

# AMERICAN BUILDER

AND BUILDING AGE

## THE WORLD'S GREATEST BUILDING PAPER

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Model Home in  
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New National Style

See pages 62 and 63

21 BUILDING DESIGNS

# Your Clients, Too, are Reading About "A Better Way to Build!"



George S. Hawes, architect, of Flint, Michigan, planned this delightful small home for Dr. Ryan of that city. Stone, brick, and wood siding are used, with Celotex Vapor-seal Sheathing serving equally well with all three materials.



## They Recognize the Economy of Using Celotex Insulation to Do 3 JOBS AT ONE COST!

AS A CONTRACTOR, you know the importance of insulation—not only at the top of a house, but in the side walls as well. And you have doubtless known many clients who said, "Leave out the side wall insulation," when they decided to cut costs. On that account, we believe you will be interested in the current Celotex advertising campaign, which emphasizes the importance of complete insulation.

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the advantages of Celotex Insulation which you already know so well. How Celotex Vapor-seal Sheathing and Celotex Vapor-seal Lath replace other structural materials, increase structural strength, provide proved insulation and a scientifically correct vapor seal—all at one cost.

Permanently protected against termites and dry rot by the exclusive, patented Ferox Process, these Celotex products are guaranteed in writing for the life of the building.\* Let us send specifications and samples to bring your files up to date!

\*This guarantee, when issued, applies only within Continental United States.  
The word Celotex is a brand name identifying a group of products marketed by The Celotex Corporation.

# CELOTEX

REG. U. S. PAT. OFF.

## VAPOR-SEAL INSULATING SHEATHING VAPOR-SEAL INSULATING LATH

Sales Distributors Throughout the World

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# AMERICAN BUILDER

and Building Age

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# New Flooring Idea

**THE FINISH IS PART OF THE WOOD STAYS BEAUTIFUL...RESISTS SCRATCHES!**

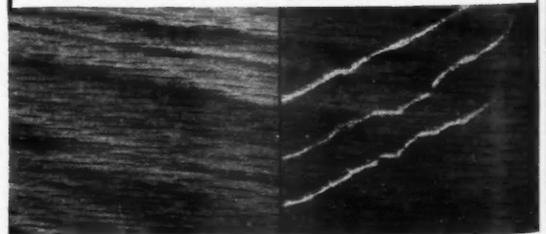
● Here is a beautiful new kind of flooring that wins more customers for you . . . because it gives lasting beauty and satisfaction! Bruce STREAMLINE flooring is factory-finished an amazing new way that penetrates and forms a seal in the wood. A finish that resists scratches, won't crack, chip or peel like ordinary finishes!

And you save money on Bruce STREAMLINE flooring because it usually costs less installed than ordinary flooring finished on the

job. Needs no sanding, finishing, waxing, or polishing. What's more, this new floor is ready for the owner to use the very instant it's laid!

Yes, and Bruce STREAMLINE floor, with its gracefully beveled ends and edges gives a distinctive "patterned" effect that's new and appealing. Comes in a smart new size, 25/32" x 3 1/4". Installed exactly like ordinary strip flooring. Mail the coupon today for complete details on the most important flooring advance in a decade!

### MAKE THIS SCRATCH TEST



Send for this scratch test panel. Half is finished the new "Bruce-Way" used on STREAMLINE flooring—other half finished the ordinary surface way. Scrape a coin across both finishes. See how the ordinary surface finish scratches and chips away, while the "Bruce-Way" finish is unharmed.



**E. L. BRUCE CO.**

1538 THOMAS STREET  
MEMPHIS, TENN.

WORLD'S LARGEST MAKERS OF HARDWOOD FLOORINGS

E. L. BRUCE CO.  
1538 Thomas Street, Memphis, Tennessee  
Gentlemen: Please send complete data on Bruce Factory-Finished STREAMLINE flooring and a Scratch Test Panel.

Name.....  
Street.....  
City.....State.....

# PUBLISHER'S PAGE

## Excessive Taxes on Real Estate

**T**HERE are at least three things wrong with taxes in this country. (1) There are too many kinds. (2) In the aggregate, they are much too high and burdensome—although far from enough to cover total government expenditures. (3) They are inequitable and discriminatory.

This paper has protested repeatedly against the unjust burden of highway taxes already imposed on real estate, and the still higher taxation of real estate for highway purposes being threatened. The way the money spent on highways in New England is raised has been presented lately by C. B. Breed, Professor of Transportation, Massachusetts Institute of Technology, in an article in the *Christian Science Monitor*. Here is one statement from his article:

"During the last year of completely available reports — 1936 — Massachusetts spent 64 million dollars on its highways. Of this amount, 26 million was paid in taxes by highway users, while 38 million came out of general taxes, chiefly through imposts upon real estate owners."

**U**SERS of the highways paid 111 million dollars in vehicle and fuel taxes toward the total costs of streets and highways in New York state in 1938, while owners of real estate paid 55 million dollars. The burden imposed on owners of real estate in New York was not so terrifically disproportionate as in Massachusetts; but why were owners of real estate in New York made to pay even half as much of highway costs as all the users of the highways?

The statistics for Massachusetts and New York are cited merely as illustrative of the extent to which in all parts of the country owners of real estate are being "soaked." Formerly the construction of improved roads usually increased the value of adjacent real estate. That long since ceased to be true. What property owner now believes that a wide highway built adjacent to his farm or home for

use by big trucks and buses, or even by a constant stream of private automobiles, will increase the value of his farm or home?

**T**HE time has come—in fact, came a long while ago—for a complete revision of our ideas and governmental policies regarding taxation for highway purposes. Everybody now uses the highways, and uses them almost solely for motor transportation. They are public property; and all those who benefit by the provision and maintenance of public property should pay in proportion to the benefit they derive from it. As only part of the people own real estate, while all use the highways, fairness demands that, first, practically all highway costs shall be paid with money collected for their use, and, second, that the taxes from which this money is derived shall be divided between *different classes of highway users* in proportion to the costs that their use of the highways causes.

This would be not only fair, but sound business and *in the interest of the building industry*. Home-building has steadily increased since 1934. But even in 1939 it amounted to only about 2 billion dollars, as compared with an average of 4½ billion in the seven years ending with 1929—while in 1939 there was more spent on highways and highway transportation than ever before. Why? Largely because excessive taxes levied on real estate that increased the cost of home-building and home-owning were used to subsidize use of the highways.

Taxes for highway purposes are only part, but a very large part, of the excessive taxes on real estate. All government expenditures and taxes should be reduced. And all owners of real estate, and especially the building industry, in every community and state, should especially fight for a reduction of taxes on real estate, whatever their purpose.

*Samuel O. Dunn*

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# 10-MILLIONTH BARREL OF 'INCOR' 24-HOUR CEMENT



## A TIMELY QUALITY APPRAISAL

### SUMMING UP A 13-YEAR RECORD

**T**HE FIRST BARREL of 'Incor' 24-Hour Cement was shipped in 1927. Now the **TEN-MILLIONTH BARREL** has been shipped. That is a lot of cement. But the paramount consideration is one of **QUALITY**, not quantity. For it is **QUALITY** which distinguishes 'Incor' as the **FIRST** high early strength Portland cement—quality written in terms of long-time durability in all kinds of construction, the country over.

'Incor' 24-HOUR Cement means just what its name says—uniform, dependable 24-HOUR service strength. **AND LONG-TIME DURABILITY, TOO**—proved by a 13-year performance record—a vital advantage **EXCLUSIVE** with 'Incor.'

Cement users are quality-minded, for the simple but fundamental reason that—"the better the cement the better the concrete." Lone Star Cement Corporation, Room 2231, 342 Madison Avenue, New York.

\*Reg. U. S. Pat. Off.

**QUALITY PAYS...INSIST ON 'INCOR'**



**LONE STAR CEMENT CORPORATION**  
MAKERS OF LONE STAR CEMENT • • • 'INCOR' 24-HOUR CEMENT

# AMERICAN BUILDER

## AND BUILDING AGE

### Insured Loans for Community Rehabilitation

THE Federal Housing Administration has recently announced that it stands ready to insure rehabilitation project mortgages, involving at least 16 family units in a group, for sums up to \$100,000; interest rate  $4\frac{1}{2}$  per cent. Such projects can be in so-called blighted neighborhoods or in the older residential locations where FHA loans for new construction are not being made.

The purpose of this broadened scope of FHA sponsorship is evidently to encourage private property owners to make improvements that are extensive enough to affect the character of a considerable district—and so ward off encroaching blight, or even to redeem an entire neighborhood that has already depreciated through neglect and need of repairs or restyling.

Co-operative or limited dividend ownership or management corporations would presumably be the proper means for handling such projects.

John R. O'Connor, state director of the FHA for Illinois, outlined these new mortgage insuring activities at a recent meeting of the Chicago Real Estate Board. He pointed out how property owners can stop the spread of slum districts, and promised quick service if housing jobs in his district are submitted to the FHA for its approval.

"The FHA rehabilitation mortgage shall not be over 80 per cent of the value of the completed project as estimated by the FHA," he said in outlining the Section 207 provisions. "No mortgage shall be eligible unless the FHA estimate of the cost of *new physical improvements* shall be equivalent to at least 50 per cent of the mortgage to be insured.

"The minimum eligible project must have at least 16 dwelling units, preferably but not necessarily contiguous, and so located in relation to one another as to effect a substantial improvement of housing standards and conditions in the neighborhood."

#### Better Than Government "Slum-Clearance"

The economy and desirability of modernizing existing rental properties as compared with new construction for meeting the needs of low income families are stressed by FHA leaders. Under this program rents must be substantially less than those charged for equivalent facilities in new construction, and must meet housing needs and rental market in the neighborhood.

Recent conferences with large insurance companies' officials indicate their willingness to make loans on rehabilitation projects, even in blighted areas, if they have FHA insurance.

This will make possible in many cities a beginning of the reconstruction of such areas through ordinary private effort, functioning through limited dividend corporations. There are at least eight million substandard dwelling units in American cities, of which probably half could, by a moderate expenditure of money, be made useful for a generation to come, thus providing sound sanitary housing at less cost than new construction. At the same time it would stop the advance of blight and decay.

#### "Fix-up" is Contagious

It is anticipated that projects of this type will stimulate a large amount of rebuilding on the part of nearby property owners, and particularly the reconditioning of properties under the control of institutions that are able to finance their own construction but have needed encouragement to go ahead.

FHA State Director for New York, Thomas G. Grace, believes that this new program will mean much to the Eastern Metropolitan Areas. Properly used, it will provide adequate living quarters for thousands of families who do not properly belong in slum areas but who cannot possibly afford rentals outside of the \$5-to-\$10-a-room brackets. New construction in this field is practically impossible without subsidy, he feels, but the emergency can be met by the rehabilitation of existing properties. Many of these in the apartment house group are either boarded up or operating at a loss; others are in the hands of financial institutions as the result of foreclosure, and there are hundreds of single and double-family houses which are entirely vacant or partially occupied which the FHA believes can be restored and placed on a paying basis.

In many of the older neighborhoods of American cities FHA mortgage insurance has hitherto been unobtainable, since individual projects there have not been able to meet neighborhood standards set up to insure mortgage safety.

The result has been construction largely at the urban rim and an unintentional acceleration of the decentralization movement that is at work in many cities. Over-rapid decentralization, leaving blight in the older sections and calling for a huge lengthening of street area and other public utilities, has developed loss to business and loss of real estate value in the central business areas. It is the gravest problem of local governmental finance.

The change of policy which throws FHA support behind the movement for rehabilitating run down sections of our cities is thus of the highest social importance.

# Real Salesmanship and Sound Work Build a St



W. E. NELSON, head of W. E. Nelson Stucco Co., Minneapolis, resurfacing firm.

How Bill Nelson Created the W. E. Nelson Stucco Company of Minneapolis in 1935 and Since Then Has Built Up a Volume of Profitable Home Resurfacing Business. About 200 Such "Steel and Concrete" Stucco Jobs Sold in 1939

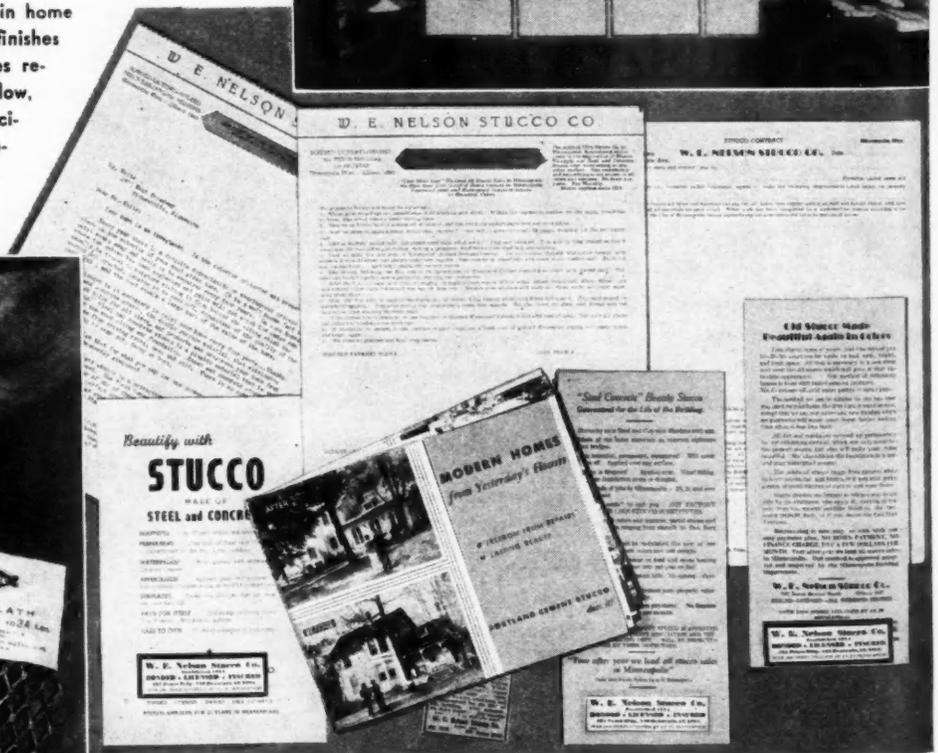
By R. E. Sangster

With this record behind him, it was perfectly natural that Nelson's methods should attract national attention. But if the author of this article had had any expectation of uncovering a magic formula on how to attain easy success in the stucco business before interviewing Mr. Nelson, any such ideas would have gone out the window in short order. Without taking any due credit away from Mr. Nelson, the fine job that he has done in Minneapolis could have been duplicated in almost any other city by a building man as wide awake to existing opportunities, who was willing to apply the thorough business methods used here.

THAT "everybody talks about it" is certainly true of practically all phases of the building industry these days. Equally true is the fact that someone somewhere is very definitely doing a good job in practically all phases of the industry in the last few years. Even in the so-called sidelines, one can find outstanding examples of enterprise where a member of the industry has rolled up his sleeves and done the unusual. All of which brings us to the subject of this article—what W. E. Nelson of Minneapolis has done with stucco.

Mr. Nelson is head of the W. E. Nelson Stucco Co. and, as such, has established and built up one of the most successful firms in this particular line. Starting in 1935 with 18 residential resurfacing jobs, he has expanded his operations until he was able to complete 550 such contracts in the last three years. About 200 jobs totaling seventy thousand dollars were done last year.

RIGHT: W. E. Nelson Stucco Co. exhibit in home building show displays panels of available finishes and steps of stucco application; good sales results were obtained from this show. Below, photo of clever stucco sample kit and specimens of direct mail advertising, bid proposal and contract blanks, and typical small space newspaper ad are reproduced.



# Stucco Business

W. E. Nelson, known as "Bill" to his associates and friends, was raised in the plastering business; his father, a plastering contractor, put on some of the first stucco jobs in Minneapolis about 1910 and built up a reputation for good work. In 1935, a tremendous back-log of delayed home maintenance had accumulated and the time seemed right to go out and promote the sale of good stucco application for resurfacing homes. But Bill Nelson didn't rush out and do a halfway job of salesmanship, even though he knew the market was there and his product, as he applied it, one of merit. He first carefully organized a sales force and then joined them in taking special courses in selling at the University of Minnesota where together they developed some real sales ammunition and learned how to present it.

Below, on the opposite page, are illustrated some of the promotion pieces used and sales helps developed for W. E. Nelson Stucco Co. Direct mail consisting of personalized letters and printed pieces, together with small space newspaper advertisements, run frequently, and home building show exhibits help make initial contacts and bring good results. However, the biggest share of the volume is developed through house-to-house canvass where the need of resurfacing is plainly evident. Right now, just before this year's season begins, a map charting the stucco jobs done last year is being studied to determine those areas of the city which have been most productive. Spotters will be working these sections intensively.

There are four other men, besides Bill, on the sales staff. After the job has been sighted and literature mailed, one of them calls on the prospect. Each is armed with a portfolio containing before and after pictures of many of their completed jobs, usually one or more of them being in the neighborhood of the call and offering a good opportunity to inspect at first hand. One of the cleverest sales aids used on these calls is a sample of stucco as applied to the house. A manila envelope, as pictured opposite, contains a round specimen of wall thickness stucco with metal lath projecting from one side and also a larger piece of galvanized metal lath and galvanized nail. This round sample is handed to the prospects to impress them with the merits of sturdiness and thickness while the sales points of preservation, protection from weather conditions and appearance are being discussed.

Throughout the whole presentation, a quality and satisfactory "steel and concrete" resurfacing job is sold, and not so many square yards of stucco, metal lath, paper, etc. The fact that there is no upkeep for a period of from 15 to 20 years, and at the end of that time the job can be dashed at reasonable cost giving very low annual maintenance, is thoroughly stressed. In cases where budgets indicate time payment selling, Title 1 FHA has proven ideal.

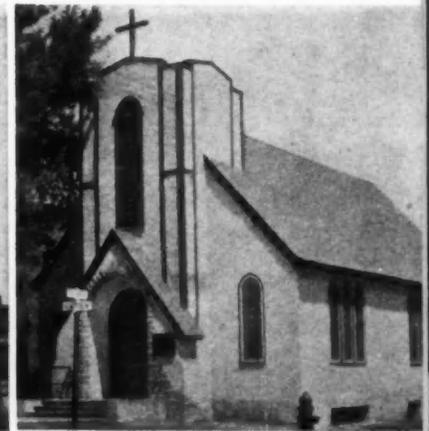
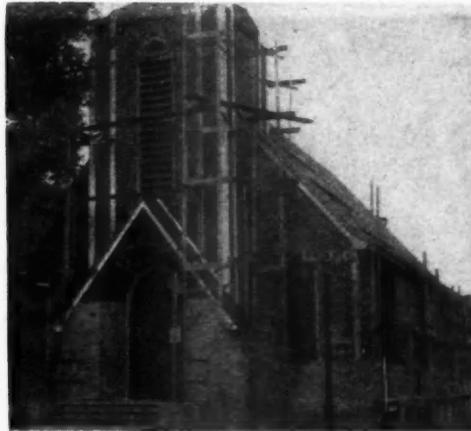
As a final step in the developing of a prospect on this first call, a bid proposal blank is filled out, stating just exactly what job will cover, even to the cleaning up of



ABOVE: Typical before and during job views of a W. E. Nelson steel and concrete stucco application for home resurfacing; note the complete coverage with building paper.

RIGHT: Greatly improved appearance of completed job.

BELOW: Occasionally Nelson resurfaces a public or commercial building such as the small church job shown here.



the yard after completion, and quoting monthly payments and cash price.

The last step of the sale covers the signing of the stucco contract, likewise on a printed form, after a complete understanding of just what is to be delivered has been reached. Color, type of finish, scope of work and similar items are definitely specified; a limited sample display of panels in Nelson's office narrows the choice and curbs the tendency to waste time of the applicators on a job, should the owner change his or her selection.

After the job is signed up, the next step is to schedule and complete the application in such a manner as to assure a satisfied customer, and this not only at the time the job is completed but for years thereafter because Bill Nelson has found that every customer is a potential stucco salesman. In fact, to encourage the "tell your neighbor theme," he pays a small bonus to owners if he gets a job from one of their tips.

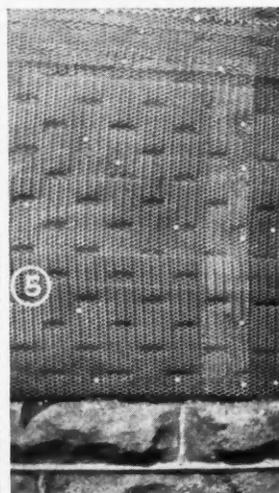
The fact that Minneapolis has very severe winters not only means that the usual and satisfactory Nelson stucco job must be, and is, properly applied, but also that there are only 175 working days for application, the season running from March through October. The Nelson crew of 30 workmen is divided into paper applicators, car-



THE top illustration at the left (1) shows a small bungalow just before Nelson resurfacers start work; paint failure due to structural faults is to be remedied (2) with a stucco overcoating.



THE paper applicators are the first crew to come on the job, tightly covering building with well lapped asphalt paper (3). This is followed with the installation of mouldings at openings by carpenter crew (4).



AFTER galvanized metal lath has been put on with galvanized nails (5), the browners apply the first coat of high early strength portland cement stucco (6). This is followed with a scratch coat of cement stucco (7).



THE final or dash coat of white portland cement, white silica sand and mineral colors, if a tint is specified, finishes the job (8); the resurfaced home (9) again presents an attractive exterior.

penters on mouldings, lathers, browners and dashers. During the season a progress chart carefully schedules these crews on the current jobs which average about 20 at any one time. An accurate check is kept on where all equipment is located at all time, and pins on the progress chart are moved as the jobs progress, giving a story of all work under way at a glance, and allowing shifting of crews for most economical work.

As to the principal materials, here again Bill Nelson has made a careful selection based on long experience. Realizing that any stucco job is only as good as the materials that go into it, he uses a heavily galvanized copper-bearing steel lath 24 gauge, weighing 3.4 pounds per square yard. This lath is carefully applied with large head 1¼-inch galvanized nails which go through siding into the shiplap; the use of these nails instead of staples is another method that Nelson pioneered. High early strength cement mixed with clean, sharp, washed sand gives a concrete for the brown and scratch coats that produces a strong, watertight stucco, curing in from 24 to 48 hours; this gives workability with less mixing water, allows a leaner mix, and adds protection from damage by rain, sun or freezing temperatures because of the time factor. The final or dash coat made of white portland cement, white silica sand and mineral colors, if a tint is to be used, is put on in two applications. The first is a brush coat over the scratch coat, and then the texture is applied, as selected by the owner.

#### How Nelson Makes Friends for Stucco

The illustrations at the left show just how a Nelson job progresses from start to finish. Into each of these steps has gone a lifetime of experience to eliminate any unsatisfactory methods which might give anything but the very best job available. The continuing popularity of good stucco in Minneapolis is indicated by the fact that, except for wood sided Colonials, 85 per cent of all new homes there have stucco used on the exterior, according to Nelson's figures. Without question, a good deal of this popularity is due to the fact that this city was not greatly hit by the wave of substitutes for portland cement stucco during the 20's, and which in time proved to be so unsatisfactory.

Of the many little technical tricks of the trade which Bill Nelson uses, two will be mentioned here. First, he uses no guesswork in his mixes, but carefully specifies all proportions. To quickly assure the proper amount of sand, he has a bottomless frame fitted with handles which is placed in the mortar box, filled level with sand, and then lifted out; the box then contains the exact amount of sand to take 1½ sacks of cement for a perfect stucco mix. Another method pointer is the manner in which work is handled to assure proper drying and curing. Spring and fall jobs put on during the months of March and October are wet down to eliminate efflorescence during these periods when dry nights alternate with rainy and snowy weather. In summer, jobs are kept from crazing and checking due to drying out in the daytime, by following the sun around the house and keeping the work in progress on the shady side.

Although many such seemingly minor points of application are carefully handled in turning out a Nelson stucco job, it should be kept in mind that these are not sales talk items but merely part of the technique that assures satisfied customers. Bill Nelson didn't build up a successful stucco business by confusing his prospects with a lot of technicalities which they would not understand. They expect and demand a satisfactory job and get it. As Bill Nelson says, "You've got to deliver the goods, but don't talk to your prospect about your goods as such—tell him what good your goods will do him."

# Northwest Evolves the Puget Sound Home

## A Seattle Demonstration of "Five Houses at Home on a Hill" Is Result of Co-operation of Puget Sound Building Factors Bringing Forth a Home Ideally Suited to That Area

**W**AY back in May of last year, plans were roughed out for a new type of demonstration by the home building interests of the Puget Sound area. The summer months saw the continuation of painstaking deliberation as to the details of these plans which were to bring forth the final evolution in a type of home ideally suited to Seattle, Wash., and the surrounding northwest section of the country—in architectural styling, construction, and choice of materials.

The results of these combined efforts—Five Houses at Home on a Hill—have been on display at Sheridan Heights since the first of the year, and present a type of house worthy of recognition in all other parts of the country. The Puget Mill Co., Seattle Trust & Savings Bank, five leading architectural firms, five builders and The Bon Marche, a Seattle department store were among those responsible for sponsorship and execution. The five homes are presented on the following pages with construction details, interior and exterior views, and floor plans.

The first of these expressions of what an ideal home for the Puget Sound area should be is a five-room and partial basement, one-floor home designed by Edwin J. Ivey and built by Ivan Anderson. Its construction is as modern as the plan, with many native materials adding to its local suitability; it is dri-built and proved to be one of the most popular, attracting nearly 30,000 visitors during the first preliminary inspection period.

All interior and exterior walls and partitions of this modern Colonial home were shop-prefabricated by the Speedwall Company of Seattle in an FHA approved technique (described on page 65, December, 1938, *American Builder*). The unit walls of Douglas fir plywood for this house were assembled with Certified Ext. D.F.P.A. Super-Harbord plywood and Harborsiding used on exterior walls and regular Plypanel used in-

side. All walls were made in one piece by the "monococque" stressed-cover principle as found in airplane construction. These patented plywood walls have the plywood faces glued (with self-bonding glue) horizontally to both sides of the framing members of clear, kiln-dried stock, 12" on center, for extra rigidity. (Conventional sash and doors used as desired.) The ceilings were also of plywood—smooth, flush ceilings without breaks, beams or mullions were achieved by using a flush Speedwall jointing technique as shown in the two construction views on next page.

With this special system, the building contractor can order the wall units for any one-story house from the Speedwall Company exactly as he would any millwork—sash, doors or trim. These complete wall units are built in the shop, to precision methods, are delivered to the

**Five Houses AT HOME on a Hill**

**ACKNOWLEDGMENT**

**Vision:**  
Dr. Richard E. Keller, director, Seattle Children's Hospital

**Creation:**  
William J. Ross, A. I. A.  
Arthur Leachman, A. I. A.  
Lester Fox, A. I. A.  
J. Edgar Ballou, A. I. A.  
Edwin J. Ivey, A. I. A.  
Geo. W. Heston, A. I. A.  
Barrington J. O'Brien, A. I. A.

**Construction:**  
S. A. Christensen, contractor  
Walter P. Brown, contractor  
Ivan Anderson, contractor  
Ray McIn, contractor  
Arthur Hansworth, contractor

**Furnishings and Decorations:**  
The Bon Marche

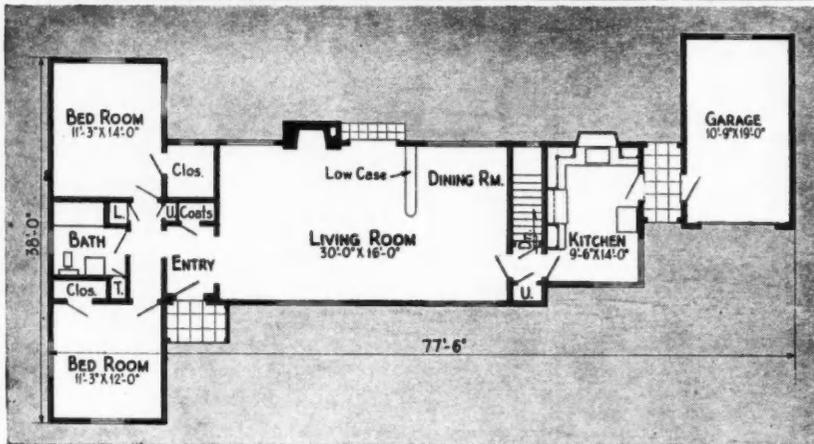
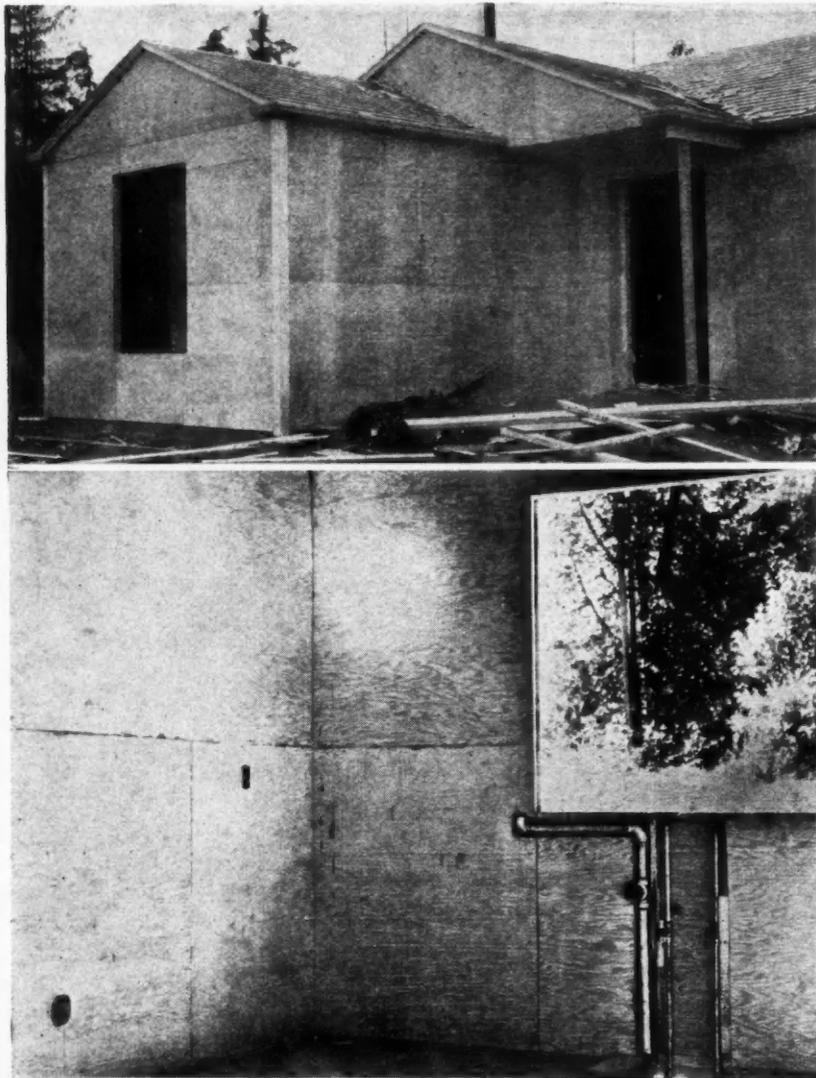
**Sponsorship:**  
The Bon Marche  
The Puget Mill Company  
The Seattle Trust and Savings Bank

**Exposition:**  
Golden Gate International Exposition  
Miss Jeanne Packard

**Presentation:**  
Lillian G. Gill, Children's Hospital

**REPRODUCTION** of a full-page advertisement appearing in the Seattle Daily Times on December 28, 1939, announcing the completion of the five Puget Sound houses. Those responsible are listed at far right.

REPRODUCTION of a full-page advertisement appearing in the Seattle Daily Times on December 28, 1939, announcing the completion of the five Puget Sound houses. Those responsible are listed at far right.



job at exactly the right time, and erected in a few hours. For instance the walls for this Puget Sound house were delivered to the site on a single truck and erected in 35 man-hours.

Special insulation may be added between panels for sub-zero climates. Roofs and floors may be of conventional construction; the roof of this house is covered with red cedar shingles.

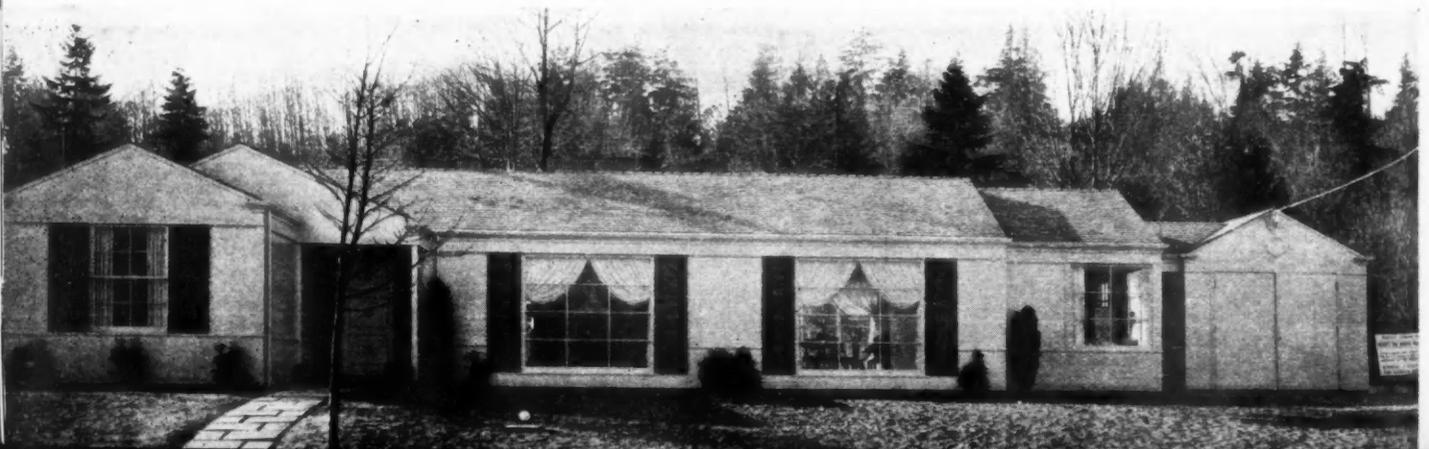
Inside and out plywood was treated with Laux Rez sealer and primer to prevent grain raising and to check moisture absorption, etc. In finishing the inside walls the joints were pointed with Spax, canvas applied and then painted. The reception hallway was papered and the two bedrooms, the living room, dining room, kitchen and bath were painted with Laux Plasterez, synthetic resin-bonded plastic paint, tinted with colors in oil.

In planning this house, known as No. "C" of the group, Edwin J. Ivey, architect, took as a background the past fifty years of trend toward a definite Puget Sound type and added all the contemporary devices of modern living; it is felt that the result will become a basic pattern for houses in this region during the years ahead, as will the other four houses.

The floor plan at the left indicates how, upon entering the house from the porch, an impression of openness is created by the large combined dining and living room with its four immense windows and pair of French doors to the terrace, flooding the room with morning sunlight from the East and late afternoon sunshine from the West. Plenty of fresh air and mountain vistas add to the pleasure and comfort of this room which is divided by a four-foot high case into dining and living portions.

Beyond this room the cross ventilated kitchen has working facilities compactly grouped in an L-shape, with a breakfast corner opposite; ample storage space is provided by the built-in plywood cabinets. The service entrance is protected by the connecting passageway to the garage;

LEFT, above: Exterior and interior views of shop-built Douglas fir plywood wall panels erected by Speedwall method. Floor plan and view of completed house show spacious character developed within the moderate cubage of this Seattle home.



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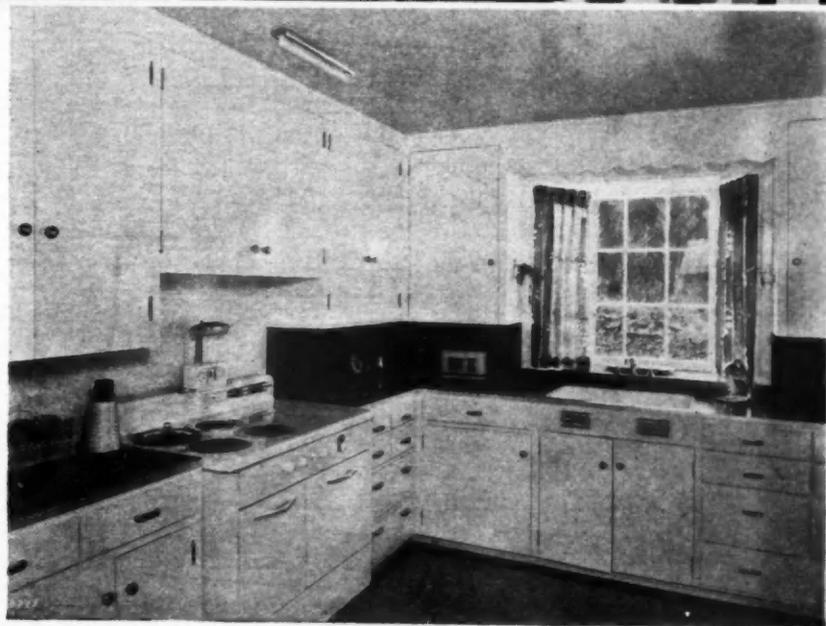


ABOVE: Well lighted, open living-dining room. Attractive entrance, close-up of wall-paneling and cut-out cove mould, and convenient kitchen show details of plywood construction used throughout.

stairs lead down to the basement under living room where the winter air conditioning system and laundry are placed.

At the opposite end of the house convenient to the front entrance are the two bedrooms, and between them, a bath equipped with Standard plumbing fixtures. Closet space is exceptionally generous.

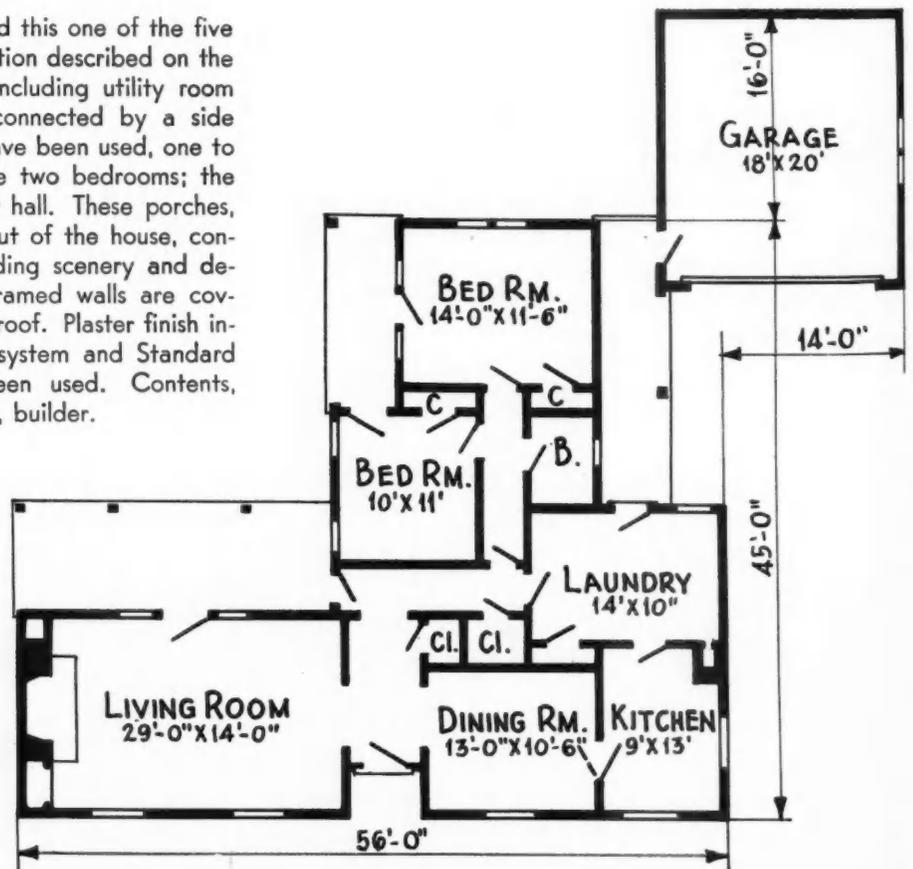
Although this house appears to be of large size due to its rambling nature, with an overall length of more than 75 feet, and has the advantages of interior spaciousness, it actually has only a 16,300 cubic foot content and was built in the low medium-priced bracket.





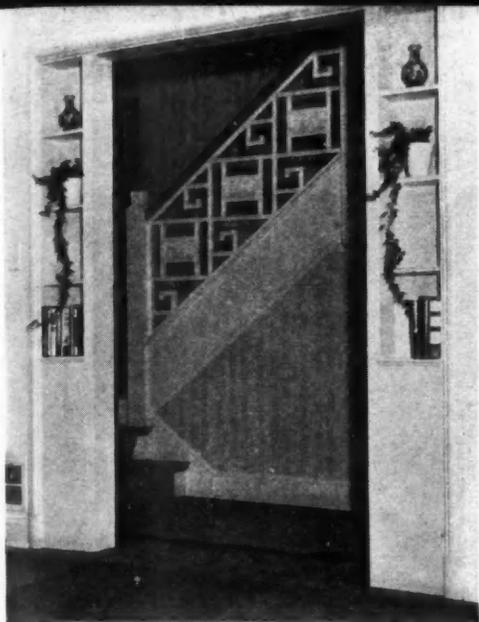
## Northwest Styled Puget Sound Home

ARCHITECT William J. Bain designed this one of the five Puget Sound houses in the demonstration described on the preceding pages. It has six rooms including utility room on one floor, and double garage connected by a side porch. Two other covered porches have been used, one to provide outdoor living space for the two bedrooms; the other is off the living room and rear hall. These porches, together with the low, rambling layout of the house, contribute to enjoyment of the surrounding scenery and delightfulness of the Northwest. Fir framed walls are covered with red cedar shakes, as is the roof. Plaster finish interiors, oak floors, oil-fired heating system and Standard Sanitary plumbing fixtures have been used. Contents, 27,000 cubic feet; S. H. Christianson, builder.

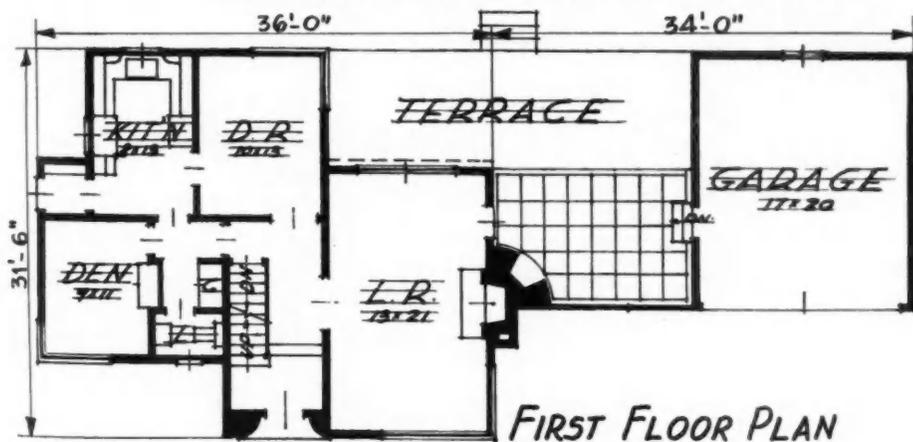
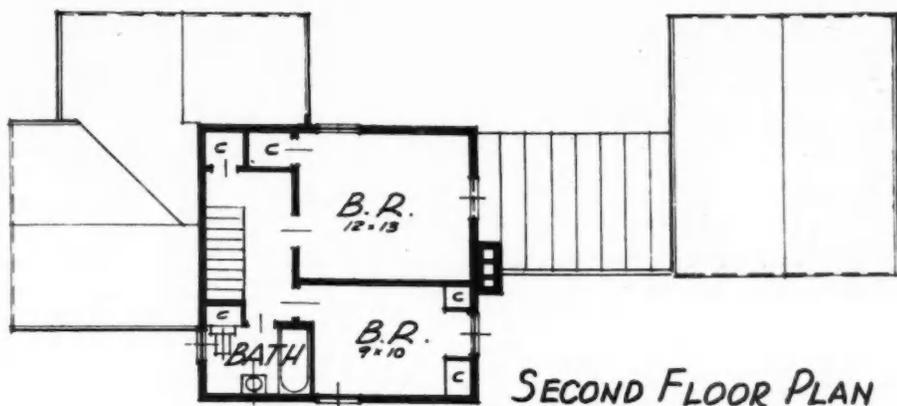


*TRUCOST Estimating Figures for this and other home designs shown here will be found in the TRUCOST DEPARTMENT, elsewhere in this issue.*

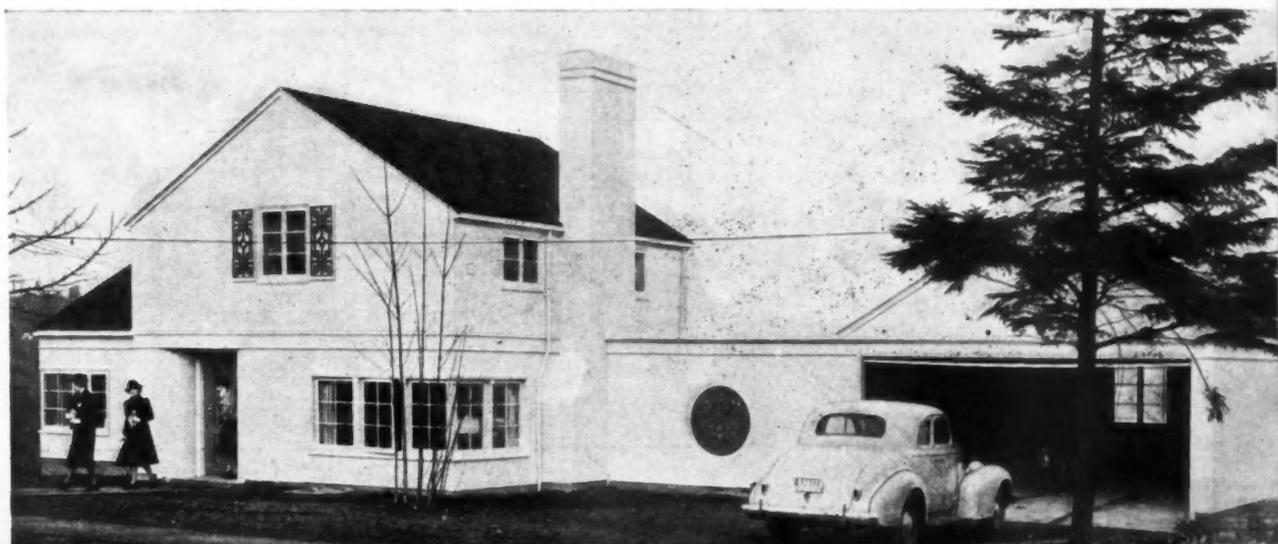
# With Indoor and Outdoor Fireplaces



BEHIND the screening wall with the decorative circular grille that connects the house to the garage, there is a fireplace in one corner of the outdoor terrace. As with the other houses in the Seattle group, this feature adds to the enjoyment of outdoor living. Architects Loveless and Fey have used the Chinese decorative motif adapted to Puget Sound background in both the interior and exterior styling; the stair hall view at the left, as seen looking from the living room, shows how this Chinese influence was carried out in the balustrade. The compact first floor arrangement allows good circulation between the four rooms. The den with adjoining closet and lavatory can be used as guest quarters. Exterior is of Super-Harbord plywood and cedar sheathing on frame walls with red cedar shingle roof. Ray McCoy was the builder. Contents, 23,000 cubic feet.



THE U-shaped kitchen of this Puget Sound demonstration home has linoleum floor, as do the baths. Marlite walls are used in the latter rooms. The partial basement houses laundry and winter air conditioning system.

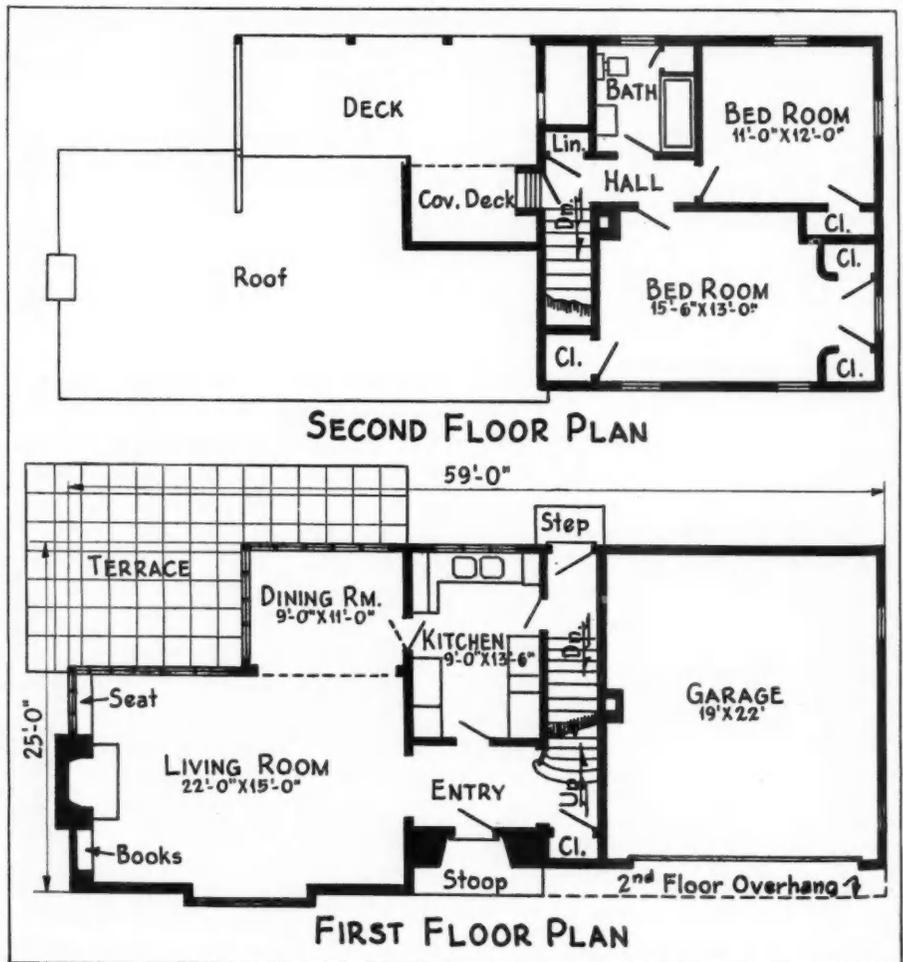


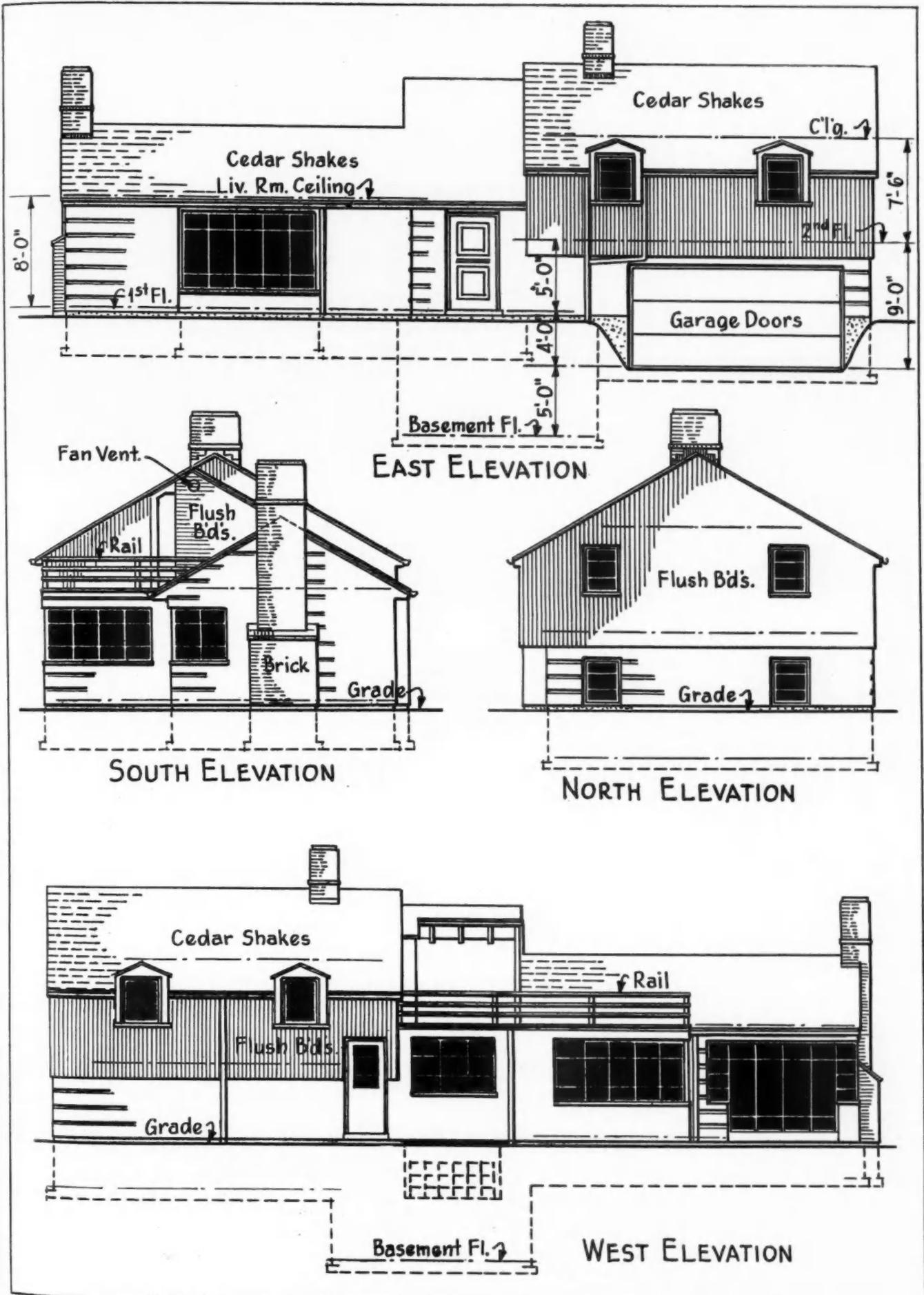


## Modernly Styled in Wood for the Puget Sound Demonstration

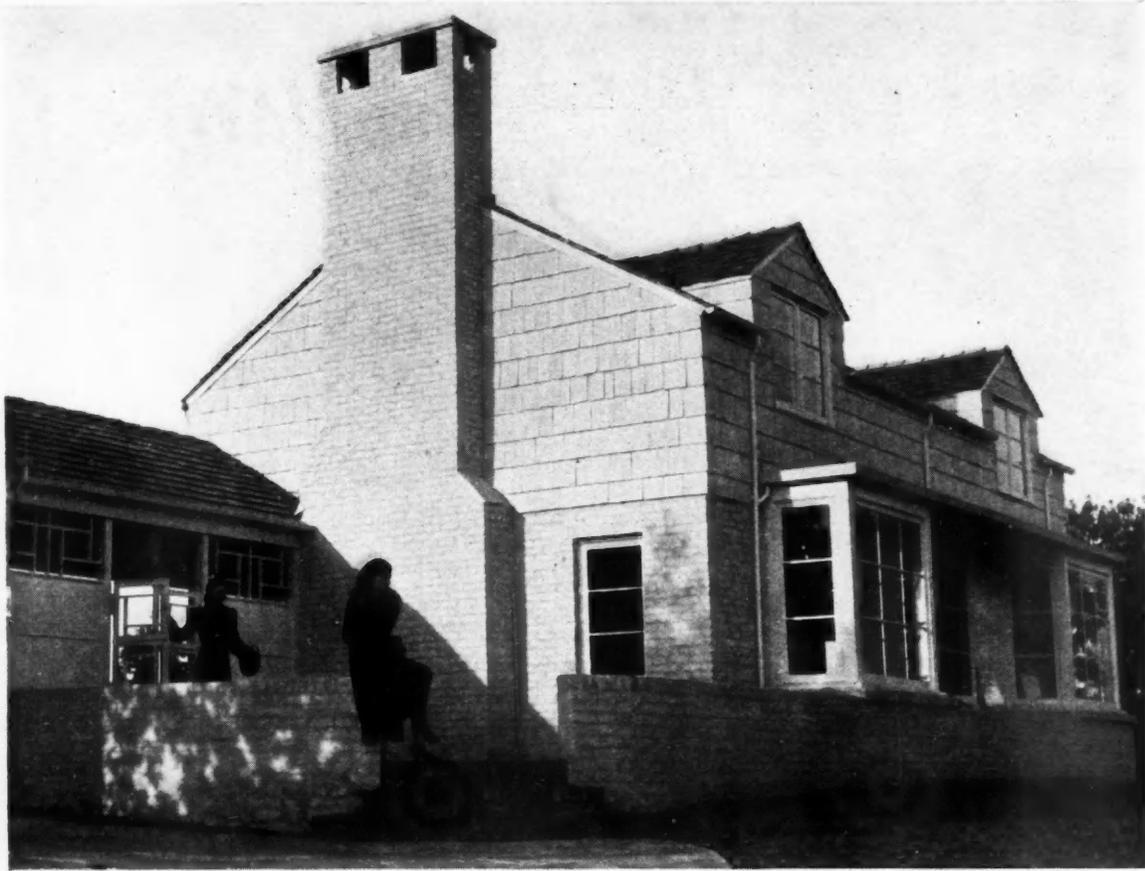
IN designing this one of the "Five Houses at Home on a Hill," J. Lister Holmes, Seattle architect, used local woods in a contrasting pattern. Red cedar siding in wide horizontal jointed pattern on the living room wing and in a vertical corrugated boarding over the garage portion has been bleached and varnished to bring out natural tones. Warren O. Brown, builder; contents, 23,000 cubic feet.

THE floor plans of this house have followed the same evolution toward a typical Northwest style as have the other four houses of the project, with large window areas, terrace and roof deck. The three-level arrangement is worked out so as to present interesting exterior elevations, as shown on opposite page. The house is finished on the inside with 3-coat plaster walls decorated with Dutch Boy paint. Slab doors, Standard Sanitary plumbing fixtures, Russwin hardware and winter air conditioning were used.



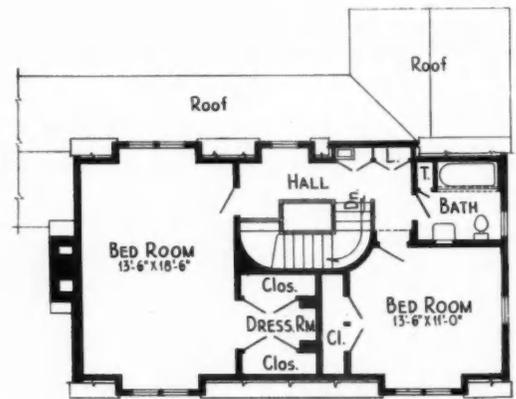


INTERESTING elevations of three-level Puget Sound house designed by Architect J. Lister Holmes.

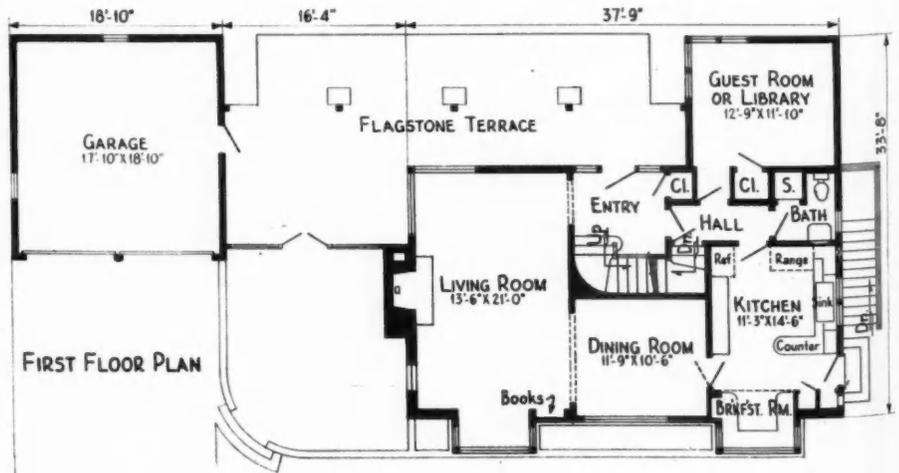


## Puget Sound View at Front; Entrance Hall at the Rear

IN this, the fifth of the Seattle demonstration homes presented, George Wellington Stoddard has built the floor plan around the sweeping view from the front of the site. Consequently the entrance is from the wide flagstone terrace at the rear, and all the rooms except the library have wide window areas toward the front, as seen above. Brick veneer on first floor and hand-split shakes for second floor and roof have been combined interestingly; the front terrace walls tie the whole design into the site, and a covered terrace of unusual design protects and connects the house to a double garage. The interiors are of plaster finished with paint and wallpaper. The bath floor and walls are tile; other floors oak except linoleum in kitchen and first floor bath. The automatic oil-fired winter conditioning plant is located in the basement. A West Wind fan ventilates the kitchen. A. S. Hainsworth was the builder. Contents, 22,100 cubic feet.



SECOND FLOOR PLAN

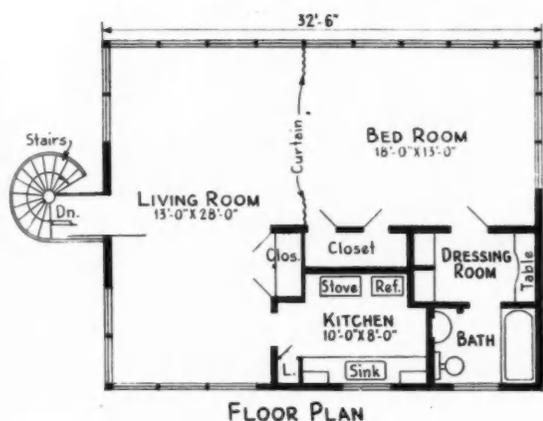


FIRST FLOOR PLAN

# Texas "House on Stilts" Exhibits Unique Features

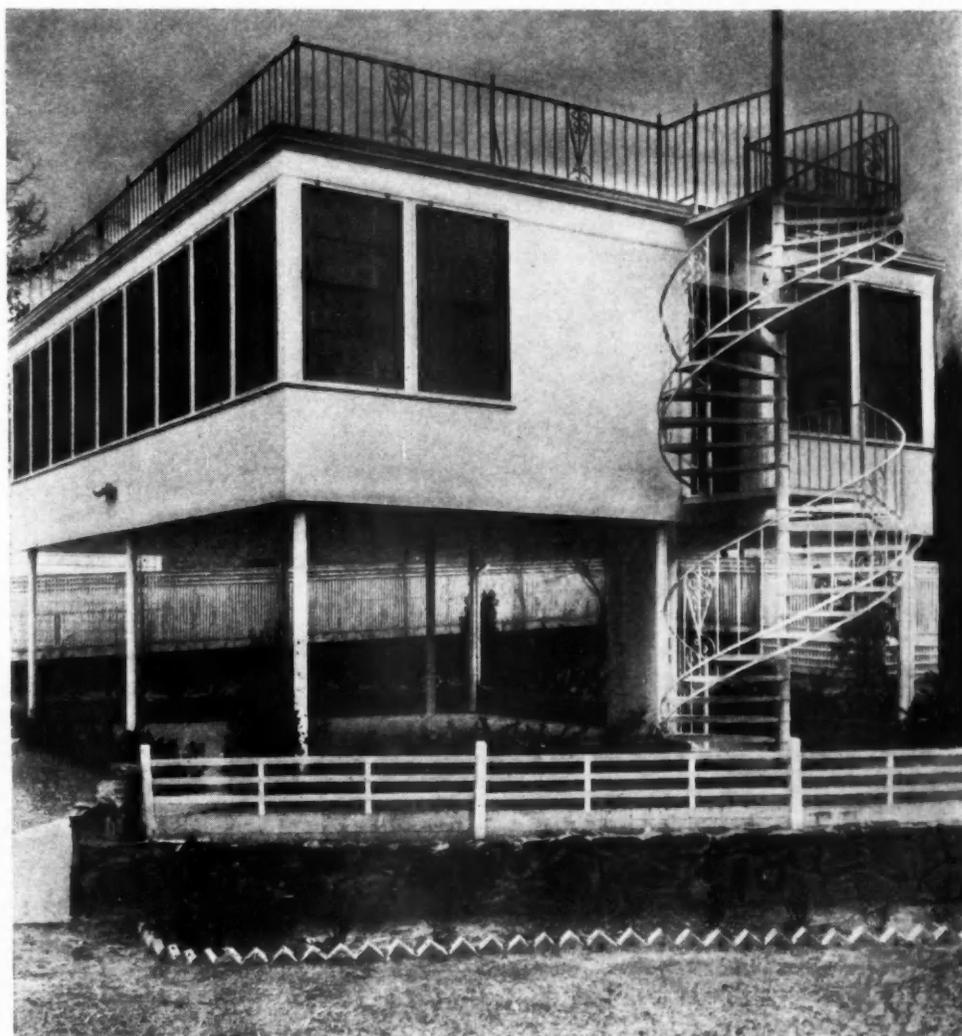
JAMES P. BIRDWELL, who is a member of the building firm of Knight & Birdwell, Tyler, Texas, erected this unusual home for his own occupancy, and for the publicity value from the attention which it attracted. In spite of its novel appearance, it has many merchandisable features which

are highly practical for that section of the country, as the openness provides extra coolness during the long summer months. This firm built and sold about \$100,000 worth of homes in Texas in 1938, not including several large homes erected on contract.

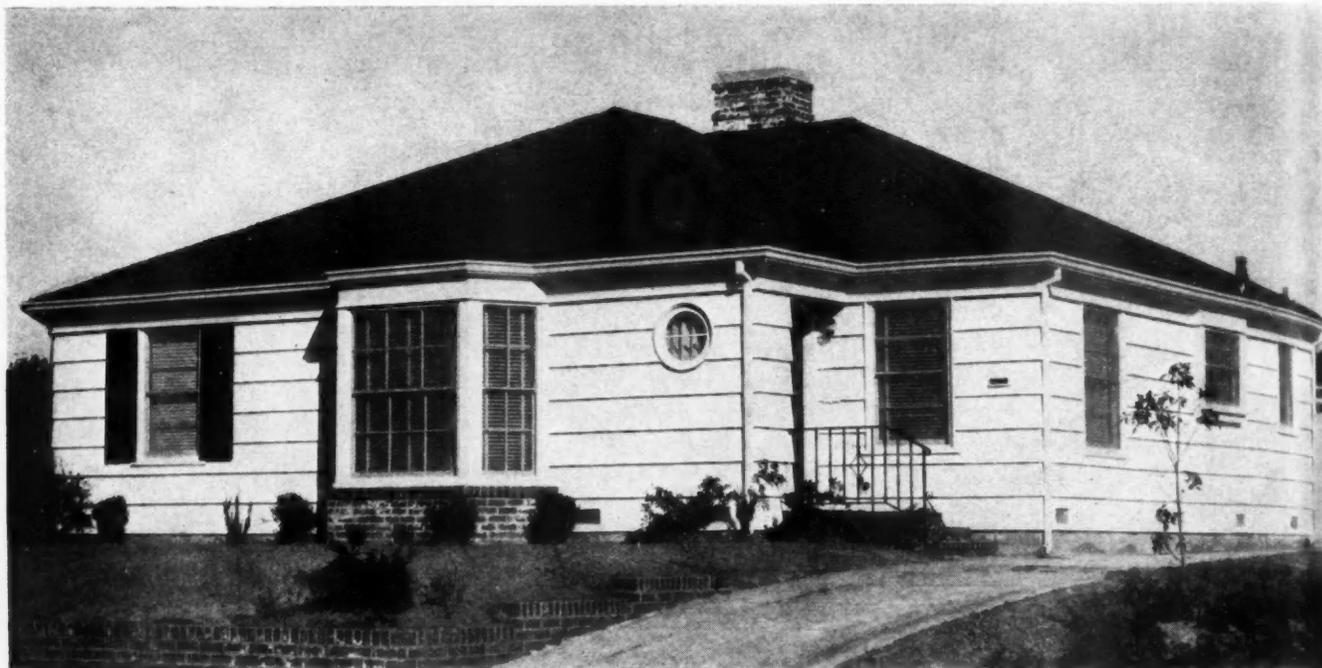


ALTHOUGH two stories in height, this structure actually contains only one floor. This floor stands on nine steel posts which are, in reality, drill-stems obtained from the nearby oil field as salvage material. The ground floor is entirely open, except for the nine steel posts which are strategically arranged to provide ample passage for automobiles. The floor is concrete, and the space is used for a garage and a game room. The second or main floor is reached by a spiral stairway which continues to the roof. On this floor, 32'6" x 29', there are the living room, bedroom, dressing room, kitchen, bath, and ample closet space.

TRUCOST figures for the home designs in this issue will be found in TRUCOST DEPARTMENT on page 126.



THE view of this "house on stilts," as seen at the right, suggests the adaptability of the idea for summer home purposes. The metal covered, railed flat roof provides a delightful roof garden for long summer evenings. Four lights are sunk in the floor for indirect lighting. All moulding trim is chromium. The interior walls are finished in varnished, embossed plywood; ceiling is of Sheetrock and the double pine floor is carpeted from wall to wall. Campbell steel windows, General Electric dishwasher sink and kitchen equipment, wall heaters, Murphy bed are among the equipment items.



## The "Certigrade Californian"—A 1940 Headliner in Home Design

CULMINATING a year's efforts on the part of the Red Cedar Shingle Bureau and the National Plan Service, and with the co-operation of several allied lumber and industry associations as listed below, the "Certigrade Californian" has been created and built. This design headliner combining the best elements of the modern California trend with the basic requirements of other regions was recently dedicated in Studio City, near Los Angeles, Calif. The exterior, as shown above, is adaptable to the three floor plans opposite without fundamental changes, and offers a design to appeal to builders and lumber dealers everywhere as a business-getter—one "easy to own" and providing "most house for the dollar." These floor plans represent a wide

range in cost, regional requirements and preferences. The Certigrade Californian is constructed of a variety of woods. Douglas fir plywood and oak were used for flooring, Certigrade red cedar shingles for roof and sidewalls, West Coast hemlock for roof sheathing, knotty pine for some of the interior walls, California redwood for exterior trim, and Douglas fir for wall studding and bracing. Not the least distinctive of the features of this model home is its exterior sidewalls, double-coursed with red cedar shingles. In the Certigrade Californian the Southwest has given Mr. and Mrs. America a home type that promises to become as nationally popular as the Cape Cod cottage of the Northeast has been during the past dozen years.

### Official Sponsors of The Certigrade Californian

National Lumber Manufacturers Assn.  
National Retail Lumber Dealers Assn.  
National American Wholesale Lbr. Assn.  
West Coast Lumbermen's Assn.  
Red Cedar Shingle Bureau  
National Plan Service  
Lead Industries Association  
California Retail Lumbermen's Assn.  
Western Retail Lumbermen's Association  
Virginia Building Material Assn.  
Arkansas Assn. of Lumber Dealers  
Wisconsin Retail Lumbermen's Assn.  
Illinois Lbr. & Mat. Dealers Assn. Inc.  
Northeastern Retail Lumbermen's Assn.  
North Dakota Retail Lumbermen's Assn.  
Southwestern Lumbermen's Association  
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Michigan Retail Lbr. Dealers Assn.

Central Missouri Assn. of Ret. Lbr. Dealers  
Mountain States Lumber Dealers Assn.  
Nebraska Lumber Merchants Assn.  
New Mexico Bldg. Material Assn.  
Ontario Retail Lbr. Dealers Assn.  
Montana Retail Lumbermen's Assn.  
Western Homes Foundation  
Ohio Assn. of Retail Lbr. Dealers  
Northwestern Lumbermen's Association  
Douglas Fir Plywood Association  
New Jersey Lumbermen's Assn.  
Lumbermen's Association of Texas  
Utah Lumber Dealers' Association  
Arizona Ret. Lbr. & Bldrs. Supply Assn. Inc.  
Indiana Lbr. & Bldrs. Supply Assn.  
Middle Atlantic Lumbermen's Assn.  
Lumber & Allied Products Institute  
San Fernando Valley Lumbermen's Club



JOB sign appearing during construction.

### CONSTRUCTION OUTLINE

**FOUNDATIONS:** Concrete blocks 6" below ground; 12" wide joists on bottom and 6" wide on top, 3' o.c. Wolmanized Douglas fir lumber for girders, posts, plates and sills.

**WALLS:** Douglas fir studding internally braced; plaster board and plaster inside and 15" building felt with 1x4 West Coast hemlock sheathing and double-coursed shingles outside. Shingles 14" to weather.

**ROOF:** No. 1 16" Certigrades at 5" to weather with every fourth course doubled with No. 1 24" Certigrade; starting course triple. 4d hot dipped zinc coated nails.

**WINDOWS:** Double-hung with spring balances. Douglas fir sash.

**TRIM:** All exterior trim of Certified dry California redwood back primed with white lead.

**EXTERIOR COLOR SCHEME:** Shingles flat white; trim bright white; roof shingles light brown. Shutters light green; steps brick red.

**INSULATION:** Exterior shingles both roof and wall. Air space between shingles and paper on walls and plaster board.

**SPECIAL FEATURES:** Four sliding doors where there might be interference of opening. Rezo doors used throughout except for front and back doors. Superior metal heating unit in fireplace with outlets into living room and den. Card table storage space. Corner windows.

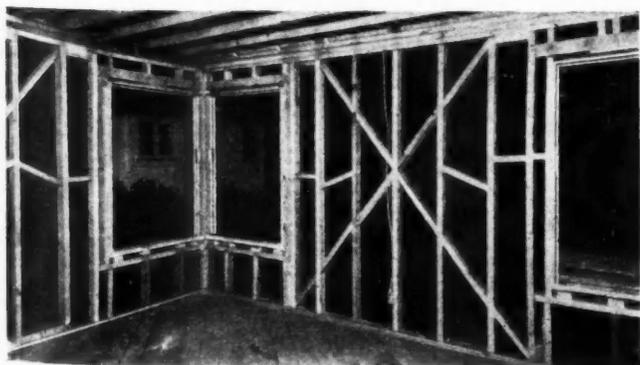
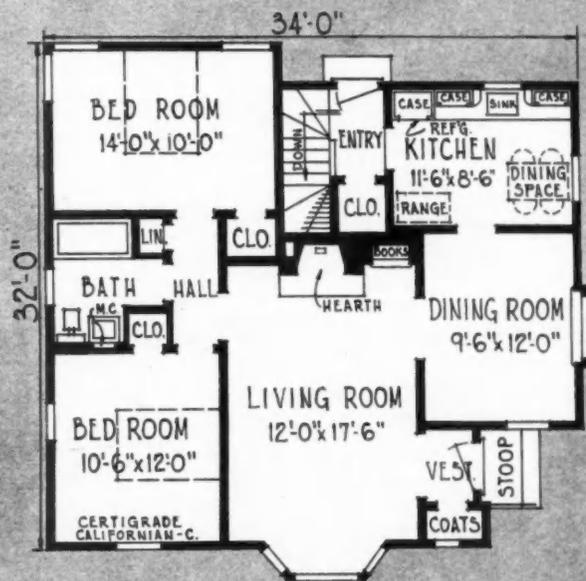
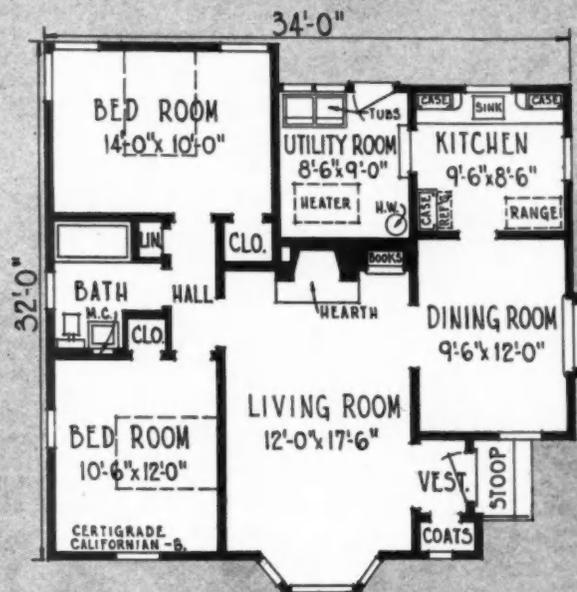
**BATHROOM EQUIPMENT:** Crane plumbing equipment. Separate stall shower 6'6" with figured glass door.

**KITCHEN EQUIPMENT:** Tile drainboard; linoleum work bench; electric range; electric refrigerator; breakfast nook with red leather seats; exhaust fan for cooking; electric clock; Crane double sink.

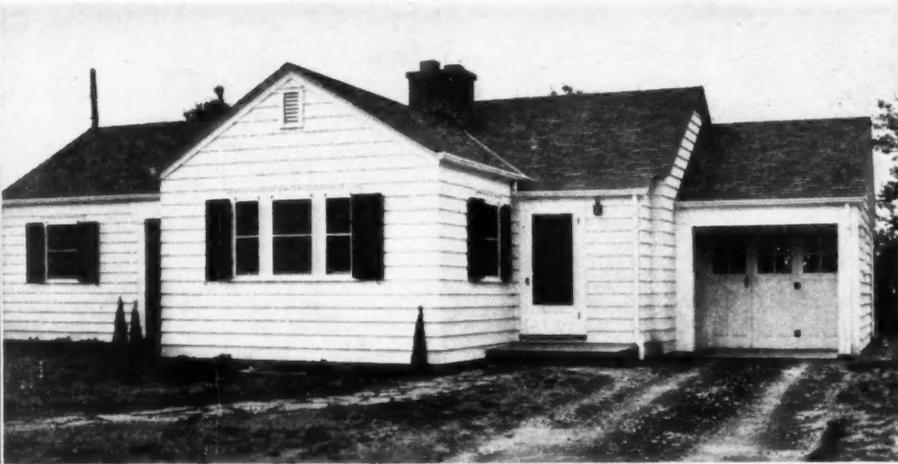
**FLOORING:** Oak on entry hall, both bedrooms and dining room. Plywood on bathroom.

**INTERIOR FINISH:** Plaster throughout except den which is knotty pine. Bathroom and kitchen covered with Wall-tex. Living room and hall painted and bedrooms and dining room papered.

**TOP FLOOR PLAN:** This layout designated as Plan "A" shows the arrangement of the model home as built. It is without basement and has a combined kitchen, utility room and dining nook. The two lower plans called "B" and "C" are alternates also designed by National Plan Service in Chicago. Below, construction view of "Californian's" special braced framing for shock resistance and extra strength.

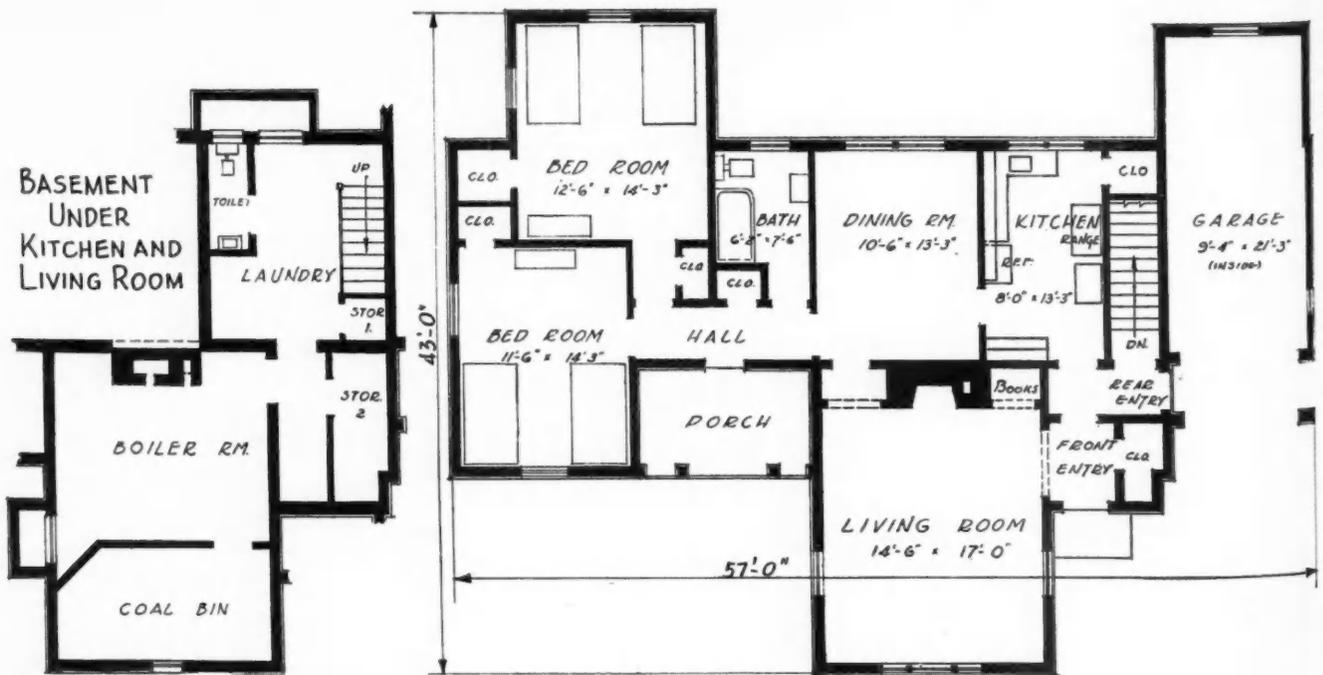


# Compact 5-Room Home with Good Circulation



THIS attractive five-room house with attached garage was designed by P. M. Torraca in Blacksburg, Va.; J. M. Slusher, builder. The projecting living room wing, sheltered entrance to garage and recessed porch add interest to the exterior such as is not usually found in small moderate cost, cottage type designs. While in plan the fireplace end of the living room appears to be cut up with doorways for circulation, the view at the left indicates how a chair can be set in this corner without materially blocking the archway. There is easy access from the kitchen to the front and side entries, with basement stairs handily located near grade entrance.

CONSTRUCTION features and materials include 10" poured concrete foundation with anchored sills, frame sidewalls with redwood siding over paper on sheathing, and 3-coat plaster on Rocklath. Creosoted joists over unexcavated portion, asphalt shingled roof, copper flashing, 4" rock wool over ceiling, 2-pipe hot water system, American Radiator boiler, Standard plumbing fixtures are other items.





## Living-Dining Room Arrangement Makes Small House Seem Larger

THE tendency towards an open arrangement of rooms in the planning of small homes is well illustrated in the living room and dining room illustrated above. The complete house, designed by Architect R. C. Hunter of New York, and built by the Lethbridge Construction Co. of Hackensack, N. J., is illustrated on the following page. Architect Hunter has laid out the living room and dining room arrangement in such fashion that each adds to the sense of spaciousness of the other. The fireplace is located so that it dominates both rooms yet acts as a partial dividing point. In a home of this size it is difficult to provide a living room as large as many people desire. Experience has shown it is not wise to eliminate the dining room. The problem is solved cleverly, as shown on the floor plans on the next page.

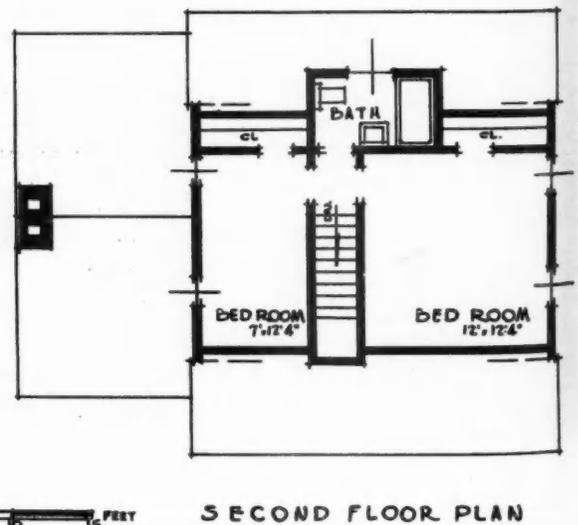
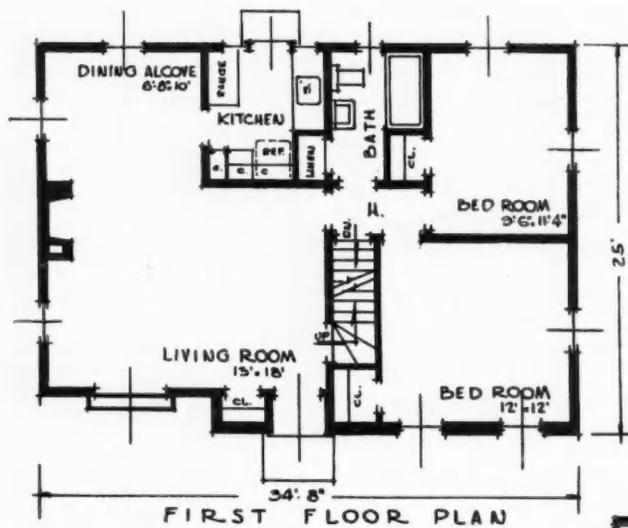
Another advantage of the "open plan" of this type is that much improved exposure is possible, permitting cross ventilation and sunlight at all times of the day. Should the home owner wish to separate the dining room from living room, it is always possible to hang ceiling-height curtains from track hardware.

*TRUCOST figures for the home designs in this issue will be found in TRUCOST DEPARTMENT on page 126.*

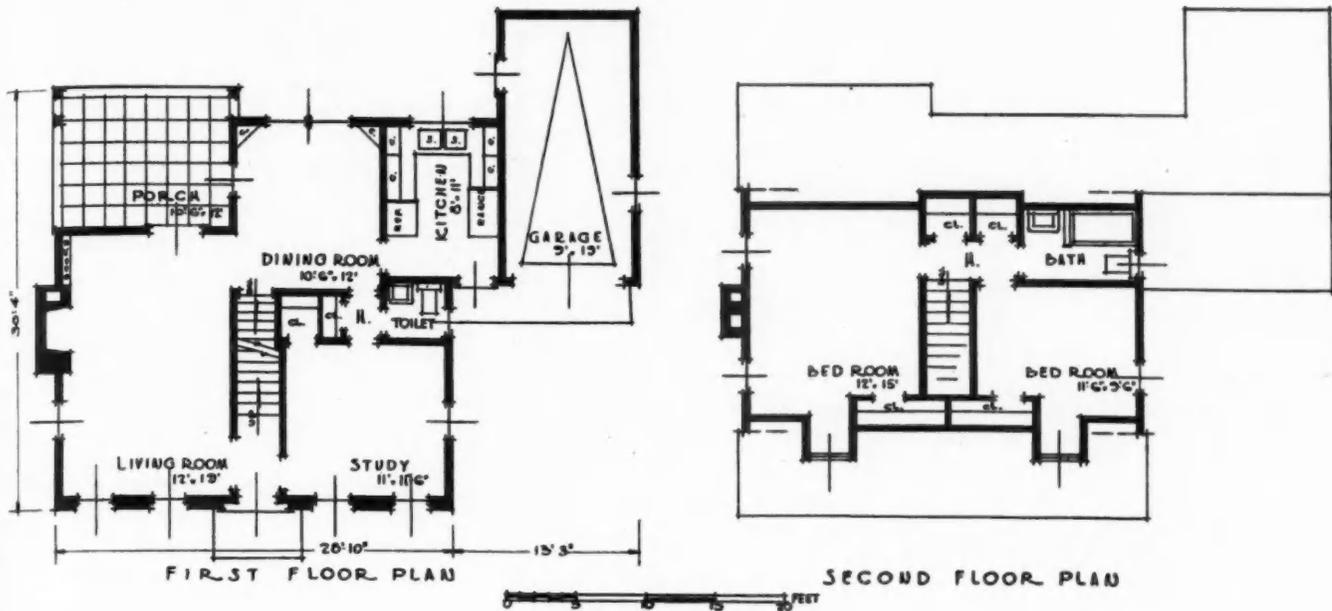


## Small Dutch Colonial With Four Bedrooms

TRADITIONAL Jersey Dutch design is featured in this livable little house with its deep-set front door. Designed by Architect R. C. Hunter and built by Lethbridge Construction Co. of Hackensack, N. J., it is equipped with Celotex Vapor-seal sheathing, Flintkote insulation, U. S. G. Rocklath plaster base, Hope steel windows, Chase copper tubing, Armstrong linoleum, Pittsburgh sheet glass, Morgan doors and woodwork, Bryant gas-fired air conditioner, Standard plumbing fixtures. Floor plan is compact, economical and very livable. The plumbing arrangement with 2 baths and kitchen grouped together is very economical. Contents, 18,000 cu. ft.



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## Downstairs Study In Stone Front Colonial

THE downstairs bedroom or study with lavatory are important features of this Colonial in Hackensack, N. J., designed by Architect R. C. Hunter and built by Lethbridge Construction Co. The cubage is 22,300. Living room and dining room have exceptionally fine exposures, and kitchen has efficient U-shaped plan. Wide dormers with casement windows provide comfortable second floor rooms. Specifications include Andersen casements. Pittsburgh glass, Morgan woodwork, Overhead garage doors, American Radiator air conditioning, Lightolier fixtures, Corbin hardware, Murphy kitchen cabinets.

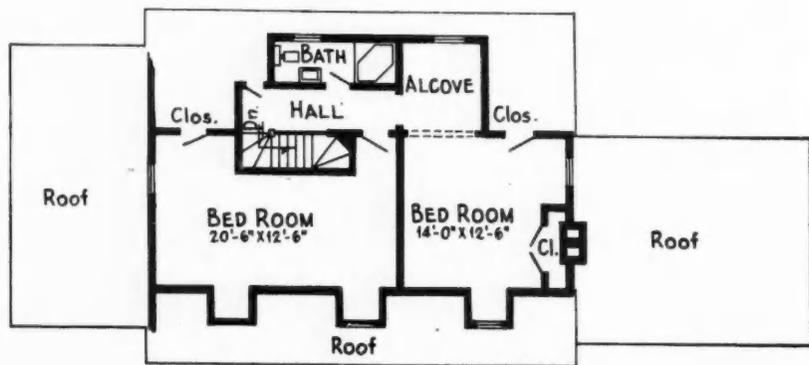


STONE front, white clapboards and dark shutters give charm to this Hackensack house. The white ridge boards are in good contrast with the dark-stained roof. R. C. Hunter, architect.

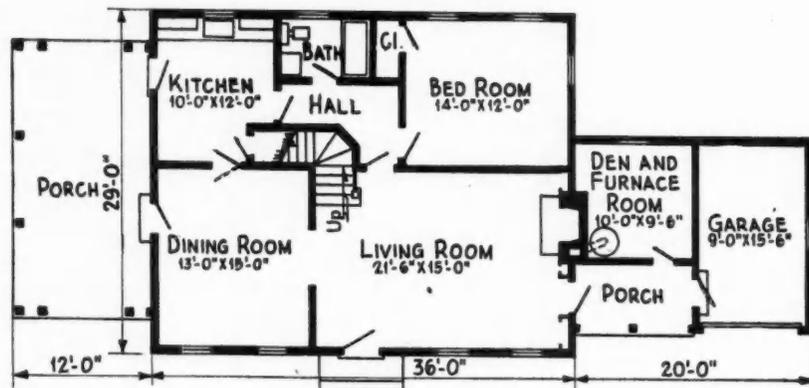


## Novel Heating in Basementless Nashville Home

C. B. Kelley & Company, Designers and Home Builders



SECOND FLOOR PLAN



FIRST FLOOR PLAN

THIS charming Colonial home was designed and built by C. B. Kelley & Co., Nashville, Tenn., who offer a complete home service and build both for sale and on contract, three hundred houses having been completed by them in this city. This design contains a number of novel and interesting planning and construction highlights. It has seven rooms, two baths and an attached garage. There is no basement, the heating plant being located in a combination den and furnace room in the garage wing. A forced circulation hot water system has a General Electric oil-fired boiler placed in a corner of this room near flue. Corto radiators are used, and domestic hot water is supplied by the oil furnace both summer and winter. The return lines from the radiators are brought back to the boiler under the first floor, and as these returns are not insulated, a sufficient amount of heat is dissipated to keep the first floor warm. The basement is excavated two feet below the floor joists, with cast iron foundation vents equipped with shutters closed from outside in winter.

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with A  
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**CONSTRUCTION OUTLINE**

**FOUNDATION:** Walls—native stone, continuous. Garage and boiler room 8" poured concrete foundation.

**STRUCTURE:** Exterior walls—2x10" long leaf pine siding, resawn and ship-lapped together with rough side turned out. Sisalkraft paper on wood studs. Inside, wood lath and plaster. Interior partitions, wood studs, wood lath and plaster.

**FLOOR CONSTRUCTION:** First floor—joists 2x8", 12" o.c., no sub-floor. Garage wing—3" concrete floor on fill. Second floor—4x8" wood beams, 24" o.c., no sub-floor. **ROOF:** 2x6" rafters, 24" o.c., each rafter braced by partition walls on second floor, No. 3 common 1x6 pine sheathing. Finish—Standard Johns-Manville composition shingles.

**CHIMNEY:** Used brick. Lining—9x12" terra cotta for boiler flue, 12x12" for fireplace flue. Peerless fireplace damper.

**BRICK WORK:** Breezeway to garage and side porch floors paved with hard common brick over 3" concrete base.

**SHEET MEAL WORK:** Flashing—30 lb. tin; 4x6" "Shadowline" fir gutters; 26 gauge galvanized iron leaders.

**INSULATION:** Entire roof area including gable ends, sides, ceilings, and all dormers 4" Johns-Manville loose wool.

**WINDOWS:** Curtis Silentite frames and sash. Lustra-glass, quality B, single strength. Full length "Prefit" screens with galvanized wire and hangers as furnished with Silentite unit.

**STAIR:** Curtis stock stairway parts with special turned newels.

**FLOORS:** Random width No. 1 common pine. Bathroom—1x4" No. 1 pine.

**FLOOR COVERINGS:** Bedrooms on second floor covered with felt and matting; bathrooms covered with Armstrong linoleum.

**WALL COVERINGS:** First floor bathroom covered from floor to ceiling with Armstrong Linowall; second floor bath 3'6" wainscot of Linowall; first floor bedroom and the two bedrooms on second floor, walls decorated with wall paper.

**EXTERIOR DOORS:** Curtis. Garage doors equipped with Curtis Up-'n'-Over hardware.

**PAINTING:** Interior—plastered walls and ceilings of living room, first and second floor halls, both bathrooms and kitchen painted 3 coats of lead and oil paint. Exterior walls and sash, Cabot's Old Virginia white.

**KITCHEN EQUIPMENT:** Hotpoint stove; Frigidaire refrigerator; Standard sink; Curtis cabinets.

**BATHROOM EQUIPMENT:** Standard lavatory, tub, toilet.

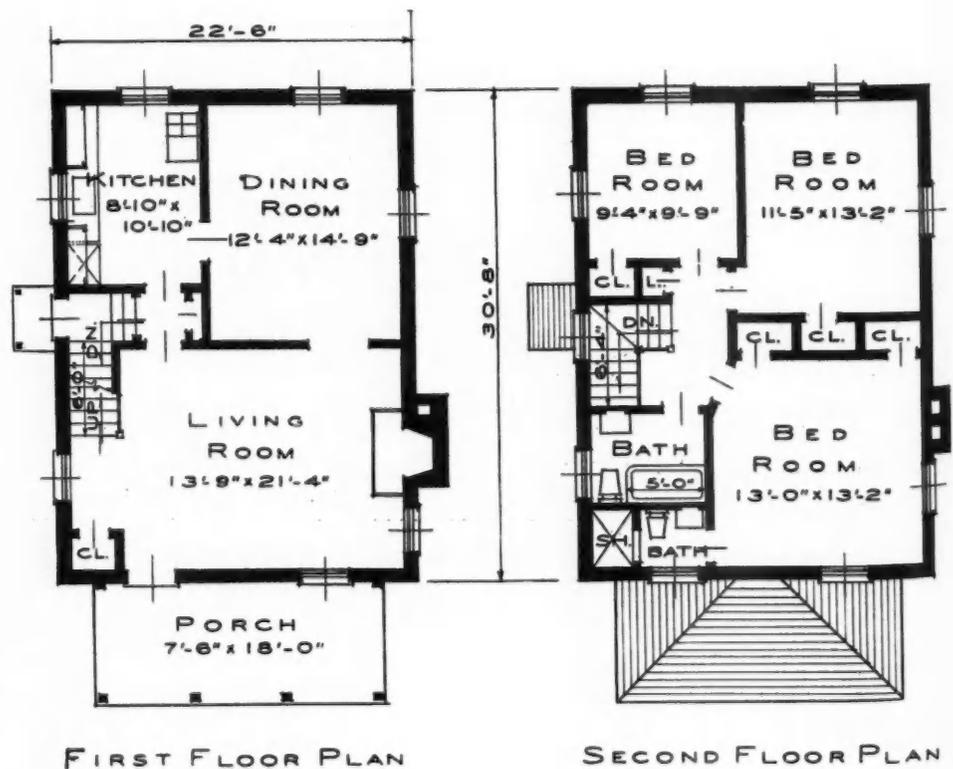


THE two views of the living room, as shown above, indicate how a combination of knotty pine wall paneling, beams and plaster on two walls have been combined to give a very warm and cheerful interior. Details of the fireplace, mantel and built-in bookshelves, illustrated in the upper view, and decorative door heads, newel and staircase in the lower, have been carefully worked out and provide a good example of what can be done with this type of treatment. The wall paneling is repeated in dining room.



## 6 Rooms—2 Baths Only 22'6" x 30'8"

BUILT by Joseph Meyerhoff from plans by Architect Kenneth Miller, the above house is one of the most recent and successful designs perfected by the Meyerhoff organization. The house is substantially built and equipped with quality products.

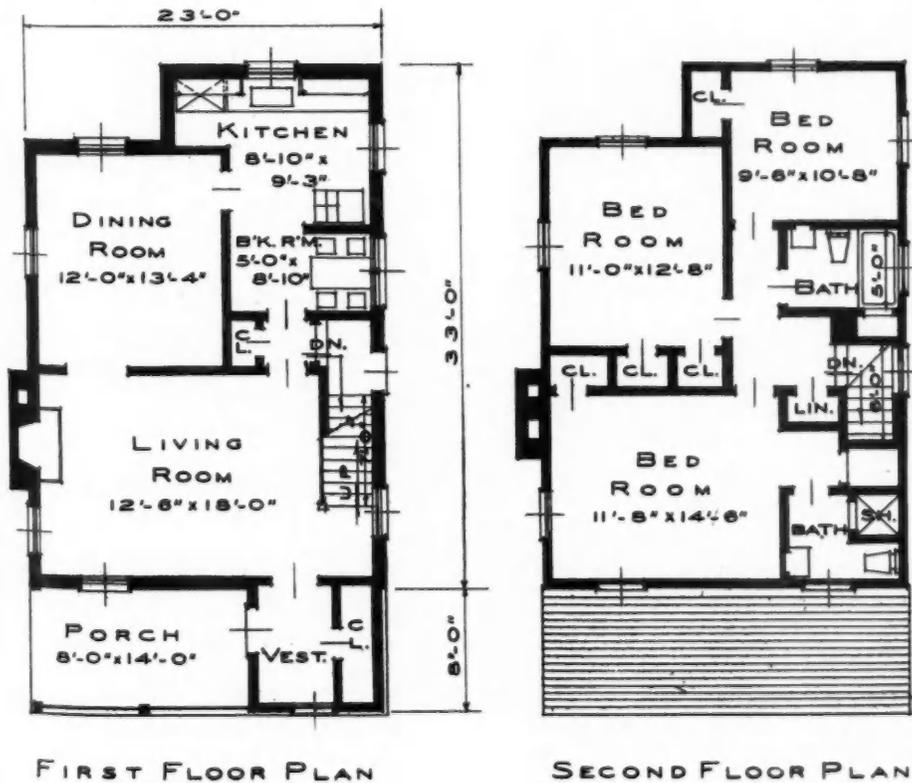


THIS successful floor plan is a result of intelligent collaboration between architect and builder, backed by experience and tested by actual sales. It provides a maximum amount of living space and comfort, including 2 bathrooms, in a very small cubage.



THIS well designed Colonial was built by Joseph Meyerhoff's Property Sales Co. in Northwood, one of the attractive home communities developed by the Roland Park Company. The porch and the front vestibule arrangement are well handled. See story on pages 72, 73.

## Baltimore Colonial Has Sales Appeal



WITHOUT waste space this Meyerhoff-built Baltimore plan provides fine livability, good cross ventilation and the comforts and quality features of a much more expensive type house. There are 2 bathrooms. Basic plan is 23' x 33'. Kenneth Miller, architect.



Meyerhoff

# Tremendous Trifles

Meyerhoff, of Baltimore, Points Out Some of the **SMALL** Things that Make a **BIG** Difference in Good Building. Inspection Report Lists 166 Items.

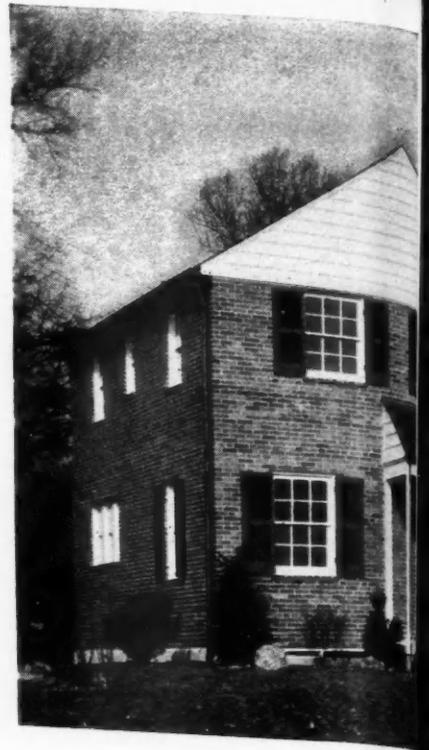
**I**N the city of Baltimore, Joseph Meyerhoff, president of Property Sales Company, is one of the young men in the building field who is doing a conspicuously successful job. With his brother Jacob Meyerhoff, he operates six residential developments, including a 125-unit row house project in which last year 95 units were sold in less than two months.

Houses built by the Meyerhoff organizations range all the way from \$4,000 to \$40,000, and more than 200 were built and sold in 1939.

"What are the things that make the difference between success and failure in the building business?" I asked Joe Meyerhoff.

The nearest answer I got to that question was, "It's details that count."

"In the planning, merchandising and sale of houses, nothing can be left to chance," he said. "Small items—especially in the lower-priced



By J. B. Mason

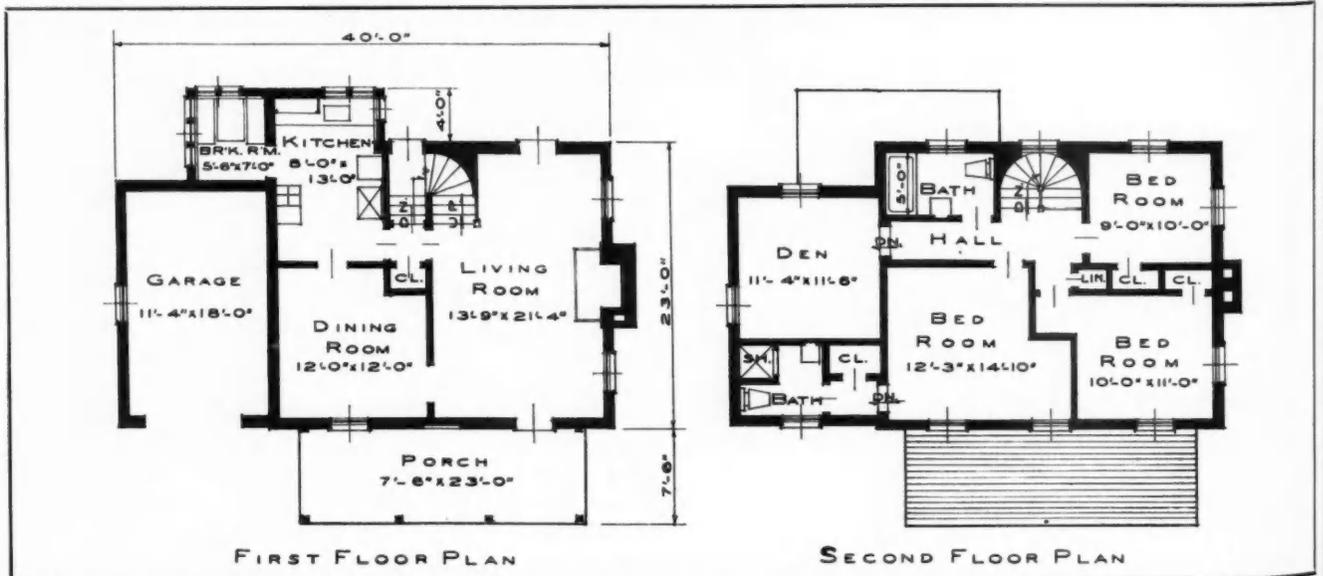
houses, are very important to watch. I'm a bug on little details."

Meyerhoff undoubtedly has a capacity for handling the little details, but he also has a capacity for understanding and working out the big details of the complicated business of building houses. He has a unique and efficient organization and has developed a new type of job superintendent—a combination superintendent, salesman and overseer. For lack of a better title, he calls him his "job man."

There is a job man on each residential



**MORE** than 200 houses were built by Meyerhoff in 1939, ranging in price from \$4,000 to \$40,000. At left is shown an attractive 4-bedroom Colonial in middle-price brackets. Kenneth Miller, architect.



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POPULAR row-house group built by Meyerhoff.

project who keeps track of the hours worked, checks delivery of materials, inspects progress of the work and turns in an inspection report covering 166 items. (See page 112). He is also trained to act as a salesman, and takes prospects through the houses.

For this work young men are selected who have a capacity for technical details and a personality suitable for sales work. In the early stages of construction a carpenter-foreman is in charge of structural matters. After the trim has been completed, however, the job man takes over. At all times the carpenter-foreman and the job man co-operate fully and keep the work going with a minimum of waste.

As a result of this organization and setup, Meyerhoff is able to keep close control of six widely different building projects without developing the large overhead which is the nemesis of many big builders. He personally handles most of the details of financing and buying. He has one sales manager who takes over the more important selling work from the job man. Meyerhoff believes in subletting as little work as possible, does as much with his own men as he can, and does all his own concrete and masonry work, grading, painting, carpentry, etc.

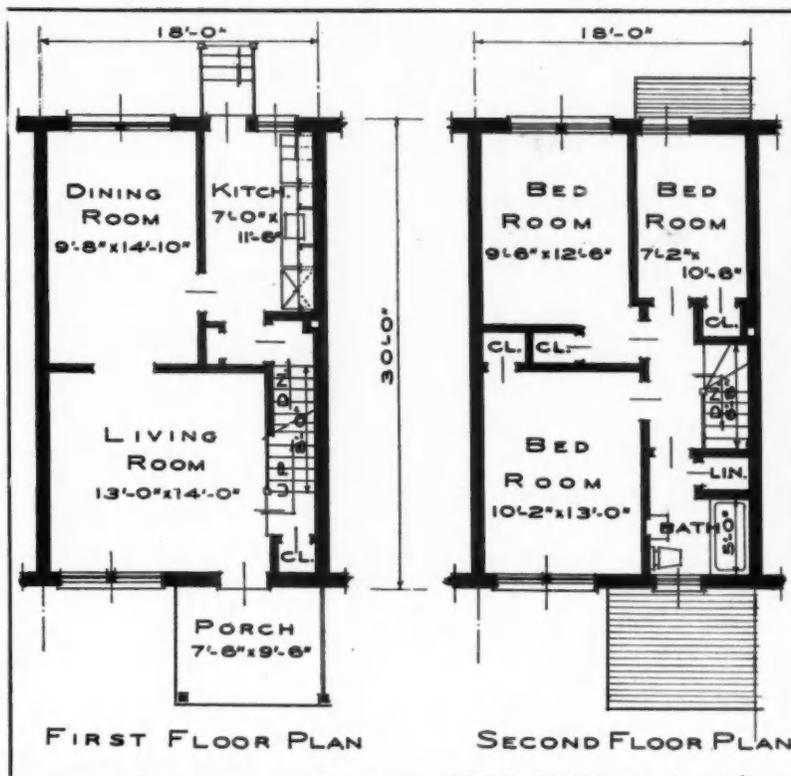
A recent innovation in Meyerhoff's work has been the introduction of power saws. He now uses 12 Porter Cable Speedmatic saws, and has practically eliminated the hand cutting of materials. He says that the saws have paid for themselves many times over.

The Meyerhoff homes are intelligently planned and well built. "Good construction doesn't cost a cent," Joe Meyerhoff says. "Or rather, you might put it, you don't save anything by doing work badly. If a man knows what

he is doing he can do a *good* job cheaper than a man who doesn't know how, can do a bad job."

When he spoke on the subject of quality and headwork, Meyerhoff had a glint in his eye and an emphasis of voice that showed he felt what he said. He added, "The total possible savings in cheap work are so little that they aren't at all justified. As a matter of fact," he declared, "for a builder who takes pride in his work and expects to stay

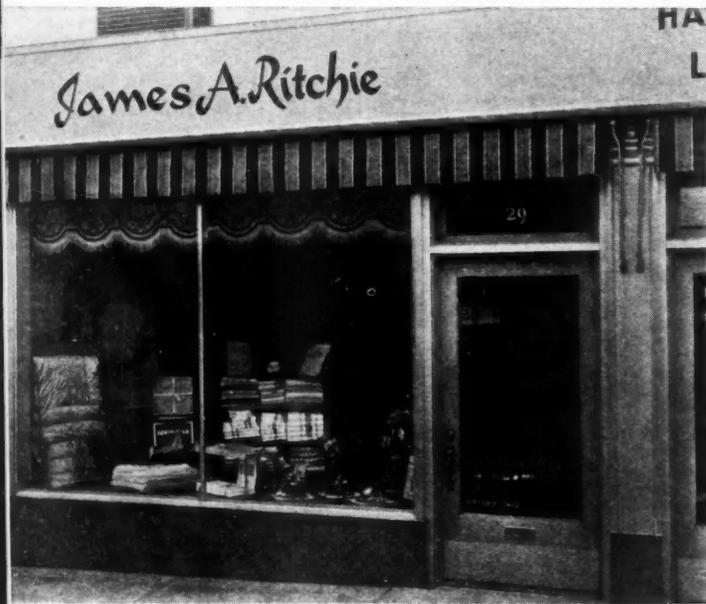
(Continued to page 108)



NINETY-FIVE of the above low-cost Argonne Drive row houses were sold in less than two months by Meyerhoff's Columbia Construction Co. Typical plan, 18 by 30 ft.



## Shopping Center in Glass and Metal

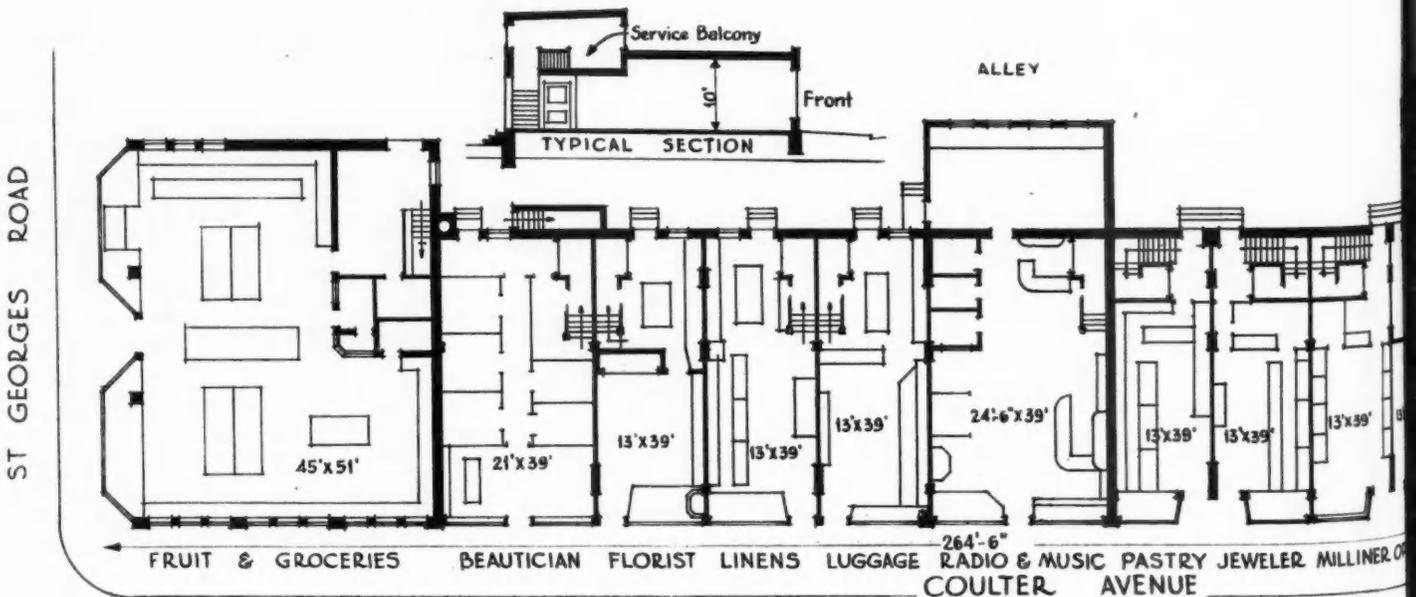


**A** UNIQUE shopping center in Ardmore, Pa., has attracted the attention of community planners and builders. Although large enough to supply the needs of a trading area having a 35-mile radius, the Ardmore center has only one shop of each type. Construction, begun in 1927, has been paced to match the population growth of the community until the trading center now numbers 44 shops. Each unit has been erected with the idea of keeping abreast of developments in the construction and management fields by the use of the most modern materials and newest ideas in merchandising.

In addition to the stores, the trading area includes an eight-story office building and an ultramodern motion picture theater.

The Ardmore shopping community was designed by Dreher and Churchman, architects, and built under the supervision of Frederick W. Dreher. It now is actively

RITCHIE'S linen shop, at left. BELOW: Block-long plan of latest addition to Ardmore shopping center near Philadelphia. F. W. Dreher, architect.



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managed by Mr. Dreher in his capacity as president of the Suburban Company.

Mr. Dreher has inaugurated a novel renting plan which provides for the payment by renters of a percentage of gross sales. This feature, along with other innovations, has made his project a laboratory for new ideas in merchandising, display and business management.

The latest unit of the shopping community is a block of twelve one-story shops. It represents the ultimate in attractive and practical store design and construction. The entire block is faced with Vitrolite structural glass in a two-tone color scheme of cadet blue and gray. Store fronts are trimmed with Extrudalite metal.

According to Mr. Dreher, the design and use of these materials aids the display and selling factor of the shopping center. Both the structural glass and metal trim are serviceable and easy to maintain.

The twelve unit block is 264 feet, 6 inches long, broken into store widths ranging from 13½ feet to 36 feet. The depth of the stores varies from 41 to 58 feet overall. Ceiling heights are 10 and 12 feet.

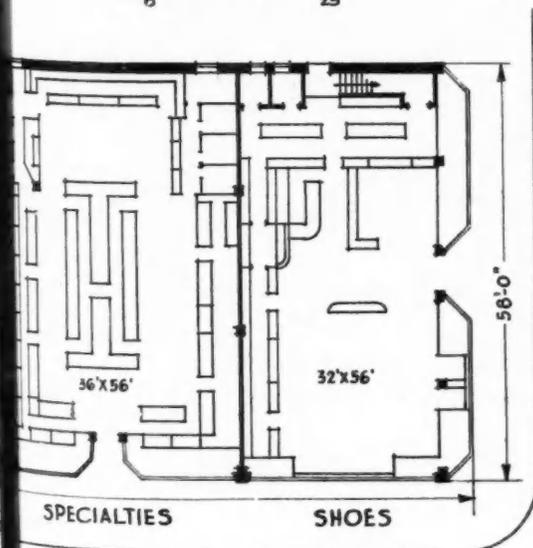
No basements were included in the design, but service balconies were erected at the rear of each store unit. These are light and well ventilated, making a large space for storage of materials or office work. The balcony also includes the toilet room.

Each store has its own air conditioning unit. This consists of a heating coil connected to a central steam plant and a cooling coil connected to a compressor contained within the unit. Since there are no basements, the ducts which lead to and from the unit are terra cotta pipe with sheet-metal visers.

The exteriors are structural glass and metal trim from roof to pavement. No protruding signs are permitted. Exterior displays are restricted to store names and insignia done in metal letters cemented to the facade.

In discussing his unique managerial plan, Mr. Dreher says that it accomplishes two main purposes: first, price cutting is eliminated and a better quality of goods offered the customers; second, the customer finds it possible to buy practically everything in one concentrated area.

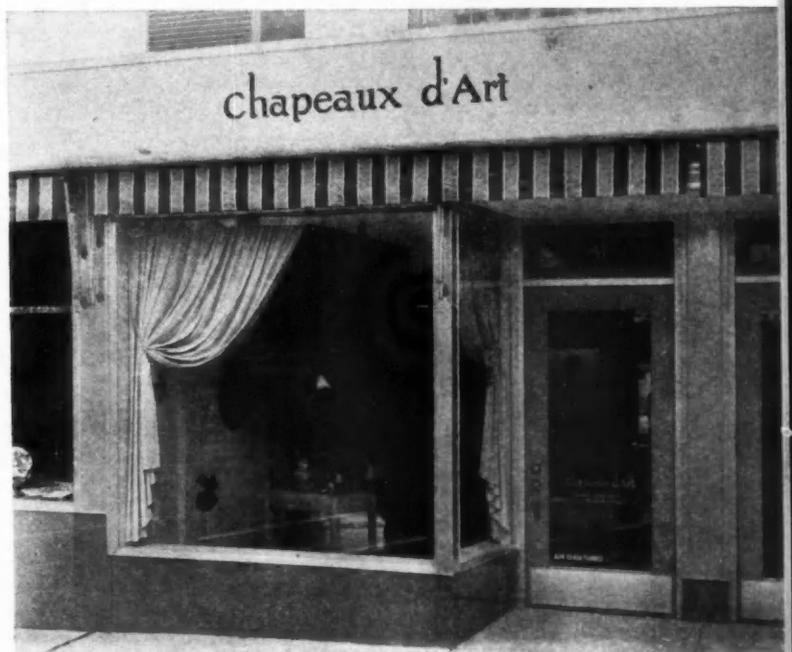
TWELVE-UNIT store block is 264 ft. 6 in. long. Service balconies at rear of stores replace basements. Each store has own air conditioning unit connected to central steam plant.



GEUTING'S shoe store, 32 ft. by 56 ft.

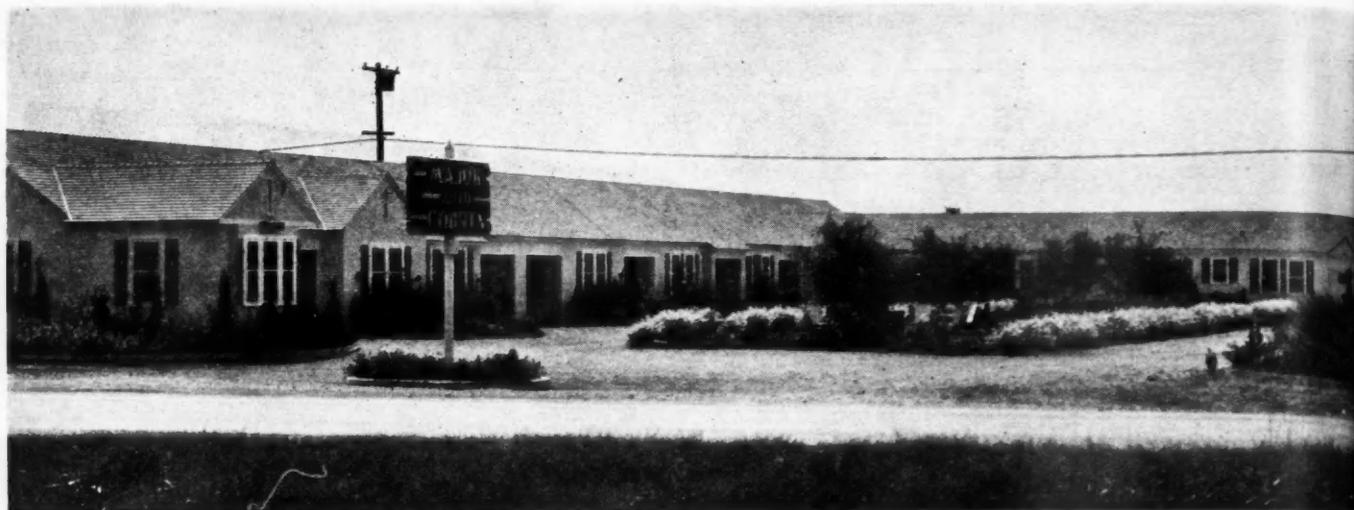


GENERAL Fruit Co., 45 ft. by 51 ft.



CHAPEAUX d'Art, 13 ft. by 39 ft. Service balcony at rear.

**Shops Have Air Conditioning, Service Balconies, Central Steam Heat, 2-Tone Color Glass Fronts, No Protruding Signs. Rentals Based on Gross Sales Under Unique Managerial Plan**



## Trim Design Attracts Auto Court Trade

**L**OOKING forward to a busy tourist season this spring and summer, proprietors of tourist accommodations are planning new units and improving old ones to take care of the expected business. However, competition will probably be keener because the older unfinished-

interior type of unit must compete with the up-to-date conveniences of today's auto courts, such as the one described and illustrated on these pages.

In the layout of Major Auto Courts owned and built by J. C. Reddin, Oklahoma City, there are 22 units including



THE individual rooms with their homey atmosphere, as in the typical quarters above, are finished in Ponderosa pine paneling.



THIS view of Major Auto Courts along a highway near Oklahoma City, Okla., indicates the attractiveness of the colorful exterior and convenience of location which stops tourists and keeps the 21 units well rented. Plot plan of this structure appears below.

the unit for the proprietor which consists of office, living room, dinette, kitchen, bedroom and bath. Each of the 21 rental units has a good sized sleeping and living room, closet, bath and garage.

The owner reports that the unusual character of the whole project and the thoroughness with which all details were carried out accounts for the success in keeping them well rented at \$2.00 a day and up. The Courts, as indicated in the plot plan, are grouped around a horseshoe shaped driveway with a garden in the center. As Mr.

Reddin describes it, "Our shrubbery and roses were really beautiful the past summer, and we had many compliments from tourists who said it looked so inviting they had to stop." The exterior of white stucco is set off with a blue roof and shutters, while the interiors are finished in Ponderosa pine paneling which makes a practical as well as extremely decorative wall treatment. Each unit is different; some have wainscoting, trim and beamed ceiling of this material; others are paneled from floor to ceiling and a few have the cornice in pine. A variety of decoration is also obtained by the use of different colors of stain, with brown predominating and the remainder being in light green and golden tones. Each is carpeted to the wall, furnished with Monterey furniture, Beautyrest mattresses, radios and fans. Features of construction are as follows:

**Foundation:** All footings and floor slabs on ground reinforced concrete.

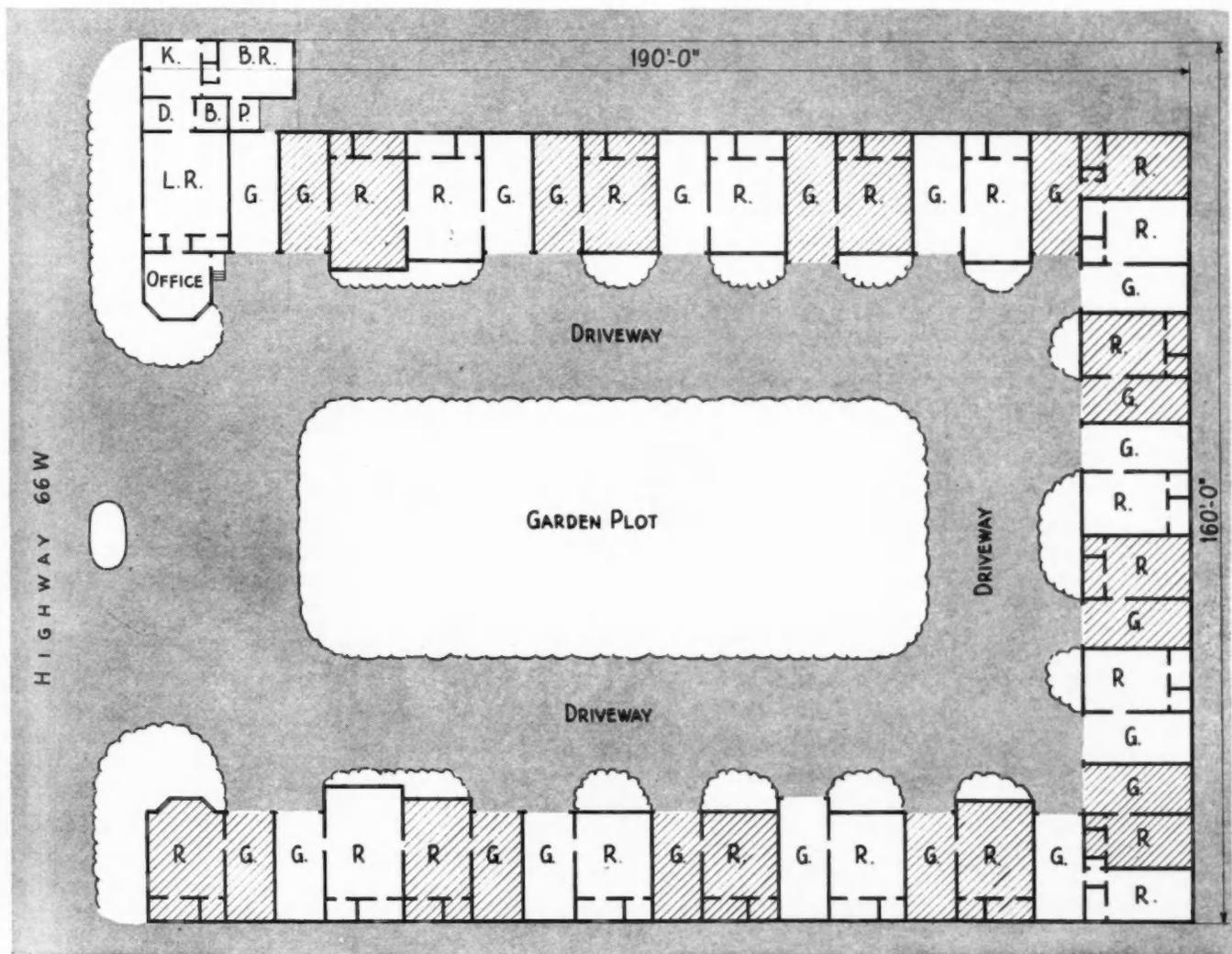
**Stucco Work:** All exterior work covered with Steeltex nailed to studdings; 3 coats of portland cement stucco.

**Roof:** All roof and ceiling joists 2 x 6 spaced 24" on centers; entire roof area covered with red cedar shingles; insulated with rock wool.

**Pine:** Interior of all rooms finished in 7/8" No. 3 knotty Ponderosa pine boards tongue and grooved with beaded joint. Doors and windows, Ponderosa white pine.

**Tile:** All floors in bathrooms of colored ceramic tile with 4" glazed tile base; sidewalls covered with 4" x 4" glazed tile to a height of 5 1/2" above floor.

**Plumbing:** All fixtures Crane with chrome trim; eight Crane automatic water heaters throughout the Court.





STREET view of first units of duplex homes being built by Carrothers & Braun in Chicago.

## Chicago Duplex Homes Ideal for Narrow Lot

CHICAGO, like a number of other cities, has a bad hangover from the pre-depression subdividing practice of cutting up large sections of its area into narrow lots varying from 18 to 30 feet with a large number in the 25-foot width bracket. Many of these were used as sites for single-family "shirt-front" bungalows, but the collapse of building left many such pieces of property unimproved. Now that the trend is entirely away from the long, narrow type of plan crowding the lot lines, there has been a consistent effort to develop housing units which can occupy these sites, incorporate the needs of present-day living quarters, and get away from the necessity of redividing.

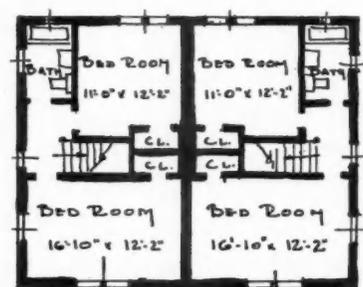
Row houses and two-family duplexes are becoming increasingly popular for this type of property in Chicago. One of the most interesting projects along these lines is the development of Carrothers & Braun, architects and builders, on a piece of property in the North Austin section of Chicago. The first five units have been completed to date. Martin H. Braun, architect of the firm, points out that almost every home prospect likes a wide lot, but not all can afford one or the taxes which accompany such a luxury. This is where the duplex comes forward to solve a complex situation. Its wide lot for the entire building satisfies a buyer's desire for a feeling of space, yet he pays for only that portion of ground allotted to his particular unit and in turn is taxed on only that amount of land.

As regards their development, Mr. Braun further states, "For instance, our duplexes are on lots at least 50 feet wide and 172 feet deep, with 14 feet between buildings. But each of the two occupants pays for only 25 feet and is taxed on only 25 feet."

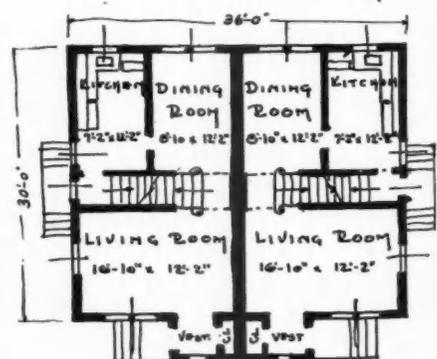
From a design standpoint, these units overcome one of the first objections to two-family structures of this type in that from any one point, only one entrance on each unit can be seen. In other words, as viewed in the illus-

tration above, this row of duplexes looks like a street of single-family units, with each one handled differently. The manner in which this was accomplished is indicated in the floor plans on this and the following two pages. The units are also styled distinctively and individually to avoid monotony. The range of brick selected further carried out this idea.

Another novel feature of the houses is the fact that prices quoted cover everything including lot, financing,

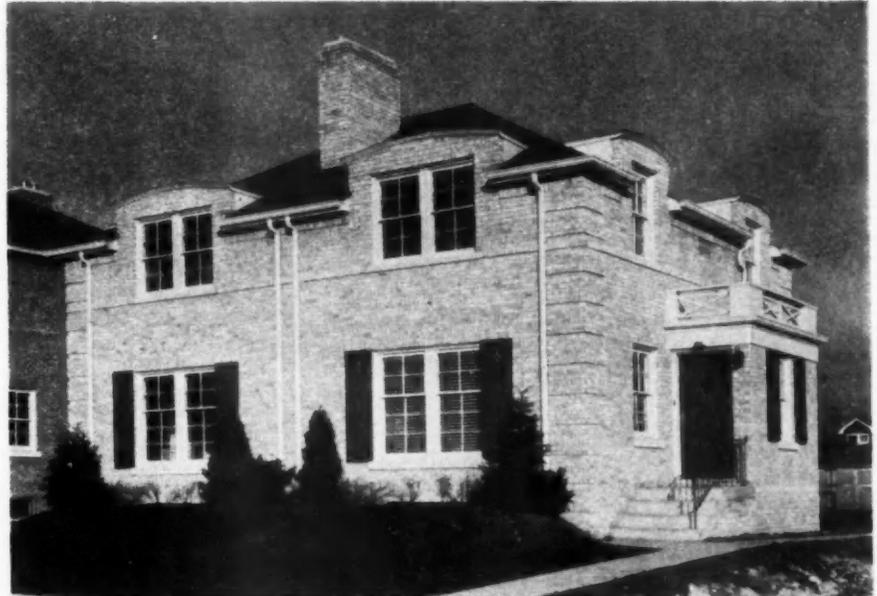
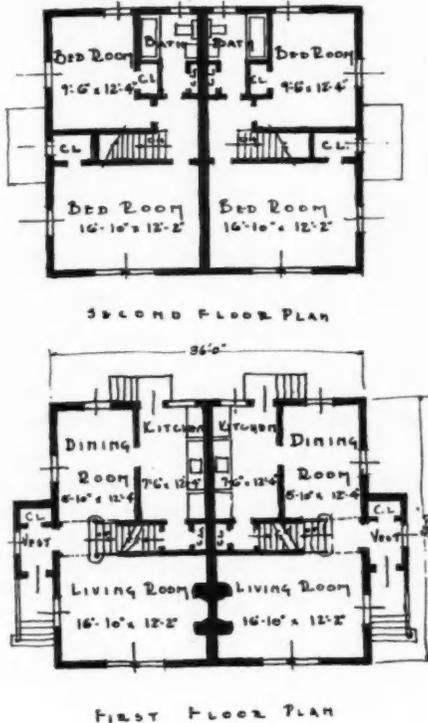


SECOND FLOOR PLAN



FIRST FLOOR PLAN

THIS floor plan is a further variation of the center entrance type of duplex shown at the right on the opposite page. The kitchen is changed to the outside, and has service and grade entrance at the side. However, with the bath above the kitchen for economy, the bedroom over the dining room does not have cross ventilation.



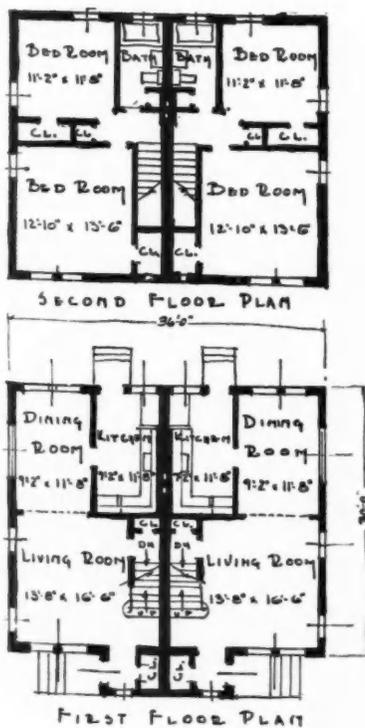
THE duplex above is one of the Carrothers & Braun units which has living room fireplaces; room arrangement is convenient and economical. Stairway between living and dining rooms is a decorative feature; basement stairs to back yard are in areaway under vestibule.

landscaping, recording of deed, and paying of insurance in advance. Besides this, there were many built-in extra features; an outline of the major sales points and construction highlights is as follows:

1. All houses inspected and approved by FHA.
2. All improvements in and paid for, including front sidewalks and service walks to alley.
3. Rear yards completely fenced in.
4. Poured concrete footings and foundation walls.
5. Solid masonry walls with 12" solid concrete block wall between units.
6. Kiln-dried structural lumber, oversized joists.
7. Oak floors, machine sanded and finished.
8. General Electric wiring with ample electric outlets;

certificate of approval by Electrical Institute.

9. Completely insulated with U. S. Gypsum Metalated Rocklath and "thick" Red Top glass wool blanket.
10. Ceramic tile floors in bathroom.
11. Nairn linoleum floor in kitchen laid over felt.
12. Compact General Electric kitchen cabinets planned by kitchen experts. Range and refrigerator may be had at slight additional cost.
13. Nairn linoleum wainscot with chromium edging in bathroom.
14. Three coats of plaster on all walls and ceilings with U.S.G. Rocklath and plaster.
15. General Electric automatic, gas-fired, winter air conditioning with air filters and humidifiers.

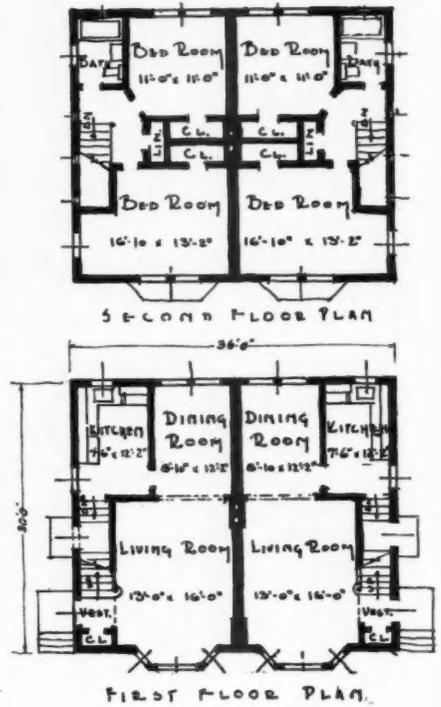


THE duplex below has two five-room arrangements with all rooms except kitchens and baths having windows on two sides. In the dining rooms there are glass block panels in the side walls to give light over the locations for buffet. Other glass block panels light the vestibules.





ANOTHER version of the side entrance plan gives a good layout with basement stairway leading out of the kitchen to a grade entrance landing and front stairs coming directly up out of the vestibule. Two living room bays add interest to the front elevation.



- 16. Standard Sanitary plumbing fixtures with shower over tub.
- 17. Fully automatic gas-fired domestic hot water heater.
- 18. Heavy thick butt U.S.G. asphalt shingles laid over 15 pound felt.
- 19. Combination screen and storm doors on all doors.

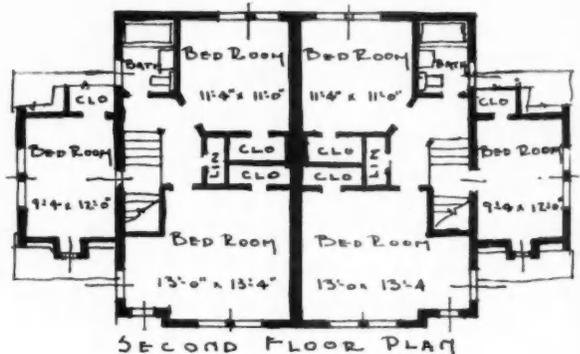
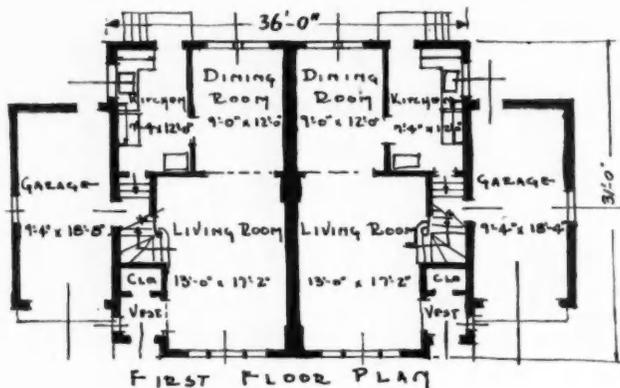
- 20. Shades on all windows.
- 21. General Electric kitchen clock and chimes.
- 22. Beautifully designed light fixtures with special illuminated door number.
- 23. Smart decorations by interior decorator.
- 24. Owens-Illinois structural glass block.

25. First class workmanship throughout with a quality specification.

26. All houses designed and under the supervision of Architect Martin H. Braun, who has designed more than 500 homes in the past 5 years.



THIS duplex design of Carrothers & Braun, Chicago, has two six-room homes, each with attached garage and three bedrooms. They are priced so that, if bought individually, they can qualify for a 90 per cent FHA loan.



# How to Lay Out Braces with THE STEEL SQUARE

**This Second Article in the Series on Important Uses of the Steel Square Explains Brace Measure and Shows How to Lay Out Braces for Any Purpose**

*By Gilbert Townsend*

**I**N THE February article on the Steel Square a general description of the tool was given for the benefit of younger members of the craft, and the uses of some of the scales and tables which are found on it were explained. Reference was made to the "Brace Measure" which was shown to be located on the back of the tongue. It is the purpose of this article to explain the use of the "Brace Measure" and to show how useful the steel square can be when it comes to laying out braces for any purpose.

### Purpose of Braces

Almost any framed structure requires braces to keep it plumb and square, these braces being placed across some, or all, of the corners in such a way as to prevent any wracking which might be caused by the application of a horizontal force such as the wind or (in Europe or China) such as the explosion of a bomb at some little distance, not too near. Fig. 1 shows such a brace. Some "old-timers" may remember that years ago all house frames used to be braced at the corners where the horizontal "girts," which were used at the second floor level, framed into the vertical corner posts and although this method has become obsolete and has given way to the "balloon" frame, the sorts of braces which were employed then are typical of what might be used in any wooden framework where bracing is considered necessary and where the braces cannot be spiked to the faces of the members (posts and girts) but must be framed in between them as illustrated in Fig. 1.

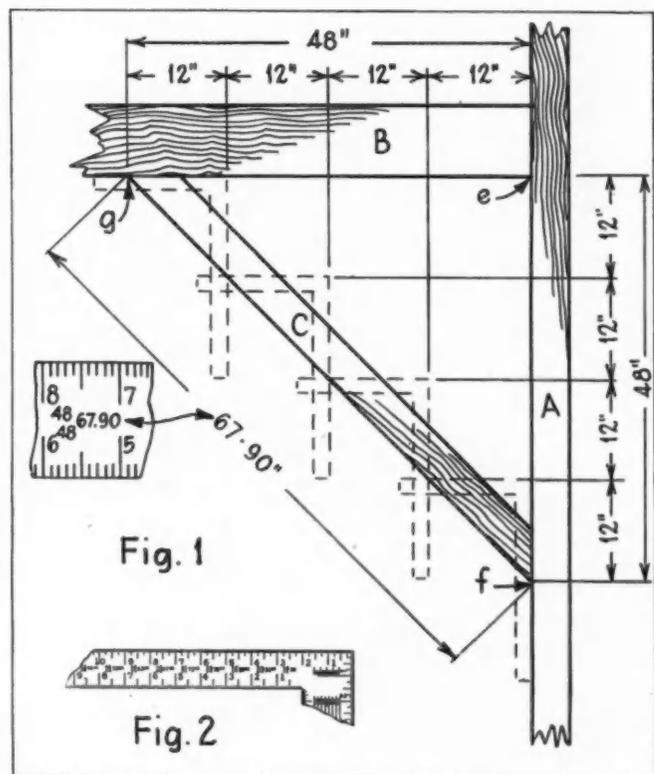
In Fig. 1 let A be the corner post in a braced tower or similar frame and let B be one of the horizontal members or "girts." It is difficult to make a strong enough joint between the girt B and the post A at the point e where these two members meet and so the brace C is framed in between them so as to stiffen the joint. Any movement at the joint tending to push or pull the post A out of "plumb" would result in a lengthening or shortening of the member C and as this is practically impossible, the joint will tend to remain square and true and the members A and B truly vertical and horizontal. To accomplish this the brace C must be fitted closely against both the girt and the post and must be of exactly the right length. It is in the job of laying out braces of this kind that the steel square will be very useful.

### How to Find Length of a Brace

In Fig. 1 notice that the outside edge of the brace C intersects the lower edge of the girt B at the point g and that it intersects the inside edge of the post A at the point f, also that the lower edge of the girt B and the

inner edge of the post A intersect each other at the point e. Since the joint at e is square and true, the triangle g e f formed by the three edges of the members B, A and C, referred to above, is a "right" triangle such as was described in the preceding article of this series on the Steel Square. The distance e f along the post is called the "vertical run" of the brace and the distance g e along the girt is the "horizontal run." In the case illustrated in Fig. 1 these two runs are assumed to be equal and each to be four feet or 48 inches, which will make the length of the brace from point g to point f about five feet eight inches, or 68 inches. This length can be found directly from the figures given in the Brace Measure on the steel square as follows:—

On the back of the square there is a set of figures etched along the middle of the tongue as shown in Fig. 2, thus,  $\frac{42}{42} 59.40$  and thus,  $\frac{48}{48} 67.90$ . These figures start at the free end of the tongue of the square with  $\frac{24}{24} 33.94$  and go as high as  $\frac{60}{60} 84.85$ , which will be found under the four inch mark near the heel of the square. These figures make up what is called the "Brace Measure" or the "Brace Rule" and are to be found on most steel squares, although some of the cheaper squares do not have them. To make use of the brace measure it is only necessary to remember that the two figures which are placed directly over each other like this— $\frac{48}{48}$ —represent the two runs (in inches) of a brace where the two runs are equal to each other as illustrated in Fig. 1, (Continued to page 102)



FIGURES 1 and 2 illustrate method of using the brace measure.

# SHOPCRAFTER'S Corner

## Things To Build for Profit or Pleasure

### How to Build an Inexpensive Lean-to Greenhouse

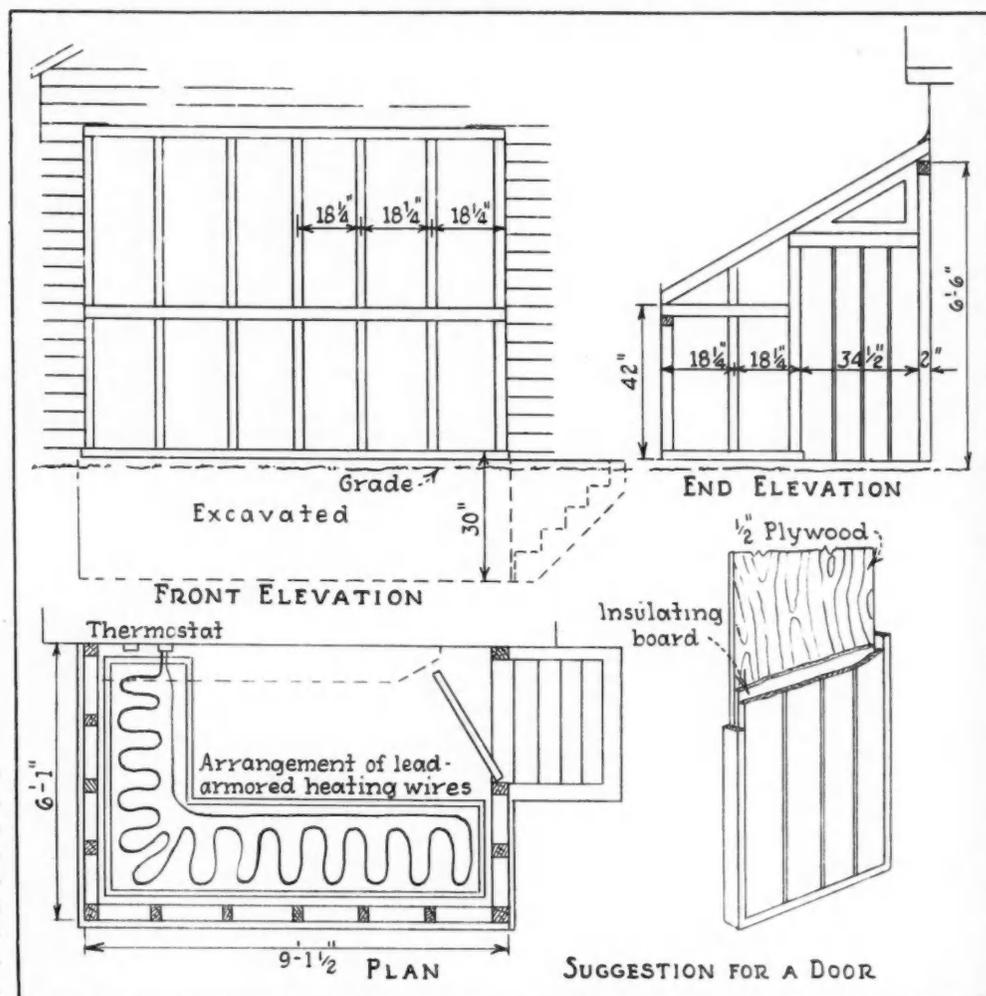
MANY home gardeners can be readily sold on having a private greenhouse if it is not too expensive. With the use of wire-glass, the entire project as illustrated here is not only within the means of the average family, but it is an easy job for any builder. Lighter framing can be used than with the case of glass, and rafters and studs spaced farther apart, and there is absolutely no danger of breakage while building or afterwards. Wire glass has still another important advantage over ordinary glass; it admits ultra-violet rays.

This design is intended to be built against the end of the garage, or house wall. An excavation is made 30 in. deep and as much larger than the floor plan as is required to lay up the walls of used brick. In excavating on the side adjoining the garage or house wall, begin the excavation about a foot from it so that no damage will be done to existing foundations or footings. This extension can be bricked up with a wall and form a shelf for many uses. Of course if you build against a house with a basement wall, no such precautions are necessary.

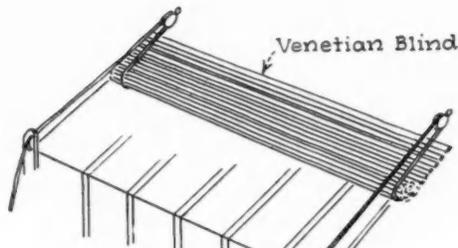
Set anchor bolts for the sills. Note that studs are spaced  $18\frac{1}{4}$ " apart, making a span of three  $36\frac{1}{2}$ " in. apart on centers; the extra half-inch is so that the 36-in.-wide wire glass will not overlap. The space between the edges will be sealed with a batten, as illustrated. Rafters correspond to the studs in spacing. Begin laying the wire

glass at the top of the roof and carry it on down over the sides. Use only copper tacks. Wire glass is also installed inside on the ceiling and walls, making cold-resisting air-pockets in the double walls. An ordinary door will be satisfactory, and the frame should be fitted with weatherstrip, or a special door with insulation board in the center can be built as in the drawing.

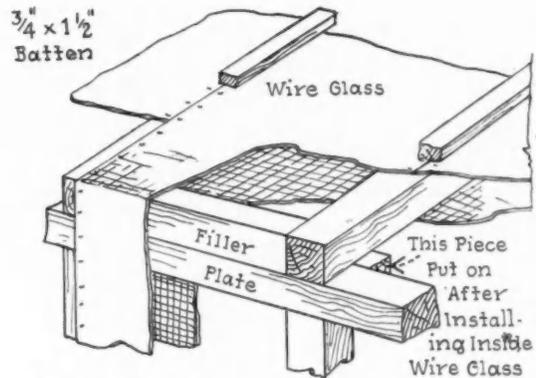
Make the plant benches deep enough to accommodate all the features shown in the cutaway drawing and still have about three inches between the top of the soil and the top of the box. Use rot-resisting redwood or cypress, and give the inside an application of tar or asphaltum paint. Bottom boards are spaced half an inch apart for drainage, and battens and boards laid over these to prevent the sand from falling through. For sections without extreme cold, lead-armored heating wire is laid over the sand and covered with another inch. Galv. hardware cloth over this prevents puncturing the lead cable. Soil composed of leaf mold and sand is filled in for the seedlings. A thermostat controls the heat of the soil—it should be set for about 64 deg. On colder nights, sheets of wire glass can be laid over the boxes to hold the heat in; an electric heater in one corner of the greenhouse or supplementary heating from the home heating plant will keep the temperature of the air above freezing. Another protection is the use of a Venetian blind rolled down over the roof.—Hi Sibley.



PLAN and elevations of inexpensive greenhouse built along the side of the garage or home. The framing is spaced to take 36-inch wide wire glass which allows construction economy; cuts down heat loss because of dead air space between double facing; admits ultra-violet rays; eliminates breakage.

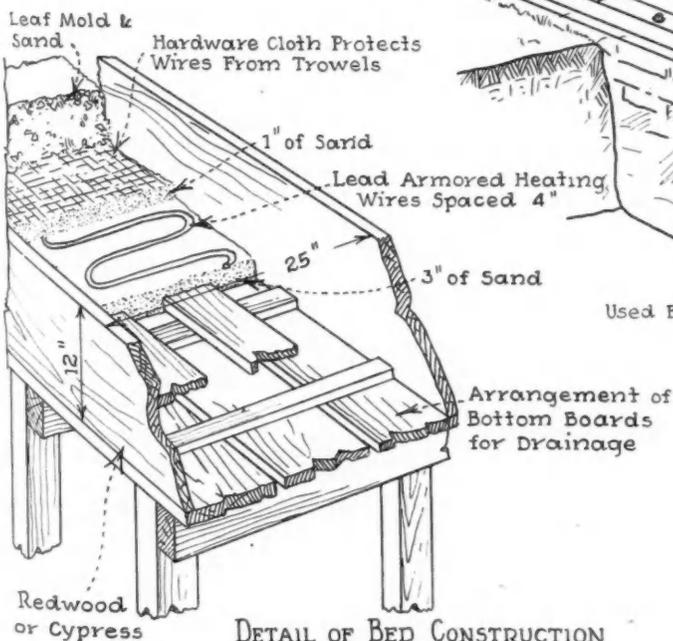
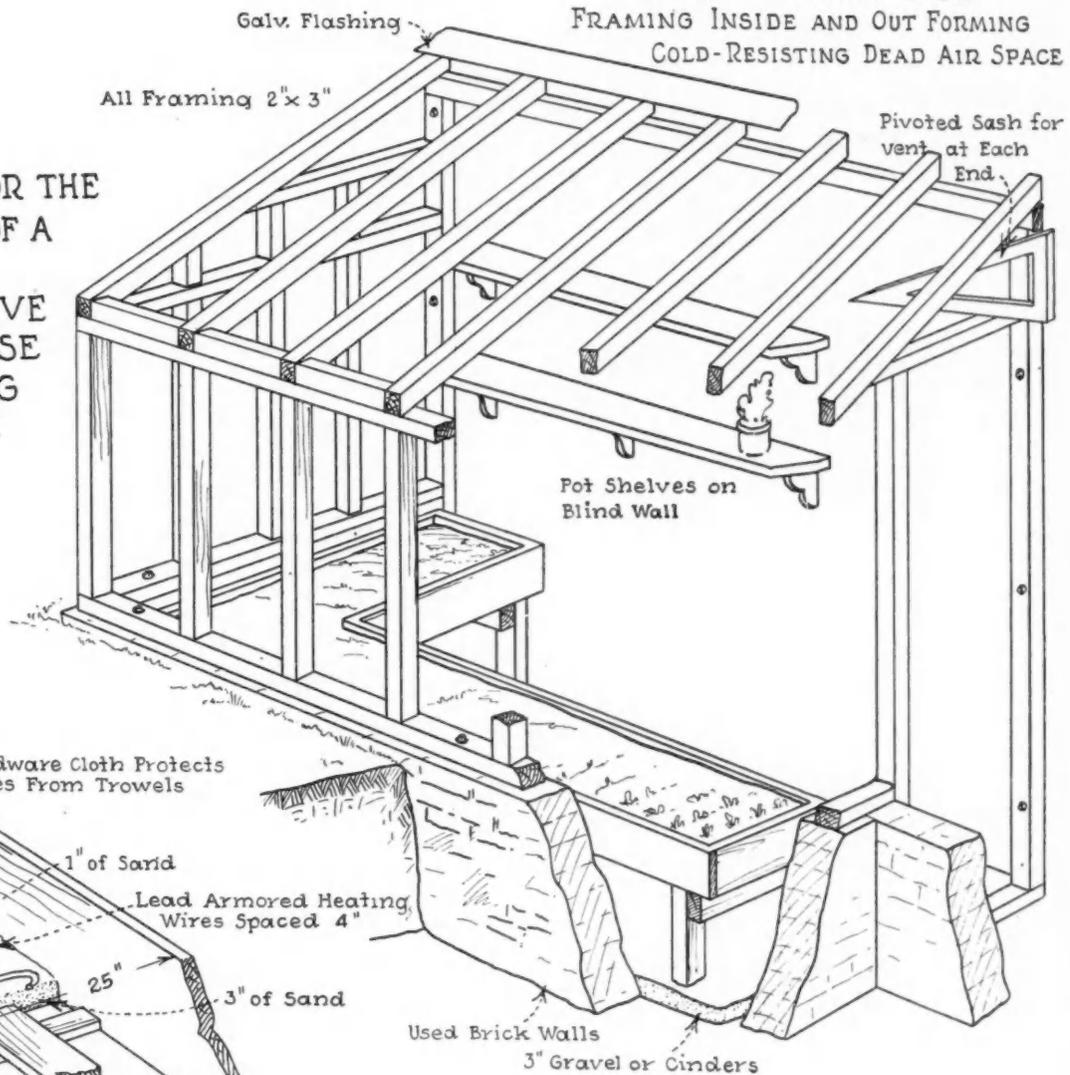


SUGGESTION FOR ROOF SHADE AND ALSO PROTECTION ON ZERO NIGHTS



WIRE GLASS IS TACKED OVER FRAMING INSIDE AND OUT FORMING COLD-RESISTING DEAD AIR SPACE

DETAILS FOR THE BUILDING OF A SMALL INEXPENSIVE GREENHOUSE ADJOINING THE HOME



DETAIL OF BED CONSTRUCTION SHOWING METHOD OF HEATING

CONSTRUCTION details for the wire glass covered greenhouse described in accompanying text. Perspective shows method of framing. Above at right is indicated the application of the wire glass over both sides of the framing to give dead air space. The suggestion for a Venetian blind type of roof shade is one way to provide cold weather protection, while the drawing at the left shows electric heating wires arranged in plant benches; for sections where cost of electricity is high and extremely low temperatures prevail, heat can be supplied from home heating system.

# Portfolio of Architectural Plates of DOUGLAS FIR PLYWOOD PANELING

PREPARED BY CARL F. GOULD, F.A.I.A.

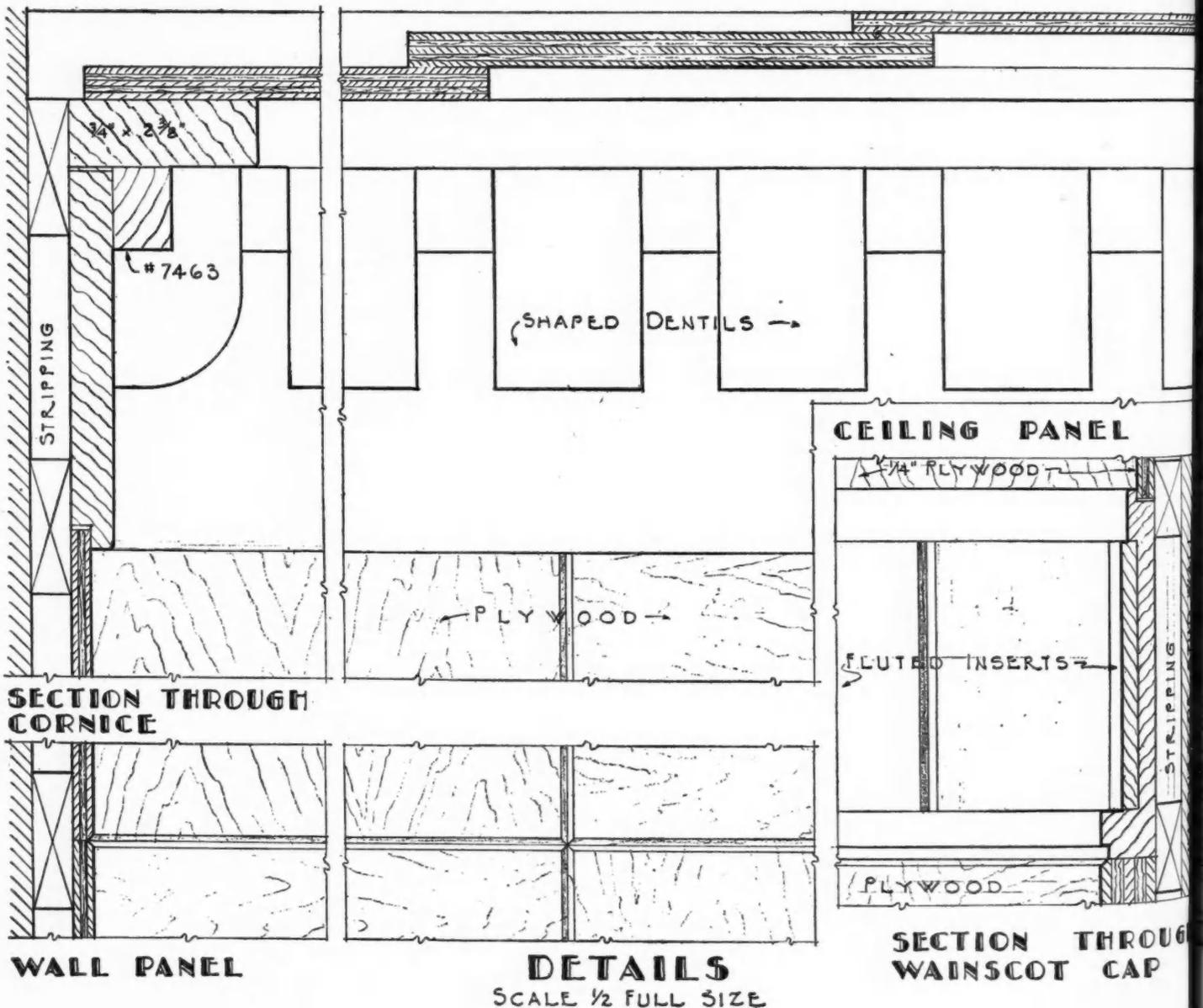
Another of a series intended as suggestions to the builder and architect as possible ways of using Douglas Fir Plywood for walls and ceiling in a commercial building design.

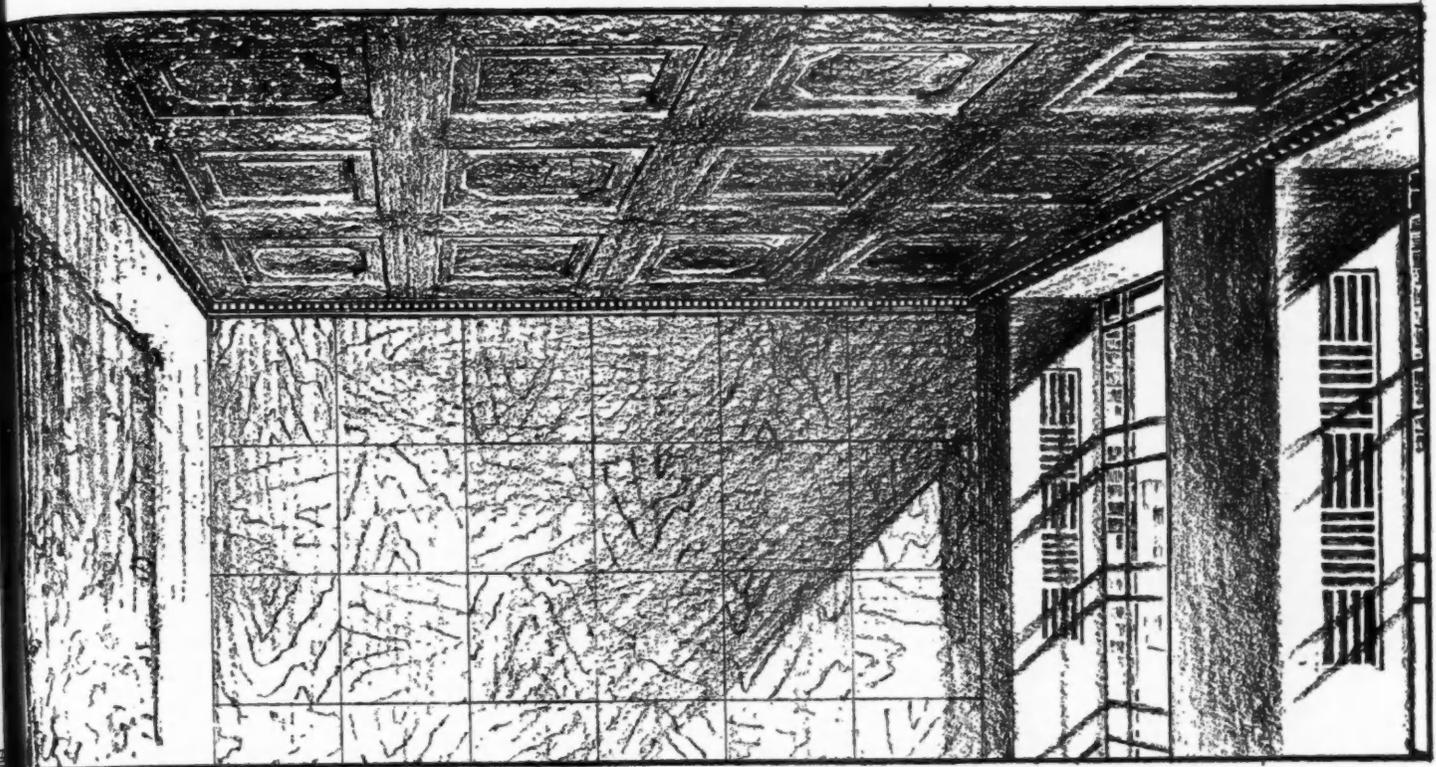
A RESTRAINED modern character can be given to a lobby by treating the walls with Douglas fir plywood in V-jointed squares, as shown in this plate. The ceiling is shown with a flat coffered effect, produced by overlapping thicknesses of plywood. The edges of overlapping ceiling members should be very sharply cut. A simple denticulated cornice is shown. The coffered ceiling would be appropriately decorated in silver Dutch metal, overlazed, with the edges of coffers picked out in turquoise blue. With this sort of ceiling treatment, the walls should be stained in a soft warm gray or beige color. The moulding noted as No. 7463

which forms a part of the cornice should be picked out in paint or stain of brilliant color.

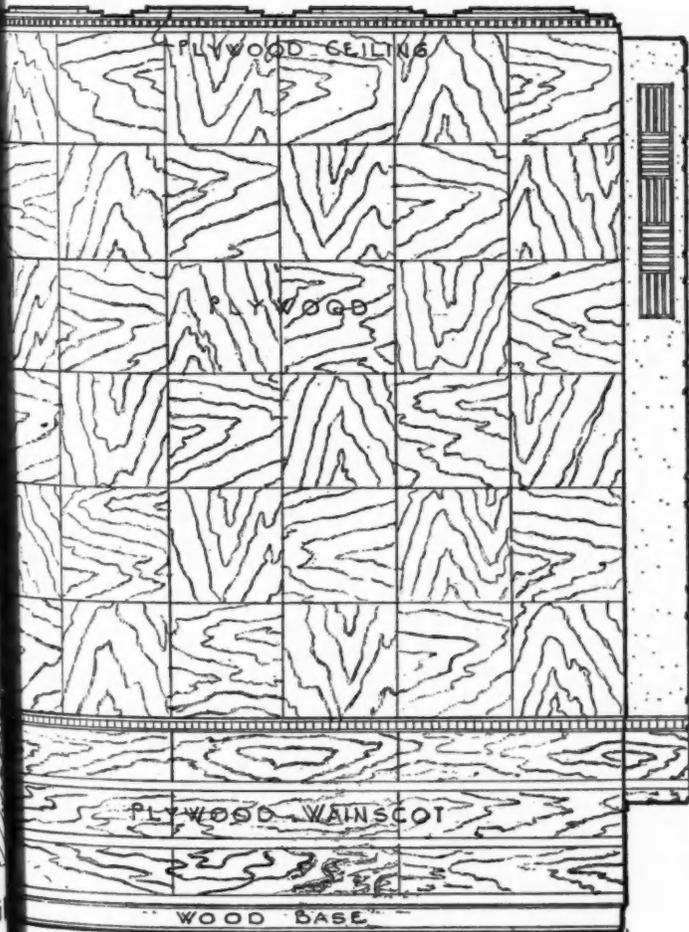
**MATERIALS:** Wall panels are of 1/4" or 3/8" good 1-side grade of Douglas fir plywood; ceilings may be a combination of 1/4", 3/8", and 1/2" or other thicknesses of the same grade. Stripping on stud walls is optional. Nailing will be with 4d up to 6d finishing, depending upon panel thicknesses. V-joints are made by carpenter with a plane.

Moulding numbers refer to Standard Wood Mouldings, 7000 Series.

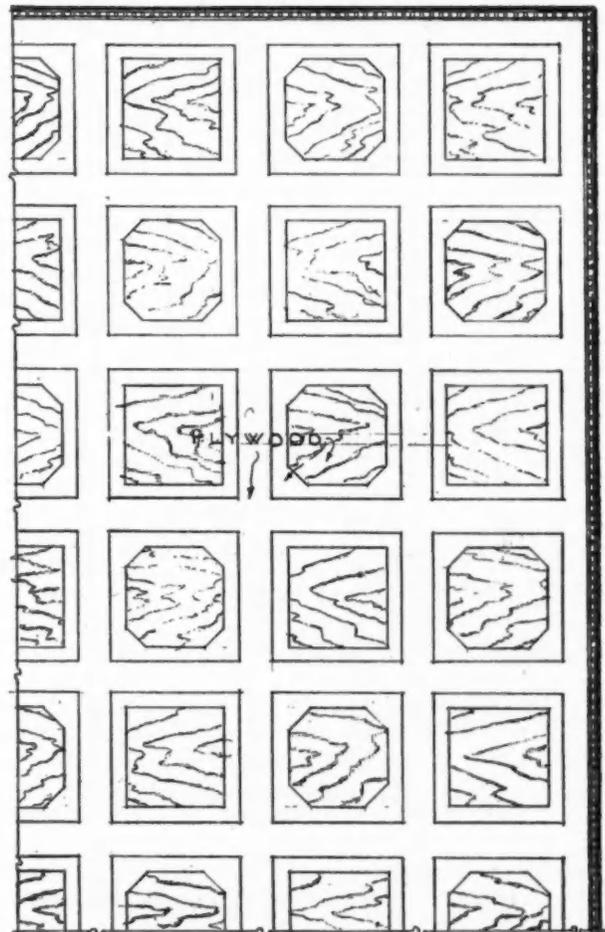




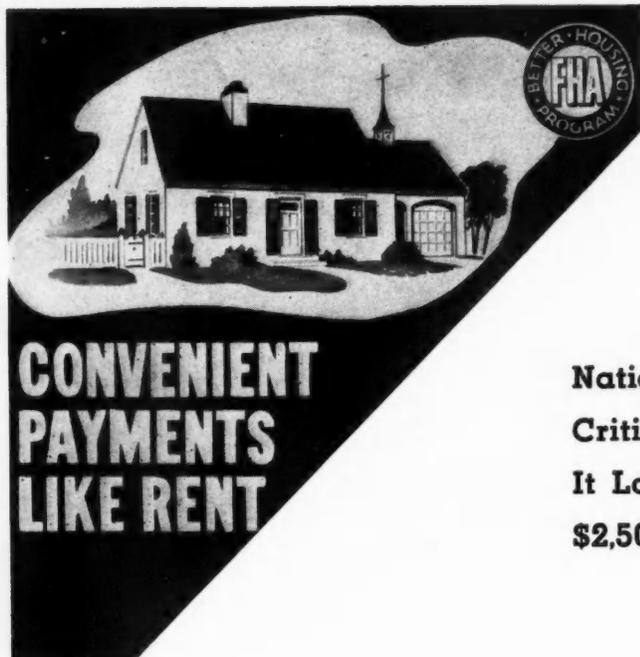
LOBBY PANELLING WITH COFFERING



END ELEVATION  
SCALE 1/4" = 1'-0"



PLAN OF CEILING  
SCALE 1/4" = 1'-0"



NEW FHA window poster supplied free to builders or dealers.

**W**HAT is happening to the great small homes program that FHA officials have been promising? Will it amount to something—or bog down as at

present appears possible?

Certainly FHA officials, as well as the Administration, and also the men of the building industry are all anxious to see more small homes built. Lots of them. Like lower taxes, everyone is in favor of them.

The educational division of FHA has announced a nationwide program in behalf of the \$100 to \$150-per-month-income home buyer. FHA has prepared colorful window displays, folders, special newspaper advertising, radio talks, motion pictures, car cards and advertising helps for builders, dealers and others interested in promoting small home construction. The co-operation of manufacturers, dealers, realtors, lending institutions and builders is expected in a concerted nationwide drive to promote and encourage small home building.

This part of the program is most commendable, but the other side of the picture, as related by numerous building industry men is that the low-cost home program—particularly as relates to the Title 1, Class 3, loans—is in danger of being “regulated” out of existence. Criticism of this phase of FHA activity has been widespread. Confusion, uncertainty and red tape seem to have prevailed and have bogged down activity. It appears as though drastic action will be required if the large volume of small home building that is desired by all concerned is to become a reality in 1940.

Out of the confusion, the following facts seem to emerge:

1. Identical minimum construction requirements and property standards have been set up for both Title 1, Class 3, and Title 2 loans.

2. These requirements and standards are such as to make it difficult, in the opinion of many building men, to build a \$2,500 house.

3. Interpretation of the construction methods and requirements by FHA officials of district offices in many areas make operations under Title 1, Class 3, particularly difficult for the small builder constructing houses on individual plots.

## Small Homes Deserve Big FHA Push

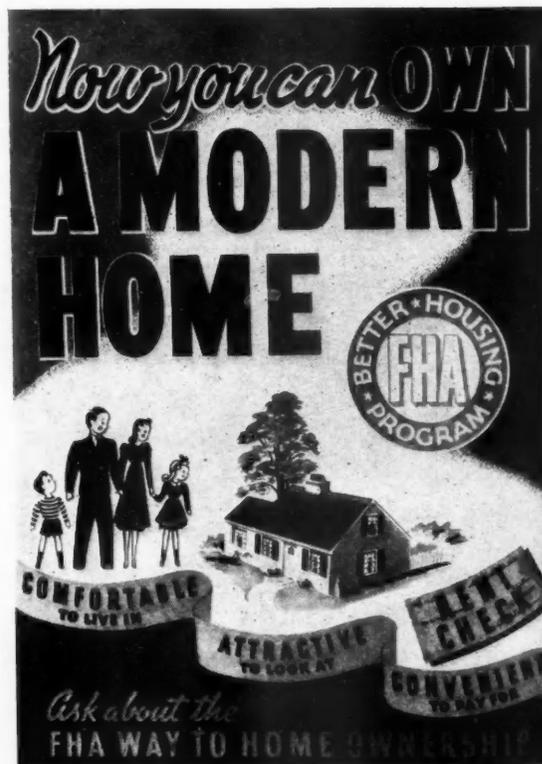
**Nationwide Education Program Announced Amid Criticism of New Low Cost Home Requirements. It Looks as Though Title 1, Class 3, Loans for \$2,500 Houses May be “Regulated” Out of Existence.**

*By J. B. Mason*

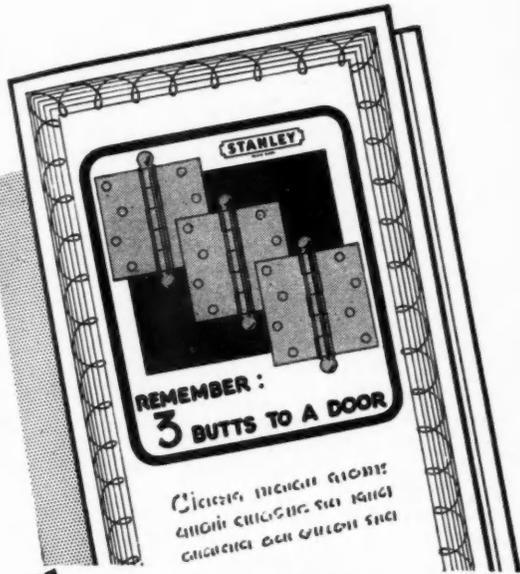
4. It appears that in many areas the original purposes of Title 1, Class 3, loans are being nullified and that the standards for small homes under Title 2 are still such that it will be difficult to serve the small home field in outlying areas.

The original purpose of Title 1, Class 3, loans was to make the building of low-cost houses easy and to simplify the loaning and construction procedure. Under this plan the local lending institution, not the FHA, passed on the borrower's credit, which did much to facilitate the approval of the loans. The construction and inspection

*(Continued to page 113)*

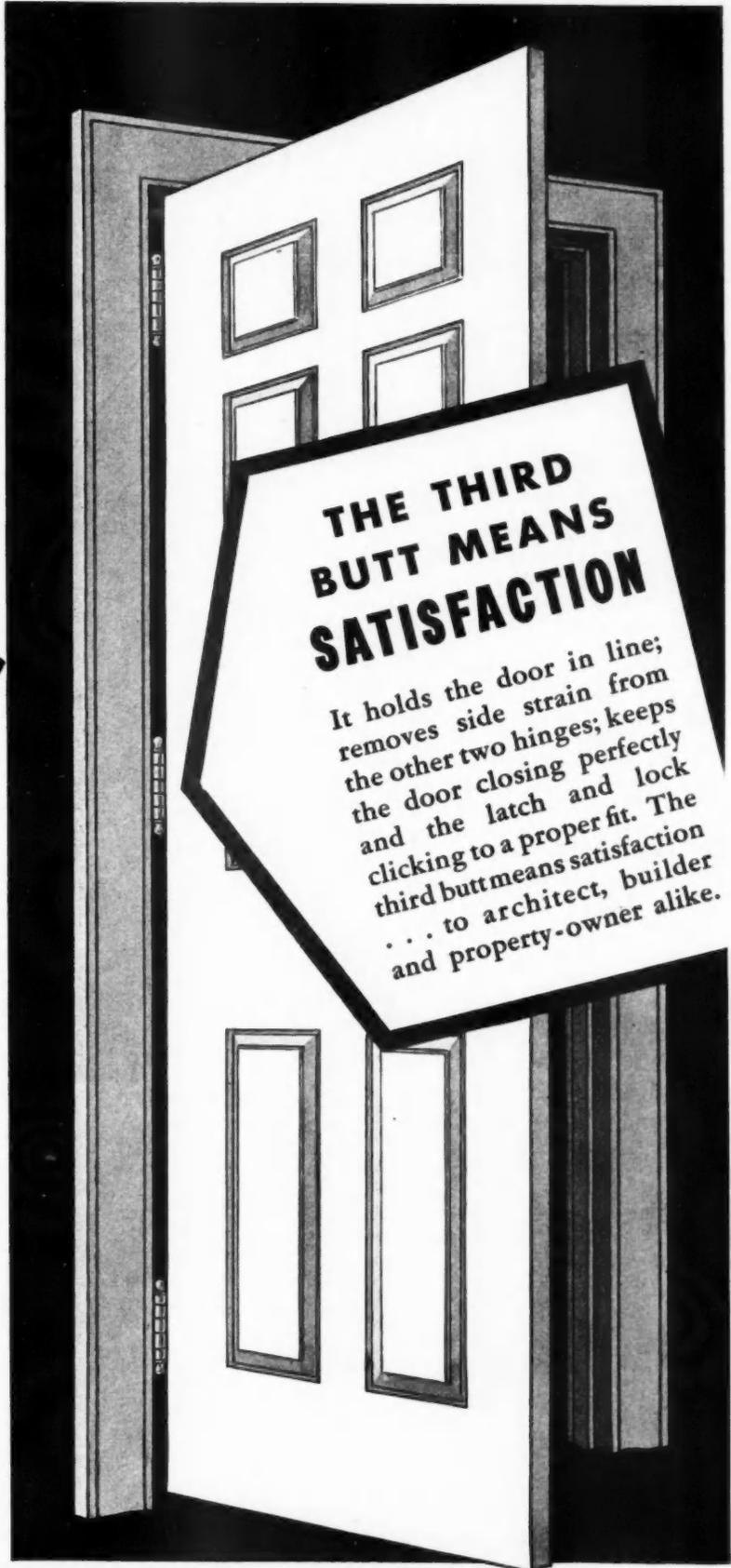


RED, blue and green one-sheet poster, 28 by 37 inches, tells FHA low-cost home story. Will be supplied to builders or dealers free. Ask for FHA window set No. 10.



# "Anti-Warp" INSURANCE

**WOOD** will warp . . . doors will bow out of line . . . unless you supply the vital protection of the third butt on every door! This low cost "anti-warp insurance" . . . three butts on every door in the house . . . costs less than to repair a single warped door! Always specify "Three Butts to A Door". The Stanley Works, New Britain, Connecticut.



# STANLEY

Trade Mark

REMEMBER . . . THREE BUTTS TO A DOOR

# Heating Items Lead New Products Parade

## Compact Gas-Fired Winter Air Conditioners

**S**URFACE Combustion Corp., Toledo, Ohio, has announced its new line of Janitrol gas-fired winter air conditioning units. New compactness is an outstanding feature, outside dimensions of the complete units being remarkably small. For instance the 90,000 Btu conditioner is 58" high, 27" deep, and 22 $\frac{3}{8}$ " wide, about the size of the usual broom and mop cabinet. This one, and the 60,000 Btu capacity, the most generally used sizes, are packaged jobs shipped completely assembled.

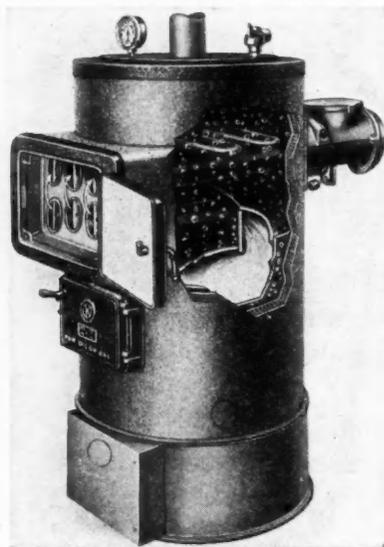
A new amplifier type of burner for high efficiency and elimination of tendency to "on and off" noise is made of long life type of cast iron. A battery of cast iron "Thermex" tubes forms the heat exchanger, and integrally cast heat absorption fins are staggered inside these tubes and cast convectors on the outside of the tubes increase heating surface approximately 130 per cent. Burners are placed so that combustion occurs within the tube itself, giving exceptionally good operating efficiency.

NEW gas-fired air conditioner is compactly designed for housing within small, neat cabinet.



## Smaller Size Steel Boiler

**T**HE American Radiator & Standard Sanitary Corp., Pittsburgh, Pa., has announced a new, small steel boiler; this is the No. 1733-Oil, No. 0733-Stoker Kewanee Round Type "R" steel boiler for small homes, and has a capacity of 275 square feet steam radiation. Among its outstanding features are: (1) Made of rugged steel plate for long life; (2) models for oil or stoker; (3) comes ready for quick assembly, thus saving installation time; (4) proved efficiency up to 80 per cent; (5) two-pass tubes which transfer a maximum amount of heat to water—stack temperature as much as 1000 degrees lower than many; (6) water coil for domestic hot water ready installed; (7) doors insulated with refractory lining or baffle liner, and door castings with gas-tight ground joints, or grooves sealed with asbestos rope gasket; (8) all flues easily accessible from the front for quick, easy cleaning.



NEW steel boiler in smaller sizes for oil, stoker or hand firing.

## Tabletop Automatic Water Heater

**A**N automatic gas-fired storage water heater designed with a tabletop for use in the modern kitchen has been developed by Hotstream Heater Co., Cleveland, Ohio. This heater, known as Model "TT," is readily adaptable to present-day planning practice of having units arranged along the walls for streamline production, and the porcelain top serves as a work unit in the kitchen; this surface is of the same height as average equipment which might be placed next to it, such as work counters, sink or stove.

The "Hotstream Tabletop" is an underfired, center flue, quick recovery heater made in 20 and 30 gallon sizes. The tank is of heavy galvanized steel, and is surrounded with hand-packed rock wool insulation extending to the bottom of the combustion chamber.

Automatic improved ball type safety pilot is simple in design and positive of action. Snap action thermostat has a built-in dirt trap which filters gas to pilot burner.

The modern cabinet is designed with all connections at the rear, and except for the white porcelain top, is finished in white Dulux baked enamel with black base and trimmed with stainless steel. Heaters can also be furnished for Propane, Propane-Air, Butane and Butane-Air at slight additional cost.



AUTOMATIC storage water heater for kitchen has handy porcelain tabletop.

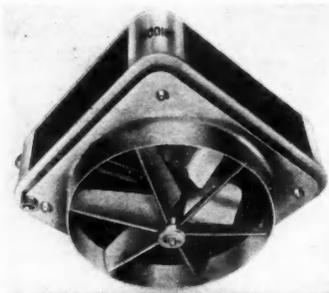
## Vertical Delivery Unit Heaters

**M**ODINE Manufacturing Co., Racine, Wis., has added a vertical delivery type unit heater to its line. The new unit is recommended wherever conditions call for a more directly downward delivery of heated air than is provided by the conventional design of unit heater. Eleven models are available ranging in capacity from 30,000 B.t.u. per hour to 471,600 B.t.u.

In factories where high clearance is essential, as for craneways, Modine Verticals meet such special conditions. Likewise, over store and office doorways, this unit provides a curtain of warmed air to offset the impressing cold drafts.

Each unit is regularly equipped with a radial or spoke-type deflector assembly known as the Modine Cone-Jet Deflector. By manual adjustment of the individual deflector blades, the delivered air may be concentrated in limited direction, even kept almost entirely to one side of the unit. Thus, in a multiple installation of Modine Verticals, heated air deflection may be controlled so as to give more concentration on outside walls, thereby conforming to normal heating requirements. By employing a steep angle of pitch on the deflectors, a high, narrow, jet-like cone of heated air may be thrown from a high elevation. When the unit is

(Continued to page 90)



UNIT heaters delivering air vertically are available for installations where heat must be thrown downward as over entrances, etc.

**AGAIN IN 1939!**  
**For FIVE Straight Years**  
**MORE Heavy-Duty\* Internationals**  
**were bought than**  
**ANY OTHER TWO MAKES COMBINED**

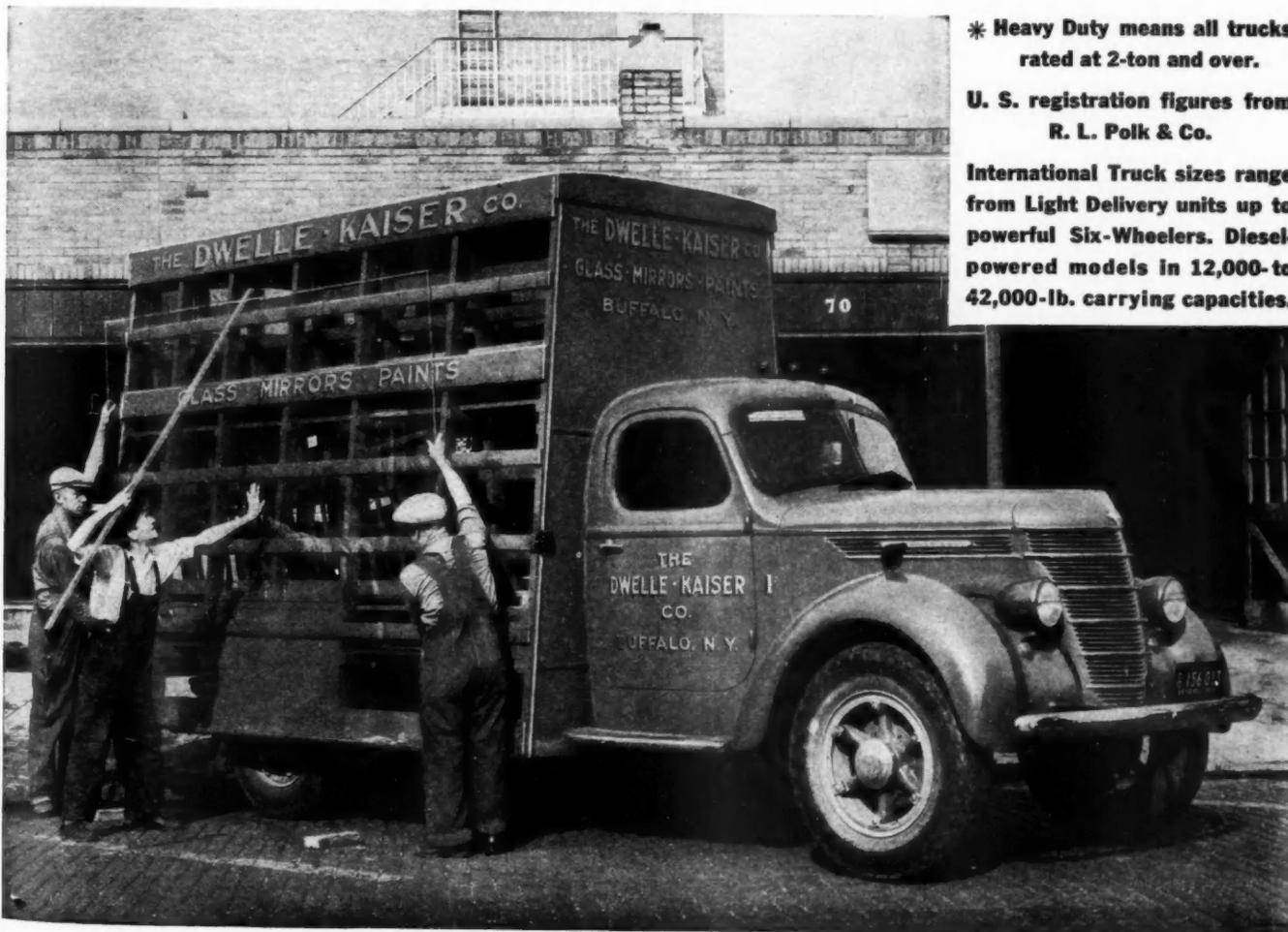
**INTERNATIONAL HARVESTER COMPANY**

(INCORPORATED)

180 North Michigan Avenue

Chicago, Illinois

Sold by International Dealers and Company-Owned Branches



\* Heavy Duty means all trucks rated at 2-ton and over.

U. S. registration figures from R. L. Polk & Co.

International Truck sizes range from Light Delivery units up to powerful Six-Wheelers. Diesel-powered models in 12,000- to 42,000-lb. carrying capacities.

International Trucks are readily adapted to hauling any kind of load. The Dwelle-Kaiser Co., Buffalo, N. Y., finds its International exactly suited for the careful job of hauling plate glass.

**INTERNATIONAL TRUCKS**

(Continued from page 88)

mounted relatively close to the floor, deflectors can be flattened for delivery of a low, broad cone of heated air.

Modine Verticals are built in such a way that they may be suspended directly from the supply branch without the use of hanger rods or pipe straps. This reduces the cost of the installation by three to ten dollars per unit. Direct suspension is especially important where verticals are mounted above main trusses in monitor type buildings and where means of suspension must thus reach down a long way from the roof members.

All Modine Vertical Units are rust-protected by the Bonderizing process.

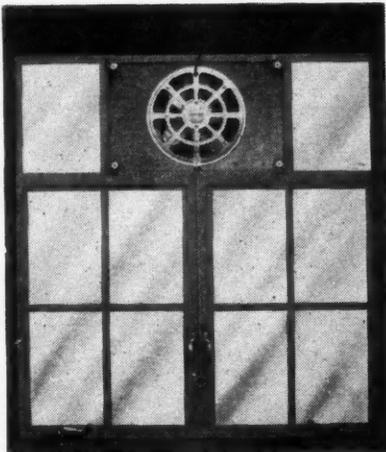
### Victor Panel-aire Unit

THE newest addition to the line of Victor In-Bilt ventilators, manufactured by Victor Electric Products, Inc., Cincinnati, O., is the Victor Panel-aire for homes under construction or homes already completed. It is easily installed in steel sash windows, transoms, or any place where facilities for a panel opening already exist.

The compact Panel-aire unit, mounted on a panel which is made to order (minimum size, 11" x 11"), fits flush with the inside of the sash, and there is no interference with shades or Venetian blinds. A dead air space between the round inside sleeve and the square outside housing eliminates completely any possibility of sweating. Completely weathersealed, it keeps out both air and moisture.

The motor and louver of the Victor Panel-aire are synchronized. A release of the operating chain opens the louver and starts the motor simultaneously; if the operation is reversed, the louver closes, stopping the motor immediately.

Outside housing and panel are enameled in high gloss battleship grey, affording an attractive background for the fan and grille which are finished in lustrous Silchrome.



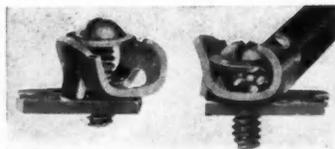
VENTILATING unit for installation in steel sash or panel openings.

### New Solderless Connector

THE Square D Company, Detroit, Mich., has developed a new solderless connector; it is called the Universal Speed Connector, because of its ability to take from No. 14 to No. 4 wire, and because it saves time in wiring. The connector is free to rotate around the screw, thus allowing wire to be inserted from almost any angle. This feature is important where large wires are used in a limited space. The unusual range in wire size (from No. 14 to No. 4) permits the use of large wires for service drops to small 30 or 60 ampere switches.

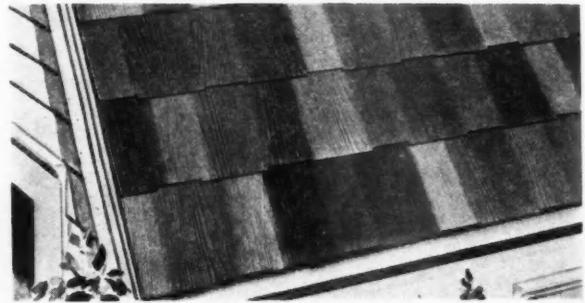
The connector is self-centering so that there is no need to wind the wire around the stud, or to separate stranded conductors. As the screw is tightened, the lug is forced to one side and the wire is gripped tightly. When the tightening is completed, the screw exerts pressure against the wire on one side and the lug on the other side. Thus, bending of the screw is prevented, while positive contact is assured.

SOLDERLESS connector speeds work in attaching wiring, particularly of large size, to equipment.



### Careystone Tri-Tone Strip Shingle

THE Philip Carey Co., Lockland, Cincinnati, Ohio, has just announced a new asbestos-cement, strip shingle called the Careystone "Tri-Tone" blend, which automatically gives individual shingle effect. When applied even by unskilled men and without special supervision, the roof will present a perfect blend



ASBESTOS-CEMENT strip shingles lay flat without warping.

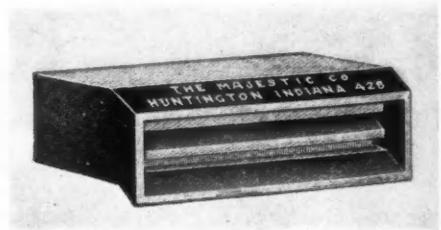
of color tones, without bunching or patterning. This is made possible because the shingles are made in four types of five-panel strips; each panel, on each strip, has its own individual, authentic wood grain texture, a separate color-tone and a corresponding staggered butt. Each of the four types has a different combination of tones on its panels. This combination of types and tones and staggered butts produces the effect of individual shingles laid by an expert. The fact that this is a strip shingle for application by the Scotch-American method provides for low applied cost.

This new shingle is now available in "Tri-Tone" blends of green, gray and autumn (red, brown and straw). The panels are 12 by 24 inches. Laid with a 9-inch exposure, a 3-inch head lap and a 4-inch side lap, they give time-tested weather protection, effective shadow lines and traditional coursing. Application is simplified because there are only 80 pieces to the square, and only one storm anchor and two nails are required per piece.

### New Majestic Ventilator Brick

A NEW hollow, brick-size metal ventilating brick which meets the demand for an easy-to-install, inexpensive ventilating device has been announced by The Majestic Co., Huntington, Ind. It is easily installed since it is bricked in by the mason as construction progresses. Although made of a size suitable for brick construction, it may also be used in frame or concrete wall construction.

These ventilating bricks provide an excellent form of ventilation for adding air spaces in insulated homes, as well as for storage rooms, cellar rooms, and other masonry enclosed areas. They are of the highest quality cast semi-steel with louvered exterior spaces and waterdrips at top and bottom. They extend through the entire wall to the inner wall surface.



METAL brick for ventilating closed spaces.

### Reid-Way Oscillator

THE Reid-Way Corporation, Cedar Rapids, Iowa, is offering a new product, the Oscillator, which may be used for the finishing cut to give a piano-like finish to the floor. This is a rubbing type machine, which makes 1800 oscillations per minute. The sandpaper block comes to a dead stop and reverses its motion 2600 times every minute.

Instead of hand scraping and sandpapering the borders, the floor man can now follow up the spinner with No. ½ paper on the Oscillator over the entire room, and then quickly go over the entire floor with steel wool on the Oscillator, instead of sandpaper.

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# NOW *COLOR* REALLY SELLS

## FOR YOU—IN THE *SHERWIN-WILLIAMS* PAINT AND COLOR STYLE GUIDE

Note: For the first time, Mr. Builder, you can see your finished color schemes before you build.

Note: The open Style Guide covers over five square feet in area.



## YOU'VE NEVER SEEN ANYTHING LIKE IT!

The Sherwin-Williams Decorative Studios have produced a Paint and Color Style Guide that is so accurate, so real you feel you are stepping into the actual rooms the moment you look at the illustrations. Architects, builders, realtors, banks, insurance companies, painting contractors are wildly enthusiastic. There are 145 of the most beautiful illustrations you have ever laid your eyes on. All of which means that the Sherwin-Williams

Paint and Color Style Guide can be the biggest boon in the world to your business. With this service you become a color authority because every style and suggestion is complete in every detail including actual reproductions of paint, furniture, rugs and hangings.

You can't afford to be without the Paint and Color Style Guide. Overnight, it's changing the entire conception of selling color for the home. It's taking the country by storm!

## WRITE TODAY FOR FULL

**INFORMATION** on the Sherwin-Williams Paint and Color Style Guide. Due to the tremendous demand and the astonishing value of the Style Guide only a limited number are available.



**THE SHERWIN-WILLIAMS CO.**

### FACTS AND FIGURES ON THE *SHERWIN-WILLIAMS* STYLE GUIDE:

- 1 It is the largest volume ever published in quantity.
- 2 Its plates constitute one of the world's largest colorplate orders—236 plates in all.
- 3 It permits for the first time knowing in advance just how a color scheme will look.
- 4 It is the world's largest Kodachrome photography job.
- 5 It explains color for the first time in really simple language.
- 6 It enables builders and architects to duplicate exactly any room or exterior color scheme.
- 7 It shows how to harmonize furnishing colors with colored walls.
- 8 It enables builders and architects to use colorful paints that formerly were safe only in the hands of a decorator.
- 9 The open Style Guide covers over five square feet in area!

THE SHERWIN-WILLIAMS COMPANY,  
DEPT. A. B. 3,  
CLEVELAND, OHIO

Gentlemen:

I am interested in the Sherwin-Williams Paint and Color Style Guide. Please let me know how to obtain one or more copies.

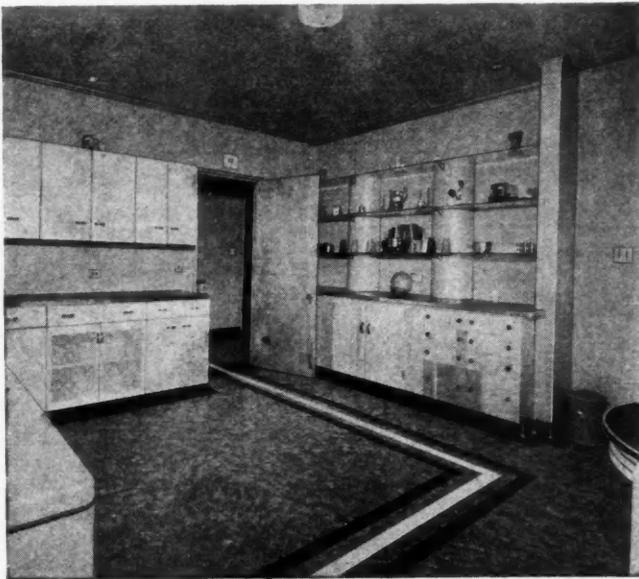
NAME \_\_\_\_\_

FIRM NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_ CITY \_\_\_\_\_

TYPE OF BUSINESS \_\_\_\_\_

[ Armstrong's Colonial Blue Linowall helps give this kitchen ]  
[ the color and charm that make houses easier to sell or rent. ]



## The woman's viewpoint ON WALLS

**M**RS. HOUSEWIFE always takes a big interest in the kitchen and bathrooms of the building in which she thinks of making her home. And one sure way of winning her approval is by pointing to easy-cleaning walls of Linowall.

Cover your walls with Armstrong's Linowall and you can promise her that wall-washing will be a cinch in her home. Dirt, finger marks, soot, and ordinary stains wipe right off with mild soapsuds. You can also tell her that the attractive Linowall colors can't wear or scuff off because they run right through this linoleum-like material. And, don't neglect to mention that Linowall is made by the makers of nationally advertised Armstrong's Linoleum—a fact she's sure to listen to with interest.

### Permanent Walls at Less Cost

She will also be interested to know that Linowall never requires expensive refinishing. It won't crack, chip, craze, or buckle under moderately settling walls. Linowall is available in a wide range of attractive plain colors and in pattern effects that resemble costly wood, tile, and marble finishes. Yet this modern sales-building wall covering costs about one half as much as other permanent materials.

### Send for Idea Book

For full information, send for our free booklet—"Decorative Walls of Enduring Beauty." Armstrong Cork Company, Building Materials Div., 1218 State St., Lancaster, Pa.



# Armstrong's LINOWALL

Made by the makers of Armstrong's Linoleum

## News of the Month

### Building Activities and Meetings

### Building Industry Investigation Expands

Department of Justice Has Returned Indictments Against Manufacturers, Wholesalers, Building Groups, Unions, Associations, and Individuals in Nine Cities.

**T**HE United States Department of Justice investigation of building industry practices charges conspiracy in restraint of trade, price fixing, and violations of the Sherman anti-trust laws. To date indictments have been returned against various building industry groups, manufacturers, wholesalers, dealers, associations, contractors, and labor unions in nine cities. The investigation is being extended as rapidly as facilities of Department of Justice permit.

The following summary shows results of the investigation to date, and is taken from a bulletin prepared by the National Association of Woodwork Jobbers in Chicago:

#### CHICAGO

**Tile:** On January 15 a federal grand jury returned 41 indictments naming 14 corporations, a trade association, a union, and 25 individuals, charged with conspiracy in restraint of trade. Defendants, it was alleged, combined to prevent purchasing of tile manufactured outside the state, and prevented prospective contractors engaging in tile contracting business. The plan was policed by union threats, force, violence and boycotts, according to charges made.

**Plywood:** On February 1, three A. F. of L. carpenters' unions and five union officers were indicted for boycotting products of a West Coast plywood manufacturer after a C. I. O. union won a Wagner Act election in the plant.

**Cut Stone:** On February 1 three cut-stone contracting corporations, five members of contracting firms, seven union officials, and two union groups were indicted for alleged refusal to allow use of prefabricated limestone from outside the state.

**Electrical Fixtures:** On February 14 a federal grand jury indicted a union, six business agents, and five electrical fixture manufacturers for alleged conspiracy involving working agreements under which the union would install only fixtures bearing the union label.

#### NEW YORK

**Sand and Gravel:** On November 22 a New York federal grand jury indicted a sand and gravel producers' association, seven corporations and 12 individuals, charging the defendants with establishing a price-fixing combination in violation of the Sherman Act.

**Union Jurisdictional Dispute:** On January 24, an international union, three local unions and 24 union officials were indicted for alleged attempts to force certain retail lumber dealers to coerce employees to leave a C.I.O. union and join defendant A. F. L. organizations.

#### DETROIT

**Tile:** On December 5 indictments were returned against 35 individuals, eight manufacturers, some jobbers, two local unions, two local and one national association of tile contractors. It is charged that defendants conspired to force 60 non-member contractors out of business and to prevent them from obtaining tile outside the state.

**Electrical Supplies:** On December 22 three large electrical supply manufacturers, ten wholesalers, and 19 individuals were accused of fixing prices of electrical supplies and suppressing competition among themselves.

#### NEW ORLEANS

**General Contractors:** On December 2 a federal grand jury indicted the New Orleans chapter of the A. G. C., three member contracting firms, and 13 individuals on charges of conspiracy to defraud the U. S. government, and of diverting PWA funds. On January 15 the association was fined \$2,000, while three contracting firms and 11 individuals also paid fines of \$200 each.

**Union Jurisdictional Dispute:** On January 15 the Building and Construction Trades Council of New Orleans, most of the A. F. (Continued to page 94)



# omfort, quiet, and beauty

GO TO SCHOOL WITH ARMSTRONG'S TEMLOK DE LUXE



A MUSIC ROOM GOES MODERN in a practical way with walls and ceilings of Armstrong's Temlok De Luxe. The Place: Parma-Schaaf High School, Cleveland. The ceiling effect was obtained by using 16" x 16" panels of white with an 8" coral border. Walls are of 12" coral beveled plank.

**This modern interior finish means more satisfaction to customers... more profit to you!**

**S**CHOOLS are excellent prospects for Armstrong's Temlok De Luxe — the modern, smooth surface, structural insulating board. Offices, theatres, stores, restaurants, public buildings, and private homes, too, can use this distinctive wall and ceiling finish to great advantage... for either new construction or remodeling.

Temlok De Luxe saves customers' money because it does three important jobs in one installation... and at one cost. First, it provides efficient *insulation* which increases year-round room comfort and saves on fuel. Secondly, Temlok De Luxe is *decorative*. It comes in five attractive colors—ash, coral, cream, green, and white—and in panels, planks and boards which may be combined into many striking pattern effects. In addition, Temlok De Luxe makes

rooms more *quiet*—bars passage of sound through partition walls.

You assure your customers *lasting* satisfaction when you install Armstrong's Temlok De Luxe. It's easy and quick to erect, too, saving time and money on the job. Try this versatile interior finish on your next project. Near-by stocks assure prompt delivery. For complete information and samples, write to Armstrong Cork Co., Building Materials Division, 979 Concord St., Lancaster, Pa.



**SAVE TIME AND MONEY ON TEMLOK JOBS WITH TEM-CLIPS**

New galvanized metal devices—Armstrong's Tem-Clips—provide a *permanent, invisible support* which "floats" individual panels or planks against furring strips on walls and ceilings. Tem-Clips eliminate high shearing stresses caused by lateral movement of the furring, allowing normal movement of the base without disturbing the Temlok panels. For a faster, more efficient installation, try Armstrong's Tem-Clips—they'll save time and money, and increase your customer's satisfaction. Samples and complete specifications will be sent promptly on request.



## Armstrong's TEMLOK INSULATION

DE LUXE INTERIOR FINISHES

TEMSEAL SHEATHING - LATH - ARMSTRONG'S MONOWALL

# 3 WAYS TO MAKE MONEY



## 1. FLOOR SURFACING

Be your own boss and make big money with an American Floor Sanding Machine. As much as \$25.00 a day is not an unusual amount for the floor surfacing contractor to make. When "New Building" activity is slow, there are always hundreds of floors in older homes to be resurfaced and finished.

With the many outstanding time and money-saving features, American machines for years have been the favorites of floor surfacing men. Investigate the wonderful possibilities of this work today.

## 2. POLISHING and WAXING

Many contractors find a considerable need for polishing, waxing, steel-wooling and disc-sanding equipment. Here it is—all in one—in the new American DeLuxe line. In addition—many men are doing nothing but polishing, waxing and finishing floors and making big profits at it too. There is a big field for men owning these machines. Decide to be your own boss and investigate today.



## 3. CABINET and MILLWORK

Here is a machine—the American Sanderplane that will quickly pay for itself in your work. Many lumber companies, millworks and cabinet shops have testified as to the American Sanderplane's money-saving and profit-making applications. Besides wood, it can be used on metal, marble and stone with equal success.



### SEND COUPON NOW

If you are at all interested in getting into something for yourself and getting out of the "old rut" or if you want to increase your profits in your present business, sign and send in the coupon below. There is no cost or obligation to you. Be sure to check the kind of machine you are most interested in on the coupon below.

**THE AMERICAN**  
FLOOR SURFACING MACHINE COMPANY  
511 So. St. Clair Street • Toledo, Ohio

- Gentlemen:  
Without cost or obligation send complete prices on the following:
- American Floor Surfacing Machines
  - American Polishing and Waxing Machines
  - American Belt Sanders
  - I want to get into something for myself
  - I already own one, quote trade-in value

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

## NEWS-

(Continued from page 92)

of L. building trades unions and their business agents were indicted. All were accused of refusing to receive materials delivered by truck drivers who were members of a local C. I. O. affiliate.

### CLEVELAND

**Glazing:** On November 10 a federal grand jury indicted three business men, three labor union figures, three companies and a bureau, charging that the defendants acted together to give the above-mentioned corporations a glazing monopoly in Cleveland, and that they acted solely for their financial gain.

### PITTSBURGH

**Electrical Contracting:** On November 3, 58 persons and corporations, including electrical contractors, union leaders and a trade association, were indicted for conspiracy to defraud the U. S. in connection with bids on contracts for public works. On February 6, fines aggregating \$54,150 were imposed on defendants, all of whom entered pleas of no defense. The heaviest fine, \$7,000, was levied against the business agent of the local electrical workers' union. Other fines ranged from \$50 to \$5,000.

**Millwork:** On February 23, 50 defendants were named in the Pittsburgh millwork industry, including 21 individuals and manufacturing firms, members of the Lumber Institute; 18 AFL-United Brotherhood of Carpenters and Joiners officials, including ten international officers, for alleged conspiracy and monopolistic combinations to maintain high costs on millwork used locally.

### ST. LOUIS

**Union Jurisdictional Dispute:** On November 3 an indictment was returned against two carpenters' unions and four union officials, charging conspiracy to restrain trade in a jurisdictional dispute with the International Association of Machinists.

### WASHINGTON

**Union Jurisdictional Dispute:** On October 12 a federal grand jury indicted an A. F. of L. teamsters' local and five union officials on charges of conspiracy to obstruct and delay work on buildings by strikes, boycotts and violence. The indictment came after weeks of dispute over the right to drive mobile concrete mixers.

### SAN FRANCISCO

**Electrical Contracting:** On December 18 indictments were returned against 36 individuals, ten companies and two unions, charged with conspiracy to "increase, regulate, dictate and control" bids which small electrical contractors submitted to general contractors for installing and repairing electrical systems.

**Hardwood Flooring Contracting:** On December 18 a number of individuals, associations, and unions, all identified with the hardwood flooring contracting industry, were indicted for conspiracy to restrain trade.

**Plasterers:** On December 22 an indictment was returned against 38 individuals, one labor union and one trade association in the plastering branch of the industry.

## Residential Building for February May Equal 1939 Volume

WHILE figures for residential building covering the first fifteen days of February were slightly under those for the same period last year, it is possible that with less severe weather during the latter half of the month, the volume will equal that of last year for the whole month. F. W. Dodge figures for Feb. 1-15 amounted to \$36,301,000, as against \$40,160,000 last year. Statistics for the four classes of construction, are as follows:

	Feb. 1-15, '40	Feb. 1-15, '39	Jan. 1940
37 Eastern States	\$36,301,000	\$40,160,000	\$77,400,000
Residential	29,406,000	31,320,000	52,532,000
Non-Residential	25,107,000	25,447,000	47,861,000
Public Works	6,074,000	10,672,000	18,398,000
Utilities			
<b>Total</b>	<b>\$96,888,000</b>	<b>\$107,599,000</b>	<b>\$196,191,000</b>



R. A. Ackerman, Builder, Cincinnati, O., puts sales appeal into small homes and 4-suite apartments like these, with Modine Copper Convectors.

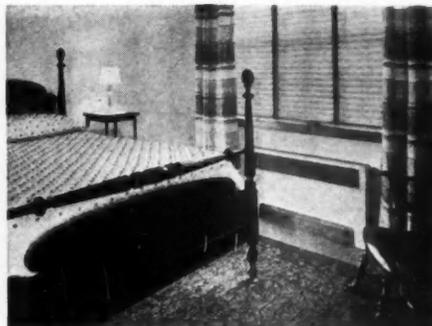


Ackerman gets  
**RENTABILITY**  
and  
**SALABILITY**

BY GIVING 'EM MODERN SMARTNESS, BEAUTY, DURABILITY OF  
**modine copper concealed radiation**



Modine Convectors never complicate furniture location. Drapes stay clean longer. Walls need not be redecorated so often.



Recessed in wall, with only 1 1/4" of front projecting forward of plaster line, the Modine Convector saves floor and wall space in any bedroom.



This Modine Panel Front Recessed Convector adds the finishing touch in attractive modern smartness to the bathroom.

...THE NEW LOW COST LUXURY HEATING

Modern smartness, with distinction and beauty—that's what appeals first to renter and prospective buyer alike. There's pride and satisfaction in having "the very latest." In heating that means Modine Copper Concealed Radiation—all the luxuries of a steam or hot water heating system, plus its durability and operating and maintenance economies. And with a hot water system, there is the added feature of flexible heating capacity—at a new low cost.

Only Modines have the enclosure front that can be installed or removed in 30 seconds by hand, without using tools. This means a saving of 15 to 25 minutes per unit installed, a considerable saving in labor costs even in small homes. And it speeds up servicing and cleaning tremendously.

To give more radiation in walls of only 4-inch stud depth, Modine has developed the Projection Front, Recessed Type Convector, which often replaces two of the ordinary type.

Another Modine development, the Quiet-Seal Convector, successfully modernizes one-pipe steam heating, assuring noiseless operation and full heating capacity.

Building on speculation? It's less speculative when Modines help you make sales certain. Write for literature.

 Your Modine representative's name is in the 'phone book "Where To Buy It" section under Heating Apparatus.

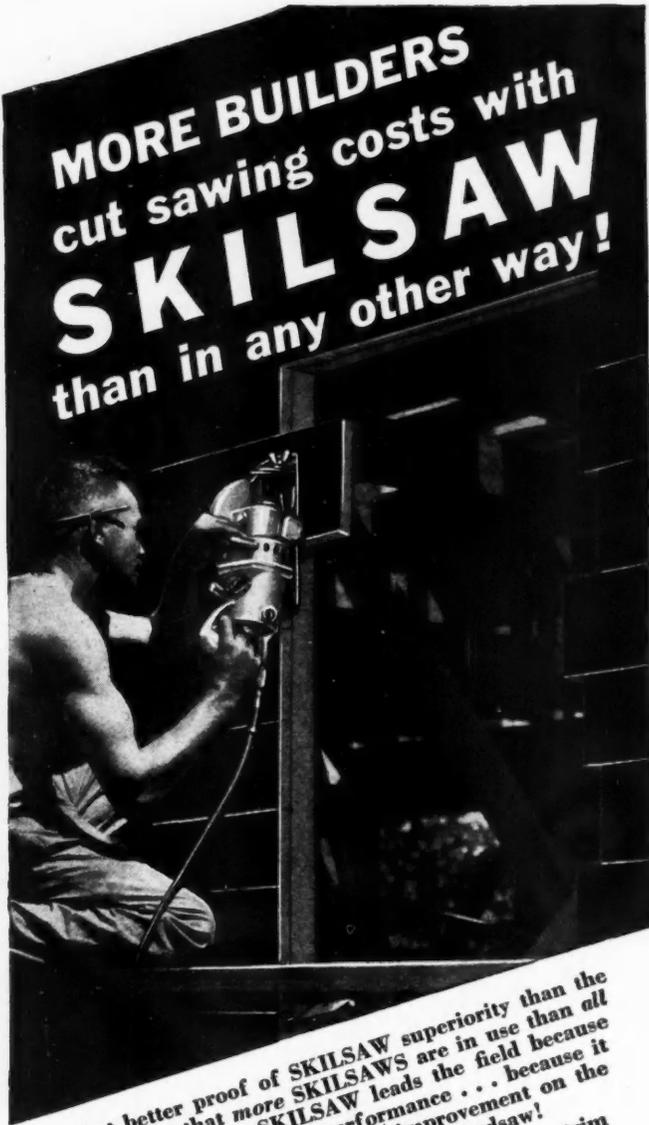
**MODINE MANUFACTURING COMPANY**  
1701 RACINE STREET, RACINE, WISCONSIN

FOR FURTHER INFORMATION  
  
SEE OUR CATALOG IN SWEET'S  
SEC. 26, CAT. 62



**NO BOLTS, NO SCREWS**  
**NO TOOLS TO USE**

**modine**  
THE *Convector* WITH THE  
**MANUALLY REMOVABLE ENCLOSURE FRONT**



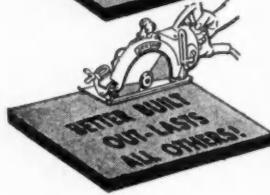
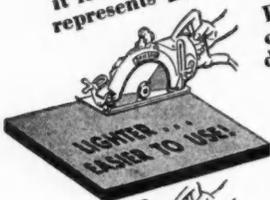
**MORE BUILDERS**  
cut sawing costs with  
**SKILSAW**  
than in any other way!

What better proof of SKILSAW superiority than the simple fact that more SKILSAWS are in use than all others combined! SKILSAW leads the field because it leads in profit-making performance . . . because it represents 20 years of constant improvement on the original electric handsaw!

Builders use SKILSAW to trim off sheathing around window and door openings, to cut rafters for roofs of every pitch, to trim off rough flooring . . . to cut ALL sawing costs . . . to get more jobs and make more profit! Works from light socket. 9 POWERFUL SIZES for wood, metal, stone and compositions.

**SKILSAW, INC.**  
5031 ELSTON AVE., CHICAGO

- 36 East 22nd St., New York
- 182 Main St., Buffalo
- 52 Brookline Ave., Boston
- 2124 15 S. 21st Street, Philadelphia
- New Orleans
- Main St., Dallas
- 918 Union St., New Orleans
- Atlanta
- 1253 Main St., Dallas
- 29 North Ave., N.W., Atlanta
- 2065 Webster Street, Oakland
- Canadian Branch: 85 Deloraine Ave., Toronto.



**FREE BOOK!**  
Shows how even small homes can be well built for less with Skilsaw. SEND FOR IT!



**SKILSAW**  
SAWS • BELT SANDERS • GRINDERS • BLOWERS  
DRILLS • DISC SANDERS • FLOOR SANDERS

**PORTABLE ELECTRIC TOOLS**

**SEE YOUR DISTRIBUTOR**  
...he will gladly demonstrate how SKILSAW TOOLS will save you money

**Andrews, Well Known J-M Executive, Dies**

PHILIP A. ANDREWS, vice president of Johns-Manville Sales Corporation, died on Feb. 20 of injuries sustained when he was struck by a train. Born in Nashua, N.H., on May 20, 1894, Mr. Andrews rose to his executive position with Johns-Manville after beginning his career at the company's factory at Nashua in 1912. During his twenty-eight years with the company his work took him through practically every phase of its operations, and at his death he was executive vice president in charge of the Building Materials and General Sales department. He was a member of the J-M Quarter Century Club, his company's honor society for employees with the organization 25 years or longer, and was active particularly in association work for the betterment of materials and construction standards.



PHILIP A. ANDREWS

**Southern Pine to Hold 25th Annual Meeting**

THE "Silver Anniversary" annual meeting of subscribers to the Southern Pine Association, to be held in New Orleans March 27, 28 and 29, is expected to be one of the most important and interesting gatherings ever held by the Southern pine industry. H. C. Berckes, secretary-manager, has announced that many matters of vital concern to all Southern pine manufacturers will be considered at the 3-days' sessions, and large numbers of lumber manufacturers from all southern states, both subscribers and non-subscribers, already have indicated they will attend and participate in the Association's 25th annual meeting.

Among the matters of paramount interest to all Southern pine manufacturers, Mr. Berckes said, will be the announcement of plans for accomplishing the changes in the setup for inspection, grading and grade-marking activities in the industry, as required in the consent decree recently entered into by the SPA in Federal Court here.

**Savutime Extends Sales Organization**

A NEW sales organization has been formed to extend the distribution of Savutime, a device for the remote control of the ordinary gas water heater, according to an announcement by Geo. C. Hunt, Jr., secretary-treasurer of Savutime Devices, Inc., Rochester, N.Y. Distribution of this water heater control has been limited to a few selected areas up to the present time, but with the new sales setup it is planned to make it national in scope. Distributorship appointments are now being made throughout the country.

**Flintkote Builds New Plant**

FINAL approval of an expansion program entailing the construction of a modern \$2,000,000 factory in Meridian, Miss., for the manufacture of a complete line of wood fibre decorative and structural insulation and wall board products has been announced by the Flintkote Co. Construction will start promptly and delivery of finished production is expected to begin early in 1941.

The new plant will employ about 300 men, exclusive of timber cutting crews and foresters, under normal operating conditions. Over 100 carloads of highly specialized felting and processing machinery will be required to put the plant in operation. It will have a production capacity of 65,000,000 square feet of insulation board products annually.

**Death of Overhead Door Corp. Executive**

JOHN A. LIEBER, advertising manager and public relations adviser of the Overhead Door Corporation, Hartford City, Ind., died on Feb. 9, at the age of 51. He began his work with the Overhead Door organization in 1926 while the company was still in its formative years; since then he had been active in the mechanical developments of company products and also in building up its fine distributing organization.

# Are You Getting YOUR FULL SHARE OF EXTERIOR-REMODELING PROFITS?

Today, this work makes up a major part of the home-modernizing market... Read how you can build up your business with Johns-Manville Materials...

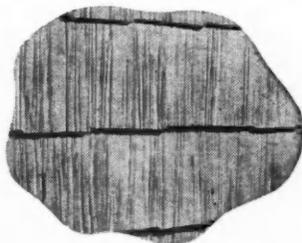


ON HOMES LIKE THIS, J-M Asbestos Siding Shingles and a J-M roof provide a combination that means extra profits in remodeling or new construction. The Johns-Manville name alone gives you the edge on these profitable markets. And the lasting beauty and durability of these J-M Materials means customer satisfaction.

NO ONE remodeling field offers builders and dealers greater opportunities for extra sales than exterior modernization. This work is going on all the time in your community. And here's what Johns-Manville gives you to help you get more of this business:

**CUSTOMER ACCEPTANCE:** Home owners buy only those materials they know are sound. Every home owner knows the Johns-Manville name. For years, it has been the symbol of the finest building materials that money can buy. You have no brand resistance to fight . . . selling is easier.

**FIREPROOF SHINGLES THAT ADD BEAUTY TO EVERY HOME.** Priced so low they fit even modest budgets, J-M Asbestos Siding Shingles add extra value to any home. They faithfully reproduce the texture and beauty of hand-split shakes. Yet they're made of asbestos and cement . . . cannot burn or rot . . . never need paint for preservation. And for roofs, you can offer the same advantages with J-M Asbestos Roofing Shingles. They provide beauty and low maintenance, and they're priced so reasonably that any home owner can afford their lasting protection against fire, weather, wear.



## Announcing...

### the NEW J-M ASPHALT SHINGLES

To meet today's demand for more colorful, attractive and distinctive roofs, Johns-Manville offers a completely restyled line of asphalt shingles. New colors . . . new blends . . . will appeal to every home owner.

Do your customers prefer distinctive tones of green? Warm browns or reds? A beautiful blue blend to harmonize with blue shutters and trim? With the new J-M line, you can offer them just what they are seeking!

But J-M Asphalt Shingles have more than eye appeal. They are quality shingles. Millions know that a J-M roof is the *standard* of quality!

#### For Full Details—Mail Coupon

Johns-Manville, Dept. AB3, 22 E. 40th St., New York, N. Y.  
Send me full details on J-M Asbestos Roofing and Siding Shingles and the new J-M Asphalt Roofing Shingles.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



# JOHNS-MANVILLE BUILDING MATERIALS

Asbestos and Asphalt Shingles . . . Insulating Board . . . Super-Felt Rock Wool Home Insulation . . . Steeltex . . . Flexboard . . . Asbestos Wainscoting . . . Hardboard . . . Roll Roofings, etc.

*Gentlemen -  
After seeing your advertisement  
I decided to use Western Pines  
in my new home.  
I showed it to...*

Gentlemen:  
I saw one of your magazine advertisements and I want a room just like the one in the photograph

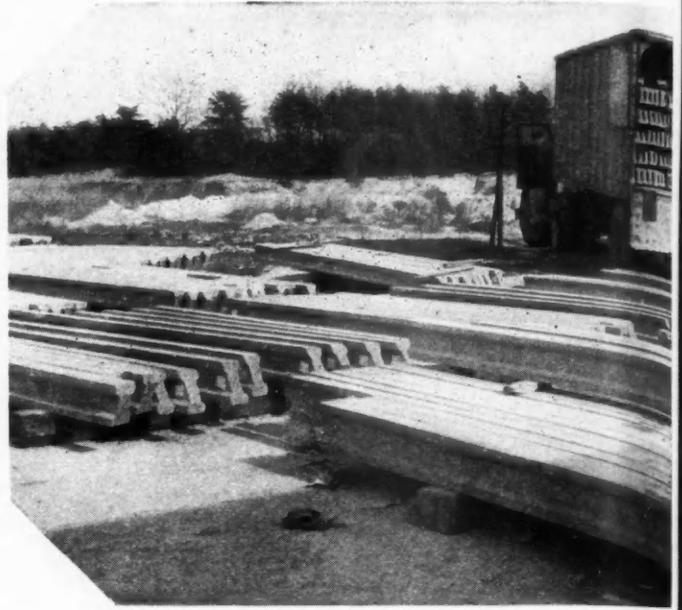
*Gentlemen:  
Thank you for your fine booklet. I didn't know before how attractive wood finish could be, so now I plan...*

Letters like these tell a daily story of the effectiveness of the Western Pine Association's national Advertising. Look for new business from our 1940 schedule in such publications as American Home, Better Homes & Gardens, House & Garden, House Beautiful, Sunset Magazine, American Magazine, Home Craftsman.

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

WESTERN PINE ASSOCIATION, Yeon Building, Portland, Oregon

\*Idaho White Pine    \*Ponderosa Pine  
\*Sugar Pine  
**\*THESE ARE THE WESTERN PINES\***



1300 feet of machine-rolled concrete joists on truck

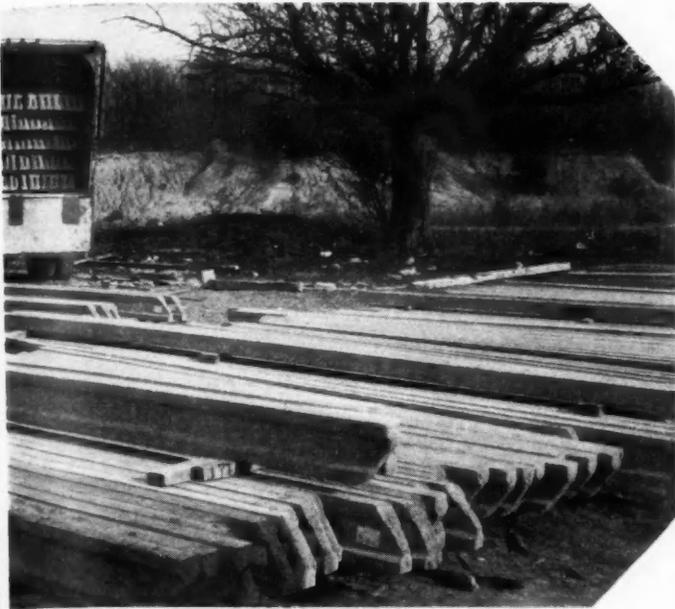
## Machine Rolled Concrete Joists

**A** NEW development in firesafe building construction applicable to residential and light-load-bearing structures is the machine-rolled concrete joist, as detailed below, used in the Tasker Street project in Philadelphia of the U. S. Housing Authority.

Joists of this type are now being produced in a number of cities by licensed manufacturers on special concrete joist machines manufactured by the W. E. Dunn Company, Holland, Mich. In Philadelphia, the machine-rolled joists bearing the trade name "Lith-I-Bar" are being produced by the Formigli Corporation, well known concrete products specialists. In supplying these joists for the Tasker Street U. S. Housing project, some 45 miles of the machine-rolled joists were produced. In addition to residences, the Formigli Corporation furnished Lith-I-Bar Joists to high class structures, including 16 public buildings, 6 churches, 14 schools, 9 industrial plants for concerns such as The New York Shipbuilding Co. and The Du Pont Co.



LITH-I-BAR concrete joists emerging from W. E. Dunn machine in Formigli plant, Philadelphia, for U. S. housing project.

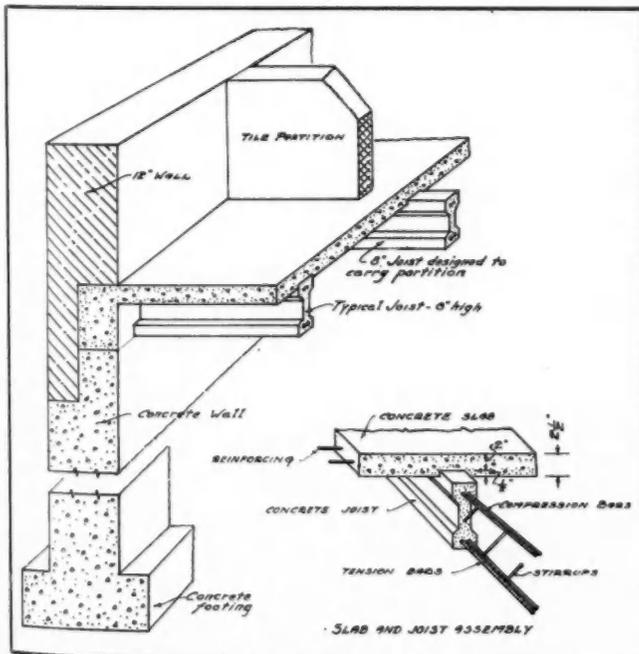


leaving Formigli plant for use in U. S. housing project.

Lith-I-Bar joists consist of a scientific assembly of steel and concrete, machine-rolled under a pressure of 2,000 lb. per sq. in. Electrically welded reinforcing units have scientifically spaced stirrups designed to provide strength where it is most needed. The joists can be made of either lightweight or ordinary aggregates.

Specially designed joist rolling machines made by the W. E. Dunn Manufacturing Company make it possible to produce the joists locally on an economical quantity basis.

The machine production and use of scientifically balanced reinforcing units assure a product of uniformly high strength and high fire resistance. Through use of a scientifically controlled mix, concrete showing a compressive strength of over 4,000 lbs.



**ECONOMIC, firesafe construction, as used in Tasker Street project of U. S. Housing Authority in Philadelphia. The machine-rolled concrete joists, on 30-in. centers, are bonded to the 2½-in. floor slab. No plaster is applied on under side of second floor. Concrete joists were made in plant of the Formigli Corporation, Philadelphia.**



Here they come looking for YOU—

# CUSTOMERS CREATED

BY THIS NEW BOOK

**H**ERE'S a book that turns dreamers into doers—a book that's helping people all over the country decide what they want in a home—and then sends them to you to get that home.

It's **BETTER HOMES & GARDENS'** new service book *How to Buy a Better Home*.

Why does it send them to YOU? Because, in its introduction it plainly states

"You will not go wrong by seeing what your operative builder has to sell—he takes much of the trouble out of home-ownership—he knows houses—knows what you want and how to get it for you."

There are a dozen ways you can use *How to Buy a Better Home* to speed up sales—to make better profits. We'll be glad to tell you about all twelve. And we'll be glad to send you a free copy of the book. The coupon below clipped to your letter-head will bring them to you.

## Better Homes & Gardens

Read Monthly by More Than Two Million Homeowning-Minded Families

**BETTER HOMES & GARDENS**

Dept. AB-340, Des Moines, Iowa

Send me a copy of *How to Buy a Better Home*, together with "12 Suggestions" for using it to step up sales.

Name .....

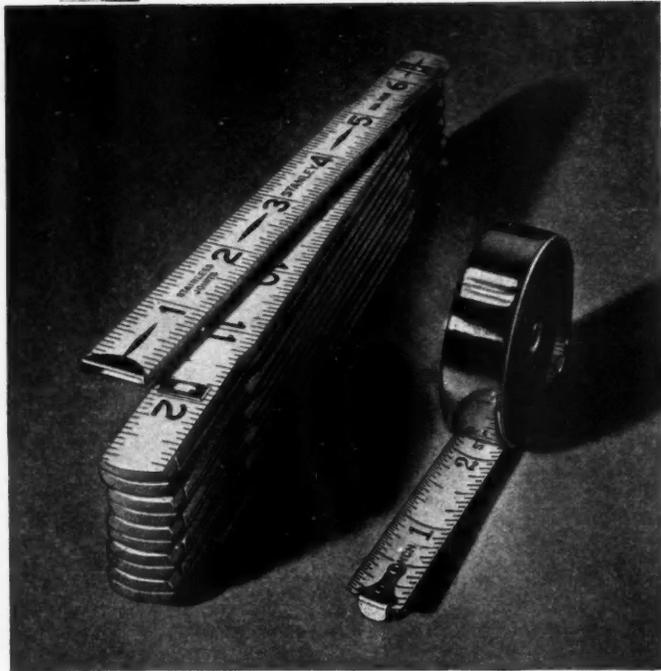
Address .....

City .....

State .....



**GIVE ME A  
STANLEY RULE  
EVERY TIME!**



**No. 106 "Green End"  
ZIG ZAG RULE**

New worthwhile improvements! Large, easy-to-read Gothic figures, stainless joints, improved finish! New Stanley white lacquer provides a protective coating that makes any measurement easy to read. 6 foot length, graduated all edges for convenience and accuracy. Also made with figures 1, 2, 3, etc., beginning on inside of rule—No. 106F.

**STANLEY**  
Trade Mark



SIXTY-FIVE YEARS of rule-making are behind every Stanley rule. The approval of generations of skilled craftsmen proves that these Stanley Rules of today have the quality you want in an accurate, long-wearing rule. See them at your hardware store, and write for Catalog 34, which describes the complete line of Stanley Tools.

**No. 6386 Direct Reading  
PULL-PUSH RULE**

Direct reading feature is handy for inside measurements; red indicator on case points to exact measurement when case and blade butt against work. No chance for error. Flexible-rigid for straight measurements, circumferences and irregular shapes. 6 foot black and white steel blade, nickel plated watch size case.

**STANLEY TOOLS**

Division of The Stanley Works, 133 Elm St., New Britain, Conn.

**THE TOOL BOX OF THE WORLD**



EXPOSED joists in offices of Massena & DuPont, architects, Wilmington, Del. No plaster used on ceiling.

per sq. in. is produced. The Dunn machines will produce joists from 6 to 14 in. in height and for spans up to 32 ft.

The fireproof joist and floor system used in the Philadelphia Tasker Street housing project and detailed herewith illustrates the possibilities for economical, firesafe construction. An important feature of this type of construction is the fact that there is a permanent bond between the joists and the 2½-in. concrete floor slab that lends additional strength and rigidity to the entire structure. The joists are easily handled and quickly set in position. Construction of forms is simple and inexpensive, and all form work is carried by the joists as shown in forming details, page 101.

An important economy made possible by this type of construction and applied in the Tasker Street project is the elimination of plastered ceilings. The concrete joists intended for the second floor were given a wash coat of cement at the plant and then lightly sanded to give a clean, light surface which required only a coat of paint.

In taking bids for the Tasker Street project, alternate estimates were obtained on a nonfireproof type of construction. It was

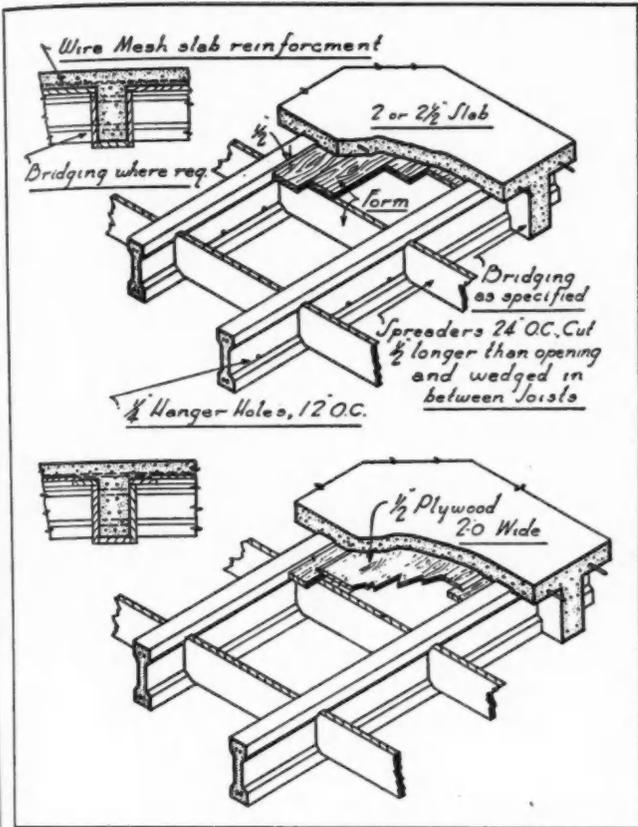


CONCRETE floor joists in place in Philadelphia's Tasker Street housing project, which required some 45 miles of joists.

TWO r  
Lower

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JOISTS ar



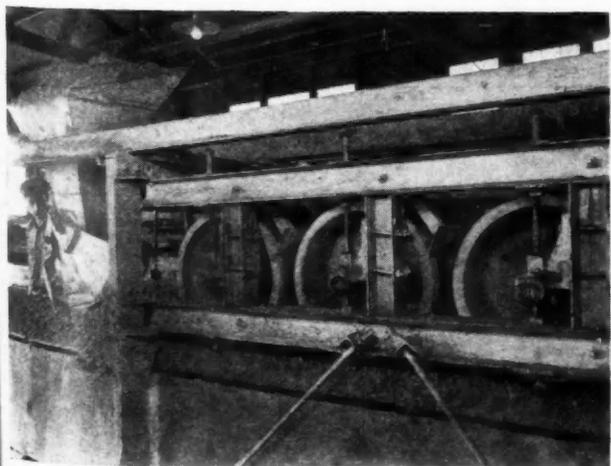
TWO methods of placing floor slab forms with Lith-I-Bar joists. Lower detail gives smooth surface for exposed beam ceilings.

found that by elimination of the plastered ceiling it was possible to use the Lith-I-Bar firesafe concrete floor construction with concrete block partition walls at slightly lower cost.

In addition to the Formigli Corporation in Philadelphia, the machine-rolled joists are also being produced by the Dextone Company, New Haven, and The Pre-Cast Unit Company at Kalamazoo, Mich., all operating under territorial franchise covered by a series of eight patents, and the registered trade mark of Lith-I-Bar.

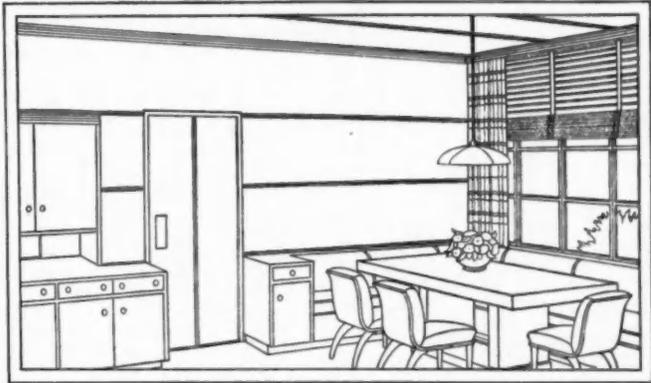
The present plan now calls for development of national distribution by equipping and licensing new manufacturers in territories not now served by present licensees.

A large market for joists of this type is seen in low-cost housing and residential construction as well as in light load bearing commercial buildings, and additional plants are being installed in a number of other cities.

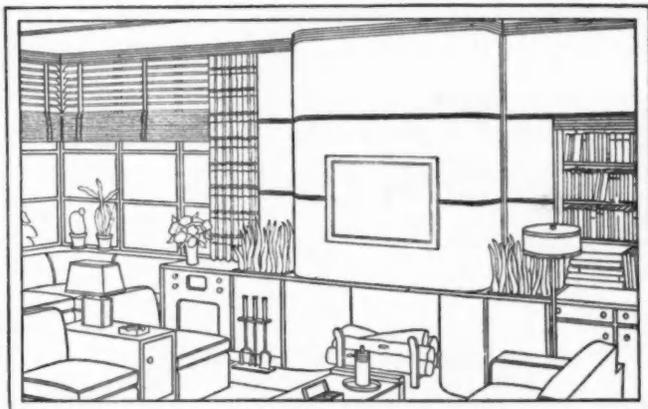


JOISTS are machine rolled under 2,000 lb. per sq. in. pressure.

## Interesting uses of Masonite Tempered Presdwood in the small modern house



In the "dining" end of this combined living room-dining room, built-in cabinets and sideboard are Tempered Presdwood. The china cabinet is loaded with clean dishes from the kitchen side. Dishes, removed from the table, are passed into the kitchen through a Tempered Presdwood door in the recess below, greatly facilitating the table service.



In this, the "living" end of the same room, the Tempered Presdwood walls are grooved horizontally. Containers for flowers on each side of the fireplace are Tempered Presdwood lined with copper. Built-in radio, bookcases, wall seat, lamp table and private cabinet—all made of Tempered Presdwood.

Outlined on this page are the new-home and remodeling ideas which Masonite is carrying to millions of home-owners in national advertising that will appear in April issues. If you would care to examine Masonite Tempered Presdwood yourself, we will be glad to mail a free sample and full details.



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**THE STEEL SQUARE**

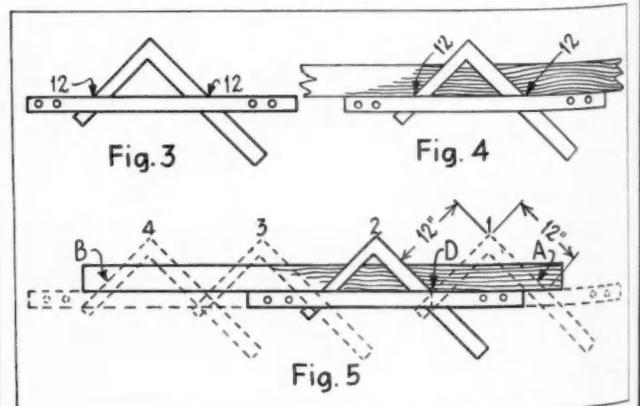
(Continued from page 81)

where both the horizontal run and the vertical run are four feet, or forty-eight inches. Thus, if the run along the upright member or post (A in Fig. 1) were 48 inches and the run along the horizontal girt (B in Fig. 1) were also 48 inches, then the distance from point g to point f, which is the length of the brace is 67-90/100 inches as given in the Brace Measure under the eight inch mark on the back of the tongue of the steel square.

If the run along the horizontal girt and the run along the upright corner post were both 24 inches, then the length of the brace (f g in Fig. 1) would be 33.94 inches from the Brace Measure; if the two equal runs were 36 inches, the length of the brace would be 50.91 inches; run 39 inches, length 55.16 inches; run 60 inches, length 84.85 inches; and so on for the other runs from 24 inches up to 60 inches, with a difference of 3 inches each time up to 60 inches. This gives a sufficient number of different runs and lengths because as a rule the braces can be placed by the carpenter wherever he likes within a few inches and the runs can be made the same as one of those given on the square. Suppose, however, that the runs must be more than 60 inches or less than 24 inches; what do we do then? If you will look carefully at the brace measure on the square, you will see that just as 60 is twice 30, so the length opposite the 60 mark,

namely 84.85, is just twice the length opposite the 30 mark, which is 42.42, and the length opposite the 54 mark, namely 76.37, is just twice the length opposite the 27 mark which is 38.18. From this it will be seen that a brace whose run is longer than any run given in the Brace Measure on the square can be dealt with by dividing the actual run by two, finding the length of brace for this half-run by means of the brace measure, and then doubling this length to find the actual length of the real brace which has twice the run of the imaginary brace. Thus for a run of 84 inches you would find 42 59.40 in the brace measure on the square and the real length of the actual brace whose run is 84 inches would be twice 59.40 inches or 108-8/10 or 108-13/16 inches, which is 9 feet and three quarters of an inch very nearly.

In the same way if the actual run of a brace were 18 inches, which you could not find in the brace measure, you could find the length for a brace with a run of 36 inches which is just twice 18 inches and then by dividing this length (50.91 inches) by two you would have the length of the brace (18 inches run) with which you were working, namely 25.45 inches, which is 25-7/16



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inches or nearly two feet one and one-half inches. As explained in the preceding article, the Hundredths Scale on the steel square can be used with a pair of dividers to translate the hundredths of inches into sixteenths or eighths. Now, if the run of the brace were 20 inches, you could not find either 20 inches or 40 inches on the brace measure, but three times 20 inches or 60 inches could be found there—thus— $\frac{60}{60}$  84.85 and then the given length for 60 inches run, which is 84.85 inches, could be divided by 3 to give the required length for the brace of 20 inch runs, the result being 28.28 inches, which is two feet four and one-quarter inches, near enough.

**Laying Out Braces with Steel Square**

The correct length can also be found and the correct cuts on the two ends of a brace can be laid out by the use of the square and a fence as follows:

The use of a "fence" with a steel square was described in the preceding article. After the length of the proposed brace has been determined from the Brace Measure on the square, a piece of scantling of suitable size should be selected, somewhat longer than the required length and with at least one edge dressed straight and true. The fence should then be placed loosely over the steel square as was illustrated in the preceding article and adjusted by moving the square about in the slots at the two ends of the fence so that the twelve inch mark on the outside edge of the body or blade of the square and the twelve inch mark on the outside edge of the tongue both coincide with the edge of the fence nearest to the heel of the square as shown in Fig. 3. The fence can then be locked in this position on the square by tightening the screws. When this has been done, the square with the fence on it should be laid on the scantling, with the edge of the fence held firmly against the dressed edge of the piece of stuff, as shown in Fig. 4 so that the twelve inch marks on the body and the tongue of the square will come on the dressed edge of the scantling as shown. Great care must be taken to see that the twelve inch marks on the body and tongue of the square come exactly on the dressed edge of the scantling, and a little time spent at this point to make sure that the work is accurate will be well repaid later, because any carelessness here will lead to much trouble afterwards.

Fig. 1 shows the brace C which is to be laid out, as it will appear when it is built into place in the framework of the tower and shows by the dotted lines how four steel squares (if they were held in place against the brace C with the 12 inch mark on the body and the 12 inch mark on the tongue, both on the line of the outside edge of the brace in each case)—would give, at point f, the cut to be made to fit brace against the post A and, at point g, the cut to be made to fit the brace against the girt B. Of course, the scantling from which the brace is to be cut cannot be held up in this position and most carpenters have only one square, but Fig. 5 shows how the same thing can be accomplished with the scantling lying down on its side as it would be on a bench or on a couple of wooden horses and with the one square placed in each of the four positions, illustrated in Fig. 1, one after the other as the square is moved along the piece of stuff.

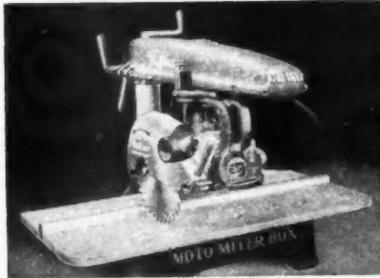
First, place the square near the right hand end of the piece of scantling, as shown by the dotted outline of the square at 1 in Fig. 5, with the fence locked into a position on the square such that the 12 inch mark on both the body and the tongue will coincide exactly with the edge of the fence nearest to the heel of the square and with this same edge of the fence held closely against

(Continued to page 104)

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 versatile "all-purpose"  
**WOOD-WORKING  
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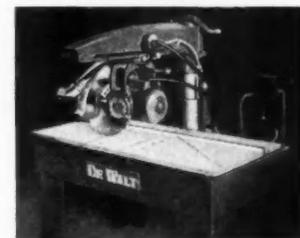
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Mr. Hampen is one of the growing legion of builders with a succession of good-looking concrete homes to their credit. Concrete helps

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*A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work*

**THE STEEL SQUARE**

(Continued from page 103)

the dressed edge of the scantling so that the line of this dressed edge will also pass through the 12 inch marks on the outside edges of the body and tongue of the square. With the square held tightly in this position, a mark made on the side of the brace along the outside edge of the body or blade of the square as shown at A, Fig. 5, will be the line in which the inside edge of the post A, Fig. 1, cuts across the brace at the point f, Fig. 1. Now, without moving the square, a mark should also be made along the outside edge of the *tongue* and the point where this line touches the dressed edge of the brace should be especially noted. This will be point D, in Fig. 5.

Next, move the square with the fence still clamped to it in the same position as before along the edge of the brace to the left as illustrated in Fig. 5, until it takes the position shown in this figure by the full line drawing of the square and fence with the 12 inch mark on the outside edge of the *body* or *blade* of the square at exactly the same spot on the dressed edge of the brace where the line previously drawn along the outside edge of the *tongue* of the square touched this edge of the brace. This point is marked D in Fig. 5.

Now, with the square and fence held tightly in the position shown by the full lines in Fig. 5 (position 2), make a mark on the side of the brace along the outside edge of the *tongue* of the square and especially note the point near the centre of the brace where this mark touches the dressed edge against which the fence rests and which coincides with the twelve inch mark on the outside edge of the tongue of the square. When this point has been well marked, slide the square and its fence along to the left again in the same way as before until it is in the position marked 3 in Fig. 5, and so that the 12 inch mark on the outside edge of the body or blade is exactly at the point near the center of the dressed edge of the brace where the 12 inch mark on the tongue was located when the square was in position 2. Now slide the square along to the left once more in the same way, until it occupies position 4 in Fig. 5.

It will be noted that the square has now been moved along the edge of the brace three times and has been placed in four different positions marked 1, 2, 3 and 4 in Fig. 5. A comparison of Fig. 5 with Fig. 1 will show that the number of different positions of the square in Fig. 5 (that is, 4) corresponds to the number of feet (4 feet) in the *run* of the brace. After the square has been placed in its fourth and last position on the scantling, a mark made on the side of the piece of stuff all

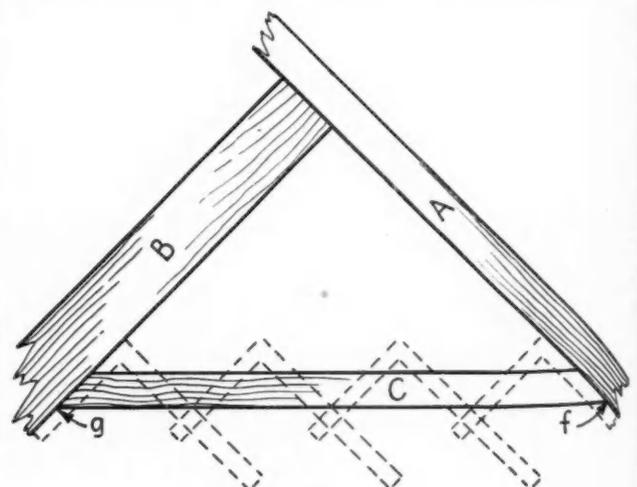


Fig. 6.

along the outside edge of the tongue of the square as shown at B in Fig. 5, will be the line in which the upper end of the brace will fit against the under side, or edge, of the girt which is shown at B in Fig. 1, the joint between the brace and the girt being shown at point g in this figure. If Fig. 1 is swung around as indicated in Fig. 6, it will perhaps make clearer the connection between the work done with the steel square illustrated in Fig. 5 and the actual brace in its permanent position in the structure. Fig. 5 shows the brace in a horizontal position as it would be when being measured and laid out and shows the four positions of the steel square on it, one position being shown by full lines, and the other three positions by means of dotted lines. Fig. 1 shows the same brace in place between the post A and the girt B. Note that every time the square in Fig. 5 was moved along the piece of scantling to the left to a new position, with the 12 inch marks on the outside edge of the square kept always in line with the dressed edge of the scantling (the outside edge of the brace) the square was advanced 12 inches in the direction of the run of the brace. The short ends of the piece of scantling which project to the right of the line A in Fig. 5, and to the left of the line B in this same figure, may be cut off or they may be shaped into tenons which can be inserted into mortises cut in the post A and the girt B (Fig. 1) and either pinned or spiked in place. In former times when nails and spikes were less plentiful and much more expensive than they are now, the joints were usually formed with tenon and mortise, but nowadays, with labor more expensive and spikes cheaper, it is seldom worth while to do this. Moreover, there are on the market a number of steel connectors which can be used and which make a joint stronger, quicker and cheaper than either a mortise-and-tenon or a spiked joint.

A brace of any length where the vertical and horizontal runs are equal, can be laid out as explained above, the steel square being applied to the scantling just as many times as there are feet in the run of the brace—four times for a run of four feet, five times for a run of five feet, three times for a run of three feet, and so on, using always the twelve inch mark on the blade and tongue of the square and keeping these marks on the dressed edge of the stuff as the square is moved along. There are two special cases which need to be considered, one being the case where, for some reason, the runs are not an even number of feet such as four feet or three feet, but are a number of feet and inches, such as three feet and six inches, and the other being the case where the vertical and horizontal runs cannot be made equal to each other, but must differ as, for instance, vertical run four feet, horizontal run three feet.

**Braces Where the Runs are Not Even Feet**

Take the case where the runs are equal, but are both three feet six inches or 42 inches, so that in Fig. 1 distance g e and distance e f would both be 3 feet 6 inches instead of 4 feet. Fig. 7 shows how such a case would be handled by the use of the steel square. The length of the brace, similar to the distance g f in Fig. 1, would be found from the Brace Measure on the tongue of the square to be 59.40 inches or slightly less than five feet. In Fig. 2 between the 9 and 10 inch mark on the outside edge of the tongue of the square will be seen the markings 42 59.40. Select a piece of stuff somewhat longer than five feet and dress one edge the same as before. Prepare the steel square with the fence crossing the 12 inch marks on the outside edges of the body and tongue as shown in Fig. 3. Starting near the left hand end of

(Continued to page 106)



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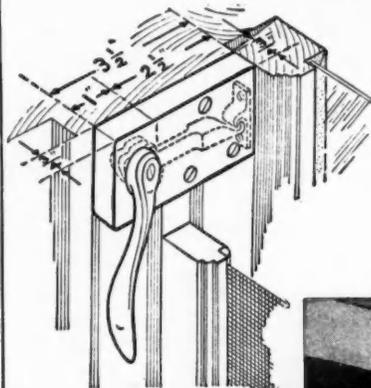
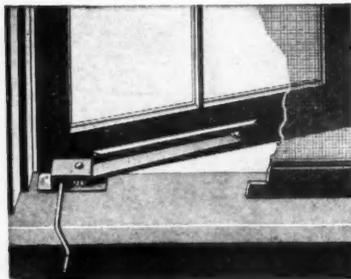
Pure copper bonded to s-t-r-e-t-c-h-a-b-l-e Brownskin. Vapor-Seals and dampproofs 100%. Easily shaped by hand. Has the advantages of heavy copper at 1/3 the cost.



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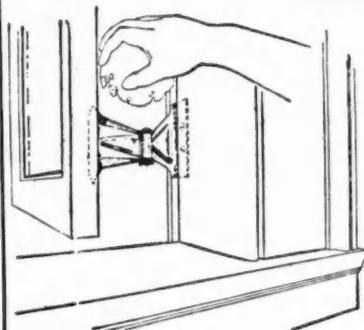
*The Last Word in Trouble-free  
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## THE STEEL SQUARE

(Continued from page 105)

the piece of stuff, place the square on it as shown in Fig. 7 with a mark along the outside edge of the blade as shown at A. Now, move the square along to the left twice so that it will have been placed in three different positions as shown by the dotted lines at the points marked 1, 2 and 3, Fig. 7. Then move the square along to the fourth position with the 6 inch marks on the outside edges of the blade and tongue on the line of the dressed edge of the piece of stuff instead of the 12 inch marks, as was the case in the other three positions. A study of Fig. 7 will show that the square has been shoved along the brace in the direction of the run of the brace a distance of three feet six inches or 42 inches and if a mark is now made along the outside edge of the tongue of the square at point 4, Fig. 7, it will be the line of the joint between the brace and the girt similar to the joint shown at point g in Fig. 1.

### Braces With Unequal Runs

There is, of course, no reason why the horizontal and vertical runs of braces should always be equal to each other, although this is usually the case, and the Brace Measure on the square provides for the case where the two runs may not be equal in the following way. On the back of the tongue near the heel of the square and near the 2 inch and 3 inch marks will be found markings like this— $\frac{18}{24}$  30 (See Fig. 2), which mean that if the horizontal run of a brace is 18 inches and the vertical run is 24 inches, or the other way about, then the length of the brace (distance g f in Fig. 8) will be 30 inches. It is also true as we have seen from other parts of the Brace Measure that if the horizontal run is twice 18 inches, or 36 inches, and the vertical run is twice 24 inches, or 48 inches, then the length of the brace is just twice 30 inches or 60 inches. If the runs were three times the figures given on the square, the length of the brace would be three times thirty inches and so on.

In Fig. 8 the horizontal run of the brace is shown to be four times nine inches, or three feet, and the vertical run four times twelve inches or four feet. To lay out this brace the fence should be adjusted to the steel square as described before, but with the edge of the fence which is nearest to the heel of the square crossing the 12 inch mark on the outside edge of the blade or body and the 9 inch mark on the outside edge of the tongue, as shown in Fig. 9. When this has been done, the square and fence should be laid on the piece of scantling near the right hand end, as shown in Fig. 9 at Position 1, with the edge of the fence against the dressed edge of the brace in the same way as before and a mark

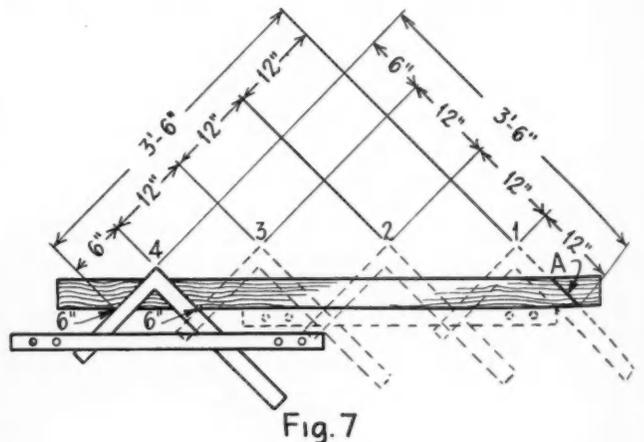


Fig. 7

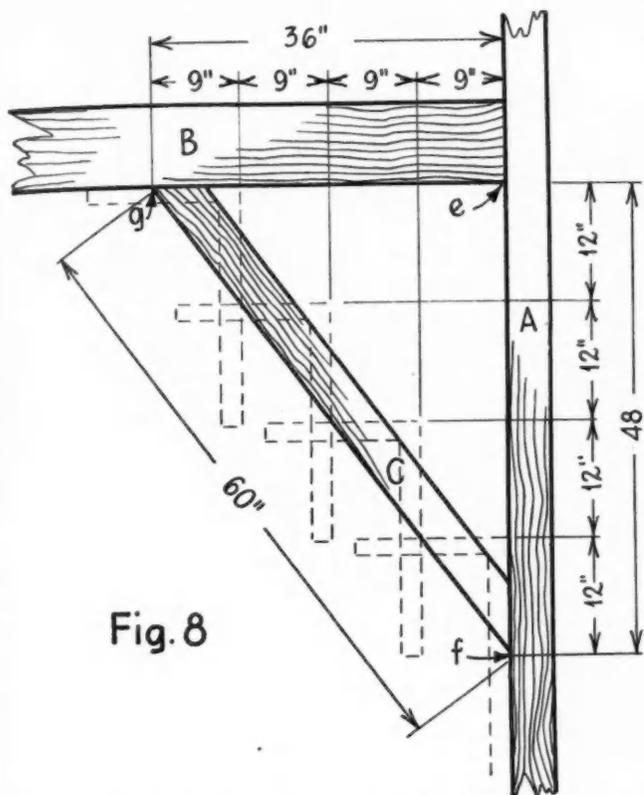


Fig. 8

should be made on the brace along the outside edge of the blade of the square as shown at A in Fig. 9. The square should then be moved along to the left three times occupying the positions 2, 3 and 4 (Fig. 9) in turn, since the vertical run of the brace is *four* times 12 inches and the horizontal run of the brace is *four* times 9 inches as shown in Fig. 8. In this way there will have been marked off on the brace a horizontal run of 4 times 9 inches, or three feet, and a vertical run of 4 times 12 inches, which is four feet.

If there are many braces of the same kind to be made, it is much more convenient to use a pattern rather than to lay out each brace separately with the square. To make use of a pattern, a piece of stuff the same width as the brace (say 4 inches wide) and about one inch thick should be carefully selected and cut a little longer than the length of the brace and dressed on one edge. This should then be laid out and marked with the aid of the steel square, just as though it was a brace and the ends should be cut off on the lines similar to A and B in Fig. 9. This piece of stuff, which is exactly like a brace but much thinner, can then be laid repeatedly on other pieces of scantling of the full thickness of the braces and they can be cut from the pattern in as large a number as required without having to use the steel square again and without taking further measurements.

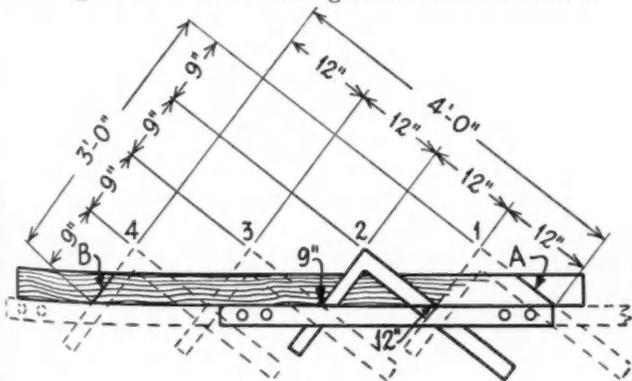


Fig. 9



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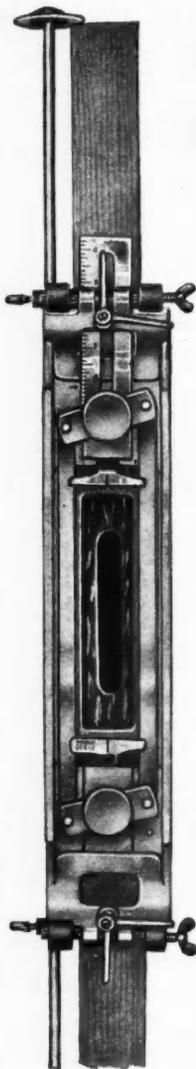
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(Continued from page 73)

in business over a period of years, it actually costs more in the long run to do cheap work, because a conscientious builder will always stand by his job and correct defects that occur over a period of several years.

"We have not yet built a perfect house, but we keep trying, and what is more, we stand back of the work we do."

He told how he has added a maintenance man to his staff who takes care of any and all complaints of home owners, not only for the first year but for a period of two or three years or more. This man takes care of such unavoidable items as sticking doors, a spigot that has gone bad, or similar little items that prove so irritating to a new home owner. Meyerhoff points out that all complaints go direct to his maintenance man who has authority to do whatever in his judgment is necessary. It has relieved Meyerhoff of the time-consuming job of answering, investigating and correcting such complaints and has furthermore done a great deal to keep buyers in the category of satisfied customers.

"It's damn good business," says Meyerhoff. "As a result, people speak highly of our firm. People like to have service, and recommendations follow each other."

Getting back to his theories on what makes a builder successful, Meyerhoff said, "The trouble with most builders is they copy the wrong things."

"Good architecture and good design don't cost any more than poor architecture or poor design—but you must know the difference."

He described in detail the study he has made of houses in his town and elsewhere, and how he has travelled to various important building centers to study what other builders are doing. Although he has an excellent and capable architect who does his work, Meyerhoff believes that the successful builder cannot leave the decision as to the type of house to an architect. The houses he builds are salable because they are skillfully fitted to the right price class in the area located and because they have more usable floor space, and because through exhaustive architectural planning they give more livable space for the money than can be gotten elsewhere.

In order to keep a close check on building operations Meyerhoff has developed five Inspection Reports, which are printed on 5 by 8 in. notebook pages which can be punched and carried by the inspector and filed. The following 166 items appear on the Inspection Reports:

### Inspection Report No. 1

(Ready for foundation)

- Final set of plans and specifications .....
- Read specifications carefully—note of all items different from stock.....
- Building permit .....
- Water application .....
- Approval of plans by development company .....
- Lot corner stakes—bench mark .....
- Carpenter foreman on job .....
- Layout house and staking it out .....
- Check depth of sewer and connection location .....
- Study time schedule .....
- Water for building .....
- Radiator layout or heating duct layout .....
- Millwork—delivery dates of various items .....
- Make up steel list .....
- Arrange for excavation. If shovel, check where to ramp .....
- Building shed .....
- Scaffolding .....
- Get frames and prime them .....
- Lumber list and order .....
- Any brick arches—belt courses, etc. Get details .....
- Plumber to check layout with foreman .....
- Approval of stone sample .....
- Approval of brick sample .....
- Cornice detail .....
- Any other details .....
- Excavation .....
- Arrange for foundation work .....
- Purchase of materials .....

(Continued to page 110)

# McKinney SUGGESTS 3 BUTTS TO A DOOR



**EASIER SELLING FOR YOU  
SATISFACTION FOR HOME OWNER**

Show your prospects *built-in satisfaction!* The third butt guarantees a door that will swing free and keep perfect alignment for years to come.

**McKINNEY MANUFACTURING COMPANY • PITTSBURGH, PA.**

**75**

**YEARS OF DESIGNING AND MANUFACTURING GOOD HARDWARE**



## 30,000 Approve Plywood Plus Laux

NEARLY THIRTY-THOUSAND persons inspected and approved this beautiful, new, Dri-Bilt model home—finished with Laux Products. These visitors had an ideal chance to compare modern dri-bilt methods with conventional lath and plaster. They voted for the crackless, dri-bilt walls and the smart, distinctive finishes achieved with Laux Rez and Plasterrez. Send for the free Laux Manual giving complete specifications for the construction and finishing of modern dry-walls. Address:

### LAUX SALES CO.

(Division of I. F. Laucks, Inc.)

Seattle.....911 Western Avenue  
Los Angeles.....859 East 60th Street  
Minneapolis.....2510 Univ. Ave., S. E.  
Chicago.....1303 Tower Building  
Houston.....2812 Center St.



*Dri-Bilt Beauty! One of five, new, model homes built on exclusive Sheridan Heights, suburban Seattle. Designed by Edwin J. Ivey, A.I.A. Dry-walls built by Speedwall Co., Seattle.*

### The Laux Line

Products for dry-wall finishing

**REZITEX**—Exterior plastic paint, providing stucco-like appearance.

**PLASTEREZ**—Synthetic, resin-bound, interior wall coating.

**REZ**—Clear, synthetic, resin sealer, primer for plywoods.

**WHITE REZ**—Pigmented resin sealer for converting softwoods into luxury-woods.

**LAUX CASEIN GLUE**—Self-bonding glue for affixing wallboard panels.

# BUILDERS PROVE WEISWAY ADDED BATHS *Help Sell Homes*



● There's powerful sales appeal in extra bathrooms, now made easily possible in homes of all sizes and cost by space-saving Weisways. These complete, self-contained baths are readily installed in a three-foot square or less. Weisways are independent structures, not affected by settling or shrinkage, remain permanently leakproof—overcoming difficulties long associated with more expensive shower construction.

Exclusive Foot-Grip, No-Slip floor of vitreous porcelain is safe, wet or dry, sanitary, silent as the tread of a bare foot. Walls are vitreous porcelain or baked synthetic enamel, according to model.

Homes with two or more bathrooms sell quicker. There are Weisway models for every class of construction, which add far more value than their small cost. **Mail coupon** now for detailed information, specifications and dimensions, without obligation.

**WEISWAY**  
*Cabinet Showers*

HENRY WEIS MFG. CO. (Est. 1876)  
301 OAK ST., ELKHART, INDIANA

Gentlemen: Please send specifications and detailed information on Weisways for  
 new homes  modernizing  commercial or industrial building.

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

## Tremendous Trifles

(Continued from page 108)

- Arrange for brickwork .....
- Dig footings .....
- Approval of footings by FHA .....
- Arrange for roofing and spouting .....
- Check cellar floor level so as not to require hand work later .....
- Apply for gas and electric service .....

### Inspection Report No. 2 (Ready for Plaster)

- Foundation and stone work completed .....
- Pointing up and sills, etc. ....
- Brickwork completed .....
- Interior mill details .....
- Roof finished .....
- Complete roughing in all heating risers .....
- Lay all inside drains .....
- Complete garage .....
- Wiring layout. Type of switches, plates, etc. ....
- Order out laths and plaster material .....
- Arrange for lathing and plastering .....
- Kitchen cabinet layout—get approval .....
- Order out kitchen cabinets .....
- Medicine cabinet size and order it out .....
- Install insulation—not accessible after plaster .....
- Spouting completed .....
- Order out shutters and sash—weights and cords .....
- Oil burner tank and wiring (tank location) .....
- Oil line under floor before cementing cellar .....
- Connect to sewer and complete cellar underground work .....
- Vent fan installation .....
- Order out main stairway—mill man to measure it .....
- Prime sash and shutters .....
- Reinforced garage slab to be built .....
- Set tubs .....
- Plumbing—roughed in. Check location of laundry tubs, etc. ....
- Check chimney flues—be sure they are clear .....
- Thermostat location .....
- FHA Inspection No. 2 prior to lathing .....
- Check head room on all stairways .....
- Selection and arrange for tiling .....

### Inspection Report No. 3 (Plastering Completed)

- Cellar cemented .....
- Cellar window areas .....
- Complete cellar work—plumber .....
- Set boiler and complete heating cellar piping .....
- Complete all rough grading .....
- Have all grades checked and approved .....
- Clean up lot .....
- Approval of rain water disposal .....
- White coating complete .....
- Tile baths completed .....
- All sash and shutters installed .....
- Fireplace mantel—order out .....
- Order out all iron railings, etc. ....
- Order out finishing hardware .....
- Stone platforms .....
- Clean brick .....
- Caulking all frames .....
- Stucco porch ceilings .....
- Down spouts on porches, etc., and connect to drains .....
- Order out trim .....
- Complete all outside work .....
- Cement porches .....
- Cement walks—steps .....
- Alley paving .....
- Storm drains and water disposal system completed .....
- Install porch columns .....
- Brick cleaning .....
- Glazing cellar sash .....
- Septic tank system completed .....

(Continued to page 112)

# STANLEY W-8 Safety Saw



STANLEY W8 Safety Saw. 23/4" capacity

## Cuts stair stringers the EASY WAY!

**T**HIS busy builder pre-cuts stair stringers and other mill-work right in his shop - to save time on the job. It's easy with his Stanley W8 Safety Saw - the powerful motor provides plenty of power to cut through these heavy 2 x 12's quickly and accurately. And out on the job he increases his profits by using it for roof framing, floor work, cutting off sheathing and many other jobs. The only portable electric saws with a duplex handle for ease of operation in any position.

In the shop or on the job, you'll find plenty of uses for your Stanley Safety Saw. The name "Stanley," famous with builders throughout the world, tells you it has the ruggedness, ease of handling and long life that you want in any electric tool. Ask your Stanley distributor for demonstration, or write for literature. Stanley Electric Tool Division, The Stanley Works, 133 Elm Street, New Britain, Connecticut.

**Stanley Safety Saws are made in six models, with capacities from 1 7/8" to 6"**



## High Priced Homes Deserve TILE-TEX ..... Low Cost Homes Need It!



Tile-TEX Floors and Walls in a Modern Kitchen

**Y**OUR higher-priced home prospect expects quality . . . he expects to find the beauty, color and permanence that only resilient Tile-TEX floors and decorative Tile-TEX walls give to the modern home.

The prospect for your "low cost" home compares your house with others by the extras you can offer. Inexpensive Tile-TEX walls and floors in the bath and kitchen give that plus value that clinches the sale.

Installed easily and quickly . . . inexpensive to maintain . . . Tile-TEX products are visible sales aids to any home. Baths, kitchens, recreation rooms and laundries, with Tile-TEX walls and floors, have real sales personality . . . they emphasize the value and quality of the home you have to sell.

The results of remodeling with Tile-TEX are fascinating and satisfying, yet it is inexpensive and simple to install right over old floor surfaces.

There is a Tile-TEX Approved Contractor near you who can give you a fact-filled story on Tile-TEX . . . backed with his own installations. Write for his name and ask for copies of the new Tile-TEX folders on floors and walls.



### OR YOU MIGHT CARE TO REPRESENT US IN YOUR TERRITORY

The Tile-TEX Company,  
Chicago Heights, Illinois

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

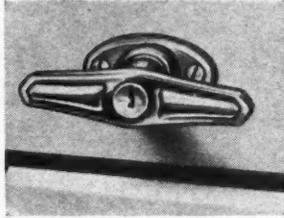
Name .....

Address .....

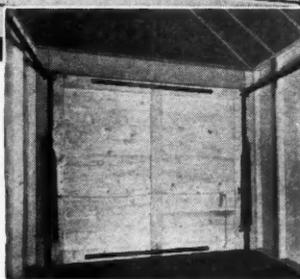
# ANOTHER Selling Feature ADDED

## CHROME PLATED HANDLE-LOCK NOW REGULAR EQUIPMENT

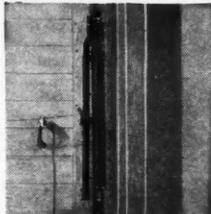
Convenient! Provides protection against forced entrance (has catches on both side jambs, inside). Smart, modern design.



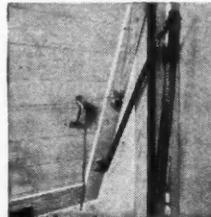
*Sweeps Away  
Sales  
Resistance*



JUNIOR "Over-the-Top" Light Door Equipment made an instant hit with dealers, because it brought many of the distinctive selling features of the original "Over-the-Top" Door Equipment, at popular prices. Now equipped with the new automobile-type handle-lock, it should be easier than ever to sell. Though "Junior" is lighter, it is nonetheless efficient . . . it's especially designed for the new, modern light doors of 150 lbs. or less, within the limits of 6'6" to 7' high and up to 8' wide (which now can be obtained from your sash and door jobber) . . . and it's priced for quick sales. Write today for information and prices.



Simple, compact. Remarkably easy to install.



Operates with same smoothness of high-priced models.

**FRANTZ MANUFACTURING COMPANY**  
Sterling, Illinois

# Junior

"OVER-THE-TOP"

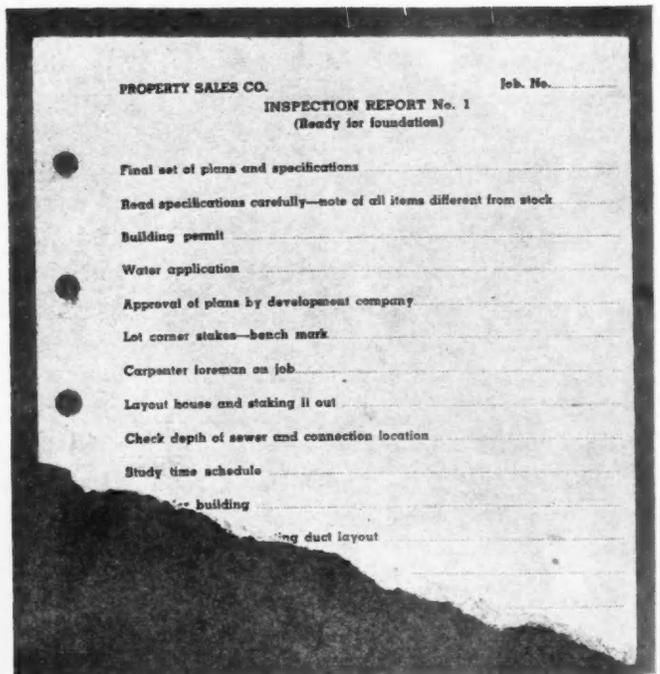
## LIGHT DOOR EQUIPMENT

### Tremendous Trifles

(Continued from page 110)

Inspection Report No. 4  
(Trimmed Out)

- Read specifications again .....
- Make list of incomplete items .....
- Owners paint selection .....
- Approval of exterior colors .....
- Glazing cellar sash .....
- Connect radiators .....
- Test out heating system .....
- Trim out electric wiring .....
- Pipe rails .....
- Put up iron rails .....
- Point up plaster .....
- Clubroom ceiling .....
- Paneling, den, etc. ....
- Linoleum floors in baths .....
- Set kitchen cabinets .....
- Complete kitchen units—linoleum top .....
- Hardwood floors laid .....
- Weatherstripping windows .....
- Install and test all plumbing fixtures .....
- Vent fan in kitchen .....
- Clean fireplaces and hearths .....
- Two coats on interior paint .....
- Order papering—get selection .....
- Install living room mantel .....
- Electric fixtures selection .....
- Linoleum selection .....
- Gas range selection .....
- Complete insulation .....
- Complete cellar partitions and clubroom .....
- Order out screens .....
- Install medicine cabinet .....
- Complete oil burner installation .....
- Start heat .....
- Run pipe for grounding electric service .....
- Electric service .....
- All outside doors hung .....
- Brick sills—terrazzo sills .....
- Brick or slate hearths for fireplaces .....
- Apply for gas and electric meters .....
- Check certificate of approvals for above .....



INSPECTION REPORT carried by Meyerhoff superintendent. Sheets are 5" x 8", punched to fit notebook and easy to file. Five sheets are used, having 166 items.

Inspection Report No. 5  
(Final Completion)

Papering .....	.....
Papering completed .....	.....
Complete painting interior .....	.....
Scrape and finish floors .....	.....
Linoleum, kitchen and pantry .....	.....
Asphalt tile .....	.....
Install gas range and hook up gas range .....	.....
Gas inspection .....	.....
Electric meter .....	.....
Final grading and seeding .....	.....
Shrubbery .....	.....
Complete all exterior paint .....	.....
Hang up shutters .....	.....
Install screens .....	.....
Weatherstrip doors .....	.....
Install electric fixtures .....	.....
Final clean up of lot .....	.....
Final interior cleaning up .....	.....
Clean tile floors in bath .....	.....
Wash windows .....	.....
Stepping stones .....	.....
Complete all switch plates .....	.....
Test out house—electric wiring .....	.....
Paint radiator grilles .....	.....
Final touching-up by painter .....	.....
Shoe moulding .....	.....
Screw on radiator grilles .....	.....
Install finish hardware including door stops .....	.....
Clean plumbing fixtures .....	.....
Stoppers for laundry trays .....	.....
House numbers .....	.....
Cellar hardware—hooks and catches .....	.....
Clean kitchen cabinets .....	.....
Toilet seats and shower curtain .....	.....
Runners on floors .....	.....
FHA final inspection .....	.....
For sale signs .....	.....

\* \* \*

**Small Homes Deserve Big FHA Push**

(Continued from page 86)

requirements were very simple. However, lending institutions felt that greater liquidity, such as would be provided by the ability to sell these loans to the Reconstruction Finance Corporation, was desirable. The RFC would not agree to purchase these loans from lending institutions without certain changes, the most important of which were: (1) FHA inspection; (2) An interest rate of not less than 4½ per cent rather than a discount basis.

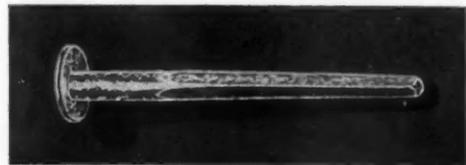
After several months of waste motion, FHA officials brought out an entirely new set of requirements, going far beyond the demands of RFC. The new requirements relating to plans, supervision and construction allow a wide latitude by the regional FHA officials. Reports from many sources indicate that the requirements are being interpreted in such a way as to practically eliminate Title 1, Class 3, loans.

Under the original broad policy of Title 1, Class 3, it should be possible to build small homes and summer cottages in rural and outlying areas away from high land and construction costs. It should be possible to finance summer cottages on piers without basements, without heating plants, and to eliminate sheathing or subflooring, and in other ways build low-cost inexpensive houses, which, in the opinion of the local lending institution constitute a safe form of investment. There is a definite need and a large market for this type of structure. Small homes in outlying areas built by the smaller type of building operator should normally account for an extremely large volume of work.

However, the interpretation given by the regional FHA officials has thus far been anything but encouraging to small operators and to cottage builders. In one district, at least, it is claimed by the FHA officials that summer cottages as such are not intended to be covered by the current Title 1, Class 3, requirements. The speculative builder doing groups of houses is encouraged, whereas

(Continued to page 116)

# MAZE DIPPED in pure zinc NAILS *Zinclad*



**DIPPED—The Vital Difference!**

MAZE DIPPED Nails are actually submerged in the molten zinc in process of manufacture. Completely coated—no thin spots where rust can begin. Maze Zinc coatings are considerably heavier than obtained by old time methods. Galvanized nails are merely sprinkled with zinc and then rolled or tumbled. There's only ONE kind of nail recommended by leading Shingle Associations — that's a nail DIPPED in pure ZINC.

**Your Lumber Dealer Has Them**

There are Maze Nails for every roofing job. Wire and Cut Style Wood Shingle Nails. Asphalt Roofing Nails. Anchors and Calk Screws for all metal roofings. See the entire line at your lumber dealer's. Or write us for samples and complete details. Use Maze Nails for better jobs and more customers!



**W. H. MAZE COMPANY**  
PERU ILLINOIS

# NOW OFFERED for the First Time— this NEW Plan Book



**Ready for Distribution  
in March**

**180 pages presenting photos and  
plans of 129 good homes squarely  
in line with today's market.**

**Meeting popular demand  
both in range of cost and  
in styling**

## There's Pertinence in the Book's Title!

Everywhere it is taken for granted that any home recommended by American Builder possesses certain very definite qualifications. Such a home, for instance, is sure to be of a sane and practical type, unencumbered by useless and expensive passing fads and fancies—with a strong appeal to those who cherish high ideals as to livability, utility and charm. It is a home that is salable, and, above all things, it is a home of good design and sound construction. All of the homes presented in this new Plan Book—not just some of them—come up to *all* of American Builder's standards—not to just some of them.

# FREE

a copy of "American Builder Recommended Homes" with every American Builder new or renewal subscription, accompanied by \$2 for one year, \$3 for two years, or \$4 for three years. To get YOUR free copy, use the form to the right.

**AMERICAN BUILDER**  
30 Church Street, New York, N.Y.

Enclosed is \$....., for which enter my subscription for

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New  Renewal

and include with my subscription at no extra cost a copy of "American Builder Recommended Homes"

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Occupation .....

*This offer is good only in U. S., its Possessions and Canada.*

3.40

## Practically a Field Survey of the Methods of Successful Builders the Country Over

Among the 129 Recommended Homes are such top-notchers as the 15 New York World's Fair Houses in "The Town of Tomorrow", with views, plans, details and construction data. Included are "The House of Vistas", "The Double Duty House", "The Bride's House", "The House of Many Woods", "All Electric Georgian Type House", "Triple Insulated Long Island Colonial", "Tomorrow's Garden House", "The Celotex Modified Classic Home", "The Traditional New England Home", and others.

On pages 2 and 3 there is a convenient Chart for figuring quickly the amount of monthly payments for terms 5 to 25 years on FHA 4 1/2% loans from \$1,000 to \$16,000. . . . There's a chapter on Outdoor Grilles and Barbecue Fireplaces, with photos and details of delightful equipment for the home grounds. . . . Another chapter on Textures and Coursing for the surfaces of Concrete Walls. . . . Also a chapter on "Mirrored Doors, how to use them to advantage in the home."

### Electrical Standards of Living

are exemplified in a number of homes exceptionally well equipped, among them an All-Electric Home in Detroit with several new features. . . . A Houston Prize Winner. . . . Monterey Style Home in Elkins Park, Pa. . . . Attractive Homes in Cedar Rapids, St. Paul, Philadelphia, Highland Park, Ill. . . . Selected Homes winning prizes in G-E and AGA Home Competitions.

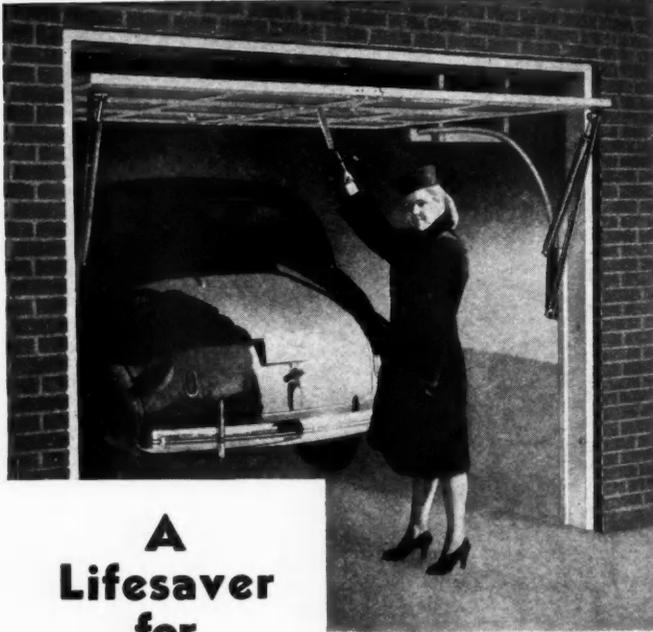
### Here and There in the Table of Contents

Popular low cost 5-room Brick Cape Cod in Prospect Heights, Chicago. . . . Clever Advertising of a "Bride's Home" brings out the crowds. . . . Another cozy "Bride's Home", a 5-room Cape Cod, at Northwood Park, Baltimore. . . . California Patio Plan with Early American Exterior at Westwood Hills. . . . Compact 5-room Southern Home built at Atlanta. . . . 5-room cement shingle cottage in Muskegon, Mich. . . . Five popular Model Homes in Detroit's "Duchess Project". . . . "Sex Appeal in the Kitchen" achieved by Cheel at Ho-Ho-Kus. . . . The house that Montclair Builders, Inc., quickly sold "Because Wife Liked the Kitchen". . . . Lang Bros., Cincinnati, illustrate construction details of the 950 homes they have built since 1918. . . . \$4,000 to \$5,000 Homes Sell Best in Charlotte, N. C., with 4 designs for standard floor plan in Woodale Road Development. . . . 6 small homes with economy plans, ranging from the Atlantic to the Pacific. . . . Stone, shingles and stucco make a combination of materials that lends interest to a home with attached garage in Orchard Park, N. J. . . . Louisville Basementless Cottage, with 4 rooms, bath and utility room. . . .

### All-Gas Homes have a Liberal Representation

They include, among others, a fine Dutch Colonial at Columbus, Ohio. . . . White Plains New England Colonial Prize Winner. . . . Compact home that is the pride of Rochester. . . . Low Cost Home at Milwaukee. . . . Delightful Colonial Home at Tulsa. . . . The Portland, Oregon, "House in the Woods". . . . A fetching 6-room Cottage in San Gabriel Village Development, Los Angeles. . . . Advanced "Moderne" or Miami, Florida, style goes well in Billings, Montana. . . . Broad Colonial Homes for Country Living at Downers Grove, Ill. and in View Ridge, Seattle. . . .

Be the first in your community to own, display and win business with, a copy of this colorful Plan Book, just off the press. Use the form above, TODAY,



**A  
Lifesaver  
for  
Small  
Budgets**

**BILT WELL  
MILL WORK**  
REGISTERED

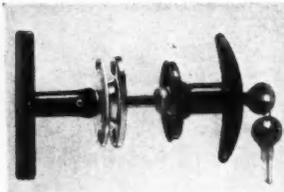
**CARR-dor**  
*overhead acting*  
**Garage Door**

★ *Priced Low to Increase Your  
Volume and Profits*

Here's another easy way to cash-in on the vast small home market. Sell the famous positive-acting "CARR-dor." It's easy to buy — install — operate. "CARR-dor" gives your customers extra value in simplicity — quality construction throughout — and extra years of trouble-free service. And at a low cost that easily steps up your sales and revenue.

Hundreds of well-satisfied customers praise the smooth, dependable performance of the "CARR-dor." Automatic opening check, positive closing and perfect balancing prevent accidental closing of the door while driving in or backing out of garage.

Consists of two matched units made from W. P. Pine stiles and rails, thoroughly kiln dried. Units bored for hardware to join them. Prefitted for 8'0" x 7'0" opening. Shipped complete with all hardware and assembly instructions. Write today for Free literature and full details.



**Handle Type Lock Gives  
Added Selling Power**

Shown here is the new handle type lock of the most modern design that is now available for "CARR-dor" installations. It is safe, attractive and dependable. When installed, is at a convenient height for both men and women.

**CARR, ADAMS & COLLIER COMPANY**

P. O. Box 658-L

Dubuque, Iowa

*Manufacturers of famous BILT-WELL Millwork*

**Small Homes Deserve Big FHA Push**

*(Continued from page 113)*

it is made practically impossible for the individual small operator to function either under Title 1 or Title 2.

The interest of the public has been aroused to a high pitch by the extensive publicity given to the subject of small homes. The new FHA educational program will increase this interest and will undoubtedly be a helpful factor in bringing people to take the first steps towards home ownership. But in order to permit a really large volume of small home construction to get under way, the present uncertainty and confusion must be eliminated. The contractor who has a good prospect ready to go ahead with a small home cannot sign a contract without knowing specifically and in exact detail what the FHA requirements will be in the case immediately at hand. He cannot be expected to get special rulings from the chief architectural supervisor of the district office each time he figures a house.

The widespread criticism of FHA red tape by lumber dealers and builders largely results from the futile attempts they have made and the countless hours they have spent working up the details of a job, only to find that it is rejected for some minor detail.

What is needed to make the low-cost homes program a success is one or both of the following: (a) A genuine attempt by regional FHA officials and underwriters everywhere to simplify, expedite and speed up processing of applications under Title 1, Class 3, with a realistic understanding of the needs and requirements for such houses; or (b) revise or simplify the credit and land requirements of Title 2 to permit the construction of low-cost homes in outlying areas by small operators along the lines originally intended for Title 1, Class 3.

It is generally acknowledged by those who know the practical workings of the building industry that the greatest market for very low-cost houses is in the outlying areas where land and improvement costs are low. In these areas, Title 2 requirements regarding streets, water, sewage, schools, neighborhoods, transportation, etc., practically prevent financing of low-cost houses. So it seems that the original purpose of the Title 1, Class 3, setup which was to aid the financing of homes in such outlying areas should be restored.

Four-color posters, window cards, advertising mats and other sales helps are available from regional FHA offices or writing direct to the Federal Housing Administration, 1001 Vermont Ave., Washington, D.C.

**A SMALL HOME  
On Our  
Income?**

*Your Home —*  
**A BUSINESS ASSET**

**SEE this modern home in**

**(DEVELOPMENT)**  
*for \$XX per month on the new FHA plan*

How is it possible to offer this attractive home on such reasonable terms? (actually less than rent!) Here's the secret:

First we laid out a model small-home community, using modern planning and construction methods for greater economy and livability.

Now we offer these modern homes for sale on a modern financing plan, the new FHA Plan of small income payments.

A small amount down—and monthly payments as low as \$X0.00 a month may be arranged.

(Directions for reaching homes.)

**DEVELOPER  
ADVERTISER**

ADDRESS \_\_\_\_\_ PHONE No. \_\_\_\_\_

*Time was when a home never had to prove*

**Build A SMALL HOME  
for as little as \$50 a month  
on the NEW FHA PLAN**

We can build you an attractive \$X,000 home that can be paid for on the new FHA Plan. This means convenient terms to suit your income.

A small down payment. (Equity in the building lot will be acceptable.) Monthly payments may be as low as \$X0.

Would you like to see some of the homes we are building on this new FHA Plan? We'll be glad to drive you around to them. Phone for an appointment at your convenience.

**BUILDER  
ADVERTISER**

ADDRESS \_\_\_\_\_ PHONE No. \_\_\_\_\_

PROOFS and mats of advertisements such as this (Series FHA No. 492) may be secured free from FHA through local newspapers.

## 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.

**STAIR BUILDING**—by Gilbert Townsend. 1940. 200 pages, 195 illus. 5½ x 8½, cloth. American Technical Society, Chicago. \$2.00.

A "how-to-do-it" book which will be of value to the beginner who has had no previous experience, and also to the man who has done stair building; methods and rules for the laying out and building of stairs of all types, which have come to be accepted among craftsmen and designers as standard, are explained by the author. Some of the subjects covered are: Types of stairs and their location; laying out strings; framing; using carriages and blocks; balusters; scroll brackets; return nosing; housed string; winders; bullnose steps; headroom; stair widths and dimensions; stair finish; curved handrails; bevels; laying out handrails and face molds; arrangement of stairs in house plan.

**HEATING VENTILATING AIR CONDITIONING GUIDE 1940**—18th. 1184 pages, illus. 6 x 9, flexible. American Society of Heating and Ventilating Engineers, 51 Madison Ave., New York City. \$5.00; special thumb index edition \$5.50.

This authoritative reference manual, now in its eighteenth edition, is arranged in two sections—a Technical Data Section of 46 chapters and a Catalog Data Section on manufacturers' equipment and supplies, in one compact volume, engineering data and information on modern equipment in this field. The new volume is less bulky and is lighter in weight than previous editions, due to condensation and consolidation of text matter, and the use of lighter paper. A chapter index and a detailed subject index give ready reference to the technical data.

The Catalog Data Section has been entirely rearranged. The many products described by manufacturers have been grouped into five divisions and the contents of each division outlined on a title page, with page references to each group of products.

**SKYLIGHT AND ROOF TABLES**—by H. Collier Smith. 1940—3rd. 134 pages, illus. 4 x 6¾, flexible. Scientific Book Corp., 15 E. 26th St., New York City. \$1.50.

This new third revised and enlarged edition is issued in handy pocket size to make it convenient for quick reference. The tables show the true lengths of common, jack and hip bars for ordinary pitches of skylights ranging from 2 to 30 feet in width; the method of employing stub patterns is carefully outlined and instructions given on how the measurements are taken on the glass lines of the various parts of the skylight; directions are also given on how to obtain the glass area of a skylight or the amount of roof covering of a building.

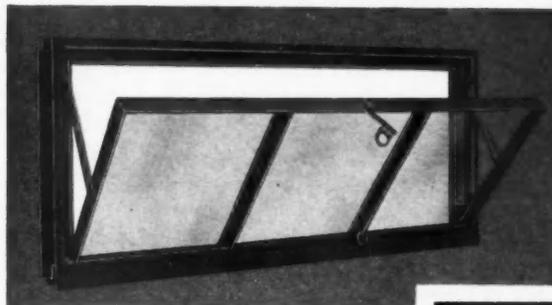
**INTERIOR ELECTRIC WIRING AND ESTIMATING**—by Albert Uhl, Arthur L. Nelson and Carl H. Dunlap. 1940. 342 pages, 332 illus., 41 tables. 5½ x 8½, cloth. American Technical Society, Chicago. \$2.50.

A new and greatly enlarged edition which has been brought up-to-date and includes 8 full sized blueprints for actual practice in reading blueprints and in estimating interior electric wiring. The book starts with fundamentals, and in a step-by-step manner works into the higher phases of the subject, including estimating, apartment and factory building wiring. It will be of value to beginners, to experienced wiremen, to contractors, to students in vocational and evening schools, and to architects.

**PLANNING AND PLANTING YOUR OWN PLACE**—by Louis Van de Boe. 1938. 273 pages, illus. 6 x 9, cloth. The Macmillan Co., 60 Fifth Ave., New York City. \$4.50.

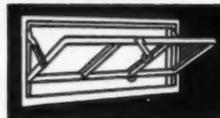
A practical handbook offering hundreds of suggestions about everything from the care of trees to the building of driveways, from the kind of garden tools needed to a list of plants that attract birds, from the technique of lawn-making to pruning, from landscaping for various types of architecture to drainage, from the location of rock gardens to the cost of shrubs.

# the New VENTO CHAMPION Basement Window has everything



## TOP VENTILATION

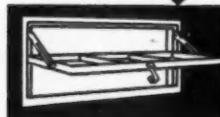
Ventilator tilts in at top giving ample ventilation for normal requirements. In this position ventilator deflects drafts upward and retards entrance of rain, snow and dirt.



↑ FROM THIS  
TO THIS ↓

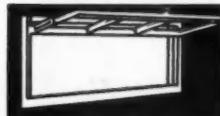
## ANY DEGREE OF VENTILATION BY JUST A SLIGHT DOWNWARD PULL. VENTILATOR IS WELL BALANCED

By pulling the top of ventilator in and down any degree of opening up to 100% can be obtained.



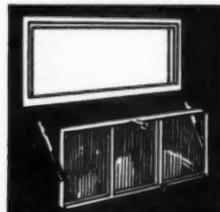
## SWINGS FROM TOP IF DESIRED

If owner prefers action of top hinged window it is obtainable with the new Champion by simply lifting the ventilator from the sill and reversing it as shown at right. Ventilator may be held in open position by ceiling hook.



## VENTILATOR QUICKLY REMOVABLE FROM FRAME

Ventilator is entirely removable from frame either before or after installation for ease in glazing or for any other purpose where maximum opening is desired such as to facilitate removal or passage of boxes, crates, etc.



## PLEASES EVERY PROSPECT — EVERY OWNER!

Regardless of whether your prospects or customers prefer top hinged windows or bottom hinged windows, the New VENTO CHAMPION gives you the opportunity to please him 100% and to capitalize on the present-day keen interest in better basements. It does all that either or both will do, and in addition is exceedingly well made and will operate perfectly under all conditions. Designed for quick and easy installation—neat, quick attachment of screens and storm sash—most practical method of puttyless glazing—unusual weather-tightness. Investigate and you will agree that it is THE basement window to standardize on.

## THE COST IS SURPRISINGLY LOW

In spite of the fact that it is way in advance of the field, the new Champion costs no more than any first line window. In fact, less than some.

**A COMPLETE LINE** Vento offers you a complete line of window products for all types of buildings. Ask your dealer about them or write today for complete descriptive literature on the type that you are interested in.

Vento Steel Products Company enjoys an enviable reputation for dealer cooperation.

Also ask about the new and exceptionally fine  
VENTO COAL CHUTE

**VENTO STEEL PRODUCTS COMPANY**  
MUSKEGON - MICHIGAN

# Now... a flooring created specifically for INDUSTRIAL SERVICE

**M**ANY factory and warehouse floorings in use today are modified road pavings that have been drafted into industrial service because nothing better has been available. Now, however, a new flooring in tile form—actually created for industrial use—is available. This new product is Armstrong's Industrial Asphalt Tile.

Here, at last, is a low-cost material that offers the combination of properties necessary to provide a serviceable industrial floor. Look at the following list of special features—compare them with the characteristics of any other industrial flooring in use today:



These twenty desirable qualities make Armstrong's Industrial Asphalt Tile the logical choice for factory and warehouse floors. Next time your plans call for a heavy-duty trucking floor, use Armstrong's Industrial Asphalt Tile.

You'll also find this flooring excellent for locker rooms, super-markets, and covered loading platforms. For full information about this new industrial floor, write now to Armstrong Cork Company, Building Materials Division, 1218 State Street, Lancaster, Pennsylvania.



## Armstrong's Floors INDUSTRIAL ASPHALT TILE

### "Registered Homes" Program Launched

**T**HE Federal Home Loan Bank Board has launched its spring drive to build "Registered Homes" under the Federal Home Building Service Plan, following a statement by the American Institute of Architects and the Producers' Council to the building industry outlining their efforts in support of the program.

The Bank Board's program got under way after a series of meetings in which field men from six areas to be developed under the Plan reported on the groundwork that had been completed. Support of the Institute, as the national spokesman of the architectural profession, and the Council, as the national organization of manufacturers of building materials and equipment, resulted from a study which indicated the importance of stabilizing the small house market through more adequate architectural service and a wider use of quality materials. The Institute hopes to draw the interest of all members of the architectural profession to the Plan in producing better design and effective supervision of construction. The Producers' Council is marshalling the support of building product manufacturers—and, through them, of local material dealers, contractors and builders—to produce houses which through registration can be identified as quality products and set the highest standards for their communities.

Briefly, the Federal Home Building Service Plan seeks to provide:

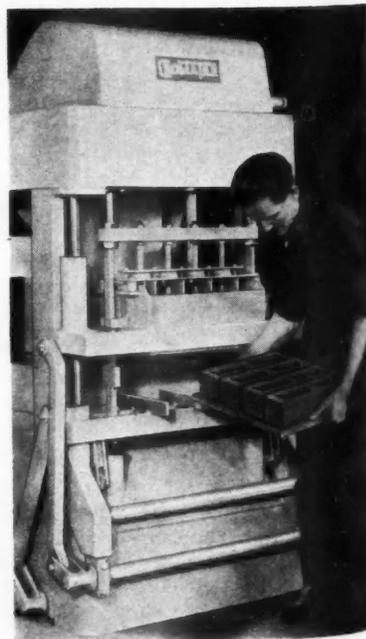
Sound financing counsel; economical design, suited to family needs, site and neighborhood, with adequate working drawings; specification of proper materials and a means for a check on those materials; assurance of a qualified builder; periodic supervision of construction; registration of the Home with the Federal Home Loan Bank Board as a quality product, establishing dependable value as an investment and for resale.

The program is being concentrated at the present time in a dozen key communities, with secondary operations in nearly a score more, all in six areas east of the Mississippi. Among the primary points are the Twin Cities of Minneapolis and St. Paul, Hinsdale, Ill., Tottenville, Staten Island, N.Y., Charlotte, N.C., New Orleans, La., Grand Rapids and Kalamazoo, Mich., Madison, Wis., and Fargo, N.D. Nearly 500 original designs by leading residential architects—the best selections ever assembled for the small home field—already are included in the Plan's portfolio and architects in communities where the Plan is operating are continually contributing designs particularly suited to their localities.

### "Cromatile" Masonry Building Unit

**A** NEW type of masonry wall unit, known as Cromatile, has just been announced by Cromatile Associates, Inc., Grand Rapids, Mich. It is primarily intended for exterior finish purposes, but can also be supplied in a "basic" color at lower price for similar requirements to those of common brick. Cromatile is a true rectangle, with laid-up dimensions of 12" x 3 1/2" x 3 3/4"; it is cellular in design, which not only reduces its weight to almost half that of brick, but provides for air insulation; and it is light in weight being made of a special formula mix containing the new ingredient, Cromalite.

**MAKING Cromatile** (right) and laying up wall of these units.



**FOR MODERN WALLS AND CEILINGS**

MIRROR-SMOOTH LUSTRE  
GLEAMING DURABILITY  
ECONOMICAL WALL-SIZE PANELS  
ALL COLORS PASTELS, TINTS, SHADES, VARIETIES  
EASY-TO-CLEAN GLOSSING SURFACES  
FOR ANY DECORATIVE TREATMENT OR PLAIN PANELS  
SCORED BASEBOARD BORDERS

**GIBBS BOARDTILE**  
is applied easily, requiring only a saw, hammer, nails and adhesive cement. It is especially appealing for bathrooms and kitchens where moisture and steam resistance is important, and it meets the demand for durable walls in every room of the new or old house as well as store counters, hotel lobbies, washrooms, etc. Our planning department will supply estimates, color schemes, room layouts, sketches, free. Write for sample, color chart and circulars.  
**GIBBS BOARDTILE CORPORATION**  
624 North Aberdeen St., Chicago

**GIBBS BOARDTILE**

**STAIR BUILDING** ★

By  
**Gilbert Townsend**  
Author of "How to Estimate for the Building Trades"



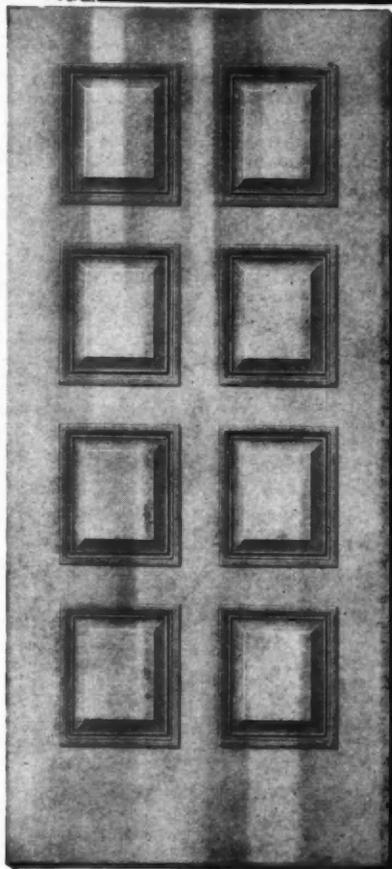
This new book on standard methods of stair building is simple in style for the beginner, and thorough enough for the experienced stair builder. It contains many helpful rules and methods and 195 construction drawings and photographs. It shows how to do each part of a job.

**CONTENTS:** Types of stairs and their location. Laying out strings. Framing. Using carriages and blocks. Balusters. Scroll brackets. Return nosing. Housed string. Winders. Bullnose steps. Headroom. Stair widths and dimensions. Stair finish. Curved handrails. Bevels. Laying out handrails and face molds. How to lay out stairs. Arrangement of stairs in house plan. Questions with page references. Index.

1940. 200 pages, 195 illus., 6 x 9, cloth, \$2.00  
Money Back if Not Satisfactory  
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**American Builder and Building Age**  
30 Church Street, New York, N. Y.

**SAVE TIME, SAVE MONEY**  
WITH  
**TRU-FIT**  
Durable Douglas Fir  
Entrance Doors



- EXACT SIZE
- FACTORY-FITTED
- PACKAGED
- SCUFF-STRIPPED
- TRADE-MARKED



FDI DESIGN 2010. A beautiful colonial door made in two sizes, 3' x 6'8" and 3' x 7'. 1 3/4" thick.

**Made in 27 Distinctive Designs!**

A Tru-Fit durable Douglas Fir entrance door arrives on your job as trim and clean as it leaves the mill. It's pre-fitted and ready to hang the instant you remove protective wrapping and scuff strips. It will give long years of service because Tru-Fit entrance doors are made from 100% heartwood, vertical grain, old growth Douglas Fir by skilled craftsmen. The trade-mark on each door is your guarantee of quality.

Use a Tru-Fit entrance door on your next job. You'll find it costs no more than other good doors . . . LESS when you consider all the time and work it saves you. Write for new Fir Door Institute catalog. It contains descriptions and illustrations of Tru-Fit entrance door designs, as well as stock Douglas Fir house and garage doors.

Remember, you can order stock Douglas Fir doors pre-fitted at very slight extra cost . . . and grade-marked for easy identification, too!

**FIR DOOR INSTITUTE**

Tacoma Building, Tacoma, Washington



## SAVE TIME—MONEY WITH UNION METAL STEEL BRIDGING

● Want to save money yet serve your customers better? Then use this modern steel bridging on your next job. You'll cut installation time 1/3 to 1/2. Here's why—

1. Entire supply for average house comes in one conveniently carried box, eliminating frequent trips to the bridging pile.
2. Steel bridging is quickly attached with roofing nails.
3. No time is lost replacing splits.

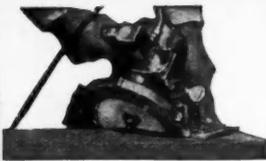
Union Metal steel bridging insures a better job, too, because it stops squeaky floors, won't warp or shrink—approved tests at Case School of Applied Science prove it stronger than 1"x3" wood bridging.



Union Metal bridging is available in lengths to fit all regular joist sizes and spacings. Packed in convenient cartons of 100. Write today for free sample, descriptive folder and prices.

**THE UNION METAL MANUFACTURING CO.**  
CANTON, OHIO

## ONE SAW DOES THE WORK OF TWO *and Saves Investment Costs*



6"-8"-10"-12" Sizes

### Speedmatic Electric Hand Saw and Radial Arm

Here's a combination that saves a big share of the money you would ordinarily pay for two saws.

First—with the *Radial Arm*, SPEEDMATIC now gives you the advantage of a "production rig" right on the job, allowing you to do accurate, high-speed production work and duplicate cutting.

And second—you can quickly detach the SPEEDMATIC and use it all over the job as an *Electric Hand Saw*.

SPEEDMATIC'S many unequalled features speed up work **TEN TIMES FASTER** than old-fashioned hand-sawing—and cut dollars from costs to add to your profit.

Look for Porter-Cable representative's name in your phone book—or write direct today.

**PORTER-CABLE MACHINE COMPANY**  
1721-c No. Salina Street, Syracuse, N. Y.

## LETTERS from Readers on All Subjects

Facts, opinions and advice welcomed here

### Supports Mangan's Stand

Shelsea, Okla.

To the Editor:

I was glad to read the letter you printed from John J. Mangan of Chicago, about the astounding debt of National Government.

I do not agree that bankruptcy is inevitable even though we continue to approach it. I have confidence in Congress and in the people to stop this approach, and control the finances of this able country of ours in a business-like and sensible fashion. It can be done, and it must be done.

In our country we enjoy a freedom, comforts, and satisfactions, which give us an ambition and an initiative not surpassed by the citizens of any other country. We like this way of living, and to keep it thus we must be doubly cautious and not continue anything likely to alter our situation.

I agree with Mr. Mangan that we must become government minded, and to study, and assist, and take more interest in our government. I hope his letter was read by all the readers of the *American Builder*, and that they will think about it and act.

H. S. MILAM, Petroleum Engineer

### FHA Take Note

Milford, Conn.

To the Editor:

I am a contractor in Milford and have been reading about the construction of moderately small homes through the FHA plan.

## LATE COOL SPELL - COAL ALL GONE!



So the home owner is faced with buying more fuel, or using an auxiliary heater to "take the chill off." The built-in

## QUIKHETER

is ideal for this purpose. Flush with the wall — attractively finished in chromium (in other finishes to order), it is an ornament as well as a producer of comfort.

### Heats the Room While Other Heaters Heat Up Themselves!

The **Q**UIKHETER is fully hot the minute the switch is turned on. It draws the cold air in at the floor level — heats it immediately — and forces it out at the top to circulate quickly throughout the room.

### In New Construction and in Modernization

the **Q** Electric Quikheter should be included in the plans for bathroom — bedroom — children's playrooms.

### There is a Wholesaler Near You

who will make quick delivery from stock—in either 1,000, 1,250 or 1,500 watt sizes. Write us for his name—and for descriptive circular.

**Frank Adam**  
ELECTRIC COMPANY  
ST. LOUIS

I have done some inquiring in Bridgeport and New Haven, and find that they will not allow any 90 per cent loans such as I read about in *American Builder*. I have a very suitable area of land in mind and know several prospective owners, and I am sure that I could develop this property very successfully if I could acquire such loans as the *American Builder* wrote about. I would deeply appreciate it if you could inform me of anyone I might contact in this area to acquire the 10 per cent down FHA loan.

P. B. WILKINSON & SON  
By C. B. Wilkinson

**Yes, It's a Recent Book**

Penn Yan, N.Y.

To the Editor:

In the February issue of the *American Builder*, we were very much interested in an article, the first of a series, on the use of the carpenter's square. In a footnote, Gilbert Townsend was mentioned as the author of a book known as "Steel Square." Is this book still available?

WALKERBILT  
By John T. Andrews

**Should "Low Cost" Mean Also "Short Life"?**

San Antonio, Tex.

To the Editor:

In reading the last issue of your magazine, we were interested in the comments about the work of a committee working on plans for volume construction of small houses and recall that there should be shortly coming out of Washington some data of interest to builders interested in this type of residential construction. We would like very much to have all the data available in connection with this matter as we plan to do some building of that type very shortly.

The writer has often wondered why the manufacturers of building materials and accessories have not designed something less expensive for use in these small houses. For example, it should not be necessary to put the same type of hardware, doors, (Continued to page 122)



**EDWARDS  
Farm Paper  
Advertising**

*Brings*  
**SALES**  
*to our*

**DEALERS AND  
Contracting  
BUILDERS**

Edwards Metal Roofings and Shingles have been advertised in leading farm papers for more than half a century. Because of their fire, lightning, wind, and weather protection the rural and small town property owners prefer them to any other roofs. Many smart dealers and builders are already profiting from this advertising and good will as we turn our inquiries over to them and help them close the sales. Write today for our Anniversary Catalog No. 95 and get lined up for Spring business.

**THE EDWARDS MANUFACTURING CO.**

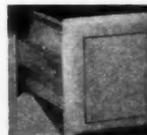
542-562 Eggleston Avenue

Cincinnati, Ohio

**A New Kind of  
KITCHEN CABINETS**



**WOOD**  
for shelves, frames, stiles, rails, section and cupboard ends, counter top bases.



**METAL**  
for drawers, sliding base cabinet shelves, counter top moulding.



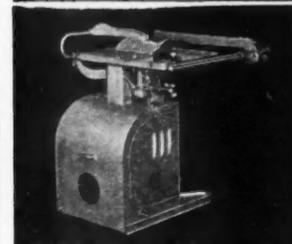
**NEWEST COMPOSITIONS**  
for doors, base bottoms and end panels, jointless countertop.

**KITCHEN MAID** is actually a new kind of cabinetry... combining the advantages of the best available materials. Built of both wood and metal, plus newest compositions... each where experience proves that it serves best; gives greatest strength and longest life. Style is original, and all units are standardized. Available in two price ranges. Get all the facts today. Write for new full-color catalog and complete details.

THE KITCHEN MAID CORP., 503 SNOWDEN ST., ANDREWS, IND.

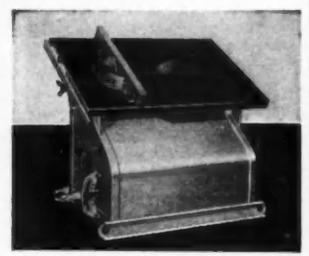


**MC EAST**  
PRECISION SAWING  
WITH  
**KOSTKUTTER** SAW RIGS



**KOST KUTTER JR.**

A keen sawing outfit that gets the work done quicker. Tilting top—10" saws powered with famous 3.6 H. P. Briggs & Stratton engine. Saw-dust proofed. Easy to transport.



**KOST KUTTER SR.**

Sensationally new. Completely enclosed and saw-dust proofed mechanism. Tilting top. 14" saws. 6 H.P. Wisconsin engine. Takes up to 4 inch stock. CMC also makes the "Power Sawyer"... a big outfit with 16" or 18" blades for 6" stuff.

**NEW CATALOG** Get this book showing the newest Mixers, Pumps, Hoists, Saw Rigs, Carts, Barrows and other new equipment in this year's wonderful new CMC line.

**CONSTRUCTION MACHINERY COMPANY  
WATERLOO, IOWA**

Victor two-piece construction assures easy installation.

**"SOLD!"—ONE HOUSE**

What a thrill to see that sign replace "open for inspection." The Victor Master In-Bilt Ventilator will sell your houses faster. A small investment that pays big dividends in rapid turnover.

In a kitchen the Victor Master In-Bilt Ventilator effectively disposes of damaging and unpleasant cooking odors. Used in bathroom, bedroom, game room, den and laundry, it promotes continuous circulation of fresh, clean air. Super-powered motor. Weather-proof shutters. Telescopic wall sleeve facilitates rapid installation. Write today for free Victor In-Bilt Ventilator catalog.

**VICTOR ELECTRIC PRODUCTS, INC.**  
Dept. IB-23, 2950 Robertson Rd. Cincinnati, Ohio

**THE VICTOR MASTER**

**\$19.95**

**VICTOR In-Bilt VENTILATORS**

less your regular discount

The Victor In-Bilt Catalog illustrates and describes the complete line.

Jack's fame has spread  
for using his head  
And building so well everywhere  
Now thousands are roofing  
And others weatherproofing  
With shingles by Robert McNair

**ROBERT McNAIR SHINGLE CO.**  
VANCOUVER, BRITISH COLUMBIA  
"OVER 400 DEALERS TO SERVE YOU"

**LETTERS—**

(Continued from page 121)

bathroom fixtures and other items in a \$2500 or \$3000 house that you put in higher priced houses. While it is true there is some variation, yet there is no reason why a door lock cannot be designed that would look presentable, work satisfactorily and be applied to the face of the door at about one-fourth of the present labor and materials cost. The same thing is true of plumbing fixtures and roughing-in requirements. It is not necessary to put material in these houses that are only going to last twenty or thirty years of the same lasting quality as you would in a house that is expected to last fifty or a hundred years.

The FHA requirements are constantly becoming more expensive to comply with and yet everybody is calling for houses which can be sold complete with a fair sized lot from \$2000 to \$3000, which under the present setup is a physical impossibility if you have rooms of a size which will give decent living conditions. It may be that something is being done in the East, the effects of which have not yet reached us. If this is true and you can give us any helpful information, it will be greatly appreciated.

**ALAMO CONSTRUCTION COMPANY**  
By George W. Scruggs, Pres.

**Government Spending vs. Business**

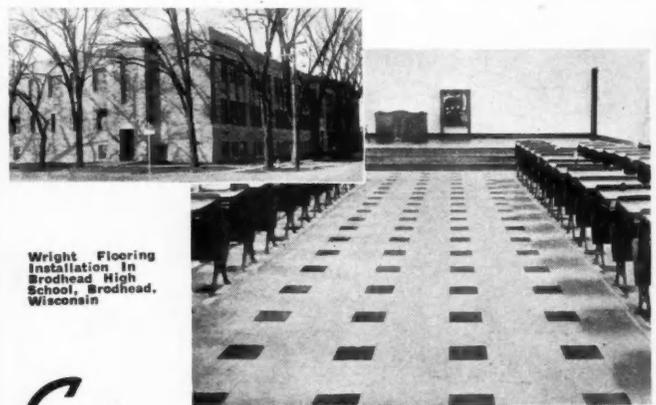
Lynn, Mass.

To the Editor:

I have just finished reading your leading editorial, entitled, "Government Spending vs. Business."

I think your editorial is the best illustration I know of the saying that you can make figures prove almost any point; and while on the surface you have gotten together some figures to prove your point, the very figures which you set forth here can be used to prove another point.

The main point in your editorial is that the present administration's policy of spending is wrong, and that it has to a large measure contributed to the non-spending by private enterprise. Therefore, you urge a most energetic campaign in every community



Wright Flooring Installation in Brodhead High School, Brodhead, Wisconsin

*Enjoy* **A 2-WAY PROFIT WITH THIS TOP QUALITY FLOORING**



Build your own flooring business. Order Wright Rubber Tile direct for every job. No stocking necessary. Then make a profit both on the sale and installation. Wright floors are quiet, restful, easy to clean and noted for their lasting beauty. Wide choice of colors and designs. See Sweet's. Write for literature and easy-laying instructions.

**EASY TO LAY ON NEW OR OLD FLOORS**

**COSTS NO MORE THAN GOOD GRADE LINOLEUM**

**WRIGHT RUBBER PRODUCTS CO.**  
1603 LAYARD AVE., RACINE, WIS.

**WRIGHT RUBBER TILE**

to reduce almost every form of government spending—local, state and national.

According to your figures, we note that the decline in building expenditures started in 1927. From approximately four and a half billion, it reached a low of five hundred fifteen million, in 1932, during the period when the Republican party was in power.

Now, does not this also prove the reverse of your argument—that, whether the government spends or does not spend, as was the case between the years 1927 and 1932, when the government did not spend, the solution to the problem is not in the curtailing of government expenditures?

As a matter of fact, according to these very figures of yours, had the present government continued the policy that the Republican administration had followed up to 1932, by 1940 the figures for building probably would have been down to zero, if we are correct in taking the figures between 1927 and 1932 as proof of our argument.

Your same figures can also be used to prove another point, and that is the very fact that the government stepped in and has raised building from five hundred million in 1932 to over two billion in 1939.

Do you mean to say that if the government stopped spending today, business would immediately step into the picture and start investing and building? Was not the reverse of that fact demonstrated in 1937 when government stopped spending, and we immediately had a minor depression as a result of that?

To my way of thinking, your approach to the problem is from a partisan point of view. In other words, whether you are a Republican or not, you are singing the song of the Republican party, which is a political party and has an axe to grind.

Were your paper to stand above party partisan politics, it seems to me it would advise the business men to take advantage of this tremendous government help, and proceed with the same determination and the same broad vision to build, manufacture and invest, and in that way bring about a lasting recovery.

On the next page following your editorial, we find the following statement: "Nobody has a right to complain about building conditions for 1940. Whether or not the building business is good

(Continued to page 124)



... EASY!  
TO READ!

Here's the steel tape builders prefer, at a price anyone can afford. BLACK-on-WHITE markings are easy to read, even in poor light! The crackproof white surface—easy to clean—is bonded to the steel, protecting it from rust. Good for a long life of tough use!

Favorite Wyteface Tapes are sold by Hardware, Building, and Mill Supply dealers everywhere. Ask your dealer, or mail coupon today for a free sample of the line and an illustrated folder, with prices.



LOOK  
FOR  
THIS  
DISPLAY

EST. 1867

**KEUFFEL & ESSER CO.**

NEW YORK - HOBOKEN, N. J.

CHICAGO - ST. LOUIS - SAN FRANCISCO - LOS ANGELES - DETROIT - MONTREAL

K & E  
FAVORITE **WYTEFACE**  
STEEL MEASURING TAPES

# Majestic

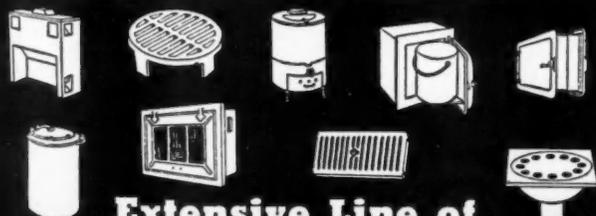
**Fuelless Home Incinerator**



*Easy to Install*  
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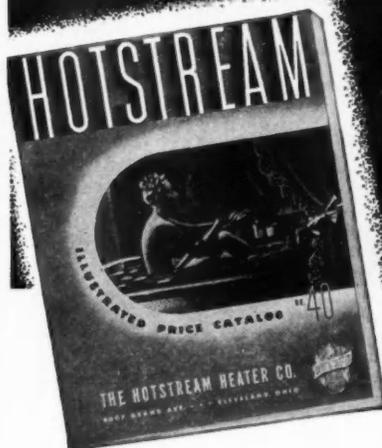
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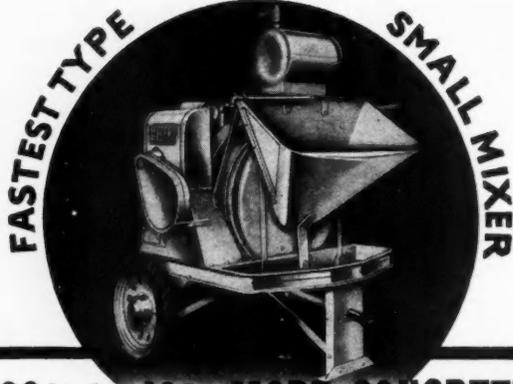
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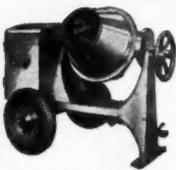


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**HEATILATOR Fireplace**

**LETTERS—**

(Continued from page 123)

is going to depend on the building business itself. Every factor bearing on an abundance of profitable residential construction during the year is favorable."

This is from an article entitled "\$1.00-a-Day Home Is 1940 Goal," by H. R. Northup, secretary of the National Small Homes Demonstration, of which you, Mr. Editor, are chairman of the Executive Committee.

Need I go into this any further?

**NATHAN GASS**  
General Home Improvement Co.

**This Issue Should Please**

Fort Worth, Tex.

To the Editor:

Herewith my check for \$2.00 for renewal of *American Builder*, and also to be included with my subscription is the book, "American Builder Buyer-Approved Homes."

I enjoy your magazine but I would like to make a few criticisms or suggestions. I think that you do not have enough plans for homes suitable for the South and Southwest. A popular style in this part of the country is the Mt. Vernon Colonial, with the front porch extending almost the entire distance across the house, using six or eight columns, and usually a trellis on the roof of the porch, which is generally almost flat, and with large gables at either side of the house. This is a favorite, and also a combination of the above with the Ranch or Western type. I have recently completed a five-room Colonial as above described, for my family, and have had several compliments on it. We are very fond of it.

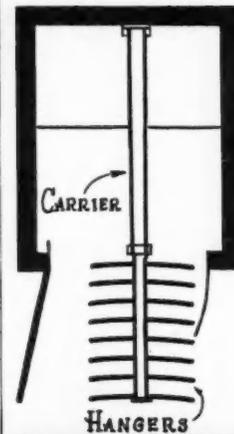
Another thing—small homes are going well here, but the bedrooms must always be larger than those usually shown in your plans. The average bedroom here is 12 x 14 or 13 x 15; and will not be suitable at all on the northwest corner of a house, as this is entirely too hot in the summer. Spacing of windows and the number of windows must be watched in order to assure proper ventilation; the prevailing wind in the summer is from the south.

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Dept. M-3 Grand Rapids, Mich.

Practically no small homes here have cellars, nor are they insulated. Porches are getting more popular and so are bay windows. Why not have more articles written by southern architects and builders in your magazine, for I know you have a good circulation in this part of the country. It seems that one-story six-room plans are also lacking (the one-story home is the most popular here). Another popular home here is the three-gable—two on sides and one in the front, with a porch usually in the offset in front.

B. A. TRAMMELL

**More on Lumber Issue**

Ogden, Utah

To the Editor:

I wish to compliment you on the January issue of your good magazine. I am sure your dealer subscribers will be very grateful for the liberal education on lumber contained in that issue. It is particularly timely now when so many dealers are education or sales training conscious. We thank you so very much.

W. W. ANDERSON  
Anderson Lumber Company

**A Helping Hand**

St. Louis, Mo.

To the Editor:

I want to thank you for the prompt attention you have given my subscription and also for the volume of "Buyer-Approved Homes." I was, for several years, associated with my brother, Henry Brand, general contractor of Louisville, Nebr. It always afforded me great satisfaction studying the *American Builder*.

When the depression hit hardest, I quit the contracting business and I am now working for a manufacturing concern. I am on the road to re-establish myself as a contractor and builder and I feel that your journal is indispensable for keeping posted on new developments in the building field.

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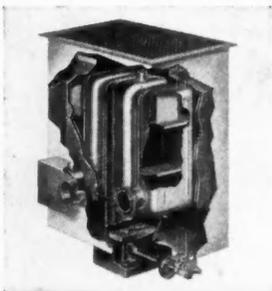
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## "TruCost" Estimating Figures for Home Designs in this Issue



The Editors have prepared a 28 PAGE EXPLANATION of American Builder's "TruCost" system of quick, accurate estimating and offer it to anyone interested at 25 cents per copy. Please enclose payment when ordering. Address American Builder, 30 Church St., New York City.

### Page 54, March; Ivey, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 150 lin. ft.; Trench Walls, 164 lin. ft.; Basement Floor, 952 sq. ft.; Garage Floor, 240 sq. ft.; Excavation per ft. deep, 37 cu. yds.; Outside Walls, 30.00 sqs.; First Floor, 14.00 sqs.; Ceiling, 14.00 sqs.; Roof Pitch, 4" rise per ft. run; Roof, 22.00 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 300 lin. ft.; Partitions, 100 lin. ft.; Inside Finish OS Walls, 225 lin. ft.; Front and OS French Doors, 3 opps.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 12 opps.; Windows and Casements, 16 opps.; Porch Floor, .25 sqs.; Porch Ceilings, .25 sqs.; Porch Beam, 11 lin. ft.; Porch and Balcony Post and Newels, 1; Porch Cornice, 11 lin. ft.

### Page 56, March; Bain, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 498 lin. ft.; Garage Floor, 360 sq. ft.; Excavation per ft. deep, 67 cu. yds.; Outside Walls, 28.00 sqs.; First Floor, 18.25 sqs.; Ceiling, 18.25 sqs.; Roof Pitch, 6" rise per ft. run; Roof, 26.00 sqs.; Hips and Valleys, 40 lin. ft.; Cornice, C & F, 280 lin. ft.; Cornice, 24", 75 lin. ft.; Partitions, 130 lin. ft.; Inside Finish OS Walls, 220 lin. ft.; Front and OS French Doors,



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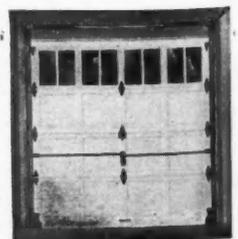
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**Page 57, March: Loveless & Fey, Archts.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 135 lin. ft.; Trench Walls, 134 lin. ft.; Basement Floor, 870 sq. ft.; Garage Floor, 340 sq. ft.; Terrace Floor, 240 sq. ft.

Excavation per ft. deep, 35 cu. yds.; Outside Walls, 25.00 sqs.; First Floor, 8.70 sqs.; Second Floor, with fin flg., 5.00 sqs.; Ceiling, 13.70 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 17.00 sqs.; Hips and Valleys, 12 lin. ft.; Cornice, C & F, 160 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 225 lin. ft.; Front and OS French Doors, 2 oggs.; Rear and Grade Doors, 2 oggs.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Oggs., 14 oggs.; Windows and Casements, 16 oggs.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, 1.50 sqs.; Porch Ceilings, 1.50 sqs.; Porch Beam, 15 lin. ft.; Porch Roof, 1.50 sqs.; Porch Cornice, 30 lin. ft.

**Page 58, March: Holmes, Archt.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 125 lin. ft.; Trench Walls, 70 lin. ft.; Basement Floor, 840 sq. ft.; Garage Floor, 418 sq. ft.; Excavation per ft. deep, 40 cu. yds.; Outside Walls, 28.00 sqs.; First Floor, 8.40 sqs.; Second Floor, with fin flg., 5.25 sqs.; Ceiling, 13.65 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 18.00 sqs.; Cornice, C & F, 320 lin. ft.; Partitions, 140 lin. ft.; Inside Finish OS Walls, 215 lin. ft.; Front and OS French Doors, 2 oggs.; Rear and Grade Doors, 2 oggs.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Oggs., 14 oggs.; Windows and Casements, 16 oggs.; Gable Sash and Louvers, 2 oggs.; Chimney, 55 lin. ft.; Main

(Continued to page 128)

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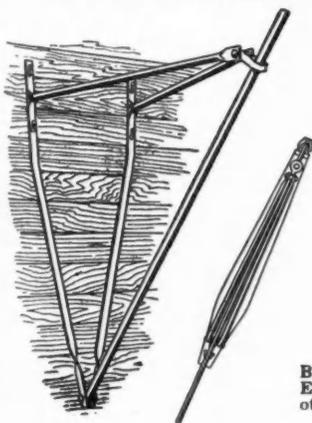
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## TruCost Figures

(Continued from page 127)

Stairs, 1; Porch Floor, 3.25 sqs.; Porch and Balcony Post and Newels, 4; Porch Roof, 2.00 sqs.; Porch and Deck Rail, 35 lin ft.

### Page 60, March; Stoddard, Archt.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 152 lin. ft.; Trench Walls, 150 lin. ft.; Basement Floor, 960 sq. ft.; Garage Floor, 400 sq. ft.; Excavation per ft. deep, 42 cu. yds.; Outside Walls, 30.00 sqs.; First Floor, 11.25 sqs.; Second Floor, with fin. flg., 9.60 sqs.; Ceiling, 21.00 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 20.00 sqs.; Hips and Valleys, 50 lin. ft.; Cornice, C & F, 350 lin. ft.; Partitions, 190 lin. ft.; Inside Finish OS Walls, 275 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 2; Inside Doors and Cased Opps., 18 opps.; Windows and Casements, 36 opps.; Gable Sash and Louvers, 1 opg.; Chimney, 35 lin. ft.; Main Stairs, 1; Porch Floor, 9.60 sqs.; Porch Ceilings, 3.60 sqs.; Porch Beam, 60 lin. ft.; Porch and Balcony Post and Newels, 5; Porch Roof, 5.60 sqs.; Porch Cornice, 58 lin. ft.; Porch and Deck Rail, 36 lin. ft.

### Page 63, March: "Certigrade Californian"—A

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 160 lin. ft.; Utility Rm. Floor, .50 sq. ft.; Excavation per ft. deep, 45 cu. yds.; Outside Walls, 12.00 sqs.; First Floor, 13.00 sqs.; Ceiling, 13.00 sqs.; Roof Pitch, 6" rise per ft. run; Roof, 12.00 sqs.; Hips and Valleys, 150 lin. ft.; Cornice, C & F, 170 lin. ft.; Partitions, 140 lin. ft.; Inside Finish OS Walls, 170 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opps., 10 opps.; Windows and Casements, 18 opps.; Gable Sash and Louvers, 1 opg.; Chimney, 21 lin. ft.; Porch Floor, .15 sqs.; Porch and Deck Rail, 6 lin. ft.

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**Page 64, March: Torraca, Archt.**

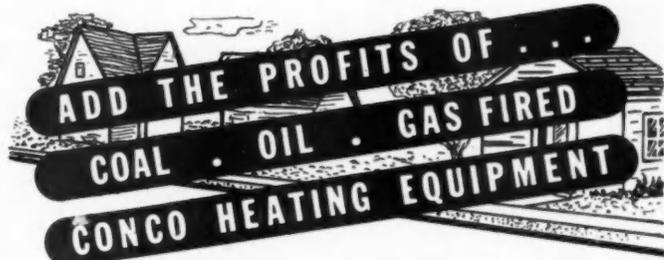
"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 100 lin. ft.; Trench Walls, 150 lin. ft.; Basement Floor, 550 sq. ft.; Garage Floor, 210 sq. ft.; Excavation per ft. deep, 46 cu. yds.; Outside Walls, 27.00 sqs.; First Floor, 13.00 sqs.; Ceiling, 13.00 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 20.00 sqs.; Hips and Valleys, 72 lin. ft.; Cornice, C & F, 232 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 200 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 1 opp.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 20 opps.; Windows and Casements, 19 opps.; Gable Sash and Louvers, 4 opps.; Chimney, 28 lin. ft.; Porch Floor, .80 sqs.; Porch Ceilings, .80 sqs.; Porch Beam, 10 lin. ft.; Porch and Balcony Post and Newels, 4; Porch Cornice, 10 lin. ft.

**Page 66, March: Hunter, Archt.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 136 lin. ft.; Trench Walls, 26 lin. ft.; Basement Floor, 875 sq. ft.; Excavation per ft. deep, 37 cu. yds.; Outside Walls, 18.00 sqs.; First Floor, 8.75 sqs.; Second Floor, with fin. flg., 3.25 sqs.; Ceiling, 12.00 sqs.; Roof Pitch, { 7" rise per ft. run; { 12" rise per ft. run; { 5" rise per ft. run; Roof, 12.75 sqs.; Hips and Valleys, 48 lin. ft.; Cornice, C & F, 100 lin. ft.; Cornice, 10", 50 lin. ft.; Partitions, 190 lin. ft.; Inside Finish OS Walls, 175 lin. ft.; Front and OS French Doors, 1 opp.; Rear and Grade Doors, 1 opp.; Inside Doors and Cased Opps., 16 opps.; Windows and Casements, 22 opps.; Gable Sash and Louvers, 2 opps.; Chimney, 32 lin. ft.; Main Stairs, 1; Porch Floor, 50 sqs.

**Page 67, March: Hunter, Archt.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 133 lin. ft.; Trench Walls, 90 lin. ft.; Basement Floor, 750 sq. ft.; Garage Floor, 171 sq. ft.; Excavation (Continued to page 130)



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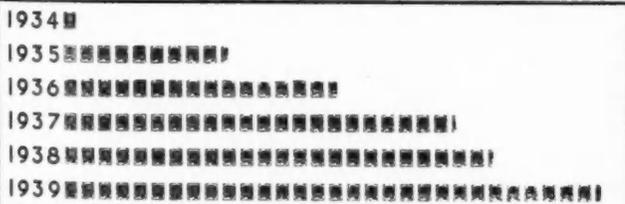


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\*Patented process owned by Aluminum Company of America

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1142 N. Meridian St., Indianapolis, Indiana

Patterson Venetian Blind Corp.  
1142 N. Meridian St., Indianapolis, Ind.

Please send complete information on your Rigid-Metal venetian blinds and other types which you manufacture.

Name .....

Street .....

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

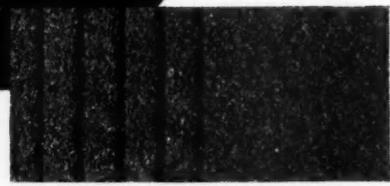


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# MULE-HIDE COR-DU-ROY ROOFS

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Un-retouched photo of 18 yr. old Mule-Hide Shingle

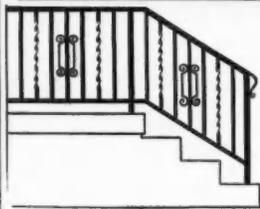
Cor-Du-Roy's alternate rib and groove construction speeds drainage, stops "side-drift" even in the most severe storms and its expansion-joint principle prevents cracking. Channeled or grooved construction adds greater strength—and a generous extra amount of asphalt per shingle assures added years of service.

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### TruCost Figures

(Continued from page 129)

per ft. deep, 30 cu. yds.; Outside Walls, 24 sqs.; First Floor, 7.50 sqs.; Second Floor, with fin. flg., 4.50 sqs.; Ceiling, 12.00 sqs.; Roof Pitch, 12" rise per ft. run; Roof, 13.50 sqs.; Hips and Valleys, 20 lin. ft.; Cornice, C & F, 216 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 225 lin. ft.; Front and OS French Doors, 2 opps.; Rear and Grade Doors, 2 opps.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 14 opps.; Windows and Casements, 22 opps.; Chimney, 38 lin. ft.; Main Stairs, 1; Porch Floor, 1.50 sqs.; Porch Ceilings, 1.50 sqs.; Porch Beam, 24 lin. ft.; Porch and Balcony Post and Newels, 3.

### Page 68, March; Kelley, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Trench Walls, 260 lin. ft.; Furnace Room Floor, 95 sq. ft.; Garage Floor, 140 sq. ft.; Excavation per ft. deep, 69 cu. yds.; Outside Walls, 25.35 sqs.; First Floor, 10.44 sqs.; Second Floor, with fin. flg., 7.00 sqs.; Ceiling, 19.15 sqs.; Roof Pitch, 12" rise per ft run; Roof, 21.20 sqs.; Hips and Valleys, 48 lin. ft.; Cornice, C & F, 326 lin. ft.; Partitions, 210 lin. ft.; Inside Finish OS Walls, 160 lin. ft.; Front and OS French Doors, 3 opps.; Rear and Grade Doors, 3 opps.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opps., 17 opps.; Windows and Casements, 16 opps.; Gable Sash and Louvers, 4 opps.; Chimney, 35 lin. ft.; Main Stairs, 1; Porch Floor, 2.76 sqs.; Porch Ceilings, 2.53 sqs.; Porch Beam, 57 lin. ft.; Porch and Balcony Post and Newels, 13; Porch Roof, 3.00 sqs.; Porch Cornice, 49 lin. ft.

### Page 70, March; Meyerhoff, Bldr.

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 107 lin. ft.; Trench Walls, 44 lin. ft.; Basement Floor, 660 sq. ft.; Excavation per ft. deep, 29 cu. yds.; Outside Walls, 19.25 sqs.; First Floor, 6.60 sqs.; Second Floor, with fin. flg., 6.60 sqs.; Ceiling, 13.20 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 9.00 sqs.; Hips and Valleys, 125 lin. ft.; Cornice, C & F, 115 lin. ft.; Cornice, 10", 115 lin. ft.; Partitions, 170 lin. ft.; Inside Finish OS Walls, 224 lin. ft.; Front and OS French Doors,



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**Page 71, March: Meyerhoff, Bldr.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 106 lin. ft.; Trench Walls, 40 lin. ft.; Basement Floor, 690 sq. ft.; Excavation per ft. deep, 30.00 cu. yds.; Outside Walls, 25.00 sqs.; First Floor, 7.20 sqs.; Second Floor, with fin. fg., 6.90 sqs.; Ceiling, 14.00 sqs.; Roof Pitch, 8" rise per ft. run; Roof, 9.00 sqs.; Cornice, C & F, 120 lin. ft.; Cornice, 4", 60 lin. ft.; Partitions, 180 lin. ft.; Inside Finish OS Walls, 225 lin. ft.; Front and OS French Doors, 1 opg.; Rear and Grade Doors, 1 opg.; Inside Doors and Cased Opgs., 18 opg.; Windows and Casements, 22 opg.; Gable Sash and Louvers, 2 opg.; Chimney, 38 lin. ft.; Main Stairs, 1; Porch Floor, 1.15 sqs.; Porch Ceilings, 1.15 sqs.; Porch Beam, 22 lin. ft.; Porch and Balcony Post and Newels, 2; Porch Roof, 2.40 sqs.; Porch Cornice, 30 lin. ft.; Porch and Deck Rail, 14 lin. ft.

**Page 72, March: Meyerhoff, Bldr.**

"TRUCOST" ESTIMATING FIGURES FOR THIS HOUSE: Basement Walls, 102 lin. ft.; Trench Walls, 108 lin. ft.; Basement Floor, 621 sq. ft.; Garage Floor, 204 sq. ft.; Excavation per ft. deep, 26 cu. yds.; Outside Walls, 24 sqs.; First Floor, 7.00 sqs.; Second Floor, with fin. fg., 8.25 sqs.; Ceiling, 15.25 sqs.; Roof Pitch, 7" rise per ft. run; Roof, 12.50 sqs.; Cornice, C & F, 140 lin. ft.; Cornice, 8", 80 lin. ft.; Partitions, 150 lin. ft.; Inside Finish OS Walls, 160 lin. ft.; Front and OS French Doors, 2 opg.; Rear and Grade Doors, 1 opg.; Garage Door 8 ft. wide, 1; Inside Doors and Cased Opgs., 20 opg.; Windows and Casements, 25 opg.; Gable Sash and Louvers, 2 opg.; Chimney, 38 lin. ft.; Main Stairs, 1; Porch Floor, 1.75 sqs.; Porch Ceilings, 1.75 sqs.; Porch Beam, 38 lin. ft.; Porch and Balcony Post and Newels, 6; Porch Roof, 2.00 sqs.; Porch Cornice, 38 lin. ft.

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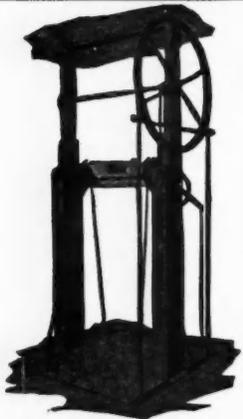


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**"THINGS TO KNOW BEFORE PLANNING A KITCHEN"**—A useful 4-page data sheet detailing the various items of Kitchen Maid Corporation kitchen equipment. A large illustration in full color gives new styling suggestions. A general discussion of kitchen planning answers many questions.—**THE KITCHEN MAID CORP., Andrews, Ind.**

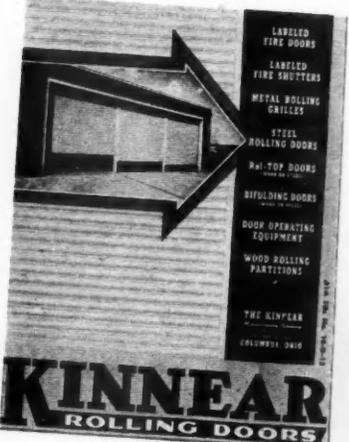
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ACME SPRING SASH BALANCES—"Beautiful Homes Everywhere, Small and Large, Use Them" is the title of a little 8-page folder illustrating and detailing the several types of Acme spring sash balances which embody several new features.—ACME SPRING SASH BALANCE CO., 1626 Long Beach Ave., Los Angeles, Calif.

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"THE PLYWOOD CATALOG"—Dated January 1940, the revised general catalog and price list of United States Plywood Corporation has 32 pages, and covers every type and variety of plywood including softwoods, hardwoods, imported woods, ply-metal, etc. Flexwood, Flexglass and Micarta are also included.—UNITED STATES PLYWOOD CORP., 616 W. 46th St., New York, N.Y.

"STANLEY SCREW DRIVERS FOR INDUSTRIAL USE"—A 28-page illustrated catalog presents the complete line of  
(Continued to page 134)

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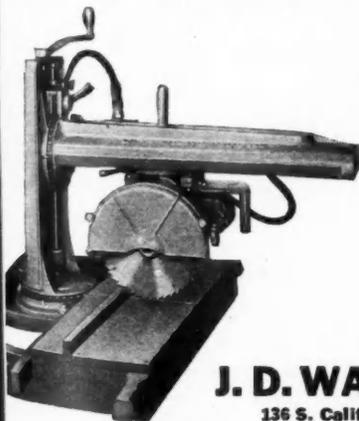
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**CATALOGS—**

(Continued from page 133)

Stanley screw drivers of which there seems to be an infinite variety. Screw drivers for hand use and machine use with standard blade and tip, and with tips for Phillips slotted head screws are included. An interesting novelty is an electrician's screw driver with jack knife blade in the handle; also a small pocket screw driver has an electric flashlight, for work in dark corners. A handy buyers' guide tabulates the various styles and models.—**STANLEY TOOLS**, New Britain, Conn.

**FLOOR AND WALL TILE**—Catalog No. 32 of the Lloyd Floor & Wall Tile Company is a beautiful handbook of 56 pages presenting a complete line of wall and floor tile with large, clear details of installation. Tile for kitchen drainboards is a timely feature. Interesting designs are included for tile mantels, decorative panels, garden fountains, etc.—**LLOYD FLOOR & WALL TILE CO.**, Kansas City, Mo.

**NEW CONSTRUCTION MACHINERY CATALOG**—Fifty-two pages are presented in the new deluxe catalog No. 40 of CMC Construction Equipment. Non-Tilt Concrete Mixers, Tilt- ing Concrete Mixers, Plaster and Mortar Mixers, Bituminous Mixers, Dual Prime Pumps, Power Saw Rigs, Hoists, Batching Equipment, Hoppers, Buckets, Etc., Concrete Carts, and Wheelbarrows are the chapter headings in this Construction Equipment handbook. Illustrations show the machines in large size with complete mechanical specifications. Numerous shots are also included showing on-the-job use.—**CONSTRUCTION MACHINERY CO.**, Waterloo, Iowa.

**MALLSAWS**—Information regarding the new line of Mall portable power hand saws is contained in an attractive two-color folder which bears the title "Do Your Work Faster with Mall-Saws." Several new models are illustrated. Model 65, capacity 1 7/8 inches, blade 6 1/2 inches; model 75, capacity 2 3/8 inches, blade 7 1/2 inches; model 85, capacity 2 3/4 inches, blade 8 1/2 inches; model 90, capacity 3 inches, blade 9 inches; model 100, capacity 3 3/4

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inches, blade 10 inches; and model 120, capacity 4 1/2 inches, blade 12 inches. These all have the Mall patented automatic safety guard.—MALL TOOL CO., 7740 S. Chicago Ave., Chicago, Ill.

**WODACK ELECTRIC HAND TOOLS**—New circulars have been issued describing the Wodack electric groover, the Wodack "Do-All" combination electric hammer and drill, and the "Do-All" star drills and other electric hammer tools. The electric groover is offered particularly for tuckpointers, roofers and sheet-metal workers for cutting concrete, brick, tile and other hard building materials. It operates a thin abrasive cutting wheel.—WODACK ELECTRIC TOOL CORP., 4627 W. Huron St., Chicago, Ill.

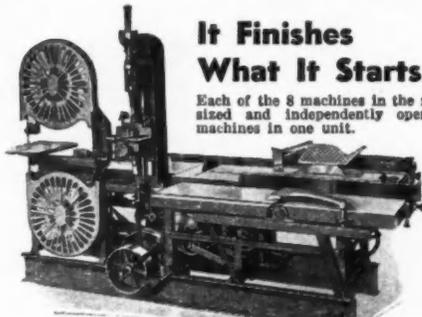
**KOEHRING 604 EXCAVATOR**—A new 12-page circular in two colors presents this 1 1/2 cubic yard capacity power shovel mounted on crawler track truck. It is equipped with electric, gasoline or diesel power.—KOEHRING CO., Milwaukee, Wis.

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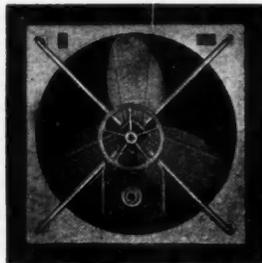
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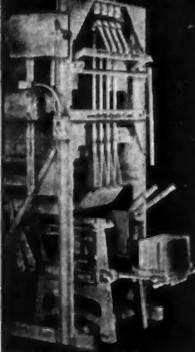
EMPIRE No. 151-E Aluminum Level with 2 levels and 4 plumbs, or 2 plumbs and 2/45° glasses, and INTERCHANGEABLE VIAL CASES—\$4.95.

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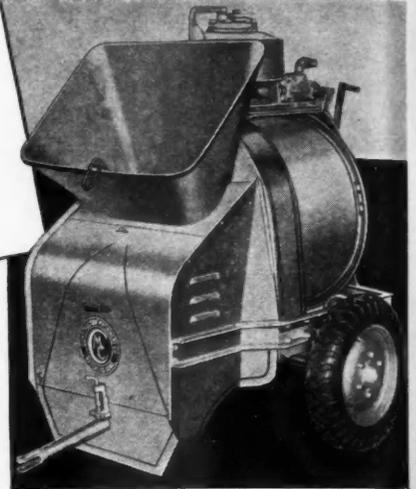
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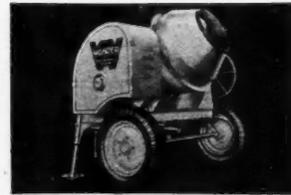
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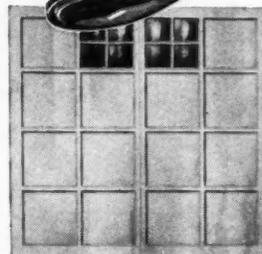
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