A. W. Holt, well known estimating authority, introducing this new service, and thoroughly explaining how the quantity figures published are combined with local cost data to give the complete cost accurately in every community.

This new *American Builder* "TruCost" estimating service takes the place of the "Cost Key" data which was featured previously but proved unsatisfactory because so many readers did not have the facilities to make use of it. In comparison, the "TruCost" service is much more simple and much more easily understandable. *It is based on accurate surface measurement of the house by the square and by count.* More accurate than an itemized bill of material estimate, this "TruCost" system is short and simple, and provides the local contractor, dealer or builder reliable and exact quantity data against which to apply his own unit costs.

The first question always is: "How much will that house cost?" To state a money price that would prove accurate for the entire country is of course impossible because of the great differences in local labor rates, material prices, and standards of construction. Some publishers have published their estimates or guesses as to what a house should cost. Such published figures always make trouble, and *American Builder* has never been willing to yield to the temptation to publish such prices, realizing the danger and the embarrassment to the local building industry whose proper function it is to quote local prices that become the basis for actual contracts. This new *American Builder* "TruCost" service will give our readers all necessary information as to the quantities required in each of the designs we will illustrate, starting with this May issue; and using these quantities the local builder or dealer quickly supplies his own unit costs to make up his accurate estimate or bid.—EDITOR.

The TruCost of Houses Anywhere

By A. W. HOLT

A PRICE tag should be attached to anything of value before it is offered for sale; because almost everyone must know the *cost* before he can buy the *value* that something may give him.

Cost and value are partners when it comes to buying or selling anything.

For 60 years editors and readers of *American Builder* have been partners in selling homes. This publication has shown the *value* of a certain home in the form of a plan. Being national in scope, that is all this publication or any widely read publication could safely do. The true *cost* of that plan in some certain locality had to be given by readers of *American Builder* in that locality.

That is as it must always be. TruCost will also be a 50-50 deal between this publication and you readers. We will give all the true cost data we can—and then all local builders have to do is to adapt it to their particular locality.

Building costs differ in practically every community; and it is easy to see why that is so. Construction practices vary everywhere. Different kinds of materials are used everywhere. Prices of material fluctuate with market changes or competitive conditions as influenced by the old but still-good law of supply and demand. Add to that the cost of labor and management because of varying wage scale, uncertainty of efficiency, quality of workmanship, and the equipment used. All such local factors make it most imperative that all dollar costs be established by local men of the building industry in their own locality.

Then there is that uncertain local factor of *profits.* This, unfortunately, is a *loss* in all too many cases and largely because of lack of knowledge of local cost factors. All too often the one who makes the most mistakes or knows the least about his actual costs is the accepted bidder on some job at a price as much as 25 per cent lower than the average submitted by competent builders. Thus, he loses money or has to skin the job; and the owner loses, or the bonding company or the creditors make good the shortage.

And the competent builders lose the job. So everybody

loses because of the failure of someone to know his *true* local costs.

Everyone connected with the building industry everywhere should want his competitors to know their true costs. It is always easier and more profitable to all concerned if all know their business. The *American Builder* is furnishing this new service of quantity surveying to help attain that end.

To state under a certain plan that it will cost $5,000 to $8,000 would be absolutely meaningless. For, if gold door knobs were wanted, it might cost from $50,000 to $80,000—depending on the size of the door knobs!

And the actual cost of $5,747.50 for a given plan in some certain locality by some certain builder is not only meaningless to every other reader, but that dollar cost may be the monkey wrench that smashes the selling machine of everyone where building costs are higher because of *variable* local factors.

Price tags can have a dollar price crossed out and a lower price shown. But who ever saw a price tag on anything where the new price in red was higher than the old black price which had been crossed out? That's what published dollar costs may be in many localities.

No, a dollar cost is of no value whatsoever to anyone. But a *means* to a *true* dollar cost in any and every locality will be most helpful to all concerned. The means for accomplishing this is now made available to all readers of *American Builder* in the form of the TruCost quantity survey data.

What TruCost Is

TruCost is a means of determining true building costs for anyone in the building industry anywhere who will do his part by establishing his own true local unit costs.

TruCost is based on actual requirements for any specific house. Actual surface of walls, floors, roof and other flat surfaces; actual linear feet of partitions and cornices; actual number of doors, windows and all other actual *units of construction.* This puts only *part* of the "tru" in "TruCost" though. The other part must be supplied by each user of TruCost in the form of true local unit costs.

On page 59 is given the actual *quantity* of units required for each home design illustrated in this issue, as will be done in future issues for plans shown therein. Simply multiplying the number of units given by one's own true unit price will give just as true a cost for some portion of a home as is possible by any method whatsoever.

For instance, if this tabulation shows 9 squares of floor for a certain house, and anyone knows that his typical floor construction costs, say, $30 a square, the entire floor unit of that house would cost 9 x $30, or $270. And that would include everything that was included to make the local unit cost of $30 per square. If $30 is material only, $270 would include material only. If $30 per square includes labor and material, that's what $270 will provide for the entire floor.

And don't forget "O & P," which means overhead and profit. If included in the $30, it is included. If left to be added to the total cost of all the component units of a house, it may be forgotten. Those who forget to add a profit should forget to submit a price.

How to Compile Local Unit Costs

All that *American Builder* can do to help its readers determine reliable unit costs will be done. As a starter, frame construction data is given in this issue. Brick, tile, brick and tile walls, steel, tile, concrete and all kinds of floors, and all other standard types of construction will be covered in subsequent issues.

More and more operative builders, contractors, lumber dealers and their employees who are imbued with a genuine desire—yes, a *determination*—to get ahead in this world, are being converted to the same idea that occurred to me on Aug. 8, 1915. That's 23 years ago since the thought occurred to me: "If someone would only compile some tables that would give the exact amount of studdings. floor joists, ceiling joists, rafters and other framing materials of various sizes and for the usual variety of spacings, I could easily add the sheathings, floorings, sidings or any other 'covering materials' and compile a most reliable price per square of *exact* surface."

"Why not?" I said to myself. I can still see myself when that presumably bright idea occurred to me. So I hustled back to my office after supper and started to find out if it could be done. By two o'clock that night I was just as positive that my theory was possible as I was that I was alive. I was just as convinced in my own mind then—23 years ago—as I am now. And that is 100 per cent. Many doubted my theory; but results told the story.

The same basic principles used then are still in effect after more than twenty years of proof by test by thousands of dealers, contractors, builders and others of this building industry in all parts of the country, as will now be explained in detail.

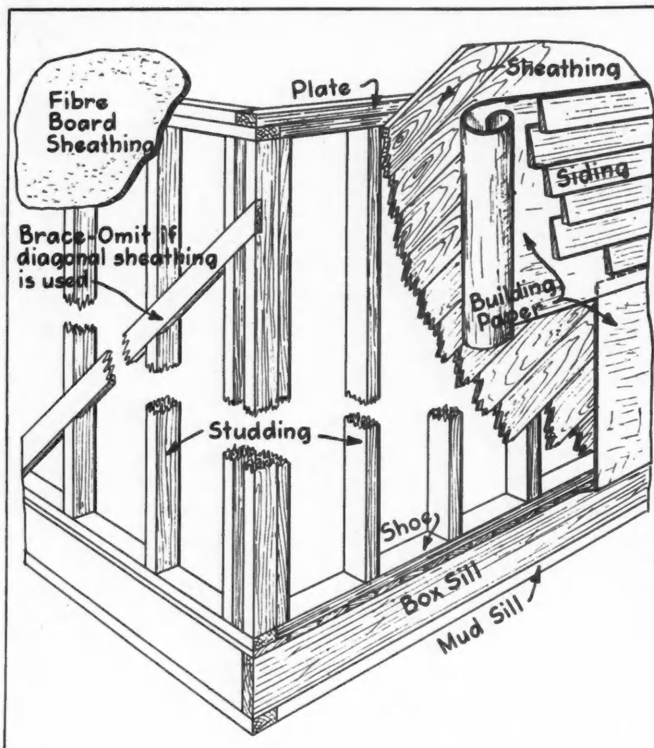
Definition of "Square"

The term "square," as applied to estimating building costs and to various materials, such as roofing, means 100 square feet of superficial area or flat surface.

Just as 100 pennies equal one dollar, so do 100 sq. ft. equal one square. Furthermore, whether the pennies are placed to form a rectangle 5 pennies by 20 pennies, or a square 10 x 10 pennies, so can one square of surface be of any dimension equivalent to 100 sq. ft. of surface. If 800 pennies equal $8.00 and 1472 pennies equal $14.72, so do 800 sq. ft. equal 8 squares, and 1472 sq. ft. 14.72 squares. Pointing off two places of square feet gives the squares in hundredths.

Lumber manufacturers usually do not split quarters in making up their price lists or quoting a price per M (1000) bd. ft. Many dealers sell that lumber at prices of even dollars per M bd. ft. And most estimators I know do not split tenths of squares in listing the total squares of surface. For example, 798 sq. ft. is called 8 squares, just as 803 sq. ft. is also listed as 8 squares, 805 sq. ft. 8.1 sqs.; 1492 sq. ft. is called 14.9 squares although many would jump it to an even 15 squares. The law of averages favors a slight gain because 1, 2, 3 and 4 give four losses as compared to the five gains of 5, 6, 7, 8 and 9. Having done so for more than 20 years, I shall continue to list squares in even tenths. Think how much easier it is to multiply 8 squares by a price per square than it would be to wear oneself out by three multiplications and one addition necessary to multiply by 7.98 squares.

Since 1 sq. yd. equals 9 sq. ft., dividing 100 sq. ft. by 9 gives 11-1/9 sq. yds. per square. Decimally, it is 11.111111111+ sq. yds. per square. This is a concrete illustration that there is no such thing as absolute accuracy, especially where the human equation is involved. Call it 11.1 sq. yds. per square. Being all "ones," plaster at 60 cents per sq. yd., or per "yard" as it is usually termed, becomes $6.66 per square; 65 cents per yard equals $6.50 plus $.65 plus $.065 or called $7.22 per square as compared to $7.222222222+ when multiplying



MATERIALS REQUIRED PER SQUARE OF FRAME HOUSE WALLS (W)

W-1	Framing, 2 x 4 studs 16" oc, 2 x 6 mud sill, and 2 x 10 box sill as illustrated	107 bd. ft.
W-2	Same except studs 24" oc.	95 " "
W-3	If 2 x 8 box sill deduct 3 bd. ft.	
W-4	If single 2 x 4 plate deduct 7 bd. ft.	
	Sheathing (openings not deducted and 5% added for waste)	
W-10	Boards	105 bd. ft.
W-11	8" Shiplap or D & M (7¼" face)	116 " "
W-12	6" " " " (5¼" ")	121 " "
W-13	4" " " " (3¼" ")	130 " "
W-20	Paper—Figure 110 sq. ft. per layer.	
	Wall Finishing (10% deducted for openings)	
W-30	4" Bevel siding exposed 2¾"	131 " "
W-31	6" " " " 4½"	120 " "
W-32	8" " " " 6½"	111 " "
W-33	10" " " " 8½"	107 " "
W-34	4" Rustic (3¼" face)	111 " "
W-35	6" " (5¼" ")	103 " "
W-36	Shingles, price per square less 10% for openings.	
W-37	Stucco, 11.1 square yards per square.	
W-38	Brick Veneer, 650 brick per square (10% liberal to cover chipped brick and angle iron lintels)	
	Nails, figure 10 lbs. per square.	
	Paint, divide gallon price by squares covering capacity and add 10%.	

Fig. 1. These items are included in "Square of Outside Wall" in TruCost figures.

by the exact 11-1/9 sq. yds. per square. Besides, 11.1 can usually be multiplied mentally. Let's save ourselves when the law of averages proves that we will gain just a trifle in the end.

Therefore, a "square" equals 100 sq. ft. and 11.1 sq. yds.

Code for Item Numbers

Observe how all items of Fig. 1 are prefixed with the letter "W" which means "Walls." Also that the numbers 1 to 9 inclusive are reserved for framing, 10 to 19 inclusive for sheathing, and all items higher than 30 will permit of more than enough alternates for wall finishes. This permits inserting other items as new materials are added without changing old item numbers.

The value of this code will be apparent when TruCosting a special plan in a prospect's home. The code W-38 instantly shows that brick veneer was figured for the walls. This saves time and makes the record complete for future reference. Doing the same for the "F" items for first floor, "SF" for second floor, etc., as shown in parenthesis for each table, facilitates reference in this explanation and is suggested for what it may be worth when anyone compiles his own local unit costs.

Wall Unit Costs (W)

The materials recommended per square of wall for houses are given in Fig. 1 for the construction illustrated.

Labor hours are not given in the *American Builder* TruCost system because of the great variation in quality of workmanship, efficiency of workmen, equipment used and other local and individual factors.

Observe that the allowance for waste (besides loss for matching) is given in all cases. In the case of sheathing, 5% was added for waste and no deduction made for openings. In the case of exterior wall finishes, 10% was deducted for openings and the excess openings and frieze is allowed for waste. These quantities have been used for years by many individuals and firms but occasionally some changes are made. The judgment of each user of TruCost should govern.

From this table anyone familiar with material costs can quickly and easily jot down his own local unit cost of materials as shown by Fig. 2. This could be a reproduction of anyone's own copy to hand to a typist for typing, on blank sheets for one's cost data book.

Materials most generally used should be listed first and alternates given below as illustrated. Observe how the "difference" per square is shown after being determined, as follows:

The W-1 item for No. 2 framing materials at $45 per M figured to $4.82, which is $.53 less than $5.35 extended a few lines above it, hence "minus .53." In like manner, $6.00 for the W-31 item is "minus $1.77" because $6.00 is $1.77 less than $7.77 originally extended.

Walls for Houses – Per Sq.
Standard Specifications Mat. Labor
W-1 Framing #1 —— 107 $50 5.35 —
W-12 Sheathing #2 121 40 4.84 —
W-20 Sunbrand Paper 22% +8 3.00 .66 —
W-32 Siding ¾x8 Clear 111 7.00 7.77 —
Nails . 10 5¢ .50 —
Paint 44% of gal 4.00 1.76 —
20.88
15% O&P 3.14
Standard Walls Per Sq $24.02
Alternates
W-1 No 2 Framing @45 4.82 −$.53
W-31 ½x6 Cl Sdg 120 50 6.00 −1.77
W-36 Shingles #1 5.00 4.50 −3.27
W-30 Brick @30.00 + 4.00 mortar
$34x650 = 22.10 7.77 = +14.33

Fig. 2. Typical memo of local costs as jotted down to have typed. All prices shown are for purpose of explanation only and should be changed to conform to local costs.

The 15% for overhead and profit is disregarded although, technically, it should be added to both amounts before listing the difference.

Alternate Costs

As many alternate materials can be priced as may be required in one's locality. It is enlightening to know the comparative cost of various materials "per square of surface" rather than commodity units of 1000 bd. ft. of lumber or 1000 brick, etc.

Regardless of the different wall finishes shown by any design, only the total wall area is given. Individual choice may change stone to brick, brick to shingled walls, shingles to siding, etc. In any event, it is recommended that the total wall area be first figured of the predominating material desired or shown and the differential for the exceptional walls then added or deducted as an alternate.

To illustrate, if a plan shows stone for the first story in the front only and the house is 30′ wide, the stone surface would be about 9 x 30 or 2.7 squares. If stone costs $30 more per square, add $81 to the cost of the walls of other finish, or, better yet, list an alternate price that may read, "For stone as shown, add $81." Most folks like such alternate price information.

The principles for wall finishes are the same as for finish floorings where the entire first floor may be figured as standard specifications and an alternate given for a parquet flooring for the living room, linoleum for the kitchen, etc.

Knowing the size of a room and the difference in cost per square will give instant answers to a prospect's question about various materials. And it's such prompt and definite answers that build up confidence, and that makes good sales.

Standard and Special Specifications

Since practically every house is different, and because of the great variety of materials available these days, no house is built to any certain standard specifications. All are special if for only a change in the flooring or trim in some room. Yet all special specifications can and should be based on some standard specifications.

Framing, sheathing and paper for frame walls are usually the same for a certain builder, contractor or dealer, or for them collectively if they co-operate, so the wall finish is the main variable. Selecting the most common wall finish as the standard, it is possible to specify the materials by simply stating the exceptions. It will be surprising how seldom it is necessary to specify more than half a dozen exceptions from any standard or printed specifications in order to specify the hundred and one items that might otherwise have to be specified on a building contract.

Many firms have had for years their specially advertised names for their standard house specifications such as "Gold Bond," "Gold Seal," "100-Point," etc., so that everyone connected with that firm can describe any new sale or new quotation to others by merely stating exceptions from their standards. In the case of Fig. 2, whatever materials are included in the basic per square price of $24.02 are considered standard and all alternates are the possible exceptions that make most specifications special.

Labor Cost Records

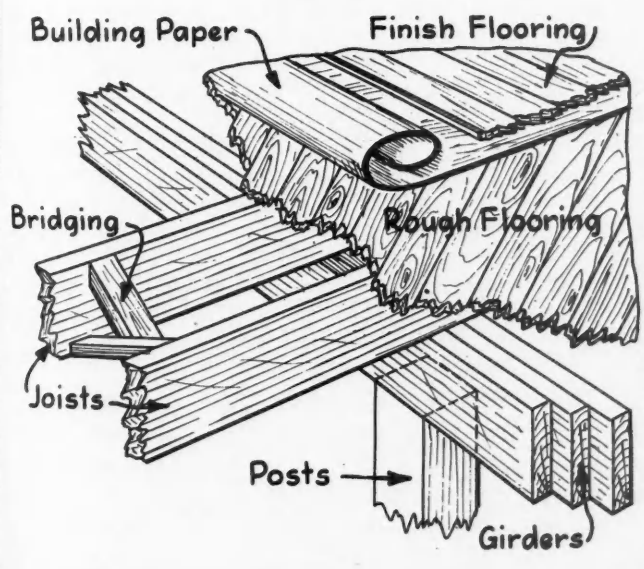
Builders and contractors usually have labor records based on past performances. Architects, dealers, realtors and others of the building fraternity can consult such contractors for reliable local labor costs and thereby have reliable completed costs. By co-operation much good can be accomplished.

Labor costs based on a certain percentage of material costs must be adjusted with changes in material prices. If labor runs 50% of material costs on one job, a loss of 10% of labor will result the next time if that 50% is added to material that is 10% cheaper. If labor is figured on a percentage basis it is a simple matter to add the desired percentage to unit prices of materials.

Most experienced and successful contractors seem to prefer the "hours per M bd. ft." for lumber of various kinds just as masons base labor on 1000 brick. Such records are readily adaptable to TruCost units opposite each item.

Labor on doors and windows is always based on hours per opening from records kept on various jobs. Therefore, such actual labor records can be applied to TruCost units without change. All other labor records can be adjusted to squares of surface and linear feet very easily.

When known labor costs are not available, many build-



MATERIALS REQUIRED PER SQUARE OF FIRST FLOORS FOR HOUSES (FF)

Framing, 16" oc as illustrated inc. 1 x 3 bridging

F-1	2 x 10 joists and 6 x 10 girders	195 bd. ft.
F-2	2 x 8 joists and 6 x 10 girders	166 " "
F-3	If 6 x 8 girder, deduct	5 " "

Subfloor (10% added for diagonal waste)

F-10	Boards	110 bd. ft.
F-11	8" Shiplap or D & M (7¼" face)	121 " "
F-12	6" " " " (5¼" ")	125 " "
F-13	4" " " " (3¼" ")	135 " "
F-20	Paper—Figure 110 sq. ft. per layer.	

Finish Flooring (10% deducted for walls and partitions.)

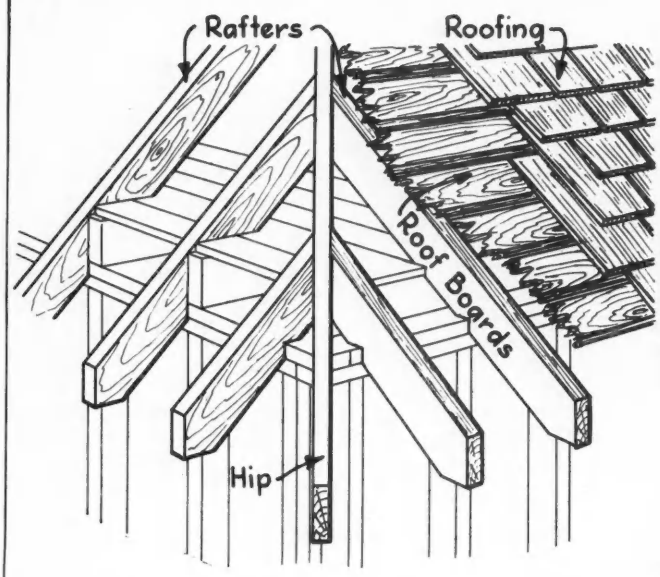
F-30	1 x 4 of 3¼" face	113 bd. ft.
F-31	1 x 3 of 2¼" "	120 " "
F-32	1 x 2¼ of 1½" "	135 " "
F-33	2" of 1½" "	120 " "

Nails, figure 10 lbs. per square

Finishing Floors, add as required

Note: Above also apply to Second Floor (SF) costs but add for finishing the joists for the ceiling below.

Fig. 3. These items are included in "Square of First Floor" in TruCost figures.



MATERIALS REQUIRED PER SQUARE OF ROOFS (R)

Rafters (10% added for waste and collar beams)

R-1	2 x 4—16" oc	55 bd. ft.
R-2	2 x 6—16" oc	82 " "
R-3	2 x 4—24" oc	37 " "
R-4	2 x 6—24" oc	55 " "

Roof Sheathing (5% added for waste)

R-10	Boards laid close	105 bd. ft.
R-11	Boards spaced 50%	53 " "
R-12	8" Shiplap or D & M (7¼" face)	116 " "
R-13	6" " " " (5¼" ")	121 " "
R-14	4" " " " (3¼" ")	130 " "
R-20	Paper—Figure 110 sq. ft. per layer.	
R-30	Shingles—Add price per square.	
	Nails—Figure 10 lbs. per square.	
	Hips per lin. ft.—Price of 1 sq. ft. roof, .3 hrs. labor and 1 lin. ft. hip shingle.	
	Valleys per lin. ft.—Same as hips plus valley flashing instead of hip shingles.	

Note: Use tight sheathing for asphalt shingles and allow for cost of starting strips. If shingle stain is wanted, add to shingle cost.

Fig. 4. These items are included in "Square of Roof" in TruCost figures.

ing reference books and manufacturer's recommendations will prove reasonably close for a job or two. But be sure to keep careful records of those jobs of all time required for framing the walls, the floors, roofs and other framing for each unit of construction. Do likewise for sheathings, sidings, and all other materials, as well as per opening of doors, windows, etc. That's how most contractors had to get their reliable labor records.

First Floor Unit Costs (F)

Refer to Fig. 3 and observe that the girders and posts are included with the joists and bridging in the cost per sq. of floor. Records on a great many jobs proved that any girder discrepancy would not exceed more than 9 bd. ft. per square, and that it seldom varied more than 5 bd. ft. per square regardless of the variation of judgment as to the proper placement of girders. This is not enough to justify making a separate unit of girders. When estimating other than *American Builder* plans, it may take too much time and effort to decide how the girders should be placed. And, having decided, others may decide otherwise. So do it this easy way and let the law of averages balance the slight losses and gains.

Observe that a deduction of 10% was made for finish floor items for the thickness of walls and partitions. I know that this can be done and still be safe as will be proved by comparing the net finish floor surface to the total floor area of a few houses. This, however, is subject to individual choice as are many other things in estimating.

With alternate costs for all kinds of floorings, linoleum, rubber tile, compressed fibre floors and all kinds of flooring materials, anyone will be prepared to sell by serving prospective home builders. With many floorings prefinished the remainder to "add as required" is about all the information that can be given about finishing floors.

Second Floor Unit Costs (SF)

The same quantities suggested for first floors in Fig. 3 will apply to second floors with this addition:

Add the lath and plaster (11.1 yards) or other materials for finishing the ceiling below. Some figure only 10 yards of plastering per square to allow for thickness of walls and partitions, as for finish flooring, because plaster yardage is based on inside dimensions. But 100 sq. ft. of all board insulation should be figured to allow for waste.

Since 1½ story houses do not require finish flooring for the unfinished or wasted spaces under the roof, the squares of each kind of floors is given for *American Builder* designs. As a rule the subfloor extends over the entire surface of the second floor unit in which case it is only necessary to deduct the finish flooring from the regular SF unit cost, thereby giving the same accuracy attainable by list-of-material methods. When insulation is included for all walls and ceilings, most estimators make no deduction for finish flooring but allow it for extra insulation usually involved by 1½ story houses.

The girder and posts included with the first floor joists will provide the essential item of firestopping the second floor and the scaffolding cost necessary for two-story houses. This is a recent short-cut that was adopted after completion of several jobs when FHA eliminated most jerry-building.

Ceiling Unit Costs (C)

Since ceiling joists are analogous to rafters laid horizontally, the roof tables in Fig. 4 will apply. The ceiling finishes for the second floor will take care of that, the same as the sheathings and floorings will give attic flooring *when wanted.*

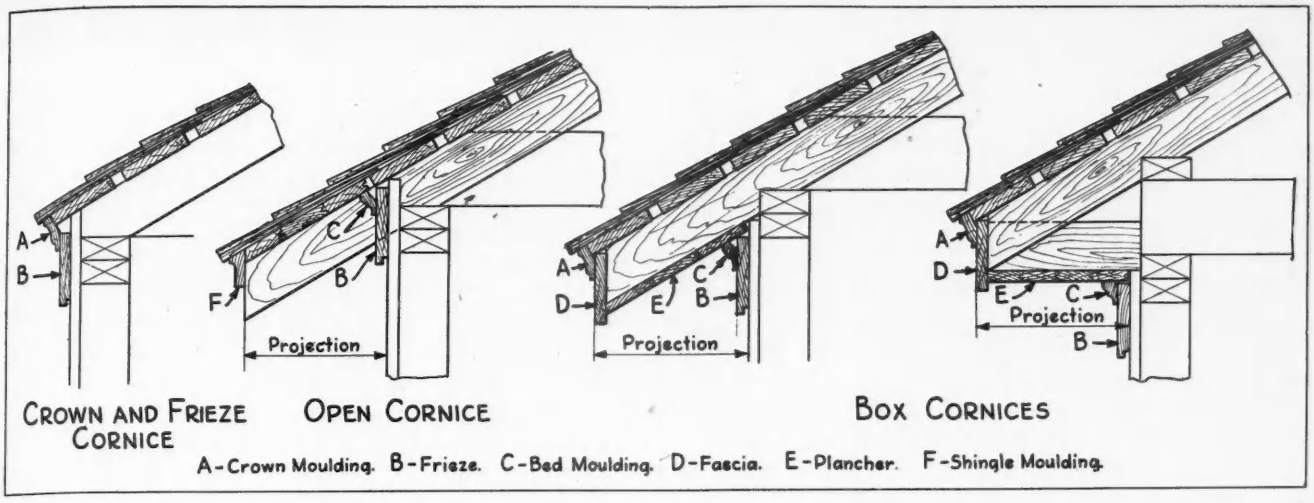
Do not include attic flooring with ceiling unit costs for the obvious reasons that some plans permit it and others do not; some folks want it in the center only, others clear to the junction of roof and ceiling, and others don't want it at all because they can add it any time.

Attic floors and the attic stairs, whether stationary or patented pull-down types, required to make that attic complete, should always be considered as a special item, as noted below the quantity unit tabulation for plans in this issue.

Unit Costs of Roofs (R)

The figuring of roof areas is a subject in itself. For the purpose of establishing local unit roof costs for TruCosting *American Builder* plans, Fig. 4 will doubtless be complete after following amplifications.

Rafters are occasionally spaced 20" o.c. and, since that



MATERIALS REQUIRED PER 100 LIN. FT. OF CORNICES (K)

10% added for waste

Measure cornices at eaves and not wall line.

Type of Cornice	C & F	Box Cornice		*Open Cornice	
Projection to Fascia	0"	12"	24"	12"	24"
K-1 Crown Mldg, A, lin. ft.	110	110	110	0	0
K-2 1x6 Frieze, B, bd. ft.	55	55	55	55	55
K-3 1x8 " " " "	73	73	73	73	73
K-4 Bed Mldg., C, lin. ft.	0	110	110	110	110
K-5 1x4 Fascia, D, " "	0	37	37	0	0
K-6 4" Clg. Plancher, E, bd. ft.	0	135	270	160	320
K-7 Shingle Mldg., F, lin. ft.	0	0	0	110	110
Paint Surface, sq. ft.	100	200	300	270	440

Compute price per 100 lin. ft. and point off two places for price per lin. ft. as given in quantity of units.

*Plancher for open cornice based on 1/3 pitch roof. Deduction can be made for roof sheathing it usually replaces.

Note: 1¼" frieze or fascia requires ¼ more than 1".

Nails provided by other construction units.

Fig. 5. These items are included in "Cornice, lineal feet" in TruCost figures.

is half-way between 16" and 24", split the difference of board footage given therefore. Likewise, rafters of 2 x 8 will require twice as many board feet per square as 2 x 4 rafters of the desired spacing.

The "10% added for waste and collar beams" may or may not conform to the judgment of all practical builders, but those who once adopt this average usually abide by it. This, like the 5% waste allowance (besides the matching loss) for roof sheathings can readily be changed if deemed best.

Hips and valleys are the only other items that may need explaining. Adding the price of 1 sq. ft. of roof—.01 of square cost—will provide for waste of sheathing and shingles. This is equivalent to letting them project six inches beyond the hip which will represent the part trimmed off and wasted. In the case of wood shingles, however, the part wasted for the hip will start the valley if sawed off, as should be done. Sometimes this is true with asphalt or other equal-width shingles.

The ".3 hours of labor" is offered only as a reminder that, when labor is included, extra labor is required to make jack rafters out of common rafters and extra sawing of sheathing. Some add the price of one linear foot of hip or valley rafters, but since waste of rafters varies according to stock length of materials, this is generally disregarded.

Valleys are inverted hips except that valley tin or, preferably, copper replaces the hip shingle. As a rule, both are figured at the same price per lin. ft. so the "Unit Quantity" shows both collectively.

The old-time practice of arbitrarily adding 5%, 10% or even more for cut-up roofs is another of the old practices that should be relegated to the junk pile. It's so easy to determine the linear feet of hips and valleys and figure as accurately as possible.

Cornice Unit Costs (K)

Quantities suggested are listed in Fig. 5 in such a way that practically any cornice can be figured therefrom. For instance, 18" cornice is half-way between 12" and 24" cornice, so the varying materials would be split fifty-fifty.

The projection of the cornice is the horizontal projection beyond the walls, as should always be done because of variation of roof pitch. And it indicates the width of the plancher horizontally to face of fascia because width of crown moulding influences projection to extreme edge of shingles.

Observe that painting surface is considerably greater for Open Cornices than for Box Cornices. This is due to the exposed rafter ends which must be painted.

Painting partly explains why contractors and builders generally figure all types of cornices, of same width, at like unit prices. The completed cost of material, labor and painting is practically the same. The fascia and difference between crown and shingle mouldings will cover the added labor for fitting the frieze and bed moulding between the rafters. And the saving of the roof sheathing for an Open Cornice will cancel the cost of

MATERIALS REQUIRED PER LIN. FT. OF 8' 6" PARTITIONS (P)

P-1	Framing 2x4 - 8 studs 16" oc, with single shoe and double plates	8 bd. ft.
P-2	Same as P-1 except studs 24" oc	6⅔ " "
P-11	Wall Finishes—Figure material for 17 sq. ft. or 1/6 sqs., or 1.9 sq. yds. various finishing materials	
P-20	Baseboards and Picture Moulding—Figure 2.2 lin. ft. of each member	

MATERIALS REQUIRED PER LIN. FT. OF INSIDE FINISH OF OUTSIDE WALLS

Figure half the price of wall finishes and baseboards for partitions

Fig. 6. How "Partitions" etc. are figured in TruCost.

the additional amount of plancher required as compared to Box Cornices.

Fig. 6 explains partitions and the interior finishing for outside walls. These must be separate units. Even in this enlightened age I occasionally find where someone includes lath and plaster with outside wall unit costs. This sets up an error to the extent of the plaster below the finish floor, the depth of the second floor joists and the area of all gables and dormers. No wonder such an estimator wonders why he checks out over now and short then.

Miscellaneous Unit Costs

Since the unit costs of all doors and windows are merely the total price of the combined members that make up the unit, this requires no further explanation other than this:

Consider all windows as single windows. In other words, a mullion window equals two window units, a triple window three, etc. The saving of trim cancels the extra cost of mullion and triple frames.

Finish hardware can be included with unit costs, as is usually done, or it can be omitted and an allowance stipulated in the specifications, as is frequently the practice among architects.

Although cased openings are listed as interior doors, if desired they can be quickly segregated. But why all that fuss? In the end actual costs will be a few dollars off anyway.

Porch floor, ceiling and roof unit costs can be compiled from the respective tables for house units. Porch beam and various kinds of porch and balcony rails are listed in linear feet and it is a simple matter to compute their per foot cost for various kinds typical in one's locality. Porch post, brackets and other porch members usually take a piece price so it is only necessary to add labor and painting costs to have complete unit costs therefor.

Foundations and Basements

Foundation requirements for *American Builder* designs are given by the first four items of TruCost unit quantities. Most designs do not show the basement plan. Some show recreation rooms, etc. Regardless of what the plans may show, basement partitions are not listed and, of greater importance, remember this:

The linear feet of basement walls always give the *largest possible basement* under all the house except attached garages and porches; foundations for these are listed as trench walls.

Basement floors are likewise based in accordance with basement walls with a separate item for the floor of an attached garage.

Excavation is given per foot deep a foot larger than the size of the house on all sides, as is the customary practice. The trench excavation is included on the basis of 24 inches wide to allow for the usual twice-as-much cost. Multiplying by the depth of excavation required by the building site (some must fill around instead) gives the total yardage to figure.

Many of the plans shown without basements are wanted with basements; so, to simplify everything and make it easy to remember, all plans are surveyed as having full basements.

In conclusion, watch future issues for typical examples illustrating the ease and simplicity of TruCosting. Suffice now to say to each of you in the building industry who wish to have *your own TruCost* in *your own* locality—

Your own unit costs will govern the accuracy of your TruCosts, and it is interesting work to compile these and ***know your local unit costs.***

BOOKS on BUILDING

A REVIEW of current publications in the building field. For information about these books, write American Builder, Book Service Dept., 30 Church Street, New York City or the publishers.

HEATING, VENTILATING, AIR CONDITIONING GUIDE 1938. 16th. 1188 pages, illus., 6x9, flexible. American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York City. $5.00.

The 1938 edition contains 840 pages of technical reference data included in 45 chapters covering material on design and specifications of heating, ventilating and air conditioning systems. Important new material which has been added on the cooling phases of air conditioning practice includes extensive revisions of chapters on Refrigerants and Air Drying Agents, Cooling Load Determinations and design of Central Systems for Cooling and Dehumidifying. Noteworthy is the fact that a chapter on Air Conditioning in the Treatment of Disease appears for the first time. A new feature is a visual chapter index. In addition to the technical material, over 300 pages of manufacturers catalog data are included.

HOUSE WIRING—by Thomas W. Poppe; Revised by Harold P. Strand, Electric Contractor. 1937. 7th. 225 pages, 171 illus., 4½x6½, cloth. The Norman W. Henley Publishing Co., 2 W. 45th St., New York City. $1.00.

A pocket-sized manual on the installation of electric lighting and power systems. The various problems that are met with in the wiring of a building are explained in a clear and non-technical manner. Every phase of the work is illustrated.

MODERN HEATING—by Harold Lynn Alt, Heating Engineer. 1936. 219 pages, line drawings, 5x8, cloth. Domestic Engineering Publications, 1900 Prairie Ave., Chicago, Ill. $1.00.

A concise and practical work on the selection and installation of modern heating systems. It covers all the latest developments such as automatic firing by coal, oil and gas. It explains the vacuum air valve and the graduated orifice air valve that are now being used on the one pipe system to prevent rumbling and hammering in the radiator when steam is turned on. It also describes the circulator that increases the efficiency of a hot water job. There are also chapters on chimney construction, air conditioning and insulation. Many charts and tables that are helpful in checking estimating figures are included.

VENTILATION MANUAL FOR SHEET METAL CONTRACTORS—by Paul R. Jordan. 1936. 363 pages, illus., 4¾x7, cloth. Edwin A. Scott Publishing Co., 45 W. 45th St., New York City. $3.00.

A treatise on the type of ventilation sheet metal contractors are called upon to plan and install. It does not discuss heating. Fundamental physical factors, specific problems, equipment and design data are explained. Part 6 describes and illustrates how the principles are applied in ventilating different types of buildings. There are 36 chapters in part 6 showing typical layouts and giving the volume of air required for that particular class of work.

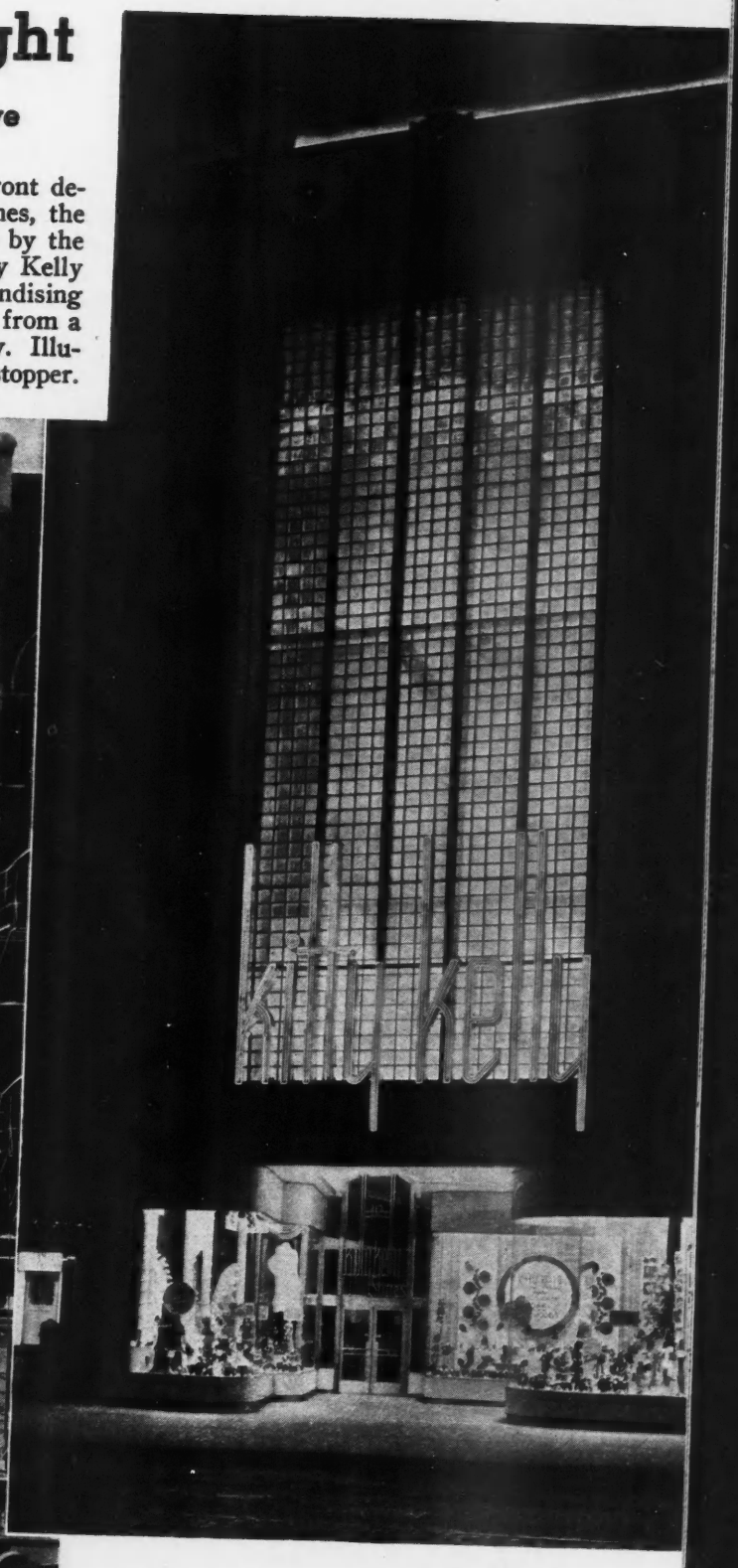
THE BUILDING ESTIMATOR'S REFERENCE BOOK—by Frank R. Walker. 1937. 8th. 1700 pages, illus., 4½x6½, flexible. Frank R. Walker Co., Chicago. $10.00.

In this standard reference book for estimating construction costs of all kinds of buildings, the author gives examples of estimating large structures so that the book is particularly useful to the large city estimator. Smaller structures are also explained and the data is carefully detailed and covers a wide range of practice. All estimates are figures from plans and are completely itemized as to quantities of material and labor hours so that the estimator may insert local material prices and wage scales where necessary. The price also includes the new revised Vest Pocket Estimator which contains 220 pages of up-to-date estimating and cost data in tabular form for ready reference.

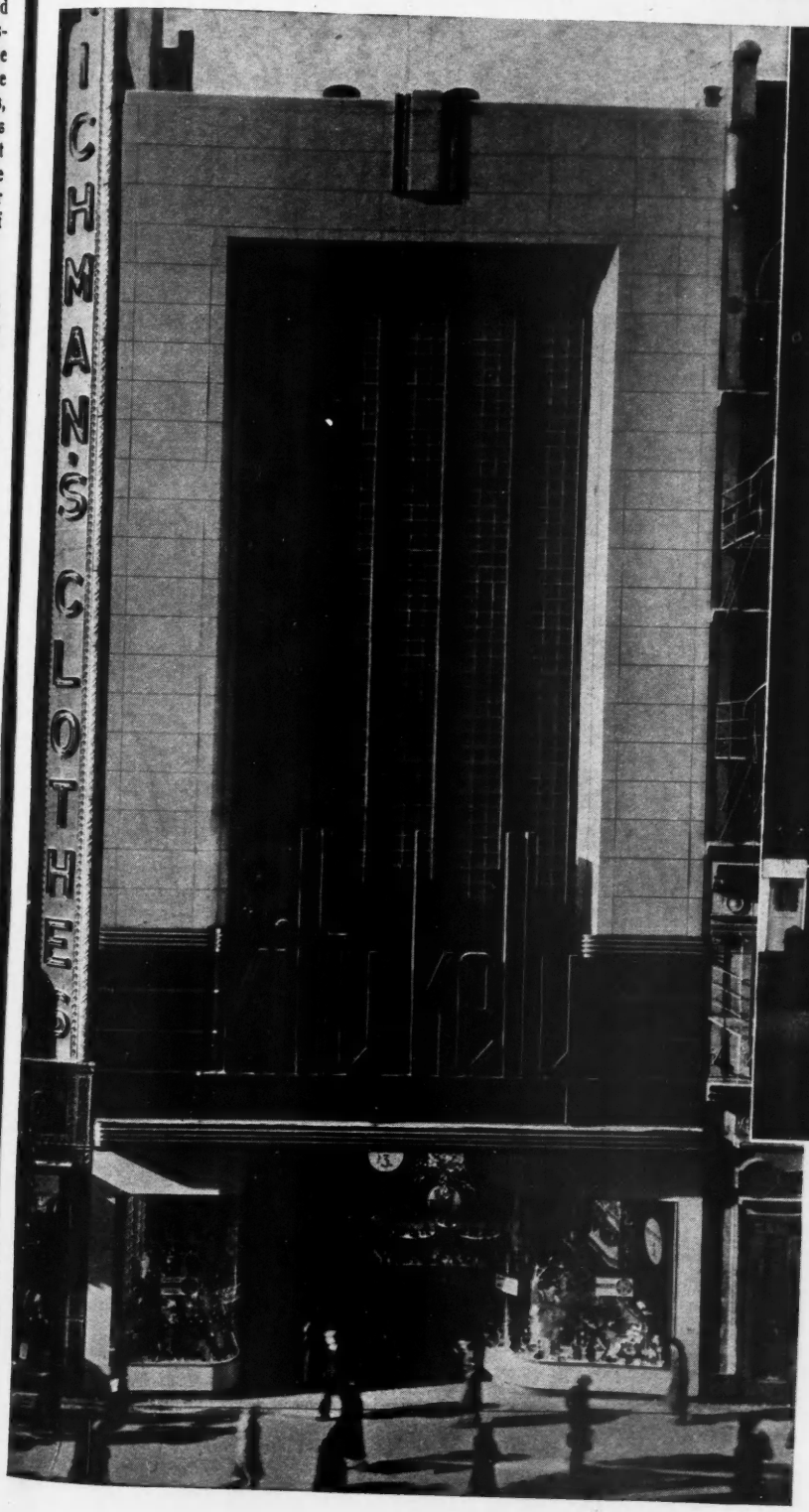
Modern—by Day or Night

Chicago Store Is Always Strikingly Attractive

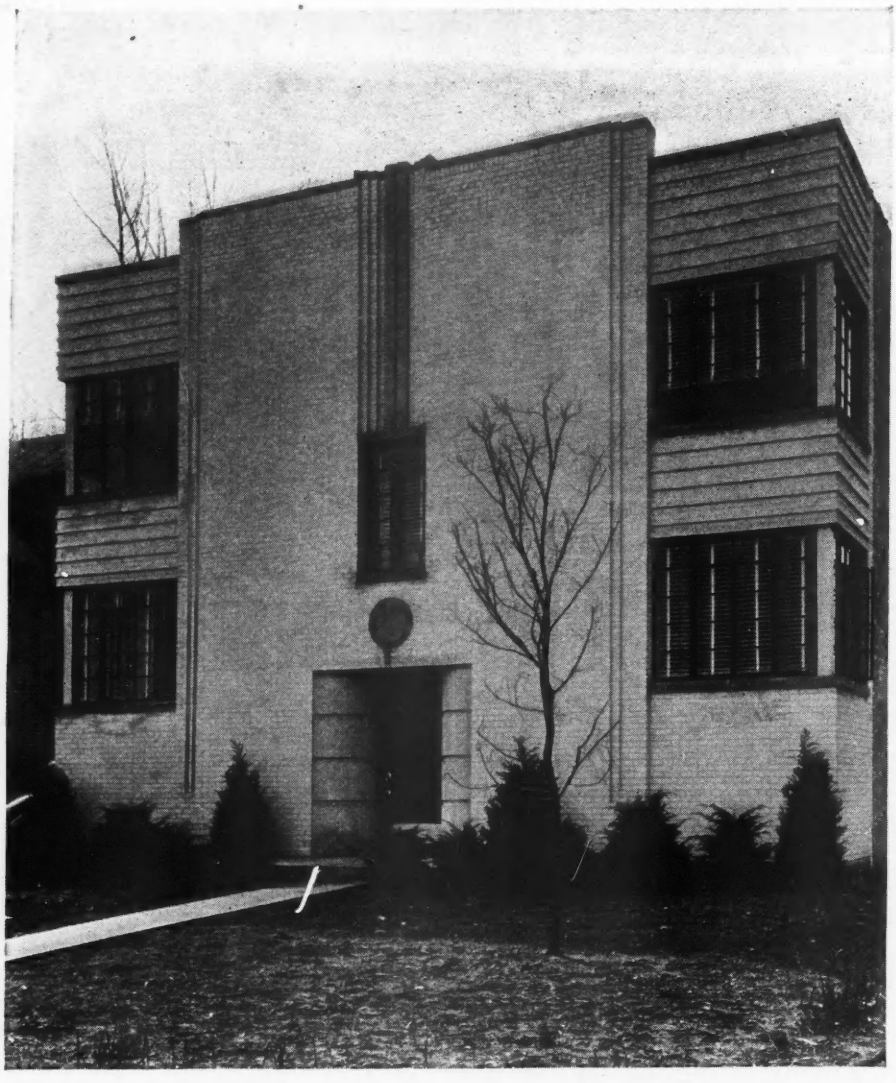
AS AN EXAMPLE of excellent contemporary store front design which commands maximum attention at all times, the views below show the striking appearance made possible by the use of modern materials. The modernization of the Kitty Kelly shoe store on the world's most highly competitive merchandising thoroughfare, State Street, Chicago, was cleverly handled from a design standpoint by the architects, Alschuler & Company. Illuminated from behind, the glass blocks provide an eye-stopper.



ABOVE: Night view of the recently modernized Kitty Kelly shoe store in Chicago shows the commanding appearance of the large Insulux glass block panel when illuminated.



LEFT: By day, the modern simplicity of this "front of the future" makes it equally interesting. Alschuler & Company, Chicago architects, are responsible for the unusual design.



FRONT VIEW of modern four-suite building built in Deerfield, Ill., by the Puritan Construction Co., and designed by Godfrey E. Larson, Chicago architect.

Apartments Designed for Young Moderns

AN APARTMENT building planned especially to satisfy the requirements and tastes of today's newlyweds was recently completed in Deerfield, Ill., a suburb of Chicago. It was designed by Architect Godfrey E. Larson and erected by the Puritan Construction Company. Four units of four rooms each occupy the two floors, with a basement providing adequate storage space, boiler room and generous laundry.

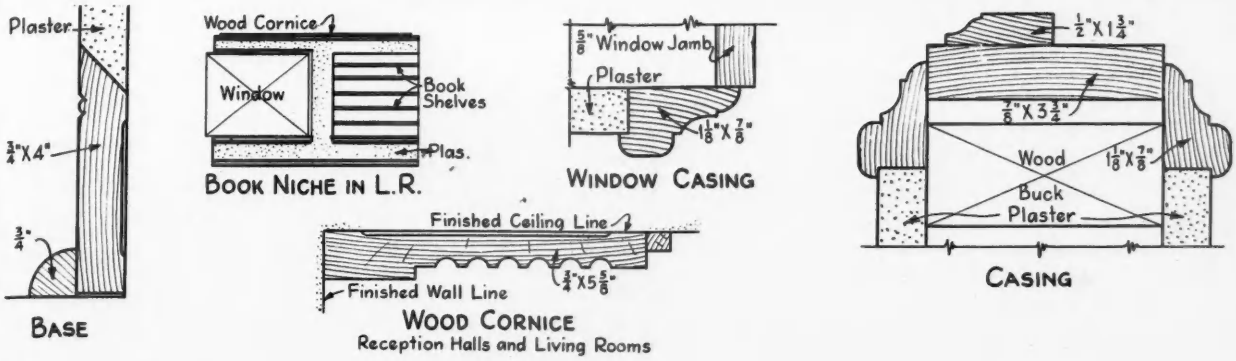
As seen in the illustration above, the exterior is styled in a pleasing modern manner. The simple entrance detail is flanked by the corner window treatment at the sides carrying strong, contrasting horizontal lines in the brick courses and muntins. This front is a combination of Bedford plain rubbed stone trim and white pressed brick.

In layout, detail and decoration the apartments carry out the efficiency and modernism suggested by the exterior, as indicated by the floor plans on the opposite page. Living room, bath and bedroom are grouped to the front off a reception hall. A Murphy In-A-Dor bed provides accommodations for guests; built-in book shelves are placed in the opposite corner of the living room. The dining space and kitchen to the rear are reached by a connecting passage which has been given ample width without leaving the bedroom too narrow for good arrangement. The kitchen is partially screened from the dining room by a ceiling high partition having built-in shelves. The compact kitchen features metal cabinets, linoleum covered counter tops and G-E refrigerator and range. Each apartment has a good sized rear porch with convenient access to the Kerner incinerator.

The interior decoration and trim (some of details being shown) were especially designed and selected to appeal to young moderns. Millwork is simple and kept to a minimum; wallpaper and color schemes will harmonize with modern furnishings.

Some of the other construction and equipment features are Jones and Laughlin Junior beam reinforced concrete main floor construction, Fenestra windows, plaster over Rocklath, Silvercote insulation in roof, clear red oak floors except Congoleum-Nairn linoleum in kitchens and tile in baths, Fitzgibbon boiler, Chrysler Airtemp unit and Young Streamaire concealed cabinet radiators, Standard Sanitary fixtures and Venetian blinds.

The building occupies a 50 x 200 foot site, a 4-car garage being located at the rear; it cost about $20,000.



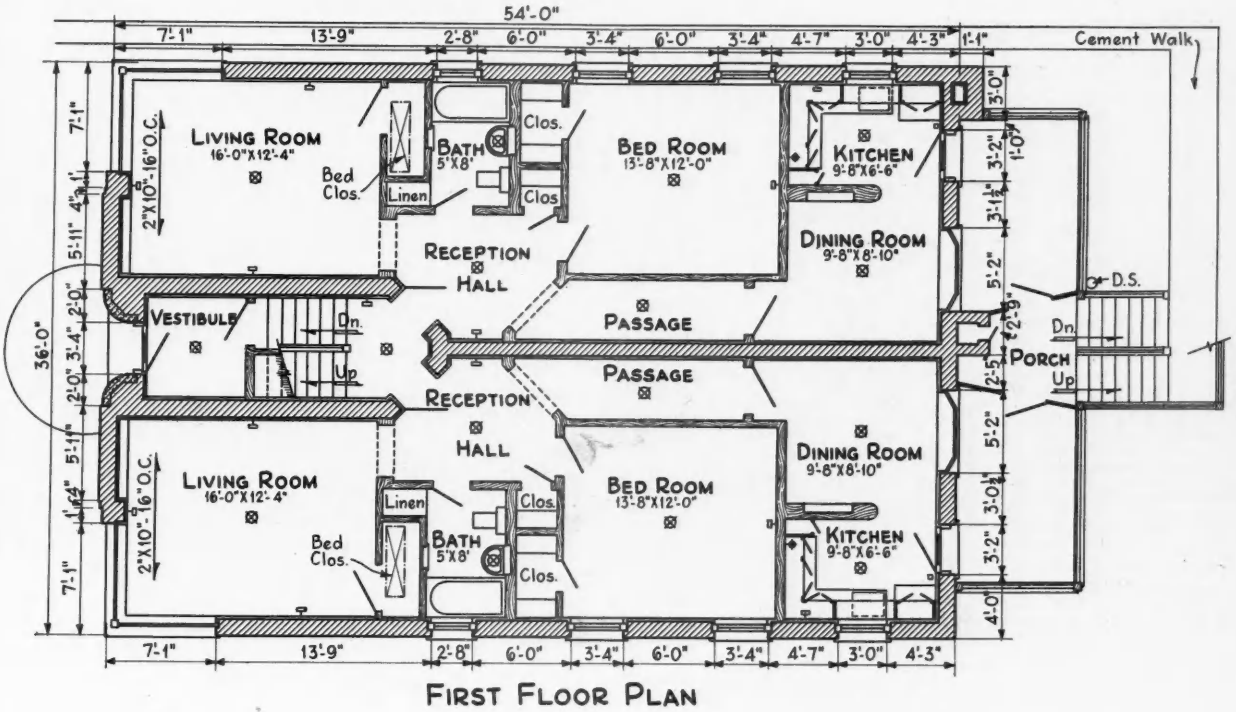
BASE

BOOK NICHE IN L.R.

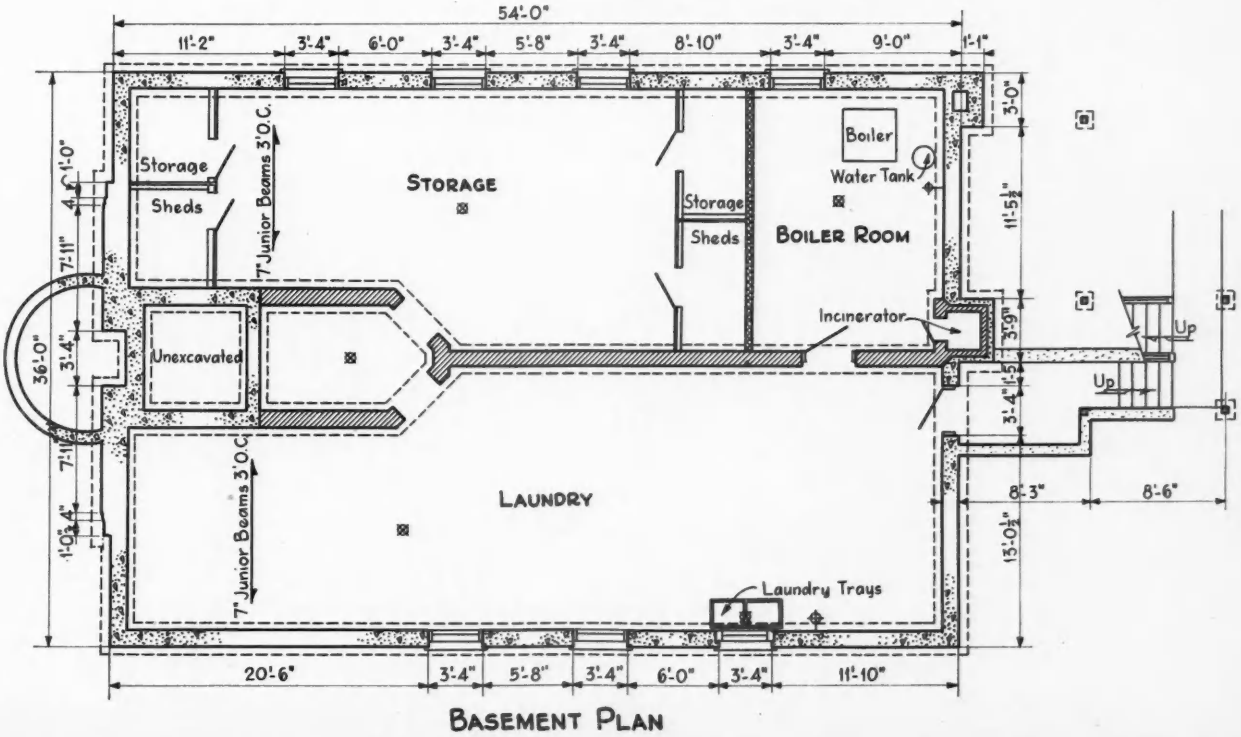
WINDOW CASING

CASING

WOOD CORNICE
Reception Halls and Living Rooms



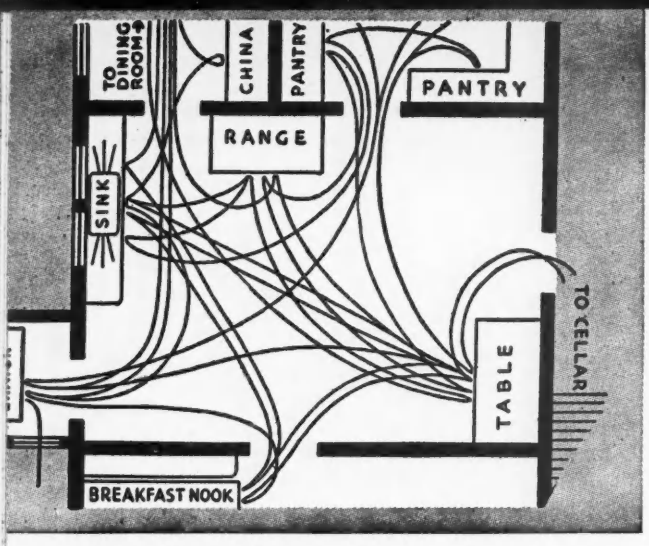
FIRST FLOOR PLAN



BASEMENT PLAN

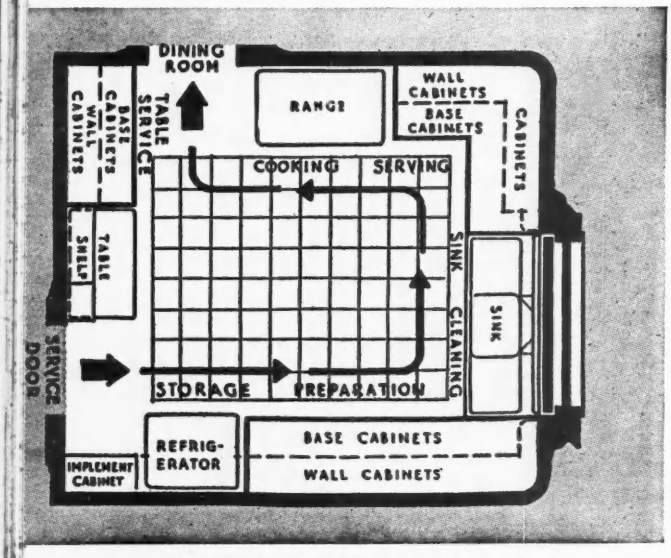
BASEMENT arrangement, typical floor plan and details of Deerfield apartment building.

Practical PLANNING and CONSTRUCTION DETAILS



Bad Plan Makes Steps

Scattered, poorly arranged kitchen equipment like the above makes the housewife curse the builder who failed to figure things out. Now compare with plan below.



Good Kitchen Plan Makes Sales

Here the kitchen equipment is arranged in a logical "U" pattern with counters or work areas connecting each important item of equipment. Each of the operations in kitchen work can be performed in a logical way.

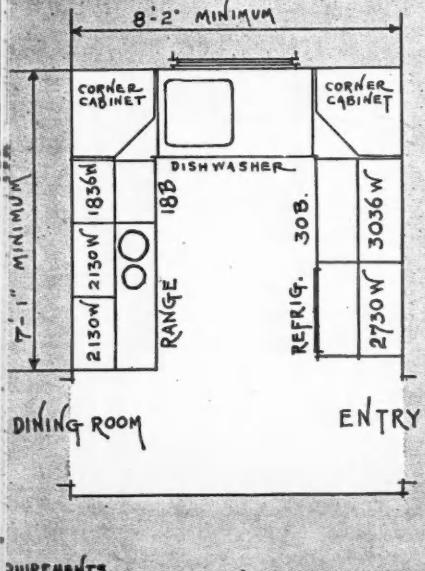
No. 3—Better Kitchen Plans

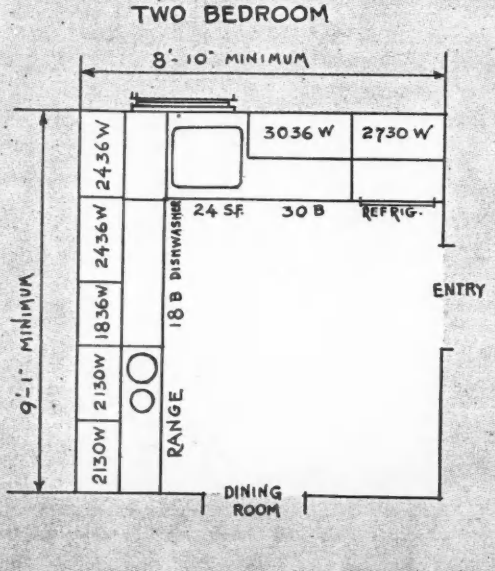
"BUILDERS simply have never taken the trouble to figure out what goes on in a kitchen!" a prominent female domestic science expert recently told an *American Builder* editor, with fire in her eyes. "What we need are more lady builders," she said.

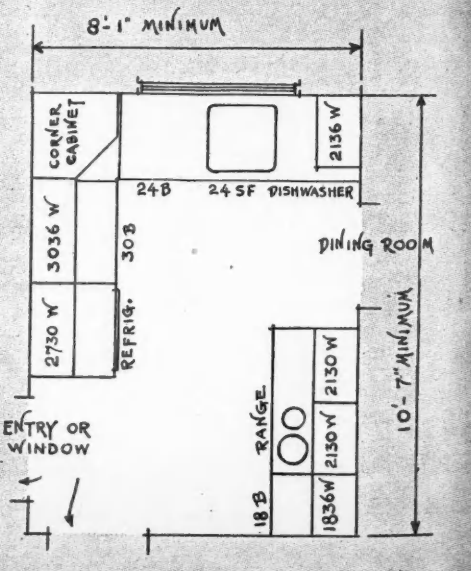
To forestall that dreadfull eventuality, *American Builder* presents herewith the kitchen planning recommendations of a prominent agency, the Modern Kitchen Bureau of New York. The six carefully detailed plans below cover practically any door arrangement for the kitchen of a small home. The stock cabinet sizes indicated with identification numbers used by leading manufacturers also cover practically any situation. Is all this

3 Logical Arrangements of Equipment

Shown below are 3 efficiently planned small kitchens, using stock cabinet sizes as detailed on opposite page. The numbers refer to the stock sizes shown. In each case, the equipment is scientifically grouped in an economical, step-saving way with each of the important types of equipment connected by built-in work areas. The "U" shaped plan at left is considered ideal. The "L" and broken "U" shaped plans make the best use of space broken up by doors.







REQUIREMENTS BASE STORAGE 4 LIN. FT.

REQUIREMENTS

REQUIREMENTS

intricate detail worth spending some time studying?

Just consider these facts about women, kitchens and home sales. The average woman is being bombarded with a tremendous educational program on better equipped and planned kitchens. All of her magazines are full of such data. She is demanding a well planned kitchen in the home she buys.

Note that the words "well planned" were used, not expensive. A good kitchen can be done at small expense. The expense feature is largely a question of the type of house and equipment. Scientific planning can be achieved in the lowliest dwelling.

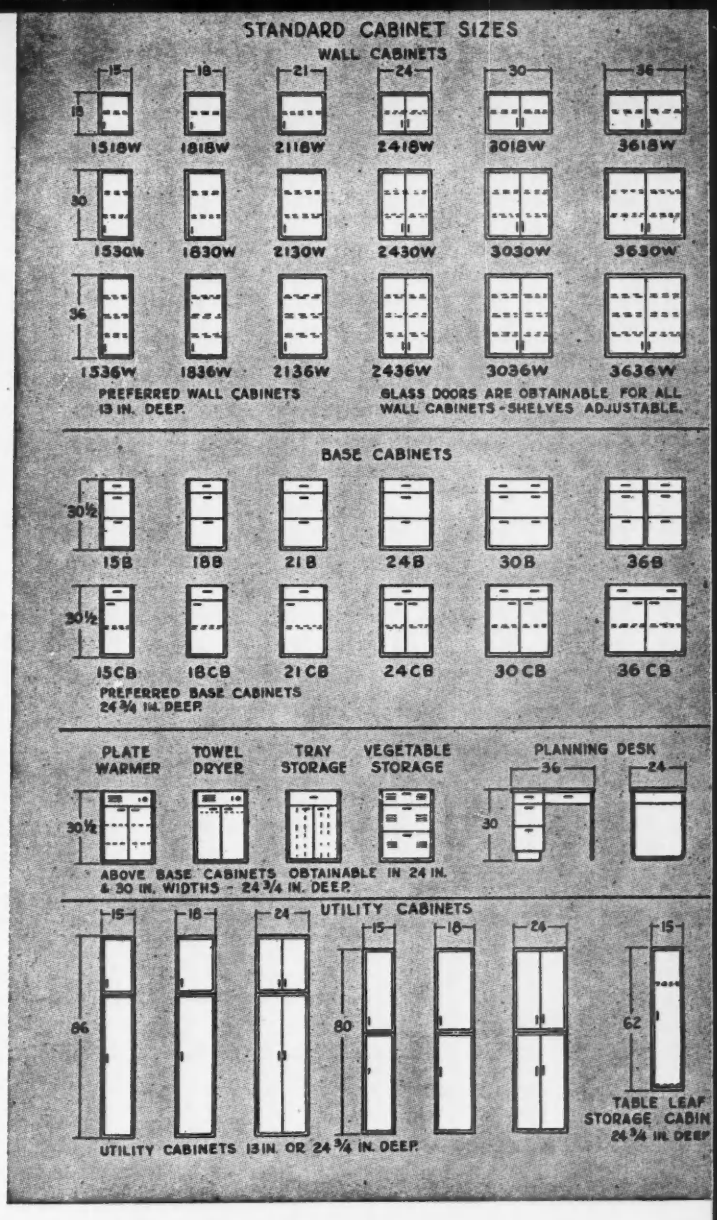
But this *does* mean that the builder, as the lady expert we quoted above states, must know something about what goes on in a kitchen. According to the experts of the Modern Kitchen Bureau, supported by exhaustive practical tests, the home kitchen has three centers at which work is done by a housewife. These are: 1. The food storage and preparation center; 2. The sink and dishwashing center; 3. The range and service center.

In practical builders' parlance, instead of just a refrigerator, sink and stove standing each alone, there should be work space and storage space in connection with each. And all three units should be properly arranged in relation to each other to save steps.

What a difference in steps a well planned kitchen can make is shown in the two illustrations at the top of the opposite page. Actual tests by the Modern Kitchen Bureau showed that a meal prepared in the well planned kitchen required less than half the amount of walking necessary in the poorly planned one.

Providing a scientific, well laid out kitchen, as stated above, is not necessarily an expensive operation. It is a question of knowing how. Many smart builders are building their own cabinets and work areas, using such modern materials as plywood and some of the new or improved composition materials on the market.

One of the primary requirements today is that a work counter or built-in table top be supplied adjacent to each

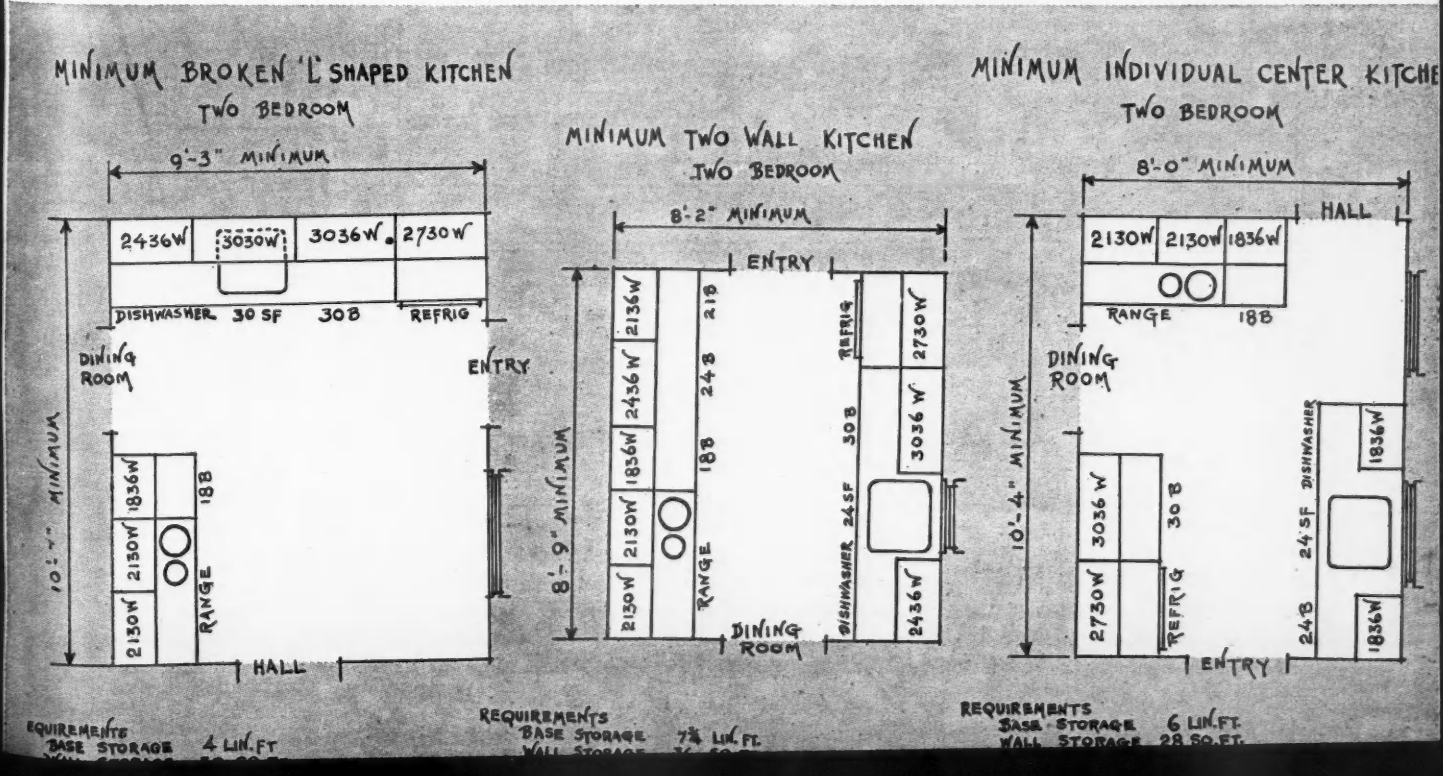


A Practical Plan for Every House

The 3 additional plans below cover practically every type of possible door arrangement in scientific fashion. Stock cabinet and equipment sizes are used. The numbers refer to those shown on the chart above.

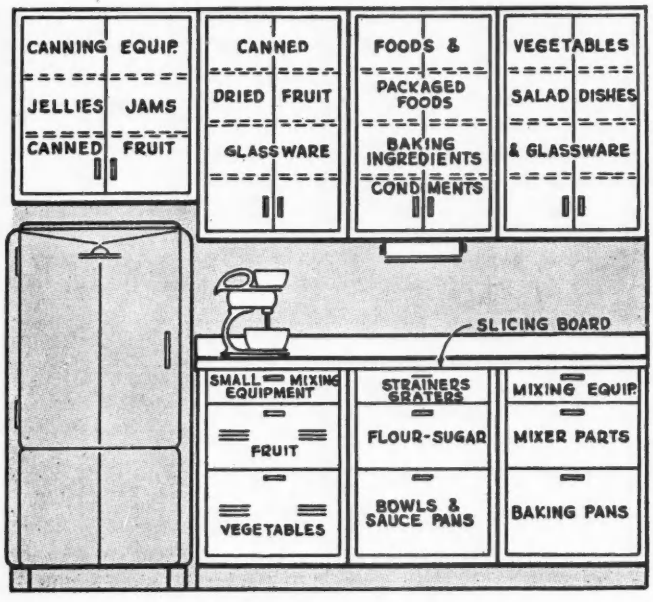
Standard Sizes Save Money

Stock sizes of principal types of kitchen cabinets are given above, together with identification numbers used by most manufacturers. It is just as easy to plan a kitchen to use these stock sizes, and the result is less expense and greater efficiency.



type of equipment—that is, the sink, the stove and the refrigerator, and, where possible, connecting them. Where the budget does not permit factory-built units, such counters or work areas can be built of ¾" plywood rather inexpensively. Very modern appearing storage cabinets with flush-type doors can also be built of plywood. In the lower priced houses, instead of closed cabinets a certain number of open shelves, following the general cabinet arrangements indicated in the accompanying diagrams, can be built.

The six carefully worked out floor plans accompanying this article show how the work centers of a kitchen can be arranged most efficiently. In laying out these kitchen plans, stock sized cabinets and storage units have been used. The accompanying chart giving the standard cabinet sizes with identification numbers used by leading manufacturers of standard cabinets can be of great help in planning a kitchen. These standard units can be made to fit practically any kitchen size or door arrangement.



Food Storage-Preparation Center

How Food Is Stored

Here is how the refrigerator and food storage cabinets in the stock sizes shown on previous page are efficiently grouped. A good idea of the type of food and equipment that must be stored in the average kitchen is given.

Without doubt, one of the most efficient kitchen arrangements where the house floor plan permits is the "U"-shaped plan shown at the far left. With this plan the sink is placed under a window, at the bottom of the "U". The refrigerator is placed along the side wall near the outside door, and the range is placed along the side wall nearest the dining room entrance. These three pieces of equipment are then connected with an uninterrupted counter space and storage cabinets.

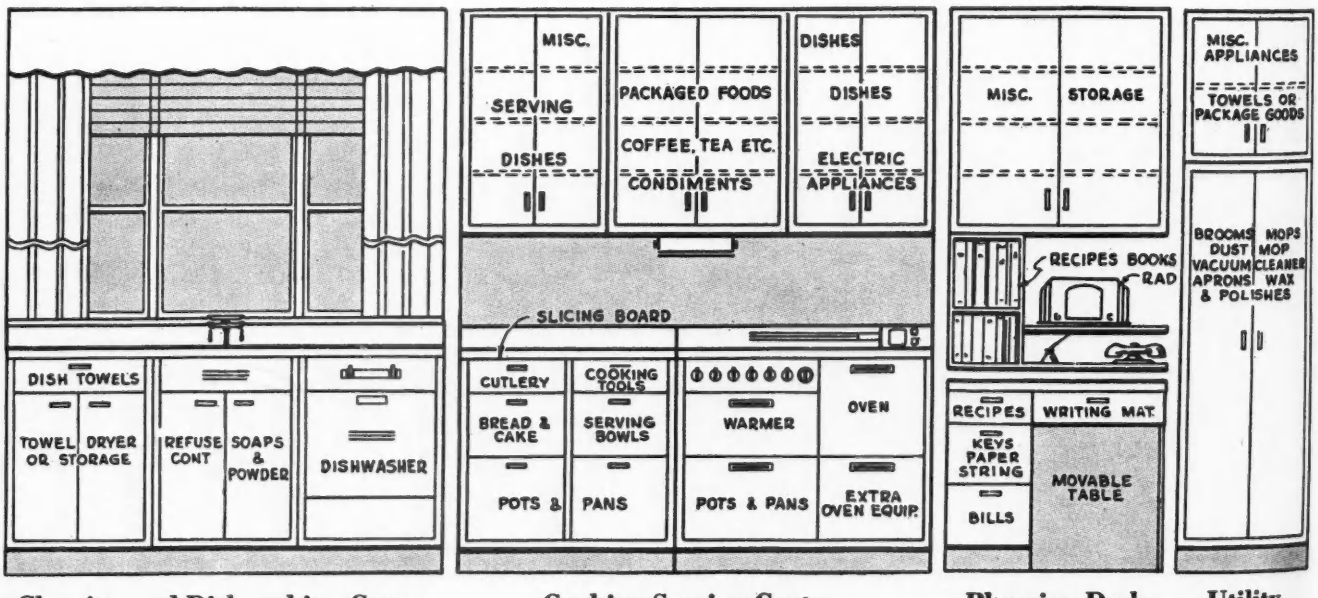
Why is it important to have a counter space next to each type of kitchen equipment? The kitchen experts reply, "Because the housewife needs it." When groceries are brought into the kitchen it is logical that most of them should be put down on a counter adjacent to the refrigerator. There should be a cabinet close by for storage.

Follow this idea of putting yourself in the housewife's place a little further:

When the food or supplies are taken from the refrigerator and storage cabinets, there should be a work counter next to the sink to place them while they are being prepared for cooking. Next they are taken over to the stove, and again it is important that a work counter is placed adjacent to the stove to hold the food before and after it is cooked and for the convenient placing of utensils. When the food is cooked it must be placed on dishes, and the logical thing is to have a work counter close beside to hold the dishes.

All of the operations involved in cooking and dishwashing can be similarly worked out, and have been by the kitchen planning experts. To illustrate the use to which the average kitchen is put the Modern Kitchen Bureau has prepared the diagrams as shown on this page.

(Continued to page 110)



Cleaning and Dishwashing Center **Cooking-Serving Center** **Planning Desk** **Utility Storage**

Standard Kitchen Working Operations and Requirements

Practical research by domestic science experts shows there are 3 major work centers as illustrated in the diagrams above: 1. Food storage and preparation center; 2. Cleaning and dishwashing center; 3. Cooking and serving center. Where space permits there should also be a planning desk and utility storage. The diagrams above show each of these centers built with stock cabinet units.

Fort Wayne, Ind. Builders Well Organized

"Power of United Effort" Brings About Better Conditions and Better Understanding Among Contractors, Dealers and Subs

By W. J. KRONMILLER
Associated Building Contractors of Ft. Wayne, Inc.

THIS is the seal of "Honest Building" adopted by the A. B. C. of Ft. Wayne, Ind.

AFTER reading, profiting by and thoroughly enjoying *American Builder* for many years, I feel that I should do my bit for the building industry by giving a picture of the Associated Building Contractors Association of our town—usually called the A. B. C. of Ft. Wayne, Inc.

I should like to give contractors in other cities a picture of the benefits and values of an organization such as ours.

We have a live, active organization, with a seal that declares for "honest building." Our membership is large so that we carry the "power of united effort." We maintain attractive headquarters so that our members have an inducement to get together socially, because we believe that better acquaintanceship can do much to eliminate misunderstandings and general harm.

5 Types of Members

Our setup is unique in that it has these various types of membership: Active, Associate, Limited, Honorary and Affiliated.

An active member is a voting member and must be a recognized general contractor or subcontractor who employs labor in the field.

An associate member is a material dealer. He does not employ labor in the field nor has he a vote in the organization, but keeps his membership for the value of associating with his customers.

A limited member is a contractor whose main office is in another city, and who is here for a short time only.

An honorary member is a contractor who has retired from active practice.

An affiliated member is not an individual but an organization, such as:

The Asbestos Contractors' Association
The Carpenter Contractors' Association
The Electrical Contractors' Association
The Master Plumbers' Association
The Painting and Decorating Contractors' Association
The Mason Contractors' Association
The Plasterer Contractors' Association
The Roofing, Sheet Metal and Warm Air Heating Contractors' Assn.

Each of the above organizations has its own constitution, officers, dues and meeting night. A contractor is eligible to membership in the A. B. C. after he has joined one or more of the above affiliated organizations.

The A. B. C. leases and maintains a suite of rooms. It has a paid secretary and a stenographer. Affiliated organizations pay a rental to the A. B. C. which entitles them to the use of the rooms for business or social gatherings at any time, provided there are no conflicting dates. Our rooms are so designed that by a system of doors and removable partitions, four groups can meet at the same time.

Before a contractor's application is accepted, he makes the following pledge:

1. To be honest and fair in my dealings with the owner, the architect and the building supply dealer.
2. To have the interest of my client always in mind and give him value received in every instance.
3. To protect the public by carrying workmen's compensation and liability insurance.
4. To pay my workmen a living wage so that they are able to buy, rather than be given, the necessities of life.
5. To use only such materials, in every case, as are best suited to most efficient construction.
6. To buy our materials from reputable, and if possible, only from local dealers who also contribute to the welfare and support of our community.

He is then given three decalcomania emblems of the A. B. C. to be used on his trucks or in his place of business.

Plan of Action

The business of the Association and all matters pertaining to the building industry are handled by committees and the Board of Directors. This Board is made up of three delegates from each of the affiliated organizations, together with the officers of the A. B. C.

Committees report their findings to the Board of Directors which makes decisions subject to the approval of the membership at the general meeting. In this manner, all matters are taken care of promptly and without lengthy discussions. This leaves the general meeting open for educational talks on topics of mutual interest.

7 Committees Make Things Hum

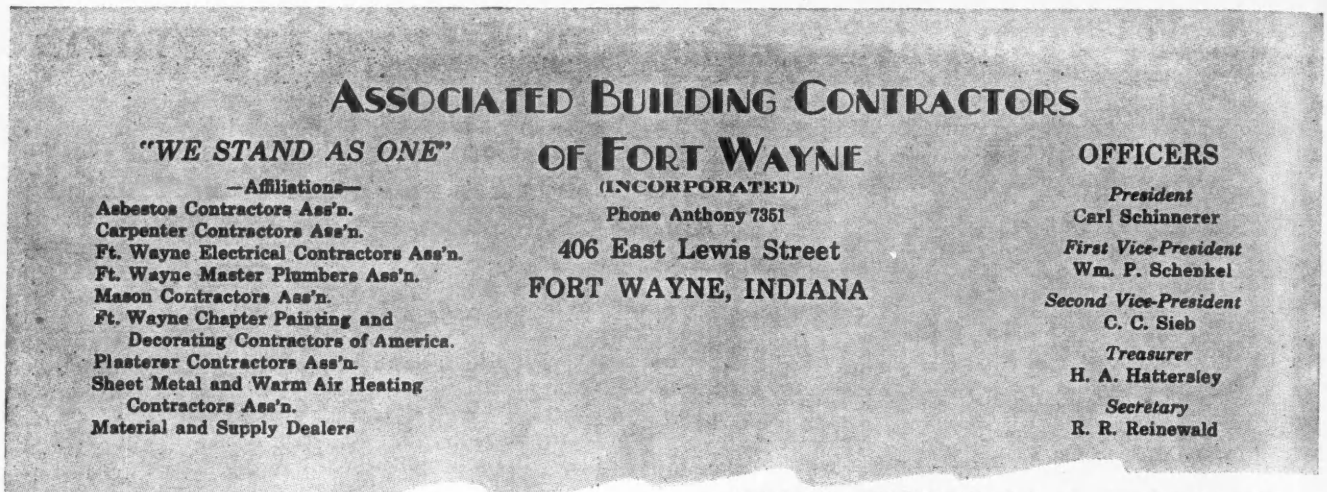
The duties of the Finance and Membership Committees are obvious and need no comment.

The Legislative, Architects and Contracts Committee encourages legislation beneficial to the building industry, assists the City Building Department in drafting proper building codes, and confers with architects on ways and means to make plans and specifications easier to read and understand.

The Apprentice Governing Committee supervises the training of apprentices.

The Graph Committee collects local information for the drawing of graphs which show the comparative cost of labor, cost of commodities, and the number of building permits issued.

The Publicity Committee assists in maintaining a building page in a local newspaper, encourages building and modernizing, constantly warns the public



ATTRACTIVE LETTERHEAD of the Associated Building Contractors of Fort Wayne, showing affiliated organizations and names of the officers.

against unscrupulous contractors, sees that we are recognized and represented in the solving of civic problems, assists the Chamber of Commerce in the promotion of the Annual Home Show, and sees that all members display the emblem of the A. B. C.

A Central Arbitration Committee, composed of two members from each of the affiliated organizations, is established to settle disputes and wage questions with labor organizations. Before an affiliated organization signs an agreement with its corresponding labor union, this Committee scrutinizes the agreement very closely to see that it is comparable to other trade agreements especially as to hours and wages.

Sociability is constantly stressed. We believe that the closer two men are together, the less they will harm one another. A social session is held after every general meeting. Refreshments are served free of charge.

The annual Contractors' stag picnic draws a crowd of about three hundred men.

We have a fourteen team bowling league with nearly one hundred members combining good fellowship with recreation.

Various affiliated organizations entertain the ladies once a year.

Whenever possible preference is shown to members in the letting of subcontracts. To stimulate this plan each subcontractor of the Association receives in the month of December a questionnaire asking him to record the number of jobs he received from the general contractors during the past year. These questionnaires are then returned, summarized, and a comparison made with the summary of the preceding years. There is keen rivalry among the general contractors to show the highest number of jobs given to members.

Free notary service is provided for members.

A supply of social security forms and American Institute of Architects' contract documents is carried. Members are assisted in filling out these and other forms if they so wish.

Mimeograph service is available at a reasonable rate.

Our secretary is also an insurance agent. All types of insurance and bonds can be bought.

Our membership is large, therefore we carry the "Power of United Effort."

A REGULAR ADVERTISING PROGRAM is conducted by the A. B. C., two examples of which are given above. Also a local paper publishes a building page which the A. B. C. assists in maintaining.

Associated Builders Of Fort Wayne

Members of Associated Building Contractors, of Fort Wayne, Inc., who are co-sponsors of the News-Sentinel building and modernization page are as follows:

General Contracting Or Carpentry.

Theo. H. Buesching Construction Co., Everett R. Ellerman, Henry J. Hoffman, Sylvester Horstman, Max Irmscher & Sons, Inc., Indiana Engineering and Construction Co., Michael Kinder & Sons, George Kronmiller & Son, Floyd Langsdon, Ralph H. Mollett, Schinnerer & Truemper, Joseph C. Smith, Earl W. Snouffer, William D. Swank, Albert Weinmann and H. M. Weigand Co.

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Asbestos and Asphalt Products Co., Asbestos Insulating and Roofing Co., Dahm Brothers, Fort Wayne Builders Supply Co., General Asbestos and Supply Co., Carl H. Kraus, C. Miller & Sons, Charles B. Rundell, C. L. Schust Roofing Co. Sieb & Pettit and John H. Welch & Sons.

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Wrecking Company.

Martin Wrecking Co.

Erection Methods on Framing

By C. V. OLSON

Carpenter and Instructor
in Woodwork, Lane Technical
High School, Chicago

"HE'S had an Education." How many times have you heard that expression? I have many times. It usually refers to some foreman, contractor, or engineer on the job; the speaker means that this individual has attended some university where he has acquired a certificate verifying he has studied a course in various subjects to the satisfaction of the school.

Education is, however, more than a good school record. It is the ability to retain knowledge gained in school or elsewhere and be able to apply it to one's environment whether this be in occupations, professions or socially.

If you have not been favored, in your youth with more than an elementary schooling, and now find yourself in the building industry, your opportunity for an education is without limit. I know of no other field where the chances to apply knowledge gained through school or self study is greater. To be able to see your problems worked out is more valuable than hours of class room study. For young men who keep their eyes open these problems are present all about them. Some of our most successful contractors and engineers have educated themselves while employed in the building industry. You do not need a certificate to have people recognize education and ability.

New building materials are being added to the long list of materials used in building construction and manufacturers are describing these together with valuable engineering data. Lumber associations have pamphlets, books, etc. describing the adaptability and uses of various kinds of lumber; brick manufacturers, cement associations and others have educational materials that should not be overlooked in your search for knowledge.

Erecting the Balloon Frame

In the March issue (pages 76 and 78) a good deal of attention was called to measurements; the following is a description of methods used in erecting the balloon frame of a story and a half building illustrated and discussed in that lesson.

To lay out the position of stud on the plates no consideration is given to window and door openings, but we do consider the corner construction. The corners are built up with two 2x4's spaced ⅜" to make up the square. 2 x 4 lumber is actually 3⅝" wide; so to allow room for the studs of the front and rear of building, the first and last joist must be kept back far enough to permit these studs to pass. Therefore to lay out the studs the positions of the corners are first marked and the spacing started from the inside of the corner to center of the next stud as shown in Fig. 1. The top plates and ribbons are all laid out in the same position and marked identically as the foundation plates. The studs are now laid in such a position as to allow the ribbons and top plates to be nailed; and thus the frame is assembled for the entire wall. Erecting the frame of a building can be done in various ways, depending upon the number of men on the job. When studs are less than 14′ in length two men can accomplish this by erecting as long a section of wall as they are able to handle. If efficiency is considered four men should be employed on this kind of work.

The method of raising a frame is usually to assemble the frame for the entire wall on the ground, the foot of the wall frame resting upon the plates. The door and window openings are not considered as they will be cut later. Four men can without too much effort raise a wall frame of this type 30 to 35′ in length. Before

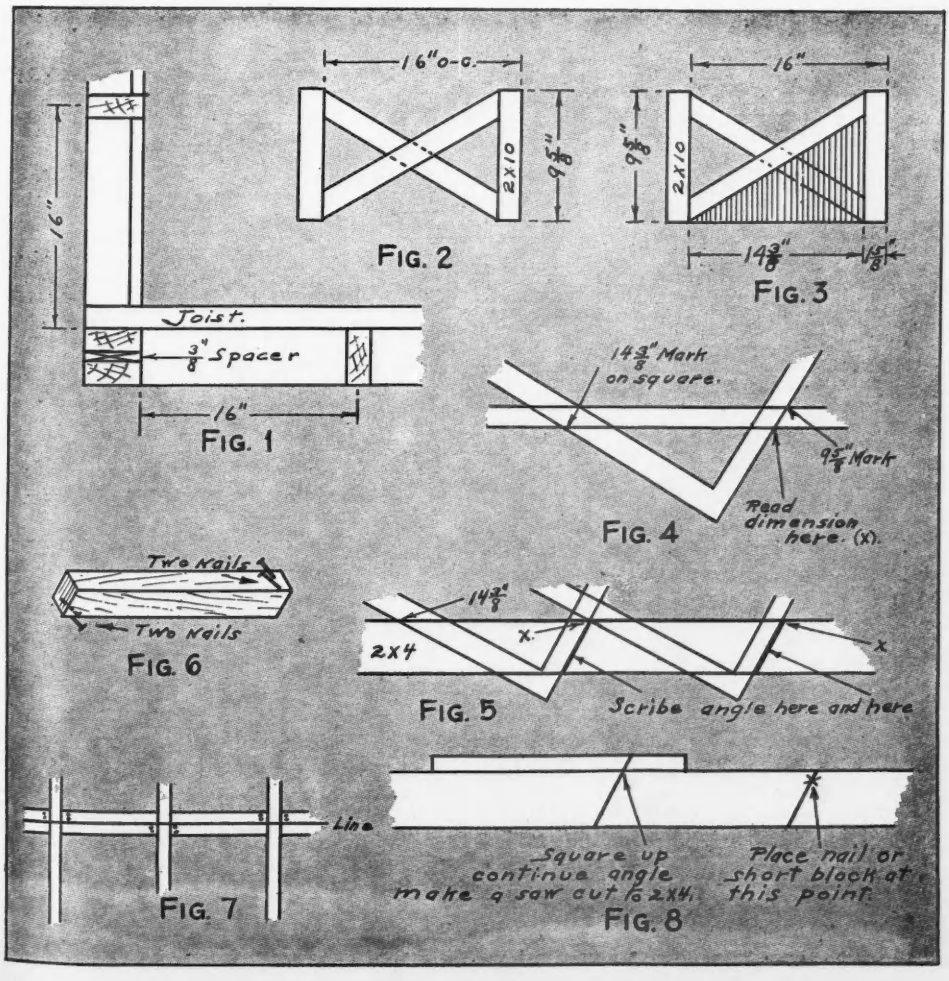


FIG. 1: Stud spacing starts from inside of corner framing. FIGS. 2 to 8: Methods for laying out and placing bridging correctly.

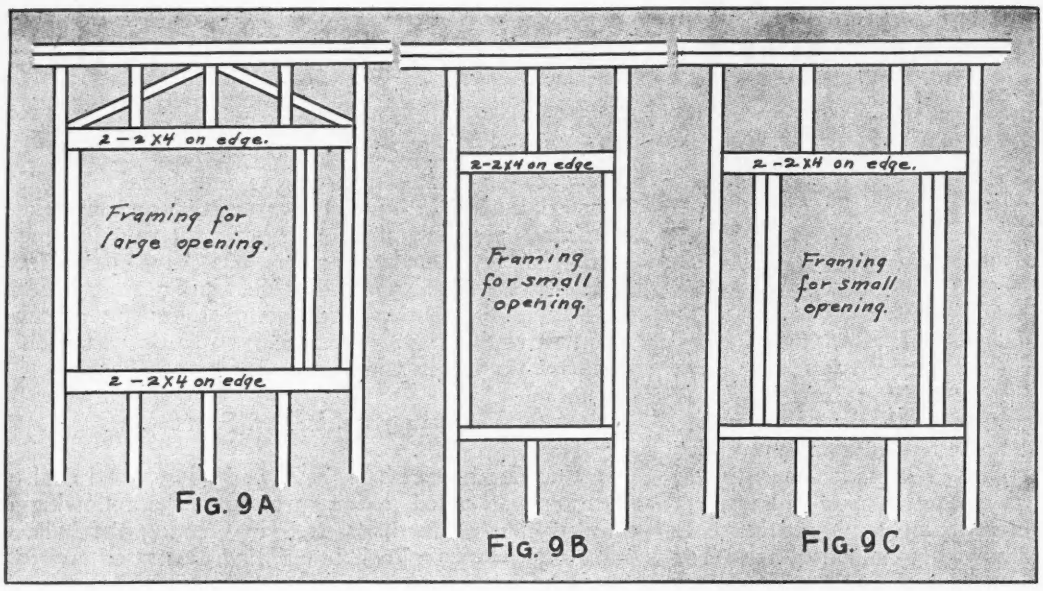


FIG. 9A FIG. 9B FIG. 9C

FIGS. 9A, 9B, 9C: Various ways of framing openings.

raising, a temporary stay lath is nailed about a foot above the bottom of the studs, this to keep the studs properly spaced and keep them from falling into awkward positions while raising. Where the foundations extend to the floor joist, the joist and floor are first laid and the wall can then be framed from the first floor and erected in the same manner as already described.

Where the studs are longer than can be handled by simply raising hand over hand, the frame is partly raised and supported on high horses while 2 x 4 props are nailed close to the top of plates with one nail each, then the 2 x 4s are used to push the frame up into position. When upright the frame can easily be held in position while the studs are being toe nailed to the plate. The frame is then braced plumb and the other side wall erected in the same manner. The center sill is now put in position, and then, the first floor joists are placed and firmly nailed.

Before proceeding further the walls are again checked for plumb, firmly braced and cross braced. To stiffen this wall the sheathing is placed as high as the first floor. The joists are now sighted for straight and the joists toe nailed to the sills. The sub floor can now be placed to mid-distance between wall and sill. While this is being done the bridging is being cut.

Bridging in a balloon frame is essential and should not be omitted; as a stiff floor will not only make the floor firm but a stiff floor helps to stiffen the entire structure.

Bridging is usually placed in rows and spaced about 6 to 8 feet apart. They are usually made from 2 x 2 or 1 x 4. Sometimes a straight grained 1 x 6 is cut and split but unless the underside of the joist is plastered this does not make a neat looking job. In Fig. 2 is shown a typical example of bridging. The joists are 2 x 10 spaced 16 inches oc (on centers). To obtain the length and angle cut of this bridging, the figures used on the steel square would be those that give the height and base of a triangle as shown in Fig. 3. To obtain the height measurement the square is laid on the 2 x 2 as shown in Fig. 4 and the dimension read from the square at X.

As a number of these bridging pieces will be cut, a jig is made in order to speed up the operation. It is made by nailing a short piece of 2 x 4 on the edge of a long one resting across horses, and the angle and length obtained as shown in Fig. 8.

We now have a rig similar to a mitre box and the length and angle are readily cut. On paper this seems to be a lot of work; but to make this jig requires very little time. As these are cut one man will start two 8 penny nails on each end as shown in Fig. 6. To place in position a line is stretched across the joists and the bridging nailed on upper end only as shown in Fig. 7. The effect is now a row of cross braces as shown in Fig. 2.

The sub floor is completely laid and the lower end of the bridging can then be nailed from below.

The studs of the front and rear of the building are then placed; but as no ribbon is here required the studs are nailed and spaced one at a time. If a gable roof is to be used the studs are allowed to project upward and later spliced to reach, or cut at the rafter line.

The frame is again checked for plumb and braced from the floor. The window and door openings are next laid out on the floor and the studs are cut where openings are required. Sizes of windows are always indicated on the plans by the size of glass, the width given first. The size of the opening will depend upon the size and kind of window used. For a check rail window a 2" allowance must be made for the weights, one inch for the stiles and 2" for sash. This makes a 5" allowance on each side of the glass or 10" allowance for width of rough opening, over glass size.

The height allowance for the frame would be 1 7/2" for header, 2", for the sash, 1" for check rail, 3" bottom sash,

(Continued to page 110)

FIG. 10: When laying out a common rafter, the edge becomes the pitch line; steel square set for proper rise and run gives length, seat cut and plumb cut.

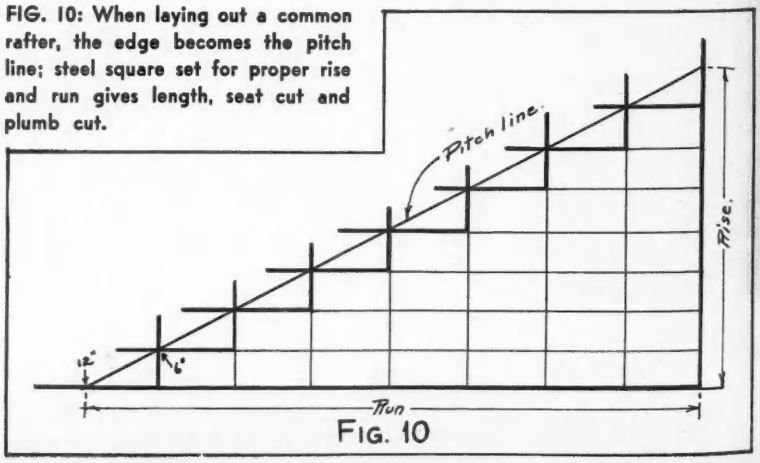
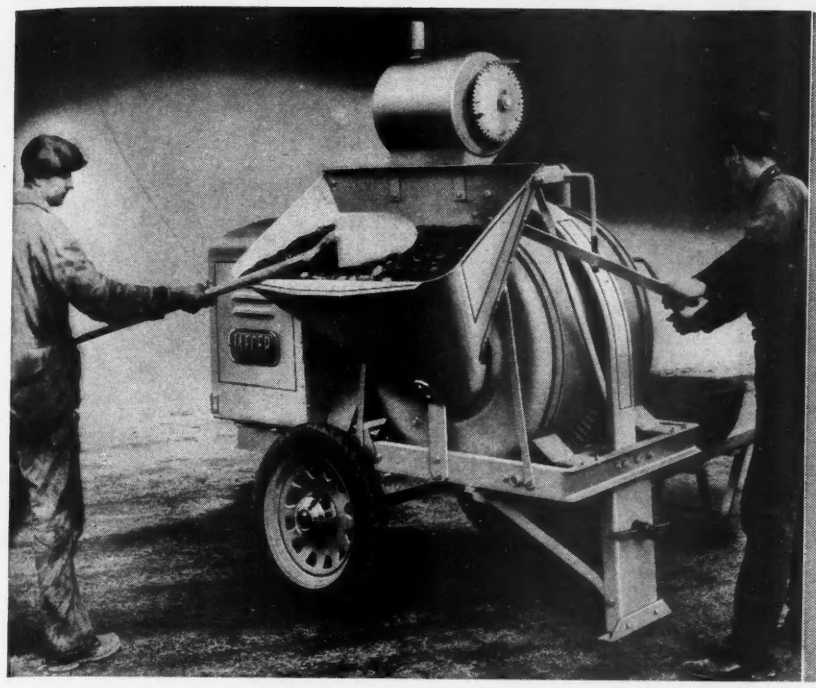


FIG. 10

JAEGER'S LATEST "UTILITY" MIXER



MEASURING BATCH HOPPER Loads While You Mix and Discharge--No Waiting --Fast as Power Loader

MAKES MONEY with 30 to 40 Yards a Day of Quality Concrete--All Most Jobs Can Take

SAVES MONEY--Costs about ½ the Price of Heavy 5S Non-Tilts!

NOTE THESE FEATURES:
Timken Bearings, Pneumatic Tires, Spring Shock Absorbers, Telescoping Towing Pole.
Husky 2½ H.P. Engine, Wico Magneto, enclosed.
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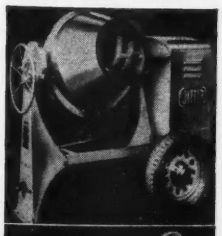
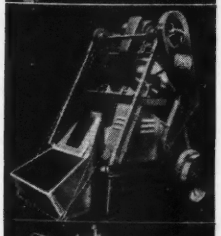
Gated Measuring Batch Hopper with High Back.
Criss-Cross "Re-Mix" Drum. Ball Bearing Roller Shafts.

The popular priced, light-weight, non-tilt trailer you've been looking for. While you mix and discharge one batch, next batch is being loaded — no lost time — all the speed of a power loader without the cost, plus advantage that hopper exactly measures one batch when full. Has Jaeger patented Criss-Cross "Re-Mix" Drum for fast, thorough mix and discharge — Accurate Water Tank. Rugged — trails back of a Ford car — easy handling. Send for astonishingly low price.

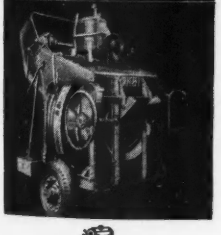
SAVE MONEY, MAKE MONEY, *with* JAEGER EQUIPMENT!



3½S High Speed Tilter — for fast trailing, thorough mixing, instant discharge.



5S Tilter Trailer— Popular priced, all-purpose, end-discharge mixer— Mixes concrete, mortar, plaster.



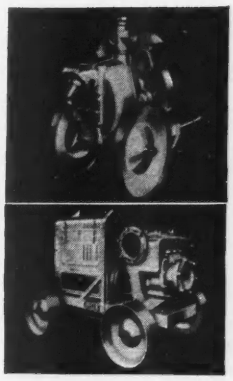
7S and 10S Speed King End Discharge Non-Tilts.

Other sizes to 56S.

World's Champion 5200 Gallon "Bantam" Pump

Only $75.00 F. O. B. Factory
Complete with Engine.

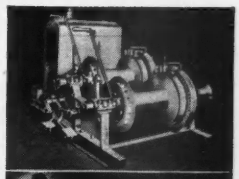
Most portable pump on the market — Get new Catalog!

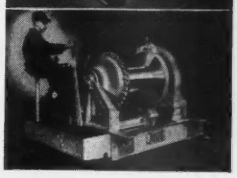


Sure-Prime Pumps — 2" to 10" — Capacities 7000 to 220,000 g.p.h. Fastest selling line on the market.

LOW PRICED HOISTS

10-20 H.P. Screw Thrust Speed Boys. Gas or Electric.

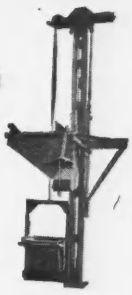




Other sizes 25 to 100 H.P. — Ball Bearing Hoists with Finger Tip Control. Biggest values, most advanced design on market.

60' Jiffy Mast Plant

Assemble in 3 sections on ground. Various combinations of bucket and hopper or platforms. Popular price.



PAVING EQUIPMENT

The Jaeger Machine Co.

521 DUBLIN AVENUE COLUMBUS, OHIO

TRUCK MIXERS

DESIGN EASY-TO-KEEP HOUSES

LET GAS TAKE CARE OF "THE 4 BIG JOBS"

COOKING . . . Modern gas ranges combine speed, beauty, economy. Equipped with automatic heat control, fast smokeless broilers, simmer burners.

REFRIGERATION . . . Really silent. No moving parts to wear out and give trouble. Years of economical operation assured. Roomy interiors.

WATER-HEATING . . . Instant hot water *any time* at the turn of a faucet. Improved insulation cuts down fuel consumption.

HOUSE-HEATING . . . The only *completely* automatic house-heating fuel. Makes basement "living room" practical. Requires no fuel storage space.

●●● and it's easy to build carefree house-keeping into your plans, if you use Gas, "the quick, clean, economical servant." Modern gas appliances are carefully designed to make *any* home a pleasanter place in which to live.

Distinguished in appearance, construction, and performance, these appliances are readily adaptable to your plans. And you can be sure your clients will be enthusiastic about the new automatic features, and the amazingly low cost of operating the new ranges, refrigerators, heaters, and other gas equipment.

Your gas company will gladly give you the latest information on the exclusive advantages of "Gas for the 4 big jobs."

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

AMERICAN GAS ASSOCIATION

Prove Benefits of Calcium Chloride

Find That Builders' Results on the Job Are Confirmed by Research Tests

THERE are more than a few good building men in this country who will simply say:

"Sure . . . I told you so."

They are the builders who had ideas of their own. They tried them out and proved to themselves that in concrete work they could employ a few tricks that would result in a better job, and yet save plenty in both time and money while doing it.

They had no book of rules to go by. They didn't have a set of engineering tables or much of anything else. But somewhere, sometime, someone had said that if you use a little calcium chloride in the mix, several benefits will result. So the more imaginative souls tried it. And to their pleasure found that among other things, the curing time of the concrete was speeded up an average of more than twice. They found, too, that the volume change during curing was much reduced. Some of the bigger operators noted big savings in time and labor because the mix was so much more workable. It was not sticky and didn't foul the vanes of the mixer barrel. The mix poured out and it moved along the chutes so much more easily than the untreated concrete that it wasn't necessary to have hand labor puddling the stuff along every so often at the chute turns. The mix was "fat" and filled the forms more evenly and completely. Then in half the time, they were able to pull out the shores and forms and send them off to another job. One of the most prominent contractors in the east repeatedly has made the public statement that in better workability and faster curing time alone, he saves so much with calcium chloride that he cannot afford to leave it out of his calculations, even if he has to buy the chemical at his own expense.

And now these men can say: "I told you so."

The reason is that their pioneering has been checked by the most competent laboratory research authorities in the country, and their results have been found to be sound.

For instance, a United States Bureau of Standards report summarizes with the following words:

"The integral use of calcium chloride is effective in accelerating the curing of all cements . . ."

And:

"Calcium chloride not only increases the early strength, but also appreciably increased the three-year strength of cement."

Using 2 per cent of calcium chloride in the mix, the Bureau investigators found that at a temperature of 40 degrees the safe strength of ordinary concretes was obtained in seven days, whereas the untreated mix required 14 days. High-early strength cements ordinarily took 5 days, but when the chemical was used, the time was cut to 3 days.

The report (Research Paper No. 782) includes tables to show that a builder might expect similar results during warmer or even hot weather, but that what is more important to him: ". . . it is evident that the lower the temperature, the more effective is the use of calcium chloride as an admixture to produce high early strength."

The American Society for Testing Materials specification C82-34 now includes the integral use of calcium chloride to accelerate curing.

For the man who likes figures in all his proofs, there are some interesting ones from the Bureau of Standards on that matter of flowability, or workability, mentioned a while ago. The Bureau report states that the addition of 2 per cent of calcium chloride increased the flowability of concretes tested from 29 to 41 per cent. It is that sort of thing that makes it unnecessary for the mixer crew to hammer the mixer barrel in order to clear the vanes, or to use much hand labor to keep the mix moving in the chutes, or again, to spend excessive time making sure that the mix fills every crevice of the forms.

The American way of building better at less cost will continue to be responsible for much of the advance in the building industry. So it is that now when the country is on the verge of the greatest mass building program in its history, the laboratory confirmation of the benefits to be expected from the use of calcium chloride in practically all concrete work is of particular importance to construction men the nation over.

POURING and screeding concrete for the first floor of a structure in the Philadelphia Hill Creek Housing Project. Calcium chloride was used to speed up the setting as an added cold weather precaution.

NO WASTE
EVERY INCH USABLE

When Kimsul* is used, every square inch can serve a useful purpose. Even the scraps and short ends left over from filling non-standard spaces are ideal for caulking around window and door frames.

Moreover, in using Kimsul there are fewer scraps than is generally the case. For Kimsul starts out by minimizing cutting and fitting on the job. Each Kimsul blanket is made just the right width to tuck between studs and of an expandable length (see feature 9) which can be drawn down to exactly match the length of standard wall openings.

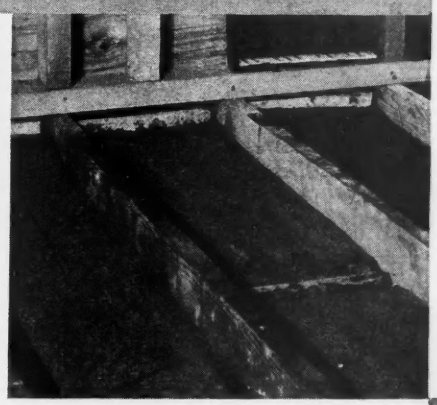
Cuts every Cost

Even shipping, handling, and storage costs are minimized by Kimsul. Due to its expandability, 250 square feet of Kimsul is packed in cartons only 16" x 20" x 23½" in size and the savings resulting from this reduction in bulk are reflected in the price.

When you use or recommend Kimsul, you know costs connected with insulation will be reduced. If you are not already posted on all the ways in which it serves economy, send for full facts today.

*Reg. U. S. & Can. Pat. Off.

As these pictures show, Kimsul is an all-purpose insulation material. It can be installed with equal ease in standard and odd sized wall openings. Short ends are valuable as caulking around window and door frames. For attic floors, simply lay expanded blankets between joists and fasten them down at the ends. It also makes possible an efficient and practical method of insulating sloping roofs.



See that the insulation you choose meets all these requirements.

1 EFFICIENCY: ("K" factor .27) Kimsul is made of wood fibres whose natural high resistance to heat is increased by interweaving, creping, and laminating.

2 FLEXIBILITY: Pliant as cloth, Kimsul can be tucked snugly into odd spaces, around windows, electric wires, etc.

3 PERMANENCE: Processed with asphalt and non-toxic chemicals, Kimsul is highly resistant to fire, vermin and moisture.

4 NON-SETTLING: Kimsul stays put. It will not shred, sift, nor pack down . . . is unaffected by settling of walls, or vibrations.

5 LIGHTNESS: 1,000 square feet of Kimsul weigh only 131.5 pounds. It adds practically no structural load to a house.

6 PROPER THICKNESS: Kimsul's one-inch thickness provides maximum returns in comfort and fuel savings for the money invested.

7 NO WASTE: Every square inch can be used. Odd pieces can be employed as caulking.

8 EASE OF HANDLING AND INSTALLING: Kimsul is extremely light and is made the right width to fit between studs . . . no cutting or fitting needed.

9 EXPANDABILITY: Kimsul blankets are made in 20" lengths, expandable to from 8 feet to nearly 10 feet by nailing one end to the header, drawing down on the free end, as you would a roller shade, fluffing, and fastening to the floor plate. This Kimsul feature speeds up work and reduces cost.

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Expanding Blanket

INSULATION

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Mail me, without obligation, copy of booklet describing Kimsul, also a full sized sample.

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Costs Cut in Setting Solid Plaster Partitions

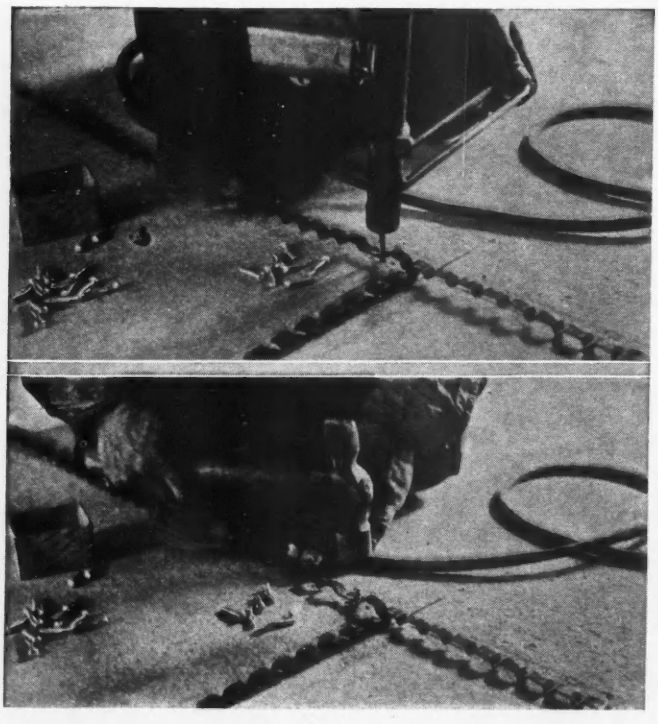
New Type Nailing Plugs Used for Attaching Steel to Concrete Floors and Ceilings

A VERY economical, yet sturdy and durable partition construction was developed for the "Ten Eyck Homes," the Williamsburg-Brooklyn low-rent government housing project. In addition to being fireproof, these partitions appear to effect the very maximum in interior space conservation as they are only two inches thick.

Two types of metal studding construction were used —both worthy of detailed description.

The method used by the plastering contractor, Holdsworth Bros., of New York, is shown in the two photos below. Their runner strip is the Wrigley type, in which the metal studs are sprung between corrugations. The first photo shows a workman drilling a hole in the concrete directly through the hole provided in the runner strip, for the Rawl-Drive anchoring device. The other photo of this pair shows the anchor being driven home, securely fastening the runner to the floor. The channel studs are sprung into place. There is a similar runner on the ceiling, which grips the studs at that point.

The necessity of an absolutely secure anchorage for the studding is so important that it might be well to mention here a few words about the unique anchoring device—the Rawl-Drive—used in these partition constructions. It is a new device of such simplified construction and effective holding power that it is said to be winning the approval of architects, contractors and engineers. It is made of tempered and hardened steel. It combines both the bolt and anchor in one piece. Being driven just like a nail into a drilled hole, it is claimed to be the simplest anchoring device ever developed with such holding power. Its unusual holding power is the result of the pressure exerted when the tempered steel is compressed into a small hole; it can, therefore, be used only in hard concrete and brick.

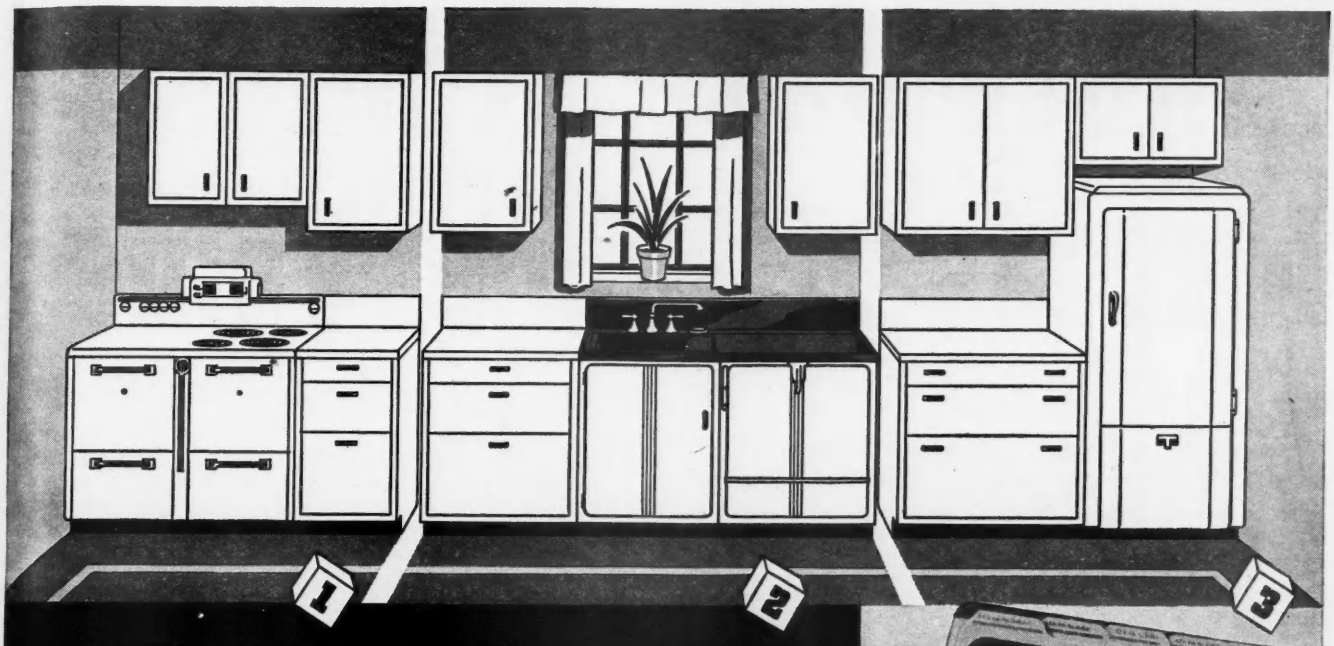


SETTING the runner strips for steel partition studs in the Ten Eyck Homes. Holes were electrically bored in the concrete and the strip anchored with "Rawl-Drives."

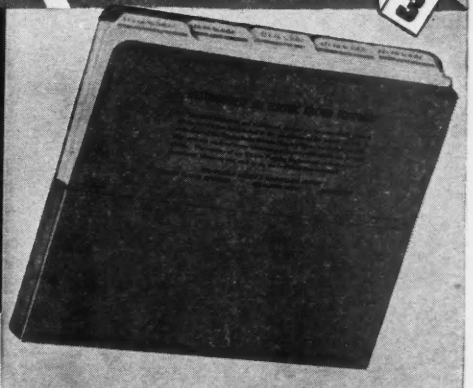
MARTIN-CONROY'S method of attaching steel stud to concrete floor and ceiling in Ten Eyck Homes.

The three photographs above depict a different theme —the Martin-Conroy Contracting Company's method of installing the studding used in its part of the Ten Eyck job. The workmen here used a channel on the bottom and an angle runner at the top. Note how the channel runner is being fastened to the floor with Rawl-Drives. Another view shows the metal lath being wired to the angle runner at the ceiling. The other photograph is of the channel runner in place on the floor with a Henderson Clip, and the studs sprung into it, and the wire lath wired to the studs.

The additional construction for both of these types of partitions is a heavy coat (approximately 1 inch thick) of brown plaster on the wire lath, then a scratch coat, and on top of this a finishing coat of white. This is applied to both sides of the wire lath, so that the finished partition is absolutely solid and about 2 inches thick.



KITCHEN-WISE PLANNING AS SIMPLE AS 1 2 3



American women demand more from their kitchens than just "personality." They insist upon *planned* kitchen convenience — proper organization of each of the 3 work centers, and their *right relation* to each other.

Westinghouse ELEC-TRI-Center Kitchens meet this popular demand. They are basically sound in design, plan and application . . . low in cost, easy to install . . . with complete, flexible storage and work facilities.

And they have this PLUS advantage: Nationwide user acceptance of Westinghouse *"Kitchen-proved"* Electric Ranges, Refrigerators, Dishwashers and Water Heaters.

These amazing kitchens simplify ALL your kitchen planning — from tiny apartment kitchens, where space is at a premium, to kitchens for pretentious homes. Scale drawings available for 7 standard kitchen types, in 21 basic designs. And write to the Westinghouse Kitchen Planning Department, Mansfield, Ohio, for co-operation on special problems.

ELEC-TRI-Center KITCHENS

For Architects

PLANNING KIT FOR KITCHENS

The Westinghouse 1938 Kitchen Planning File Kit provides scale drawings of 7 kitchen types in 21 basic designs, complete with specifications and supplementary data. Sent free on request.

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Gentlemen:

Without obligation please send Westinghouse Kitchen Planning File Kit for Architects, to:

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EVERY HOUSE NEEDS

Westinghouse

Ninety Case Studies in Increased Home Values

The entire content of this new Planning Book, "American Builder Big-Value Homes," gives shining evidence of the fact that the building dollar goes farther today than ever before—that it buys more style, more charm, more convenience, more comfort, finer equipment, than were dreamed of in any of the days gone by. Not only those things, but sturdier construction and more lasting materials, as well.

Within the 172 pages of this 1938 Sales Manual for the building contractor the unanswerable arguments for the superiority and lower cost of today's homes fall into two classes.

First, in more than a dozen of the most convincing feature articles ever written, showing just why today's home values are greater than ever before, giving facts and figures, naming men and places, making it plain in diagrams and charts.

Secondly, in a superb assembly of illustrations, large, well proportioned floor plans, and, in some cases, detailed specifications, of homes that have recently been planned and built by architects and builders widely known as experts and most successful solvers of modern home problems.

Each of these Master Homes is a Case Study of the progress that has been made in home design, construction and equipment over the products of years ago. Each of them, under today's conditions of greater labor skill, higher job management efficiency, lowered financing costs and easier payment terms, may well be used to create a consumer demand that cannot fail to result in a healthy growing home business all through 1938.

Case Study Number One

"Modern Efficiency Home" in Chicago's suburban Scarsdale, compared with a home built in a like neighborhood ten years ago by the same builder for a similar clientele. The 1938 home costs almost $2,000 less than the 1928 home, has six rooms instead of five, and uses dollars formerly spent for stone trim, waste cubage and less efficient layout in a bewildering array of new features, all listed, with a page of details and plans.

Case Study Number 28

"$1,000 More House for the Money"—the Cost Breakdown shows it! The four-page news story of the E. E. Olsen Homes near Pittsburgh demonstrates how unique and attractive exteriors may be combined with well planned interiors to make a strong popular appeal. One of these "Utility Houses" provides a 1st floor bedroom, with two more bedrooms and bath on the 2nd floor, six closets, extra space under stairs, large utility room, gas fired winter conditioner placed out of the way near the central chimney. These homes are basementless.

Case Study Number Nine

"Modern Design that is Beyond Comparison," showing how Practical Planning Technique and Improved Materials have created New Standards of Home Comfort, with three pages of Specifications and Details, embodying many new, unusual ideas.

Case Studies 40, 41, 42, 43

"$35 per Month Colonials," an interesting New Jersey project. Four rooms and bath, with full basement and large usable attic. Dry wall construction. "Homes of real consequence," states the builder, "moderate in price only because they are small, not because they are lacking in quality."

Case Study Number 77

"Modern Efficiency and Style in Texas," featuring extensive use of glass block, with enticing views of entrance, powder room and dining room bay. Clean cut exterior styling. All rooms of generous proportions. Large roofed terrace on 2nd floor, with woodburning fireplace.

Case Study Number 23

"Attractive Period Styled Small Homes in John C. Lindop's Broadview, Ill., Development Feature Modern Planning." In plan, materials and construction these little houses are gems of compactness and efficiency. With a "deadly parallel" listing of 15 superior features not possessed by a comparable 1926 home, including a 16% less cost for the 1938 5-room bungalow.

Case Study Number 58

"French Norman at Moderate Cost." Lots of architectural appeal. The builders have made the most of the floor space, featuring ample closets, attached garage, bay window in kitchen, Tudor doors.

Case Study Number 85

"Economical Plan in Kansas Apartments," taking advantage of all possible savings in design and construction. Results are most interesting and unusual. Rooms are well arranged and ample in size for small families. Outline specifications.

More details on next page

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,

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(Continued from preceding page)

Additional Case Studies

in More House for the Money Homes of Today

Front Cover Home Illustrates High 1938 Value
Two Monfort Hills Colonials
Modernistic Manor from Oklahoma
6-room Colonials of charm
Little but Livable 4 and 5-room Cottages in St. Albans
Devon Cottage of 1938
White Brick 5-room Bungalow
Compact English Home, 25' x 25'
Unusual Small Home Built at an Angle
"Dri-Bilt" House at Ashland, Ohio
4-Room Bungalow with Dining Bay
Charming Glen Ellyn Cape Cod
California Cottage with Barbeque Fireplace
Cape Cod in Concrete Masonry
California-Monterey Hillside House
Harold W. Cheel Houses, with 50% Better Value than in 1926
Hardwood Model Home at Memphis
Mott Bros.' 33% Greater Value than in 1926
From "Shirt Front" Bungalows to Distinctive Homes
Perfected Type English Homes
Home in Old World Style
Berwyn Apartment Cottage
Country Colonial with 1st floor bedrooms
Master Built Plywood House
"Plenty of Room without Basement"
Model House "that Grows"
Three Big-Value Period Styled Small Homes
With 1st Floor Bedroom and Bath
28'x28' Home with 4 bedrooms
6-Room Colonial Norwalk Model Home
California Frame-Stucco Bungalow
Shingled Home from the Northwest
California Farmhouse Style
Home Among the Pines at Orlando, Florida
Attractive Georgian Home on Wooded Site
New Jersey Colonial of simple charm

Five Exteriors for Harmon's Model Plan . . . An Old Brick Home in Virginia . . . Colonial with 2-story Portico . . . "Designed for Entertaining" . . . Early American Design in Brick, Boards and Battens . . . New Style Homes in Detroit and Newark, Ohio . . . Pittsburgh "Home-That-Grows" . . . Modern St. Louis Home Featuring New Type of Heating System . . . New Homes Inspire Old Home Remodeling . . . First Modern Row Houses in Chicago . . . Group Home Planning Cuts Costs and Increases Values . . . and lots more!

THE SIX BIG SECTIONS

I
"VALUE IN TODAY'S HOMES"

II
"BIG VALUE SMALL HOUSES"

III
"LOW COST HOMES THAT PAY THEIR WAY"

IV
"LARGER HOMES WITH ADDED VALUE"

V
"MODERN HOMES FOR ECONOMY"

VI
"SAVINGS IN GROUP HOME BUILDING AND MODERN APARTMENT HOUSES"

EXTRA FEATURES

"Characterful Interiors Invite Admiration"
"Good News for Today's Home Builders"
"Ten Favorable Factors in Holding Down Home Costs"
"Why Present Financing Costs Allow Increased Home Values Today"
"FHA Amended Rules Help Toward Low Cost Homes"
"Pictograph Analysis Shows Impressive Increase in Home Values"
"Scientific Methods Reduce Home Costs"
"A Camera Study of the Methods of One of the Nation's Most Successful Builders"
"How to Build to Save Fuel"
"Common Sense in Kitchen Planning"
"50% More Outlets in 1938 Homes"
"How to Build Double Bunks and Modern Coal Bins"
"Perfecting a Home Plan from Year to Year"
"Homes or Stocks—Which Is the Wiser Investment?"
Gorgeous View of an "Outdoor Living Room"
"New Style for Old Apartments"
Two Basement Transformations that are "No Less than Amazing"
Many exquisite Interior Views
Detailed Specifications for a number of Outstanding Homes

Facts and Figures about the Book

172 pages
same size as this

More than 300 Illustrations—
Interiors, Exteriors, Diagrams, Charts, Graphs, Tables, Construction Details, Elevations, etc.

8 pages
in 4 colors on enameled stock, and 4 pages in 4 colors on cover stock. Cloth-strip reinforced binding.

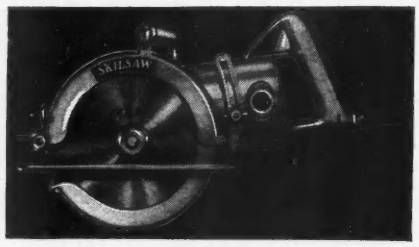
Specifications
and detailed cost records are given for many of the homes.

New Contractor's Equipment for Active Building Markets

New Electric Handsaw

AN important new model, just added to the well known line of Skilsaw portable electric saws by Skilsaw, Inc., Chicago, offers greater power, faster cutting speed, better balance and new safety features. This new Skilsaw Model "87" has a 9 in. blade and cuts to a depth of 2⅞ inches. It will cross-cut 3 in. dressed lumber and bevel-cut lumber 2⅜ in. thick at 45 degrees. It has been specially designed to permit unusually quick adjustment for both depth and bevel cutting. The blade has a free speed of 3600 R.P.M. as standard, with an optional speed of 5000 R.P.M. It is protected by an automatic spring-operated telescopic guard that rotates on ball bearings.

Skilsaw Model "87" is only 19 in. long and its frame and handle are designed for perfect balance so that it may be operated with the least strain on the hand of the user. The frame is of special die-cast aluminum alloy. All shafts are mounted on ball bearings. A blower arrangement, built into the upper guard, keeps the line of cut free of sawdust. The saw may be used for cutting wood, metal, stone, tile and compositions.

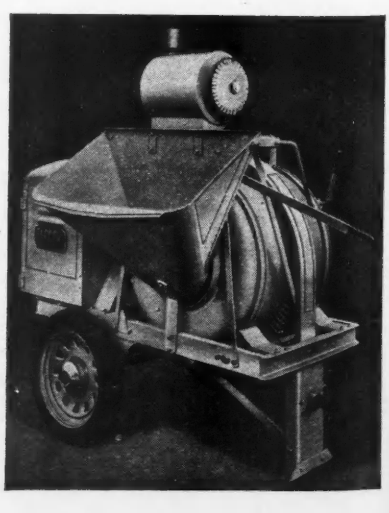


NEW SKILSAW especially designed for quick adjustment for both depth and bevel cutting.

Light Weight Trailer Mixer

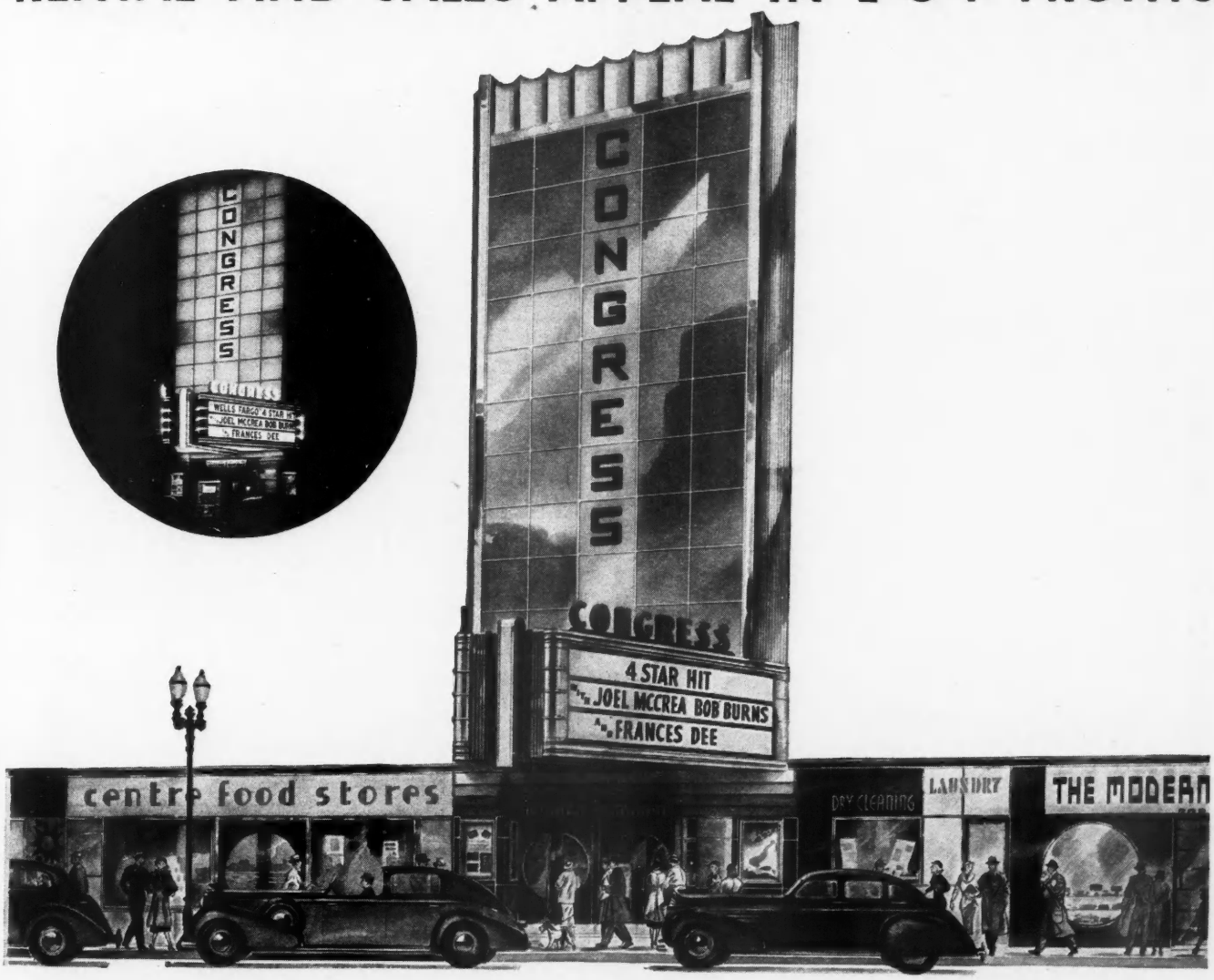
LATEST addition by the Jaeger Machine Co., Columbus, O., to their line of concrete, mortar, plaster mixers is the lightweight "Handy" model, a popular priced non-tilt trailer rated at a capacity of 30 to 40 cubic yards a day. This high capacity in a small mixer is due to the measuring batch hopper, which is of the same capacity as the drum; it may be loaded while the previous batch is being mixed and discharged, thus eliminating waiting between batches as well as saving the cost of a power loader.

Drum design is identical with that of larger Jaeger mixers, employing a criss-cross re-mixing action. Buckets are unusually large for fast discharge into forms or barrows. Chilled drum rollers operate on ball bearing shaft. Water tank is syphon type, of 7 gallons capacity, with quick setting dial. All controls are grouped on side opposite from engine, which is 2½ H.P. fully enclosed. Pneumatic tires, Timken bearings, spring shock absorbers and disappearing towing pole equip mixer for trailing at unlimited speeds behind light cars.



HANDY MODEL non-tilt trailer mixer has high capacity ample to meet requirements of 70% of jobs where concrete is used.

Day and Night— THERE'S RENTAL AND SALES APPEAL IN L·O·F FRONTS



Today's keen business man knows the value of showmanship outside as well as inside his place of business. That's why the color and lighting of the building or store faced with an L·O·F Front of metal and glass attracts him. . . These complete L·O·F Fronts are as modern as a World's Fair—a brilliant ensemble of Vitrolite structural glass, Vitrolux, the exclusive L·O·F color-fused, tempered plate glass (the only material having all the elements necessary for a practical, luminous front) and Extrudalite, the new, patented storefront metal with pressure-controlled, shock-absorbing sash. An L·O·F Front is easy to install in new or old construction. Requires a minimum of upkeep, and its new modern look, easily maintained by wiping with a damp cloth will add definitely to the sales or rental appeal of your stores and buildings. . . Mail the coupon for further information on L·O·F complete storefront ensembles. Libbey·Owens·Ford Glass Company, 1323 Nicholas Building, Toledo, Ohio.

Make certain your Vitrolite installation is made by an authorized L·O·F dealer

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EXTRUDALITE
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COMPLETE *Storefronts*

For mirrors: L·O·F Polished Plate, clear or in colors. For display windows: L·O·F Quality Plate Glass. For lighting: the new Vitrolux color-fused tempered Plate Glass.

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1323 Nicholas Building, Toledo, Ohio
Please send information about complete L·O·F Storefronts including Extrudalite, Vitrolux and Vitrolite.

Name.....

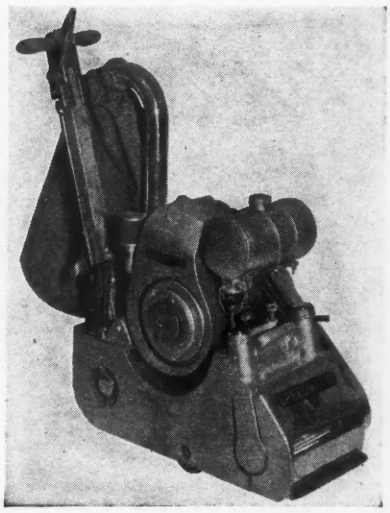
Address.....

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

Floor Sander with Gas Engine

TO SOLVE the problem of machine sanding floors where satisfactory electricity is not available, this gasoline powered drum floor sander has been introduced by the Porter-Cable Machine Company of Syracuse, N.Y. This sander, with the exception of motive power, is identical with the Speedmatic contractor special.

The 1½ H.P., air-cooled engine is mounted in the chassis on one hinge pin, and may be quickly and easily removed for portability. It is interchangeable with the electric motor that has previously been standard equipment. The engine is a self-contained unit and its speed is automatically controlled by a governor.



GASOLINE powered floor sanding machine.

Trucks with Two-Speed Axles

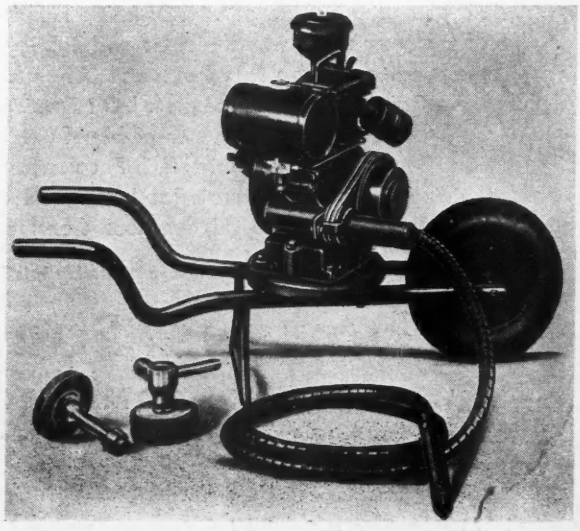
DESIGNED for a wider range of operating requirements, two-speed-axle-equipped V-8 trucks are now available in the 157-inch and 134-inch wheelbase Ford models.

The new Ford two-speed rear axle has virtually the same basic features of design as the conventional Ford truck axle. The pinion shaft is straddle-mounted with two large tapered roller bearings in front of the pinion and a straight roller bearing directly behind it. One notable feature is that in the reduction only four additional moving parts are in operation.

Engine-Driven Concrete Vibrators

SYNTRON Company, Homer City, Pa., has brought out a new line of gas-engine driven internal concrete vibrators. Each outfit is complete, made up of an engine, flexible shaft and vibrating tool. The engine is a 3-H.P. air cooled, 4 cycle Wisconsin with automatic clutch, power take-off and all accessories. The flexible shaft is of the finest quality, heavily armored, and comes in 12 ft. and 7 ft. lengths, complete with simple threaded, positive couplings; drives as long as 31 ft. can be used.

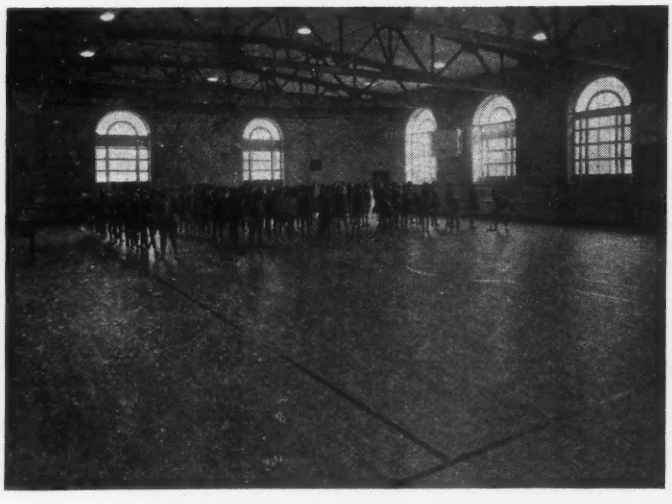
The vibrating tools are in two sizes: 1⅝" x 18", and 2⅝" x 18", made up of strong steel cylinders, sealed against leakage, with an unbalanced shaft inside mounted in heavy oversize ball bearings; speed of vibration ranges from 3600 to 6500 R.P.M.



CONCRETE vibrator mounted on pneumatic-tired chassis.

"Beautiful, Sturdy, Hard Maple... IS STILL THE MOST ECONOMICAL SERVICE FLOOR!"

says N. CHESTER SORENSEN, N. Chester Sorensen Co., Architects, Detroit



Hard Maple Flooring was used both in classrooms and the above gymnasium, in the Western High School, Detroit, Mich. The N. Chester Sorensen Co. were the Architects. Note the high light-reflecting quality of Hard Maple, a plus value.

"AFTER personally seeing such wide use of Hard Maple floors in school rooms for over twenty years," *writes Mr. Sorensen,* "it seems a remarkable tribute that this beautiful, sturdy material is still being accepted today as the most economical floor.

"I have seen several substitutes come and go, but for appearance, maintenance, and economy, Maple Floors in school rooms stand ahead of all flooring."

There *is* no substitute for Hard Maple's smooth, lasting surface—so cheery with its light-reflecting natural beauty*—so resistant to abrasion and indentation—so easily cleaned and maintained. Tough-fibred, tight-grained Hard Maple does not sliver, splinter or develop ridges—provides firm anchorage for equipment—makes alterations easy. Warm, dry and resilent, it favors health and efficiency.

Hard Maple checks on *every* count, thereby protecting your reputation for laying floors that satisfy. Before you build or remodel, investigate MFMA Northern Hard Maple (Association trademarked and guaranteed) in strips or blocks.

MAPLE FLOORING MANUFACTURERS ASSOCIATION

1781 McCormick Building, Chicago, Illinois

See our catalog data in Sweet's, Sec. 11/76.
Write for our folder on "Heavy Duty Finishes."

***3 WAYS YOU CAN USE MAPLE**

1. In unselected color (natural finish) under standard grading. 2. Grouped for color tone (as "White Clear" or "Brown Clear") and for pattern effects. 3. Color finished—in Early American, Spanish Brown, Ebony Black, and other colors of startling beauty—to match any decorative scheme.

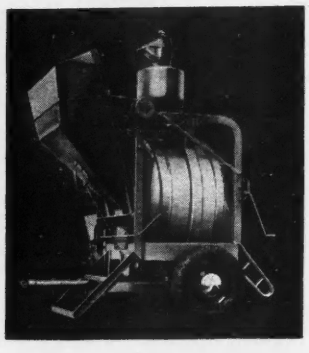
Floor with

MFMA Maple

(NORTHERN HARD)

CHECK the Mixer that FITS YOUR JOB!

3 Faster, Time-saving Models that Turn Out MORE CONCRETE PER DAY



☐ **Speedy Two-Wheel TRAIL-SMITH in 7-S and 10-S Sizes . . .**

Move it fast, move it often. Tows behind car or truck at fast driving speed. Spring-mounted axle with roller bearing pneumatic or cushion tired wheels to protect the mixer from road shocks. Fast end charge and discharge. Turns in its own length. Fits into tight places.

☐ **Smith 4-Wheel Side Discharge Mixer in 7-S and 10-S Sizes . . .**

Fast, dependable, light-weight four wheel mixer, with 3 point suspension, spring mounted axles front and rear, pneumatic or cushion tired wheels, automotive type steering, 12 ft. turning radius, and one-man end control.

☐ **Smith 4-Wheel End Discharge Mixer in 10-S Size Only . . .**

Light-weight End Discharge mixer with 4-wheel truck stability. Works in the narrow places, only 6½ ft. wide. Unique truck design with 5 ft. wheelbase, telescopic fold-back towing bar, automotive type axle, spring mounting, 3 point suspension and balanced weight permit high towing speeds. Engine mounted on right hand side. No overhang on traffic side.

Every Smith a PROFIT-EARNER

Select any type of Smith Mixer with assurance it will lower your mixing costs and add to your profits. *Write for literature.*

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SMITH
THE T. L. SMITH CO. MILWAUKEE U.S.A.

THE BOULDER DAM MIXERS

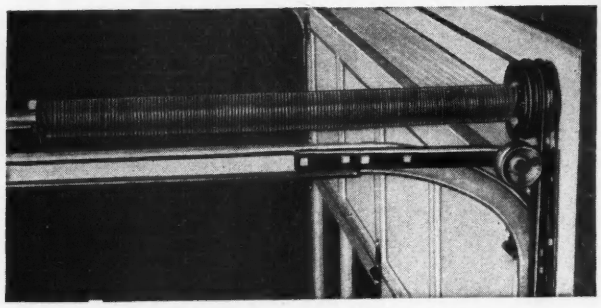
A 2223-½ (338)

Improved Building Products

New Type Garage Door

A NEW type of overhead door was recently put on the market by Rowe Mfg. Company, Galesburg, Ill., which does away with all turnbuckles or equalizing devices needed to balance the door. It is provided with a new type of spring, known as "Ro-To Live Spring," which gives exactly the same lifting power at exactly the same time to both sides of the door.

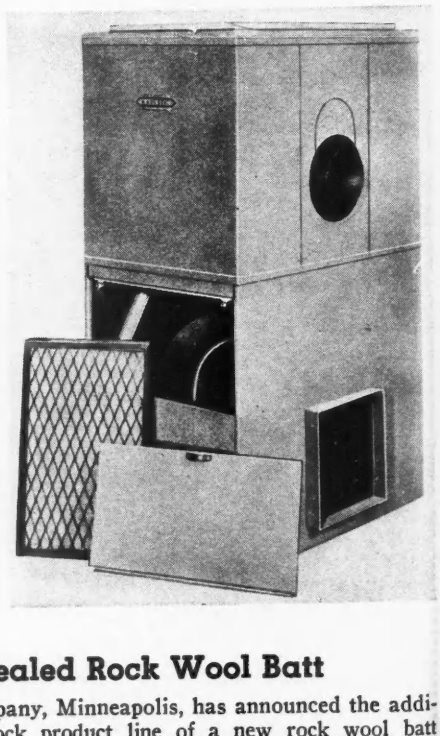
The secret of the balanced power used in lifting the Ro-Way Model "J" lies in the fact that in one single tempered steel coil is stored the power as the door is closed; in lifting the door, this stored power pays out evenly and steadily through both ends of the spring, transmitting the force evenly and quietly to both sides of the door in a powerful, balanced lift which is always vertical, free from side drift, binding and sticking. The Ro-Way Model "J" door is offered in residential garage sizes.



NEW garage door spring delivers balanced lifting power.

Super-Heater Blower Unit

A NEW Super-Heater blower unit to increase the efficiency of any oil or gas converted, conventional gravity furnace from 33-1/3 to 50 per cent has been announced by the Majestic Company of Huntington, Ind. The unit is composed of a Super-Heater radiator, filters and blower unit. It is cut-in on the furnace radiator outlet, thereby harnessing the hot gases that ordinarily go up the chimney, providing 44 sq. ft. of additional heat radiating surface that preheats the cold air as it is pulled from the top of the unit through the filters and forced into the main heating plant. Through provisions in the casing to raise or lower the Super-Heater radiator, it is easily adapted and installed on any make furnace.



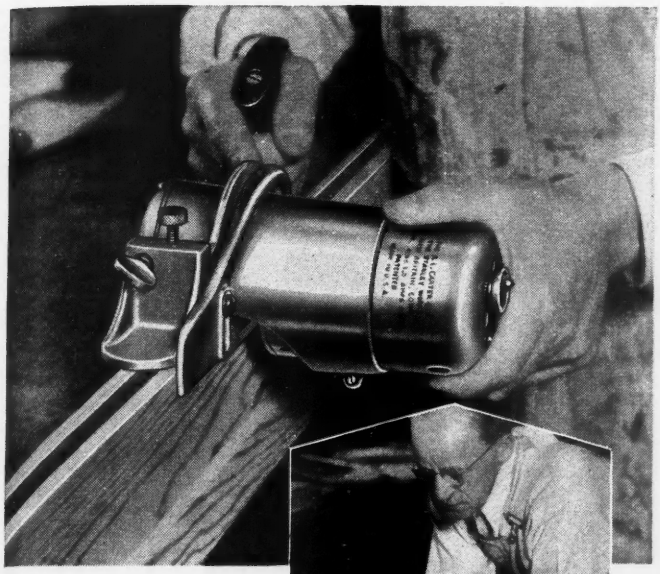
BLOWER unit for use with gravity furnaces delivers 1600 c.f.m. of heated air.

New Vapor-Sealed Rock Wool Batt

THE Insulite Company, Minneapolis, has announced the addition to its Fiberock product line of a new rock wool batt providing greater efficiency in insulation qualities and a barrier against moisture and infiltration in the inside of the stud space.

(Continued to page 94)

"WASP"



A Brand New

CARTER ELECTRIC PLANE

$49.50

A MONEY-MAKER FOR EVERY BUILDER---LARGE OR SMALL

Opens a whole new field of easier work at lower cost. Think of the hundreds of places on any building job where you can save with this hand plane — fitting doors, windows, transoms, screens, shutters, drawers . . . weatherstripping, tongue and groove work . . . rounding over, chamfering, and moulding cuts. Weighing but 8¼ lbs., the Carter "Wasp" planes stock up to 1⅝" wide. Running at 18,000 R.P.M., the spiral cutter planes ends of doors and stiles with no splintering. Adjustable front shoe sets depth; makes all cuts square and true. Sturdily built for continuous operation. Compact—no gadgets to get out of order—just plug it in and go to work. R. L. Carter Division, The Stanley Works, New Britain, Conn.

SAVE MONEY! PASTE COUPON ON 1¢ CARD or WRITE TODAY!

R. L. CARTER DIVISION
The Stanley Works
New Britain, Conn.

Gentlemen:

Please send me descriptive folder on your New Electric "Wasp" Plane.

Name.....

Address.....

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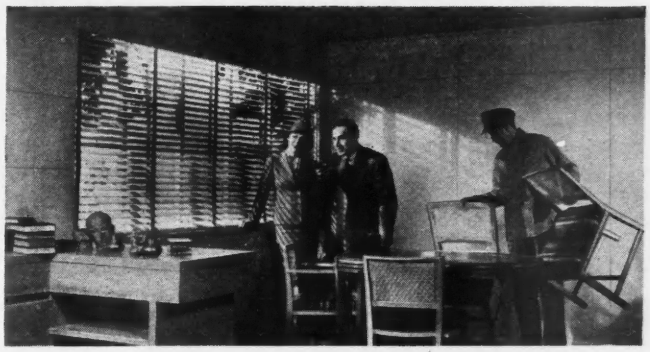
CARTER MONEY MAKING TOOLS

MASONITE CLICKS WITH YOUR CLIENTS

Your clients will be more than pleased with the beautiful, unusual results you can achieve with Genuine MASONITE Products. They'll like the many expensive-looking surface treatments provided by these grainless boards.



They'll appreciate the "extras" Genuine MASONITE Products make possible. For example, the built-in bookshelves and built-in table in this attractive living-room dining-room plan.

Who could resist the suede-like beauty of these Genuine MASONITE QUARTRBOARD walls and ceilings . . . the modern grooved block pattern? This is just one of thousands of smart effects offered by Genuine MASONITE.

Give your clients the money-saving economies and enduring beauty of Genuine MASONITE QUARTRBOARD. Mail the coupon for FREE sample and full information today.

FREE!

It's Right MASONITE

MASONITE

THE WONDER WOOD OF A THOUSAND USES

A MISSISSIPPI PRODUCT

SOLD BY LUMBER DEALERS EVERYWHERE

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111 W. Washington Street
Chicago, Illinois

Please send me FREE sample and full details about Genuine MASONITE QUARTRBOARD.

Name_____

Address_____

City_____ **State**_____

(Continued from page 92)

Reducing the thickness of batts to 3" allows for an air space which permits ventilation and air circulation and makes room for an adequate plaster key when plaster is applied to wood or metal lath. Sealing of the end joints and sides is achieved by using an asphalt treated paper with 1½" flanges at both the bottom and top of the batt, and overlapping flanges of 1-9/16" on both sides for nailing to the studs.

The batt is made in thicknesses of 2" and 3", in lengths of 23" and 48", and is covered with a special type kraft paper, treated with a high melt point asphalt compound on the inside and special wax compound on the outside. Ribs of an asphalt adhesive secure the paper to the wool.

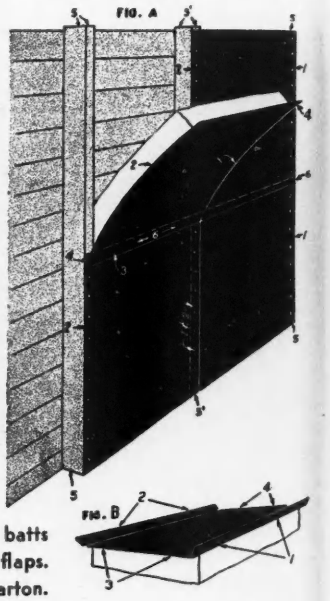
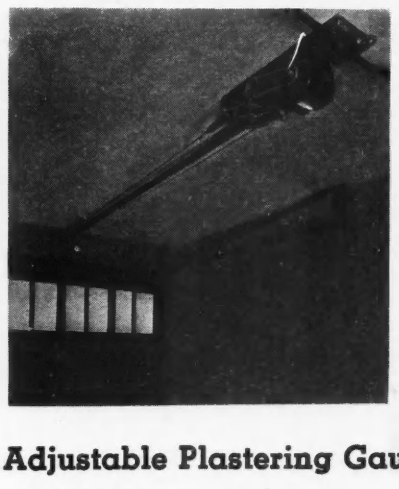


FIG. A shows section of wall with batts between studs and overlapping flaps. Fig. B, batt as it comes from carton.

Magnetic Garage Door Operator

THE Stanley Magnetic Operator has been designed by The Stanley Works, New Britain, Conn., to automatically open and close upward acting garage doors, roll- and swing-up types.



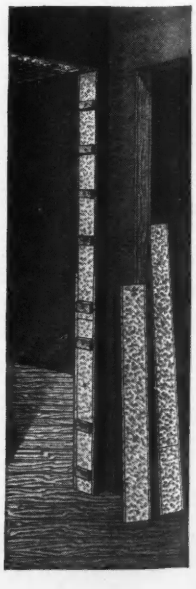
It consists of three principal parts: the operator itself with frame, motor, cable and sheaves, and door arm; a magnetic coil beneath the car and a dash button control; a magnetic switch concealed beneath the driveway. Wiring from driveway switch to garage and house is furnished by others.

OPERATING unit on garage ceiling to automatically open the doors.

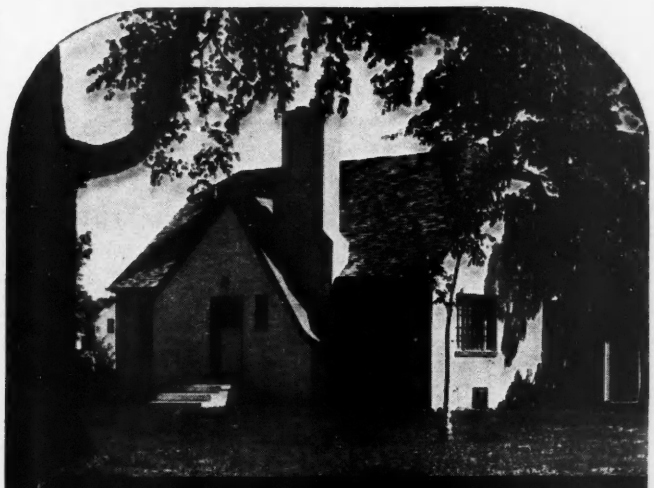
Adjustable Plastering Gauges

A SIMPLE, money-saving device for plastering around door and window openings is being offered by the F. D. Kees Mfg. Company, Beatrice, Nebr. These new plastering gauges are easily and quickly nailed to the studs to form support for the edge of the plaster; after the plaster has set the gauges are removed and used over and over again. They are made of heavy galvanized sheet steel, in two sections which telescope and can be extended or pushed together to the exact length required. A bead along each side of the gauge stiffens it and forms a true, straight edge.

A set consists of three gauges—two for the sides of the opening, which adjust from 42" to 84", and one gauge for the top, which adjusts from 18" to 36"; all are 5⅜" wide. Holes are punched for tacking to the studs.



PLASTER gauges as used around door opening are adjustable for length.



50 HOME OWNERS CHOSE CONCRETE *in Lansing last year*

One of the new concrete homes in Lansing

DURING 1937, fifteen contractors in Lansing and East Lansing, Michigan, built 50 homes of *concrete*—because concrete is *what owners wanted.* These homes range from $2500 to $20,000. Average, $5600.

Concrete's popularity is climbing rapidly everywhere. Will pay you to feature concrete construction in your houses for these sales advantages:

FIRESAFE—Proof against storms and decay.

LIVABLE—Warm and dry in winter, cool in summer; free from such structural troubles as sagging walls, creaking floors, sticking doors and windows.

LOW COST—Little or no more than ordinary construction. Far lower annual cost.

BEAUTY—Adaptable to any architectural style.

Step ahead of competition! Feature firesafe concrete this year. Let us send helpful literature.

PORTLAND CEMENT ASSOCIATION
Dept. A5-3, 33 West Grand Avenue, Chicago, Ill.

Yes, I am interested in the profit possibilities of featuring concrete home construction.

☐ **Please send booklet, suitable for showing to prospects, entitled *"Why People Like Concrete Homes."***

☐ **Want literature on construction details.**

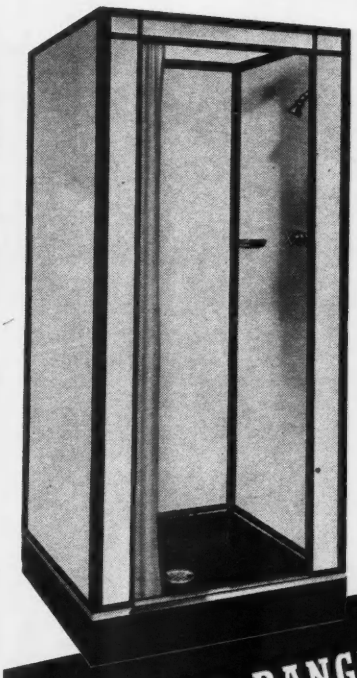
Name _____

Address _____

City _____ *State* _____

Extra Weisway Baths

MEAN QUICKER SALES



Added *livability* of an extra bath means greater *salability.* Now easily possible, even in low cost homes, with Weisway Cabinet Showers. Easily, quickly installed in 3-foot square or less, without special treatment of building walls or floor.

Vitreous Porcelain Receptor, with exclusive foot-grip, no-slip floor, safe, sanitary, permanent. Model VP Weisway (left) also has vitreous porcelain walls.

COMPLETE RANGE OF MODELS

Styles and sizes for Master Baths . . Extra Bath . . Guest Room . . Servants' Quarters . . Recreation Room . . Basements . . Apartments . . Hotels . . Clubs . . Schools . . Gymnasiums . . Institutions . . Private Offices . . Boats . . Summer Cottages, Camps . . Tourist Cottages . . Construction Camps . . Industrial Use

Guaranteed leakproof construction of all Weisway models assures satisfaction, dependability. Pictured right is Weisway Cottager for basement installations, low cost homes, summer cottages, etc. Weisways are equally adapted to old or new buildings.

Let us tell you how builders are using Weisways as a sale-closing feature. No obligation. Mail coupon now for detailed information.

WEISWAY *Cabinet Showers*

HENRY WEIS MANUFACTURING CO. (Est. 1876)
501 Oak Street, Elkhart, Indiana

Without obligation please send detailed information on Weisway Cabinet Showers for _____
(Here indicate specific use)

Name _____

Street _____

City _____ State _____

News of the Month

Building Activities and Meetings

Gain of 98% in Residential Building During March Over Preceding Month Is Largest Increase Since 1929

RECORDING a gain that was far greater than the usual seasonal increase, construction contracts in the 37 eastern states rose 91 per cent during March as compared with the preceding month; the contract volume was but little less than the March 1937 total. As reported by F. W. Dodge Corporation, the March 1938 total of contracts awarded amounted to $226,918,000 for all classes of construction. This amount compares with $118,945,000 for February and $231,246,000 for March of last year.

The gains reflected in the March construction volume were distributed among all the major classes of building. Residential building, amounting to $79,396,000, showed a 98 per cent gain over the preceding month, which is encouraging. Contracts in this class of work in January were 54 per cent behind January 1937; February contracts were 36 per cent behind February 1937; while March contracts were only 12 per cent behind March of last year. Increased FHA mortgage applications and numerous planned large-scale housing projects have not yet been reflected in the contract record, and these factors give promise of continued rises in contract volume in later months.

Non-residential building, amounting to $87,823,000, was 81 per cent above the February total, and public works and utilities with a total of $59,699,000 was 96 per cent above the total for the preceding month.

Both public and private construction during March increased beyond the usual seasonal proportions. Public construction amounted to $94,597,000 for March as compared with $51,054,000 for February, while private construction totaled $132,321,000 as compared with a February total of $67,891,000.

The figures for the first half of April are as follows:

37 Eastern States	Apr. 1-15, '38	Apr. 1-15, '37	Apr. 1937
Residential	$32,522,000	$52,353,700	$107,813,000
Non-Residential	38,797,000	44,241,600	96,326,000
Public Works	25,619,000	* 24,079,600	45,393,000
Utilities	3,123,000		20,002,000
	$100,061,000	$120,674,900	$269,534,000

*Public Works & Utilities combined.

National Retail Lumber Dealers Association to Meet May 10-11 in Washington

THE National Retail Lumber Dealers Association will hold its Annual Convention in Washington at the Raleigh Hotel, May 10-11, and it is planned to develop this into a nation-wide building conference and promotional meeting. The problem of housing will be discussed from all angles, and the program will include visits to the 1938 Laboratory Community of the National Lumber Manufacturers Association, and the Certigrade Homes being sponsored by the Red Cedar Shingle Bureau. Addresses are scheduled by prominent public officials, and a committee has worked out an attractive program.

Permanent Building Exhibit Opens in Chicago at Merchandise Mart

THE permanent Home-Building Exhibit on the seventh Floor of The Merchandise Mart, Chicago, which had its formal opening on April 11, will offer contractors, architects and prospective home builders and modernizers a complete and accurate representation of the possibilities in the home building field, both with respect to materials used in construction, and to proper equipment and necessary services to make a home a pleasant, comfortable place in which to live. This significant

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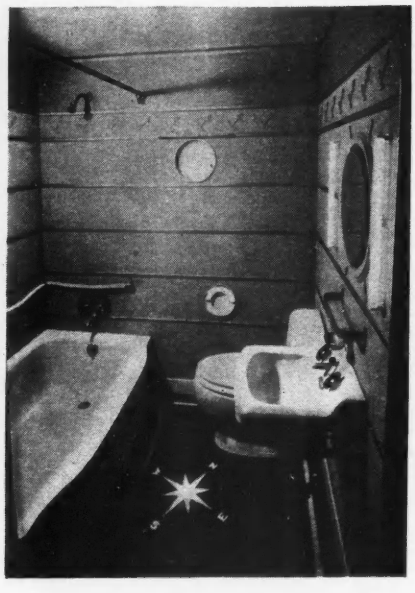
new development forms an integral part of the new Building-Industries Section which now serves as a Chicago home for many of the leading companies identified with the home building industries.

Within the Exhibition Hall, the presentation of materials and services is sponsored by the various associations of the industry. In this way an impartial and comprehensive exhibit is made possible; operated as an educational feature for public benefit, due emphasis is placed upon the contributions to each phase of home and commercial construction by the several groups which make up the entire field.

Notwithstanding the completeness with which the entire home building industry is covered in the building exhibit itself—an achievement sufficiently noteworthy to merit the attention of all who are interested in the modernization and the building of residential dwellings—the presence on the floor of many of the outstanding leaders of the industry itself adds great weight to the importance of the whole. They possess complete facilitation to advise and guide others in the use of their materials and services, and their imposing array of attractive, well equipped showrooms all participate in making "The Building Industries Section of the Merchandise Mart" the most complete permanent representation of the possibilities of home construction in the country today.



THIS nautical bathroom, a feature of the Steel Association exhibit at the Merchandise Mart, represents a typical display.

Insulating Sheathing Announced

THE Wood Conversion Company, St. Paul, Minn., has announced Nu-Wood insulating sheathing as an addition to its line of structural insulation products.

Nu-Wood insulating sheathing is 25/32" thick. It has a double coating on both sides of a special bituminuous compound to form a protection against the penetration of moisture. This special double coating has a high melt point which makes it easy to handle in hot weather, and the tough coating will not foul or clog tools.

WORKMAN applying new double-coated insulating sheathing.

This FREE

PORTER-CABLE BOOK

Shows You How To—

INCREASE YOUR PROFITS

On Building and Contracting Jobs

Here's a sure way for you to save time and money from the foundation to the roof on every building job. This book covers every cutting operation in house building and shows how construction work can be put on a "production basis." Complete with many illustrations and actual data figures. It shows how hundreds of builders are increasing their profits by planned motor power instead of muscle power. Get ahead of competition. Put the practical, common sense ideas printed in this book to work for you and you're bound to make more money and save time on every job you tackle. This book is offered to you without cost or any obligation whatever, by the makers of the powerful, fast, dependable and safe Speedmatic Electric Hand Saws. The Porter-Cable Machine Company, manufacturers of Speedmatic Saws, also manufactures a complete line of floor sanding, steel-wooling and polishing machines. Fill out the coupon today and slip it into the mail.

SEND TODAY

THE PORTER-CABLE MACHINE COMPANY
1721-5 N. Salina St., Syracuse, N. Y.

Please rush my FREE copy of the "Manual on the Use of Electric Hand Saws in House Building." Also information on the following:
☐ Speedmatic Saws
☐ Floor Sanders
☐ Steel Woolers

Name .....
Address .....
City ..... State .....

VICTOR *In-Bilt* VENTILATORS

The only complete line of electric kitchen exhaust fans... including a model for every size and type of home and to meet every price demand

The De Luxe

Here's the champion of kitchen ventilators. Many exclusive features, including three-speed control, automatic operation, powerful exhaust fan, attractive interior grille and weather-tight shutters. Not only removes cooking odors and greasy fumes, but will keep air on entire floor fresh and clean.

The Standard

A practical model for all types of construction. Has large capacity, but fits easily over kitchen cabinets or where wall space is limited. Also, a perfect ventilator for recreation rooms and bedrooms. Automatic operation, weather tight and easy to install.

The Master

For small homes and apartments or where price counts, the new Victor Master is the answer. Also, ideal for the bathroom, laundry room and nursery. Quality built—equipped with Victor Super-power motor and other important performance features. A sensational value!

SEE OUR CATALOG IN SWEET'S

MAIL COUPON BELOW FOR FREE DATA BOOK

Victor Electric Products, Inc.
725 Reading Road, Cincinnati, Ohio

Send us your free data book showing your complete line of Victor In-Bilt Ventilators.

Name .....
Address .....
City ..... State .....

Indicate above whether you are Architect, Builder, Electrical Contractor, etc.

Celotex Announces Personnel Promotions

HENRY W. COLLINS of New York has been elected a vice president of The Celotex Corporation, and J. Z. Hollmann of Chicago has been appointed as general sales manager. In a third promotion, Harry W. Conway, New York, was appointed manager of the company's New York sales division, succeeding Mr. Collins in that post.

Mr. Collins is now in charge of merchandising with headquarters at Chicago. He has been with The Celotex Corporation since 1923. Starting as a salesman on leaving Fordham University, he was appointed manager of the company's Chicago sales division early in 1927. Mr. Collins became New York sales division manager Nov. 1, 1936.

Mr. Hollmann has been with The Celotex Corporation since 1926. Formerly branch manager of the St. Louis sales division, he was appointed assistant general sales manager Nov. 1, 1936.

LEFT, Henry W. Collins and, right, J. Z. Hollmann, new Celotex vice president and general sales manager, respectively.

Group Called Mineral Wool Association

MANUFACTURERS of mineral wool have announced the new name of their organization—the National Mineral Wool Association. The group, which produces about 95 per cent of the mineral wool manufactured in the United States for home and industrial insulation, formerly was known as the National Rock and Slag Wool Association. The new name, adopted by unanimous vote of the member companies, was announced by Wharton Clay, secretary. Organized in 1933, the Association has its headquarters in Rockefeller Center.

Brick Goes Modern; Unusual Product Made by Vitrifying Fire Clay

IN carrying out its recent expansion program the Kraft-Phenix Cheese Corp. has employed a new type of construction which is attracting attention from architects and builders. The idea is to have all dimensions work out to even feet or half and quarter foot fractions.

In connection with these designs, the builders have employed a new product known as Vitricotta, supplied by M. M. Coates, president of Industrial Materials Service, Inc., Chicago. In the past year the Kraft people have constructed six extensive buildings of this character, of which the International Headquarters Building in Chicago, illustrated, is the largest; Mundie and Jensen, architects; Geo. A. Fuller, contractor.

In looking for an inexpensive material which would construct a permanently finished wall without the necessity of painting, the Kraft engineers became interested in the discovery of a fire clay at Charleston, W. Va., which would melt into a solid mass when fired to a temperature several hundred degrees beyond the melting point of glass. Tests showed that hollow blocks made by this process were stronger than solid brick yet they only put half the load on the foundations and had a much lower heat loss. Most unusual of all, these blocks could be molded into large sizes and burned to uniform dimension. Being of fire clay they did not lose their shape in firing.

With the usual limitations of brick removed by this new process, Mr. Coates suggested that all blocks be made in foot-unit sizes. He designed a series of blocks which would be 4, 6, 8 and 12 inches in height and 8, 12 or 16 inches in length;

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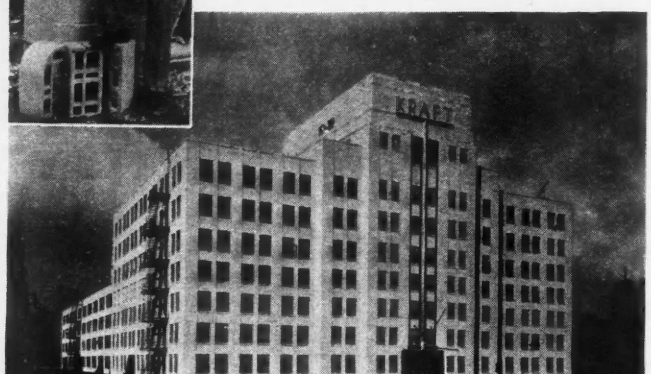
all dimensions to include mortar joints. Each block was twice as long as it was high. The surface was dull and impervious to soil.

After using this material for the interior walls of several buildings the Kraft-Phenix Cheese Corp. decided to use it for exterior walls as well.

LEFT: M. M. Coates, president of company producing Vitricotta, new product which he is seen standing on and which was used in Kraft's Chicago Building, below.



Plywood Tested and Approved in Philippines

IMMEDIATELY after passing rigid tests of the Bureau of Science of the Commonwealth Government of the Philippines, several sizable orders were placed recently for Resnprest, a plywood product manufactured by the M and M Woodworking Company of Portland, Ore. The tests showed that no portion of the Resnprest sample had been damaged after four months continuous exposure to a colony of ants. An interesting footnote to the report comments on the fact that the material used for bonding the sheets of wood was unaffected by water.

Blaw-Knox Opens All-Steel Home

THE first Blaw-Knox all-steel experimental home was recently opened for public inspection in Clairton, Pa., near to the new Irvin Works of the Carnegie-Illnois Steel Corporation. The house, which is of Colonial design with a gabled roof, is 44 feet 2 inches wide by 24 feet 2 inches deep, containing approximately 900 square feet exclusive of porches. The use of standard steel panels permits a wide range of planning for four, five, or six room homes. The panels consist of a steel frame of rust-resisting copper-bearing steel channels welded together. The interior and exterior surfaces of the panels are then covered with metal clad, one-inch waterproof rigid insulation, thus forming an enclosed three-inch air space. The panel is then completed with copper-bearing formed steel sheets laminated to the insulation with a rust-inhibitive asphalt emulsion cement.

BLAW-KNOX all-steel experimental house as recently completed.

LETTERS from Readers on All Subjects

Facts, opinions and advice welcomed here

Residential Contractors and the A. G. C.

Washington, D. C.

To the Editor:

I have your letter of July 26, in which you request information as to membership in the Associated General Contractors of America, and more particularly, special services that might be available to residential builders in the Association.

The Associated General Contractors of America, Inc., has in its enrollment approximately 2,500 of the leading general contractors in the United States These contractors are those performing building construction, highway construction and heavy construction and railroad projects. They comprise some of the largest operators in the country as well as some of the smaller contractors who perform only residential construction and other types of small building projects.

The Association is divided into three main divisions in accordance with the three types of general construction outlined above. Each division has its own Division Manager in the National office here in Washington, all of whom, together with others, form the national staff operating under the direction and supervision of the Managing Director.

With particular respect to residential builders, I may say that there is a place for them in the Association; that is, in the Building Division. We have approximately 400 building contractor members who do residential construction work, and we are in a position to keep them currently informed as to developments of a national scope directly affecting their business. We have a close co-operative contact with the American Institute of Architects, with which profession, of course, the residential builder is directly in contact. We are in a position to be helpful in matters pertaining to construction operations under the FHA Insured Mortgage Plan or under the procedures that have just been promulgated by the Federal Home Loan Bank Board, namely, "The Federal Home Building Service Plan."

We are constantly endeavoring to preserve, maintain and promote a market for construction and the use of the contract system.

Whereas we know that sometimes the impression is had that our Association is made up of general contractors only engaged in large construction operations, yet, this is a fallacy as I have pointed out above, and we are glad to accept into our membership any general contractor who is qualified in skill, integrity and responsibility.

I extend to you my appreciation for your interest in the A.G.C., and trust that the information that I have outlined above will be helpful to you in answering inquiries pertaining to our Association.

THE ASSOCIATED GENERAL CONTRACTORS OF AMERICA, Inc.
By Edw. J. Harding, Managing Director.

Wants to Pool Adv. Printing

Jamaica, N.Y.

To the Editor:

We would like to get the interest of a number of contractors around the country who specialize in home improvement work. We have several good advertising ideas in the form of return cards that are distributed to homes. While these cards have heretofore been of necessity cheaply set up and are treated as such by the home owner, it is possible, by placing quantity orders, to reduce the price to where it is economically possible for contractors to use, and at the same time, we can get beautiful worthwhile literature applying directly to the interest of the contractor

(Continued to page 106)

LETTERS DEPT.

(Continued from page 104)

in general, and not to some particular manufacturer.

It is possible for us to have these ideas copyrighted so that the literature will be available only to those within the group that would subscribe to the quantities that they could handle. Our motive in trying to get others interested is that we would benefit by the quantity purchasing and that it would make it possible for us to lead our own field in novel and attractive advertising at low cost and, at the same time, increase the interest in improvement work throughout the country.

We would like to hear from enterprising, wide-awake contractors outside New York City, to whom we will be glad to give details.

ALCO CONSTRUCTION COMPANY, Inc.
By Ernest Steinhilber, President

From One "Brass Hat" to Another

Chicago, Ill.

To the Editor:

We didn't want your editorial, "Brass Hats and the Recession," in the March issue of *American Builder* to pass without telling you that we think it is excellent, and furthermore that more material of this nature will be a good thing for the building industry and the country in general.

MARQUETTE CEMENT MANUFACTURING CO.
By A. M. Phelan, Adv. Mgr.

Soot from Pitch Pine

West Palm Beach, Fla.

To the Editor:

We have a peculiar problem relating to the disposal of smoke and soot from "fat pine," "light wood" pitch pine, or long leaf yellow pine of the native variety, full of rosin—in which perhaps you can help us.

This is the cheapest fuel we can use. Also it is the best performer, lasting longer and requiring less stoking even than hard coal. But we cannot use it as fuel because of the smoke and soot. And really it is not the smoke that bothers us, for that is quickly carried away in the breeze and is light and, unlike coal or oil smoke, it quickly dissolves or vanishes. What bothers us is the soot, finer than talcum powder, and dry, that comes down out of the air about a block away and causes complaints from citizens in dwelling houses. Our problem is to find some way to trap and dispose of this soot.

Pine wood fire is not hot enough—that is to say there is not an intense localized heat immediately above combustion—to enable us to consume our smoke in the boiler or stack by recombustion, as is the case with coal.

It has been suggested to us that by taking our smoke from the top of our stack through a seven-inch stack or tube, with a blower fan, and driving it through a box containing a fine mist caused by spraying water through small jets under pressure, we can wash the soot out of the smoke and let the water run out and down through a rain spout from the roof into the sewer.

We do not like to go to the expense of making our own experiment by having such a device constructed locally, for even if successful, the cost of electricity to operate the blower fan plus the cost of the water, a possible pump and motor to get sufficient water pressure to make the mist, might make the operating cost unprofitable. And we know of no one here with engineering ability sufficient to figure out such operating cost in advance.

Hence we beg to inquire if there is such a device on the market.

Water costs 21 cents per hundred cubic feet; electricity for motors 5 cents per K.W.H. The device would have to operate continuously for 24 hours per day. Our peak load per hour in the evening is 2100 gallons of hot water for two hours, at a temperature of 135 degrees for our bath tubs and lavatories. Our water pressure is 50 pounds.

Also someone has suggested that a loud speaker set into the

(Continued to page 108)

LETTERS DEPT.

(Continued from page 106)

flue, generating a note of such high frequency as to be above audibility, would coagulate all soot particles in smoke passing up the flue, and cause them to fall down into the flue base or clean out, so that only nonsoot-bearing smoke left the flue top, and that such devices were now in practical use in some places.

Any information you can give us along either of the above lines will be highly appreciated.

THE ALHAMBRA HOTEL

Startling Change in Cement Buying

Milwaukee, Wisconsin.

To the Editor:

Since the first of April many newspapers have carried news items on the announcement by the Treasury Department that effective April 1st it will buy ALL cement used by Government Departments or Agencies.

All cement on projects for which the Government supplies all or a part of the funds, is to be purchased by the Treasury Department's Procurement Division f.o.b. the cement plant. Successful bidders are to make cement available to contractors on Government-financed construction at the same price quoted to and accepted by the Government. Each bidder must certify that there has been no collusive bidding in the preparation of cement prices. Similar assurance will be demanded from sub-contractors.

Apparently the small businessman dealing in cement is now automatically frozen out of the picture on any of the above business and will not even be in a position to bid.

On April 15, 1938, bids were to be opened by the Procurement Division on some three million barrels of cement, f.o.b. cement plants, for delivery in 63 zones and sub-zones. This is estimated to be four month's requirements.

The members of our Association, all of whom are "small businessmen" should write or wire the President and Senators and Representative in Congress, appealing to them not to make the small businessman the goat. Tell them that the capital loans to be provided by R.F.C. to the small businessmen will not be needed if these tactics prevail; that the small businessman will be killed off and not able even to pay taxes; that it is time the small businessman be given definite consideration rather than the many useless Governmental projects.

Is this an opening wedge to include all materials purchased by the Government? Governments are notoriously close buyers. We all learned that under N.R.A.

Don S. Montgomery, Secretary
Wisconsin Retail Lumbermen's Association.

One of Many

Chicago

To the Editor:

Permit me to congratulate you on the April issue of the *American Builder*.

I liked it very much, probably because of the fine emphasis which was given to the subject of concrete houses. Hope your other readers will be as interested in the issue as I was.

W. G. Kaiser, Manager
Cement Products Bureau

Many Inspired by Designs Illustrated

Baltimore, Md.

To the Editor:

For a number of years The Johson Lumber Company, of Glen Burnie, Maryland, had *American Builder* sent to our predessors, John E. Culver and the Culver Construction Company. When these subscriptions ran out about June, 1937, we were in the process of changing about our organization, and since we were still receiving a number of similar publications, the lack of this one was not then particularly noticed. Now they have all expired, and it appears that the only one that is more or less indispensable is *American Builder*.

We would therefore appreciate your billing us at once for a three-year subscription, and if back copies are available, we

(Continued to page 110)

LETTERS DEPT.

(Continued from page 108)

should prefer that the subscription be retroactive to commence with the issue of July, 1937.

With the exception of certain special issues of a very much more elaborate and expensive architectural magazine, we have noticed that more of our customers have referred us to designs taken from the *American Builder* than from any other source.

Robert Hazard, Real Estate and Building

Wants Barns, Barns, Barns

Wanatah, Ind.

To the Editor:

I agree with Mr. Meske's article on page 108 of the March issue. All I've seen in this magazine is *houses, houses* and *houses.* I am a rural contractor and know less of farm buildings than anything else, and the farmer is the root of the country.

Fred Maack, Jr.

"Never Before Such an Opportunity"

Ilion, N.Y.

To the Editor:

I received your circular asking for renewal and a gift in the new book (Big Value Homes). Check enclosed for same and needless to say how well pleased I am with the tremendous effort in fact-finding promotion work your paper is doing for the builder. It seems the building contractor never had such an opportunity as confronts him at this period. I think the hope of the building industry lies in the development of new creations. Four years with the J. M. plans has opened my eyes to this possibility.

Willard B. Mead, General Building Contractor.

* * *

Better Kitchen Plans

(Continued from page 72)

Stock cabinet units are used in this diagram, and the type use to which each unit is put is indicated. Each of the important operations is grouped together with the storage and work area required nearby.

The cost of skillful planning is small compared to the added sales value it gives a house. In fact, the cost can be reduced to a few cents, since a number of the large equipment and appliance manufacturers have now set up efficient kitchen planning bureaus that will do this work free. All that is necessary is to send in a rough floor plan of the kitchen, which will be reviewed and recommendations made and complete details for producing an efficient, step-saving arrangement supplied.

* * *

Erection Methods on Framing

(Continued from page 76)

2½" for sill or a 10" over glass size of top and bottom window. Thus, a check rail window marked 2 L—2 8 x 2 6 would have a rough opening 38" wide and 62" high.

Casement sash are also indicated by glass size as 10 L—10 x 10 would mean a window having 10 lights each 10 x 10", arranged 2 wide and 5 high. Allowance for such a window would be 3" for the frame, 4" for sash, 1" for center muntin, 20" for glass, 1" for play or a total of 29" over all in width. The height requires 4" for frame, 5" for sash, 4 muntin ½" each or 2", five pieces of glass 10" high, 1" play or a total of 72 in height.

The rough opening for doors would require in width

(Continued to page 112)

Erection Methods on Framing

(Continued from page 110)

3" for frame, door size, and 1" play. A 2' 10" door would require 4" over door. The height would require ½" for threshold, door height, 1½" for frame, 1" play or 3" above finish floor level for the rough opening.

One inch play is allowed on all door and casement measurements so as to permit adjustment when placing frames in position.

To give a rule for the height of window stools above floor is impossible as this varies too greatly. It is governed by conditions such as door heights, outside trim, inside trim, interior decorations etc. Where these conditions do not govern, 26" is a good height.

Various ways of framing openings are shown in Fig. 9.

Steel Square Gives Framing Cuts

The steel square needs no introduction by way of description. Its use, however, has always, to the apprentice, been intricate. To the carpenter on the job it is as important as the blue print of the architect. Its adaptability to many jobs makes it indispensable. Used in a simple way, to square up work and in such complex problems as rafters and stair building it is absolutely necessary. It is essentially a measuring tool to lay out the horizontal (run) and the vertical (rise) sides of a right angle triangle being used in such a way as to measure both dimensions at the same time. You have heard such terms as ¼, ⅓ or ½ pitch, the term pitch meaning the angle or slant of the rafter. With given pitches it has been possible to set up tables of data to be used in rafter framing for the purpose of obtaining the various cuts necessary for this work.

This system has surrounded the square with a great deal of mystery, as the carpenter never did learn the reason for the figures set up in these tables, but simply learned how to use them, and consequently if as in present day construction the problem does not involve any of this data, they find themselves at a loss as to how to proceed.

The unit of measure is one foot and it is for this reason you hear such expressions as 12 & 8, 12 & 9 etc., the 12 representing one foot (12 inches) of run measure, the 8 or 9 etc., the rise measure for every foot of run.

Therefore to measure a right angle triangle having a total run of say 8' and a rise of 48", the rise per foot of run would be 48" divided by 8 which equals 6"; 12 and 6 would then be the figures used on the square. These would be used as many times as there are feet in the run. See Fig. 10.

When laying out a common rafter, the edge of the rafter becomes the pitch line; and, if the square is laid as in Fig. 10, you not only obtain its length but, when marked along the blade, you will obtain the seat cut, and the tongue gives the plumb cut.

If you look at any roof you will be able to divide it into a group of triangles and this is the first step in solving the problem.

The run and rise are always known in any of these. Therefore the angle and cuts can be obtained in the same manner as in Fig. 10.

In my effort to show the use of the steel square, tables and data regarding various pitches will not be considered. I would rather you would not think of framing according to them. I want you to be able to analyze your own square problem and if you will follow this series, I am sure the problems of the steel square will be solved for you.

SELECTED CATALOGS

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.

BUILDING EQUIPMENT

112—Trane Air Conditioning—"Fresh, Healthful Air Indoors Too!" is a new 4-page data sheet presenting the new Trane humidifying conditioner, to be installed in connection with an existing heating system.—THE TRANE CO., La Crosse, Wis.

113—Modine Air Conditioners—Bulletin 638 is a 12-page illustrated data sheet presenting a new compact, self-contained unit for air conditioning apartments, offices, stores and residences. It is both a winter and a summer air conditioner, using either steam or hot water as the heating medium.—MODINE MANUFACTURING CO., Racine, Wis.

114—Kwik Konnectors—Full information regarding a time-saving, bendable metallic connecting unit for gas appliances is offered in a series of data sheets. Three minutes to install a kitchen range is regular practice for builders using this equipment. Of a special alloy composition, "The Colalloy Kwik Konnector" is described as being bendable and twistable "like a pretzel" without showing signs of cracking, kinking or breaking.—COLONIAL STOVE CO., 2154 E. Somerset St., Philadelphia, Pa.

115—Oil Burning Superfex—"Constant Air Conditioning" is an attractive 12-page data sheet featuring Models 100-E, 200-E, and 300-E, automatic air conditioning heaters. Cut-away views showing mechanical construction are supplemented with complete table of sizes and other specifications.—PERFECTION STOVE CO., Cleveland, O.

116—Ewing Incinerators—Full information regarding the Ewing Dual-Draft incinerator is presented in new circulars giving details of construction and installation. An interesting record of total construction cost is included.—EWING INCINERATOR CO., 2432 Irving Park Blvd., Chicago.

117—Emerson Ventilating Fans—"Emerson Electric Exhaust Fans" is a new 16-page catalog featuring exhaust fans, shutters, protective mesh guards, kitchen ventilating equipment and Seabreeze kitchen ventilators. A complete line of the Emerson electric single-speed, sleeve bearing exhaust fans is fully described, giving dimensions, performance and prices.—THE EMERSON ELECTRIC MFG. CO., St. Louis, Mo.

118—Kiesling Electric Waiter—A new 4-page data sheet presents the Kiesling Electric Waiter designed to fill the gap between the dumbwaiter and the ordinary freight elevator. This useful equipment has capacities up to 2,000 lbs., and is simple to install and operate.—JOHN W. KIESLING & SON, Inc., 1795 Atlantic Ave., Brooklyn, N.Y.

119—Crane Drinking Fountains—Drinking fountains for public buildings, offices, factories, public parks and other places are illustrated and described in detail in a compact two-color folder just issued by CRANE CO., 836 S. Michigan Ave., Chicago.

120—Ferrometal Partitions—A new 16-page catalog presents in detail a complete line of flush metal partitions in steel or aluminum for toilet rooms, screens and booths. Flush type Ferrometal doors and all accompanying hardware are also included.—MILWAUKEE STAMPING CO., Milwaukee, Wis.

121—Bennett Fireplaces—"Your Fireplace" is an unusual compilation of 20 pages on fireplace construction, mantel design, grilles and fireplace hardware, including the novel Flexscreen. The principle of the Bennett fireplace, which circulates the warm air through the room, is fully explained.—BENNETT FIREPLACE CORP., Norwich, N.Y.

122—Auer Registers—"Book No. 38" is an impressive work of 72 pages, very adequately illustrated and presenting complete list prices of all kinds of registers and grilles needed for heating and air conditioning. This is a standard reference book on this subject.—THE AUER REGISTER CO., Cleveland, O.

BUILDING MATERIALS

123—Luminall for Interiors—"Painting for Light and Decoration" is a remarkable 28-page brochure on Luminall paints for interior lighting and decoration. Part I shows why Luminall reflects more light and Part II presents the ten colors and suggests modern decorative treatments for residences, shops, stores, offices, schools, public buildings, hotels, etc. This is a complete handbook on modern interior painting for light and decoration.—NATIONAL CHEMICAL & MFG. CO., 3617 S. Wall St., Chicago.

124—Steel Floor and Roof Systems—"Wheeling Steel Floor and Roof Systems" is the title of a new 16-page, well illustrated catalog featuring the Wheeling Long-Span steel floor and roof systems. Adequate design data are included, with clear, understandable directions for handling this type of roof work. Typical specifications are a helpful feature.—WHEELING CORRUGATING CO., Wheeling, W. Va.

125—Copper and Brass in Home Building—"The House You Live In" is a comprehensive 32-page illustrated treatise going from basement to roof and showing all the various recommended uses for their copper and brass products. This is a practical and helpful treatise for the home owner, the architect, the building contractor, the building material dealer and the building mechanic.—REVERE COPPER AND BRASS INCORPORATED, 230 Park Ave., New York City.

126—Wrought Iron for Piping Systems—A 44-page illustrated handbook of interest to architects, engineers and contractors; it discusses pipe materials, costs, pipe selection, why some metals resist corrosion better than others, water supply, drainage, heating and power systems, and a section devoted to installation procedure. An appendix contains statistical data regarding the life of various pipe materials in specific installations.—A. M. BYERS CO., Pittsburgh, Pa.

American Builder, (May, 1938)
105 W. Adams St.,
Chicago, Ill.

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

Numbers .....

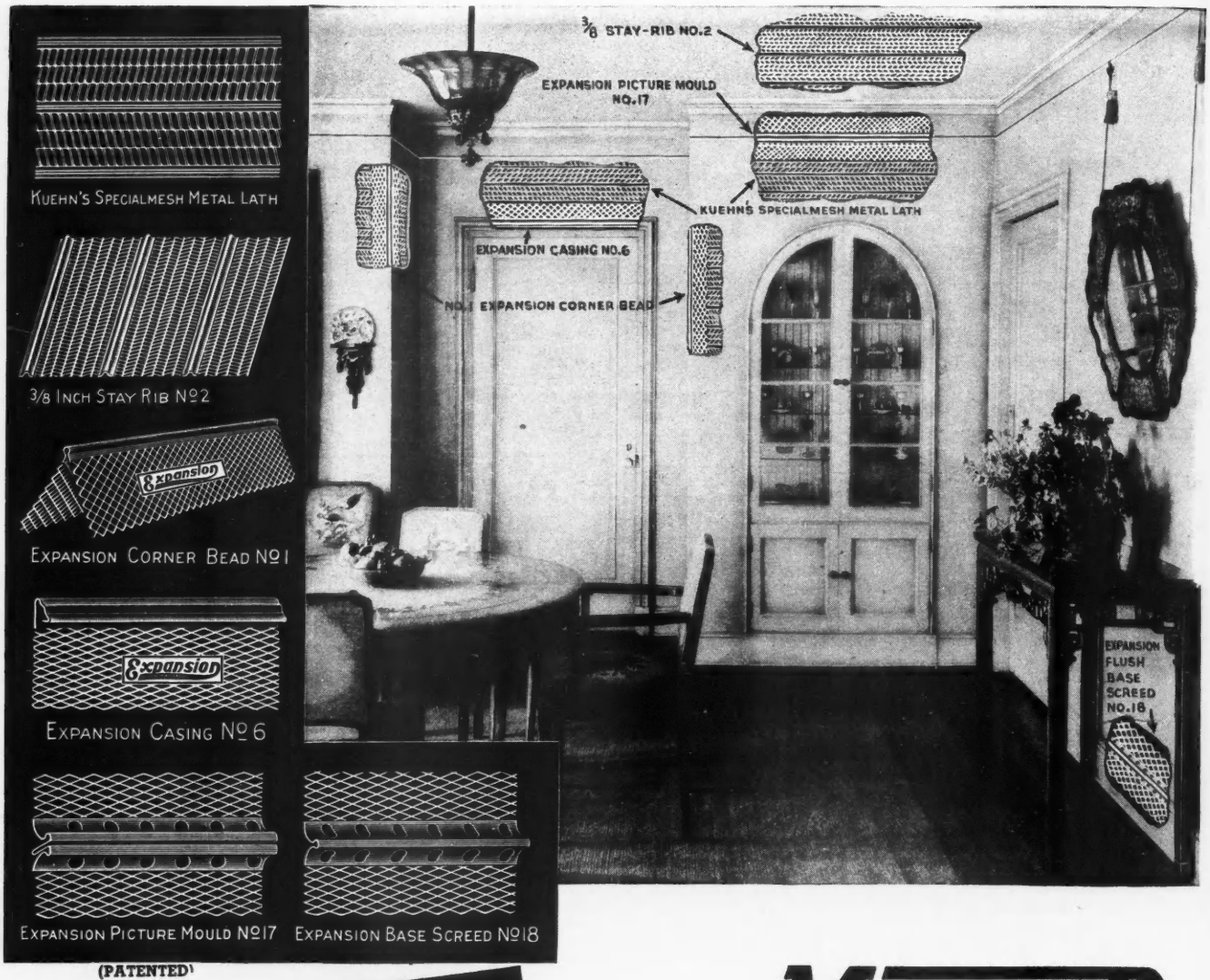
Name .....

Street .....

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

OCCUPATION* .....

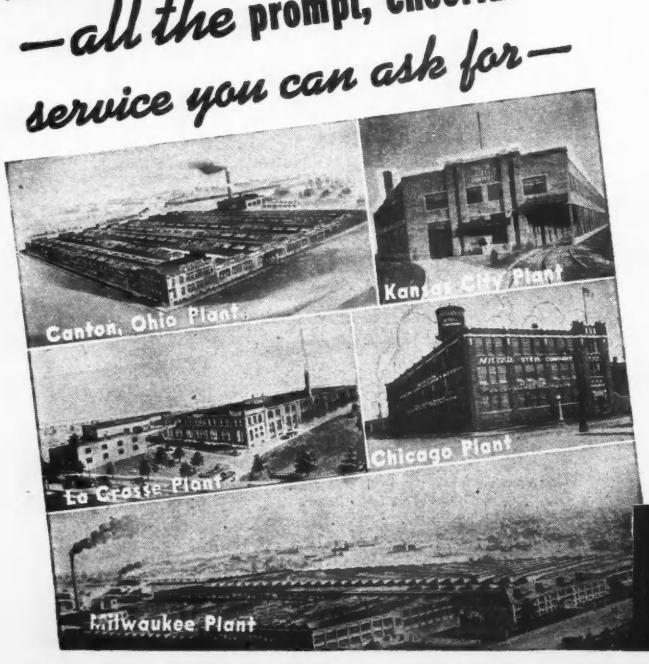
*Please note that occupation must be stated if full service is to be given.



(PATENTED)

all the fireproof steel building products you need

—all the prompt, cheerful service you can ask for—



that's MILCOR

Every one of the five Milcor plants carries a complete ready-to-ship stock, and is organized to give your building supply dealer quick action on your orders. Your Milcor dealer can be depended upon to help you keep your jobs on schedule.

You'll find the *complete* Milcor line — plus Milcor service — means smoother, more profitable handling of your fireproof jobs. You get everything from one place — you know it's right — everything fits together and goes up with the greatest possible speed. Write today for your free copy of the Milcor Manual.

Unit of the MILCOR SYSTEM of fireproof construction
Milcor here uses the word "system" in its true sense—not to signify a limited, inflexible set-up applicable only under certain conditions, but to represent so great a range of individual products, types, weights, metals, etc., that a *complete, coordinated metal backbone* can be designed to suit *any* condition of fireproof construction—all with Milcor products engineered to work together.

F-12B

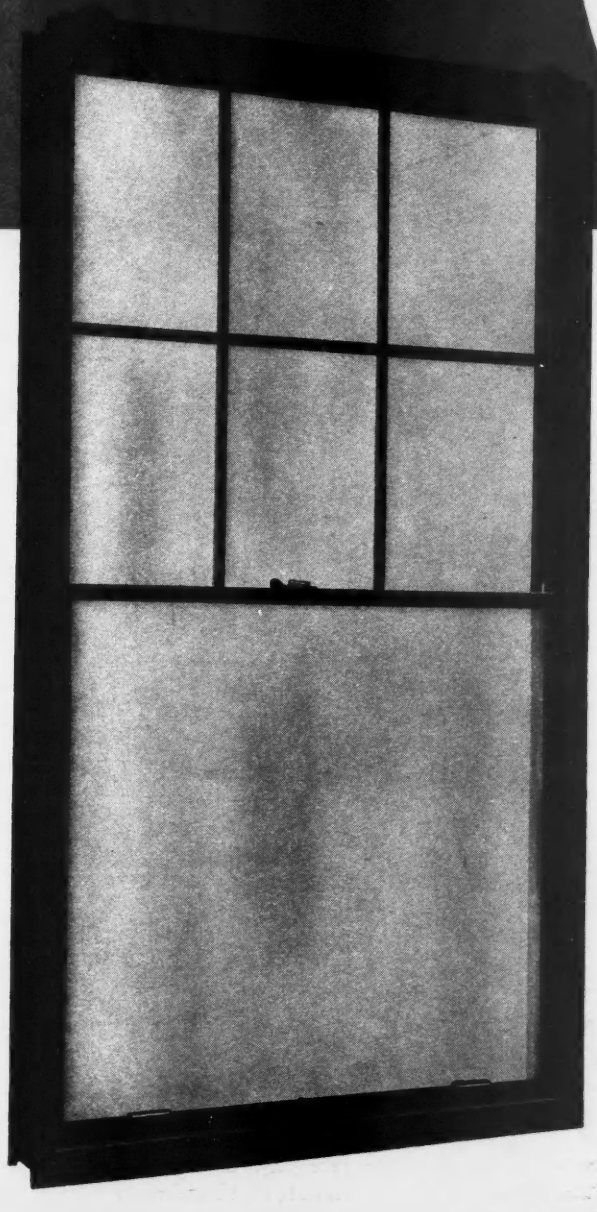
MILCOR STEEL COMPANY
MILWAUKEE, WISCONSIN CANTON, OHIO
Chicago, Ill. Kansas City, Mo. La Crosse, Wis.

INDEX TO ADVERTISERS

MAY, 1938

NOTICE TO ADVERTISERS—Forms for the June number of the American Builder and Building Age will close promptly on May 16. New copy, changes, order for omissions of advertisements must reach our business office, 105 West Adams St., Chicago, not later than the above date. If new copy is not received by the 20th of the month preceding date of publication the publishers reserve the right to repeat last advertisement on all unexpired contracts. AMERICAN BUILDER AND BUILDING AGE.

You're looking at WINDOW VALUE!



✻ **BONDERIZED STEEL** *and baked-on priming coat of paint* gives the new Truscon Steel Residential Double-Hung Window, Series 138, maximum protection and long life.

✻ **TUBULAR CONSTRUCTION OF SASH** gives improved appearance and adds greatly to the strength and durability of this new window.

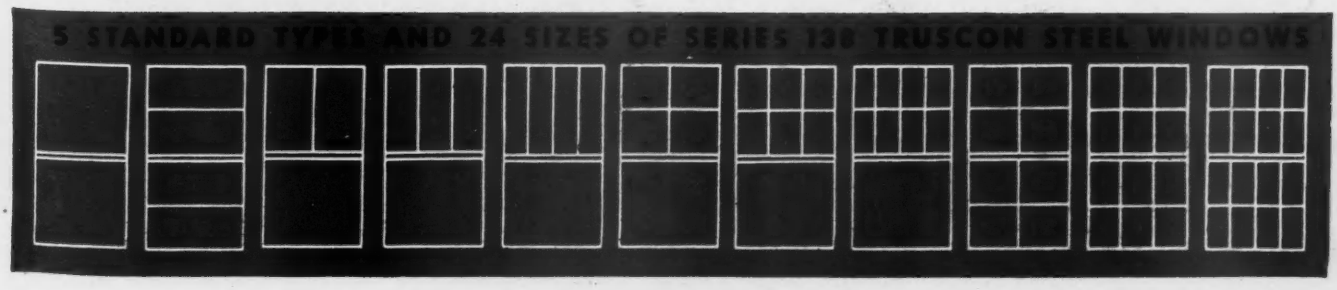
✻ **SPRING BRONZE WEATHERSTRIPPING** (installed at factory) assures weathertight windows.

✻ **SPRING BALANCED CONSTRUCTION.** Operation controlled by spring balances equipped with tapes of Enduro Stainless Steel. No sash cords, no weights, no pulleys. Smooth, positive, quiet action and greater durability are assured.

Other important features: Flush installation of Truscon Screens and Tempryte Storm Windows; attractive hardware; windows are packaged in strong, durable cartons. *Write today for New Catalog containing complete information.*

TRUSCON STEEL COMPANY
Youngstown, Ohio
57 Sales-Engineering Offices. 27 Warehouses
SUBSIDIARY: REPUBLIC STEEL CORPORATION

5 STANDARD TYPES AND 24 SIZES OF SERIES 138 TRUSCON STEEL WINDOWS



Easy To Install!

. . . STANLEY *"Roll-Up"* DOORS Provide Low-Cost, Trouble-Free Operation

Not only are Stanley "Roll-Up" Doors easy on your customers' pocketbooks, you save money through their quick installation. Ideal for industrial and commercial openings, "Roll-Up" Doors place no restriction on size or design — no limits on use. Good appearance, convenience and easy operation are plus values your customers will like. Sticking — jamming — banging in the wind are eliminated; heavy oil tempered steel springs float these doors open with a slight lift — even when snow-banked. There's a Stanley "Roll-Up" Door for every commercial building. Residential sizes also available.

STANLEY "ROLL-UP" DOORS — FOUR TYPES FOR ALL REQUIREMENTS

• • •

2711½ FOR GENERAL USE

16 standard sizes and any special size up to 196 sq. ft. Attractive appearance . . . easy operation in all weather.

2715HL HIGH LIFT

For service stations containing hydraulic or motor driven lifts. Provide clearance under door for operation of lift.

2715MP MOVABLE CENTER POST

For openings of unusual width, using two or more doors. One door may be opened or all doors opened and center posts rolled out of the way. Permits natural light and ventilation as well as unobstructed access.

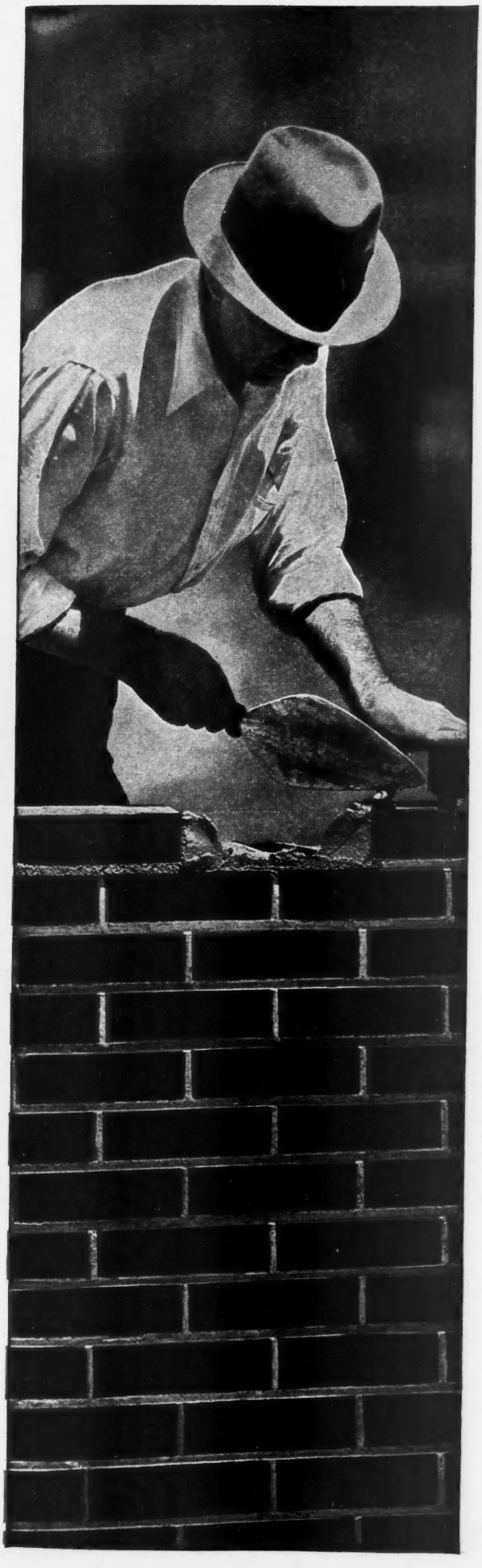
2712 EXTRA LARGE DOORS

For openings larger than 196 sq. ft. or very heavy doors. Operate as easily as light doors because of perfect counterbalance.

Your local Stanley dealer can supply you promptly; or write for descriptive catalog. The Stanley Works, 133 Elm St., New Britain, Conn.

STANLEY

HARDWARE FOR CAREFREE DOORS



BRIXMENT IS PLASTIC!

WITH the possible exception of slaked lime putty, Brixment makes a *more* plastic, *more* easy-working mortar than any other materials you can use. ★ ★ But along with this plasticity, Brixment mortar also has strength greater than that of the brick itself! ★ ★ Bonds perfectly with the brick. Won't cause efflorescence. Won't fade mortar colors. Waterproofed during manufacture. ★ ★ One part Brixment, three parts sand. Five bags will lay approximately 1000 brick. Louisville Cement Company, *Incorporated,* Louisville, Kentucky. ★ ★

"NO THREE-DAY LAYOFFS FOR THIS TRUCK— Here's Why"

OWNERS' records show that Ford V-8 Trucks do more work, in less time, at lower cost. And they can keep up the good work without a layoff, when repairs finally become necessary. The Ford Engine and Parts Exchange Plan sees to that.

Under this plan, operators of Ford V-8 Trucks and Commercial Cars can enjoy new engine performance, without sacrificing working time, by simply exchanging an engine that has given many thousands of miles of hard service for a factory-reconditioned engine. The exchange takes only a few hours, instead of a few days, and can be accomplished after a truck's working day is over — at a cost lower than the ordinary engine overhaul.

Other reconditioned parts that are available at low cost include carburetor assemblies, fuel pump assemblies, generator assemblies, generator armatures, distributor assemblies, clutch pressure plate assemblies, clutch disc assemblies, brake shoe assemblies and shock absorbers.

This maintenance plan is one of three money-saving features enjoyed by all operators of Ford units. The other two, of course, are low first cost, and low operating cost.

Ford

SEE A FORD DEALER TODAY FOR AN "ON-THE-JOB" TEST

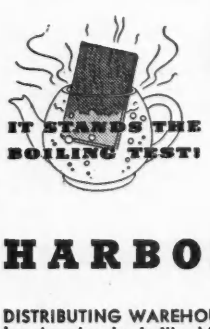
FORD V·8 TRUCKS AND COMMERCIAL CARS

Harborside THE SUPER-HARBORD SIDING!

RAIN, sun and snow can beat for all they're worth against HARBORSIDE . . . it's permanently weatherproof.* HARBORSIDE, the new plywood siding, is made of SUPER-Harbord, the time-tested outdoor plywood, manufactured by an exclusive patented process* that fuses the plies together more solidly than a single board . . . GUARANTEED against ply separation!

You'll like HARBORSIDE for creating the widely spaced effects of horizontal or vertical lines in modern exteriors—and also for more conventional siding uses. You'll like the way it cuts construction and upkeep costs. A carpenter can lay up more of these big HARBORSIDE panels in a day—and with fewer nails. Painters can follow carpenters immediately—and paint lasts longer.

HARBORSIDE is available in redwood or fir, double rabbeted at sides and ends; four feet and eight feet by 12½, 15, 18 or 23 inches, grain vertical or horizontal. It's permanently weatherproof,* minimizing passage of moisture, resistant to rot and fungus, toxic to termites and rodents. Write for informative Bulletin No. 7.



MADE OF SUPER-*Harbord*

★For a weatherproof plywood, guaranteed against delamination, specify SUPER-Harbord, "as manufactured by the exclusive patented process, hot-pressed with a cresol-formaldehyde synthetic resin binder, and then tempered."

HARBOR PLYWOOD CORPORATION

Mills and General Offices, Hoquiam, Washington

DISTRIBUTING WAREHOUSES: Atlanta, Baltimore, Chicago, Cincinnati, Ceveland, Columbus, Indianapolis, Jacksonville, Los Angeles, Louisville, Miwaukee, New Orleans, Philadelphia, Pittsburgh, San Francisco, Toledo, Washington, D. C.
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HARBORD PLYWOOD PRODUCTS

Harbord Plywood
Harbord Sheathing
Harbord Wallboard
Harbord Plycrete (For Concrete Forms)
Harbord Industrial Plywood
Harbord Lauan Plywood

SUPER-HARBORD PRODUCTS

Super-Harbord Plywood (In All Grades—in Panels as Large as 8 x 16 Feet)
Super-Harbord Plycrete (For Concrete Forms)
Super-Harbord Lauan Plywood
Super-Harbord Redwood Plywood
Harborside

MANUFACTURED PRODUCTS

Harbord Tennis Tables
Sag-Nott Doors (With Cotter-Keyed Joint)

Guaranteed WEATHERPROOF HARBOR PLYWOOD CORPORATION

Sell more Model Homes *with Ludlite Stainless Steel*

Builders know the advantages of stainless steel—how it was used in the Waldorf-Astoria and in other fine buildings where cost was no object.

Today, thanks to Ludlum research and Ludlite, you can now use this forceful sales appeal at a fraction of its former cost. It's just what folks are looking for in new model homes.

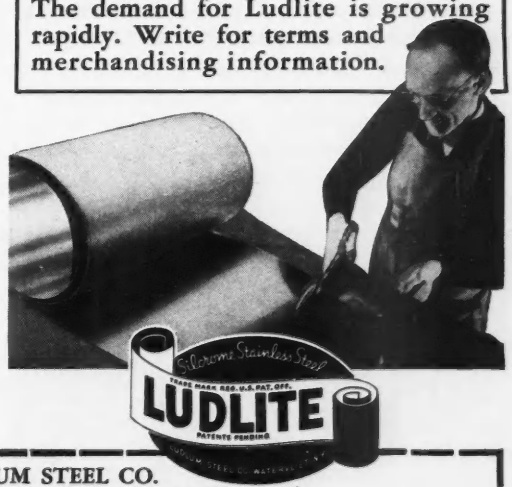
Ludlite has a surface of thin, strong, light stainless steel. It is backed with a tough, waterproof, non-metallic, flexible material and can be nailed, screwed, or cemented in place. Ludlite is easy to form and work. You can cut it with heavy shears. A carpenter can do all the work right on the job with ordinary tools. Cement and stainless steel molding to finish corners and edges are available wherever Ludlite is sold.

The uses of Ludlite are legion. Its decorative possibilities are unlimited, and it is ideal in kitchens, bathrooms, pantries—in fact, wherever home owners appreciate the cleanliness and sanitation of lustrous, everlasting stainless steel.

This new material comes in rolls 24″ wide; in ribbons 1″ to 3″ wide; and in 4″ square tiles.

FREE SAMPLE TO BUILDERS. If your building supply dealer has not yet received his initial stock of Ludlite, we'll gladly send a free sample, prices, and full information. Just mail the coupon. Ludlum Steel Co., 6-W Street, Watervliet, New York.

BUILDING SUPPLY DEALERS
The demand for Ludlite is growing rapidly. Write for terms and merchandising information.



LUDLUM

Fine Steels Since 1854

TOOL · STAINLESS · CARBON · ALLOY

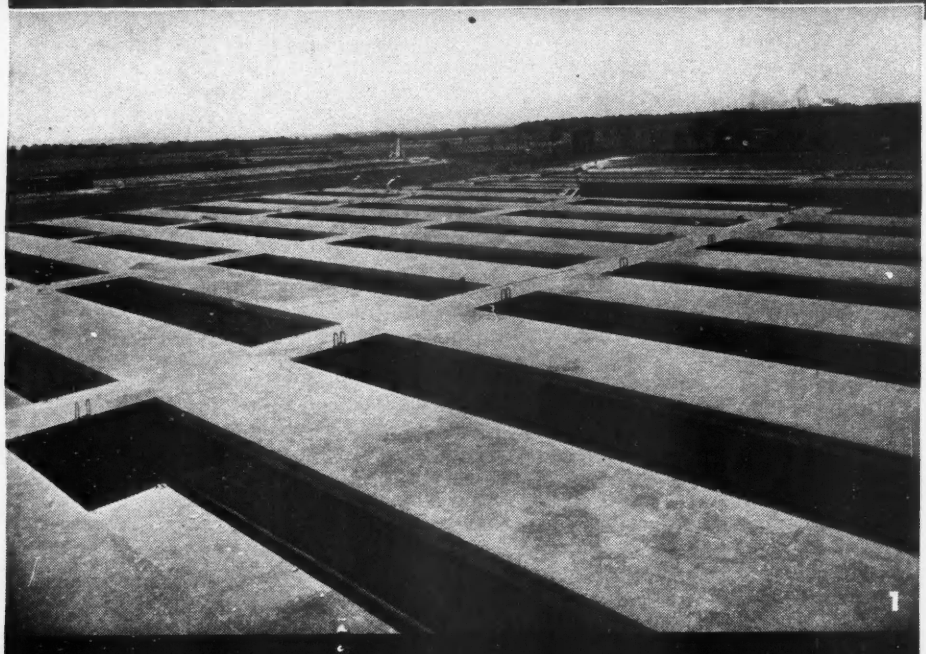
LUDLUM STEEL CO.
6-W Street, Watervliet, N. Y.
Please send free sample of Ludlite and full information.

Name _____

Company _____

Address _____

Light THE MODERN WAY . . . FOR INDUSTRIAL BUILDINGS



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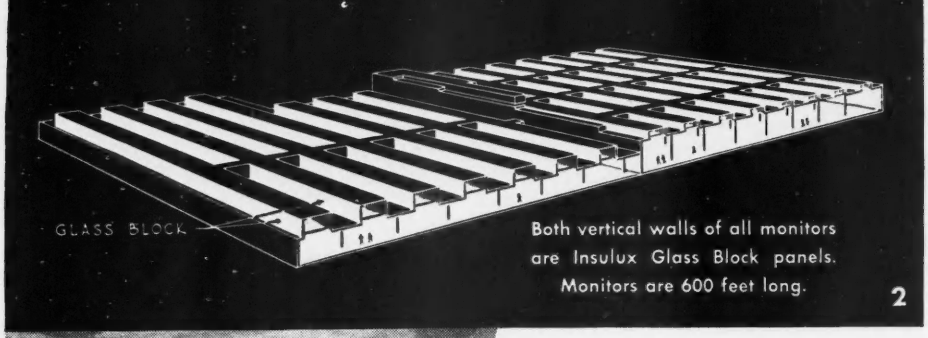
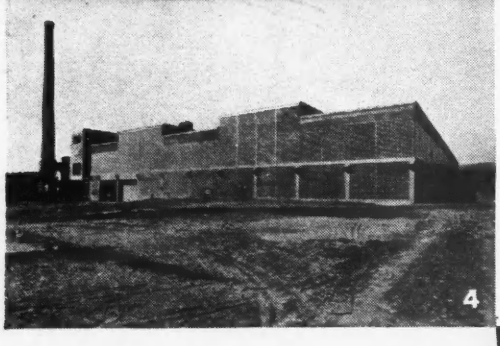


Both vertical walls of all monitors are Insulux Glass Block panels. Monitors are 600 feet long.

2

3



4

1. *Glass Block in monitor sidewall construction in plant of Industrial Rayon Corporation, Painesville, Ohio. L. J. Jordan, Chief Engineer.*

2. *Perspective cross section showing Glass Block installation in Painesville plant of Industrial Rayon Corporation. Wilbur Watson & Associates, Cleveland, Architects and Engineers.*

3. *View showing extent to which Glass Block was used in addition to Racine, Wisconsin plant of Western Printing & Lithographing Company. Edwin J. Kraus, Architect, Milwaukee.*

4. *Addition to Poughkeepsie, N. Y. plant of Western Printing & Lithographing Company.*

● **More and more industries are turning to Owens-Illinois Insulux Glass Block because of the definite solution offered to many important manufacturing problems.**

For Insulux places in the hands of industry not only better lighting facilities but affords more complete control of the quality and distribution of light by means of proper diffusion.

In addition, Glass Block walls have excellent insulating qualities being equivalent to a 12-inch brick wall. As a result, air infiltration is reduced and constant temperature and humidity may be maintained without fear of condensation. In industries where these factors are of vital importance, Insulux Glass Block has proved of inestimable value.

In either new construction or modernization, wherever light, insulation and architectural beauty are desired, Insulux is ideal. It retards sound transmission, defies weather, requires no painting, resists fire, is impervious to grease and odors and is easily cleaned. Write for new industrial book giving complete details.

OWENS-ILLINOIS *Insulux* GLASS BLOCK

OWENS-ILLINOIS GLASS COMPANY

INDUSTRIAL AND STRUCTURAL PRODUCTS DIVISION

TOLEDO · OHIO

NO "kicks" ON HEATING

WITH HOLLAND FURNACES IN HOMES YOU BUILD

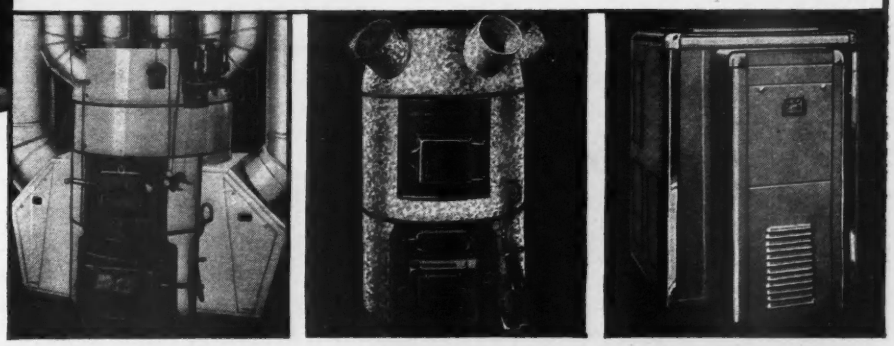
Holland Policies Assure Complete Satisfaction Every Time!

NOTHING is more certain to cause discontent in a home buyer's mind than an unsatisfactory heating plant. He invariably blames the builder for his discomfort and extra expense whether the home was built to his order or if purchased after completion.

With a Holland Furnace in every home, however, you are fully insured against all such dissatisfaction. Not only is any Holland Furnace the best obtainable in its price range, but a Holland engineered installation doubly insures satisfactory heating in every room. Finally, direct factory-to-buyer guarantee puts full responsibility for your patrons' satisfaction upon the Holland Furnace Company.

But there are many other advantages in dealing with Holland which all builders should know about. Mail the coupon for complete information.

THERE'S A HOLLAND FOR EVERY TYPE OF HOME!



Heating Engineers At Your Service!

There is a competent, factory-trained Holland engineer in your locality whose specialized knowledge and experience are at your disposal. You are welcome to consult him any time about heating problems, without cost or obligation. See "Holland Furnace Company" in your phone book.

HOLLAND FURNACE COMPANY

HOLLAND, MICHIGAN

World's Largest Installers of Home Heating and Air Conditioning Systems

Send Coupon For Information

HOLLAND FURNACE COMPANY
Dept. AB-6, Holland, Michigan
Please see that I get full information about subjects checked below.

- ☐ Holland Furnaces
- ☐ Holland Automatic Oil Burners
- ☐ Have Heating Engineer Call ☐ Holland Stoker
- ☐ Holland Automatic Furnace Air Conditioner for Gas or Oil

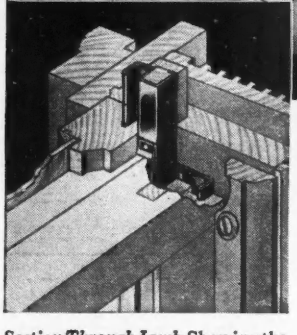
Name.....

Address.....

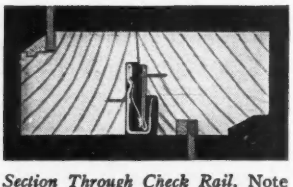
City.....*State*.....

Andersen CRAFTSMANSHIP

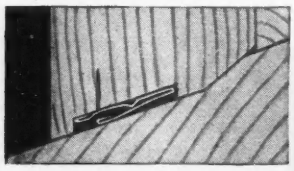
With expert skill that demands perfection, Noble Roland and Alstrom Antonson, master woodworkers, made the first pattern sash for the NEW Andersen Narroline Window. From this pattern, tools were made for the high-speed precision machines which turn out the stock sash, precise in every detail.



Section Through Jamb. Showing the new duplex action SILVERSEAL weatherstripping with both rib and spring metal contacts. Sash *slide smoothly at all times* because they are guided by the ribs, and are centered between the Springleaf weatherstrips. One-piece wide blind stop makes weathertight joining between frame and wall.



Section Through Check Rail. Note the NEW three-piece weatherstrip with concealed nailing and spring leaf metal-to-metal contact.



Section Through Bottom Rail showing the improved fold back spring leaf weatherstrip. Self-cleaning, self-adjusting, out of sight when sash is open.

Makes possible the

NEW NARROLINE COMPLETE UNIT WINDOW

A sensation!... The remarkable, new Andersen Narroline Window is making a tremendous hit with builders all over America. Precise in every detail, its beauty is inspired by superb Andersen craftsmanship.

NEW SILVERSEAL WEATHERSTRIPS
are of strong, attractive aluminum alloy, electro-chemically treated to give a permanently lubricated, glass-like surface. Maximum weathertightness and easy sash operation assured by New duplex principle. (Patent Pending).

FITTED SASH 1½" THICK
A great improvement. Stronger. No exposed end wood in bottom rails. Sash are glazed with "A" quality glass bedded in putty.

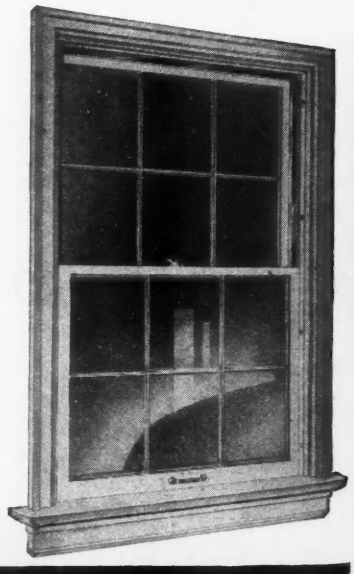
FLAT WEIGHT COUNTERBALANCING
assures trouble-free sash operation under all conditions. Specially Designed Flat Weights eliminate waste space and permit narrow mullions and trim because one flat weight with pulley wheel replaces two ordinary round weights.

EASY TO INSTALL

SASH are completely fitted and ready to install with check and bottom rail weatherstrips applied. Side and head weatherstrips are furnished ready to slip in place without danger of crimping or other damage—or—you can get this window completely assembled and ready for quick installation.

Both frame and window are permanently protected against moisture, termites and decay with Andersen Superior Pentachlorphenol Preservative treatment. Thorough penetration is assured by full three minute processing.

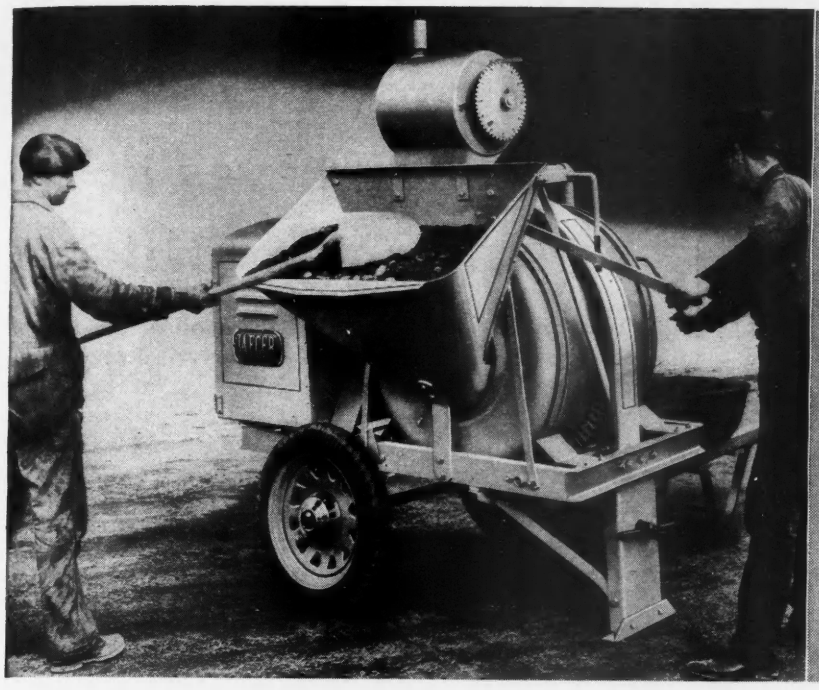
Ask your dealer to show you sectional model of the new Andersen Narroline Window, or write Dept. AB6, Andersen Corporation, Bayport, Minn., for a complete demonstration.



Andersen NARROLINE

COMPLETE DOUBLE HUNG WINDOWS
READY-TO-INSTALL WITH FITTED SASH

JAEGER'S LATEST "UTILITY" MIXER



MEASURING BATCH HOPPER
Loads While You Mix and Discharge--No Waiting --Fast as Power Loader

MAKES MONEY with 30 to 40 Yards a Day of Quality Concrete--All Most Jobs Can Take

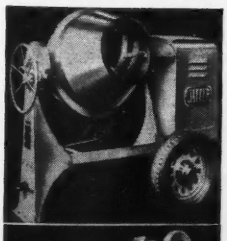
SAVES MONEY--Costs about ½ the Price of Heavy 5S Non-Tilts!

NOTE THESE FEATURES:

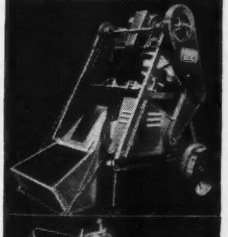
Timken Bearings, Pneumatic Tires, Spring Shock Absorbers, Telescoping Towing Pole.
Husky 2½ H.P. Engine, Wico Magneto, enclosed.
Syphon Tank, Dial — for fast, accurate water measuring.
Gated Measuring Batch Hopper with High Back.
Criss-Cross "Re-Mix" Drum. Ball Bearing Roller Shafts.

The popular priced, light-weight, non-tilt trailer you've been looking for. While you mix and discharge one batch, next batch is being loaded — no lost time — all the speed of a power loader without the cost, plus advantage that hopper exactly measures one batch when full. Has Jaeger patented Criss-Cross "Re-Mix" Drum for fast, thorough mix and discharge — Accurate Water Tank. Rugged — trails back of a Ford car — easy handling. Send for astonishingly low price.

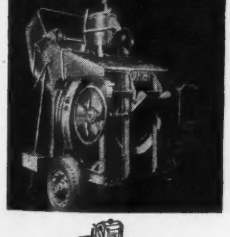
SAVE MONEY, MAKE MONEY, *with* JAEGER EQUIPMENT!



3½S High Speed Tilter — for fast trailing, thorough mixing, instant discharge.



5S Tilter Trailer— Popular priced, all-purpose, end-discharge mixer— Mixes concrete, mortar, plaster.



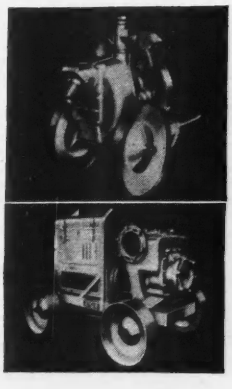
7S and 10S Speed King End Discharge Non-Tilts.

Other sizes to 56S.

World's Champion 5200 Gallon "Bantam" Pump

Only $75.00 F. O. B. Factory
Complete with Engine.

Most portable pump on the market — Get new Catalog!

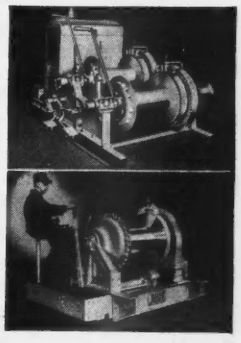


Sure-Prime Pumps — 2" to 10" — Capacities 7000 to 220,000 g.p.h. Fastest selling line on the market.

LOW PRICED HOISTS

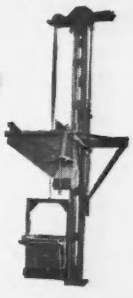
10-20 H.P. Screw Thrust Speed Boys. Gas or Electric.

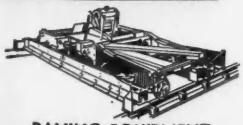
Other sizes 25 to 100 H.P. — Ball Bearing Hoists with Finger Tip Control. Biggest values, most advanced design on market.



60' Jiffy Mast Plant

Assemble in 3 sections on ground. Various combinations of bucket and hopper or platforms. Popular price.

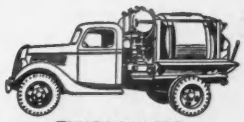




PAVING EQUIPMENT

The Jaeger Machine Co.

521 DUBLIN AVENUE — COLUMBUS, OHIO



TRUCK MIXERS

FLEXIBLE

provides a snug job...saves hours of cutting and fitting

These photographs show the remarkable flexibility and softness of Kimsul* and demonstrate how it reduces installation time and costs. Kimsul can be tucked behind wires and piping . . . molded to the shape of off-size openings . . . pulled over corners . . . and packed into cracks around door and window frames without special measuring, cutting, or joining.

Such flexibility makes Kimsul one of the soundest answers yet developed to the problem of reducing the cost of installing a tight job of insulation. Even more significant . . . of making a job which will *stay tight!* For the self-same quality of flexibility which makes Kimsul conform automatically to the exact shape of new walls—enables it to conform, without packing down or pulling away from the studs, to the shape those walls will assume after they have dried out, warped, and settled.

To anyone responsible for the cost or efficiency of an insulating job, the savings and lasting satisfaction which Kimsul offers are of vital importance. Get full information on Kimsul today.

See that the insulation you choose meets all these requirements.

1 EFFICIENCY: ("K" factor .27) Kimsul is made of wood fibres whose natural high resistance to heat is increased by interweaving, creping, and laminating.

2 FLEXIBILITY: Pliant as cloth, Kimsul can be tucked snugly into odd spaces, around windows, electric wires, etc.

3 PERMANENCE: Processed with asphalt and non-toxic chemicals, Kimsul is highly resistant to fire, vermin and moisture.

4 NON-SETTLING: Kimsul stays put. It will not shred, sift, nor pack down . . . is unaffected by settling of walls, or vibrations.

5 LIGHTNESS: 1,000 square feet of Kimsul weigh only 131.5 pounds. It adds practically no structural load to a house.

6 PROPER THICKNESS: Kimsul's one-inch thickness provides maximum returns in comfort and fuel savings for the money invested.

7 NO WASTE: Every square inch can be used. Odd pieces can be employed as caulking.

8 EASE OF HANDLING AND INSTALLING: Kimsul is extremely light and is made the right width to fit between studs . . . no cutting or fitting needed.

9 EXPANDABILITY: An important Kimsul feature which speeds up work and reduces installation costs.

*Reg. U. S. & Can. Pat. Off.

KIMBERLY-CLARK CORPORATION (Kimsul Division), Neenah, Wis.
Established 1872
NEW YORK, 122 East 42nd Street • CHICAGO, 8 South Michigan Avenue

AB6

Mail me, without obligation, copy of booklet describing Kimsul, also a full sized sample.

Name_____

Address_____

City_____ State_____

KIMSUL

REG. U. S. & CAN. PAT. OFF.

Expanding Blanket

INSULATION

THE presence of The Anthracite Industries, Inc. Seal of Approval on heating equipment indicates satisfactory performance in a series of exhaustive, unbiased tests, using Pennsylvania Anthracite. This symbol is a dependable buying guide in the selection of modern anthracite heating equipment.

ANTHRACITE INDUSTRIES, INC., Chrysler Bldg., New York

SIDING SHINGLES

K & M "Century" Asbestos-Cement siding shingles are equally desirable for renovizing work or new construction. Their beauty is apparent, as in the case of No. 57 Broadsiding illustrated. They are fire-resisting, weather-resisting, termite-proof. Need no protective painting. The economy of K & M "Century" Broadsiding sells home-buyers and home-owners alike.

KEASBEY & MATTISON COMPANY
AMBLER, PENNA.

This attractive new home has sidewalls of K & M "Century" No. 57 Shell White Broadsiding and a roof of K & M "Century" No. 30 Black Dutch Lap Asbestos-Cement Shingles.

SEND FOR DATA ON K & M BUILDING PRODUCTS

Asbestos Roofing & Siding Shingles
Asbestos Flexible Wallboard (Sheetflextos)
Asphalt Roofing Products
Asbestos-Cement Structural Board and Sheathing (Linabestos)
Asbestos Decorative Waltile
K & M Mineral Wool Insulations for the home

Underline the products on which you want data and mail this coupon today.

NAME_____

NAME OF FIRM_____

ADDRESS_____ 3-4

SHOW 'EM ME . . . AND THE DOTTED LINE

I'll get the Signature!

TODAY'S GREAT SALES AND RENTAL AGENT

• Yes sir!—the homes and apartments that are selling and renting today have *glamour*—especially in the kitchen, where women look first. The General Electric Kitchen, with its bewitching beauty, its captivating charm, its magic electric servants, fairly lures prospects to the dotted line!

To prospective home buyers, the added modest cost of a completely equipped G-E All-Electric Kitchen fades into nothingness compared to its work-saving, time-saving, money-saving advantages. Included in the mortgage, it can be paid for on an added investment of only a few dollars a month—an amount that would be less than the time payments on even one of the major appliances, if purchased separately.

ELECTRIC KITCHENS COMPLETE FROM ONE SOURCE

Complete General Electric Kitchens are available in practically any size, any style, any price class. They include the G-E Refrigerator, G-E Range, G-E Electric Sink, top and base cabinets, lights, moldings, wall panels, chrome trim—even the nuts and bolts. Everything comes from General Electric. All units are matched. Sections are interchangeable for maximum flexibility. Installation is rapid, simple and easy.

General Electric's new book "Planning a General Electric Kitchen" gives you all the detailed information you want. Wire or write for it *today*. Address General Electric Co., Specialty Appliance Division, Section CW6, Nela Park, Cleveland, Ohio.

IT'S NOT A COMPLETE ELECTRIC KITCHEN WITHOUT AN ELECTRIC SINK!

G-E Electric Sink Washes the Dishes, Disposes of Garbage, electrically!

NO MORE HAND-DISHWASHING! The Dishwasher section of the General Electric Sink does the dishwashing job quicker and better than it can be done by hand—and the operating cost is only about a penny a day.

NO MORE GARBAGE! Food wastes—table scraps, peelings, parings, bones, etc.—are instantly disposed of right at the G-E Sink. Down the drain they go and into the G-E Disposall where they are reduced to a pulp and flushed away like water.

GENERAL ELECTRIC

All-Electric Kitchens

"STEP ON IT—LADY! . . . SURE IT WAS ONLY PLACED YESTERDAY BUT IT'S MARQUETTE HIGH EARLY STRENGTH CEMENT"

All set—and ready! The job finished—in 24 hours or less. Marquette HIGH EARLY STRENGTH Cement insures a concrete unequalled. And in one-seventh the time—compared with regular cement! And its use further insures a more satisfactory job . . . to the owner, who repairs or improves without undue loss in time and the consequent loss of money . . . to you, the contractor, because such complete satisfaction encourages more jobs . . . and you have time for more jobs.

High Test!
Marquette CEMENT

MARQUETTE
HIGH EARLY STRENGTH
PORTLAND CEMENT

The bugaboo of lost jobs and disturbed construction schedules is dispelled with the knowledge of Marquette HIGH EARLY STRENGTH Cement. That job delaying objection has been removed, and hundreds of long needed construction repairs and improvements are started daily. Marquette HIGH EARLY STRENGTH Cement action is quick and the result permanently satisfactory. You'll find its use actually multiplies jobs. Thousands of examples to convince and guide you. Write for further information.

MARQUETTE CEMENT MANUFACTURING CO.

CHICAGO MEMPHIS

MEMBER PORTLAND CEMENT ASSOCIATION

Examples of money made by time saving construction are included in a useful booklet. As an aid to you, it is important. Send for it!

MARQUETTE CEMENT MANUFACTURING CO.
Marquette Building, Chicago, Illinois
Please send me, without cost or obligation, a copy of your 72-page User's Manual on Marquette High Early Strength Portland Cement.

Name.....

Company.....

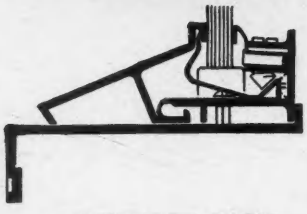
Address.....

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

AB-6-38

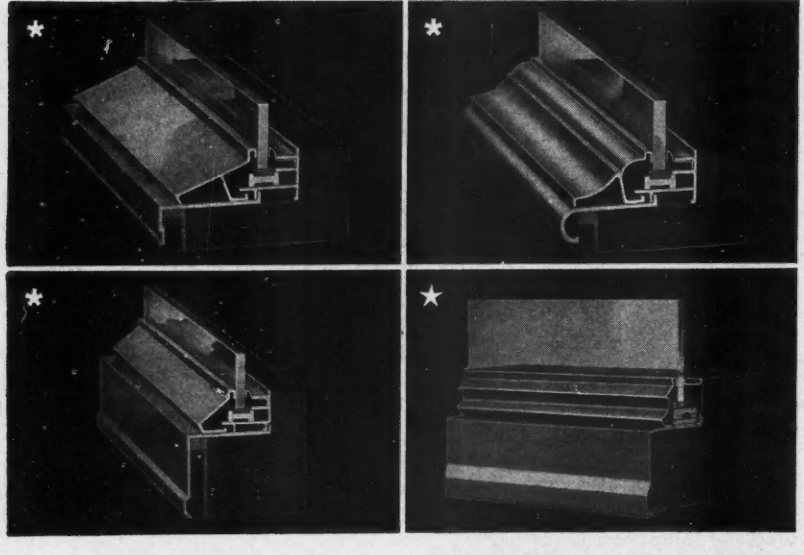
THE MOST IMPORTANT STORE FRONT CONSTRUCTION PRINCIPLE

RESILIENCY



* EXTRUDED SASH

★ ROLLED SASH



KAWNEER Store Front construction is not only up-to-date and attractive—it is also efficiently designed to give lasting, trouble-free service. That is why so many prominent architects and builders specify Kawneer Resilient Store Front Sash.

They know that this superior resilient construction allows for the inevitable movement of plate glass, yet holds it in a secure and powerful grip—regardless of variations in thickness. Pressure is distributed evenly along the glass surface. Looseness and rattling are eliminated and the possibilities of glass breakage reduced to an absolute minimum.

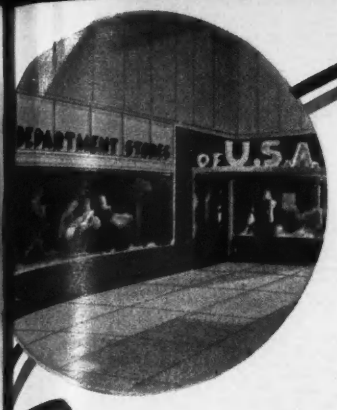
Kawneer Store Front Sash is available in either resilient extruded (with a choice of three attractive face pieces) or rolled construction—in either alumilited aluminum or architectural bronze. In addition, the Kawneer line includes complete metal construction such as transom bars, hood, recessed and concealed awning bars, entrance doors, pilasters, mouldings, sign letters and special metal work. Complete information and details of extruded and rolled products will be sent on request.

FOUNDED IN 1905—
BY A PRACTICING ARCHITECT

Kawneer

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

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



STOREFRONTS THAT HAVE MAXIMUM SALES AND RENTAL APPEAL

-BOTH NIGHT AND DAY

A feature of the new L·O·F Complete Storefronts is the "after-dark" brilliance made possible by Vitrolux, one of the three L·O·F materials used in these complete ensembles. Vitrolux is an exclusive L·O·F color-fused, tempered plate glass—the only material having all the characteristics necessary to a practical *luminous* front.

With Vitrolux plus Vitrolite Structural Glass and Extrudalite (the patented L·O·F storefront metal with pressure-controlled, shock-absorbing sash) and Plate Glass, you have all the materials with which to create outstanding storefronts that do a night and day job in modern retail merchandising.

These new Complete L·O·F Storefront Ensembles offer features of definite economy value. They are highly resistant to weather, to flying dust, staining, dirt, soot, smoke, acid fumes, etc. The only cleaning required is simple washing. No refinishing is ever needed.

If you have not familiarized yourself with the unusual sales and rental possibilities of Vitrolite, Vitrolux and Extrudalite, we invite you to write. Our Architectural Service Division will gladly co-operate with you on any unusual design problems. Mail coupon for complete information. Libbey·Owens·Ford Glass Company, 1323 Nicholas Bldg., Toledo, O.

(Member of Producers' Council)

Make certain your Vitrolite installation is made by an authorized L·O·F dealer.

For Mirrors, L·O·F Polished Plate, clear or in colors. For display windows, L·O·F Quality Plate Glass. For lighting, the new color-fused, tempered Vitrolux

LIBBEY·OWENS·FORD
VITROLITE VITROLUX

Complete Storefronts

LIBBEY·OWENS·FORD GLASS COMPANY
1323 Nicholas Building, Toledo, Ohio

Please send me complete information on L·O·F Complete Storefronts including Vitrolite, Vitrolux and Extrudalite.

Name.....

Address

BRADLEY BRAND
TRADE MARK REGISTERED
The STANDARD OF COMPARISON

Southern HARDWOOD Products

...by Bradley,

MEET ALL SPECIFICATIONS FOR SOUND CONSTRUCTION,

as required by Federal and Other Lending Agencies

Oak Flooring in plank, standard strip and "Nail-Seated"* . . . Beech flooring . . . package and lineal trim in Oak and Gum . . . mouldings, paneling, thresholds, risers, glued-up stock . . .

These and more are "BRADLEY BRAND" items produced according to Bradley's own standards which provide *plus value* for quality specifications now required by lending agencies to insure sound construction.

By this token, too, they underwrite the home-owner's building dollar, giving him the most for his money in precision manufacture, thorough seasoning and well-groomed installation . . . as well as least outlay in upkeep.

With Bradley Hardwood products, we can also load Trade and Grade Marked Arkansas Soft Pine in every item from Satin-Like Interior Trim and mouldings to kiln dried dimension and general yard stock.

Bradley Brand products are available through local distributors everywhere.

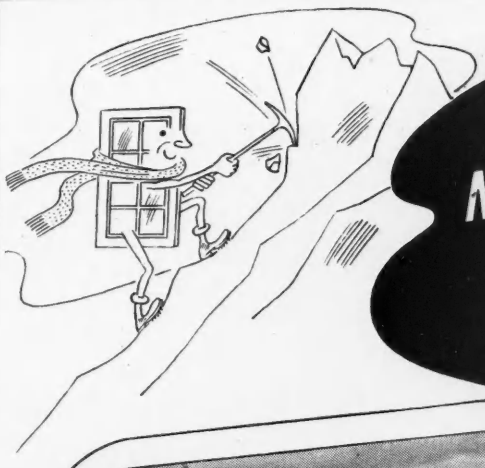
BRADLEY LUMBER COMPANY of Arkansas

NOFMA CERTIFIED OAK FLOORS

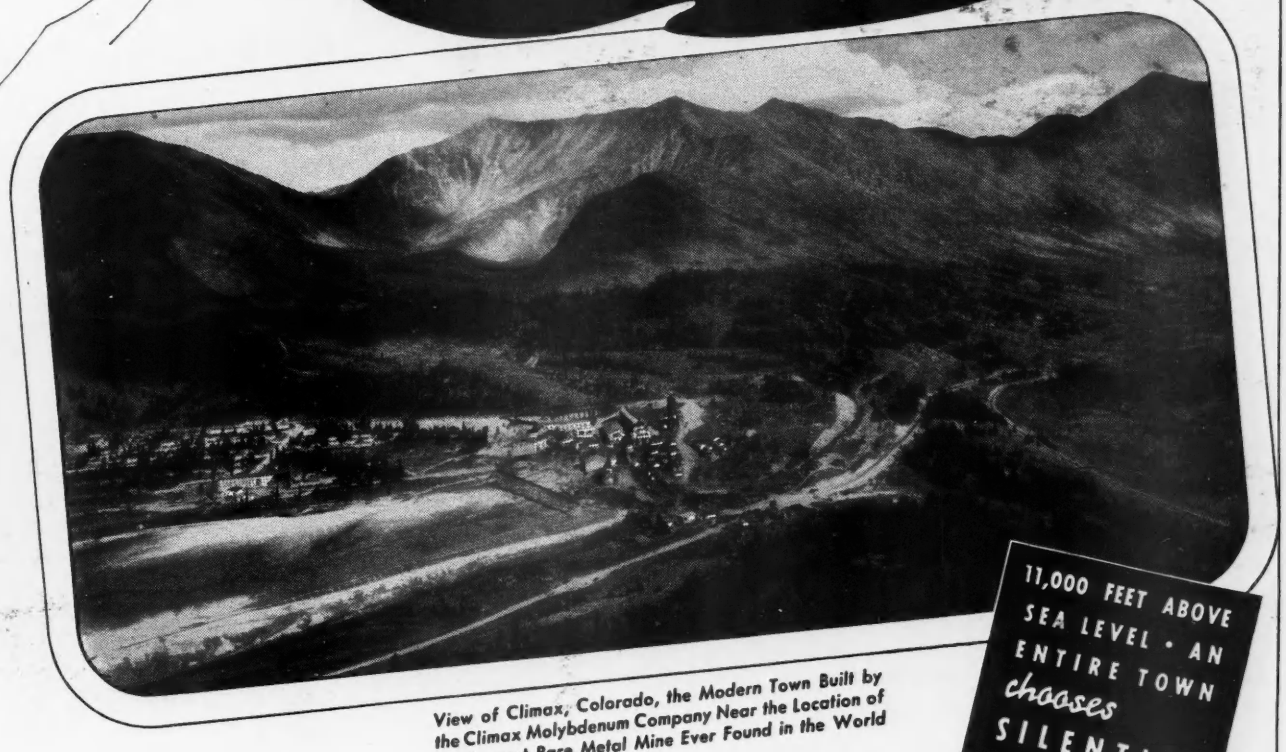
WARREN, ARKANSAS

ARKANSAS SOFT PINE TRADE MARK REGISTERED

*U. S. Pat. No. 1936028



NOW SILENTITE'S a Mountain Man!



View of Climax, Colorado, the Modern Town Built by the Climax Molybdenum Company Near the Location of the Largest Rare Metal Mine Ever Found in the World

11,000 FEET ABOVE SEA LEVEL • AN ENTIRE TOWN *chooses* SILENTITE WINDOWS

IN Climax, Colorado, twenty degrees below zero is a normal winter temperature. It often snows in July. So when Climax Molybdenum built 125 homes for employees last summer they used the best materials . . . *and they used Silentite windows!*

Emil Neering, Climax architect, praises Silentite highly. He says, "We have not touched a single one of these windows since installation—there is practically no air infiltration—we formerly used metal windows and frames, but condensation and frost formed on them; water ran on stools and walls; paint did not stay on them. We have not had this trouble with the wood Silentite."

Another vote of confidence to Silentite—another case of fine performance under unusual conditions! Dust storms, floods and mountain blizzards—they're all alike to Silentite!

Window performance like this is unusual! Yet rough treatment is all in a day's work for Silentite. And that's why Silentite is America's fastest selling modern window!

It's "pre-fit" to make installation easy—it's trouble-proof, it can't rattle, doesn't leak air. Silentite is the kind of window you can recommend without fear of trouble later. Get acquainted with your Curtis dealer—then you'll find out about Silentite—the "Insulated" Window. Use the coupon for complete information.

CURTIS COMPANIES SERVICE BUREAU
DEPT. AB-6, CLINTON, IOWA

AND OTHER CURTIS PRODUCTS—Silentite Casement Windows • Exterior and Interior Doors Frames • Trim • Entrances • Molding • Panel Work • Kitchen Cabinets • Cabinet Work Mantels • Stairways • Shutters • Screens • Storm Doors and Windows • Garage Doors Mitertite Door and Window Trim

Curtis Woodwork is Sold by Reliable Dealers Everywhere

1866 CURTIS WOODWORK SILENTITE "Pre-Fit" FRAME • WINDOW • SCREEN AND STORM SASH

THE "INSULATED" WINDOW

CURTIS COMPANIES SERVICE BUREAU, Dept. AB-6, Clinton, Iowa
Please send me full details on the Silentite Insulated Windows.
☐ on the new Silentite Casement ☐ on 1938 Woodwork Styles ☐ Curtis Kitchen Cupboards

Name ..... *Address* .....

City ..... *State* .....

On the sidewalls of this House...

Beauty that never grows old!

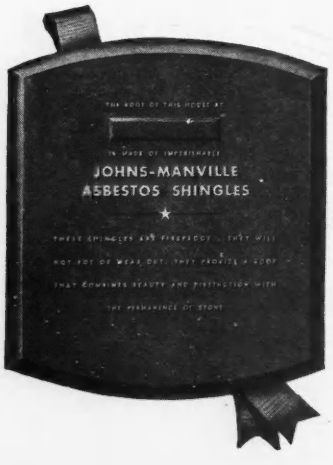
... the builder used J-M "Shake" Textured Asbestos Shingles ... fireproof, rotproof and weather-resistant ...

Not until you actually touch these Johns-Manville Asbestos Shingles, do you realize they are not made of wood. That's how faithfully they reproduce the charm and texture of old, hand-split "shakes"!

Johns-Manville has recaptured this traditional beauty in a modern material . . . asbestos-cement. By the very nature of this composition, J-M Asbestos Shingles cannot burn, rot or wear out. Throughout the years, their virtual freedom from maintenance will prove an important factor in minimizing upkeep on this house.

Shake-textured asbestos siding shingles are only one of the modern Johns-Manville Building Materials which bring economy and year-round comfort to the home owner. For details on the complete J-M line, write Johns-Manville, 22E. 40th St., New York City.

★



Capitalize on J-M Quality with this Display Plaque

If you are building houses for sale, J-M will furnish you with these attractive framed Display Plaques for each J-M product you use. Each Plaque will be identified by the address of the house in which it is to be displayed. Hung on the wall near the entrance, it quickly attracts the visitor's eye and tells him that you have built with quality products. Consult your J-M Dealer for details.

Johns-Manville

JM

BUILDING MATERIALS

Asbestos Roofing and Siding Shingles . Asphalt Shingles . Decorative Asbestos Wall Boards . Insulating Boards . Home Insulation . Steeltex, etc.

She saw Greater Convenience in the CRANE BATHROOM

Here's a Crane bathroom that definitely helps "style" the house—a bathroom that offers the quality, the convenience that prospects look for.

Automatic heat at its best—with maximum fuel savings—is offered in Crane heating plants for coal, oil or gas.

A more leisurely life for Mrs. Housewife is what this Crane kitchen offers —with its step-saving Homemaker Sink, its roomy cabinets, its scientifically planned design.

P.S.—THEY BOUGHT THE HOUSE

IT'S always easier to sell homes that offer *better living.* And one of the surest ways to make better living apparent at a glance is to Crane-Equip your homes throughout. Then you'll have the convenience that prospects are looking for . . . the up-to-date charm that catches their eyes . . . the modern features they like to use. Then you'll have the Crane name as evidence of quality that survives the years!

If you think that Crane-Equipment—with all its greater value—is expensive, think again! The extra quality of Crane-Equipment is available at every price level, for every type of home you build or sell. For proof, visit a Crane Plumbing Contractor or one of the 110 Display Rooms which Crane maintains throughout the country for your convenience.

CRANE

VALVES • FITTINGS
PIPE • PLUMBING
HEATING • PUMPS

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO

NATION-WIDE SERVICE THROUGH 134 BRANCHES AND MORE THAN 500 WHOLESALERS

Plaster is WELDED AND RIVETED to walls when applied over

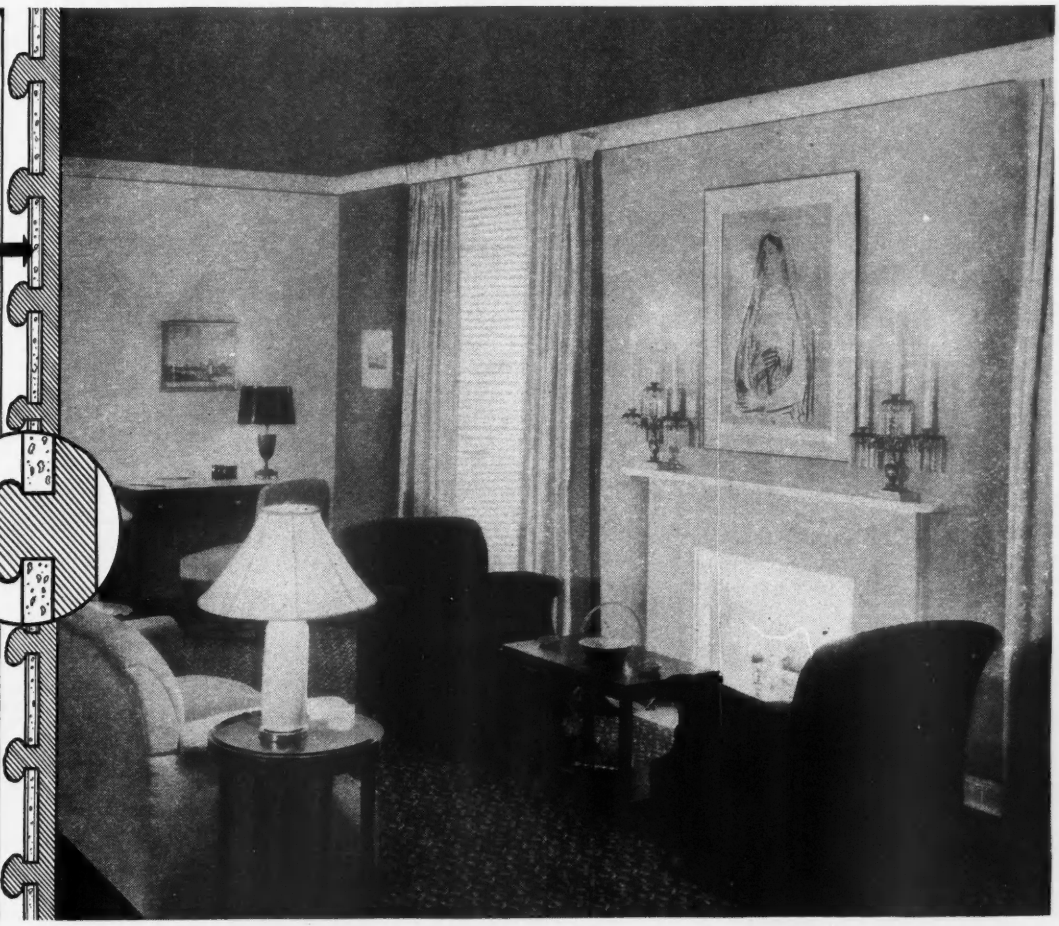
Perforated Rocklath

THE FIREPROOF LATH

PERFORATED ROCKLATH* takes a double grip on plaster.

FIRST the *welded grip* of gypsum to gypsum on the plastered surface;

SECOND the *riveted grip* formed as plaster is forced through its regularly spaced perforations to expand and form "mechanical rivets" on the back of the lath.

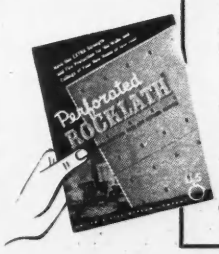


When you specify Perforated Rocklath* as your plaster base, you're not only creating interior walls and ceilings to which plaster is *welded* and *riveted,* but you're adding materially to the structural stability of the building. Because of its rigidity it braces any surface to which it is applied—minimizing plaster cracks, helping to keep any type of decoration fresh looking and young.

And remember this—our tests at Bureau of Standards qualify partitions made of Perforated Rocklath plastered with one-half inch of gypsum plaster for a one-hour fire rating.

You can give customers this one-hour fire protection at little, if any, more cost than for an ordinary job —if you use Perforated Rocklath.

An attractive folder tells the complete story of how Perforated Rocklath, the fireproof lath, can help you build better walls. Write for it today.



UNITED STATES GYPSUM CO.
300 West Adams St., Chicago, Ill.

Please send me more information about Perforated Rocklath—the lath that welds and rivets plaster.

Name.....

Address.....

City.....*State*.....

AB-6

United States Gypsum Company

300 WEST ADAMS ST. CHICAGO, ILLINOIS

Sales Offices at:
Atlanta, Ga. · Baltimore, Md.
Birmingham, Ala. · Boston, Mass.
Buffalo, N. Y. · Cincinnati, Ohio
Cleveland, Ohio · Dallas, Tex.
Denver, Colo. · Detroit, Mich.
Houston, Tex. · Indianapolis, Ind

Kansas City, Mo. · Los Angeles, Cal.
Milwaukee, Wis. · Minneapolis, Minn.
New York, N. Y. · Omaha, Neb.
Philadelphia, Pa. · Pittsburgh, Pa.
Portland, Ore. · St. Louis, Mo.
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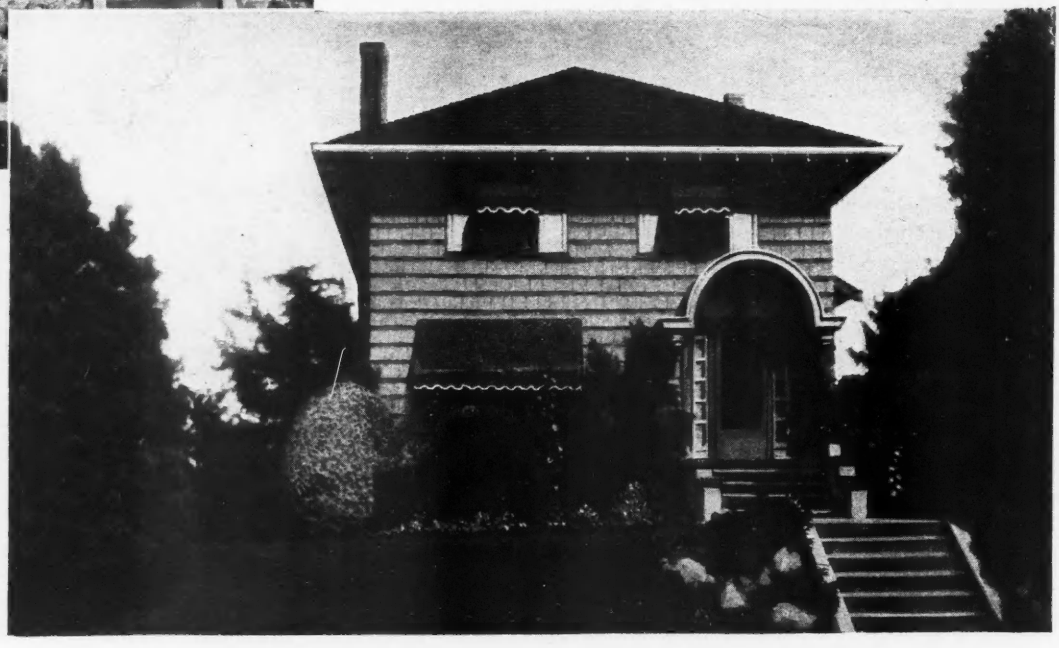
*Registered trade-marks

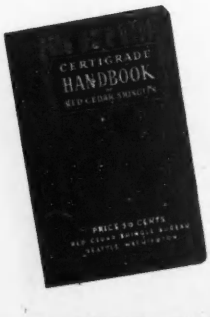
CEDAR SHINGLES *Offer* the Best Solution for REMODELING *... at Minimum Cost*



The house pictured in upper corner was built in 1907 and remodeled in 1928.

THE HISTORY of this house is common to that of many built of similar design in rapidly growing cities during the period about twenty-five to thirty years ago. In remodeling, the architect very deftly used Cedar Shingles with wide weather exposure over the old walls, over-roofed with No. 1 Cedar Shingles and landscaped the garden. The result is a charming, livable home created at a minimum cost with Cedar Shingles. One of the surprising results was the astonishing amount of added insulation . . . attributable to the high insulation qualities of Cedar Shingles.

The owner (name on request) maintains that his fuel bills were actually cut in two.



This Certigrade Cedar Shingle Handbook, prepared by a wood technologist, mailed free on request. One hundred pages detailing the uses, application and technical data. Write the Red Cedar Shingle Bureau, Seattle, Wash., U. S. A., or Vancouver, B. C., Canada.

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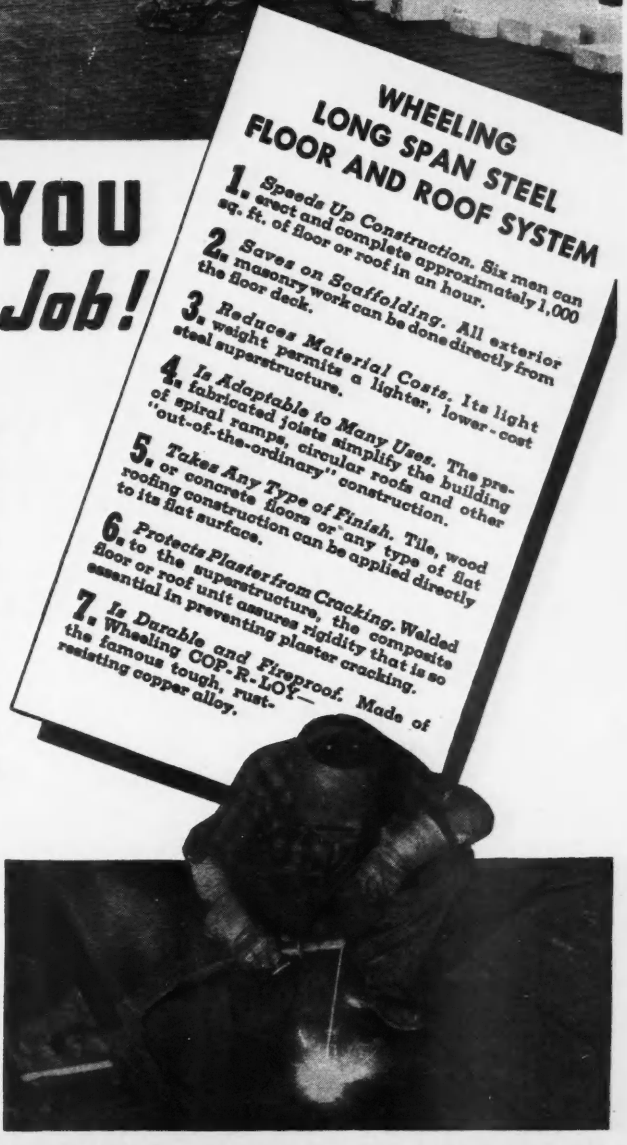

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Here's the background of the most complete, most practical, most scientific farm building service ever developed—a complete presentation of basic building principles that will help you to compete successfully for jobs—and make greater profits.

First—it contains plans for 122 farm buildings—plans developed by the nation's leading agricultural engineers—plans that can be confidently employed to deliver maximum building efficiency.

Second—provision is made for the use of 4-SQUARE Lumber in standard lengths—and because 4-SQUARE is cut to exact lengths, with smooth square ends and other labor-saving features, building costs are definitely lowered.

Third—because the plans are correct and because the lumber fits those plans, good workmanship is promoted.

This Weyerhaeuser Service is already doing an excellent job for many contractors. If you are building on farms, it will pay you to see your 4-SQUARE Lumber Dealer. When he shows you the service, you will see why it can make money for you.

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LEHIGH EARLY STRENGTH CEMENT

PARKING PLAZA, Elizabeth, N.J. Owner, Board of Works, City of Elizabeth.

Many days of serious inconvenience to the public during morning and evening rush hours were avoided by the use of quick service concrete made with Lehigh Early Strength. Concrete poured one day was open to public use the following morning.

Concrete made with Lehigh Early Strength Cement under the same conditions compares in strength in 24 to 48 hours with 7 day old concrete made with normal portland cement.

Everyone benefits from this speed. On roads, streets and sidewalks the general public has minimum inconvenience from traffic barriers and detours.

For industrial buildings, stores and revenue producing property of all kinds, quicker use of new construction or repairs has a money value to owners. Overnight or weekend concrete may avoid expensive shutdown of factories or loss of business for stores.

Contractors benefit by the ability to do more jobs with the same labor and equipment. Overhead costs are lower because of shorter job duration. Because of quick re-use, form costs are minimum. In cold weather, heat protection costs are negligible. Customer satisfaction results in good will that attracts business.

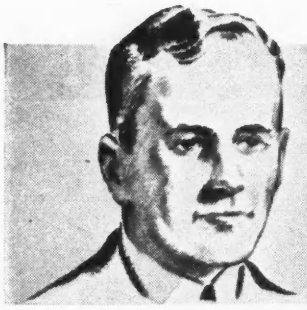
Use Lehigh Early Strength Cement for any job, large or small. In addition to speed, it produces better, denser concrete. Contractors are invited to consult the Lehigh Service Department for any specific information.

LEHIGH PORTLAND CEMENT COMPANY

Allentown, Pa. Chicago, Ill. Spokane, Wash.

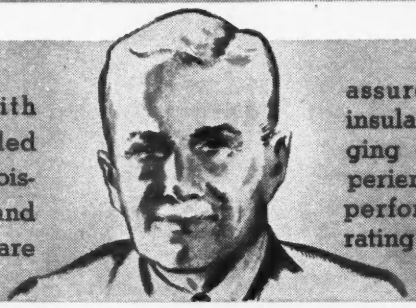
The Supreme Court of Building Speaks on

Improved Balsam-Wool



the CONTRACTOR: "I will save the owner 50% of the application costs because of the new Spacer Flange.* With the fibre cleats and flange, I'll give him a better, neater, more efficient job for less money. The guideline on studs will please the lather—keep costs down. I'll get more and better jobs. Satisfied owners will recommend my work to their friends."

the ARCHITECT: "With Balsam-Wool's factory controlled density and thickness, proved moisture barrier, definite air spaces and positive application, my clients are



assured of permanently efficient insulation—no job skimping, no sagging or settling. I know from experience that Balsam-Wool will outperform its calculated efficiency rating."

the OWNER: "I'll get a better job of insulation for from 10% to 15% less money—a job that will be as efficient in fuel savings and summer comfort when my grandchildren use the house, as today. My architect has shown me why Balsam-Wool, at a lower cost, prepares my house for air-conditioning if and when I want it."

A better insulation—at a substantially lower cost—that, in a nutshell, is why new improved Balsam-Wool is striding ahead to new leadership. It has high efficiency in the laboratory and *on the job.* Its moisture barrier has been proved by 16 years of on-the-job performance. It is wind-proof—fire-resistant . . . protected from termites and dry rot. It can't sag or settle, because it is firmly fastened in place. And Balsam-Wool costs 50% less to apply. Let us give you complete details. Wood Conversion Company, Room 119-6, First National Bank Building, St. Paul, Minnesota.

**Patent pending*

Balsam SEALED  Wool INSULATION

BALSAM-WOOL . . . PRODUCTS OF WEYERHAEUSER . . . NU-WOOD

From ugly building to appetizing cafe—with the help of Atlas White stucco. DiPinto's Cafe is located on Torresdale Ave., near Frankford Ave., Philadelphia. Owner and general contractor, A. Ferraco. Plastering contractor, A. Bonbeno—both of Philadelphia. Light buff colored exterior stucco furnished by Penn-Crete Products Co., Philadelphia.

Look again— *It's the same Building!*

Another example of how exterior stucco of Atlas White portland cement helps transform "eyesores" into handsome, profitable buildings

● Really amazing—the remodeling magic that's accomplished with exterior stucco of Atlas White portland cement.

On the job shown here, metal reinforcing was placed over the old brick walls, then three coats of stucco, with a finish coat of Penn-Crete light buff. Atlas Gray cement was used for the base coats.

When you are figuring on a remodeling job, remember these facts:

1. White portland cement stucco gives a building a fresh, bright and permanent exterior.

2. It is durable because it is a thin sturdy wall of concrete with the permanence, weather resistance and fire resistance of concrete.

3. It can be applied in any texture and any color.

4. It is economical in first cost and gives the kind of service that endures in any climate.

Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), 208 South La Salle Street, Chicago.

A FACTORY PREPARED STUCCO IS PREFERABLE

S-11

STUCCO MADE WITH **Atlas White** PORTLAND CEMENT