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and Building Age

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**FEBRUARY, 1938**

60th Year

Vol. 60—No. 2

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# How the **BENDIX HOME LAUNDRY**

SUCCESSOR TO THE WASHING MACHINE

## Can Help Your Business



**SAVES SPACE.** Only 25½" x 20½" on the floor, 35" in height, the Bendix Home Laundry saves valuable space. Note the neat, compact, finished appearance of the Bendix in recreation room.



**ATTRACTS PROSPECTS.** Bendix is news. It fires the imagination—attracts prospects and buyers. Your model home equipped with a Bendix Home Laundry will create enough interest to actually pay for itself in advertising alone.



**SELLS HOMES.** A Bendix in a home stamps it as up-to-date in every detail. And often a home is sold by even the slightest advantage of convenience.



**R**EVOLUTIONARY features of the Bendix Home Laundry will attract prospects to your new homes. It's exciting news for women today . . . and widely advertised. Bendix washes, rinses, damp-dries clothes *automatically*.

Just as important to you, Bendix requires little space, eliminates set tubs, and can be used in basement, kitchen or utility room.

Anchored to the floor and connected to drain and water lines, Bendix permits laundry planning as a *complete* unit that is financed with the home.

See Bendix demonstrated, then you will appreciate why it is called "the successor to the washing machine" . . . how it can help you sell your houses.

Complete information and your copy of the new Bendix Architect's File Folder for the asking. Dept. A.B., Bendix Home Appliances, Inc., South Bend, Ind.

## **BENDIX HOME LAUNDRY**

WASHES . . . RINSES . . . DAMP-DRIES . . . *AUTOMATICALLY*

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# PUBLISHER'S PAGE

## Business versus Economics

**T**HE last decade has been economically the most tragic and disgraceful in the history of the American people. First, the insane stock market orgy and collapse; next, the worst depression in history; then, four years of halting and incomplete recovery; and, now, a recession which within seven months reduced the total amount of all business being done to what it was *three years ago*.

What is the explanation? Principally that we know more about *business* than any other people—and apparently almost nothing about *economics*.

How do they differ? Well, suppose that an industry, by investing in improved machinery, increases its output *per employe* 50 per cent. Does it continue to employ the same number of men as before and *increase its total production and sales 50 per cent*? If so, that is *both good business and good economics*. Or does it continue to produce and sell only the same amount of goods as before, and *reduce the number of its employes 33-1/3 per cent*? If so, that may *seem good business*, but it is mighty poor economics and eventually will prove to be poor business. The men thrown out and their families must live. If they are not given employment in other industries they and their families must be supported on relief—that is, by taxes paid mainly by business.

**N**OW, that is approximately what has been occurring in business as a whole in the United States for years; and it is the principal explanation of what is economically wrong with us. Increase of output per employe is merely *technical progress*. It must result, not in reduction of employment, but in a proportionate increase of *total production* in order to constitute *economic progress*. But, of course, there cannot long be largely increased total production without proportionately increased *total sales*. And that's where the present American economic system, as contrived by politicians, business men and labor leaders, bogs down. We have

learned how to make rapid *technical progress*. We have forgotten how to make such *economic progress* as we made before the War because we have forgotten how to create large enough *markets* for all the vastly increased amount of goods that technical progress has made it possible for us to produce.

That is our real and vital problem—*markets*. Where and what, then, are they? Every industry and its employes directly or indirectly constitute the markets for each individual industry or business and its employes. If any industry and its employes cannot sell all they can produce, it must be because (1) they are asking higher wages and prices than other industries and their employes are *able* to pay them or (2) they are not putting forth the sales effort necessary to make other industries and their employes *willing* to pay the wages and prices being asked.

**T**HE industries and people of the United States constitute a virtually unlimited *potential market* for products of every kind—especially housing. In order to get their full share of that vast potential market each industry and its employes *must* accept the wages and prices that other industries and their employes are both able and willing to pay.

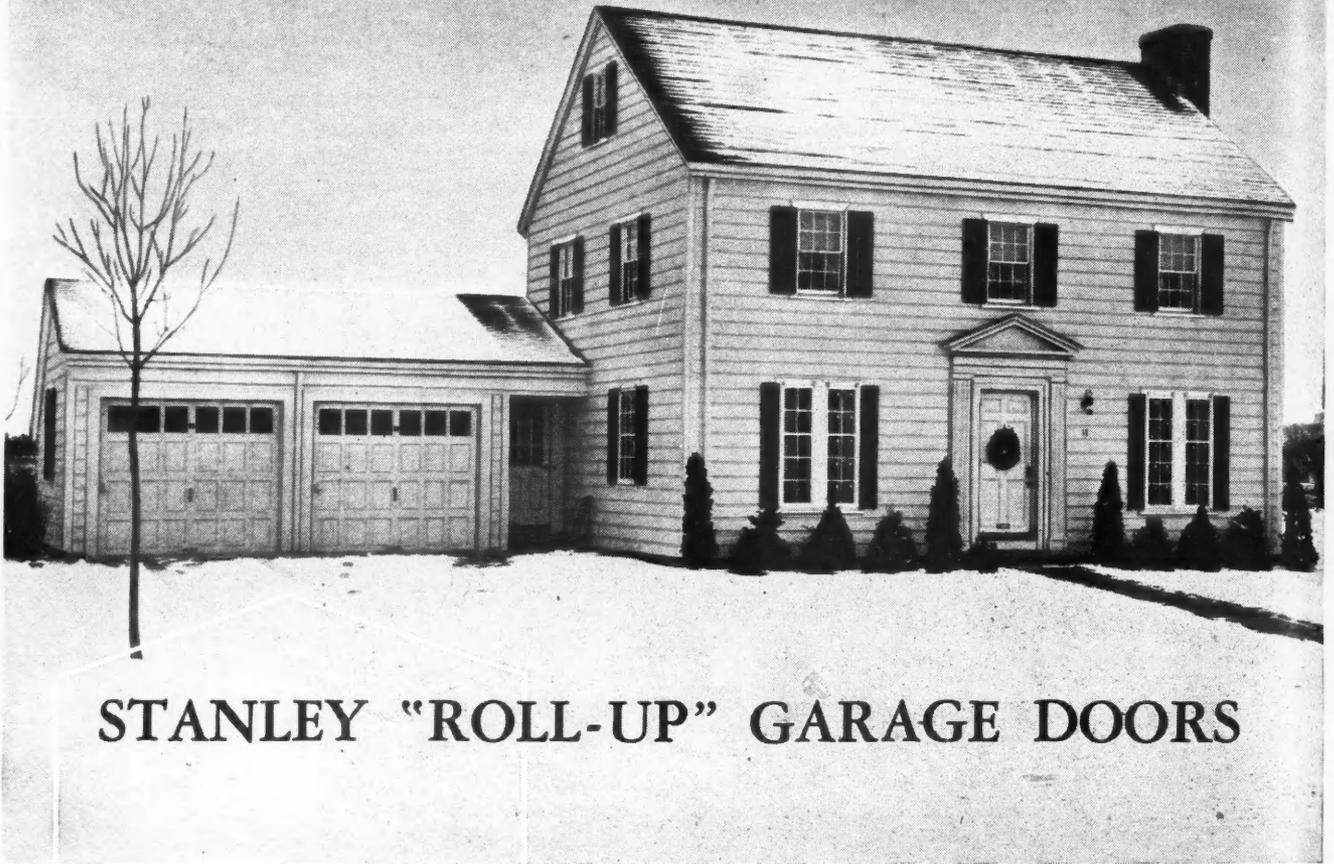
When *each* industry and its employes begin to do all they can fully to develop *their potential market*, we shall have a revival of economic progress soon resulting in full employment, high and increasing wages, and large business profits—all due to vastly increased production to supply adequately expanded markets. But neither business, nor labor, nor politicians, nor all of them, can restore full employment and prosperity without doing all that is necessary to create *markets* for the maximum amount of goods that every industry and its employes can produce.

*Samuel O. Dunn*

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## BETTER HOMES

*Call For Trouble-Free Garage Doors*



### STANLEY "ROLL-UP" GARAGE DOORS

- *Easy To Install*
- *Long Life*
- *Weather-proof*

With garages at the front in today's homes their doors need the same careful attention that you give the front door. Stanley "Roll-Up" Door Equipment adds to any garage—in attractiveness, in trouble-free service.

Easy to install, this equipment is rugged and trouble-free—a slight pull starts the door, and the heavy coil springs float it to open position. No sticking, no jamming—the most difficult weather conditions do not faze Stanley "Roll-Up" Doors. They remain carefree for the life of the building on which they are installed.

Certainly these facts are worth investigating. Your Stanley dealer will be glad to give you the details.

THE STANLEY WORKS - - NEW BRITAIN, CONN.

# STANLEY

H A R D W A R E F O R C A R E F R E E D O O R S

# AMERICAN BUILDER

## AND BUILDING AGE

# Organized Labor Opportunity

**T**HE key to building revival is held today by organized labor. Always an important factor in building costs, labor has held the spotlight in a special way during the past year; whether justly or unjustly, labor has been blamed for much of the public's recent attitude of coolness toward home building and other construction projects.

Some have said—wages are too high; others—production is too uncertain; and still others—we are afraid to go ahead with so much strike trouble brewing.

The general public has heard so much of labor strife that it is hardly to be wondered at that the advantageous and essential features of building trades service to the public have been obscured and overlooked.

And it is hardly to be wondered at that, during the past year, uncertainties and lack of confidence multiplied to halt thousands of building projects that were planned and are still wanted today.

Much conferring and planning have been going on, both in Washington and by business leaders throughout the country, to get home building and other construction going again. Manufacturers of building materials have been talking nation-wide promotion of homes and housing; local dealers and builders have been working to tie in locally; Congress and the President have moved to ease and extend FHA provisions to facilitate financing. All these things are good; but in none of them has the *major factor* in building been represented. Labor, which represents one-half the entire investment on the job, has not in general been represented in any promotional plan.

Labor, with most at stake, has lacked customer-mindedness. It has left to others the all-important job of *creating the job*. It has failed to tell the public of its skill, competency, dependability. In spite of widespread unemployment, no move UP TO NOW has been made by the organized building trades for winning the public to an enlarged building program.

### Labor Steps Into Lead

With the above brief review of average conditions, with which every building industry man is very familiar, *American Builder* is happy to report a new attitude and a new development under which building labor is now putting itself right into the forefront of new home building promotion. The organized building trades, instead of being left out of these new plans, have become the spear head of the movement.

Having its origin in Cleveland and developed by James G. Caffrey, forceful FHA director for Ohio, and Albert Dalton, president of the Cleveland Building Trades Council, this new promotional alignment for building labor has been given the catchy name, "Build America Program"; and it is expected to be taken up by other local and state councils as a key project for 1938.

The purposes of this program have been endorsed by Joseph A. McInerney, national president of the Building Trades and Construction Department of the A. F. of L.

### Objectives of Program

In a communication to Congressman Martin L. Sweeney of Ohio, published in the "Congressional Record" of Jan. 13, 1938, these points of the Program were summarized:

"Because it is believed that there is no single organization in the country engaged in the building industry which could have as much power and influence as the building-trades departments of the American Federation of Labor, it is proposed, in general, that the Cleveland Building and Construction Trades Council shall, under the supervision of its executive committee—

(1) Inaugurate a program of activities designed to promote a more favorable public acceptance of its organization, and of the services of its members.

(2) Shall generate, by every constructive means available, improved relations, understanding, cooperation, and confidence between labor and management in the building field; and shall through every contact of labor with the public seek to expand the good will of the latter toward the organization; and

(3) Shall, to promote local goodwill, specifically concentrate its activities in the metropolitan area of Cleveland, but with due regard to the expansion of its program through the medium of other building-trade councils, and thus to engage the building trades of the entire country in a national movement for permanent recovery in all branches of building.

*More particularly, it is proposed—*

That the Cleveland Building Trades Council shall not only completely reverse its policy of remaining aloof from the promotional activities of other elements of the building industry, but shall itself undertake a program of sales promotion and invite those other organizations to participate.

That, in respect to public relations, the program shall include the dissemination of accurate information regarding annual incomes of building trades mechanics, hourly rates, amount of wages received on different types of structures by different types of building trades mechanics, and shall through the medium of the newspapers, radio, and public gatherings acquaint the public with the facts to the end that the building trades and the industry shall no longer be the victims of statements based on the superficial investigations of pseudo experts.

That by co-operation with capable real estate men, interested manufacturers, and distributors of material definite housing projects and individual home units shall be promoted and the active co-operation of big manufacturers of the country solicited to create a free flow of capital which is so necessary to the construction of any type of home unit.

It is also proposed that a definite educational campaign will be carried on to assist builders and real estate men to develop prospects and to do a job of creative selling of new homes; and that the sales and advertising managers of the principal organizations in the State of Ohio shall be called together to consider the ideas of the Cleveland Building Trades Council regarding the setting up of a definite program and to consolidate their efforts to create actual building.

It is proposed to inform all building mechanics of the activities of the Cleveland Building Trades Council and thus to make them aware of the constructive program of the council.

Finally, it is proposed that by constructive articles, radio addresses, and public speeches, to gain the confidence of the American buying public so that the barriers of fear which have been built up in their minds shall be dissipated and in their place will come understanding, confidence, and approval of the Building Trades Councils of America."

### Wages Pegged for 2 Years

In a memorandum to Secretary of Commerce Roper, dated Jan. 13, another important feature of this new labor program was outlined:

"Definite action has been taken by a resolution on the part of the Cleveland Building Trades Council to assure the people of Cleveland that no further rises in the wage scale will be asked for in the next two years, thus eliminating fear that an increase would be sought in the midst of a construction program."

Specifically, this publication is advised, the "Build America" effort of the labor organizations is to be implemented by numerous field men active in key cities, where housing need is most urgent, to organize and promote definite projects of apartments and groups of houses, both for rent and for sale, and qualifying for FHA insurance. These are genuine "make-job" projects—building for which there is an economic need, furnishing sound investment for private funds and starting the wheels of business prosperity turning to a faster tempo—

all because of a better understanding by the public of the eagerness of labor to deliver big value today in skill, competency and dependability, backed up by an adequate field force to create and promote definite projects for housing and other types of needed building improvements.

This publication has been active in spreading the gospel that today's building industry is delivering "more house for the dollar" than ever before in building history. We have campaigned to correct false price-thinking regarding home building, emphasizing present-day advantages in financing and construction technique that home builders should be taking advantage of. Get the spotlight off those minor details of wage rates and price lists and onto the big values now delivered in the completed home!

We welcome the new attitude of labor, as expressed in the program of the Cleveland Building Trades Council. It represents intelligent "public relations"—a consideration for consumer and customer point of view that is refreshing. We hope that this new movement may spread through the entire fabric of the building industry.

### News Flash From A. F. of L. Convention

As we go to press on the afternoon of Jan. 26, the following telegram, just received, assures nation-wide support for this new labor program.

*"Editor, American Builder and Building Age, Chicago:*

*"Authorized release by Executive Council of Building and Construction Trades Dept. of A. F. of L.*

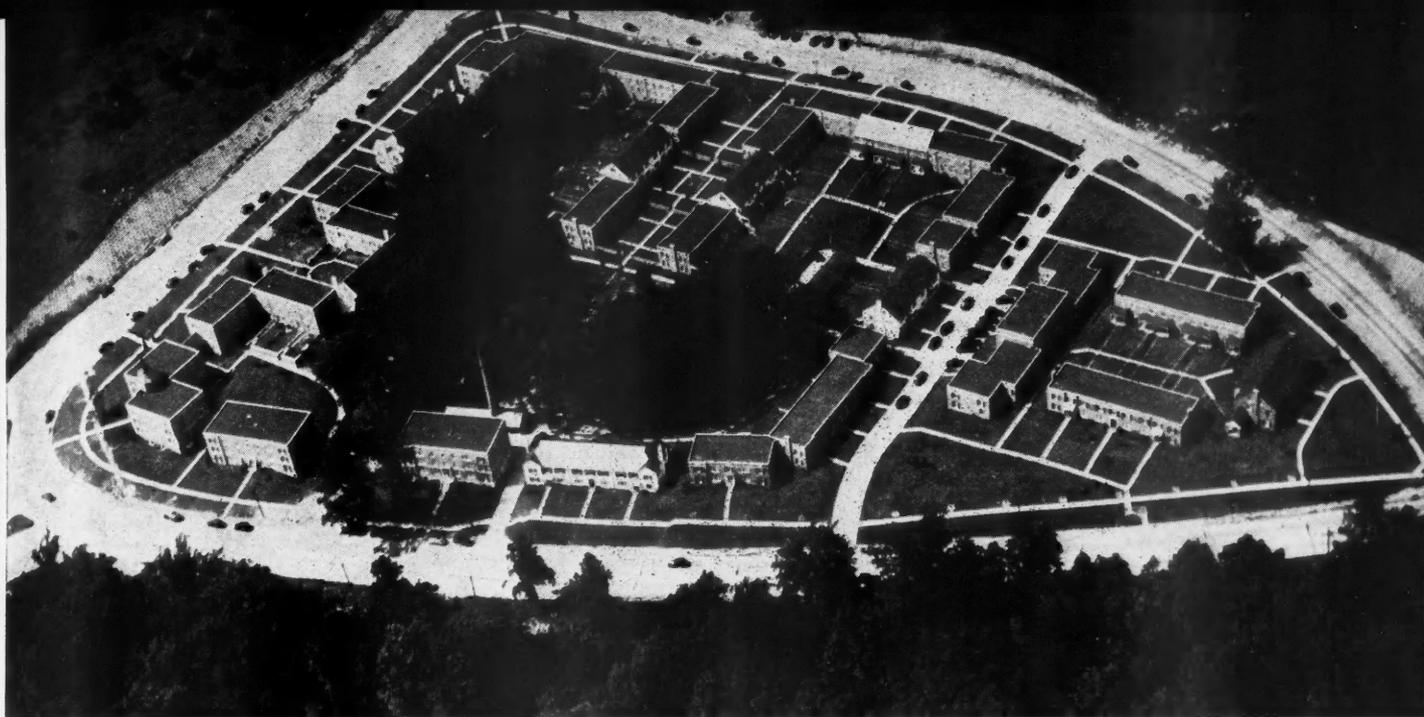
*"The Building and Construction Trades Department of the A. F. of L. through its president, Joseph A. McInerney, in session at Miami, Fla., today endorsed a 'Build America' program to stimulate the building industry and encourage the movement of capital goods and private jobs for the unemployed in building trades and other allied industries.*

*"President McInerney appointed to serve on a permanent committee to develop the program on a national basis the following general presidents: Dan W. Tracy, general president Brotherhood of Electrical Workers International, Richard J. Gray, secretary, Bricklayers and Masons and Plasterers International Union, William L. Hutcheson, general president, United Brotherhood of Carpenters and Joiners International Union. This committee, with Mr. McInerney, will perfect the national program with James G. Caffrey and Albert Dalton, business representative of the Cleveland Building and Construction Council.*

*"Mr. Joseph A. McInerney, as president of the Building and Construction Trades Department of the A. F. of L., stated that by co-operation with capable real estate men, interested manufacturers and distributors of materials, definite housing projects, individual home units and every type of construction shall be promoted and the co-operation of national manufacturers of the country shall be solicited to use the full force of their organizations to effectuate the program.*

*"The Building and Construction Trades Department believes that with the constructive co-operation of the various branches of the building industry, 1938 should prove a definite turning point toward permanent recovery of the building industry, which means comparable prosperity to every business man and individual in the country."*

*(Signed) ALBERT P. DALTON, President, Cleveland Building and Construction Council.*



TREES, PLAYGROUNDS, a controlled community is established in this large-scale rental housing project near Washington. Row houses, two and three-story flats at moderate rentals are featured.

# New Homes for Sale or RENT

**Revised FHA Plan Encourages Rental Projects.  
Blanket Mortgage Finances Projects at 4½%**

**B**UILDING of groups of houses for sale or rent is a new development that is attracting the attention of many builders.

Great emphasis is laid on rental projects in the Administration's new private housing program, and revisions in Federal Housing Administration regulations are provided in the Bill just passed by Congress.

In order to stimulate a great volume of construction in the near future, the proposed housing program makes it possible for builders to build a group of houses financed under a single blanket mortgage at an interest rate of 5 percent, or possibly 4½ percent. As many of these houses may be sold by the builder right away as he desires or finds possible. Those not sold may be rented. They may also be rented to a prospective purchaser until enough equity accrues through rent payments to constitute the 10 percent down payment required under the new FHA setup. In either case, whether sold at once or rented for a time and then sold, as soon as the actual transfer takes place the blanket mortgage is reduced by a comparable amount.

## Medium and Large Scale Rental Projects

Under the revised FHA regulations and the provisions of the new Housing Bill, two types of rental projects are set up:

Under Section 210, FHA is authorized to insure a blanket mortgage covering property on which is to be built a group of not less than 25 single-family dwellings or multi-family dwellings. The mortgage may be not less than \$16,000 nor more than \$200,000 and is issued for 80 percent of the total value. Cost of the houses is limited to \$1250 per room.

This type of project may include homes either for rent or for sale. It offers an inducement for private

builders to go ahead at once with a group of dwellings in the low priced field. The blanket mortgage may be obtained from a private financial institution or directly from the new National Mortgage Association set up under the Housing Bill and to be financed with \$500,000,000 of RFC funds.

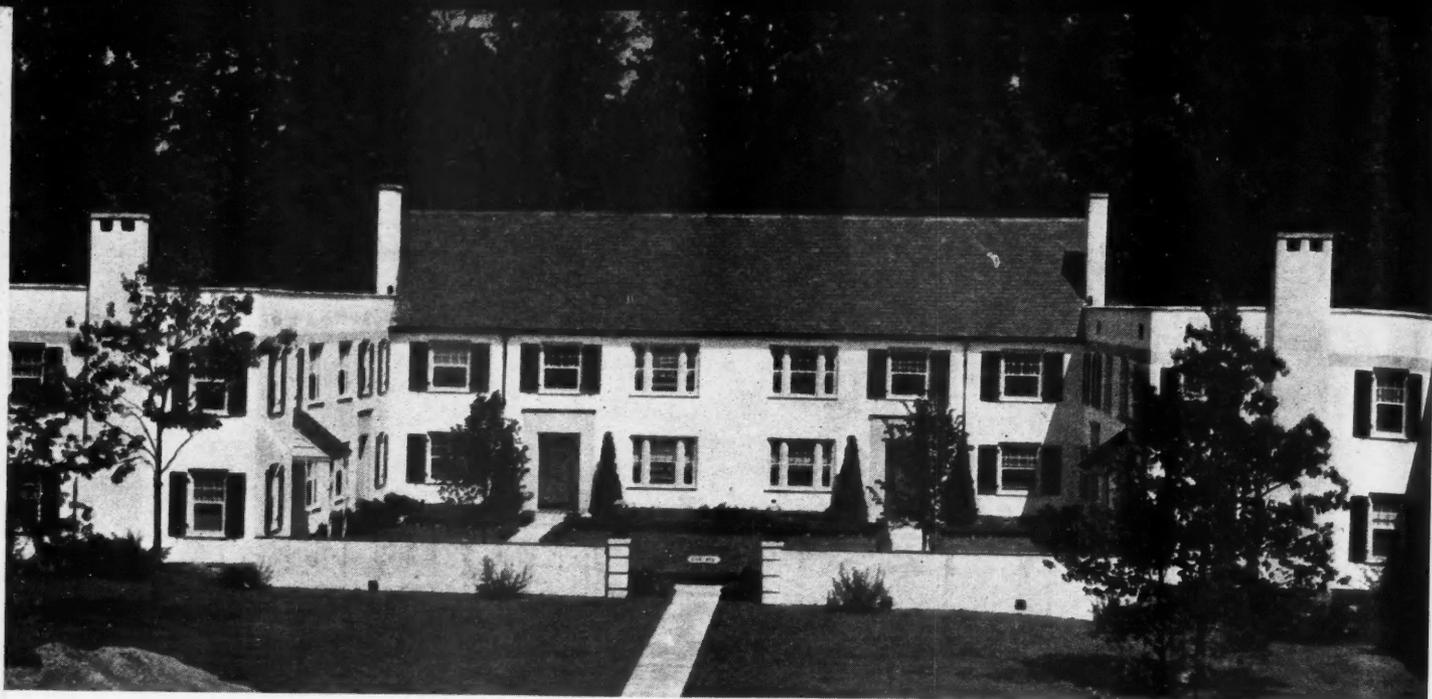
The builder who operates under this plan is able to quickly establish the character of a new community because he can build a block of houses at one time and rent those that he cannot immediately sell.

Under Section 207 of the Housing Act, unusual inducements are set up for the building of large-scale rental housing projects. Such projects may consist of single-family houses, duplexes, four-family structures, row houses or apartments, covering projects of any size up to \$10,000,000. The cost of units is limited to \$1,300 per room, and the financing is done by a blanket mortgage for 80 percent of the value of the property at 4½ percent interest.

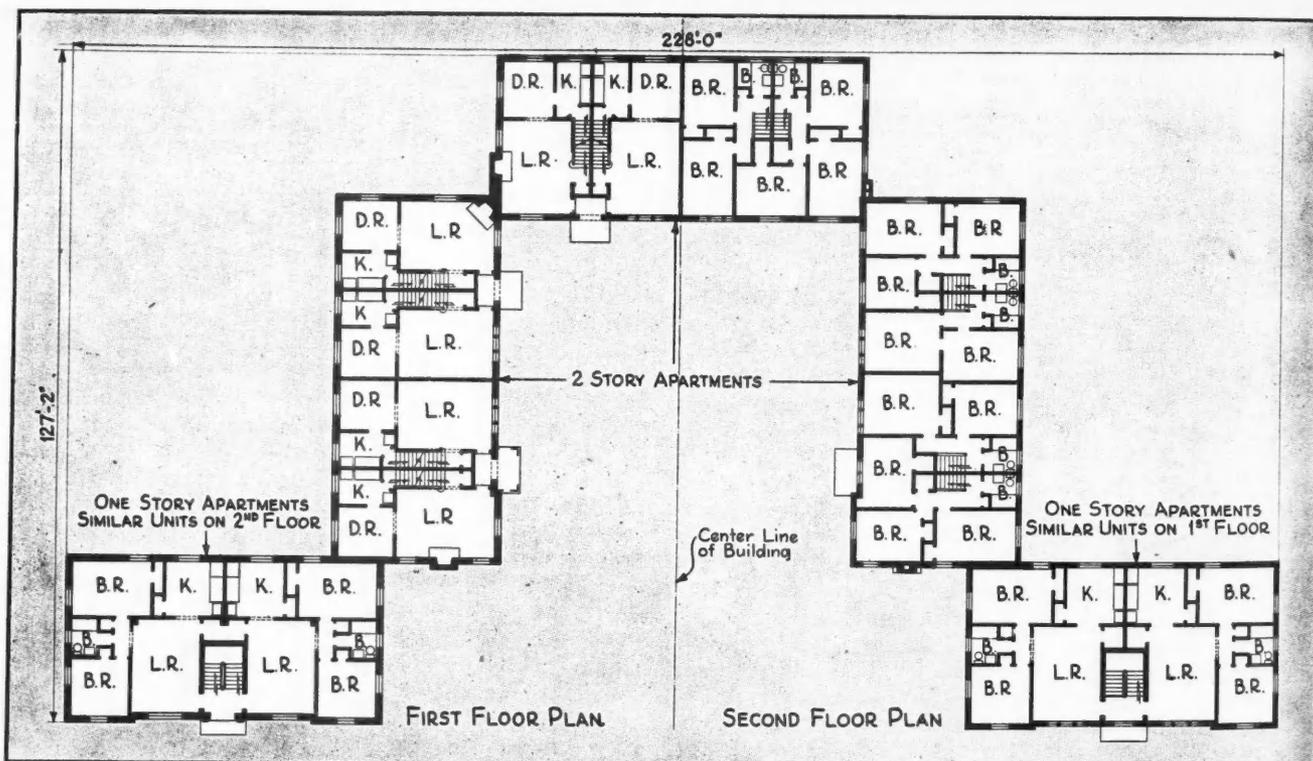
This type of large-scale rental project has already been extensively tried out by the Federal Housing Administration, and numerous successful ventures have been carried out. Several are illustrated with this article.

This type of large-scale rental housing project is carried on by private builders under a so-called limited dividend incorporation. As a matter of fact, the phrase, "deferred dividend" is more accurate. A corporation of this type under revised FHA plan is permitted to earn 8 percent. Annual earnings above a reasonable amount, however, are applied to the paying off of the blanket mortgage.

An important feature of the revised Housing Bill concerns foreclosure methods on large-scale rental projects of this type. The new Bill provides a plan for turning the property over to the FHA Administrator in



THIS ATTRACTIVE 16-UNIT COURT is part of the Falkland Properties' large scale rental project, Silver Spring, Md. Three, four and five-room apartments, some duplexes, are included. Rentals average \$14.50 per room. Half plans of layout appear below.



case of trouble, thereby eliminating foreclosure charges. This feature makes possible a lower interest rate than the smaller housing projects planned under Section 210, which does not have this foreclosure provision.

There is a growing feeling among builders that rental projects offer considerable opportunity for sound, profitable building operations. A project properly laid out, planned especially for rental purposes and financed under the liberal terms of FHA should undoubtedly prove satisfactory. It is known that in many communities a high percentage of the residents, due to nature of their business, are forced to be renters. Large-scale rental projects such as provided under Section 207 can provide modern attractive housing for people of this type at reasonable rentals, and still pay good dividends. Private builders who engage in this type of work are

allowed to include their services, overhead, etc., as part of the original equity, in addition to land.

Thus far the rental projects constructed under the FHA plan have been rather large and have been located on the edges of towns where ample land is available at reasonable cost to permit well-landscaped communities. FHA believes that a project large enough to completely establish the character of a community forms the best kind of an investment. However, the rental projects do not necessarily have to be large. One of the smaller types, illustrated with this article, is the Elm Terrace Apartments, Inc., in York, Pa., which provides 43 family units. On the other hand, several projects in Virginia and Maryland, within reach of the city of Washington, run into the hundreds of units. One is ultimately planned to contain nearly a thousand units.

ELM TERRACE apartment is a 43-unit rental project financed by an FHA insured mortgage. This is a modern, firesafe building located in York, Pa., built so as to provide ample light and sun, with plenty of lawn space around building. FHA rental projects may be financed by a 26-year mortgage covering 80 percent of the total value, at 4½ percent interest.

Illustrated with this article is a 16-family unit built as part of the Falkland Properties, Inc., at Silver Spring, Md. Located in beautiful rolling country and surrounded by trees, playgrounds and facilities for outdoor recreation, this privately built and financed project consists of brick, semifire-proof row houses, duplexes and three-story flats. The first section consisted of 178 family units valued at \$1,100,000, financed by a blanket mortgage for \$840,000 which was issued by the Union Central Life Insurance Company to run 26½ years at 4½ percent interest. Average rental of the apartments is \$14.50 per room. The second section of this rental project is now under construction, consisting of 301 units with a total value of \$1,618,000. This is financed by a blanket mortgage for \$1,225,000 at 4½ percent, running 22 years. There are 17.6 families per acre in the first unit and 21.85 families per acre in the second unit. This project is fully rented.

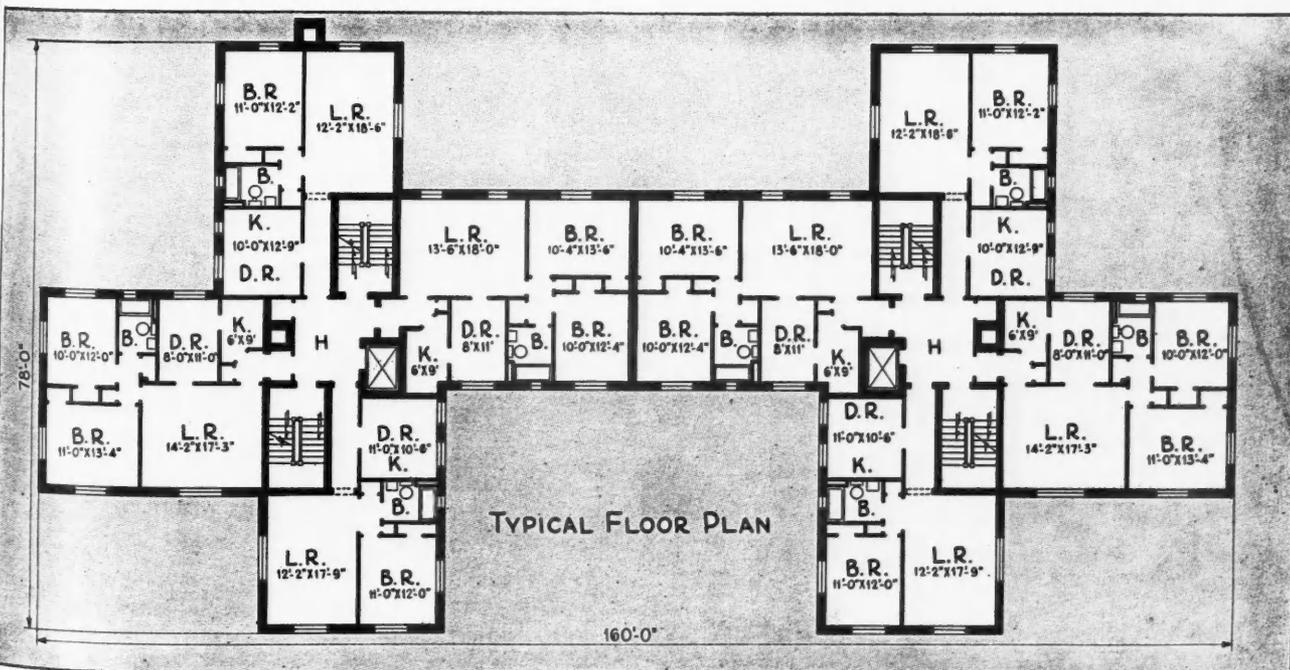
Another equally successful and interesting project is Buckingham Community, Inc., at Arlington, Va., promoted, built and operated by that energetic housing advocate Allie S. Freed. The first section of this huge project has been completed and fully rented, and the second section is nearing completion. A long list of applicants is anxiously waiting for an opportunity to move into the apartments as soon as finished.

The combined units provide some 554 apartments consisting of "duplex and simplex mansionettes" and

also 4, 5 and 6-room apartments. There are 18¾ families per acre in the project, and the average rental is approximately \$14 per room.

The first section of this project was financed by a bond issue, and the second by a Prudential Insurance Company mortgage. On a total valuation of \$2,596,000 a loan of \$1,970,000 was placed at 4½ percent interest, running for 26½ years.

While these projects are large, it is felt that the same plan will work equally well for smaller projects in smaller communities. Circular No. 3, "Rental Housing," issued by the Federal Housing Administration, Washington, D.C., explains full details of the rental housing plan, and builders may also obtain further information from local FHA representatives.



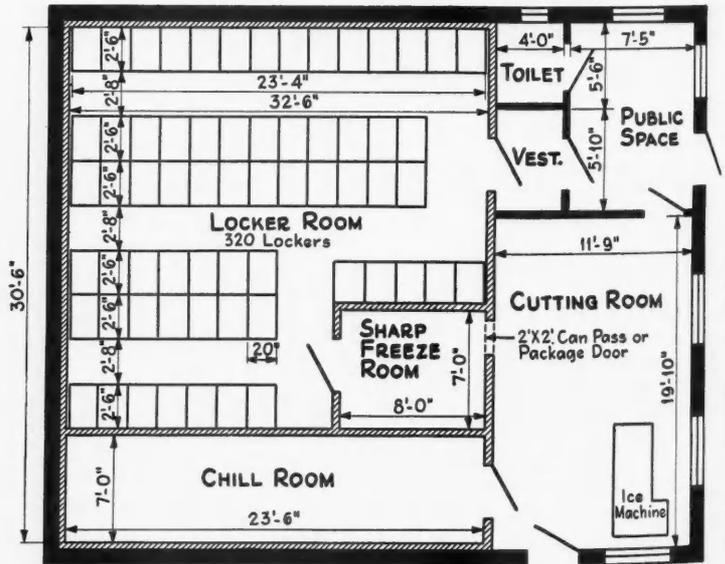
FLOOR PLAN of the Elm Terrace Apartments, York, Pa., shows an unusual six-wing arrangement that provides good light and ventilation in all apartments. J. B. Hamme is the architect, R. S. Noonan, contractor.

# Boom in Building for Community Cold Storage Lockers

**R**EFRIGERATION of foods is a new service now available to farmers and city folks in various sections of the country. If a farmer wishes, he may have a year-round supply of fresh meats, fruits and vegetables from his own farm. The same service is available to any householder in the neighborhood of a locker plant. He can buy meat on the hoof and store it until needed. He can purchase fresh vegetables, berries, etc., at low prices, or even raise them in his garden for future use. It is only necessary to sharp freeze and store these items under proper conditions in an existing modern cold storage locker plant.

This fast growing cold storage locker industry offers a tremendous new opportunity for contractors and builders, especially throughout the Middle West and the Central States. Every city of 100,000 population and under, as well as those farm towns of 500 population and up have ample demand to provide full rental capacity for a 500-locker cold storage plant. Again, as in many other building projects, the general contractor may assume the lead and be aggressive in promoting the idea in its entirety.

It has been reported that the total cost of a new locker plant of average design, to accommodate approximately 300 lockers, located in Iowa, Illinois, Minnesota, Wisconsin, etc., including building, complete with refrigerating equipment, cork board insulation, and modern steel lockers, runs about \$28.00 to \$30.00 per locker. (The building lot is not included in these figures.) These figures would naturally vary in different localities and according to the size of plant and the suitability of the



**COLD STORAGE LOCKERATOR LAYOUT**

**TYPICAL LAYOUT** for a Community Cold storage locker plant, showing Public Space, Cutting Room, Chill Room, Sharp Freeze Room and Locker Room containing 320 privately rented Cold Lockers; as recommended by Mr. Everett Kaser, president Durabilt Steel Locker Co., Aurora, Ill. Photo above shows customers opening their Lockers to take out meat or other refrigerated food supplies. Photo to left, upper, shows Cutting Room with attendant at work; lower photo shows Sharp Freeze Room.

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building. A larger plant would lower the cost per locker.

Locker operators count on income from each locker rental of \$10.00 to \$12.00 annually, plus processing fees which bring gross income to \$20.00 or more annually per locker. A locker plant of 500 lockers would have an average income of about \$5,000 per year from rentals. Considering an average turnover of 1,000 pounds of meat per year per locker, with a processing charge of 1c per pound would give at least \$5,000 more. On the expense side, there are the butcher's wages, insurance, taxes, water, electricity and the cost of miscellaneous supplies consisting of waterproof parchment paper, gummed tape, twine, office stationery, advertising, etc. The total of these expenses, not considering interest on the investment, would not ordinarily exceed \$5,000. Therefore, allowing a reasonable amount for repairs and depreciation, figured on a conservative basis, it would appear that on an investment of \$15,000 the net return per year would be approximately \$4,000 to \$5,000.

The locker building may be either a new structure or a remodeled old one. For new plants, the type of construction varies in different localities. Many are brick, others frame, hollow tile, or cement block. Unoccupied store buildings are often remodeled. Existing commercial properties are used with alterations or additions. An existing ice and cold storage plant, having surplus space, can often be changed over to accommodate the locker requirements of a community. In all types of construction, it is very essential to have sufficient insulation in the various rooms to help maintain the proper temperatures.

All buildings must have adequate wiring to provide lighting and electric power for the refrigerating machinery. Plumbing facilities must be adequate to handle waste water and provisions should be made for the lavatory and toilet requirements for the patrons and employees. A constant supply of water is necessary, which means that either city water or well water should be provided. Many plants are equipped with overhead monorail for conveying heavy cuts of meat, etc.



NEW BUILDING at Yorkville, Ill., will house the Kendall County Farm Bureau; Cold Locker Department in Basement.



EARLVILLE, ILL., boasts this impressive plant for community cold storage, built for a private owner as an investment.



**BUILDING INDUSTRY**  
men are promoting community cold storage locker buildings like these in many mid-west localities. To right is shown the Farm Bureau plant at Amboy, Ill.

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## "Drive-in" Bank Opens New Field

**Los Angeles Innovation Seen as Model  
for Extensive Bank Modernizing**

**I**N ITS newly-opened Vernon branch, which is the only "Drive-in Bank" in the world, the Security-First National bank of Los Angeles may have uncovered for the building industry a vast new field of bank construction.

The bank is located in a rapidly growing industrial section and being designed to meet the needs of motorists, it sets new standards of speed and convenience. It is felt, and justifiably so, that this new type of drive-in bank will set the standard for future construction of branch banks in other communities.

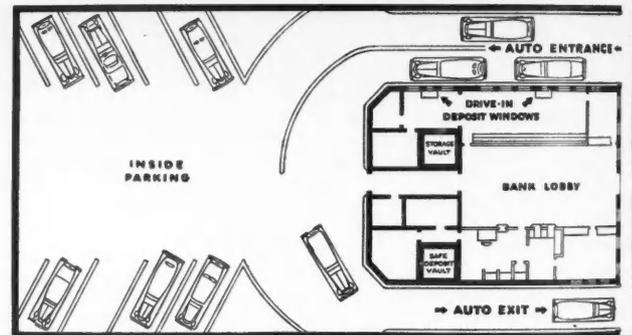
The new unit offers three unusual banking features. These are:

(1) Special "drive-in" wickets where a motorist may handle simple banking transactions without leaving his car.

(2) Automobile parking area within the banking structure and adjacent to the lobby and working space.

(3) New low-type streamlined counter screen.

Of the three features, the "drive-in" provision is of most interest. Entering the building along a wide motor concourse, the customer drives up to one of several special "drive-in" wickets which project from the wall enclosing the working space. Here he may deposit, receive a payroll, or transact other simple business without leaving his automobile. If the customer's business is more



complex, he continues along a drive-way to a parking space within the bank building and covered by its roof. While an attendant parks and watches his car, he walks a few steps into a regulation bank lobby. A feature of this lobby is a new streamlined counter screen which promotes a friendly atmosphere and permits greater customer convenience and staff efficiency.

In design, the bank building is similar to a letter U, with the points facing the street. Automobiles enter on one point of the U and emerge on the other. The bank lobby and working space are in the middle. An entrance from the sidewalk admits customers who call at the bank on foot. Entrance from the parking space is at the rear. The same working space serves both automobile and pedestrian customers.

The "drive-in" wickets are of the "bandit-barrier" type. Built of steel and bullet-proof glass, there is no opening through which a bandit might force an entrance. At the level of the deal plate is a revolving circular drum through which the motorist makes his deposit. This is operated by the teller. Special sound grilles permit customer and teller to converse in normal tones.

At motor entrances and exits are full-size overhead doors which lower to close both openings entirely. Below, normally flush with the concrete, are grille barrier gates which operate electrically to raise sideways and close the



MOTORIST makes a deposit without leaving his car. Two of these drive-in banking windows are provided.

way to bandits. These may be operated by any teller or officer from his station within the bank. The A.D.T. silent alarm microphone system is installed in vaults and working space.

In operation, the drive-in feature of this new banking unit is exceedingly simple. The customer merely drives in the main auto entrance, proceeds directly to the drive-in wickets (or to the parking space) and from there to the exit. The driver follows along the course outlined on the concrete floor, and emerges again on the street, his banking completed.

Construction of the bank required some extensive remodeling. The building originally contained small stores of various kinds, with a manufacturer's warehouse in the rear. It was necessary to rebuild the front wall. New concrete floors and drives were laid, and new roofing

was put on. In addition, the bank lobby itself had to be built into the whole. This was done in such manner as to make it a building within a building, because the walls of the bank lobby proper are free-standing in themselves.

The walls are of crushed rock to the 8 foot mark. The glass in the drive-in wickets is one and an eighth inch in thickness and is bullet-proof. For acoustical and heat reasons, the lobby ceiling is Celotex covered. The bank floor is an asphalt tile. The indirect lighting used gives twelve candle feet of light throughout. The heating is with a gas-steam system, using "Warmalator" circulating gas heaters. Piping was put in, also, for air conditioning.

Cost of the job, including all remodeling of the building, and construction of the lobby, together with the drive-in features, totaled \$17,000. Reed McClure was architect; White and MacGinnis Co., contractors.

PARKING area within Bank Building at the rear of the Bank Lobby.



ANTI-BANDIT grille rises from pavement to close doorway.



ENTRANCE-

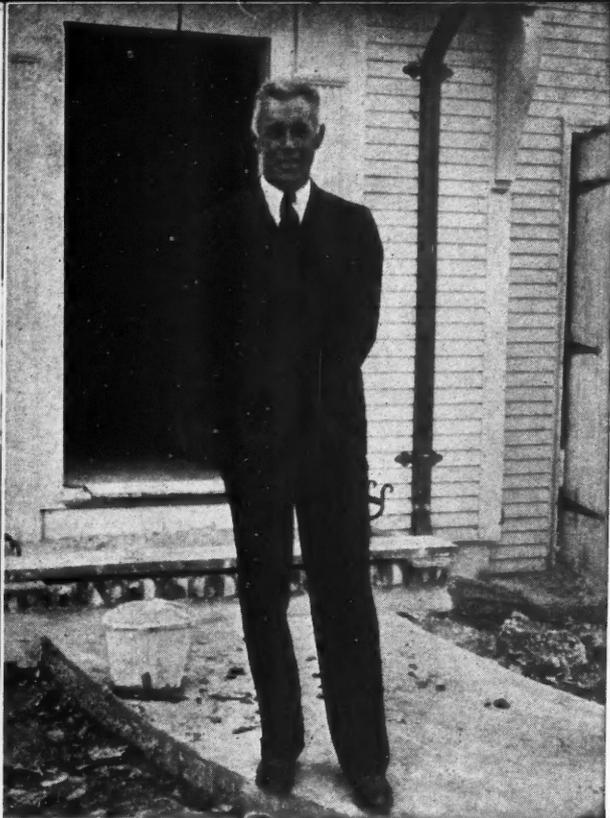


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George Wall, progressive builder of West Hartford, Conn., whose methods are described in this article.

# HOW GEORGE DOES IT

Successful West Hartford, Conn., Builder Gives a Few Rule-of-Thumb Pointers.

By PHILIP B. WHITE

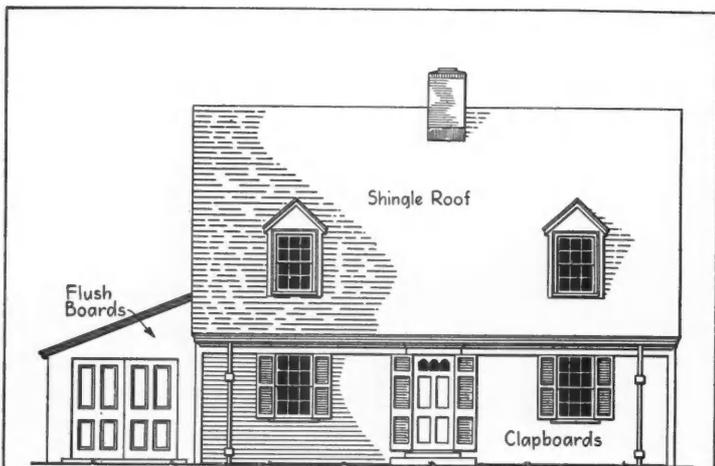
**G**EORGE WALL is a tall, rangy, energetic builder in a community where the standard of home construction is unusually high. Hartford and its rapidly growing suburbs, of which West Hartford is one of the most active, sets a top standard in construction, and even more so in good Colonial architectural design. George Wall has built many homes in this community—before, during and since the depression, both on contract and speculation. At present he is developing a new community called Glenbrook, in which some 16 homes have already been sold and occupied.

Wall is a man of positive ideas. For instance, he believes that builders should organize in a way to deal effectively with the problems of the industry—of which there are a growing number. Real estate commissions, labor conditions and unfair discriminations against builders can only be met by a well organized builders' group, he says.

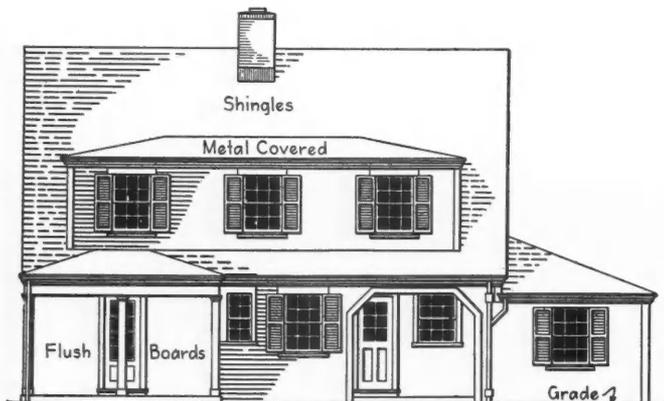
"What makes a successful builder?" he repeated in answer to our question.

"Knowledge, experience and enthusiasm are important—plus a few other things." He believes the following "rule-of-thumb" ideas are important: 1. Meet people and like them. 2. Know what the local public wants. 3. Know what others have done and are doing. 4. Read everything in sight on home building. 5. Insist upon good, authentic, architectural design. 6. Use quality materials and the best possible construction. 7. Do the small details well. 8. Satisfy the customer. 9. Build for tomorrow as well as today. Nine good pointers for every builder!

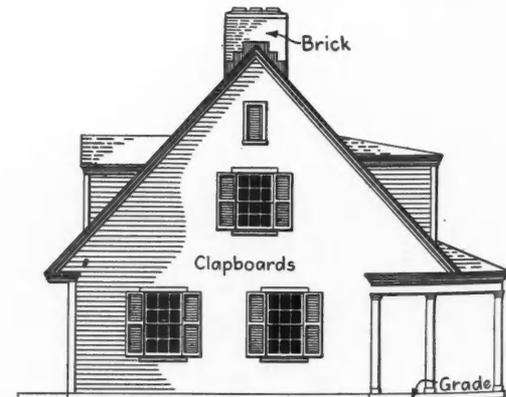
"Any man who knows a good house when he sees one, knows thoroughly the trades by which it



FRONT ELEVATION



REAR ELEVATION



SIDE ELEVATION

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ONE OF THE POPULAR Colonial homes built by Wall in West Hartford, from plans by Architect Raymond J. Percival. Details of construction given below and on next page.



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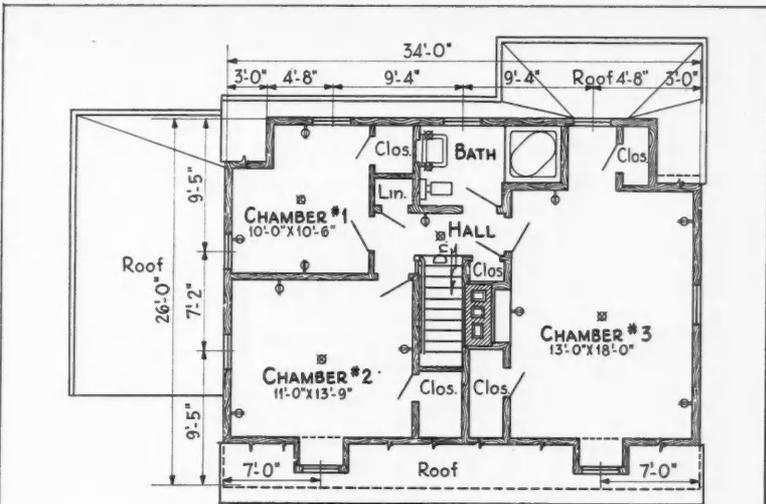
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is built and believes in it when it is finished, can sell it when there are customers in the market," he declares. "When there is not, none of us can sell.

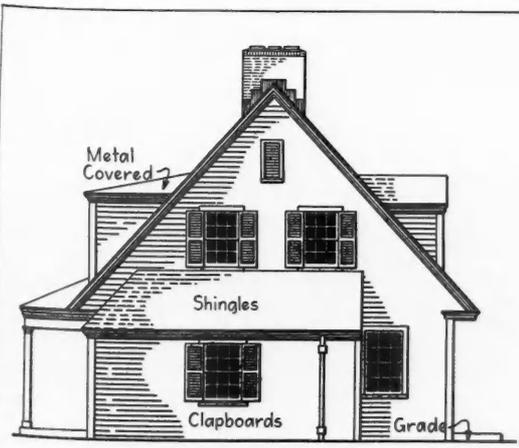
"I like to build, and I enjoy the business. I would rather build three \$10,000 houses than one \$20,000 house. The number of potential buyers for the former is at least four times as great, and such people are not so likely to be spending every cent trying to keep up with the Joneses."

He continued, "We are going out and buying architect's plans which are authentic. We do not start a home until we are sure it is well worked out to the smallest detail, with every chance to appeal to a public which has been educated by the magazines and newspapers until it expects only the best.

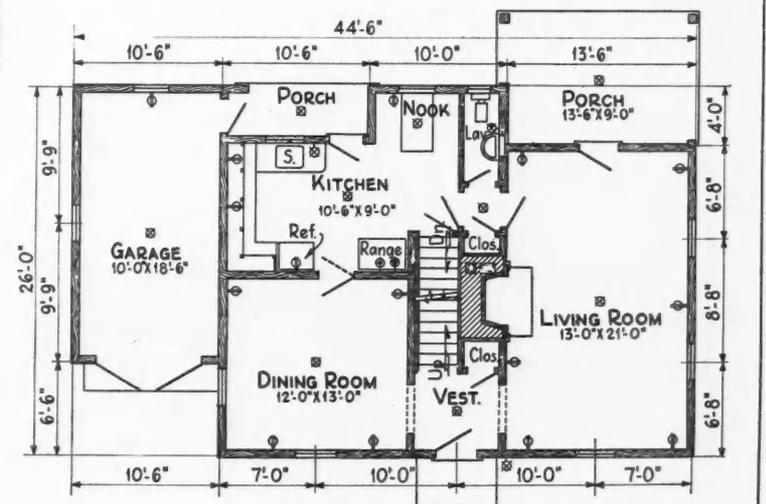
"Another important requirement is a set of specifications which calls for the best of workmanship. We try to be several steps ahead of the Building Code at all times, with a very definite result that our customers are



SECOND FLOOR PLAN



SIDE ELEVATION



FIRST FLOOR PLAN

always more than satisfied and ready to tell their friends how good a Wall home is. Our best salesmen, we are sure, are the satisfied customers we already have.

"The local utility companies, gas and electric, have been taking strenuous steps to further their sales in the domestic market, and this struggle has benefitted the builders to a marked degree. Both companies offer kitchen planning service to home owners, or builders, who wish to avail themselves of it; and the result has been strong emphasis upon kitchens in the Greater Hartford area.

"Mrs. Wall decorates each house, unless it is sold early enough for the home maker herself to wish to take charge. Here is one of the most useful tips to any builder, incidentally, for there is nothing like the taste and the experience of a woman when it comes to decorating a house which is to be sold.

"She has the time, or takes it, to read everything other women are reading about home making. She knows what interests them, what has utilitarian value, what is purely ornamental.

"We take great pains with externals. Inside the house these are paint, wallpaper, electric fixtures and hardware. Outside the house they will include copper gut-

ters and leaders and flashings, and the careful placing of an electric service outlet if there is an open porch. A little thing in itself, the fact that a water outlet is properly placed for easy watering of lawn and garden will often decide a sale.

"Our specific choices of materials vary widely, of course, but we try hard to keep within the 'feel' of the architectural style we are building. Colonials are always popular in New England, and most of the homes we build are Colonial, ranging from the Cape Cod type to the Saltbox and those of more formal architectural design.

"Back in 1920, when we started building small homes, it was hard to get authentic hardware, wallpaper and electric fixtures, unless you were willing to pay through the nose for the privilege of using them; but each year has seen definite improvement in the quality of design, with some improvement in quality itself, and we do not have much trouble getting attractive fixtures in pewter, tin, brass and wrought iron. Hardware, both wrought and plain, is available in a wide range of choices. Wallpaper, in its faithful copies of old designs and its clever adaptation of motifs, has given a wide improvement. Manufacturers in general, we find, are helping the builder sell.

"The use of color has become more widespread each year, and we are willing to admit we use it freely.

"The cheerful orchids, yellows, reds and blues have a place inside the home. We always try to use them in soft shades, but we do not hesitate to use them, always remembering that the warm colors belong on the cold sides of the house and vice versa.

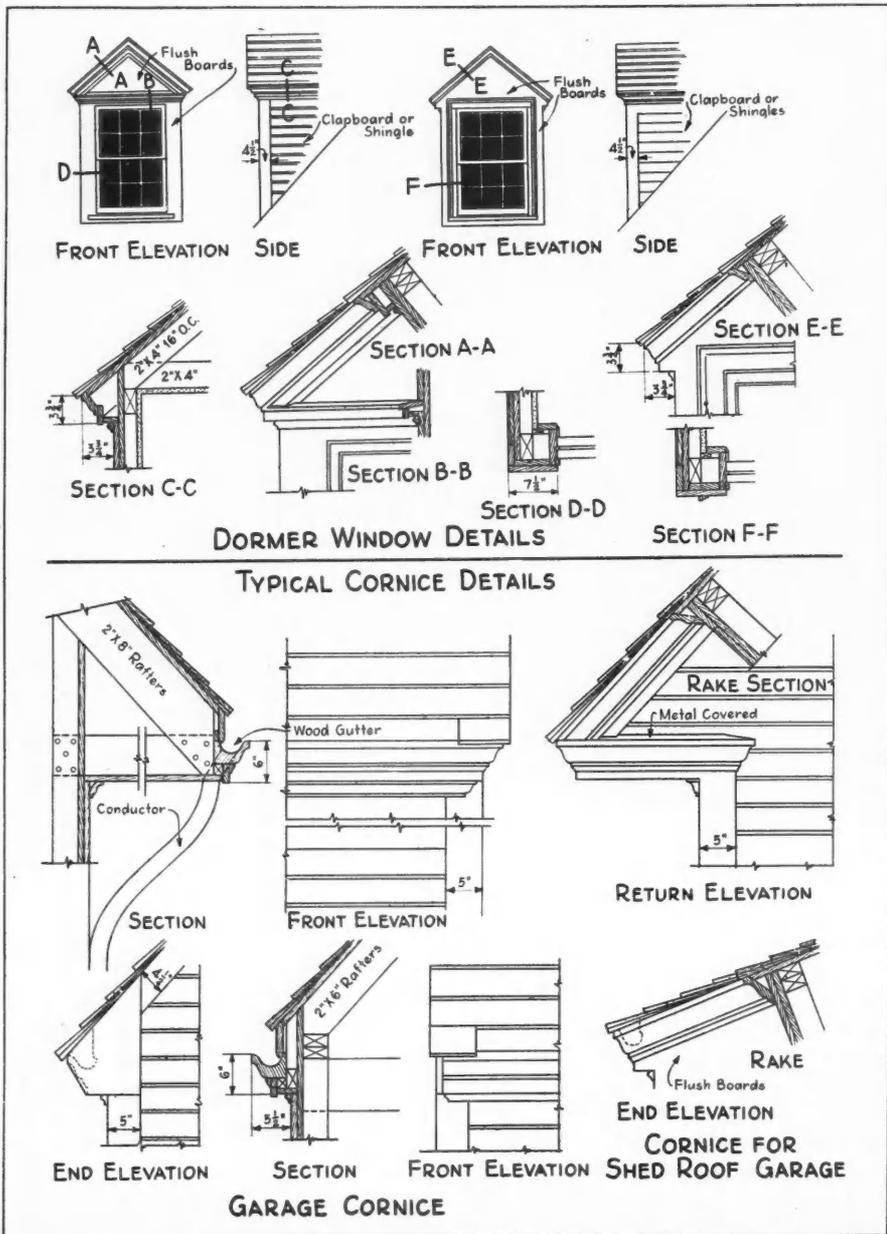
"We mix them up judiciously.

"The floor of one living room may be finished as light as white shellac or plain wax can make it, but the next may be stained as dark as the floors in the home of a Jonathan Trumbull would have been one hundred and fifty years ago.

"One kitchen can be decorated in salmon pink and beige, building up from a linoleum containing those colors; but the next one may be done in black and white alone.

"We live in a storehouse of ideas, of course, with everything which has been done since 1620 not so very far from our own back yard. I find it refreshing to take frequent trips, inspecting all the old houses I can find; then go to a new de-

(Continued to page 112)



**Cornice, Dormer and Gutter Details Such as These Contribute to Success of the Modern Home, Believes George Wall, West Hartford, Connecticut, Builder.**

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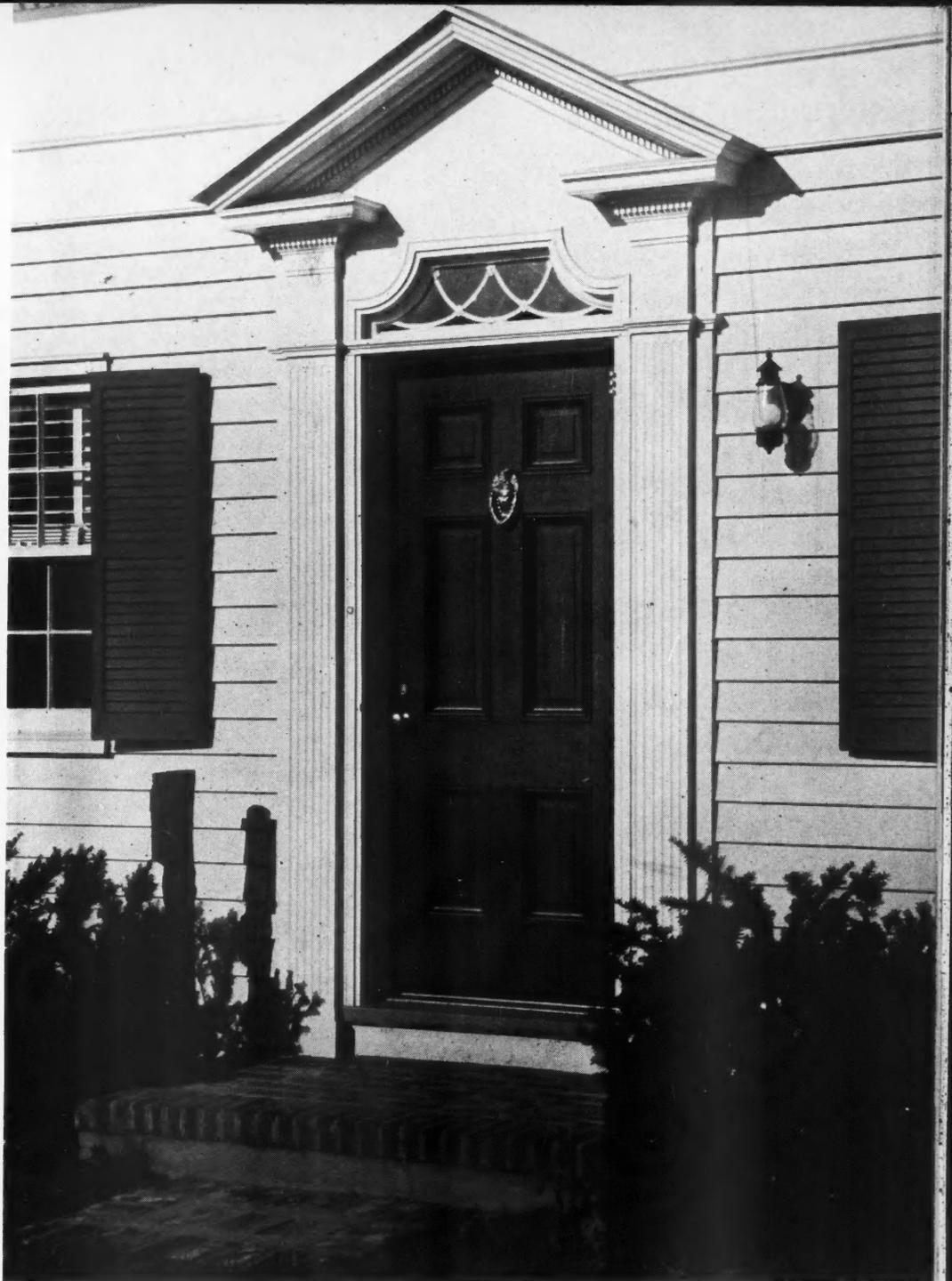
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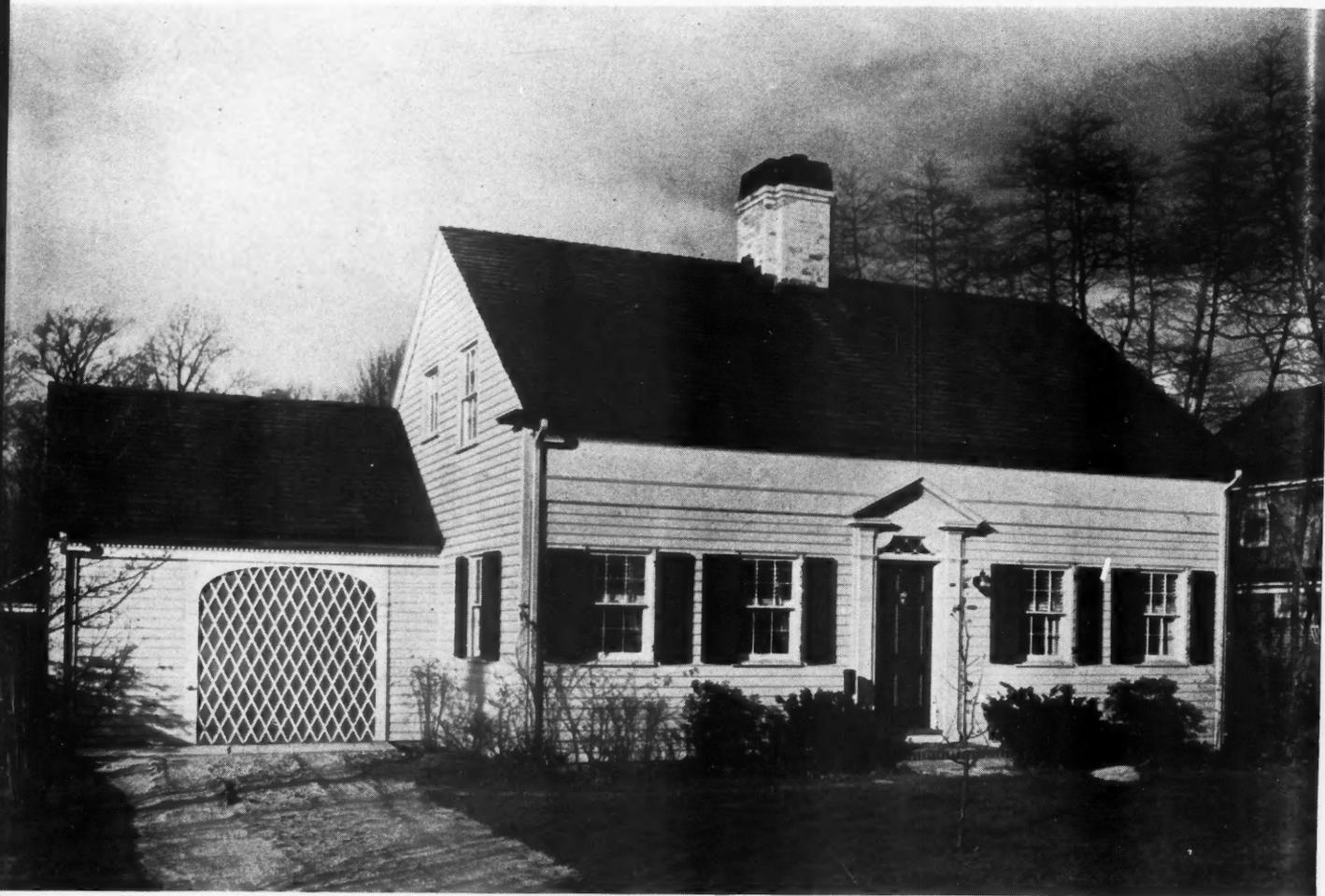
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THE ENTRANCE DETAIL at right and the other Colonial details of this attractive little Cape Cod home, as shown on the next two pages, are the result of the skillful designing of Architect Paul Arnold Franklin, of Port Washington, N. Y. It was built by Boxwood Builders, Inc., and opened as a model home which attracted much attention in the locality.



## Well Designed Homes in Today's "Best Selling" Colonial Style

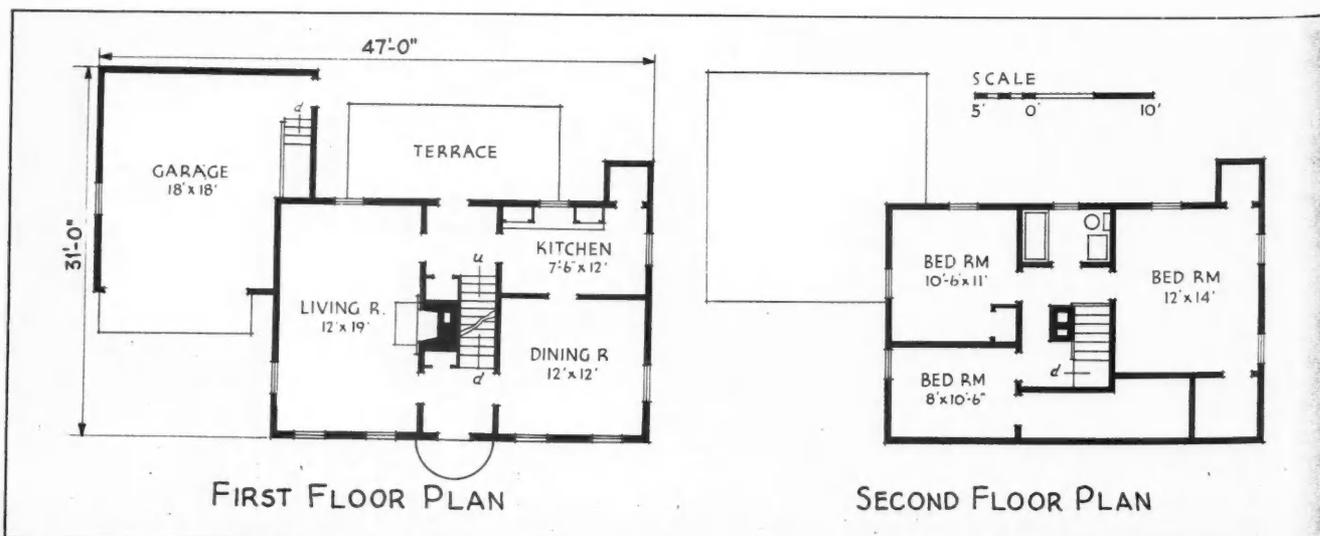
**There Is Every Indication That Colonial Styled Homes Will Continue to Be the Popular Favorites in 1938. Details of the Several Colonial House Types Which Have Been Adapted to Local Planning and Building Practices of the Various Areas Are Presented on the Following Design Section Pages.**



## CAPE COD—6-ROOMS GOOD PROPORTIONS

**Paul Arnold Franklin, Port Washington, N.Y.,  
Architect. Built by Boxwood Builders, Inc.**

GOOD PROPORTIONS give this small house real charm. The garage door, equipped with Frantz overhead hardware, is artistically designed. Exterior is of red cedar clapboards. House has rock wool insulation, is heated with Bryant gas boiler. Floor plan is in good Colonial tradition. The front entrance hall is a simple, attractive spot, with vertical white pine boards. The house has a well-proportioned living room, 3 good bedrooms, ample storage. Cubic contents are 21,000; overall dimensions, 31 by 47 feet.



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A CHASTE Colonial mantel, such as might have been designed by George Hepplewhite of London, adorns the living room of this Port Washington Cape Cod home. Large, well-proportioned windows, simple Colonial trim and finish in a light color tone add to the attractiveness of this interior.



### COLONIAL HOMES, WILLIAMSBURG, VIRGINIA

ON THE COVER of this issue of *American Builder*, there is reproduced a scene taken in the quaint village of Williamsburg, Va., where the entire town has been rebuilt along the original lines; the Colonial background of American architecture is nowhere better illustrated than in this old town. Massive brick chimneys are an outstanding feature; shutters, gables, picket fences and true Colonial details add to the charm of design. Other Williamsburg houses, as seen at the right, are either exact replicas or "remodeled" versions of the original Colonial homes.

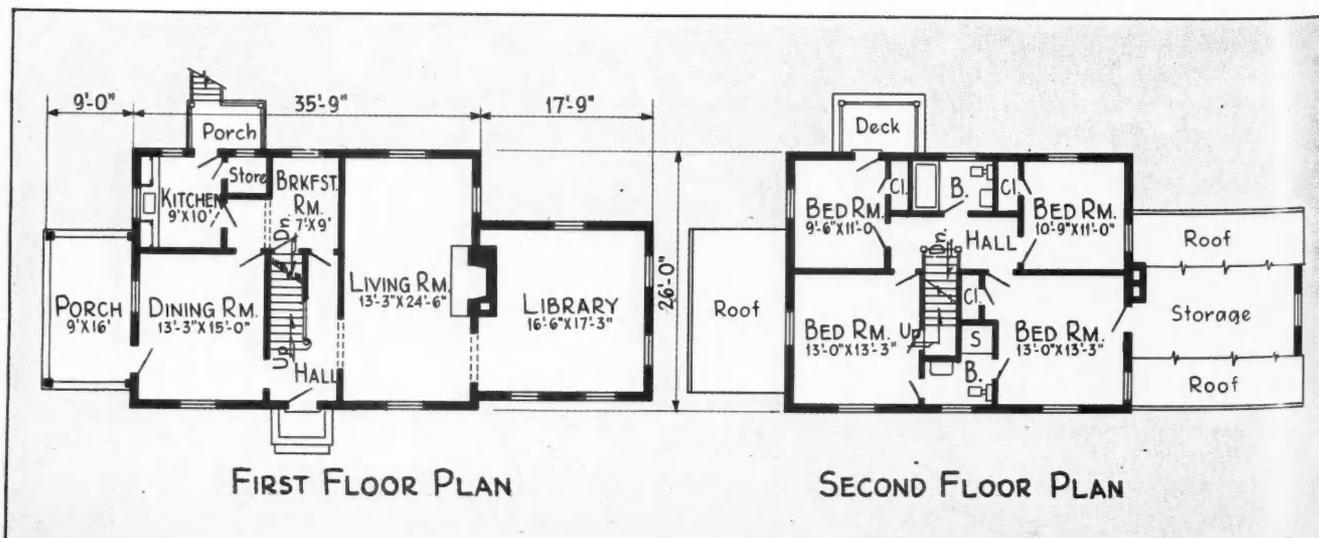
The effect of this tradition is shown in the houses illustrated on these and the following pages. As modern, popular houses, some speculative, they combine good Colonial tradition with equipment and construction that meet modern living requirements.





## LARGE LIBRARY IN RICHMOND, VA., HOME

LIKE THE EARLY COLONIAL HOMES, this modern Virginia residence was designed and built by a modern master builder—Eugene B. West, who is doing a large volume of construction. The house is nicely proportioned, with an exterior of old brick and a slate roof. The floor plan is a typical center-hall Colonial, an attractive porch at one end and an unusually large and attractive library at the other.

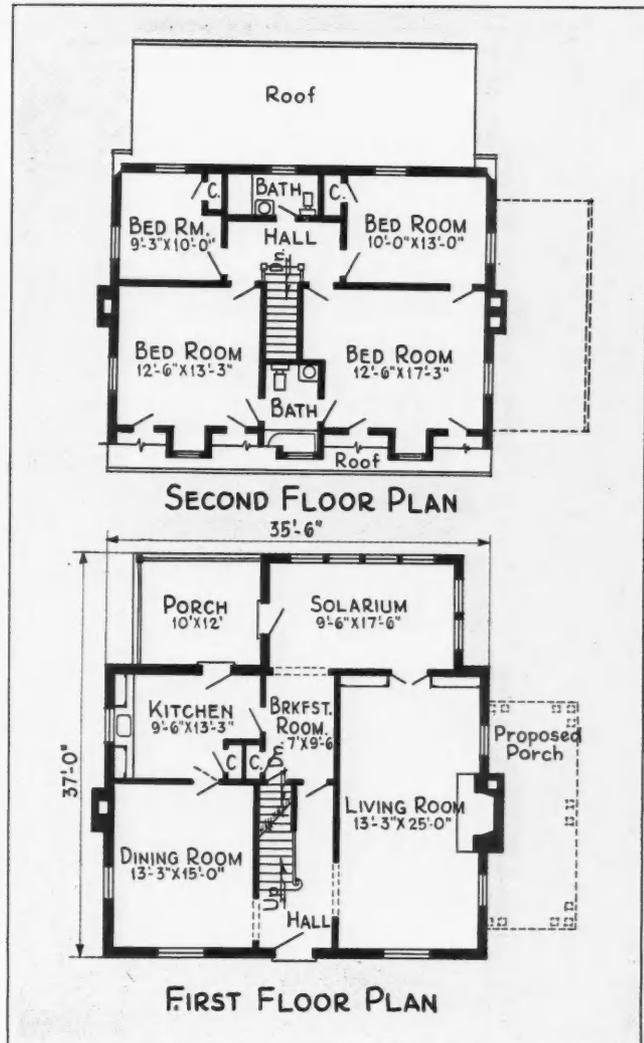


# BRICK BEAUTY FROM RICHMOND, VIRGINIA

Designed and Built by E. B. West

IN THIS MODERN Richmond home, Contractor Eugene B. West has combined all the tradition and appeal of the early Virginia Colonial home with modern construction technique. The front elevation presents a finely balanced and carefully detailed appearance.

There is a well-proportioned living room, a typical center-hall arrangement opening onto a breakfast room at rear. A solarium and porch add to the attractive features. Four bedrooms, 2 baths and ample closets upstairs make the house suitable for a family of fairly good size. Overall dimensions are 35'-6" x 37'.

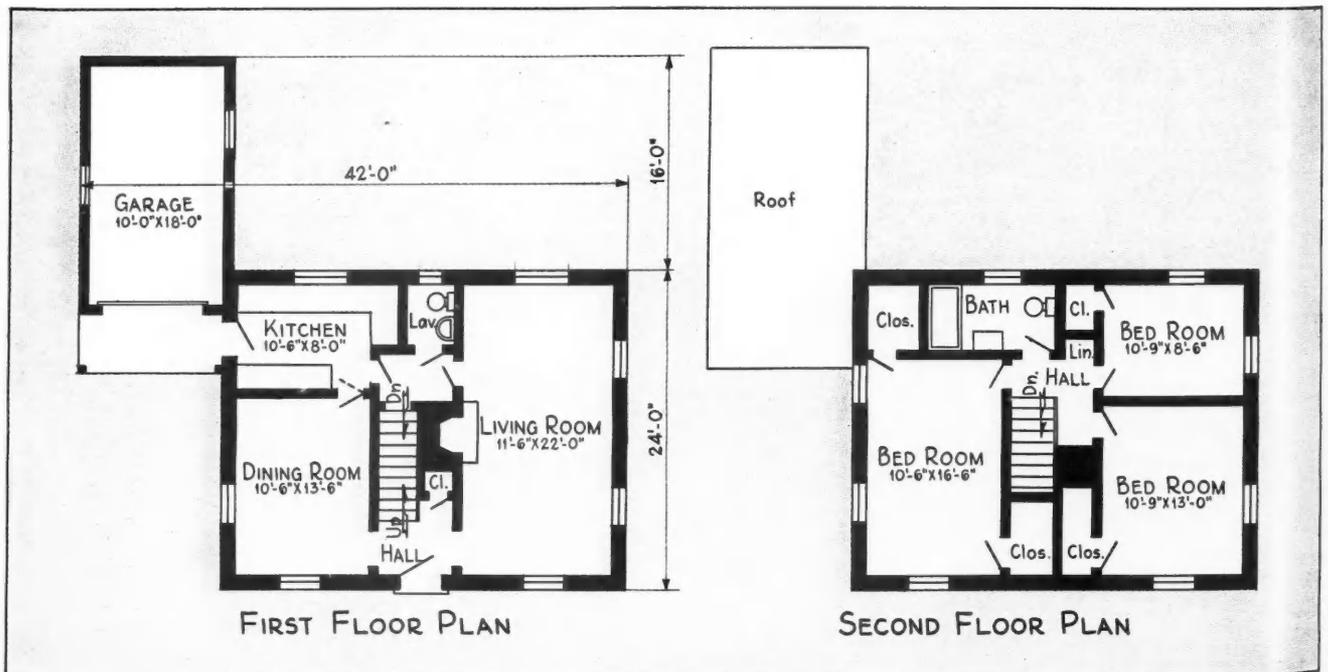




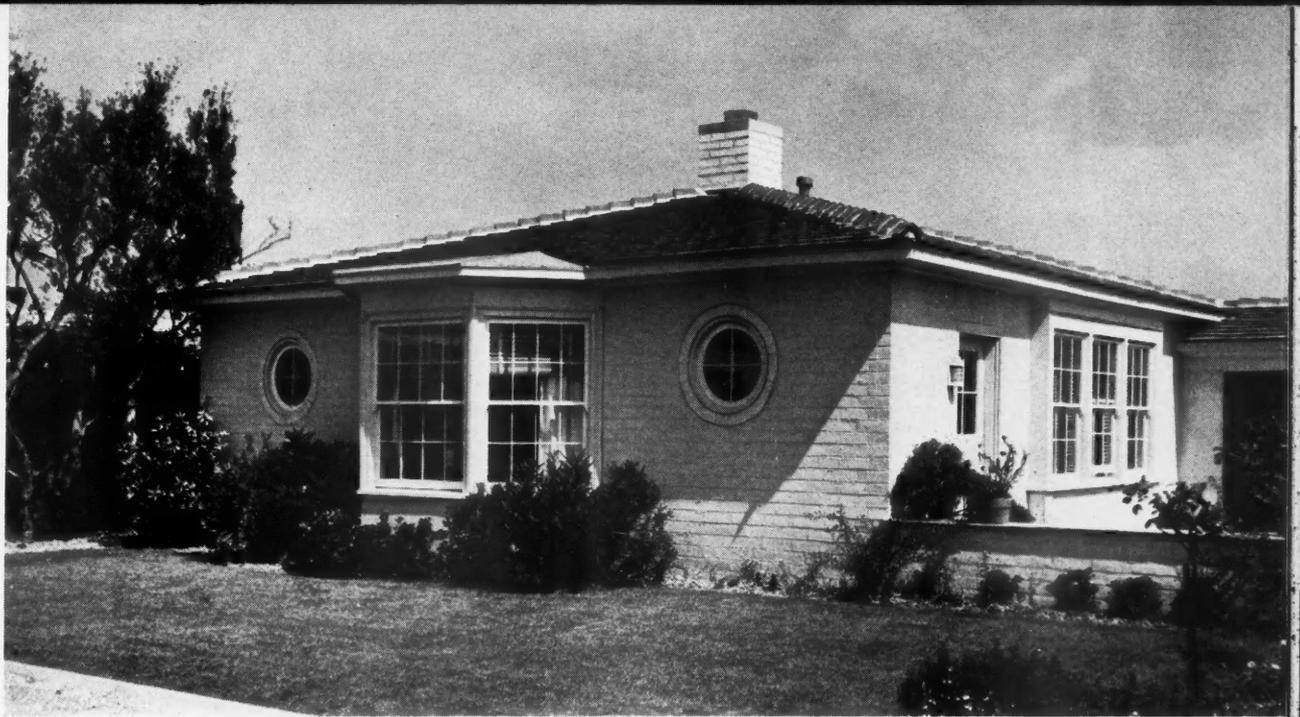
## TYPICAL MIDWESTERN COLONIAL—6 ROOMS COMPACT FLOOR PLAN

**Built by Fort Dearborn Mortgage Co., Chicago, in River Forest Manor, Ill. White and Weber, Architects, Chicago**

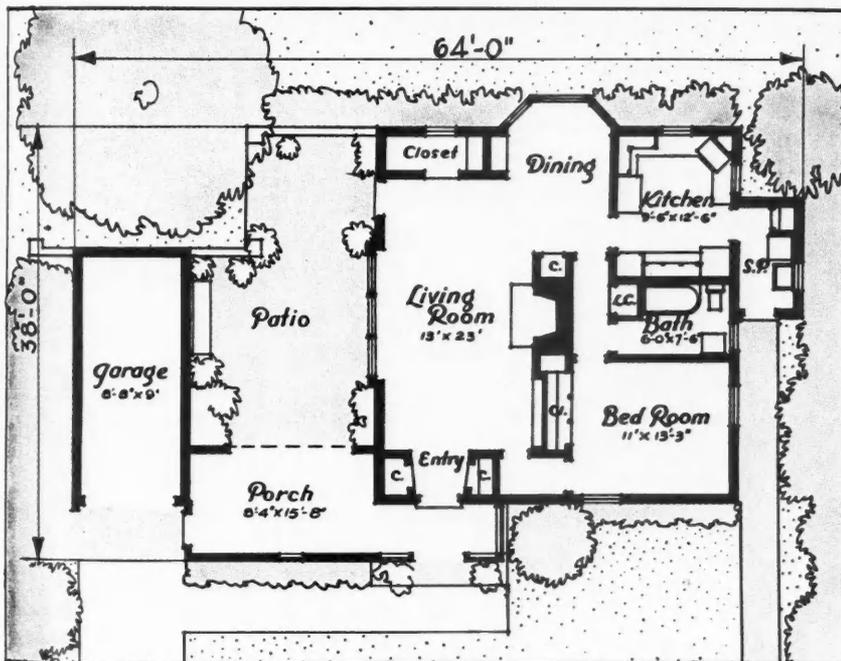
BEFORE building a group of houses for sale in their River Forest Manor Development, the Fort Dearborn Mortgage Co. of Chicago carefully studied the market to determine which home features were in greatest demand. As a result, these houses, one of which is shown above, have plenty of adequate closets, wall plugs, and kitchen cabinets; rooms designed for good furniture arrangement; cross ventilation in bedrooms; wood-burning fireplaces. The plan is handy and efficient in layout. Attached garage with side drive has canopy protecting rear entrance. Construction and equipment include poured concrete foundation on 20-inch footings, red cedar roof, U.S.G. rock wool insulation, Sunbeam gas-fired winter conditioning, inlaid linoleum in kitchen, tile floors and wainscot in baths, Crane fixtures with chromium fittings, solid brass Russwin hardware, Overhead garage door.



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## CALIFORNIA STYLE MODIFIED COLONIAL HOME



HERE IS a California cottage that derives its charm from a simple design and an appropriate use of materials. Designed by Winchton L. Risley, architect, Los Angeles, and built by J. Ernest Randall, Beverly Hills contractor, as a model home at California House and Garden Exposition, Los Angeles. Cost is estimated in the \$4,000 to \$5,000 classification. Construction: Poured concrete foundation, with walls of hollow concrete blocks and reinforced by steel as a protection against earthquakes, vermin and fire; wood sash throughout; clay shingle roof; Douglas fir interior finish; oak floors; Payne floor and wall gas-fired heaters.

The compact floor plan shows living room with open fireplace and Colonial mantel, dining room, kitchen, service porch, bedroom and bath, and adjoining garage with overhead door.

THE ATTRACTIVE BUILDING at the right might well be a typical California home if the signs were removed. At present, however, it houses the offices of William Mellenthin, Los Angeles builder. The structure is styled after the small homes for which he has developed a demand in the San Fernando Valley section of Los Angeles. Thus Builder Mellenthin with true California showmanship has effectively offered a home building demonstration right at his place of business.

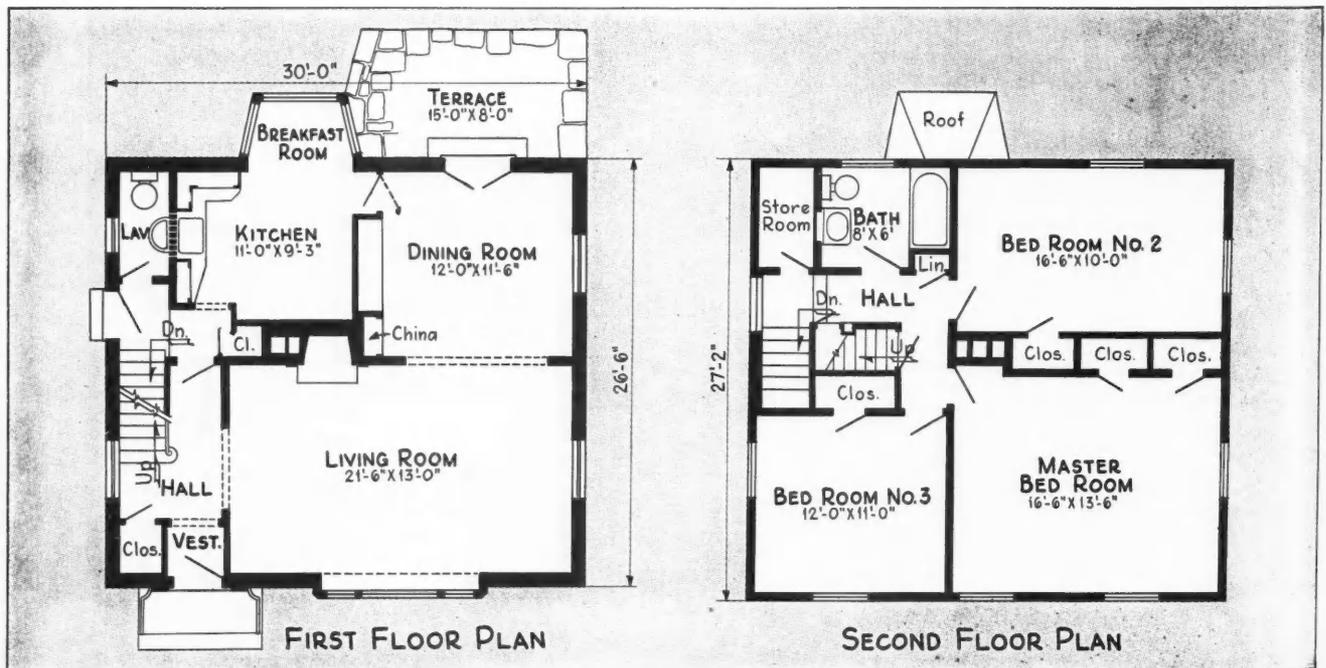




## CLEVELAND'S MODEL OF EFFICIENCY

**Gunderson-Shepherd Co., Builders**  
**R. Franklyn Outcalt, Architect**

"The Cinderella House" is the name given this modern Colonial six-room home built in Cleveland as a Westinghouse Electric demonstration of how to emancipate the housewife. The plan is practical throughout; rooms are of good size and well planned for circulation. The first floor lavatory arrangement is unusual, and while handy to the kitchen, can also be reached without going through other rooms. Plumbing is grouped for economy. Stairs lead up to third floor where rooms can be finished later.



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THE INTERIORS of the Westinghouse model home in Cleveland are simply handled in a refined treatment. In the view at the right the narrow trim of the opening to the dining room is noteworthy. Also the recessed space for the buffet between china closet and kitchen door is well worked out.



### OUTLINE SPECIFICATIONS

Frame and brick veneer construction.

Select red oak flooring.

Stock six-panel doors.

White pine detailed interior trim.

U. S. Gypsum plaster on rock lath.

Slate roofing.

Celotex and rock wool insulation.

All copper downspouts, gutters, flashings.

All-electric kitchen and laundry.

Garage, lighted and heated, with running water and Crawford doors.

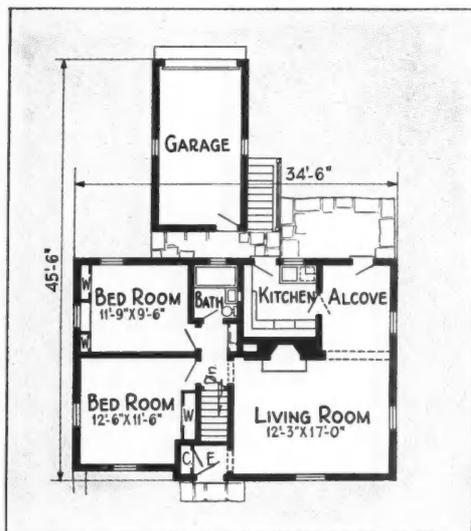


ALL-ELECTRIC kitchen has a large bay for breakfast nook and a very clever use of glass block to allow light for the sink to enter from the lavatory on the other side of this wall. Recreation room is finished in pecky cypress with V-jointed planks applied horizontally. The view shows the bar at one end of this room which is given an added rustic effect by the heavy beam and brackets.





## FINE NEW ENGLAND TRADITION SHOWN IN HARTFORD HOMES



HARTFORD, CONN., has for several years been a bright spot in the home building picture, both because of a large number of fine small homes built and because of the good design, which is above the average for cities of its size. A group of young architects established a local style that is harmoniously in keeping with the New England tradition. The small Colonial cottage illustrated above was designed by Walter P. Crabtree, Jr. Floor plan provides an ample living room with open dining alcove that adds to its spaciousness. The 2 bedrooms are of good size, with wardrobe closets built of vertical pine boards running from floor to ceiling. Garage at rear is connected to house by covered passage. The exterior color scheme consists of white clapboard walls, red window blinds and weathered gray cedar shingled roof. The plan, proportions and well-executed details combine to make it an admirable small home.



ANOTHER HOUSE located in West Hartford and designed by Architect Crabtree, which has attracted favorable comment, shows interesting Colonial exterior treatment. The long, low construction, with garage at right forming a part of the design, makes it hug the ground. The large chimney, French doors opening on a walled court, and the copper-roofed bay window are very attractive features.



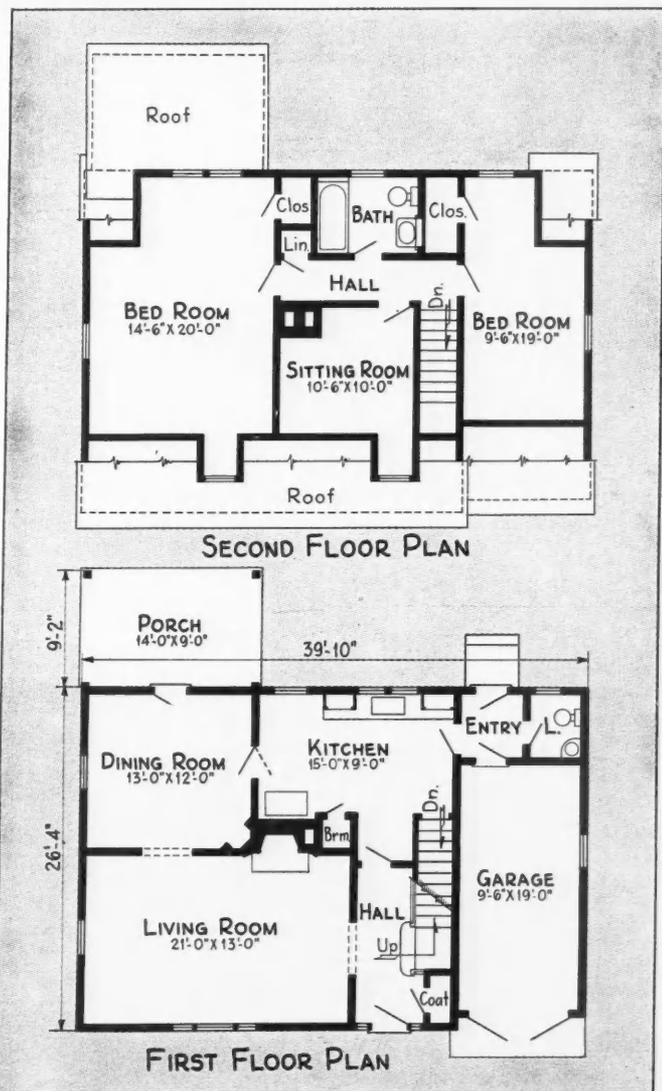
## GOOD DESIGN IN SMALL HOME

**Willard Wilkins, Architect**

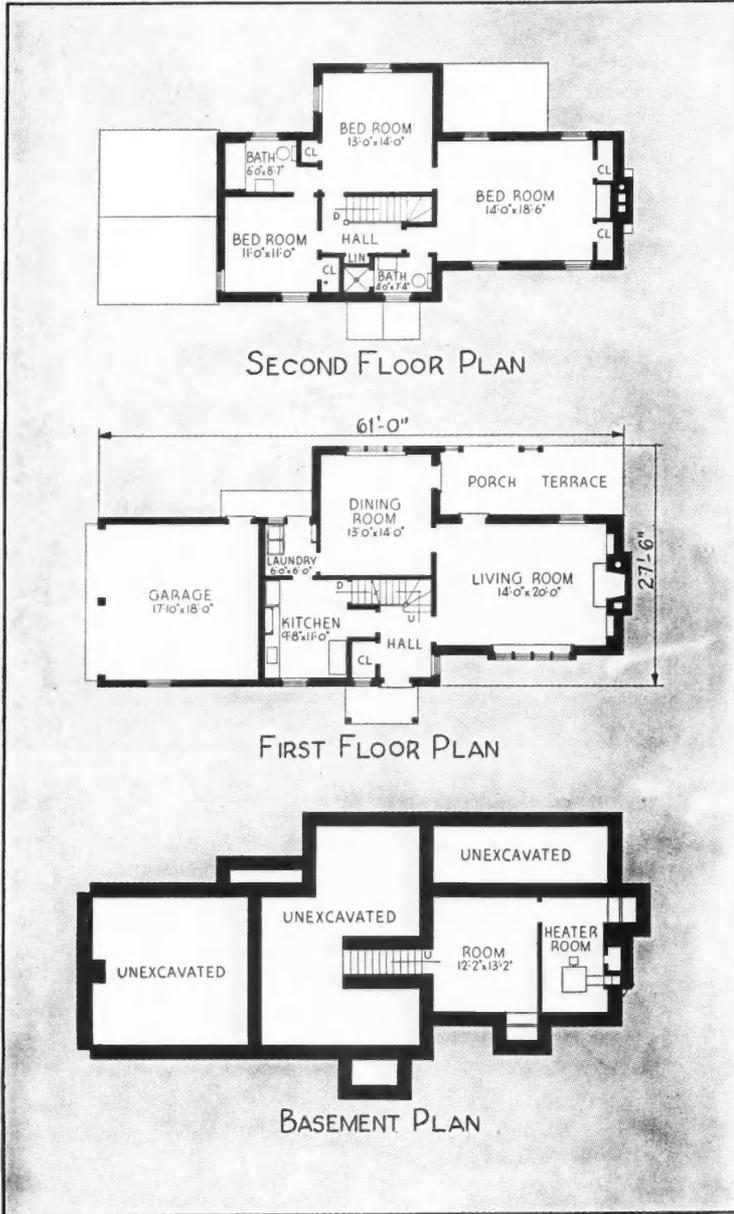
**Arthur Oleson, Builder**

LOCATED in the thriving suburban community of West Hartford, this compact Colonial is typical of some of the new homes being built in this part of New England. Like a large proportion of Hartford homes, this one is heated with a hot water system, using an Arco boiler with circulator and Richvar wall-type radiators. Other features include Balsam wool insulation, Morgan trim and cabinets, oak floors, Bird's irregular slate-tone shingles.

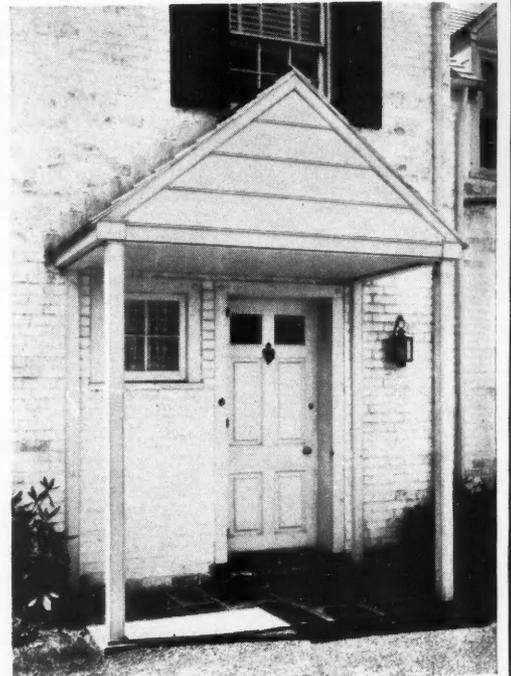
FLOOR PLAN features a good entrance hall with direct access to kitchen, dining alcove, rear porch, lavatory off rear entrance behind the built-in garage. There are 2 good bedrooms and bath upstairs, plus a small room usable as a sitting room or child's nursery. Overall dimensions are 39' 10" x 26' 4".



# EARLY AMERICAN IN PENNSYLVANIA



THE EARLY AMERICAN Colonial house pictured below won the second prize award in last year's Clay Products Competition for J. Linerd Connaroe, Philadelphia architect. The plan is very workable. Kitchen is at the front with access to entrance; living porch off dining and living rooms overlooks the rear yard; laundry trays are handily located on first floor. On the second floor, the three bedrooms are carefully laid out so as to have adjoining baths.



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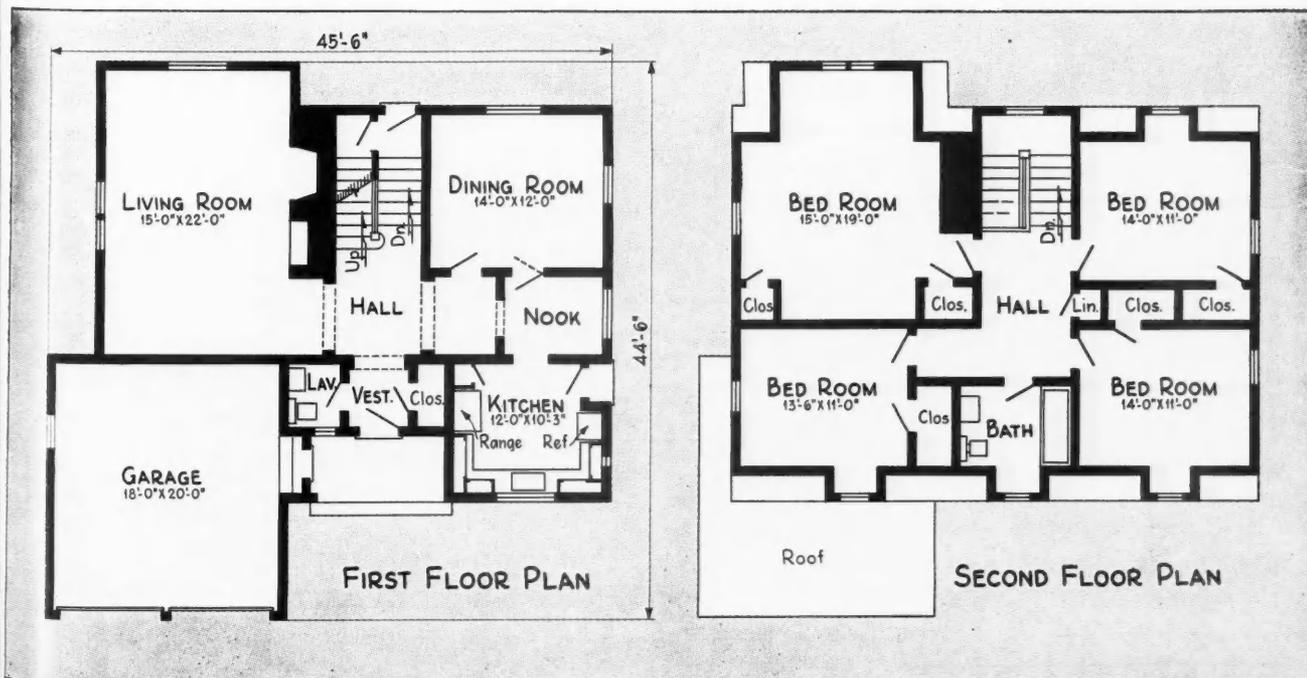


## LIVING AND DINING ROOMS FACING PUGET SOUND

**Hugh Russell, Builder, and W. E. McKinney, Architect, Seattle, Wash.**

THIS seven-room Northwest Colonial house in the Blue Ridge district at Seattle, Wash., has direct outlook over Puget Sound from the rear of the house. Entrance hall, kitchen and garage are located at the front, and living and dining rooms divided by the main hall are at the rear, where there is a sweeping marine view.

Exterior of the house is T & G flush cedar siding and red cedar shingles, painted white with blue trim. Red cedar roof shingles are also blue. The kitchen is finished in colorful tile, inlaid linoleum and chromium hardware; tiled lavatory room on first floor; playroom area, laundry, Montag air conditioning plant in basement.

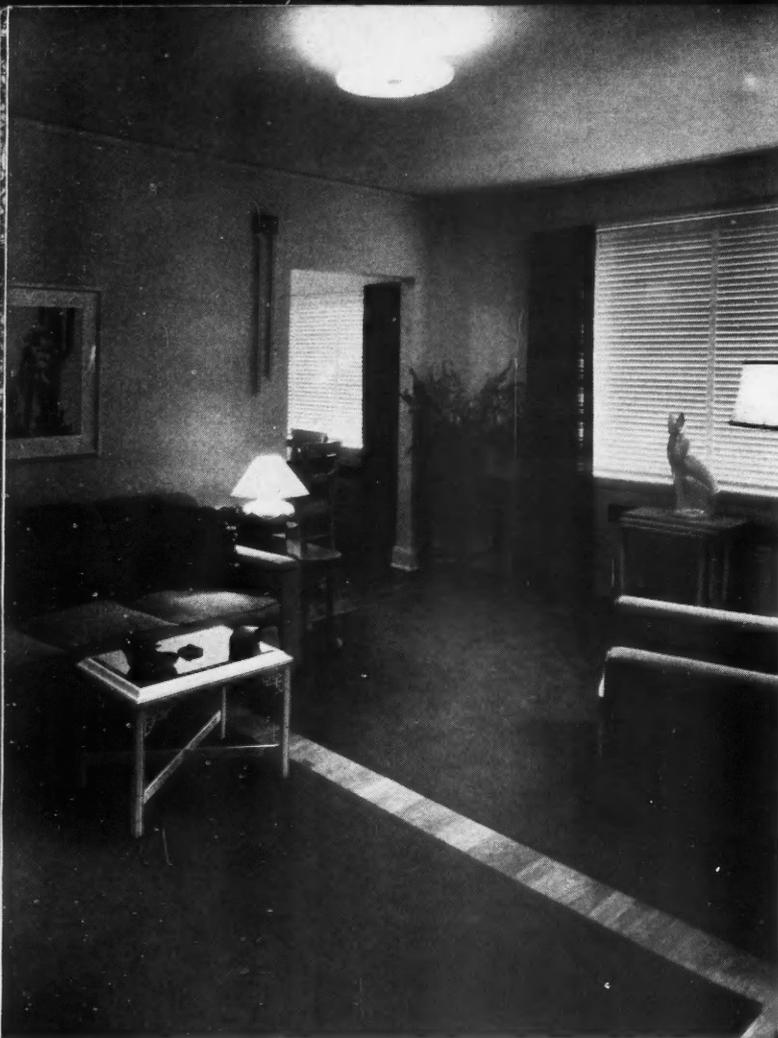


# Progress Shown in Oregon Apartments

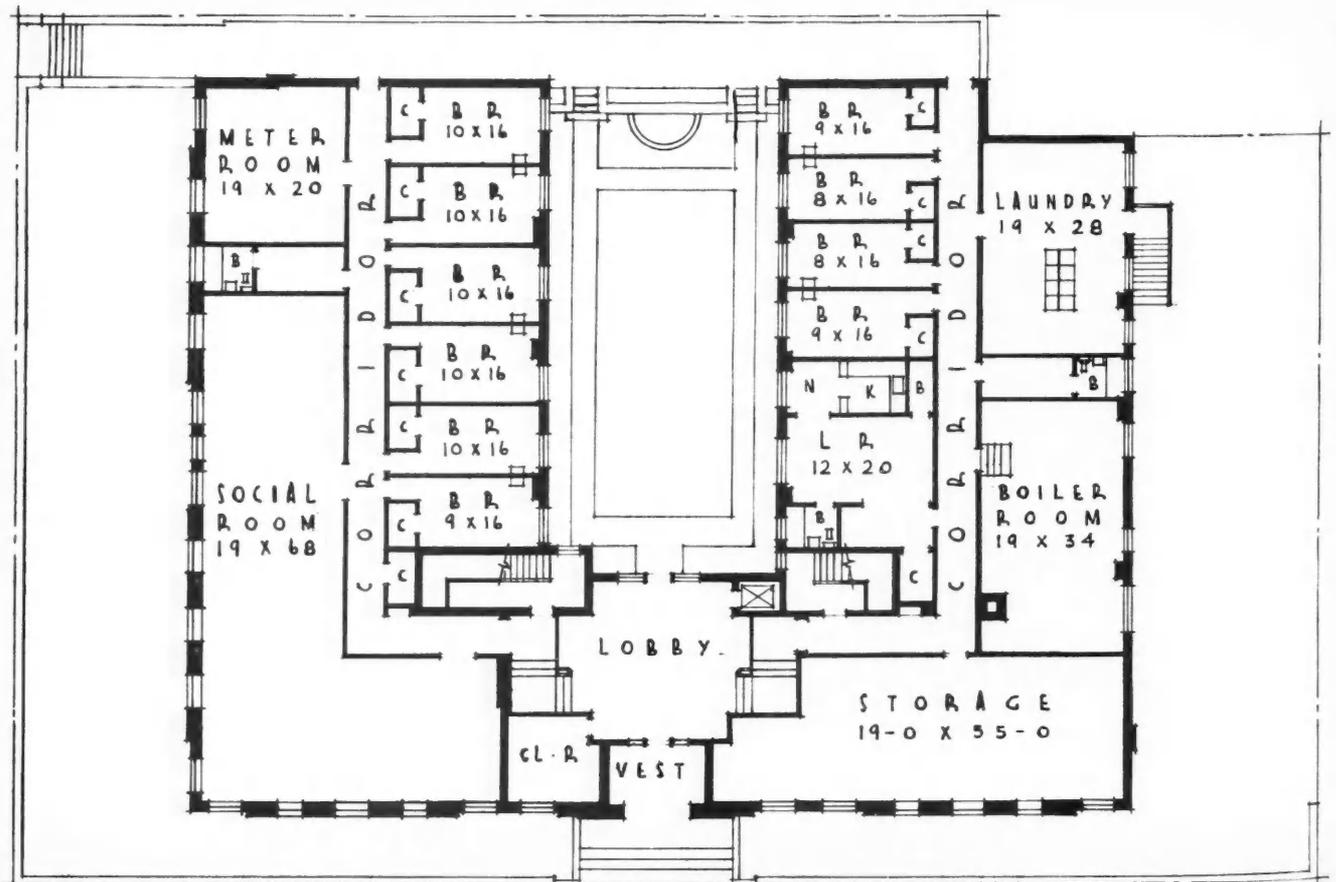
**T**HE REGENT, \$250,000 5-story, 52-unit apartment building recently completed by Harry Mittleman, prominent builder and apartment house operator, is the first major multiple dwelling built in Portland, Ore., since 1931. As such, its progress, climaxed in a formal opening last August, was watched with keen interest by building trade constituents and the general public alike. As such, too, it recognized the challenge of new ideas scientifically evolved during the years preceding when building generally was almost nil, and incorporated those for construction and equipment that seemed practical for local conditions.

To erect a U-shaped building and at the same time to provide the light, air and ventilation required by the Housing Code of 1933 was a major problem which Builder Mittleman and Architect Harry Herzog solved by early judicious planning. On a corner site 176 x 160 feet, the actual building was planned to take up the space only of 100 x 125 feet, thus providing with the 31 x 66 feet open court onto which The Regent lobby enters, more than the minimum requirements for air, light and ventilation. Set on an embankment, even the basement is above the street level.

In style, the handsome Regent is a conservative modern treatment with brick colors blending from  
*(Continued on page 114)*



ATTRACTIVE living room in Regent Apartments is always amply lighted. Ground floor plan below shows bachelor rooms off court.



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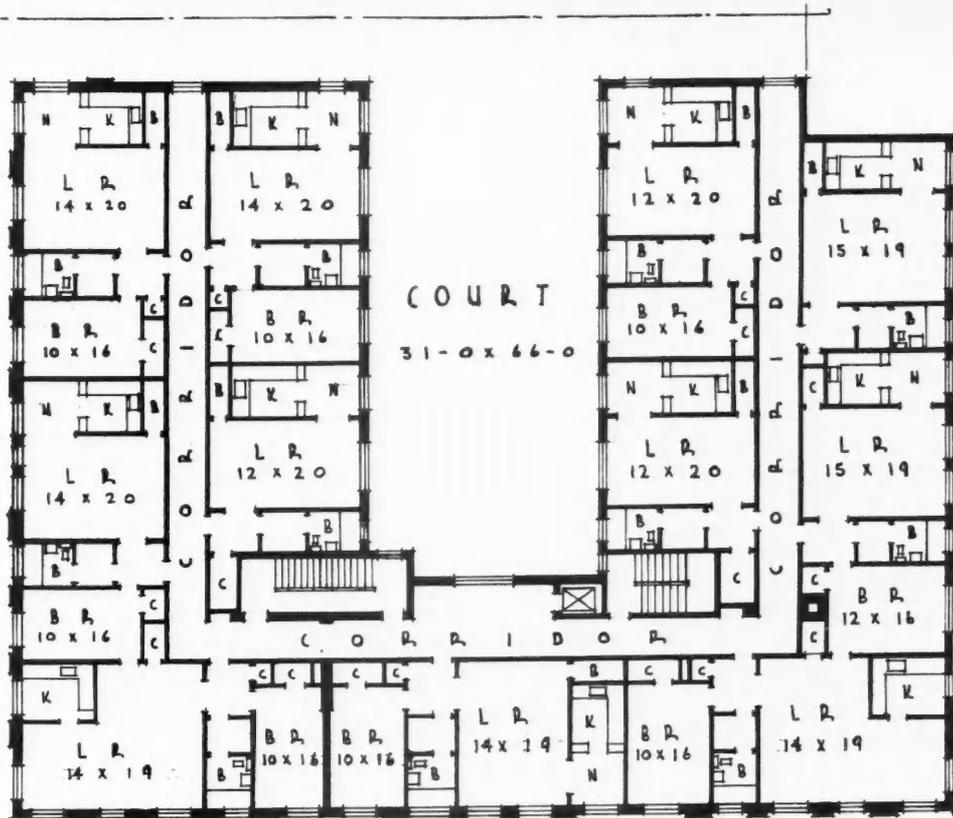
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THE EXTERIOR of the Regent is designed in a conservative modern manner with decorative treatment in varying shades of brick. A typical floor plan indicates how the builder and architect laid out the U-shaped structure to conform with local code requirements.





## Seen—Sold—Settled In 24 Hours

**No doubt about the high value of this 1937 home. Customer wanted to move in right away—and did. W. Burke Harmon of New York City makes home buying easy.**

**"M**Y mother is coming to visit me," said the customer, "and I would like her to be able to move right into the house tomorrow. Can you arrange it?"

Could he? He could—and did! The customer—who had first seen the house on Friday afternoon—was moved in bag and baggage and completely settled by Saturday night. It was an all-time record for fast-moving home-buying.

Thus was W. Burke Harmon's favorite claim that his firm "makes home-buying easy" dramatically justified. It was also a demonstration of the value and appeal of a 1937 home.

The house was the "Shutters and Shingles" model home located in Harmon's Harbor Green, Long Island development. It had been completely decorated and furnished

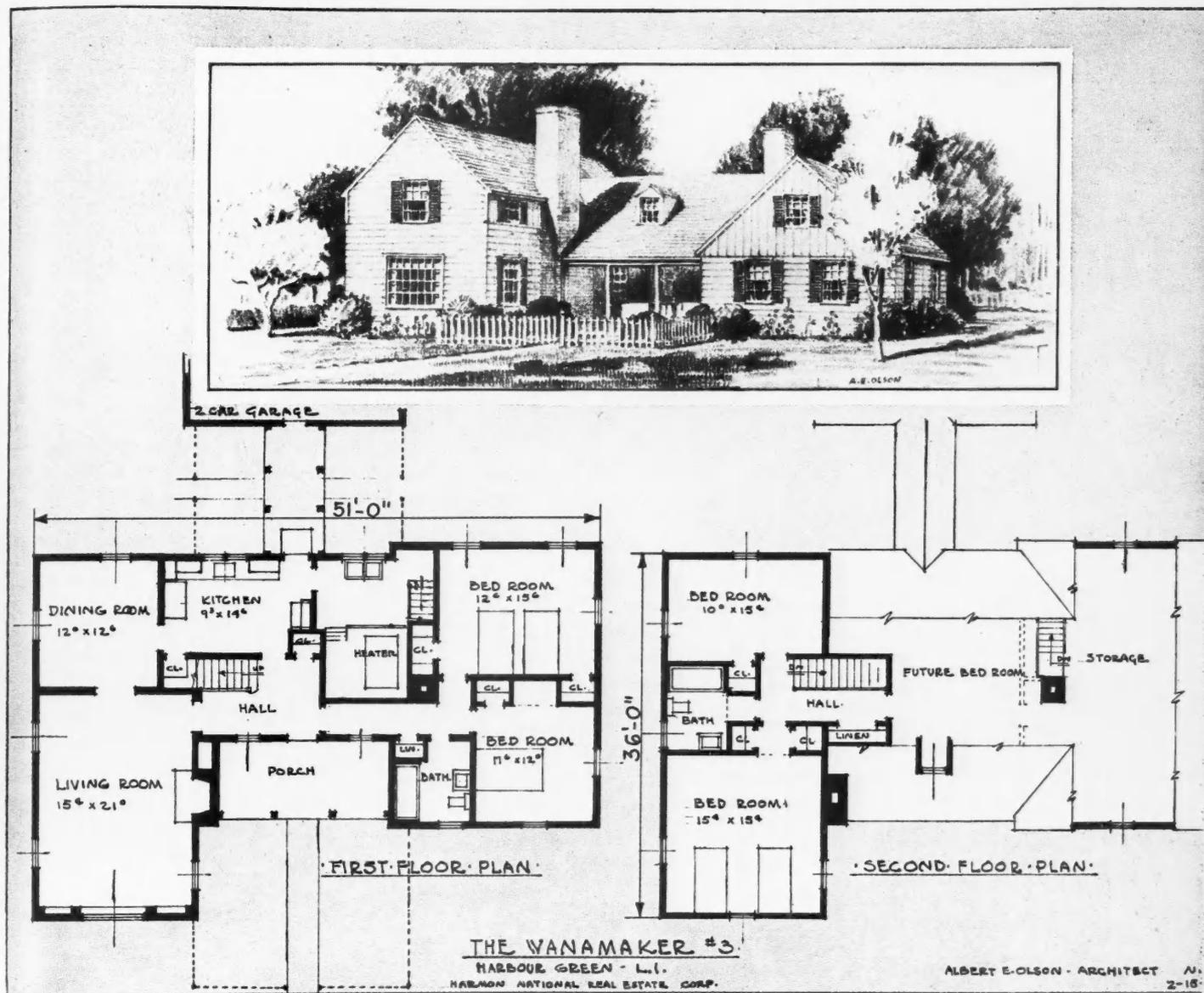
by the John Wanamaker department store of New York City.

On the Friday afternoon before the Fourth of July, the house was peacefully serving its duty as an attractive demonstration home. Then Mrs. Gilbert L. Haight, an interior decorator, walked in. She was immediately impressed, and inspected it from top to bottom. Then she asked a surprising question—she asked for the price of the complete home including all the furniture, draperies, rugs, pictures, knick knacks, and even the ash trays and the books on the shelves!

The Harmon Company prides itself on giving a complete home service, but this was just a little breath-taking. However, the delay was not long. The telephone started to buzz and the pencils flew. On Saturday morning a deed to the complete property—including knick knacks—was handed to Mrs. Haight in exchange for a certified check. Later that day, just 24 hours after her first visit to the house, the Haight family was comfortably installed in the new home.

The result of this sale has been to confirm and strengthen the arrangement that has been in force for some time between the Harmon organization and the famous Wanamaker Store. One immediate result was the publishing of large advertisements by Wanamaker's announcing completely furnished homes for sale in the Harmon devel-

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Sketch and floor plans of the "Shutters and Shingles" Harmon model home at Harbor Green, L.I., which figured in quick sale.

opments for a definite price. It marks a new departure in home selling and is the outgrowth of the previous cooperative effort with Harmon.

Early this year model homes were opened in each of the Harmon developments in the New York suburban area simultaneously with a model home at Wanmaker's which were merchandised under the title, "Shutters and Shingles." Both Wanmaker's and Harmon advertised the model homes and brought thousands of visitors out to see them. The result was beneficial to both firms.

"There has been entirely too much mystery, bother and legal terminology surrounding the problem of home ownership," declared Mr. Harmon in commenting on the speedy Haight sale.

"The average family has the feeling that the acquisition of a home is entirely too complicated a matter. Before undertaking the buying of a home, they seem to feel that they have to consult the family doctor, lawyer, clergyman, banker, builder-friend, architect, uncle and several cousins."

"In other words, home merchandising has failed to keep pace with other types of merchandising because it has failed to establish buyer confidence.

"Would the automobile industry, for instance, have

reached its present proportions if the automobile buyer had first to consult a car designer, then take estimates from an engine manufacturer, a carriage builder and an upholsterer; and finally negotiate with highway officials for roads over which to drive his car? Of course not.

"One of the fundamental ideas back of the cooperation of Harmon National and John Wanamaker has been a firm belief in both organizations that the public would welcome at least the first step in the direction of a unit "package" home, ready to be lived in, completely equipped with everything but the bottle of milk on the back porch and the baby.

"The tremendous interest shown in the "Shutters and Shingles" houses erected in the various suburban areas—as well as in John Wanamaker's furniture store—has more than justified our feeling that the public is willing and anxious for those in the home building and home furnishing fields to modernize not so much their products as their merchandising methods. I believe the day is not far distant when this so-called complicated problem of home ownership will be thoroughly debunked and the purchase and financing of a completely equipped home made as simple as the buying of a new car, an electric ice-box, or a trip to the West Indies."

# Practical PLANNING and CONSTRUCTION DETAILS

## No. 1—Orienting The House

How to Figure Best Exposure Told in This First Article of New Technical Series on Better Building Methods.

**N**EGLECT of the important factor of exposure to sun, prevailing winds and view is frequently the cause of failure to sell a house. Many builders, and a large part of the public, have never analyzed the effect of exposure on the pleasantness and appeal of the inside of a house, but it is an item that exerts a strong influence. A house that is arranged so that it gets ample sunshine in the right rooms at the right time frequently provokes such remarks as, "What a pleasant, sunny house." It is worth more and brings a better price, yet costs nothing—except a little careful study.

Every room in a house should be studied for its exposure. In addition to sun, there are the important matters of view and prevailing winds, which are highly important. In this article we shall concern ourselves particularly with sun, and it may be well to point out at the start that this is a factor that varies with the section of the country. Chart I below and the general comments of this article are based on the northern part of the United States, of approximately 40° north latitude, which constitutes a line running through such cities as New York, Philadelphia, Cincinnati, Indianapolis, Columbus, St. Louis, Kansas City, Denver, Salt Lake City and Sacramento. In this area the general rule is that the living room should face south or west so that it gets an ample amount of sunshine at all times of the year. Such a room is much easier to heat in winter. Large window exposures towards the south and west have a definite value in fuel saving as considerable radiated heat is produced by the winter sun which shines in at a low angle as indicated in Chart III. In the summer, the sun is at a much higher angle and does not shine directly into the rooms except late in the day,

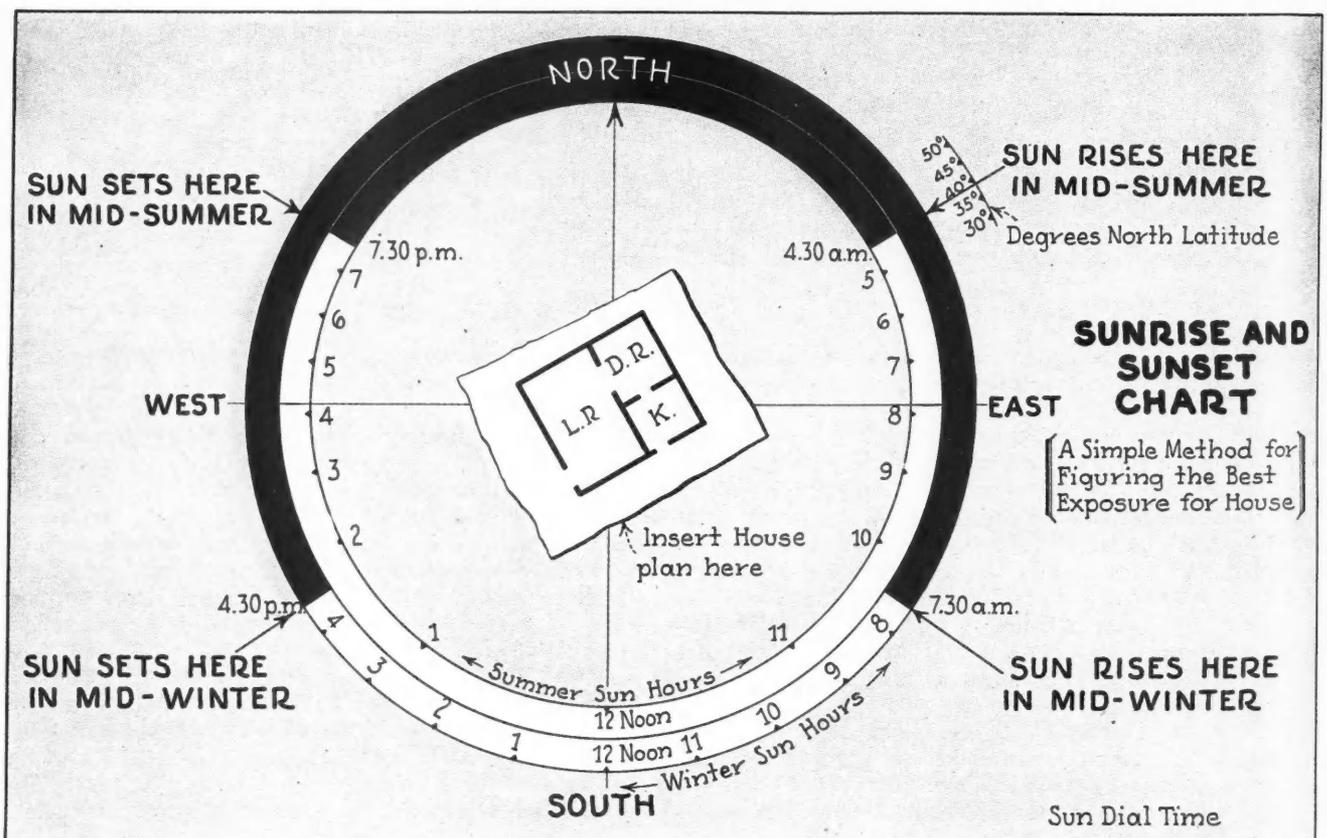


CHART I—Place a miniature reproduction of floor plan in center of circle and turn until desired exposure is obtained. Outer circle indicates hours when sun rises and sets in winter. Inner circle indicates summer sunrise and sunset. These figures are for 40° north latitude, which includes such cities as New York, Philadelphia, Cincinnati, Indianapolis, Columbus, Kansas City, Denver, Salt Lake City and Sacramento. The figures 30° to 50° at upper right indicate location for latitude other than 40°.

when it is low in the West. A properly oriented living room can be warmer in winter and cooler in summer as a result of this one factor alone.

It is generally agreed that the kitchen should face the north or east because the housewife does a considerable part of her work in the morning, and a cheerful, sunny atmosphere is desirable. North light is also good for certain types of kitchen work, and a kitchen on the east or north remains cool on hot summer afternoons.

Many people desire cheerful morning sun at breakfast, and for this reason prefer an easterly exposure for the dining room. If it is located so that it also gets a southern exposure, the room is pleasant at luncheon, and in such a location is not unduly hot in the late summer afternoons.

Bedrooms should be oriented according to personal preference—some people wish to be awakened by the morning sun and others strenuously object. A bedroom with a west exposure is frequently unpleasantly warm on hot summer evenings.

A child's bedroom or nursery should face the south or southwest to get maximum sun all the year round. Studios and workrooms should get the north light which is desired for many types of close work.

The above comments must be viewed, of course, in the light of the locality. In the South where extreme heat prevails, it may be more desirable to place living room towards the north.

Chart I provides a simple way to figure the best exposure for a house. Arrows indicate the directions on the compass at which the sun rises in summer and mid-winter. Note that during midwinter the sun rises at—  
(Continued on page 112)

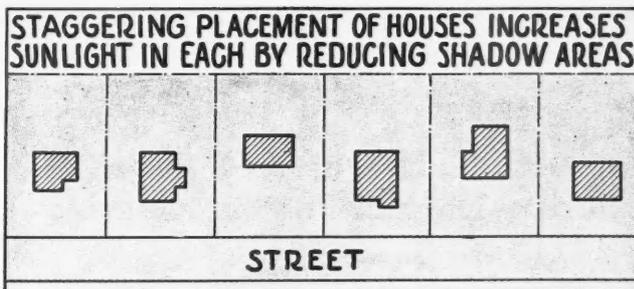


CHART II—More sun and light are made possible by an irregular placement of houses as indicated above—a growing practice among operative builders. Straight rows of houses close together shut out light.

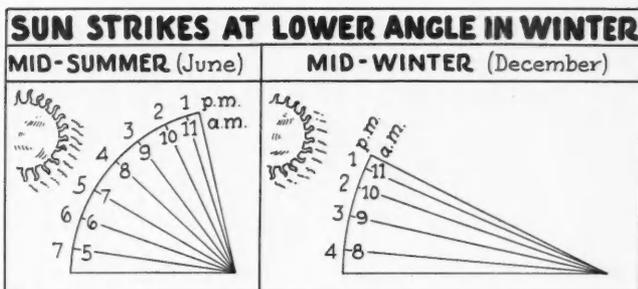


CHART III—There is a great difference in the angle at which the sun shines in winter and summer as the chart above clearly shows. In summer, the sun is almost directly overhead at noon. In winter, the lower angle permits much more sun to shine into a house when windows are properly placed.

### A GOOD PLAN CAN BE SPOILED BY WRONG EXPOSURE A STUDY OF SAME FLOOR PLAN WITH EIGHT DIFFERENT EXPOSURES

<p>①</p> <p>Street Side</p> <p><b>GOOD</b> - Living Room has fine South and West Exposure Providing Good Winter Sun. Kitchen is Cool in Summer.</p>	<p>②</p> <p>Street Side</p> <p><b>FAIR</b> - No Southern Exposure in Living Room (if Stairs and Entrance were Rearranged to Permit Southern Windows, this would Rate Excellent)</p>	<p>③</p> <p>Street Side</p> <p><b>BAD</b> - Living Room gets no Sun in Winter, very Little in Spring and Fall. Kitchen is Hot in Summer.</p>	<p>④</p> <p>Street Side</p> <p><b>FAIR</b> - Dining Room Hot in Summer, not much Sun in Living Room in Winter.</p>
<p>⑤</p> <p>Street Side</p> <p><b>GOOD</b> - Living Room gets Good Winter Sun - is Cool in Summer. Dining Room is Cheerful with Morning Sun.</p>	<p>⑥</p> <p>Street Side</p> <p><b>GOOD</b> - Living Room gets Maximum Winter Sun. Kitchen and Dining Room are Cheerful in Morning, Cool in Afternoon.</p>	<p>⑦</p> <p>Street Side</p> <p><b>FAIR</b> - Living Room gets West but not South Exposure. Kitchen Cheerful in Morning.</p>	<p>⑧</p> <p>Street Side</p> <p><b>BAD</b> - No Winter Sun in Living Room. Dining Room Hot in Summer. No Morning Sun in Kitchen or Dining Room.</p>

CHART IV—The above floor plan is a popular—almost universal—plan for a typical small home. How important an effect exposure has on the value of this plan is shown above. Eight different exposures for the identical plan are indicated. To carry this study still further, a miniature plan can be inserted in the exposure chart on opposite page. Nos. 1, 3, 5 and 6 are the most desirable arrangements for a northern climate. In the South values would be greatly changed.

# How to Estimate Accurately

## This Article Is One of a Series Offering Helpful Job Information

By **J. DOUGLAS WILSON**

Head, Building Trades Dept., Wiggins Trade School, Los Angeles, Calif.

**T**HERE are several well defined steps by which the ambitious carpenter may climb and progress in his trade. Naturally as his tool skill increases he becomes more valuable to his employer. Fully as important, the acquiring of technical knowledge pertaining to carpentry will also increase his value as a skilled craftsman. And increased skill usually means more pay.

One very important ability to acquire is that of knowing how to take off a bill of materials. A building cannot be constructed unless someone makes an itemized list of the different materials required, such as framing and finishing lumber, hardware, doors, windows, cement, sand, rock and a hundred other items. Each of these must be carefully figured to find out the correct quantity or number of pieces and their size, length and other information needed to describe them.

To acquire estimating ability is not difficult. Naturally the carpenter must be able to read blueprints; with this as a start the problem resolves itself into one of learning how each part of the building is figured and how the various building materials are purchased.

It must not be overlooked that materials omitted or overlooked are just that much off the profit side of the ledger; a continuance of this loss naturally means failure. If a well thought out systematic plan is used a complete list of materials can be made and the estimator is assured that nothing has been missed. The plan is to divide graphically a residence into definite groups, these divisions again being divided into units. It then only becomes necessary to think carefully through one unit at a time, study the specifications for the kind and grade of material and list the pieces necessary.

The five major divisions into which a dwelling can be divided with the units for each are as follows:

DIVISION	UNITS
Foundation	Concrete forms, concrete materials
Framing	Underpinning, floors, walls, ceiling, roof, stairs
Exterior Finish	Frames, walls, cornice, roofing
Interior Finish	Windows, doors and screens, inside trim, cabinet, floors
Hardware	Rough and finish

Each of these divisions with its respective units will be discussed in detail and in the order given. Naturally there may be methods of construction used by carpenters which will be slightly different than those described. Fundamentally these differences will not affect the quantities of materials needed.

The first thing to do when starting to take off a bill of materials is to study the blueprint carefully to get a good picture of the building to be constructed. This can-

not be done quickly but will take time as it is important to know what the construction is to be, how the exterior is to be finished, the kind of roofing required, the shape of the roof, what the interior details are and numerous other facts which all serve as a background.

The specifications that pertain to the carpenter's work should next be read carefully and specification page numbers listed for quick reference. At this reading it is not necessary to remember all details of construction or sizes of materials but it is done merely to get a general knowledge of the contents and how to find the information quickly.

The third important step before actually beginning to list the materials is to check the main dimension of the building and figure the perimeter of the building. Perimeter is the term used for the distance around a rectangle or square. It is also well to make a count of the number of doors and windows. The total floor area should also be figured, dividing it into three parts—the total floor area, the area of the bathroom, which usually is tiled, and the area of the kitchen and porch, which usually do not have hardwood floors. All these measurements are used many times; this method eliminates the necessity of finding this information several times.

And now to begin to take off a bill of materials.

The foundation division will be discussed first. There are two units—forms and concrete materials. Each unit will be handled separately.

### CONCRETE FORMS

A concrete form is necessary whenever a concrete wall is to be built. It is composed of horizontal boards, braces, whalers, stakes and tie wire.

1" x 6" boards surfaced one side (SIS) are usually selected for form boards. Sometimes the sub-floor material is used and then cleaned thoroughly before nailing down for the rough floor. If the concrete wall is not to be plastered then the boards are laid with the smooth side in so that the concrete will have a smooth appearance. Occasionally a matched flooring is used if a particularly good job is wanted. When the concrete wall is to be plastered then the forms are placed with the rough side of the boards in; the concrete wall will then present a rough texture on which plaster material will adhere more readily.

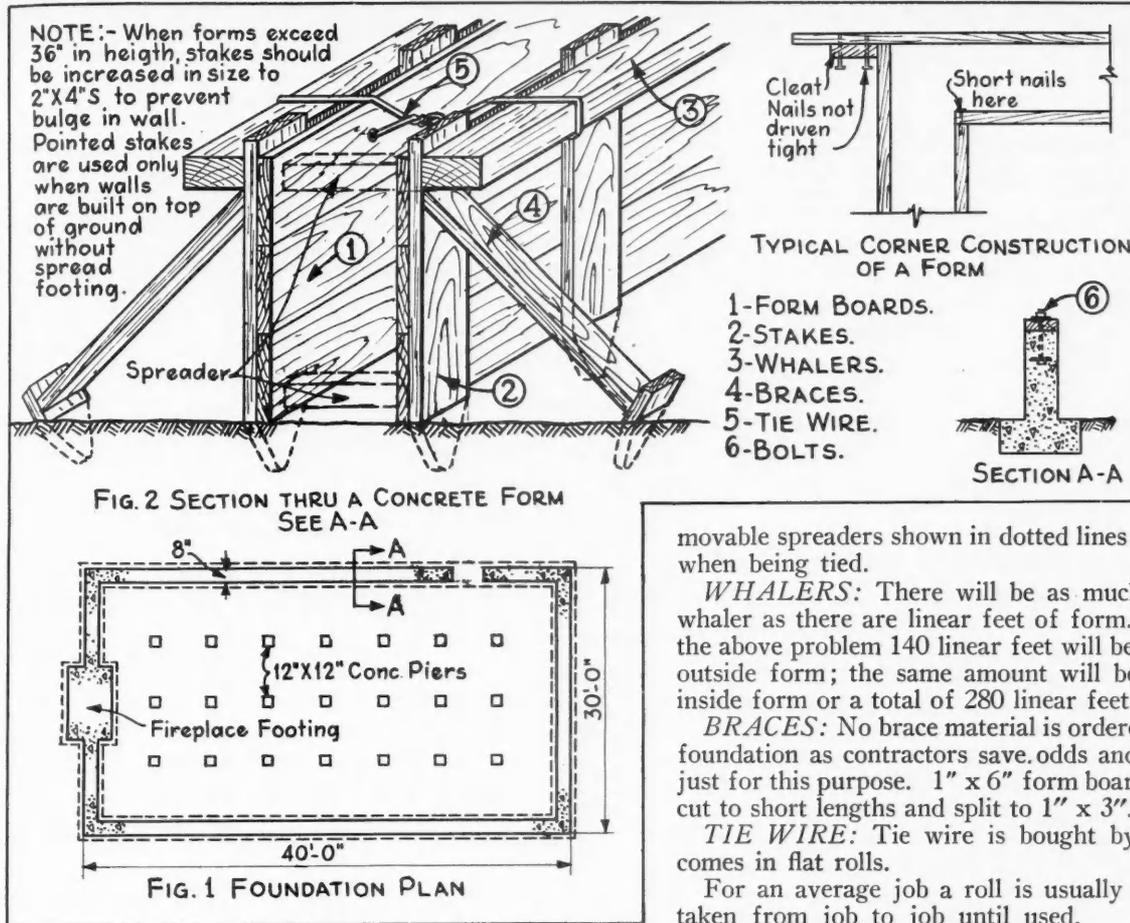
These 1" x 6" boards are laid horizontally and held in place by stakes of varying sizes. 1" material is often used. For a basement wall form studs are used instead of stakes. These are placed vertically; often a complete panel will be built and then placed in position.

To strengthen the form, braces and whalers are used. A whaler is a piece of lumber, usually 2" x 4", placed horizontally against the outside face of the stakes to hold the form true and straight. For an ordinary foundation one whaler only is needed for each side of the concrete form. Tie wires are used to hold the form from spreading while the concrete is being placed.

While not a part of the form itself the bolts that are used to hold down the mudsill are usually figured at the time that the form material is listed.

Each of the parts of the form is figured as follows:  
**FORM BOARDS:** The height of the form is figured on the basis of 6" boards. 10" height would require two boards; 16", three boards; 24", four boards, etc.

To find the board feet of lumber for one wall of a form, multiply the height of the form, in terms of 6"



THE drawings at the left show the various items which must be considered in making accurate estimates of concrete form costs.

movable spreaders shown in dotted lines hold forms apart when being tied.

**WHALERS:** There will be as much stock for each whaler as there are linear feet of form. Therefore, for the above problem 140 linear feet will be required for the outside form; the same amount will be needed for the inside form or a total of 280 linear feet.

**BRACES:** No brace material is ordered for an average foundation as contractors save odds and ends of lumber just for this purpose. 1" x 6" form boards are sometimes cut to short lengths and split to 1" x 3".

**TIE WIRE:** Tie wire is bought by the pound and comes in flat rolls.

For an average job a roll is usually bought and then taken from job to job until used.

The length of each tie wire will be twice the width of the form plus sufficient wire to go around each stake and whaler. For an 8" wall each piece should have to be at least 48" long. These would be placed about 4' on centers and for a high form two or more would be needed, placing one above the other. In the drawing only the top one is shown.

**BOLTS:** Specifications and building ordinances vary regarding the size and spacing of bolts used to hold the mudsill down to the foundation. 6' on centers is common practice and the size often required is 1/2" x 8" carriage bolts. To find the number divide the perimeter of the building by the bolt spacing; answer equals the number of bolts. As these are priced by the dozen it is good business to order on that basis. For the building illustrated previously, 140' perimeter divided by 6 equals 24 bolts to order.

**NAILS:** Nails are ordered for the entire job and not for parts only. Suffice it to say here that a 6d box nail is the best to use and for an average foundation twelve to fifteen pounds of these box nails would be ample. There should also be a few pounds of 8d box nails ordered.

The point to remember in nailing is that the form must be made straight, plumb and very rigid. The nails must not be too long as a form can be so well nailed that either the form material is spoiled when taking the form down or the concrete wall itself may be cracked or chipped. Often the nails are not driven in tight so they can be easily pulled.

**CORNER CONSTRUCTION:** Just a word about corner construction. It is good practice to let one board extend several inches beyond the board at right angles to it. Then a vertical cleat is nailed on this extension. This makes a corner that will hold well and yet is easily removed. See the illustration in figure 2.

(Concrete materials will be discussed in an early issue.)

boards, by the length, which for a residence would be the perimeter of the building. They add 1/10 for waste. Doubling this amount will give the necessary material for the inside form.

*Note: In figuring perimeters, fractional parts of a building are increased to the next half or whole foot. To illustrate, 54'-8" would be called 55'-0". Any fractional answer is also increased to a whole number. In the case of lumber, it is increased to a whole even number as lumber is always cut to even foot lengths.*

The forms for the plan illustrated would be estimated as follows. The wall is to be 16" high.

30' plus 40' x 2 equals 140' which is the perimeter of building.

A form 16" high will require three 6" boards.

3 x 140 equals 420 linear feet of 1" x 6".

420 plus 1/10 equals 420 plus 42 which is 462 linear feet.

462 x 2 (for the other form) equals 924 linear feet of 6" lumber required. This could also be called 462 board feet.

**STAKES:** No definite rule can be laid down for stakes. Common practice places them two feet on center (o.c.). The length is the same as the height of the form plus a sufficient amount for a point. To find the number, divide the perimeter by the spacing of the stakes. To illustrate for the above problem:

140 divided by 2 equals 70 pieces.

70 pieces x 2' (16" plus 8" for a stake point) equals 140 linear feet of stock.

140 linear feet x 2 (for the other form) equals 280 linear feet of stock to order. 1" x 4" material is often used. Note that drawing provides alternate type of form stakes for location where spread footing is needed; re-

# Efficient Carpentry Practice

By C. V. OLSON

Carpenter and Instructor  
in Woodwork, Chicago Schools

**C**ARPENTRY is not a trade for a man seeking a soft job. It is, however, composed of work, which if handled in the proper manner, never lacks interest. It is a trade that becomes very fascinating, for it does tax the ingenuity and skill of the worker. It can tire the muscle beyond endurance and thereby become a craft as dull and fatiguing as any "pick and shovel" job, and about as desirable.

There are ways and means of doing even hard jobs, so as to make them jobs to be desired, and it is the object of this and following articles to show from my own experience, and that of fellow "journeymen," that carpentry is a trade not of the back-breaking type, slow and uninteresting, lacking in opportunities, that some fathers would like to have their sons believe. The opportunity of owning our own homes is definitely greater for us than for those working at other trades, for we work in the midst of the building activities and get first hand information of opportunities when presented. In other words, when opportunity knocks, it knocks at our doors first. Working in the open makes our trade a healthful one. It puts into play every muscle of the body, developing a type of man who does not have to depend upon "setting up" exercises to keep him in trim physically.

I have never felt that any other field of work would have given me more advantages and almost every day I find something new and interesting in it; some new "wrinkle" to make my work easier; some new method of doing a job.

It is the object of these articles to point out methods of doing the various operations involved in the trade, and to explain in as simple a manner as possible the conventional methods, the methods that have proved most efficient.

It is also hoped that you will give me your reactions to these articles—that is, to show some better way to handle the job, giving complete details as to how you would go about it, and also the time it would take you to do it.

Have you ever noticed two men working together, one with more experience doing the work very deliberately, seeming to know every move he is to do next, apparently not exerting himself greatly, while the other with less experience is struggling along, with great exertion, on a similar operation, taking a longer time to do the work; and because of his desire to keep up with the pace set by the former, has a less desirable job as to neatness?

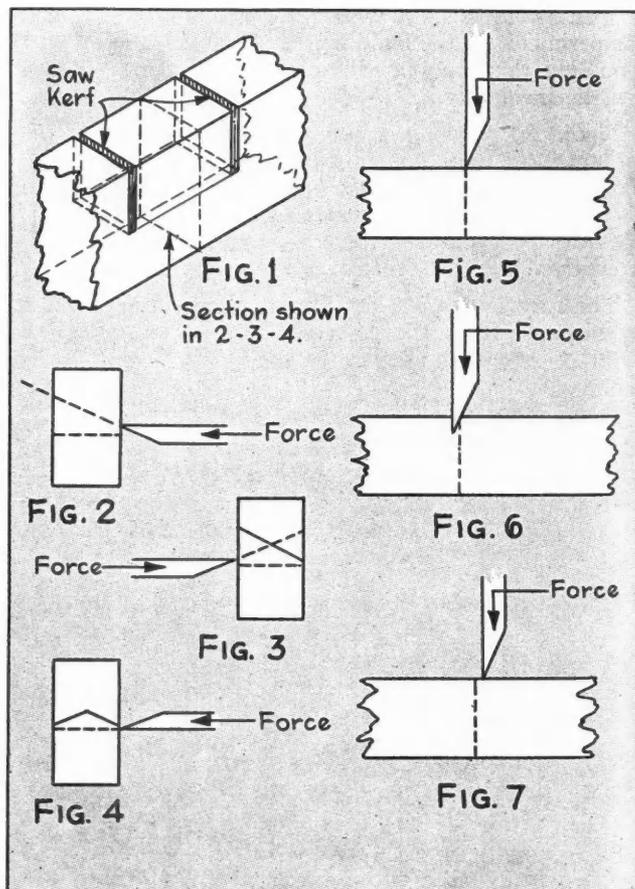
It is also my object to have these articles appear as timely as possible, and no effort will be made to plan them in a "progressive learning order," but rather to have them appear as requested by *American Builder* readers. This is to make it possible for readers to avail themselves of information as soon as they are confronted with a specific problem. Each operation will be treated as a separate job.

In all descriptions I will assume that the tools in your kit are of a type that carpenters are proud to own. Some men starting to do carpenter work make the mistake of economizing on the quality of tools used. I do not wish to enter into a discussion of this subject but wish to

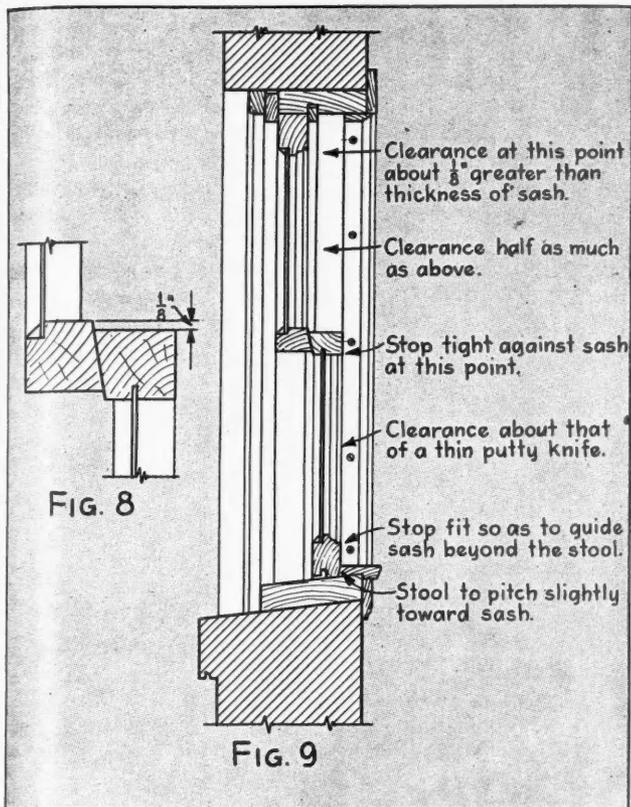
remind the reader that all his tools are to be used for a long time, and that tools of quality not only hold their shapes and keep keener edges but, should he go on the job with a cheap set of tools and work along with other men using tools of good quality, he may find himself with a good case of "inferiority complex."

To a beginner in carpentry work, do not allow yourself to become too self conscious and do not try to bluff your way. It just cannot be done. If you are really desirous of learning the trade, it is always best to do the job assigned to you to the best of your ability, and if you find yourself stopped for lack of knowledge, do not hesitate to ask someone else on the job. This kind of attitude not only makes friends among the workmen, but also is of real benefit to the contractor, for many men bluffing their way go ahead making mistakes which must be corrected later, and this is always expensive. It has been said: "A bluffing man never holds a job long." Have at your disposal a complete set of tools but never bring onto the job more tools than you will be required to use. Experience, of course, will be your guide in this respect.

**TOOL OPERATIONS:** The term, operation, is the doing of one thing, or one unit of work—as with the use of the cross cut saw, the cutting of a board; as ripping a board, using a chisel, or other tools. These are tool operations. Units of work, such as laying one floor, erecting a partition, framing a roof may also be called operations.



FIGS. 1 to 7: Bevel plays important part in use of chisel



FIGS. 8 and 9: How to fit window sash.

Layout is a term we will use for such work as staking out the building, measuring and marking joists, partitions, rafters, etc.

The hand saw used for rough work, as in framing, should be at least an 8 point saw and 26 inches in length. It should be filed so as to have the teeth of uniform height, and as in a cross cut, a hook of about 15 degrees. The teeth should be jointed in a straight line and no teeth set out of line. An oil stone run along the flat side of the edge will cut down any tooth set beyond the others. Be careful not to rub too much as you can remove the set entirely. It is important that you learn to file your saw and keep it in good shape, for where there is lots of cutting to do in a day, a dull saw can certainly take the pep out of you.

When using a saw, try to handle it in such a manner as to keep the cutting edge traveling back and forth in a straight line. Avoid any rocking motion of the saw, and on the down stroke, do not exert great pressure. Use just enough to keep the cutting edge against your work. Remember, the saw is not a knife, and great pressure only slows you up as it causes the saw to lose its kerf, and has a tendency to jamb.

What applies to a cross cut saw also applies to a rip saw, except the hook should not be greater than 5 degrees. Filing of the saws differs, and if desired I will discuss it in a later issue.

**CHISELS:** The type to use will depend of course upon the amount of work you do with it. If heavy timber

framing is the work, naturally you would need a heavy framing chisel to stand the heavy pounding, while if the work is of the type usually found on residential work, a light paring tool is the one desired. For mortising door butts and heavy hinges, the type used is a 1½ inch to 2 inch, and known as "butt chisels." What happens when you use the chisel is what I wish to show. In all my work I want the tool to do as much as possible with as few motions upon my part as possible. For example, if in framing a notch in a 2 x 4 I were able to remove the material between saw cuts with one stroke of the hammer on the chisel, that would be fine; but it cannot be done and get a clean job. However, I can eliminate much work by understanding what will happen when the chisel is struck.

Figure 1 illustrates notch to be cut in a 2 x 4 as in framing.

Figure 2 shows the edge of chisel near depth of cut; bevel of chisel is down and when forced into the wood, will take the direction as shown by the broken line.

Figure 3. Chisel has now the same action as at Fig. 2 on opposite side. Bevel side down the force is upward, sending the chisel in the direction of the broken line.

Figure 4. The bulk of material has now been removed and with the face side of the chisel down, there is not enough resistance of wood against the bevel side to cause chisel to change direction. Therefore, if the chisel is forced halfway through the stock, and then the same action is performed upon the other side, the notch is neatly trimmed to a line.

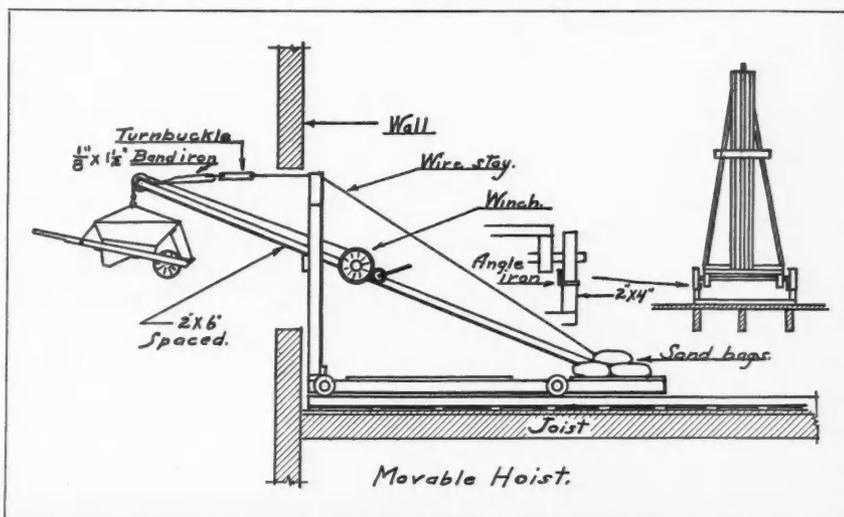
By handling the chisel in this manner the maximum amount of material is removed and the notch framed with as few motions as possible.

I hope no one will tell me that I should have used a mallet instead of a hammer. I agree that perhaps it might be easier on the chisel handle, but remember I am trying to show the easiest and fastest way of doing a job. I carry a hammer in my overalls where it is always handy, and to carry a mallet would be just too much. Striking the chisel with the side of the hammer makes a good substitute.

Another thing to remember when using a chisel—if the chisel edge is placed directly on the layout mark, as when mortising for a hinge, and the force is vertical to the stock, the bevel of the chisel will force it beyond the line, causing the mortise to be too large.

Figure 5. An experiment as illustrated will prove this. Take any piece of stock, and square a line. Place chisel on upper edge, with chisel vertical to the stock, and strike a blow with the hammer.

(Continued on page 104)



HOIST at right can be used through door or window openings as handy rig on certain jobs.



A NEW type of tourist cottage is found in this San Bernardino, Calif., Auto Motel. The entrance drive is seen above at the left; the air-conditioned units with individual garages are shown grouped around one of the two open courts. Typical plan of kitchenette and sleeping cottages appears at bottom of page.

## Modern Comfort in Unique Auto Motel

**T**HE Mt. Vernon Auto Motel is the name under which a very unusual group of forty air-conditioned tourist cottages is operated in San Bernardino, Calif. This project, the only one of its kind, is attracting considerable interest. Here motorists find a new type of modern luxury in roadside accommodations.

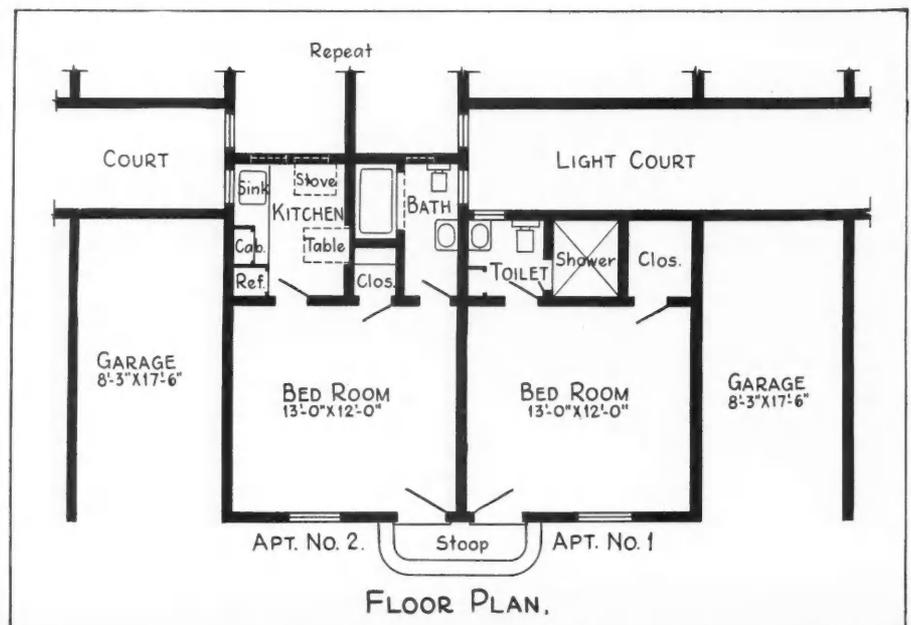
The Auto Motel features individual garages, community center, coffee shop and common green. The cottages as seen above are attractively arranged around the double court. Martin C. Parker of San Bernardino was the architect.

Of course, one of the biggest drawing cards is the air cooling of the cottages. The cooling season begins usually in the fore part of May, and sometimes continues through until late in November. The cooling equipment is started around 10:00 or 11:00 o'clock in the morning, and operated until 7:00 or 8:00 in the evening.

The Carrier conditioning equipment installed is a central station duct system and provides, in addition to summer cooling, heating in winter, filtering, and ventilation. During the summer season all fresh air is provided and during the heating season ample fresh air is provided for ventilation. The circulating ice water system featured

in all forty cottages and refrigeration for the sixteen cottages having kitchenettes are also part of the installation.

Mr. Harry M. Hughes, the manager, states that he has had many favorable comments from his patrons. He is convinced that the greater comfort has been responsible for a decided increase in business. Rates range from \$2.00 to \$5.00 a day.

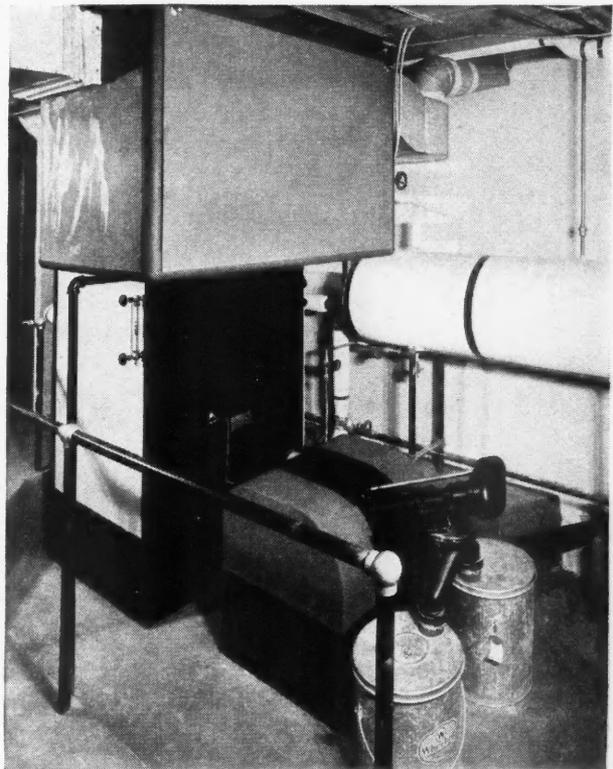


# HERE ARE 12 IMPORTANT REASONS why your clients will appreciate recommendation of

## MODERN AUTOMATIC ANTHRACITE HEAT AND AIR CONDITIONING

Architects, builders, and home-owners enthusiastically select modern Anthracite heating for the following reasons:

1. **ECONOMY.** Anthracite prices have steadily gone down. Other fuels have gone up.
2. **CLEANLINESS.** No soot, no smoke.
3. **EVEN HEAT.** Anthracite heat is even, glowing heat—not "stop and go."
4. **SAFETY.** Anthracite cannot leak, spill or evaporate into dangerous fumes.
5. **SILENCE.** Anthracite burns without a whisper.
6. **NO ODOR.** No smell to Anthracite, or to an Anthracite fire.
7. **ANTHRACITE EQUIPMENT IS LONG-LIVED**—it often outlasts the property.
8. **RELIABILITY.** Anthracite equipment requires a minimum of servicing.
9. **MOST MODERN.** Greatest recent developments in heating are in Anthracite equipment.
10. **ALL FUELING CONVENIENCES.** An inexpensive thermostat, and any adequate Anthracite furnace or boiler, provide automatic heat, and 12-hour fueling periods. Magazine feed boilers need no attention from 24 to 48 hours and more. Automatic



Anthracite Air Conditioning Installation. Note Automatic Anthracite Burner—feeds fuel automatically—removes ash to sealed containers.

Anthracite Burners need no fueling attention all season. Ash is automatically removed to sealed containers.

11. **AIR CONDITIONING.** Anthracite provides the even heat that is so essential to truly successful air conditioning.

12. **MODERN BASEMENTS.** Modern Anthracite is ideally fitted for basement modernization.



Send for book, "Modern Anthracite Equipment." Use the services of our staff of trained heating men. Write to ANTHRACITE INDUSTRIES, Inc., Chrysler Bldg., New York.

*Pennsylvania*  
**ANTHRACITE**  
COAL

**THE SOLID FUEL FOR SOLID COMFORT**

● This Seal of Approval appears on Anthracite Equipment only after it has passed the most rigid tests in the heating field.



# SHOPCRAFTER'S Corner

## Things To Build for Profit or Pleasure

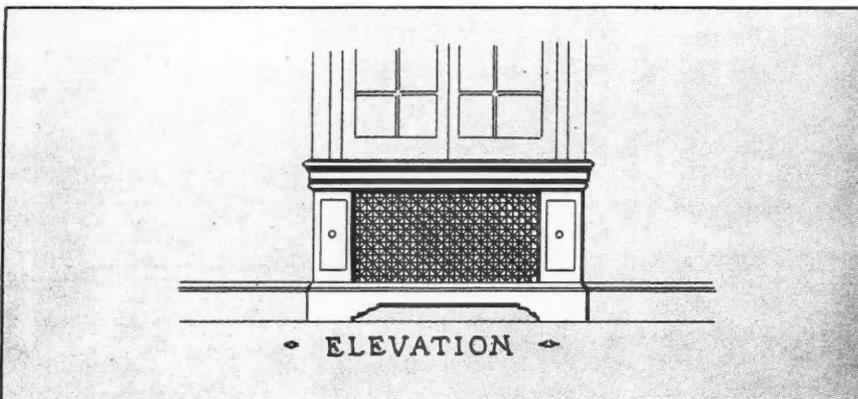
### Radiator Enclosure

**D**URING these winter months the heating problem is constantly being brought to mind. Houses with steam or hot water plants require radiators and unless of the new recessed convector type there is a chance to improve their appearance with enclosures. By doing this, what might be an objectionable piece is converted into a useful and beautiful object, and dirt on walls is reduced.

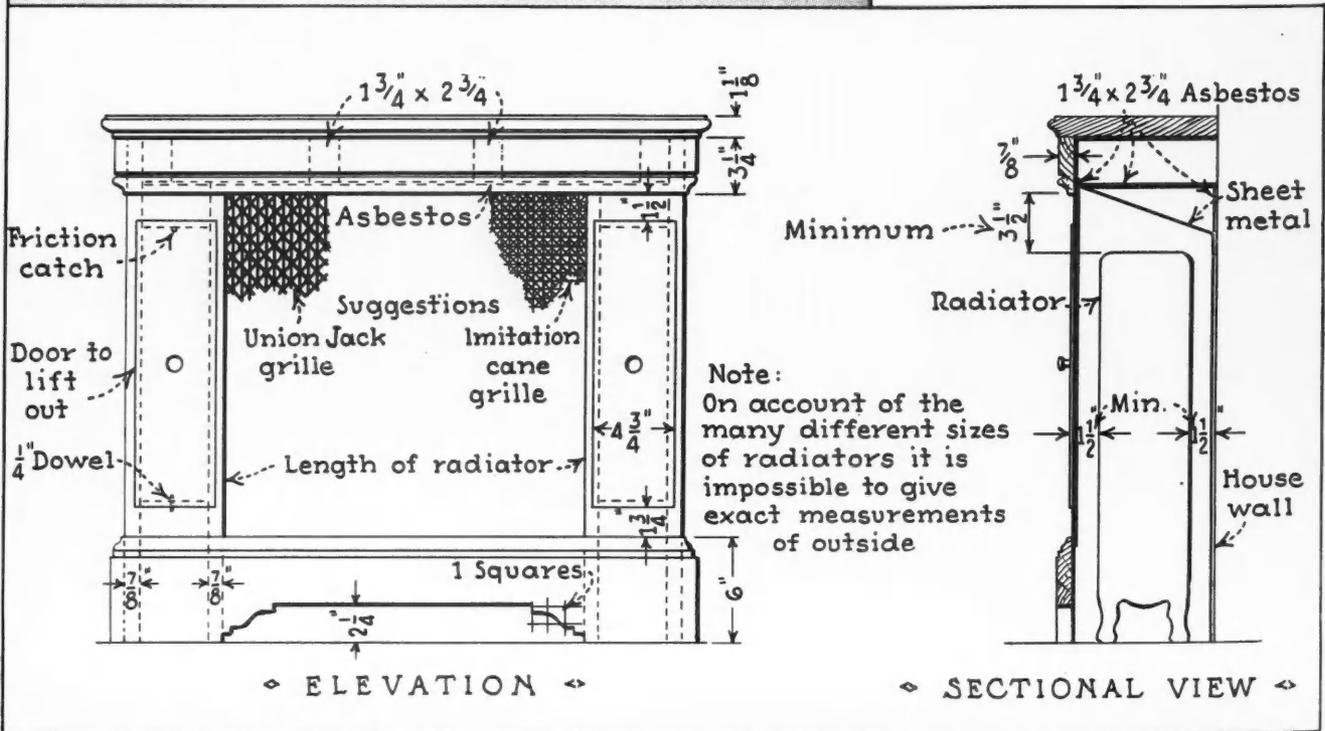
The making of this radiator-enclosure is a very simple task. Use good dry lumber, and your selection will depend upon the finish desired. It is important to use a close-grained wood such as whitewood or pine. It is

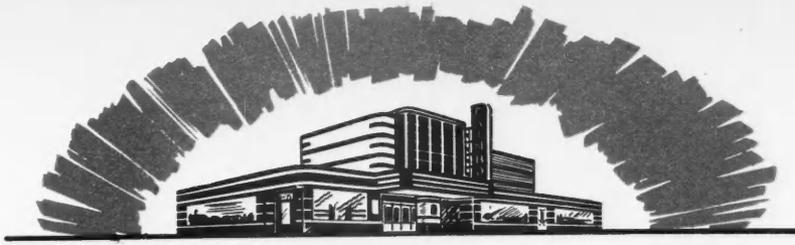
impossible to give an itemized list of lumber required, since each radiator will require pieces of different lengths. The sizes are all carefully indicated on the drawings, so you can easily make up your own list of stock after determining the outside measurements of your radiator.

In order to obtain the maximum of heat, and yet make this unit serve as a piece of furniture, it is absolutely necessary to line the back and top with asbestos, as shown. Put a metal strip across the back and top, and, in general, follow the details closely. It may be found that more heat is delivered by closing the lower part of the grille with a sheet of metal placed behind it; this will increase the air convection because of flue effect. The doors at side give access to the valves.



THE ENCLOSURE for radiators as seen in the sketch at the left conceals the usual unattractiveness of these objects. Notice how the lines of the baseboard carry around; the top offers a useful surface on which to place various decorative pieces. The working drawings below give the necessary construction details; material required will depend on radiator size. Design from "Things to Make for the Home" by William W. Klenke—Manual Arts Press.





# LOF STORE FRONTS

**OF METAL AND GLASS — PACING THE  
VOGUE OF MODERN MERCHANDISING**



Today's merchant is keenly aware that to attract trade in profitable volume his storefront must conform with the beauty, the brilliant color, the radiant lighting in vogue today.

The new L.O.F. Complete Storefronts typify today—a truly modern achievement of metal and glass. Among the new and exclusive features embodied in L.O.F. Complete Storefronts are—*Extrudalite!* The fundamentally new extruded metal storefront construction with pressure-controlling, shock-absorbing sash that is revolutionary. *Vitrolux!*—the new color-fused, tempered plate glass for providing luminous fronts. *Vitrolite!*—the colorful structural glass—now given even greater scope in combination with *Vitrolux* and *Extrudalite*.

Write for information on Complete L.O.F. Storefronts.

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

LIBBEY • OWENS • FORD GLASS COMPANY  
1323 Nicholas Bldg., Toledo, Ohio



**LIBBEY • OWENS • FORD**  
**Complete Storefronts**

**VITROLUX**  
**VITROLITE**  
**EXTRUDALITE**

Polished Plate Glass; Aklo Heat-absorbing Plate Glass; Blue Ridge Figured and Wire Glass

# New Developments Aid Better Building

## Research Allows Manufacturers to Offer Improved Products and Builders' Equipment

### G-E Silent Switch

AFTER several years of development, the construction material division of General Electric Co., at Bridgeport, Conn., has placed in production a new silent switch in which the contact is made and broken by the movement of mercury. This mercury switch was first announced more than a year ago by the Company's research laboratory in Schenectady.

More important to eventual users than the silent operation is the fact that the new switch, small and compact, has literally nothing to wear out. There is no spring that can be broken and no blades to hammer away. Actual switching elements have operated more than 65 million times in two years in a laboratory life test without failure. Some indication of the possible applications of the new switch in a single field is given by the fact that approximately 15 million house switches are purchased in the United States every year.



NEW silent switch.

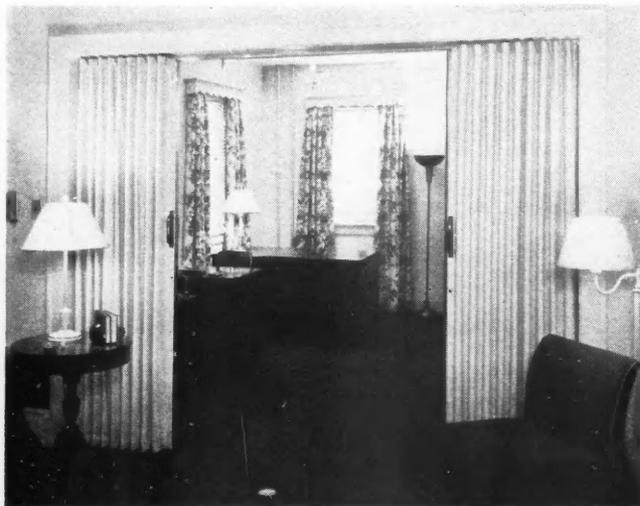
The actual switching element in the new device is the size of a small coat button, composed of two metal disks sealed with glass, completely enclosing the mercury make-and-break of the switch. The switch casing and handle are of Textolite. Large binding screw heads will readily accommodate number 12 wire. The switch can be installed in any standard switch box, and must be mounted vertically.

### New Idea in Folding Doors

MODERNFOLD, a new type of folding door being manufactured by Newcastle Products, Inc., Newcastle, Ind., offers a revolutionary idea for closing an opening. It works like an accordion and consists of a fabric-covered steel frame, the fabric being leatherette, velours, mohairs, or the finest materials available, the variety of which is limitless.

The doors can be sound-deadened where necessary to shut off from room to room the transmission of sound, the degree of which depends, of course, upon surrounding conditions as well as upon the door itself.

On large openings a carpenter and helper can install these doors in less than four hours.



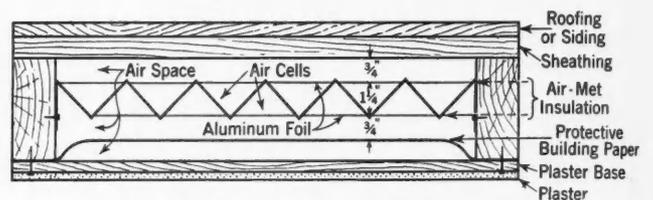
MODERNFOLD doors offer new way of screening openings.

### New Type Foil and Air Cell Insulation

EXCLUSIVE distributing rights for building purposes east of the Rocky Mountains for Air-Met, a new type of aluminum foil insulation particularly adapted for houses, have been obtained by The Ruberoid Co., New York City.

The simplicity of the new Ruberoid product as an insulating medium is indicated by the fact that it consists, primarily, of two thin, parallel sheets of aluminum foil, definitely spaced about an inch apart by a series of triangular air cells of uniform size. Between the two sheets of foil is a light, flame-proof member which, by reason of its truss-like design, serves the double purpose of holding the foil sheets parallel and insuring perfect uniformity in the size and spacing of the intervening air cells. When properly installed, provision is also made for air space between the outer surfaces of the two sheets of foil and the surrounding studs, rafters, sheathing, wallboard or protective paper.

The lightness of the material and its convenience for handling



SECTION showing location of Air-Met between studs.

is indicated by the fact that enough Air-Met to insulate the average attic, 1,000 square feet, is contained in two small cartons (8"x18"x31") weighing approximately 40 pounds each.

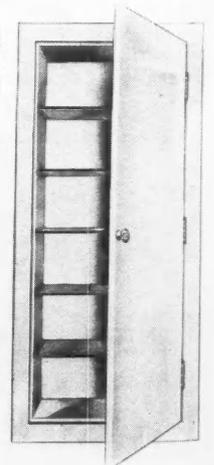
The material is manufactured in two widths, 15 inches and 23 inches, representing the standard distances between studs, joists and rafters. It comes in sheets about 80 feet long which, when packed for shipment, are folded together lengthwise like an accordion. They can thus be coiled for placing in the carton and later easily opened out for application.

The only tools required in application are a pair of shears, a hammer, and broad headed tacks or staples. The method of application is merely that of tacking to studs or rafters the flame-proof supporting flanges provided for that purpose at both sides of the Air-Met sheets. Flanges, to make tight joints at the ends, are easily made by bending with a straight-edge.

### Towel Storage and Utility Cabinets

THE Miami Cabinet Division of Philip Carey Co., Middletown, O., has announced two new towel storage and utility cabinets. Model 510 is designed for the luxurious bathroom. It is set in a chromium plated frame. The heavy, air cushioned door is swung on a brass, chromium plated piano hinge. Five glass shelves are furnished with each cabinet. In addition to providing for extra storage space in the bathroom, the mirrored door of this unit serves at the same time as a full length bathroom mirror. Over-all dimensions: 20 3/4" x 60 3/4" x 8 3/4".

Model 500, a smaller unit (illustrated at right), is designed and constructed for the less expensive bathroom where extra storage space is also required. The door is swung on three brass, chromium plated hinges. There is no mirror in the door. Five glass shelves are furnished. The cabinet is finished in Carey first quality baked enamel applied over rust-resisting undercoat. White is the regular finish. The unit may be had in any color desired. Overall dimensions 18" x 37 3/4" x 6 1/4".



MODEL 500 storage cabinet.

# THIS TREND TO RUSTLESS METAL-



**KAWNEER DOORS ARE NOW USED IN  
NEW BUILDINGS AND STORE  
FRONTS EVERYWHERE**

One of the most interesting developments in recent building practice is the swing to almost universal use of Kawneer Rustless Metal Entrance Doors. Partly due to increasing demands on the part of owners and merchants for more inviting entrances, partly due to practical considerations of dependability and low upkeep cost, this movement is important to every alert builder.

Kawneer Rustless Metal DOORS are furnished in both welded-tubular and flush types, for all commercial buildings, and in connection with store fronts; in tubular and casement types for residential work; and to special details and specifications. Aluminum, bronze, nickel silver and other attractive and durable metals are employed. See SWEET'S for typical details or write one of the offices listed below.



**STANDARD WELDED-TUBULAR TYPES**

FOUNDED IN 1905—  
BY A PRACTICING ARCHITECT

## **Kawneer**

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

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

Dealers in principal cities.

## Electric Door Chimes

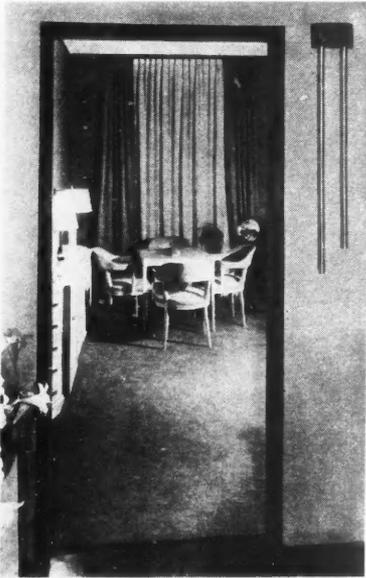
THE A. E. Rittenhouse Co., Inc., Honeoye Falls, N.Y., is making a complete line of electric door chimes. The President Model, the modern door bell with musical chime tone, is suitable for homes, apartments, studios, offices, etc. It sounds two chime tones audible throughout the average residence—the first yielding a beautifully rich chime tone followed by a deeper harmonious tone from the second. The Double Duty Model is used to produce two different signals as are usually required for the front and rear doors. One signal consists of two successive harmony notes and the other is a single vibrant chime tone. The Single Duty Model is the same in appearance but produces one signal only—the two successive harmony notes.

The President is as pleasing in appearance as it is in sound. It is 40 inches long—a beautiful instrument and a decorative addition to any home. Standard finishes are ivory art metal with gold, or statuary bronze with brushed brass. Black and chrome

or other special finishes or voltages are supplied at an additional charge.

The new Twintone bar chime strikes two separate harmonizing notes, producing beautiful, clear, more sustained chime tones than ordinary single bar chimes, and may be used as door calls, office calls and signals, dinner calls, maid's calls, etc. It is particularly well suited for apartment use.

A Junior chime of single bar type suitable for office and maid's calls, and Softone bar chimes adaptable to similar uses, complete the Rittenhouse line.



DOOR chimes are attractive feature in this hallway.

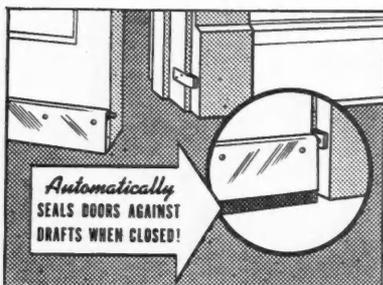
## New Fuel Saver Stops Door Drafts

A NEW device, simple in design and effective in operation, that stops all under-door draft and thus saves fuel, has been announced by Raysteel Specialties, Inc., Cleveland, Ohio.

This product is made out of metal and fabricated material. As shown in the illustration, it is easily and quickly attached to either side of a door at the bottom and works automatically. When the door is closed, a concealed strip springs down completely sealing all space between the bottom of the door and the floor or floor covering.

The instant the door is opened, the seal strip springs up into position that clears the floor or floor covering, thus eliminating all rub or wear. Another model, for easy concealed installation, within the bottom of the door and also operating automatically, will be available within a short time.

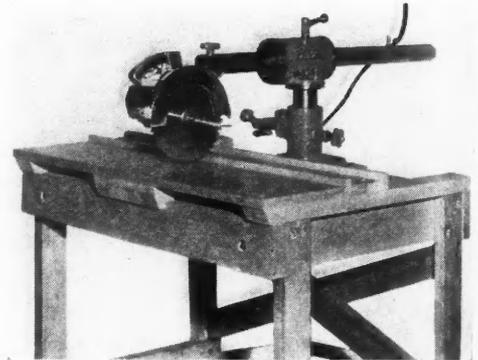
Under the average door there are about fifteen square inches or more in total space through which a large amount of room heat escapes. When such heat losses are multiplied by the total number of doors under which such heat losses occur, the fuel costs mount to sizable proportions. In addition, these drafts are irritating to tempers and destructive to comfort and health.



DEVICE to stop drafts under doors automatically seals this space when door is closed as shown at left.

## Radial Slide Arm for Portable Saws

A NEW slide arm has been designed and built to give the users of Speedmatic electric hand saws double utility. In less than one minute, without the use of tools, a Speedmatic saw made by the Porter-Cable Machine Co., Syracuse, N.Y., may be attached and used on any cutting operation within its depth capacity that can be performed with any slide saw. It swings to any degree right or left for mitering, and the saw tilts to 45° for compound mitering and beveling. The attachment bracket



RADIAL ARM adds utility to electric saws.

may be quickly turned to put the saw in ripping, ploughing, or grooving position. All adjustments are calibrated so the arm and saw can be locked accurately at any setting.

This arm is sturdily built for extreme accuracy, and is mounted on a saw table 17 inches wide by 41 inches long. The arm stroke is 26 inches. The entire outfit takes but 44 by 31 inches floor space. It accommodates Speedmatic saws Types K-10, cutting 3¾ inches depth, K-9 cutting 3 inches, and the K-88, cutting 2½ inches. It gives its user the advantage of a slide saw for cutting duplicate parts, and also the utility of an electric hand saw on framing and other operations.

## Disc Sander Offers Operator Comfort

THE "Do-All" disc sander, now being manufactured by the Lincoln-Schlueter Floor Machinery Co., Chicago, Ill., takes the backache out of edging and corner work. The operator sits on the comfortable ball-bearing castored stool, pushes the automatic locking-button switch, places hands on the handles, and brings the sanding disc from its automatically elevated position into contact with the floor.

Specifications are as follows: Streamline housing, cast aluminum, highly polished; cradle cast iron, chair set on heavy spring steel supports. Special 1½ H.P. heavy duty air-cooled motor; Universal type, either A.C. or D.C. current can be used. New type flexible disc 7-inch diameter; turns at a speed of 3,000 R.P.M. Locking center bolt speeds renewal of sandpaper; extra discs may be cut from any sandpaper. Totally enclosed, grease sealed, precision made ball-bearings, assuring extra long life.

New momentary contact switch snaps off when operator's hand is removed or may be locked in "On" position when desired. Heat treated steel bevel wide face gears assure positive mesh, smooth action and long service. Searchlight type hooded lamp throws brilliant beam at correct angle to spotlight all work in dark corners, without glare or shadow. High speed assuring perfect dust collection. Sander weighs 35 lbs.; cradle, seat, 25 lbs., total weight 60 lbs.



OPERATOR on seat of "Do-All" disc sander.

THE WORLD'S EASIEST-TO-KEEP HOUSE  
IS ALSO

THE WORLD'S  
EASIEST-TO-  
PLAN HOUSE!



Your clients will appreciate the convenience of automatic cooking.

# SPECIFY GAS FOR THE 4 BIG JOBS

Planning a livable, *salable* home is greatly simplified if you let gas take care of the 4 big jobs.

No other fuel will give your clients such fast, convenient cooking—silent refrigeration—and completely automatic water-heating and house-heating.

Modern gas appliances are designed to make an economical fuel more economical than ever. Handsome in appearance, sturdily constructed, convenient to operate, these appliances are certain to give long, dependable service.

Before you plan another house be sure to get

full information about the appearance, performance, and economy of modern gas appliances. Your local gas company will gladly give you all the facts you need.

**COMING SOON!**  
NATIONAL A. G. A. HOME-BUILDING CONTEST  
\$10,000 in prizes for builders  
*Watch this magazine for announcement of details*



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

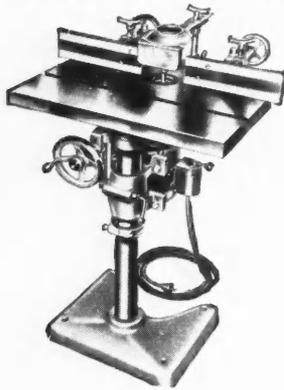
## AMERICAN GAS ASSOCIATION

## New Direct Drive Shaper

**W**ALKER-TURNER Co., Inc., of Plainfield, N.J., has added a spindle shaper to its line of power tools. Chief among this tool's features is the geared-motor drive. Tests on the new shaper with direct drive revealed that the motor rated at  $\frac{3}{4}$  H.P. would develop nearly 2 H.P.—or  $2\frac{1}{2}$  times its normal rating—for intermittent periods.

The new shaper with no belts and no pulleys consequently has no belt friction, no slippage, no non-metallic parts to stretch, wear, adjust or replace, fewer bearings, and nothing to catch the operator's clothing or hands. Obvious maintenance savings and safety result.

The spindle is turned at 7,600 R.P.M. by precision gears built into the motor as an integral part. Both motor and gear shafts are mounted on ball bearings. Motor and arbor unit is movable up and down a seamless steel  $2\frac{3}{4}$ -inch column for a distance of 6 inches, movement being controlled by a screw and bevel gear mechanism with micromatic adjustment so accurate that a movement of  $2\frac{1}{2}$  thousandths of an inch is indicated on the dial.



Motor switch and guard and guide control wheels and locks are all conveniently accessible.

This new machine is adaptable for shaping, sanding, tenoning, dadoing, reeding, fluting, surface grinding, panel carving, making lock corners (for boxes and drawers) and many other operations.

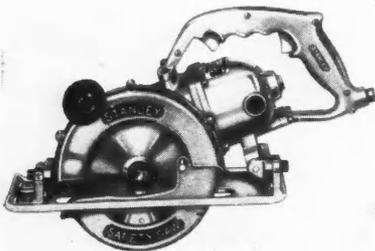
**DIRECT DRIVE** shaper gives efficient operation on many jobs.

## Electric Saw of New Design

**N**EW design in electric safety saws is incorporated in the new Stanley W7 saw manufactured by the Stanley Electric Tool Division, New Britain, Conn. It cuts through  $2\frac{1}{2}$  inches, and cuts levels at  $45^\circ$ ,  $1\frac{1}{8}$  inch lumber. Compact, light in weight, powered and cooled for continuous operation, it has a new style duplex handle for easy one-hand operation. The forward grip gives a balance that is comfortable for sawing when the work is held in one hand. The switch can be operated independently by either of two triggers according to grip used.

Only one adjustment is necessary for depth of cut. The W7 saw is fully equipped with Stanley safety features; the saw blade is covered at all times; the housing is heat-treated aluminum alloy; the gears are heavy duty ground heat-treated alloy steel worm and over-size bronze worm wheel which runs in a large grease chamber, assuring constant lubrication and smooth operation.

The Stanley W7 safety saw is packed in metal carrying case with one combination rip and cross-cut blade, ripping gauge, wrench, lubricant, and heavy rubber covered three-wire cable.



**STANLEY** electric hand-saw features new safety design.

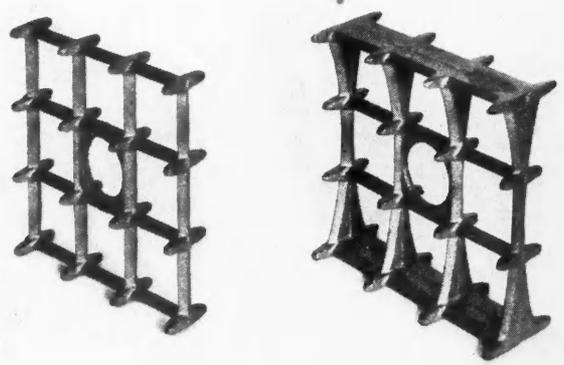
## New Timber Connectors

**O**NE of the latest developments in the connector field, marketed by the Timber Engineering Company of Washington, D.C., is a spiked malleable iron grid, particularly adapted to wharves, piers, and trestle bents where the connection of round timbers is involved.

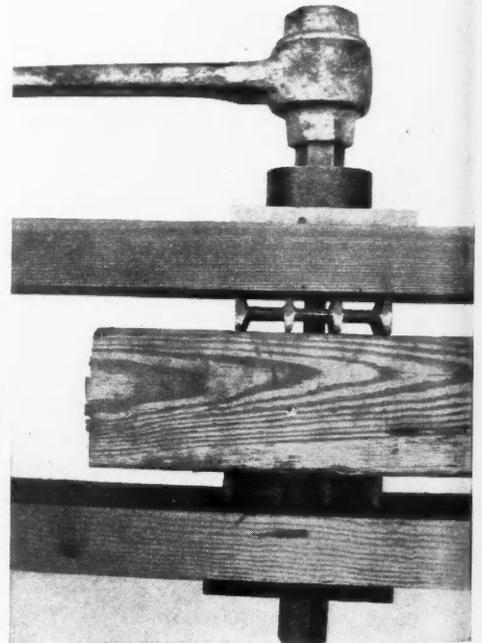
The use of wood for many structural purposes has staged a

comeback, as the result of this development of malleable iron grid connectors which make it possible to utilize the full strength of wooden timbers. In former days, the types of wood joints severely limited allowable stresses, so that large pieces were necessary to obtain safe joinings.

In less than four years, over 9,000 structures have been built



**ABOVE:** Two types of spike grid timber connectors.



**RIGHT:** Method of embedding spiked grids in timber joints using high strength rod, threaded at both ends, ball-bearing washer and ratchet wrench.

in the United States using connectors in one form or another. The revived use of wood has been seen in structures previously thought of as being possible only in steel. Among these have been radio towers, ski jumps, wide-span warehouses, and many other large construction projects.

These connectors are made in several forms, but in all cases consist of square malleable iron castings with teeth on opposite sides. Grids with two flat sides are used for connecting two rectangular timbers, those with one flat and one curved side for connecting a rounded timber to a rectangular timber, and those having two curved surfaces for use in connecting two round timbers. One railroad has found the use of such grids in its piers has prevented the shearing of one-inch bolts under heavy impact load.

Several features have been responsible for the selection of malleable iron as a material for grids of this type. Some of these are malleable's smooth surface, its high resistance to corrosion and its ability to resist shock and unusual stresses without distortion.

1938.  
iron  
length  
joints  
were  
built

# "MADAM, THE ANSWER IS YES!"



They're good-looking,  
... but are they fire-  
safe? ... Will the  
roof stand up?

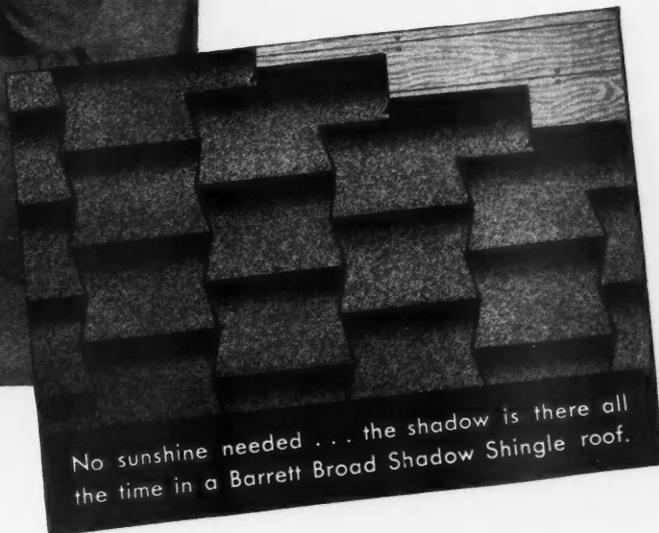
## No need to pull your punches when you sell Barrett Broad Shadow Shingles . . .

Here's a shingle that gives the deep shadow effect which home-owners demand . . . *even on a dark day!* That's because the Barrett Broad Shadow Shingle has a band of dark-colored mineral surfacing built right into the shingle.

*Double thickness at the butts* plus the economy and fire-safety common to all Barrett Shingles make the Broad Shadow Shingle a sure-fire best-seller! For new houses and re-roofing jobs, you can't beat this great Barrett product for quick-selling.

It will pay you to let the home-owners in your neighborhood know about the exclusive advantages of the Barrett Broad Shadow Shingle. Tell them about the Barrett Monthly Payment Plan, and *watch your shingle sales jump!*

**Barrett**  
**SHINGLES**



No sunshine needed . . . the shadow is there all the time in a Barrett Broad Shadow Shingle roof.

**THE BARRETT COMPANY • 40 RECTOR STREET • NEW YORK, N. Y.**  
2800 SO. SACRAMENTO AVENUE, CHICAGO, ILLINOIS    BIRMINGHAM, ALABAMA

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# News of the Month

## Building Activities and Meetings

### Construction Total Reaches Six-Year Peak in 1937

THE AMOUNT of construction undertaken during 1937 reached a six-year peak. Total contracts awarded in the 37 eastern states attained the highest dollar value for any year since 1931, as reported by F. W. Dodge Corporation. In residential building, it is necessary to turn back to 1930 to find a total which can match the 1937 volume.

Contracts awarded in the 37 eastern states for 1937 amounted to \$2,913,060,000. This total represents an increase of 9 per cent over the 1936 total of \$2,675,296,000.

All classes of construction shared in the improved conditions during 1937 with the exception of public works. In the case of residential building, the 1937 total of \$905,292,800 recorded a gain of 13 per cent over last year. This was the highest annual total for any year since 1930. Non-residential building amounted to \$1,148,172,600 for 1937, an increase of 20 per cent over 1936. Public utility contracts totaled \$277,730,100, a gain of 34 per cent over last year. For public works the 1937 total of \$581,864,500 represented a 19 per cent loss from the 1936 volume.

Privately-financed work continued the upward trend which started in 1935 by recording a percentage gain of 31 per cent over last year. In only two months out of the year did the 1937 totals fail to exceed the 1936 totals for corresponding months. On the other hand, publicly-financed construction declined 14 per cent from last year.

Significant gains in contemplated residential building appeared in the December record. An increase of 28 per cent over November was recorded in the volume of new planned work of the residential type. This is the largest gain for any major class reported for the month. This favorable record did not include any of the 35 large-scale housing developments to cost approximately \$119,000,000 for which working plans are now in progress. These December gains would seem to indicate a further release of new building projects as soon as the pending legislation is passed providing for the liberalization of National Housing Act.

The December, 1937, contract record for the 37 states totaled \$209,450,600 of which \$43,479,500 was for residential, \$101,210,300 for non-residential, \$46,474,800 for public works, and \$18,286,000 for public utilities.

Figures for the first half of January are as follows:

	Jan. 1-15, '38	Jan. 1-15, '37	Jan. 1937
37 Eastern States			
Residential	\$ 15,504,000	\$ 27,438,000	\$ 78,407,000
Non-Residential	28,869,000	43,614,000	96,286,000
Public Works	39,109,000	19,746,000	46,840,000
Utilities	45,185,000	10,405,000	21,185,000
<b>TOTAL</b>	<b>\$128,667,000</b>	<b>\$101,203,000</b>	<b>\$242,719,000</b>

### Announce Home Show Dates

HOME SHOWS to be conducted during 1938 in various cities throughout the country have been announced for the following dates by their sponsors:

Date	City	Sponsored by
Feb. 14	Birmingham, Ala.	R. E. Board
Feb. 18-27	Philadelphia, Pa.	
Feb. 18-27	Detroit, Mich.	R. E. Board and other groups
Feb. 19-26	Kansas City, Mo.	R. E. Board
Feb. 25-Mar. 5	Louisville, Ky.	R. E. Board
Mar. 7	Springfield, O.	R. E. Board
Mar. 7-12	Grand Rapids, Mich.	Builders and Traders Exch.
Mar. 7-12	Kalamazoo, Mich.	
Mar. 9-11	Evansville, Ind.	
Mar. 12-19	Milwaukee, Wis.	R. E. Board
Mar. 18-27	New York, N.Y.	
Mar. 19-26	Newark, N.J.	
Mar. 22-26	Dayton, O.	Jr. Assn. of Commerce
Mar. 29-Apr. 2	Rockford, Ill.	R. E. Board
Mar. 29-Apr. 7	Long Island, N.Y.	R. E. Board

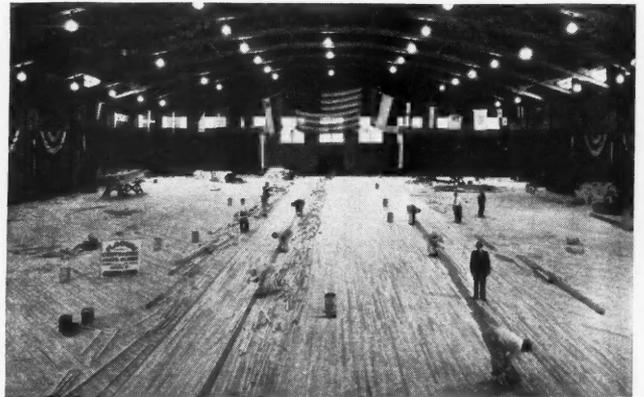
Mar. (probably)	Columbus, O.	R. E. Board as a member of Columbus Home Advisory Council
Apr. 1-10	Indianapolis, Ind.	R. E. Board and others
Apr. 4-9	Davenport, Ia.	R. E. Board
Apr. 21-May 1	Los Angeles, Calif.	Bldg. Contractors Assn. of Southern California
Apr. 23-30	Baltimore, Md.	R. E. Board
Oct. 10-15	Elizabeth, N.J.	Chamber of Commerce Exposition

### Efficiency in Large Flooring Job

A LARGE flooring job was recently completed and has proved interesting from a standpoint of laying methods. This installation in the State Armory at New Haven, Conn., required 42,000 feet of material. The old finished flooring as applied originally was very poor construction, because it was laid directly to the sleepers without any subfloor. This old finished flooring was removed, then a 2x6 square edged N.C. pine plank was applied diagonally with both ends butted directly on the sleepers, after which the first grade hard northern maple was put down.

One of the most interesting features of this job as pictured below is the unusual method of installing strip flooring. The flooring was laid out on the floor in advance of the floor layers, so that all they had to do was to pull the strips into place and nail them down. In other words, they did nothing but nail and the other workmen did nothing but open up the bundles and spread the flooring out.

The Bruce first grade northern hard maple flooring for the job was sold through the Columbia Lumber Company of New Haven, and the contractor was Mr. Jacob Olsen of West Haven, Conn.



LAYING 42,000 feet of new flooring in New Haven State Armory.

### Sustained Price Levels Indicated in Latest Real Estate Survey

THE National Association of Real Estate Boards' 30th semi-annual survey shows that, while real estate market activity, especially in the last three months, has shown the effect of the current general business recession, real estate prices are holding well over the country, and are advancing in more than a third of the cities. Activity was lower than was the case at this time last year in 61 per cent of the cities reporting. But prices have held the same in a majority of the cities (54 per cent), have advanced in 36 per cent of the cities, declined in only 10 per cent of them. The smaller the city the less it is affected by the current recession. This is true straight down the line of population groups.

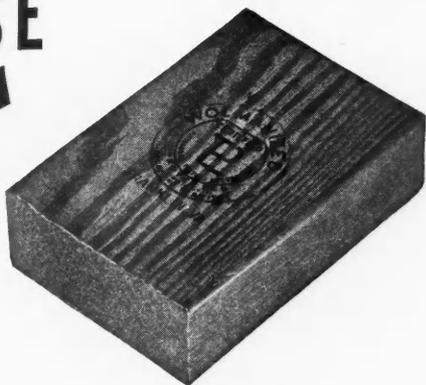
Notable in the price situation are geographical variations. The Northwest region shows the highest proportion of cities with a price increase, 63 per cent of its cities so reporting, though not a city in the region reports activity increasing. The Southwest comes next, with 47 per cent of its cities showing higher prices.

### Homes Under \$4,000 in Smaller Cities

The under \$4,000 house has been a considerable factor in this year's building. In 60 per cent of the cities it accounted for at

(Continued to page 92)

USE  
" "



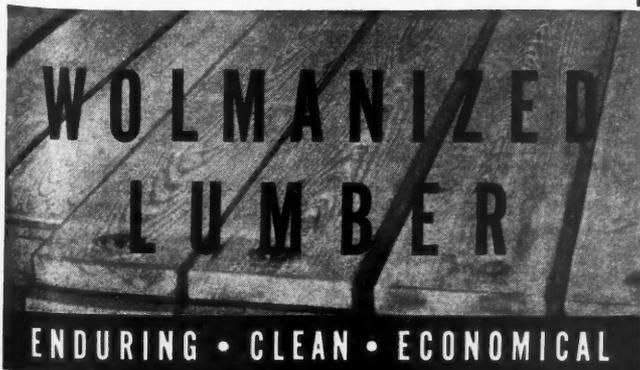
## To convince home buyers of Construction Quality

When you tell Mr. and Mrs. Home Buyer about all the splendors of the house you want them to buy, have one of these little samples of Wolmanized Lumber\* handy. Then you can demonstrate how quality has been built-in, even where construction details are not visible for immediate inspection.

Building with Wolmanized Lumber is an economical, easy way to meet today's demand for sound construction. Used only at danger points, for sills, joists, and subfloors, it protects wood throughout the structure against decay and termite damage. This strategic use adds less than 2% to the total cost of the ordinary house. Banks and other financing agencies recognize the value. And your men will find Wolmanized Lumber clean, odorless, paintable, superlatively easy to handle.

Fourteen plants throughout the country supply lumber yards everywhere. Ask your local lumber yards for samples and information, or write to AMERICAN LUMBER & TREATING CO., 1406 Old Colony Building, Chicago, Illinois.

\*Registered Trade-Mark



*Hank* Proves  
**That Radiant Heat Isn't "All Bunk" (Or Even Half)**



Every time I hear all the bunk and no-account chatter that's going the rounds about radiant and convected heat, I get plumb all het up.

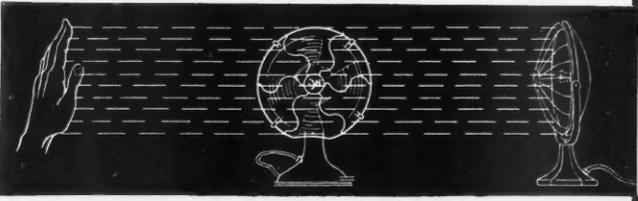
Now convected heat ain't no way particular which way it goes. You can bend it all out of shape and blow it all over the place. But you can't do a thing with radiant heat but let it do the thing it's set on doing. It will go only in straight lines no matter what you do. Straight out straight, either straight up or out straight horizontal-like.

A draft will push convected heat any which way. But you can't budge radiant heat rays, even if you used the biggest blower ever made.

And that's one of the big reasons why the Burnham system of Air Conditioning, using a combination of our Slenderized Radiators and the Unit-Air Conditioners, has it plumb over all others. It gives you plenty of both kinds of heat and not too much of one and too little of the other. It's in perfect balance.

There's a lot to know, and our catalog on Home Heating Helps tells about all that's worth knowing. So you better send for it, and even then you won't know any more than enuff.

HANK HINDLE.



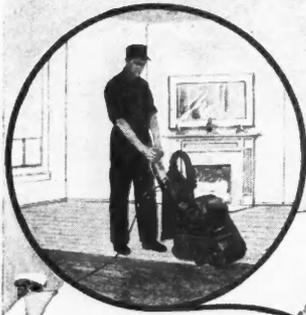
**Prove It Yourself**

This electric bowl heater gives off direct heat only. Drafts don't affect it. Your hand feels just the same warmth when the fan is trying to blow it away, as when it isn't. Doesn't sound so. But try it yourself and see.

**Burnham Boiler Corporation**  
 Manufacturers of Heating Equipment Since 1873  
 Irvington, New York      Zanesville, Ohio  
 Export Department, 116 Broad Street, New York

*Burnham Boiler*

# MAKE BIG MONEY WITH AN AMERICAN FLOOR SANDER



No Freeze-Outs . . . .  
No Seasonal Layoffs



## WORK STEADY ALL WINTER

You can turn a lean, cold winter into one of your most profitable seasons by the "American Method" of floor surfacing. Get into something for yourself and put all the profits in your own pockets.

## INSIDE WORK

Floor sanding is pleasant inside work and there are always many resurfacing jobs to be had in the older homes when "new building" is slack. An American drum sander driven by a powerful electric motor does all the work.

## NO LAY-OFFS

You are working for yourself—no fear of being "fired"—the success you have depends on your ambition to get ahead in the world! Don't delay but investigate this American Money-Making method of floor surfacing today. No experience is required and as little as seventy-five dollars starts you in for yourself. Fifteen, twenty and twenty-five dollars a day clear profits are not unusual. If others can, so can you!

## FREE DETAILS

Get details on the "American Method"—prices and full information by sending in coupon below. You are not put to any expense or obligation—in fact, we're more than glad for the opportunity of answering your questions.

**THE AMERICAN**  
FLOOR SURFACING MACHINE COMPANY

511 So. St. Clair Street • Toledo, Ohio

Gentlemen:

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

I am a contractor and want machine for own use.

I am thinking of getting into business for myself.

I already own one—quote trade-in value.

Name .....

Street .....

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

## Real Estate Survey

(Continued from page 90)

least one-fourth of all houses built. In 39 per cent of the cities, half of all the houses built were in the under \$4,000 class. In 14 per cent of the cities these low-cost houses constituted three-fourths or more of all dwelling construction for the year. But the very large cities have only a small per cent of this type of home construction. The proportion does not run beyond half the home building in any city of over 200,000 population.

Sales of home sites during the year 1937 average about one and a half lots to each new home dwelling built, the reports indicate. Rate of sale in the last six months of the year, however, was only about one-third of that prevailing in the first six months. In 161 cities having a combined population of 10,544,231, the total number of detached homes built was reported as 22,948, and the total number of vacant lots sold was estimated as 33,970. If a ten per cent deduction is made for less active markets the national total would amount to 124,000 detached houses built and a home site sale of more than 186,000 lots.

## How Much Down Payment?

A 10 per cent down payment is by far the commonest amount now available in purchase of a home. Down payment that the average home buyer today is able to muster is less than 20 per cent of the purchase price in 63 per cent of all cities reporting. The average buyer is able to pay no more than 10 per cent of the purchase price in 55 per cent of the cities. He can pay as much as 15 per cent on an average in an additional 8 per cent of the communities. At one extreme, represented by 12 per cent of the cities, down payments of over 20 per cent of the purchase price are commonly possible. At the other extreme, in exactly as many cities, the average buyer cannot now muster as much as 10 per cent down.

The South Central states are the region in which the average down payment available runs most commonly to an amount no greater than 10 per cent. Almost three-fourths of its cities (73 per cent) show such a condition. In the Great Lakes region and the North Central region only 62 per cent of the cities so report. In the Southeast region 52 per cent of the cities, in New England 53 per cent, make this report.

In the Central Atlantic region such report comes from only 44 per cent of the cities, in the Northwest region from only 38 per cent, and in the Southwest region from only 42 per cent of the cities.

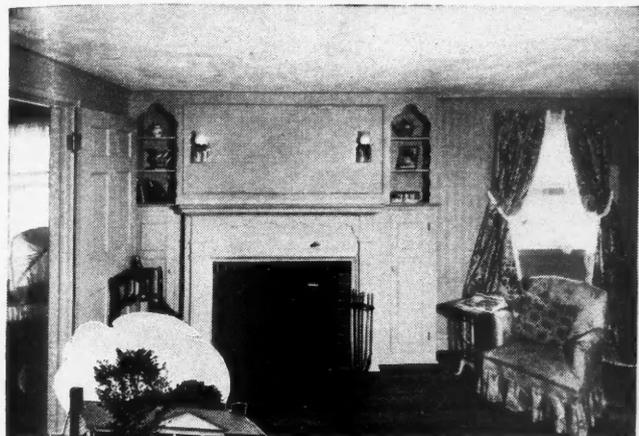
Analyzed according to population groups, cities of over 500,000 population are found to have the best situation as to amount of down payment the average home buyer can make. They report that seven out of every ten buyers are able to make payments of 20 per cent of the purchase price or over, while three out of every ten can pay down only 10 per cent of the purchase price.

## Present Deterrents to Home Building

Lack of confidence in the future is the principal present deterrent to home building, local real estate boards report. High costs of building, including both materials and labor, is the second most important factor. Lack of operative home builders having adequate capital bulks next to these. Reduced buying power is a factor, but it is not so heavy an element by any means as sheer uncertainty of the general business future. High financing costs and tax fears are contributory.

While lack of confidence in the future was placed as No. 1 obstacle by the greatest number of cities reporting, high material costs were by far the most frequently mentioned as an important deterrent. Eighty-seven per cent of all cities reporting cited material costs, 77 per cent listed the uncertainty of the general business outlook, 79 per cent listed high labor costs, with which they coupled the element of uncertainty in regard to labor. Scarcity of operative builders with adequate capital was cited by 51 per cent of the cities. Lack of buying power appears as a factor in only 57 per cent of the cities. Cost of available land is recognized as a factor by 22 per cent of cities, tends to be given by them seventh or eighth place on the list.

Tax fears are cited by more than half the cities, are ranked No. 1 deterrent by some, and among the top four retarding elements by 44 per cent of all cities reporting.



J. C. Wyatt residence, Syracuse, New York . . . Architect: M. E. Granger. Builder and Plasterer: Skeels Construction Co. Hawk Spread Finish Lime furnished by Cummins Supply Co.

HOMES *sell* BETTER . . .  
**BUILT BETTER WITH OHIO  
 WHITE AND HAWK SPREAD  
 LIME FINISH**



Appearance helps in selling homes—or skyscrapers! . . . For beautiful walls—with noise-reducing properties that mean “quiet rooms”—build with *original* Ohio White and other Ohio Hydrate Finishing Limes. This assures uniformity—with lime that’s 99½% pure dolomite . . . manufactured with

greatest care and cleanliness, and every carload laboratory tested! . . . Ohio Lime is specified by leading architects and builders because it is highly plastic . . . a cool, fat lime . . . easy spreading . . . an ideal decorating base . . . preserves metal lath . . . and has acoustic-improving qualities. . .

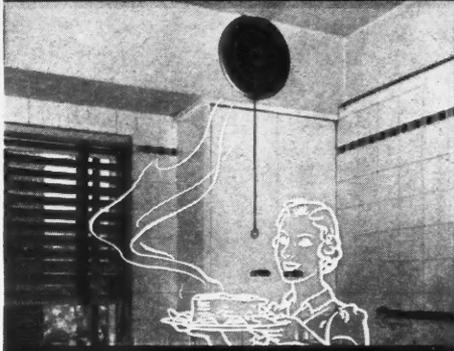
Depend on Ohio Lime for complete satisfaction.

**BUILD BETTER WITH LIME**  
 In famous **ZIG ZAG BAGS**  
 Ohio White Finish—Hawk Spread  
 White Finish—Ohio Ritewall  
 Fibred Lime Plaster—Ohio San-  
 lime Finish—Mastite Masonry  
 Mortar—Ohio Masons Lime  
 —Ohio Ground Lime.

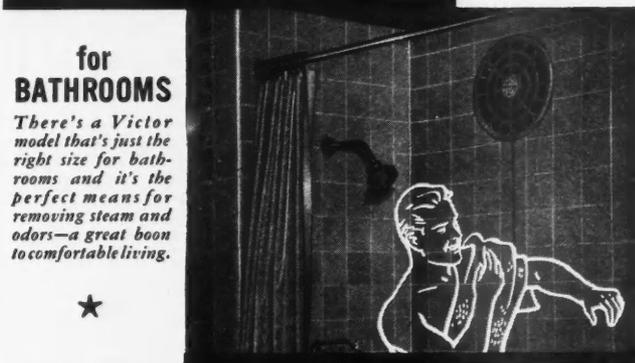
**THE OHIO HYDRATE &  
 SUPPLY COMPANY**  
 WOODVILLE • OHIO

**OHIO WHITE  
 LIME FINISH**

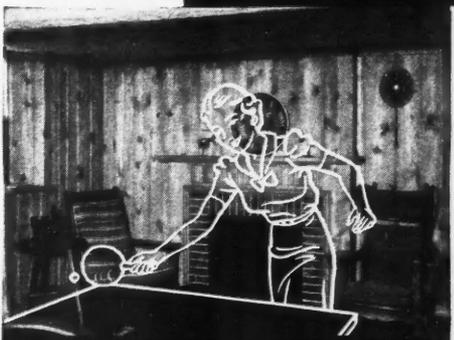
**VICTOR**  
 . . . the only complete line of electric home  
**VENTILATORS**



**for KITCHENS**  
 Cooking odors . . . greasy fumes and smoke are quickly banished from the home that's equipped with Victor In-Bilt Ventilation. That means lower decorating bills, too!



**for BATHROOMS**  
 There's a Victor model that's just the right size for bathrooms and it's the perfect means for removing steam and odors—a great boon to comfortable living.



**for RECREATION ROOMS**  
 Fresh air and plenty of it is a necessity where recreation activities are carried on—a Victor In-Bilt Ventilator solves this problem completely.



● The Victor In-Bilt line of Electric Ventilators includes three different models—the Deluxe, the Standard and the Master. With these three modern ventilators you can provide any home with all the comfort and enjoyable living that thorough ventilation provides. What's more, each Victor Ventilator is a masterpiece in design and construction—including many exclusive features that assure outstanding performance and trouble-free operation. When you specify ventilators be sure they're "Victors"—the only complete line!

**FOR FURTHER INFORMATION**  
 SEE OUR CATALOG IN SWEET'S

**VICTOR ELECTRIC PRODUCTS, INC.**  
 722 Reading Road Cincinnati, Ohio



**Free! Mail Today!**

Kindly send us your bulletin No. 905C which illustrates and describes your complete line of Victor In-Bilt Ventilators.

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

Indicate whether you are Architect, Builder, Owner, etc

# STAINLESS KITCHENS GIVE YOUR HOUSES



**P**UTTING in stainless kitchens is another way to give your houses more sales appeal — another way to attract buyers and keep them satisfied long after they've taken possession.

Sinks, drainboards and work-surfaces of Armco Stainless Steel keep you ahead of competition. Once your prospective buyers have discovered its gleaming beauty; once they have found that its smooth, hard, everlasting surfaces are easy to clean and keep clean, they don't need to be sold — they want to buy.

And remember . . . the familiar Armco triangle trade-mark on stainless is almost as strong a selling-point as the qualities of the metal itself. It is a recognized mark of metal quality known to millions through 24 years of magazine and radio advertising.

If you don't know where to get Armco stainless sinks and drainboards or sheets, write to us. Don't be sold just any brand of stainless — insist on Armco, the brand that people know and trust.

**THE AMERICAN ROLLING MILL COMPANY**  
Executive Offices: 591 Curtis Street, Middletown, Ohio

**ARMCO**  
STAINLESS STEEL 

## Anthracite School for Fuel Merchants

**O**F importance to fuel dealers everywhere is the new Merchandising School organized by Anthracite Industries, Inc. A splendid new school building has been erected on the grounds of the Laboratory at Primos, Pa., providing accommodations for over 100 people at a time. A complete course in coal merchandising, covering a two-week period, has been designed as one of the most thorough of its kind ever attempted in the history of American merchandising. The two-week course covers a complete analysis of anthracite and competitive fuels, heat requirement estimating, air conditioning, central heating system operation, radiation and heat loss, automatic control equipment, service hot water equipment, hand-fired and magazine feed boilers and furnaces, automatic stokers, advertising, selling and sales promotion.

The new school building has all modern conveniences for the comfort of attending students. The faculty of this anthracite college is made up of Anthracite Industries, Inc., executives, outstanding officials of approved equipment manufacturers, engineers from the Anthracite Industries' Laboratory and specialists in advertising, selling and sales promotion. The first classes held during the fall session of 1937 graduated over 80 coal dealers and their associates.

The 1938 sessions begin Jan. 17, Feb. 14, Apr. 18, May 16, and June 13—each to continue for a two-week period. The course provides intensive training in business administration for coal dealers and coal salesmen with special emphasis on the value of co-operation with local architects, builders, equipment dealers, contractors and consumers.

## Beeman Promoted in Concrete Institute

**M**ARK BEEMAN has been elected to fill the post of executive secretary of the Concrete Reinforcing Steel Institute, as successor to the late Mr. R. W. Johnson, by unanimous vote of the Board of Directors of the Institute. He assumed his duties at the office in Chicago on Jan. 20 in association with W. S. Thomson, technical secretary.

## National Brass to Join Research Group

**T**HE National Brass & Copper Company, Inc., of Lisbon, Ohio, has filed application for membership in the Copper & Brass Research Association, which will be accepted at the next meeting of the Executive Committee. The National Brass & Copper Company is one of the leading manufacturers of plate, sheet, strip and rolled copper.

The membership of the Copper & Brass Research Association now represents companies manufacturing more than 88 per cent of products fabricated from copper and its alloys, and comprises the following organizations:

- The American Brass Company, Waterbury, Conn.
- Bridgeport Brass Company, Bridgeport, Conn.
- Chase Brass & Copper Co., Incorporated, Waterbury, Conn.
- C. G. Hussey & Company, Pittsburgh, Pa.
- Mueller Brass Co., Port Huron, Mich.
- National Brass & Copper Co., Inc., Lisbon, Ohio.
- Phelps Dodge Copper Products Corporation, New York, N.Y.
- Revere Copper and Brass Incorporated, New York, N.Y.
- Scovill Manufacturing Company, Waterbury, Conn.
- Wolverine Tube Company, Detroit, Mich.

## Texaco Roofings to be Available in East

**U**NDER the policy of not undertaking the distribution of Texaco roofings in any territory until they had the benefit of favorable freight rates from suitable manufacturing points, these products have not been offered in the East. Early in 1938, however, they will be available for shipment from The Texas Company factory now constructed at Edge Moor, Del., and also from numerous warehouse supply points throughout New York, New Jersey, Delaware, Pennsylvania, and Maryland.

The Texas Company has manufactured roofing at Port Neches, Tex., for about 27 years. In 1936, The Texas Company began distribution of its roofing products throughout the middle western states from its new manufacturing plant at Lockport, Ill.

*The*  
**DECIDING FACTOR**  
 in many a sale is an  
**Accotile Floored  
 Game Room**



THIS BASEMENT GAME ROOM has an Accotile floor of No. 241 Malay Brown, with center square of No. 200 Pompeian Red. The feature strips are No. 205 Spanish Red.

**ACCOTILE CUTS FLOORING COSTS**

**B**UILDERS find that a comfortable basement game room floored with colorful Armstrong's Accotile is a big help in getting signatures on the dotted line. At low cost, Accotile can turn your basements into sales-boosting recreation rooms.

Accotile is an asphaltic tile—the only type of resilient flooring suitable over concrete in direct contact with the ground, on or below grade.

Accotile floors are low in cost and inexpensive to install. Your prospects will like the handsome plain and marble colors, which can be combined in a wide variety of designs.

Accotile is also an excellent low-cost floor for stores, restaurants, offices, and public buildings.

For new flooring ideas that can help you make sales, write today for color-illustrated copies of "Accotile Floors" and "Gay Floors for Basement Playrooms." Armstrong Cork Products Company, Building Materials Division, 1218 State St., Lancaster, Pennsylvania.



**ARMSTRONG'S** *Linoleum*  
**and RESILIENT TILE FLOORS**

LINOTILE · ACCOTILE · CORK TILE · RUBBER TILE · LINOWALL · ACOUSTICAL CEILINGS

**SAVE TIME and MATERIALS**

*Build Every*

**FIREPLACE**



**Will Not  
 Smoke**

*Circulates Heat*

Build every fireplace around the Heatilator. It provides a correctly designed metal form for the masonry . . . greatly simplifies construction . . . makes the fireplace easier to build. It is complete from floor to flue—the fire-box, damper, smoke-dome and down-draft shelf are all built-in parts. It cuts down on construction time. And it will not smoke.

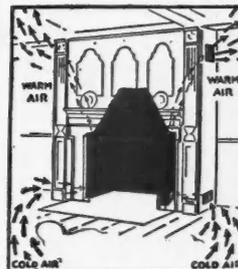
More—it gives the home owner the most advanced type of fireplace on the market—one that has been proved by years of use in thousands of homes and camps all over America.

**Warms Every Corner of the Room**

The Heatilator Fireplace operates on the accepted principle of warm-air heating—that of *circulated* warm air. It warms air from the room in a concealed heating chamber—circulates this warmed air to every corner of the room, even to adjoining rooms. Thousands of owners recommend it for the comfort it gives, and for the fuel bills it saves. In mild climates, it is the only heating equipment needed.

**MAIL THE COUPON**—learn how the Heatilator Fireplace solves the heating problem in basement rooms . . . how it makes camps usable weeks longer.

**Heatilator  
 Fireplace**



Heatilator Company  
 552 E. Brighton Ave.,  
 Syracuse, N. Y.

Please send me complete Heatilator information and price list.

Name.....

Street.....

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



Note Radiator Grill In Corner of Sink

# KITCHENS that "Stand Up"

When a man builds a new home or remodels an old one, he wants to KNOW that the materials and equipment placed in that home will STAND UP—not for a month or a few years, but for a Lifetime. That's why so many of the leading architects, builders and plumbing contractors today recommend the installation of

**ELKAY "Sturdibilt"**  
Stainless Steel

## Kitchen Sinks and Tops

They know that these sinks will "STAND UP" and give a lifetime of Service and Satisfaction because they are built RIGHT.

### Here are a few exclusive features:-

Built of 18 gauge (.050") Stainless Steel and reinforced with 14 gauge (.078") steel backing, making a total thickness of more than  $\frac{1}{8}$  inch. Sink Bowls are welded integral to Drainboards. There are no joints or overlapping flanges.

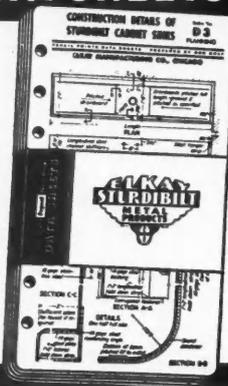
### FREE KITCHEN PLANNING SERVICE

ELKAY Engineers render FREE Kitchen Planning Service to Architects, Contractors and Plumbers. Send us your specifications and we will submit plans and estimates without cost or obligation.

**ELKAY MANUFACTURING CO.**  
4704 W. Arthington Street : Chicago, Illinois

**FREE DON GRAF DATA SHEETS**

NOW READY—the handy, convenient DON GRAF Data Sheets you've been looking for. Complete detail drawings and specifications. A concise presentation of ELKAY STAINLESS STEEL KITCHEN SINKS AND TOPS. Write today for charts AB2.



## LETTERS from Readers on All Subjects

Facts, opinions and advice  
welcomed here

### Women to the Rescue

Fort Worth, Tex.

To the Editor:

I have derived great pleasure and constructive information from the *American Builder* sent to me by the Teel Penry Lumber Company.

I am a builder of small houses, the average size being 28 x 32 on attractive lots with all city conveniences. I am using redwood siding, or an 8-inch siding milled for me specially. There are five rooms, knotty pine walls in the living room, a dado in the dinette, attractive built-in cabinets, tile drainboard in the kitchen, two bedrooms, a bath 6 x 8, tile floor, all Crane fixtures and trimming, and plenty of closet space, hardwood floors, concrete foundation, cement porch, walks, curbing and a one-car garage. I sell these houses from \$2500 to \$2800, and the FHA is only too happy to insure the mortgages. The average loan is from \$2000 to \$2100.

My record is the sale of a new house every thirty days for the past twelve months. At present I have three under construction and hope to build twenty-five this year. In my estimation the only hope for the man in moderate means who desires a good house for what he can afford to pay is for more women to go into the building game, for the simple reason that a woman is satisfied with a smaller profit than men who build houses, and it is impossible for anyone to make a big profit on the small house. One is compelled to depend upon the volume of business he can do.

EDNA M. BURCHILL

### A Challenge from "Landis Award" Leader

Chicago, Ill.

To the Editor:

Year-end statistics covering new building in Chicago during 1937 provide a stirring challenge to all interests associated with building construction to extend every possible effort that will insure a decided improvement in the new year.

Official reports show a total expenditure for the past year of only \$28,516,000. This total, while approximately \$10,000,000 greater than the aggregate for 1936, is less than 20 per cent of the volume of what may be regarded as a normal year for the nation's second largest city.

Direct responsibility for Chicago's poor showing in the building field—it stands sixth on the list of American cities in point of money volume—rests principally upon the community's architects, builders, contractors and real estate operators. In the face of widespread charges that high costs are retarding the recovery of the city's formerly important building industry, the majority of the members of these professions are evidencing a deplorable lack of interest in the fact that many thousands of unemployed building mechanics—both union and open shop—are anxiously seeking work at their trades on a reasonable wage basis.

These thousands of building tradesmen—all members of the Landis Award Employers' Association, and including all the principal trades—bricklayers, plumbers, electricians and carpenters—stand ready to go to work for \$1.00 an hour, a fair and equitable wage under prevailing conditions, and a figure approximately 33 to 43 per cent lower than the so-called official union scales which have been largely responsible for the "high-cost" charges heard so often recently.

It is indicated that the difference between the wages paid according to the union scale and what would have been paid to equally competent building tradesmen working under the Landis Award amounted at least to \$4,000,000. This \$4,000,000 is an unnecessary and an uneconomic addition to the cost of building in Chicago. It has prohibited the carrying out of many building projects and has limited other projects. Unfortunate as this has been to the owners of real estate, architects and contractors, it has

(Continued to page 98)

**Timely**

# MANUFACTURING OPPORTUNITIES

OF PROVEN EARNING POWER



## DUNBRIK MACHINE, PRODUCTS AND PROCESS

Evidence at every hand indicates that the gigantic building industry is starting big. Manufacturing materials such as DUNBRIK and DUNSTONE in demand by builders everywhere, now offer greater possibilities than ever before.

Making DUNBRIK and DUNSTONE with this exclusive process offers generous profits. Line production methods enable a small size crew to do the work of a large force. Thus enabling you to supply common units in multiple sizes and face units in 40 colors and textures. Also hollow insulated ashlar wall construction at savings up to 33%.

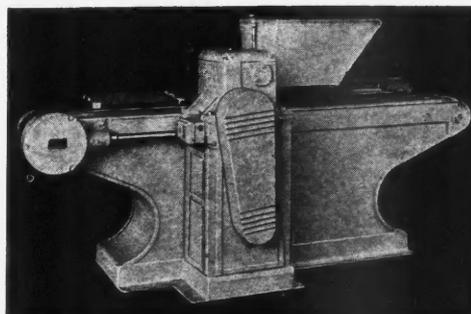
Authorized DUNBRIK manufacturers are rapidly being established, each one granted exclusive franchises without cost. Their results right from the start have proven successful beyond anticipation and point the way for you.

If you want to dominate the building material market in quality, in price, in color range and at the same time establish an exclusive profitable business, then send for "4 Keys to Manufacturing Success." Write today. It tells the complete story.

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With this machine you can dominate the vast roofing material market with a product unequaled in value, permanence, beauty and fire safety. Get the major share of the thousands of both old and new buildings that must be roofed annually by supplying DUNTEX, the world's most beautiful roof, in any color. Your manufacturing costs are low, investment moderate and selling prices offer attractive profit. Send for "DUNTEX SURVEY & MANUFACTURERS' MANUAL." It may mean manufacturing independence for you.

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Complete estimating forms for one residential job, with a 300 item check list, 7 pages of estimating data, and memo sheets for use on the job. Facilitates the preparation of a complete, itemized, accurate estimate. Three columns are provided for checking every line of the detailed estimate and the forms follow the order in which a residential job progresses.

48 pages, 4 x 7½, paper.....\$2.50  
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### Contractor's Estimating Records

A complete estimating record for a single job. A 2-page ruled estimating form is followed by a check list for a frame, brick or stone dwelling or apartment house. There are 2 pages for material lists and 2 for millwork lists, with detachable duplicate sheets. On the backs of listing pages are tables and short cut rules for estimating materials.

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### "Practical" Estimate Sheets, Form 514

An excellent sheet for listing all classes of work from the plans. Provides ample space for a full and accurate description of all work estimated, dimensions, quantities, unit and total material and labor costs. Lithographed in green ink on white bond paper.

100-sheet tablet, 8½ x 11 inches.....\$1.75

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The front of this sheet contains a complete list of the different classes of work encountered in residential construction, while on the back is a detailed list of practically every operation encountered in the different branches of work. This sheet prevents overlooking an item when making up an estimate. These sheets are particularly convenient when requesting building loans from mortgage houses.

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### Quantity Survey and Cost Sheets for Residence Work, Schedule "A"

Three sheets are required to list all the materials that may be required in the construction of a residence and garage. Spaces are provided for describing the materials and telling where they are to be used. Other columns are for price quotations on all items required. Provides for 25 jobs with duplicate sheets, or 50 jobs without.

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### Schedule "B"

Requires one page to list materials required for the construction of a barn or other farm building. Sufficient sheets for figuring 50 jobs with duplicates or 100 jobs without duplicates.

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### Today's Building Estimator

Contains 12 sets of blank forms for taking off quantities so that a complete bill of materials can be made up. The book also contains handy estimating tables.

96 pages, 5½ x 8½, cloth.....\$1.25

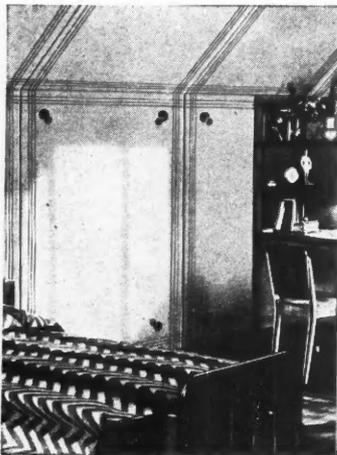
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### STANLEY TOOLS

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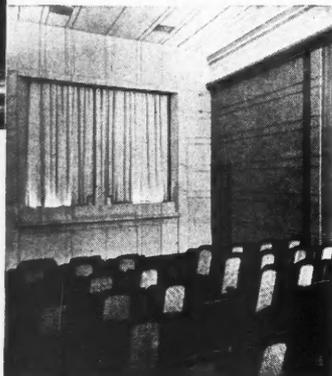
Stanley Tools  
New Britain, Conn.

Send me your new book No. P47 on building, modernizing and ornamenting with fibre board.

Name.....

Address.....

## With FIBRE BOARD



(Continued from page 96)

been far more unfortunate to competent building workmen who have been denied employment which should be theirs. It should have been possible last year to have thousands of workmen employed at a reasonable wage (equal to or in excess of the wages for other comparable workers) had this additional burden not been imposed on the building industry.

It seems logical to assume that with reasonable labor costs available, the leading interests affiliated with the construction industry—architects, contractors, builders and real estate operators—would find it not only profitable, but a distinctly progressive contribution to the best economic and civic welfare of their city, to assume the leadership in a movement that would provide work for the many thousands of open shop building tradesmen available through the Landis Award Employers' Association.

Building interests should also give serious consideration to the fact that construction material costs may likewise be substantially lowered for buildings erected under the principles of the Landis Award. These principles were promulgated at a time—16 years ago—when construction activities were not at so low a level as they are at the present time, and their application when originally adopted served to provide a stimulant which proved effective in increasing construction volume for many years thereafter.

The new year should be marked by the erection of thousands of new homes and hundreds of apartment buildings on a reasonable cost basis, and proportionate to existing rent levels so as to provide a fair profit, provided existing wasteful and cost-increasing practices, which were the target directly hit by the original Landis Award principles, are eliminated. Application under present conditions of three important principles established by the Landis Award would serve in a most efficient manner to counteract the high-cost factor now considered an almost insurmountable obstacle to a building revival. These pertinent principles are:

1. "There shall be no restriction of output."
2. "There shall be no restriction as to the use of machinery, methods or appliances."
3. "There shall be no restriction against any raw material or manufactured material except prison made."

It should require no great stretching of the imagination to visualize the revival in construction activity that would occur in 1938 should the building interests, previously referred to, join in a concerted movement to place these equitable principles in full effect again, in combination with the fair wage scale of \$1.00 an hour, available through employment of Landis Award mechanics.

To modern progress in methods, materials and equipment has been attributed much of the commercial and industrial recovery in recent years. But, in the Chicago building industry no advantage has been taken of the short steps to lowered costs that are possible through the prefabrication in factories of certain parts of homes and other buildings. Priming, painting and glazing of window sash can be done on a much more reasonable basis in factories than on the building job itself.

Building interests of Chicago—and the reported 61,790 union tradesmen—may well ask themselves: What are the building trades unions of this city doing to help stimulate activity in justification of their annual collection of dues reliably reported to total \$2,164,120? Consider for a moment the absurdity of the enforced collection of this huge amount of union dues in an industry which last year spent only 13 times that amount, according to official reports.

LANDIS AWARD EMPLOYERS' ASSOCIATION  
By Charles F. Peirce, Executive Vice President

### In Too Much Demand

Chicago, Ill.

To the Editor:

By the way, you may be interested to know that *American Builder and Building Age* is the only building paper which you have to go to the desk to secure in the Periodical Room of the John Crear Library. One of the attendants there told me they used to have it on the shelves accessible to the public but had to make the new rule because so many copies were either stolen or mutilated—plans cut out, etc. It must be good if they steal it.

E. A. MAGURN  
The Pottsc Corporation

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

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Gentlemen: Please furnish complete information on your Door Set.

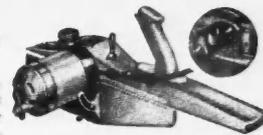
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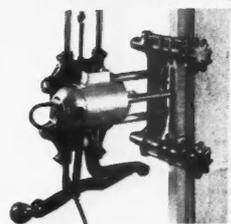
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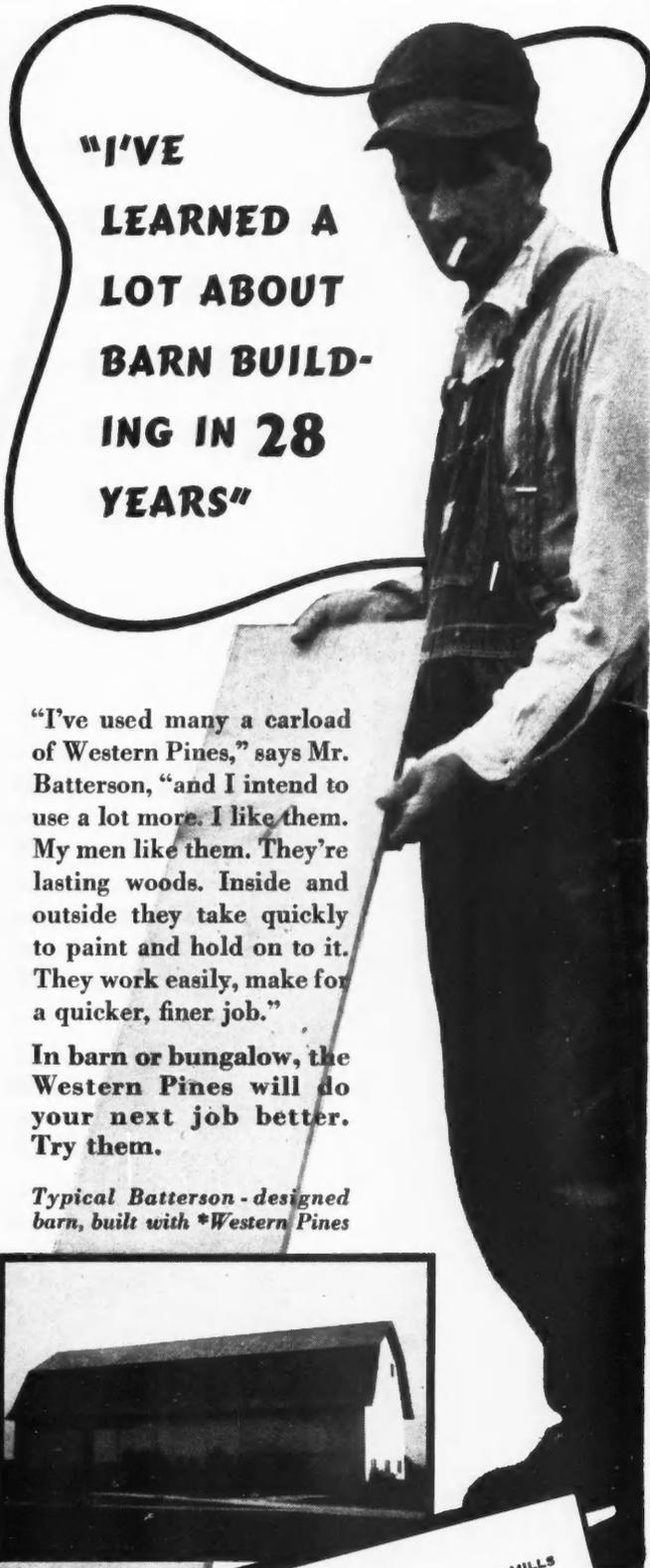


# CARTER MONEY MAKING TOOLS

Murel Batterson, Michigan farm-building specialist

**Financing Needed for Small Homes**

Sutter, Calif.

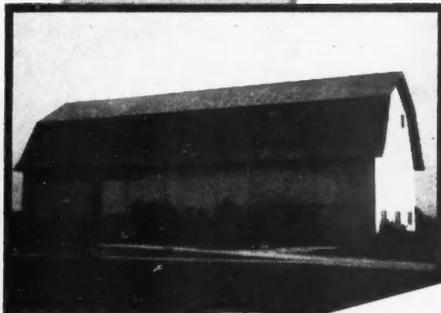


**"I'VE  
LEARNED A  
LOT ABOUT  
BARN BUILD-  
ING IN 28  
YEARS"**

"I've used many a carload of Western Pines," says Mr. Batterson, "and I intend to use a lot more. I like them. My men like them. They're lasting woods. Inside and outside they take quickly to paint and hold on to it. They work easily, make for a quicker, finer job."

**In barn or bungalow, the Western Pines will do your next job better. Try them.**

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FROM ASSOCIATION MILLS

**WPA**

SPECIFY WESTERN PINES

Western Pine Association, Yeon Bldg., Portland, Ore.

\*Idaho White Pine      \*Sugar Pine

\*Ponderosa Pine

**\*These Are The Western Pines**

To the Editor:

Though an obscure lumberman, and I do not want to have my name used in connection with this, I want to bring up the matter of inadequate financing for small homes.

Taking the small towns such as ours, with less than a thousand inhabitants, and the country districts where FHA financing is totally unavailable, there is no way of financing the small home other than by bank loans, and they are entirely too hard to get. There is a small homes division of FHA, according to literature we have, but if it is in effect the banks do not seem to know of it, or at least are not interested.

A really creditable four-room house can be built in our district by good workmen, complete, for about \$1600. In addition to that some houses even smaller are wanted, and also among those wanting them are a great number who are capable of doing much, if not all, their own work, even sometimes including plumbing and painting. Also this work can often be done in spare time between crops, or by laborers having more or less seasonable employment.

Many of those wanting homes such as described are in good or fair financial shape. They are good loan prospects from a character basis, and many can produce cash or real estate or other security up to 50 per cent or more of the total value of their homes. But there is no way to finance them, at least in this district.

The great majority of people cannot afford to buy \$4000 homes, and above. The rest of them want homes of some kind. Just shelter, and they are satisfied with very little. There is therefore a strong demand for houses—some of them little more than shacks—up to the \$2500 home.

This may be called jerry building or any other kind of name that is uncomplimentary. But regardless of the name for it, the demand is there, and it is a heavy demand.

It seems to be a rule of economics that where a demand exists, it is supplied. But not so in this case. If the demand could be supplied there would be a building revival in this country that would really be one.

The architect and high class builder should lose nothing by such an arrangement, as they would still get the houses they are getting now, and should get additional business of the same kind that would be created by increased prosperity, if the small homes described were to be built.

Title I of the Housing Act which at one time authorized loans on new construction up to \$2000 took care of the situation very nicely. It was just what was needed, and am sure it worked successfully, so why it should have been discontinued is hard to understand. I think I know some reasons, but am not stating them as they might not sound well to many readers, so will omit them. However, will state that it was fine for the lumberman as quite often he controlled the job from start to finish, and always got his money.

Laying other considerations aside, this is the building industry's real trouble. Why cannot we face it and try to cure it?

Sufficient pressure by all elements concerned in the building industry could possibly restore Title I. If not, this should be a fine field for private finance companies.

Remember I am not referring to \$5000 homes. I am talking about working men's homes—homes for the so-called forgotten man.

It would be very interesting to me to see this question discussed by all elements of the building industry.

"A Lumberman"

**Plaster Cracks in Unoccupied House**

St. Louis, Mo.

To the Editor:

What is it that causes small hair line cracks to appear in plaster in a new house completed in the fall of the year and left unoccupied all winter?

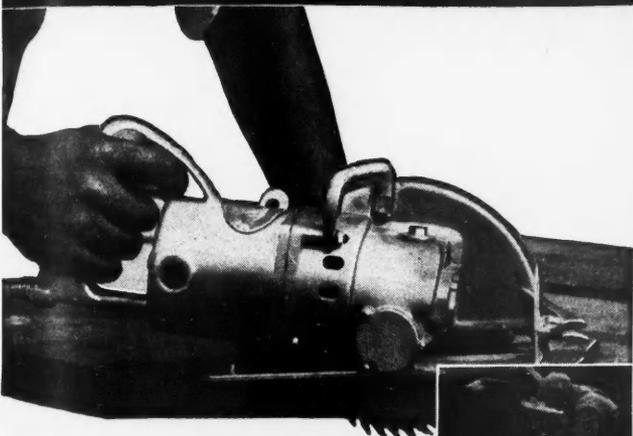
This is the experience one runs into in our climate in St. Louis when a sale has not been made; then in the spring, with these cracks it is almost impossible to sell the house. Of course I realize

(Continued to page 102)

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SKILSAW makes profits because it reduces costs — because it enables you to out-bid and out-perform those who still cling to the old, slow hand-saw methods! With SKILSAW you can do the job quicker, better and cheaper . . . and you can pay for this remarkable tool with your savings on the first job.

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New equipment that contributes to more enjoyable living attracts the prospective buyer's attention and makes houses easier to sell. That's why Rittenhouse Electric Door Chimes are being installed in new houses everywhere. Rittenhouse Chimes were selected for House Beautiful's Bride's House, House and Garden's Ideal House, 5-Star Homes and others. Superb tone quality, smart styling, rugged construction, popular prices, make Rittenhouse Electric Door Chimes the universal choice. Easily installed using regular door-bell wiring. Made in tubular and bar chime models. Prices \$1.00 to \$10.00 list. A model for every Chime need. Choice of several attractive finishes. Nationally advertised in leading magazines.

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NATIONALLY ADVERTISED IN THESE MAGAZINES



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Send folder describing complete line of Rittenhouse Door Chimes.

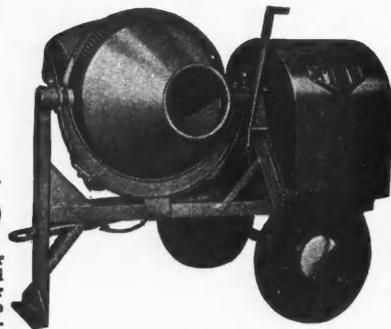
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 up your concrete jobs  
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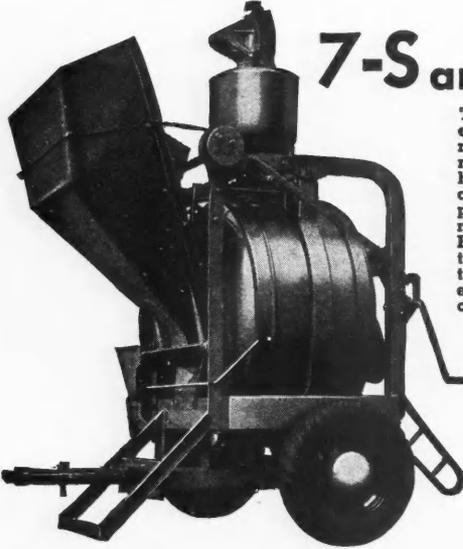
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THE T. L. SMITH COMPANY  
 2849 North 32nd Street  
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THE BOULDER DAM MIXERS

(Continued from page 100)

that keeping the place heated would eliminate this trouble, but that necessitates a lot of trouble, as well as expense, to continually keep up a fire. Can anyone give me a preventive or a remedy?

WILES-CHIPMAN LUMBER COMPANY

By C. W. Rodrick

**"Things Close to Our Heart"**

South Bend, Indiana

To the Editor:

We wish to compliment you on your splendid magazine—the January issue is surely filled to the brim with things close to our heart. Incidentally the advertising is most informative and enlightening.

MAPLE LANE REALTY CORPORATION

By F. S. Ponader, Secretary-Treasurer

**Sash, Doors, Millwork Lower**

Kansas City, Mo.

To the Editor:

Our attention has been called to the report sent out by the Department of Labor in which reference is made to the wholesale prices on sash, doors and millwork. The figures given would indicate an advance of about 27 per cent on millwork as of October 1937 compared with July 1936, while the facts are: prices at the present time and during the time when this report was made up are a trifle lower than they were in July 1936.

Comment is made to the effect that the very sharp advance in the prices of millwork has tended to retard building operations, all of which is grossly misleading to the public. We are taking the matter up with the Department, insisting that they correct this misrepresentation.

AMERICAN SASH AND DOOR COMPANY

B. J. Moss, President

**Yes—We Get Around**

Singapore, Straits Settlements

To the Editor:

As a commercial traveller I am always on the move, sometimes in Siam, sometimes in Malaya and sometimes in Ceylon. Having no home, my great hobby is the home I hope one day to build. By now I have quite a library on the subject, but I must confess that I did not expect to find a publication like the *American Builder* in a town like Bangkok. As an Englishman, I found it most fascinating and promptly subscribed on the spot. The local agent saves them for me until I return about once in four months.

After reading American house plans, our English ones seem very stodgy, but if we cannot design a house, we can certainly build one. Evidently Americans have never heard of an 11" hollow wall, which with us is almost standard practice, and can you not institute a campaign to separate the toilet from the bath room?

However, you are teaching me lots.

Add your weight to the anti-basement campaign. If a house has any stairs in it, it can no longer be called labour saving. In any case, your heating equipment is now so streamlined and compact that it can be tucked away in a very few cubic feet.

S. M. Barnwell.

**Plywood to Lower Costs**

Tacoma, Wash.

To the Editor:

Please accept our congratulations on the editorial discernment in connection with your Mr. Sangster's report on "Durbin Pioneers Plywood Houses" in the August 1937 *American Builder*.

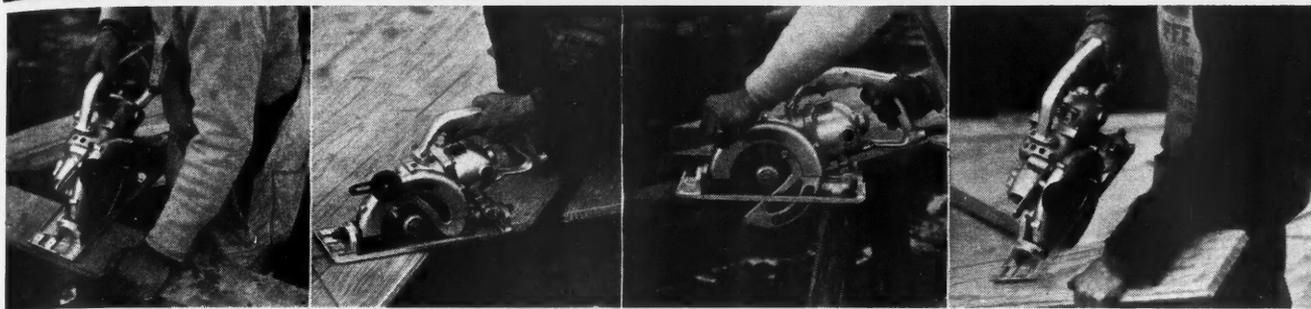
With due consideration to all factors in housing, it seems to us that the type of construction pioneered by Mr. Durbin is likely to be the one to eventually alter building costs. It seems, too, that he has taken the good features of prefabricated and conventional construction methods and merged them in a practical working plan, and without threat of disturbance to either labor or the present method of material distribution.

The article is well written and illustrated.

DOUGLAS FIR PLYWOOD ASSOCIATION

By Frost Snyder, President

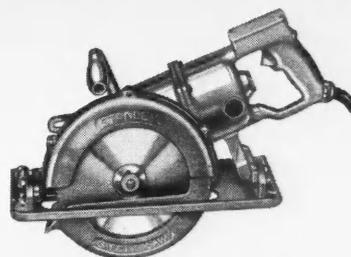
YOU CAN **EXPECT MORE** FROM A **STANLEY ELECTRIC TOOL**



**STANLEY INTRODUCES THE "DUPLEX" HANDLE ON ELECTRIC SAWS!**

This brand new Stanley W-7 Safety Saw is easier to use than any other motor driven saw. It has that comfortable "feel or hang" when using one or both hands to saw flooring or work on a saw horse, scaffold or bench. The forward grip gives a balance that makes sawing easy. And the handle

is not the whole story — the W-7 is compact, powerful and runs cool in continuous operation. Blade is guarded at all times. Tool is light in weight. Has only one adjustment for depth of cut. Yet it cuts through 2½", or bevel-cuts 1⅞" lumber at 45°.



**ALSO NEW!**

W-9 Saw for heavy work — cuts through 3¼", bevels lumber up to 2¼". Write for Catalog describing all the features of the new and improved Stanley Electric Tools. Stanley Electric Tool Div., The Stanley Works, 133 Elm St., New Britain, Conn.

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**"COST LESS PER YEAR"**

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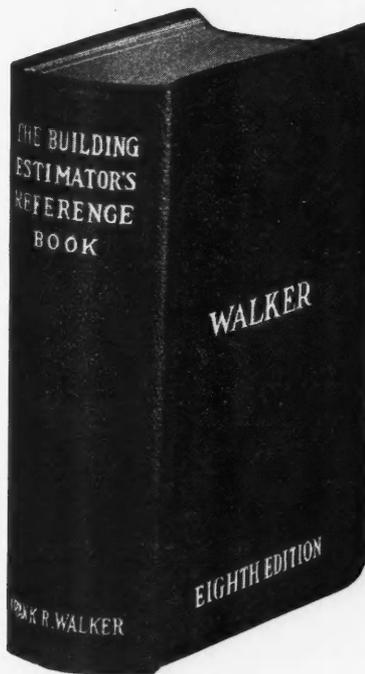
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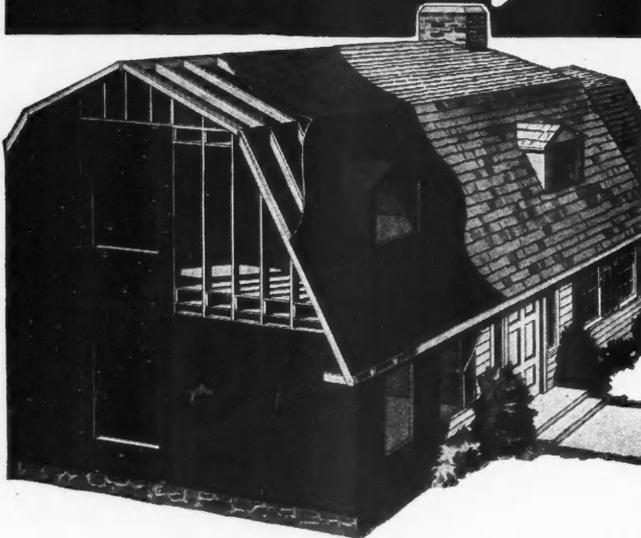
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**LETTERS from Readers—Continued**

**"Tiny Town" Models Stimulated Home Building**

Springfield, Mo.

To the Editor:

Having followed your editorials concerning the present condition of business in construction lines it seems to me that you might be interested in how Springfield beat the depression in residential building on three occasions.

In 1919 building was at a low ebb here and a few business men undertook a Build Now campaign, putting me in as director. I conceived the idea of engaging school children in the construction of a Lilliputian city. The plan worked fine, becoming a spontaneous movement, expenses principally donated. The village of Tiny Town was spread on the floor of our exposition building and, built to the scale of one inch equals a foot, represented a city of several square miles, with nearly 1000 structures, public buildings, parks, drives, etc. In addition there were interiors, built in forms representing various rooms of the dwellings, posters, etc.

The exhibit attracted national attention, as well as enthusing home people to residential construction and repairs. Building started immediately, permits increasing from an average of \$280 to \$1843 for the succeeding daily average within 90 days.

Springfield, in the succeeding years experienced a boom, but by 1925 construction had slowed. In the winter of 1925 I was given carte blanche authority to recreate another Tiny Town, sponsored by our Chamber of Commerce. The "Springfieldian," a C. of C. publication, had this to say:

"Maybe some citizens of this city did not and do not realize it, but Tiny Town not only relieved the inertia born of the War, but started a building program that has never abated during all the years since, resulting in a substantial growth equalled by few other sized cities in all America."

The 1925 Tiny Town was a huge success, and spread upon a five acre townsite, built to a scale of one inch, with wide avenues, miniature lighting system, floodlights at night and an extensive display of interiors with other children's handiwork, all having bearing on residential construction or furnishings, attracted wide attention. Tiny Town was covered by national magazines and press, pictured and filmed. Building picked up and went forward into the biggest boom in residential development this town ever experienced. But in 1929 we folded and after so long, the Better Housing campaign came along, and again I was called into action with my Tiny Town. This effort was in 1935 and in connection with a Builder's Show was displayed in our Shrine Mosque, not so extensively and along new lines, but with models, posters, interiors, etc.

Believe it or not, the town picked up its home interest and we are again building residences all over the place and into the suburbs.

There is no better way to stir up building interest than through the schools. Constructive work is contagious. If interested, I will submit abundant evidence of Tiny Town as a surprising incentive to home construction.

WM. H. JOHNSON  
The Johnson Realty Company

\* \* \*

**Efficient Carpentry Practice**

(Continued from page 79)

Figure 6. At the conclusion of the stroke you will find the bevel has forced the chisel beyond the line.

The obvious thing then is to make an allowance for the side slip. Do not place the chisel directly on the mark, but as in Figure 7: the amount of this side slip will depend naturally upon the force of the blow and the kind of wood worked upon.

**FITTING SASH AND WINDOW STOPS:** To fit a sash so as to open freely and still be tight when locked should be the object; first, fit the upper sash

(Continued to page 106)

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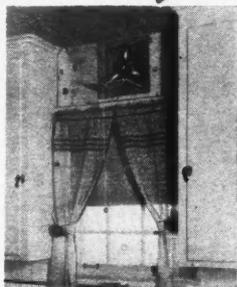
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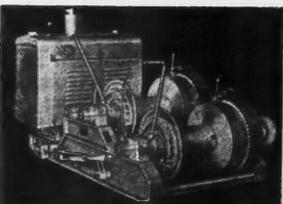
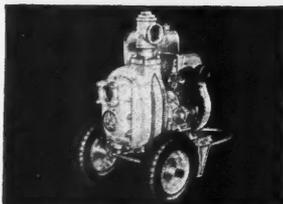
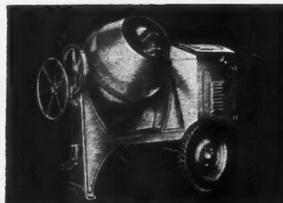
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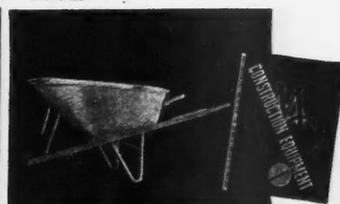


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# DE WALT

## WOODWORKER

*It talks through its teeth*

(Continued from page 104)

so as to have enough clearance to move freely up and down between stops and some allowance for expansion in wet weather. Then tack upper sash in position, with parting strip in place. Second, fit lower sash in same manner but allow check rail to come about one-eighth inch (not more) below upper part of top check rail. See Figure 8. This will allow the sash lock to function freely and give enough play to allow sash to be forced against stops.

The principal reason for this, however, is that when lower sash is lifted, it will free itself with greater clearance, and have consequently a free movement.

The method of putting the window stops in place is also important. The first step is to put the head stop in place. To locate the position push the lower sash all the way up, nail the head stop in place with as much as one-eighth inch clearance. Do not mitre this piece.

Now fit side stops with top coped to fit head piece. Put in position and put one nail close to top end. Close window and nail lower end in a position so as to guide sash past the window stop. With window closed and check rail in position mentioned before, force the stop against the sash and nail at a point even with the check rail. When the sash is now raised you will find it leaves the stop, with plenty of clearance, between sash and window. Place a nail midway between lower nail and one at the check rail. The clearance at this point should not be more than the thickness of a thin-bladed putty knife which, by the way, makes a good gauge. The window should now have plenty of clearance between the stops, and yet when closed and locked should be tight and free of all rattle. See Figure 9.

**A HOIST RIG FOR CONTRACTORS:** This is hopping about a bit, but I wish to show how flexible these articles can be, and hope you contractors who have some equipment that is practical will pass it along to me. I call attention to this rig because it has the advantage of being used in a door opening and also in some window openings. The hoisting beam is so supported as to allow it to be comparatively low, and when the load is hoisted it can be brought very close to the beam. This brings the load high enough to allow it to pass over most window sills. The whole rig is mounted on a 2 x 4 track, the metal wheel rolling on angle iron, which allows the whole rig and load to be pulled into the building, where the load if wheelbarrow, can be moved to any part of the floor.

\* \* \*

## New Cedar Shingles Over the Old

By L. E. THORPE

Red Cedar Shingle Bureau

**O**VER-ROOFING with red cedar shingles has solved a lot of problems for building owner and builder alike, but there is one sphere in which this method has to admit partial failure—at least thus far. It hasn't completely overcome human inertia. There are still some who say, "We didn't do it that way before and I don't think it'll work."

Let's take a case in point. It actually happened, but we give the characters the benefit of anonymity. A progressive lumber dealer in a Midwest town had been trying unsuccessfully for some time to sell his local carpenter customers on the over-roofing idea. No one had actually put on a roof over the old one in that particular town. The carpenters were skeptical. They would listen to the dealer

(Continued to page 108)

# ILGETTE KITCHEN VENTILATOR



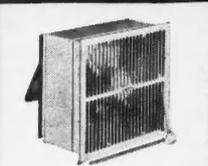
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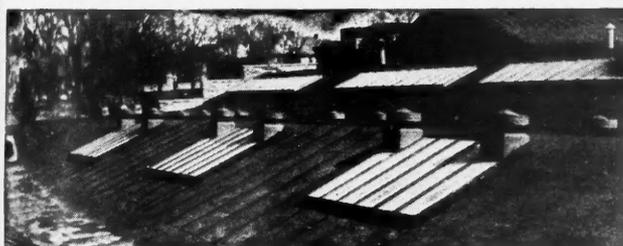


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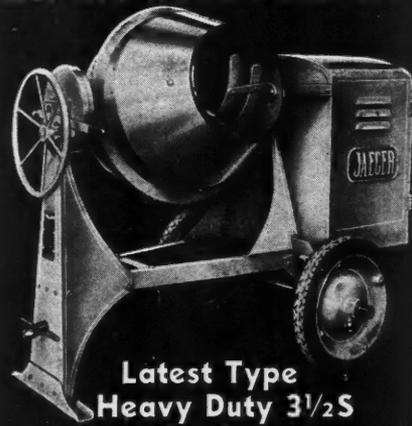
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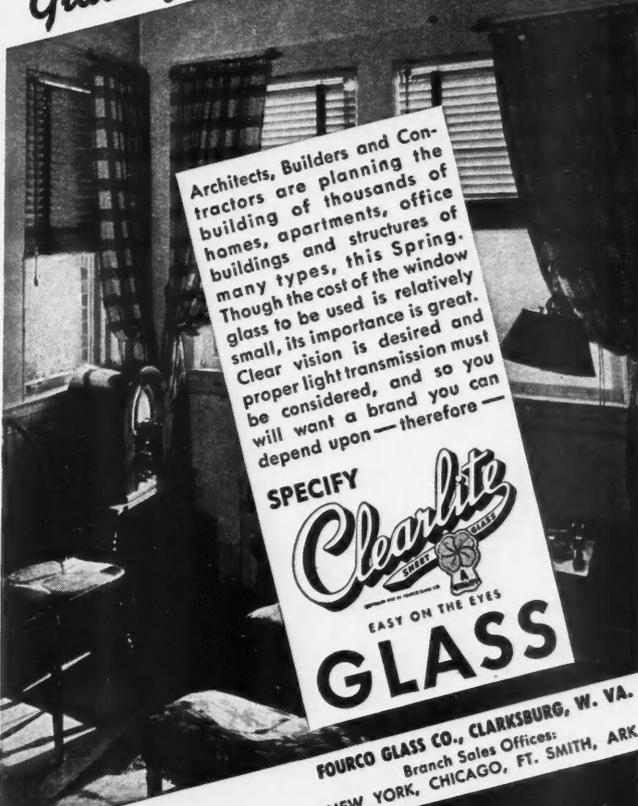
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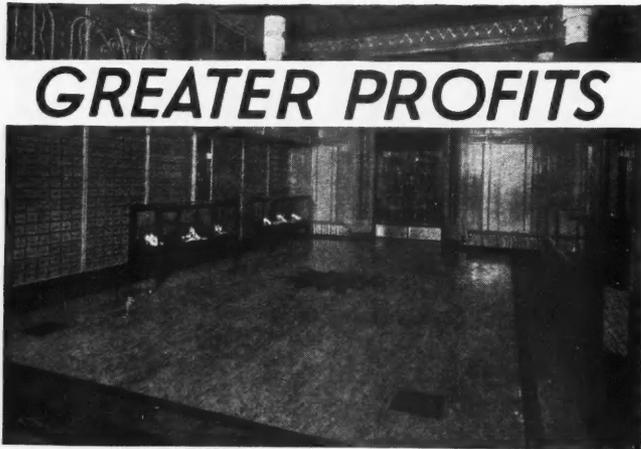
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**BUILDING NECESSITIES**

## New Cedar Shingles Over the Old

(Continued from page 106)

and look at his pictures, but they would do no more than shake their heads and murmur doubts. Besides, the whole thing was more or less insulting to her professional dignity.

It happened that the old lady who owned the house across the street from the lumber dealer needed a new roof. Her nephew, a small contractor from the neighboring city, came down to spend a few weeks with her during the dull winter season. The result was that the contractor volunteered to put on a new roof during his stay, but, what's more, he sold the old lady on the over-roofing idea as a better job all the way 'round. And, of course, since the old roof didn't have to be disturbed, that was somewhat of a determining factor in the middle of winter, as was also the prospect of added insulation, stimulated by the then current wave of sub-zero weather.

The retail lumber dealer was of course highly pleased to see the first over-roofing job get going in town. The contractor got started and plugged along, but he couldn't stick it out so very long at a time with the thermometer down below zero. So he used to get down several times a day and go over to the dealer's office to thaw out. Of course the local carpenters got wind of this "treason" in the camp and began dropping around to the lumber yard to sort of keep an eye on things.

To cut the illustration short, those carpenters now had the ice broken for them. Quite painlessly they had been taking some practical lessons in over-roofing all the while the job was going on. There was now one actual over-roofing job in town to point to. Result: about a dozen new over-roof cedar shingle jobs were sold in town by the carpenters themselves before Spring came along.

And that's the way it is. Over-roofing with cedar shingles has been amply demonstrated as sound practice, but, like every other idea which has come down through the ages, it has had to overcome an understandable human inertia, a resistance to change.

Why put new cedar shingles over the old weather-beaten ones? What's the advantage? There are several. In the first place the labor of stripping off the old wood is saved; the yard is not cluttered up and the building is at no time exposed to the weather. Again, the old cedar has insulation values. These can fully be preserved and the total insulating properties of the roof greatly increased by putting the new roof right over the old. Further, because a cedar shingle roof is composed of strong overlapping layers bound together at many points by nails, a bridging effect is achieved by the over-roofing method which actually adds structural strength to the roof.

### How to Get a Good Job of Over-Roofing

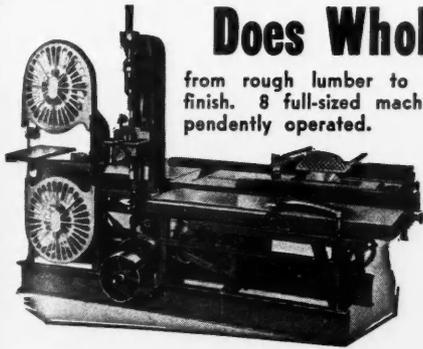
To get the best results in over-roofing with cedar shingles a few simple steps should be followed. All flashings should be renewed with recommended, durable materials that will last as long as the roof. Solid nailing surfaces should be provided at eaves, ridges and gable edges by cutting back the old shingles for a few inches with a hatchet and filling in with a one-inch board three or more inches wide. In valleys, before installing the new flashing, a one-inch board of proper width is nailed in place to provide a proper bed for the new metal.

Proper selection and use of nails are important; attention to this sometimes-overlooked detail can add years of life to the roof. The Red Cedar Shingle Bureau recommends hot dipped zinc coated nails. They are unusually rust resistant, easy to drive, and inexpensive. Longer nails are required when putting on new cedar

(Continued to page 110)

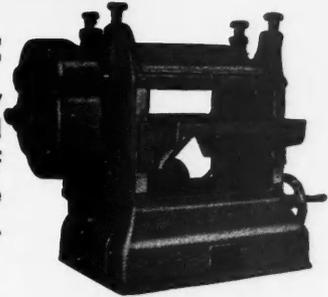
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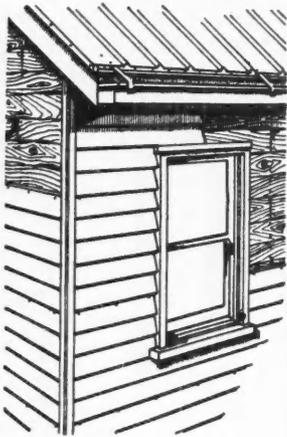


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## New Cedar Shingles Over the Old

(Continued from page 108)

shingles over the old because the aim is to carry the nail through both the new and the old and into the roof deck. On 16" or 18" shingles a 5-penny, 14-gauge, box nail (sometimes called an over-roofing nail) is recommended.

Again, it is important where you drive the nail if you want best results. Each shingle should receive only two nails, regardless of the width, and these two should be driven flush (but without crushing the wood) about 3/4" from each edge and from 1" to 2" above the butt line of the next course above.

Aside from these few deviations and preparatory steps putting a new cedar shingle roof over the old is no different than an installation in new construction. The over-roofing method provides a very satisfactory job, better in many respects than a new roof.

### Sidewall Overcoating With Shingles

In over-walling with cedar shingles the same mental hazard of human inertia has had to be overcome. The problem here, however, has been somewhat different as the objectives sought are quite different. On the roof one seeks primarily to keep out water whereas on the wall the idea is essentially to conceal an unsightly exterior.

With the development of the double-coursing method of laying cedar shingles on old exterior walls a means is offered that holds many possibilities. Here is a place where milady is quite apt to have her say because there is much of the element of eye appeal. Over-walling can quickly change a dilapidated and outdated house exterior into the thing of beauty and a joy forever—or at least for a lifetime. The wide exposures possible with this method—ranging up to 16 inches—with the deep, full shadow line, are most pleasing. And distinctly modern. Shingle exteriors are quite the vogue in many sections of the country, on the humble cabin, on the average home, on the stately residence in the upper cost brackets.

Because of the high insulating qualities of red cedar an over-wall job can be measured in terms of fuel saving and comfort.

The over-walling method with red cedar shingles finds particular appeal with banks, mortgage companies and other institutions which have on their hands repossessed properties that need conditioning before they can profitably be entered in the rental or resale market. While perhaps most over-wall jobs are applied over old wood siding, the method is also applicable to brick and stucco.

The over-walling method is simplicity itself. In double-coursing the cedar shingles are applied in wide exposures, two thicknesses at a time (from whence the name), but the inside shingle is nailed a half inch higher than the outside one. This improves the shadow line. A No. 2 or No. 3 unstained shingle is suggested for the under course as both satisfactory and less expensive.

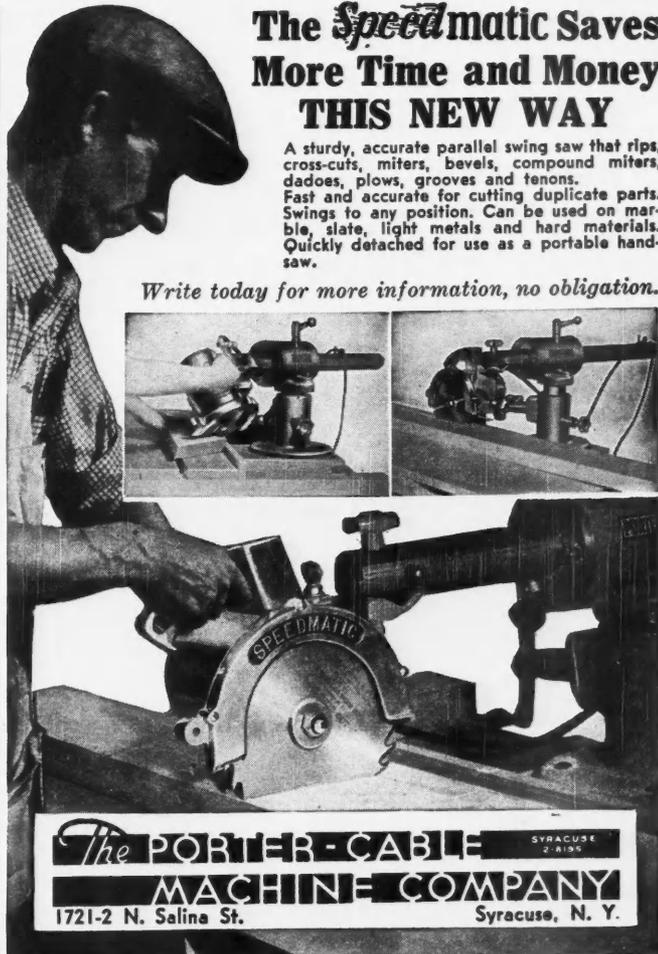
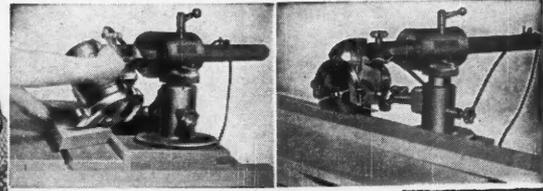
The cost of the over-walling method is surprisingly favorable. Particularly on those buildings on which the paint has been permitted to deteriorate, the over-walling system will be found to be advantageous, both from the standpoint of cost and results achieved. The old paint is effectively covered without the laborious work and heavy cost of reconditioning the painting surface.

One final word on both roofs and walls of cedar shingles. That word is *color*. The trend seems to be that way, to color, whether it be ski clothes or shingles. Roofs can be applied with pre-stained shingles or can be stained after laying. On walls, pre-stained shingles may be applied, the stain may be applied after laying, or the shingles may be painted after laying. The opportunity for selection of color is wide open.

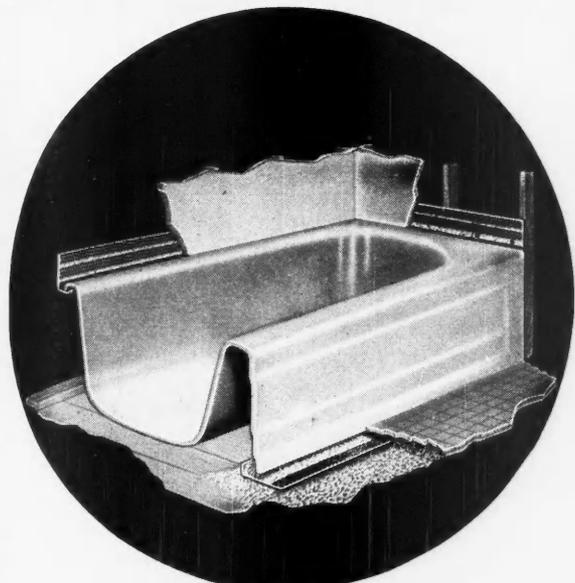
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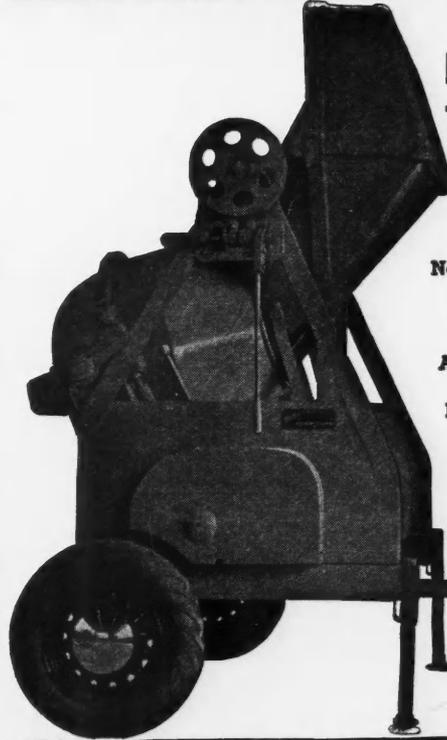
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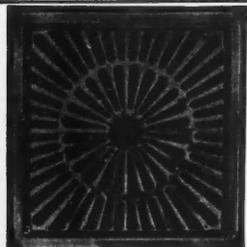
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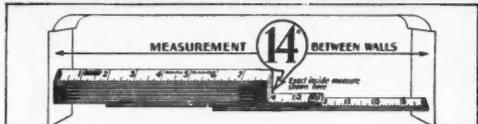
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**How George Does It**

*(Continued from page 56)*

velopment, getting the full effect of contrasting the old and new. Wide reading and constant travel are surely beneficial when it comes to building and selling at a profit.

"One thing we always try to do is give each house at least one unusual or distinctive feature of its own. This may be an outstanding fireplace, with a beautifully designed mantel, or it may be an especially well-balanced kitchen, or a staircase that is a faithful copy of something old, or a bay window.

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"The building business is full of headaches, of course, but it has its good points too. The hours are long, and even the smallest house entails a great deal of responsibility, but we are glad to accept the disadvantages, because the truth is we like to build."

\* \* \*

**Orienting the House**

*(Continued from page 75)*

most halfway between the South and East and sets halfway west of South. Thus a living room to receive the sun all day in winter must face South.

By indicating the floor plan on a small piece of paper and placing it in the center of this circle, a quick idea can be obtained as to how much sun will shine in the various rooms of a house.

This exposure chart is calculated for 40° north latitude, but the amount of correction to make for other latitudes from 30° north to 50° north is indicated at upper right. The hours indicated are sun dial time and must be corrected for daylight saving.

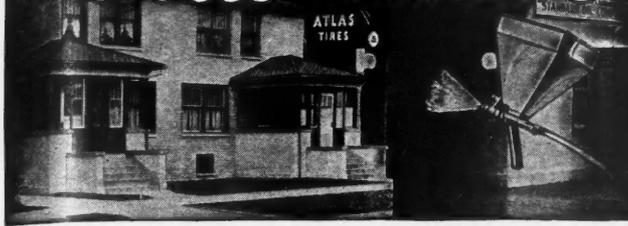
Chart II indicates another method operative builders are using to get more sun into their houses. The solid rows of houses built closely together are no longer popular. By varying the placement and arrangement of houses and setting some further back than others, the extent to which one house throws a shadow over its adjoining house is reduced. Such arrangement also gives more variety and individuality to the houses and to the development.

Chart III indicates the difference in the angle with which the sun shines into a house in winter and summer. Because of the low angle in winter much more sun shines through a window than is possible in the summer when it is almost directly overhead.

In Chart IV an interesting study has been made of eight different exposures for the same floor plan. In the first four the house was merely rotated as though built on all four sides of a block. The plan was then reversed and the same thing done in Nos. 5 to 8. It is immediately apparent that Nos. 3 and 8 are objectionable in a northern climate, since the living room gets practically no sun. In No. 3 the kitchen has the wrong exposure since it gets no sun in the morning when the housewife would appreciate it, but does get the hot afternoon sun when it is not desired. Nos. 1, 5 and 6

*(Continued to page 114)*

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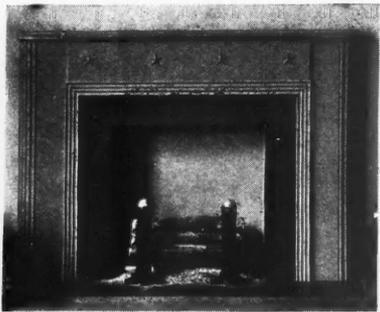
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(Continued from page 112)

are all fairly good, although in some respects No. 6 is the best of all, since it provides for a cool kitchen which gets morning sun, a dining room with both south and east exposure, and a living room with both south and west exposure. No. 5 is also good although the kitchen does not get morning sun. However, with this arrangement, the living room would be cooler in summer since it would not get much late afternoon sun.

The interesting conclusion to be drawn from the above study is that a house with this plan located as in No. 1, facing south on an east and west street, would be entirely ruined as to exposure if built on the other side of the street facing north. But by the simple expedient of reversing the plan as in No. 7, it would be much improved, or by reversing it and turning it as in No. 6, it would be made very desirable.

The few minutes called for in an exposure study of this type costs practically nothing, but the improvement in the livability and salability of the house is worth a considerable amount in dollars and cents.

**Oregon Apartments**

(Continued from page 70)

yellow to tan. The tapestry effect was achieved by the use of brick manufactured in Oregon and specially treated.

On the first floor are located ten "sleeping rooms" tenanted by bachelors, the manager's apartment, receiving room, fully equipped outside laundry rooms and heating plants.

The other floors, reached by two spacious staircases or by automatic elevator, are laid out exactly alike with 5 room units at all corners and 2, 3 or 4 room units adjoining. All rooms are larger than average floor space for Northwest apartments. Every unit has its separate entrance vestibule into which each room leads.

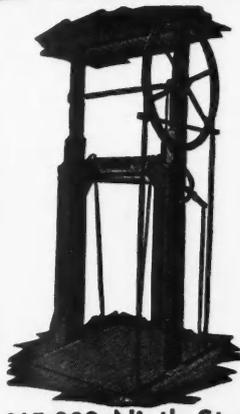
A construction feature whose effect is greatly appreciated by occupants was the installation of a one inch Thermax insulation between the walls, used in The Regent for the first time in a Portland apartment house. It not only sound proofs the building, but is fire, heat and cold resisting and prevents cracked plastering.

The installation of Venetian blinds at every window in the five story building has proved an investment thoroughly worthwhile in attracting tenants. So, too, has a new chime call system installed in every unit. This device, replacing the crude, startling noise of the older style "buzzers," indicates with chimes of varying tones whether the call is from the office or back door.

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Lighting experts were engaged by Mr. Mittleman to enable The Regent to be the first apartment house in the country to conform exactly to the rigid specifications of the most recent Illuminating Engineering Society findings. To achieve this ideal approach to a naturally, sunny flood of daylight, a combination of direct and indirect fixtures in ivory and gold has been provided.

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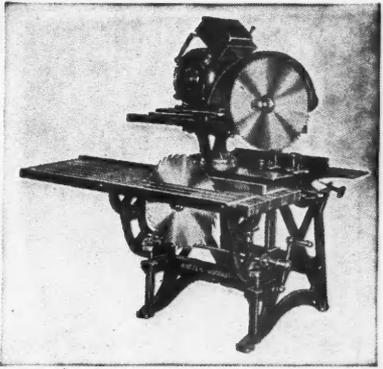
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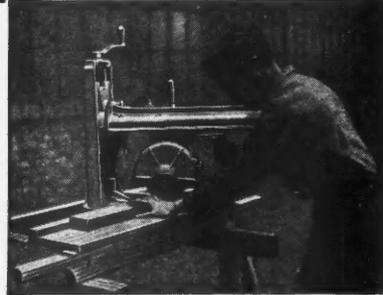
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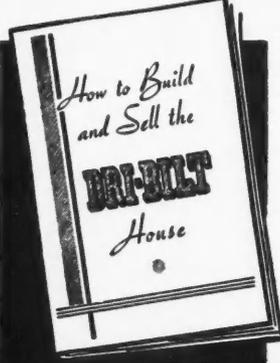
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**21—4-Square Wood Panels**—"Wood Panels for Rooms of Enduring Beauty" is a 28-page brochure presenting Weyerhaeuser 4-Square wall panels in Idaho White Pine, Ponderosa Pine, Western Red Cedar and Douglas Fir. This is perfectly manufactured, packaged lumber in 6, 8, 10 and 12-inch widths, and in lengths of 4, 6, 8, 10 and 12 feet. Three different designs are offered together with five different designs of panel strips. These mouldings or panel strips are cartoned separately. This brochure illustrates in full natural color 12 different effects easily secured with this new range of natural wood wall panels.—WEYERHAEUSER SALES CO., St. Paul Minn.

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**23—Bruce Finished Blocks**—"Patterned Hardwood Floors—for Distinctive Decoration and Lasting Beauty" is a new 28-page color booklet said to be the most complete piece of literature ever published on any type of hardwood flooring. About 100 photographs, showing the many decorative effects that can be achieved with patterned hardwood floors, are included.—E. L. BRUCE CO., Memphis, Tenn.

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Outdoor Purposes" and "Douglas Fir Plywood—How and Where to Use." These present a detailed study of the fabrication and use of outdoor plywood with valuable data charts, etc.—HARBOR PLYWOOD CORP., Hoquiam, Wash.

**25—Plywood Construction**—"How to Build and Sell the Dri-Bilt House" is a very practical 24-page handbook by the well known plywood pioneer, Jacques Willis. It is illustrated with complete yet simple diagrams, and discusses in a most understandable way the latest ideas in Dri-Bilt house construction.—WASHINGTON VENEER CO., Olympia, Wash.

**26—Red Cedar Shingles**—"Certigrade Handbook of Red Cedar Shingles," 100 pages of concentrated information on roofs, their construction and estimating, both for new construction and for over-roofing. A valuable section covers the manufacture of Certigrade shingles, tells how they are packed, makes recommendations regarding flashings, use of non-rusting nails, hip and valley construction, etc. Four pages of index makes this a handy manual to use.—RED CEDAR SHINGLE BUREAU, Seattle, Wash.

**27—Sanitary Colorful Walls**—"Monowall Panels for Modern Interiors" is a 12-page brochure in full color presenting a new line of wall linings for kitchens, bathrooms, etc., which come in solid colors wood grain effects and marble effects. An appropriate line of mouldings and joint covers is also included.—STANDARD WALL COVERING CO., Inc., Philadelphia, Pa.

**28—Streamline Copper Service Pipe**—Interesting information on this subject is presented in a 6-page data sheet which makes clear the use of the ingenious

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**29—Kinneer Motor Operated Doors**—"Push Button Door Control" is featured in the new 8-page catalog describing the Kinneer electric door closers for use with rolling doors.—KINNEAR MANUFACTURING CO., Columbus, Ohio.

**30—Bath Tub Hangers**—"The Lucke Leak Proof Tub Hanger" is a new architectural type catalog of 16 pages showing various ways for installing bath tubs to produce leak-proof and crack-proof connections.—WILLIAM B. LUCKE, Wilmette, Ill.

**31—Electric Fans**—"Emerson Electric Fans for 1938" is a new 26-page handbook showing the complete line of Emerson fans with sizes, capacities, construction details and list prices.—THE EMERSON ELECTRIC MFG. CO., St. Louis, Mo.

**32—New Stanley Hardware Catalog**—A new general catalog, No. 61, showing the complete line of Stanley hardware, has been issued. It is pocket size, containing 296 pages. It has been especially prepared for hardware and building supply dealers, and for architects.—THE STANLEY WORKS, New Britain, Conn.

**33—Mesker Casement Hardware**—"Solid Bronze Hardware" is a new 4-page data sheet on Mesker residence casements, with solid bronze hardware, which is now offered as standard equipment. A companion catalog offers the new Mesker steel sash with wrought iron sill members, and shows the advantage of a really permanent sill to accompany permanent window construction.—MESKER BROS. IRON CO., St. Louis, Mo.

American Builder,  
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(February, 1938)

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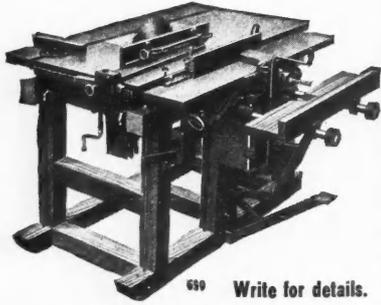
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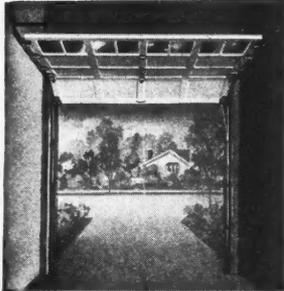


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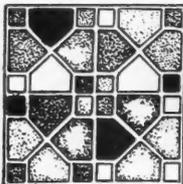
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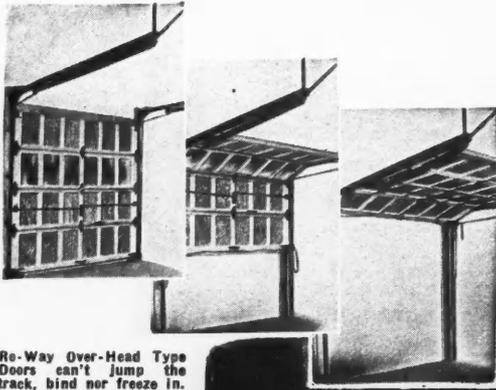
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NOTICE TO ADVERTISERS—Forms for the March number of the American Builder and Building Age will close promptly on February 15. New copy, changes, order for omissions of advertisements must reach our business office, 105 West Adams St., Chicago, not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



Ro-Way Over-Head Type Doors can't jump the track, bind nor freeze in. They are also exceptionally attractive in appearance.

# COMPARE 1938 DOOR VALUES!

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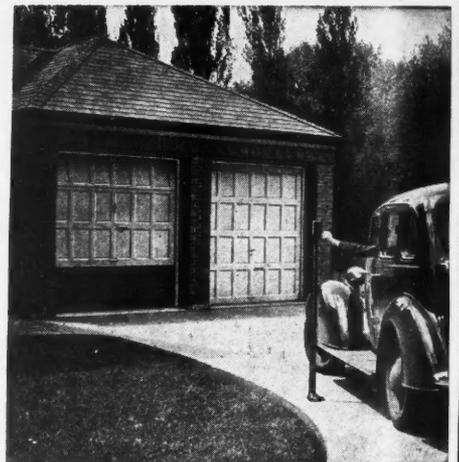
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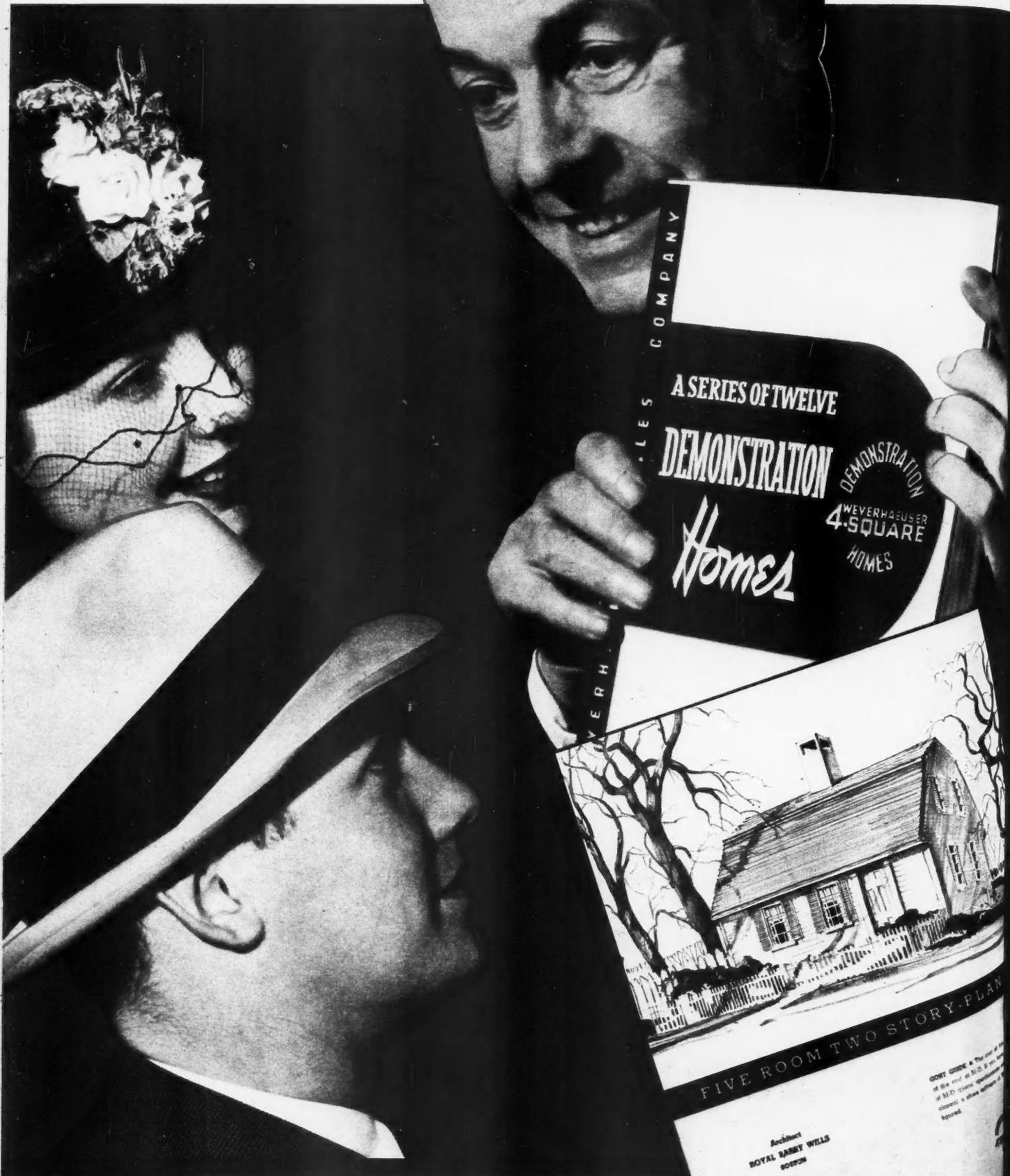


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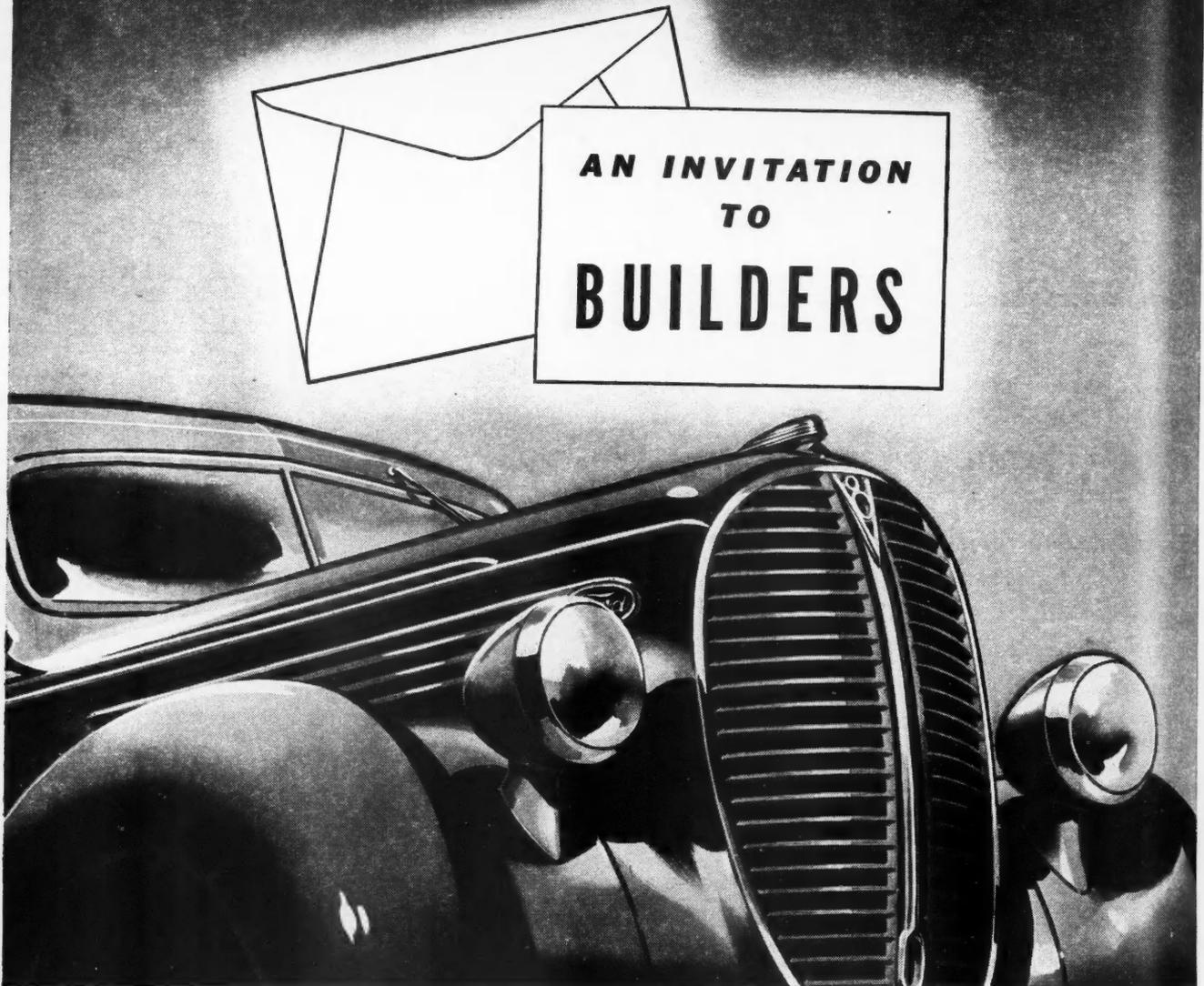
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## CRANE

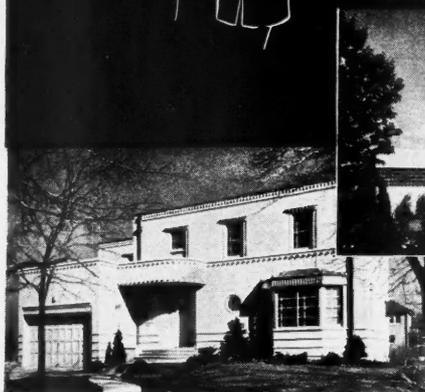
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VALVES • FITTINGS • PIPE  
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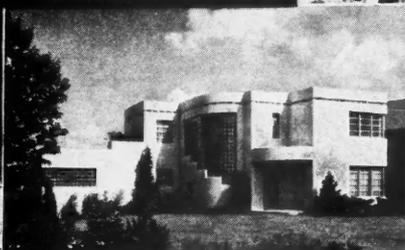
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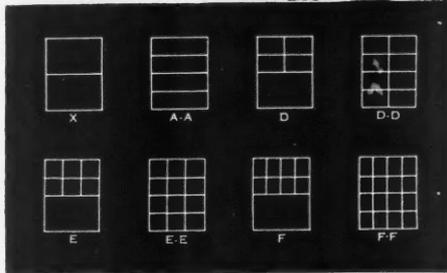


3—Residence in Detroit, Mich., Hadley Constr. Co., Builders. 4—In South Bend, Ind., Andrew Toth, Arch.

HUNDREDS of fine homes and buildings of all sizes and architectural types are now proving the many advantages of Kawneer Sealair Windows in ALUMINUM or BRONZE. From coast to coast a new vogue in window beauty has been established. More important still, architects and builders are learning from enthusiastic owners how much they appreciate the convenience of easy action at all times, the comfort and cleanliness of extremely weathertight construction—and the new freedom from annoyance and expense of painting, refitting and repairs.

SEALAIR WINDOWS OF ALUMINUM OR BRONZE

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Standard types of muntin arrangement.

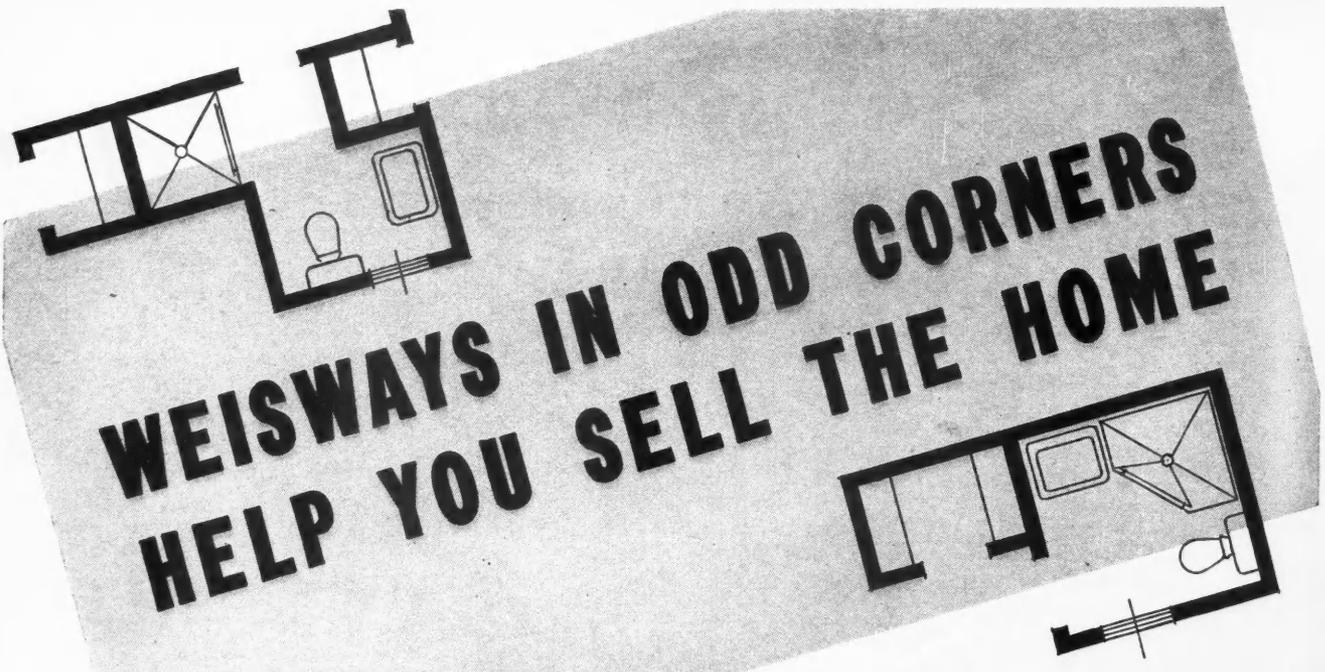
FOUNDED IN 1905—  
BY A PRACTICING ARCHITECT

# Kawneer

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

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

Dealers in principal cities.



# WEISWAYS IN ODD CORNERS HELP YOU SELL THE HOME

An extra bath helps sell any home!

Now you can put the powerful sales appeal of this added feature into all the homes you build. Weisway Cabinet Showers add luxurious enjoyment to this modern way to bathe—and provide the livability of an extra bath even when space is limited.

The floor sketches above are suggestive of the many ways in which Weisway Cabinet Showers fit into odd corners, readily combine with other fixtures to make complete bathrooms in small or irregular floor areas.

Weisways are self-contained baths, complete with shower-head, valves and drain. Easily, quickly installed in new homes or old, without special treatment of building walls or floors. Guaranteed permanently leakproof. Exclusive vitreous porcelain *non-slip* floor is sanitary, permanent, equally safe, wet or dry.

Weisway baths add livability and hence sale-closing appeal far beyond the small cost. Wide range of models for every type of home—also for hotels, institutions, schools, industrial buildings. Get detailed information and specifications without obligation. **MAIL COUPON**, or, write, now.



**WEISWAY**  
*Cabinet Showers*

- PERMANENTLY LEAKPROOF
- VITREOUS PORCELAIN NON-SLIP FLOOR
- EASILY INSTALLED IN 3-FT. SQUARE OR LESS
- MODELS FOR LOW COST OR LUXURIOUS HOMES

**HENRY WEIS MANUFACTURING CO.** ( Est. 1876 )  
 301 Oak St., Elkhart, Indiana

Without obligation please send detailed information about Weisway Cabinet Showers. We are especially interested in their application to \_\_\_\_\_ ( here mention use )

Name \_\_\_\_\_

Street \_\_\_\_\_

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

**"COSTS 50% LESS TO APPLY  
MORE EFFICIENT THAN EVER  
That's why we recommend the**



**NEW BALSAM-WOOL!"**

1. *Dollars and cents savings.* The new Balsam-Wool Spacer Flange\* cuts application costs in half . . . lowers the applied cost of Balsam-Wool SEALED insulation from \$5.00 to \$15.00 per thousand square feet.

2. *Even greater insulation efficiency*—the new method of application insures the double air spaces that mean maximum insulation efficiency and permanent satisfaction.

3. *Even greater protection from moisture.* For 16 years Balsam-Wool has provided the "vapor barrier" which authorities now recommend for modern construction. Today, Balsam-Wool is completely SEALED in a waterproofed covering.

4. *The sure way to insulate.* The new Balsam-Wool Spacer Flange and Fibre Cleats give even greater assurance of positive, permanent application. Once applied, Balsam-Wool is "there to stay"—it cannot sag or settle because it is securely fastened in place.

For a better insulation job—for a saving to your customers—for permanent customer satisfaction—use the new, improved Balsam-Wool SEALED insulation. Full details are yours for the asking.

*\*Patent pending*



● The new Balsam-Wool Spacer Flange that increases Balsam-Wool efficiency and reduces costs. The flange is fastened to the face of stud, rafter or joist with staple hammers—no lath required.

**WOOD CONVERSION COMPANY**

Room 119, First National Bank Building  
ST. PAUL, MINNESOTA

**Balsam**  **Wool**  
**SEALED** **INSULATION**

**BALSAM-WOOL . . . PRODUCTS OF WEYERHAEUSER . . . NU-WOOD**

# Daring Offer on **MODEX** Now Extended to Readers of "AMERICAN BUILDER"

## DOUBLE YOUR MONEY BACK!



IF MODEX THE POWDER CASEIN PAINT DOESN'T SAVE YOU 25% OVER ANY PASTE TYPE

### Daring "Show Me" Offer to Users of Casein Paints!

If you have not used Modex (the concentrated powder casein paint) you may think this offer is unbelievable, but the cold facts are that Modex costs you at least 25% less than any paste casein paint. We don't ask you to take our word for this statement, we merely ask you to buy a 5-pound package of Modex and use it according to directions. Then take any paste casein paint, cover the same amount of surface and figure your paint cost.

If you do not find that Modex is at least 25% cheaper, send us the invoice and we will mail you a check for twice what you paid for your 5-pound package.

There is nothing mysterious about Modex—in fact, it meets the same Federal Specifications as paste casein paints. The big advantage of Modex is its concentrated powder form—you buy only the essential ingredients and pay neither for water added during manufacture nor for expensive lead-lined containers.

You cannot afford to pass up this offer. If Modex fails to make good on our claims, you get double your money back—when you discover for yourself the 25% saving which Modex brings it means 25% saved on all your casein paint purchases from now on.

Are you spending more for casein paint than you should? Here's the way to find out without risking a penny. Try a 5 lb. package of Modex, the concentrated powder casein paint in direct competition with any paste-type.

Figure your paint costs and if Modex is not at least 25% cheaper than the paste, send us the invoice from your supplier and we will give you double your money back.

You can't lose. If Modex does not show you how to save 25% on all your casein paint purchases from now on we pay you double.

## MODEX—The Concentrated Casein Paint

7 ESSENTIAL QUESTIONS	MODEX POWDER CASEIN PAINT	ANY PASTE CASEIN PAINT
Meets Federal Specifications?	OK	OK
Self-Sizing?	OK	OK
High Light Reflectivity?	OK	OK
Easy to Mix?	OK	NG
Contains Only Active Ingredients?	OK	*NG
Inexpensively Packaged?	OK	NG
Spoilage-proof?	OK	NG

\* In casein paste paints, user pays for water added by manufacturer.

### New 7-Point Check List Shows Why We Can Make This Offer

Here are the seven questions you want to have answered when you buy casein paint. This side-by-side comparison between Modex, the powder casein paint, and any paste-type tells a convincing story. Test Modex yourself during the "double your money back" offer—you'll keep on buying Modex!

Send for Illustrated Modex Folder

THE REARDON CO. • St. Louis • Chicago • Los Angeles • Makers of BONDEX

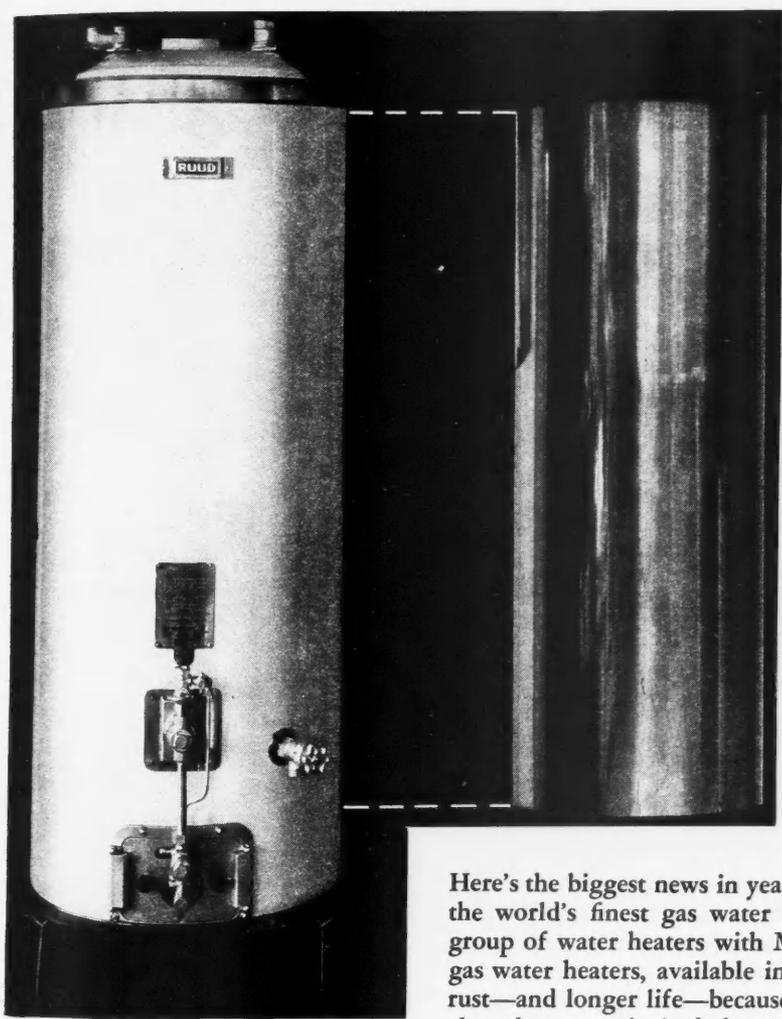
Now!

# RUUD

## AUTOMATIC GAS WATER HEATERS

WITH

# MONEL<sup>★</sup> TANKS



- ✓ CLEAR, CLEAN HOT WATER
- ✓ NO RUST
- ✓ TWENTY YEAR GUARANTEE
- ✓ FIVE SIZES

Here's the biggest news in years! RUUD—known everywhere as the maker of the world's finest gas water heaters—now offers a new, specially designed group of water heaters with MONEL TANKS. These new RUUD automatic gas water heaters, available in five sizes, set a new high in performance. No rust—and longer life—because a MONEL TANK *cannot* rust! Always clear, clean hot water! And there's a guarantee against rust and corrosion that's good for twenty years!

Send the coupon below for full details about the new RUUD automatic gas water heaters with MONEL TANKS.

# NEW! NEW!

★ MONEL is a registered trademark applied to an alloy containing approximately two-thirds nickel and one-third copper.

### SEND THIS COUPON—NOW! FOR FULL DETAILS

■ Ruud Manufacturing Company, Pittsburgh, Pa.  
 ■ Gentlemen: Send me complete information about the new RUUD automatic gas water heaters with Monel Tanks.  
 ■ Name .....  
 ■ Address .....

**RUUD MANUFACTURING COMPANY**  
**PITTSBURGH, PA.**

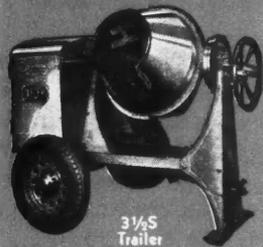


You Get More For Your Money in a **JAEGER MIXER**

75 and 105 SPEED KING End Discharge Trailers



75, 105, 145 Side Discharge



3 1/2 S Trailer



55 End Discharge Tilter Trailer

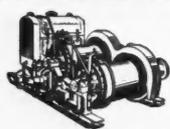
**More Batches of Quality Concrete—per Hour, per Day, per Dollar!**

Any way you look at it, Jaeger patented features of faster Skip Shaker Loader, Criss-Cross "Re-" Mixing Action and Forced Discharge, plus Jaeger built-in ruggedness, get you to the job quicker, turn out the batches faster, give you highest quality of concrete, and keep on doing it, year after year, for the lowest known cost.

**Any Size, Non-Tilt or Tilter, to Fit Your Job!**

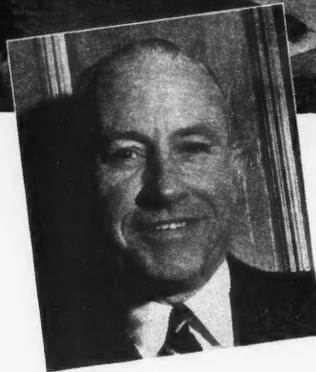
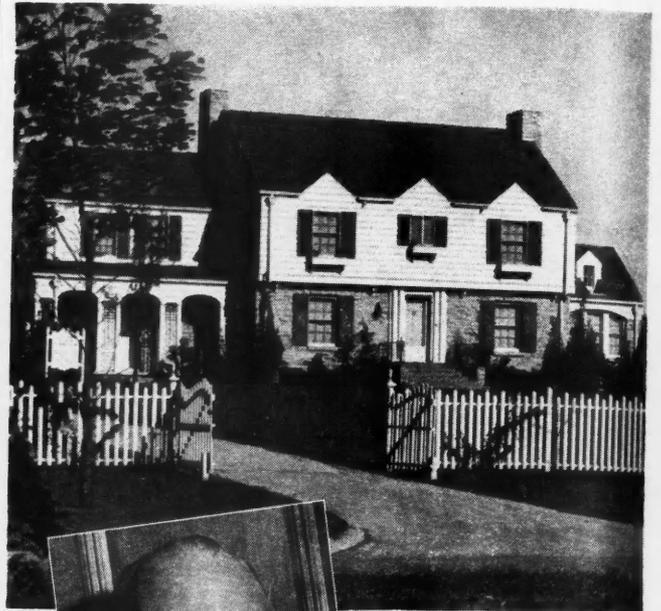
Jaeger portability, speed and longer life are available in the most complete line of mixers on the market—two-wheel trailers on Timken Bearings and Pneumatic Tires, from 3 1/2 S to 105 sizes, standard 4-wheel mountings up to 145, plant mixers to 565 size. Jaeger's high speed half bag trailer, Jaeger's 75 and 105 end discharge Speed Kings, the modern 55 end discharge tilting trailer (all illustrated here) are specially designed for fast moving, quick spotting and efficient placement of concrete on the job. Jaeger Tilters are widely used for mixing plaster, mortar and bituminous as well as concrete. Send today for latest catalog and prices covering all types.

**The JAEGER MACHINE CO.**  
521 Dublin Ave. Columbus, Ohio  
World's Largest Manufacturer of Concrete Mixers



**CONTRACTORS' HOISTS:** 10-25 H. P. Screw Thrust, 30-100 H. P. Ball Bearing Type

**CONTRACTORS' PUMPS:** Sizes 2" to 10"—Capacities 7,000 to 220,000 G. P. H.—Get New Catalog



"The Vermont," Nichols-built home of Western Pines, Nichols Hills, Oklahoma City, Oklahoma

Vice-President John W. Coyle of G. A. Nichols, Inc.

**Builds New England Home with Western Pines in Oklahoma**

"The canny Yankees of Vermont knew how to build solid homes to withstand bitter winter cold and sudden summer heat—homes destined to pass from generation to generation," writes John W. Coyle, Vice-President of Oklahoma City builders G. A. Nichols, Inc. "Since they used pine inside and out and since we, too, want to build weather protection and long life into our homes, we, naturally enough, use the Western Pines in recreating their architectural master pieces."

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


 FROM ASSOCIATION MILLS

SPECIFY WESTERN PINES  
 Western Pine Association, Yeon Bldg., Portland, Ore.  
 \*Idaho White Pine  
 \*Ponderosa Pine  
 \*Sugar Pine

**\*These Are The Western Pines**



J. I. DAWSON  
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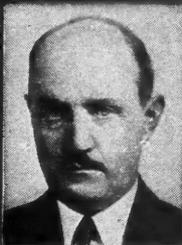
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Springfield, Mass.

# ANTHRACITE INDUSTRIES' TRAINED FIELD STAFF TO SERVE YOU

A phase of the broad promotion program of Anthracite Industries, Inc., that is of direct service to architects and builders—is this trained field staff. These men are available to serve you on any problem affecting Anthracite (heating). They have a fund of information about all that is newest in modern Anthracite heating and air conditioning. This field staff is just one of the reasons for the tremendously increased public interest in Anthracite. Other activities are permanent exhibits of Anthracite equipment in key cities. Huge displays at foremost heating shows. A major program of consumer advertising reaching millions. For information about Anthracite heating, write ANTHRACITE INDUSTRIES, Inc., Chrysler Building, New York.



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This Seal of Approval appears on Anthracite Equipment only after it has passed the most rigid tests in the heating field.



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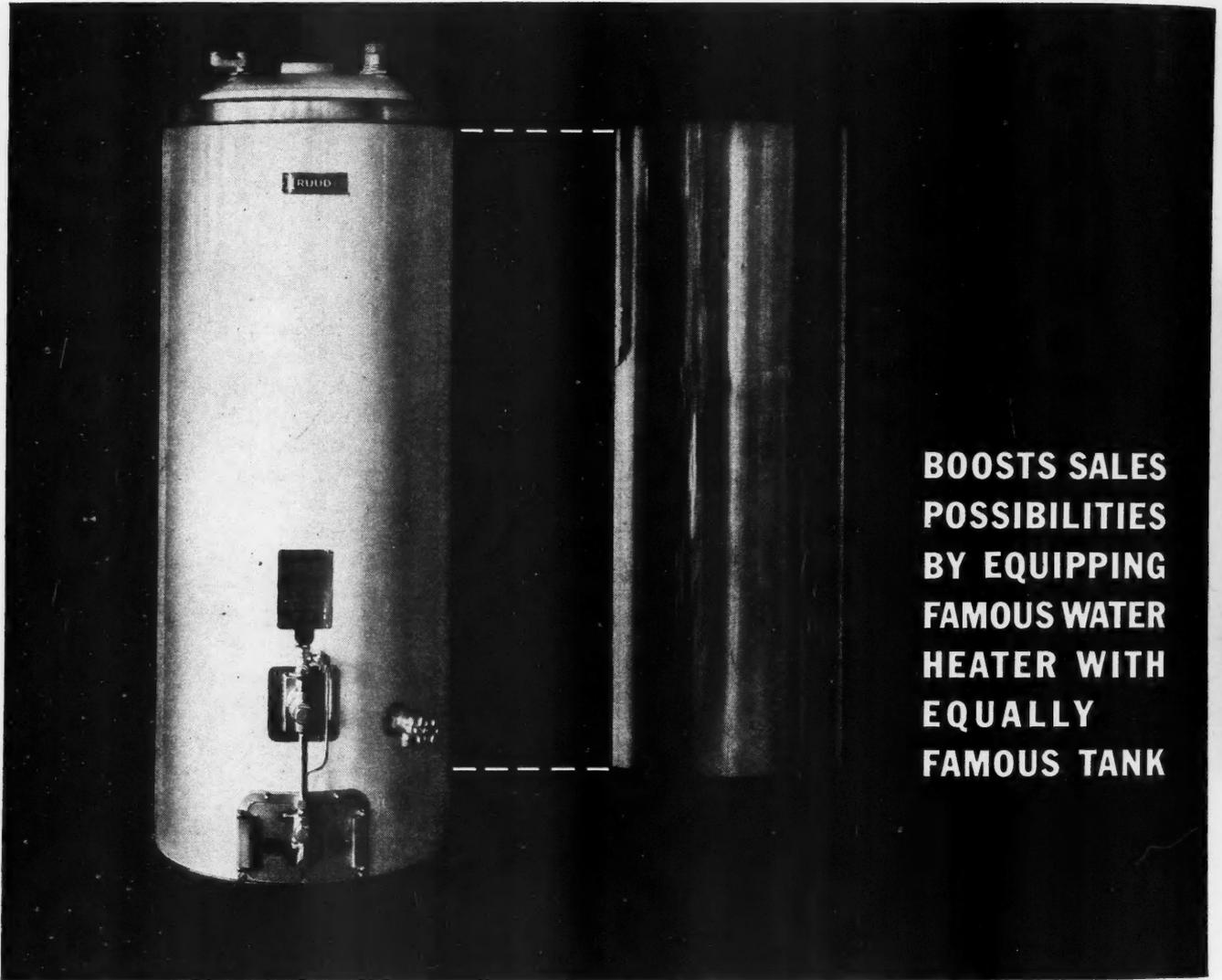


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# NOW ...THE FAMOUS RUUD GAS WATER HEATER ...



**BOOSTS SALES  
POSSIBILITIES  
BY EQUIPPING  
FAMOUS WATER  
HEATER WITH  
EQUALLY  
FAMOUS TANK**

## ...WITH A SOLID **MONEL TANK**

Great news for home-owners . . . great news for you. Ruud Gas Water Heaters, well known for their trouble-free economical performance, now offer even greater freedom from trouble, longer life: With the popular, efficient Ruud Gas Water Heater is now combined the equally popular, long-lived tank of solid Monel\*.

Known to millions from coast to coast, Ruud Gas Water Heaters have won preference because of mechanical excellence. And Monel tanks, known to home-owners the country

over, are also widely acclaimed . . . because they assure a dependable supply of *clean* hot water for years to come.

Offer home buyers and property-owners Ruud Gas Water Heaters, and stress these important *additional* advantages: Never a spot of rust from the tank because Monel *cannot* rust . . . years of trouble-free service, because Monel, tougher and stronger than the steel used for bridges, fights off corrosion and thus *retains* its strength . . . and in addition, there's a guarantee against rust and

corrosion . . . *good for twenty years.*

Take advantage of this increased sales appeal, by offering your prospects Monel-equipped Ruud Gas Water Heaters in 20-30-45-60 and 75 gallon capacities. Get started today, by writing for further information. Address:

**THE INTERNATIONAL NICKEL COMPANY, INC.**

67 WALL STREET NEW YORK, N. Y.

\*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled and marketed solely by International Nickel.



1938.

# P A I N E D O O R S

*There is no equal*



*Saves money*  
**IN EVERY HOME**  
*Says Builder Tesch*

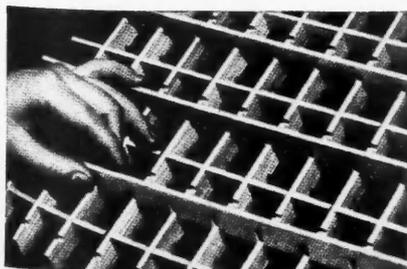


Contractor Edwin C. Tesch of Oshkosh, Wisconsin, installed the first Rezo Doors used in the United States. Since the original installation he has used Rezo Doors exclusively. He says P A I N E R E Z O D O O R S

The Rezo Flush Door Costs less to fit and hang because it is prefitted at factory. It costs less to paint as painter has no panel corners to work around as each coat of paint is applied. The paper wrapping keeps door clean and saves time of painter. The Flush Door is Modern. The first cost is more but final cost is less when economies are considered. They never have to be refitted. Therefore, I use Rezo Doors exclusively.

*Edwin C Tesch.*

**COST LESS**  
**TO FIT AND HANG**  
**TO PAINT**  
**TO MAINTAIN**  
*Never Requires Refitting*



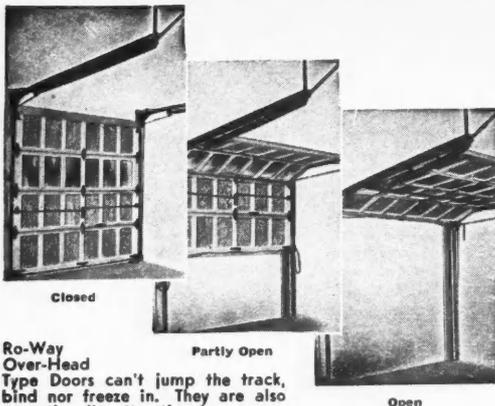
LEFT—This shows the method of assembling the "woven wood" core for Rezo Flush Doors. Notched vents permit free circulation of air throughout door after plywood faces have been applied. They will not swell, shrink nor sag. Made in all commercial woods for both interior and exterior use. Manufactured under U. S. Patent No. 1,887,814. Mail the coupon for complete information.

**P A I N E L U M B E R C O . L T D .**  
Established 1855  
**OSHKOSH, WISCONSIN**

Gentlemen: Please send me complete information on your P A I N E R E Z O D O O R S .

Name.....  
Address.....  
Town.....  
State.....  
My Dealer's Name is.....

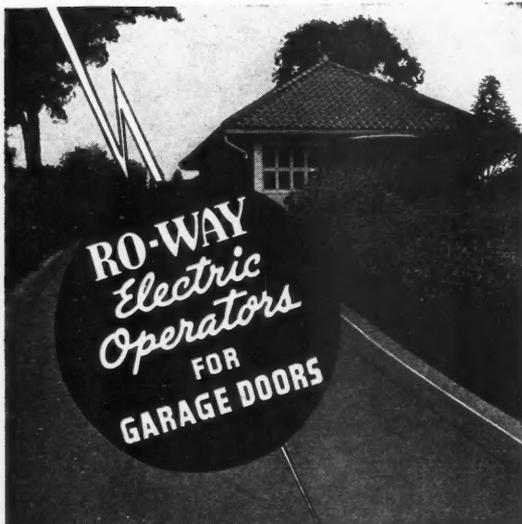
YOU NET  
*more profit per job*  
 WITH THE TROUBLE - FREE  
**RO-WAY Over-Head TYPE DOORS**



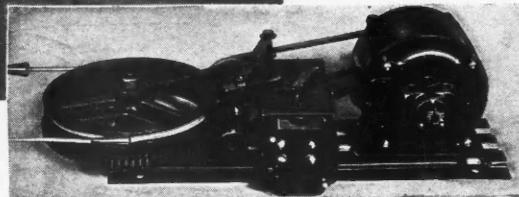
Ro-Way Over-Head Type Doors can't jump the track, bind nor freeze in. They are also exceptionally attractive in appearance.

**...and Your Customers get MORE for their dollar—because of these superior features:**

1. All joints are mortised and tenoned (not wood doweled).
2. All commercial and industrial Ro-Way Doors are made from Sitka spruce—1¼" thick.
3. Panels are made of three-ply laminated fir, joined with special waterproof casein glue.
4. All sections are rabbeted to provide a ship-lap water proof joint.
5. All rollers are STEEL with double metal tread and full ball-bearing.
6. Unusually large corner brackets, measuring 11¼" long by 4½" wide, are securely bolted to door.
7. Lock bars are burglar-proof, made from steel ¼" thick by ¾" wide.
8. All bolts, nuts and screws are cadmium plated. Other metal parts, including tracking, structural supports, etc., are painted with special Ro-Black rustproof paint.



At right—Note the compact design of the Residential Ro-Way Electrical Control Unit.



**NEW ELECTRICAL ACHIEVEMENT**  
 Not only gives "Open-Close-Stop" Control but Instant Reversal of Direction

Never before an Electric Door Operator like this . . . so fool-proof, simple, complete . . . so easy to install. Think of it! Not only "OPEN-CLOSE-STOP" control . . . but instant reversal of direction, also, at any door position. How car owners go for this! Clinches sales *on sight!* What's more, the Ro-Way line of Electric Operators covers every type, from small residential installations, to large commercial jobs. Choice of Button Switch; Ceiling Pull Switch; Toggle Switch; Constant Pressure Switch; Momentary Contact Switch; Key Operated Wall Switch, and Key Operated Driveway Post Switch . . . all priced right. Remember! Ro-Way Doors are always easier to sell, easier to install, and always NET YOU MORE PROFIT PER JOB. *It sure pays to sell Ro-Way!*

**Rowe Manufacturing Co.**

763 Holton St.

Galesburg, Ill., U.S.A.

Rowe Manufacturing Co.,  
 763 Holton St., Galesburg, Ill.

Gentlemen: Please send Free Catalog-Folder of your Ro-Way Garage Doors.

Name .....

Address .....

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

**Mail This Coupon for Free Catalog-Folder**



Because we didn't want to manufacture "just another masonry cement" . . . . .

# It took a long time-

in investigation and research to develop Marquette Masonry Cement. We consulted contractors, architects, engineers and brick layers. We learned from them what **ON THE JOB**—our chemists and manufacturing experts made Marquette Masonry Cement to order for the men who build and are responsible for building.



It passes ALL specifications—spreads slick and smooth—that lays more brick, stops waste of mortar and time and cuts cost. Makes a perfect bond by eliminating shrinkage and air pockets in mortar—that makes watertight and permanent joints. Make the next job easier and more profitable, use—



*High Test!*

**Marquette CEMENT**

**MARQUETTE HIGH EARLY STRENGTH PORTLAND CEMENT**

**MARQUETTE MASONRY CEMENT**

**MARQUETTE CEMENT MANUFACTURING COMPANY**  
CHICAGO MEMPHIS

# FREE! ... A New Book of Helpful Data on PC Glass Blocks



*Send the coupon  
for your copy today!*

**T**HE prospect of an imminent building and modernization revival, and the increasing popularity and use of glass block construction in all types of buildings, make this book an extremely timely one. We believe you will find it of definite value in your work for several reasons:

Because it provides accurate, up-to-the-minute information on PC Glass Blocks, recently introduced by the Pittsburgh Corning Corporation — including properties, advantages, sizes, patterns, installation and specification data.

Because it contains photographs of many actual glass block installations, not only in the United States but in foreign countries, also, which we think you will find interesting.

And because of the original ideas for the effective use of PC Glass Blocks which this book may inspire, and you may elaborate for use in your own building and modernization work.

This new book is yours for the asking. So sign and mail the coupon today for your copy.



*Glass  
Blocks*

Distributed by  
**PITTSBURGH PLATE GLASS COMPANY**  
*and by W. P. Fuller & Co. on the Pacific Coast*

Manufactured by  
**PITTSBURGH CORNING CORPORATION**  
*Also Makers of Carrara Structural Glass*

Pittsburgh Corning Corporation,  
2221A Grant Bldg., Pittsburgh, Pa

Please send me, without obligation, your new book  
containing complete information on PC Glass Blocks.

Name

Street

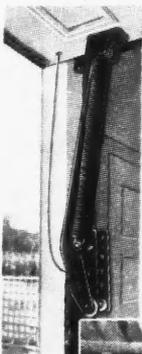
City  State



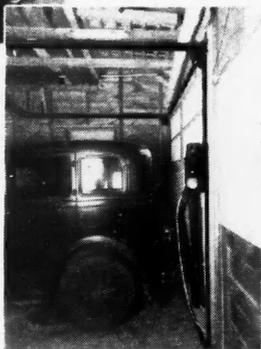
A MODEST HARDWARE ALLOWANCE  
Can Include

**STANLEY**

**“SWING-UP” HARDWARE**



Perfect door balance is assured with heavy lifting arms, and powerful heavy, heat-treated, oil-tempered coil springs. Adequate clearance, door swings out and up, even when car bumper rests against door.



It's hard to believe that with all its advantages Stanley "Swing-Up" Hardware is within the reach of everyone building a home. It looks and works like expensive equipment — adds a big selling feature to any home you build.

No complicated mechanisms — easy to install on new or old garage doors. Permanently trouble-free as long as the building stands.

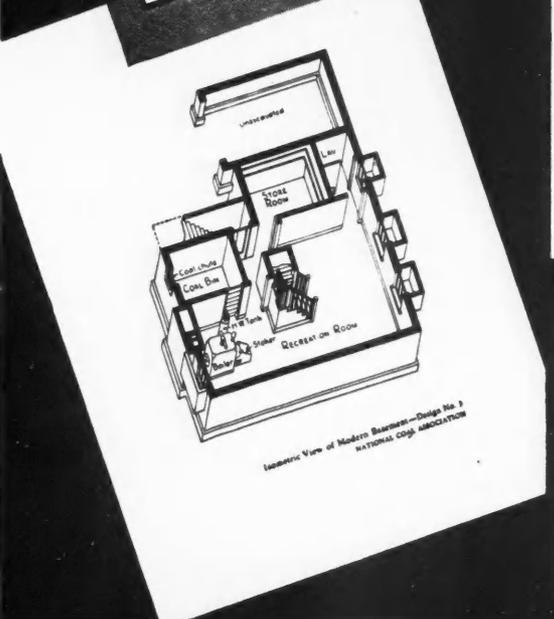
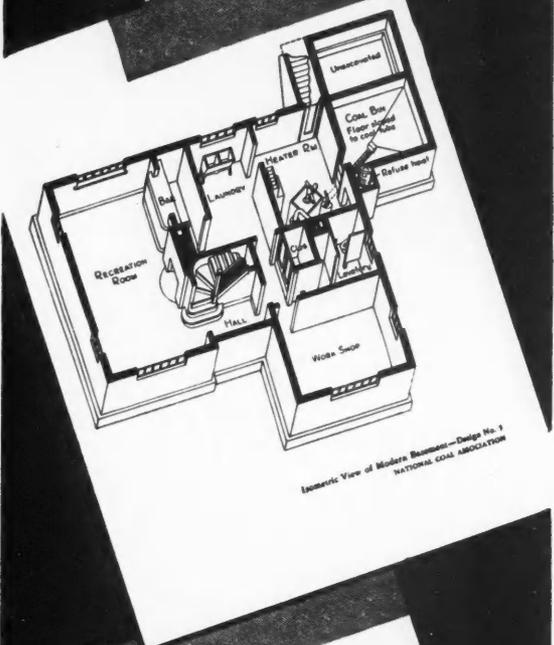
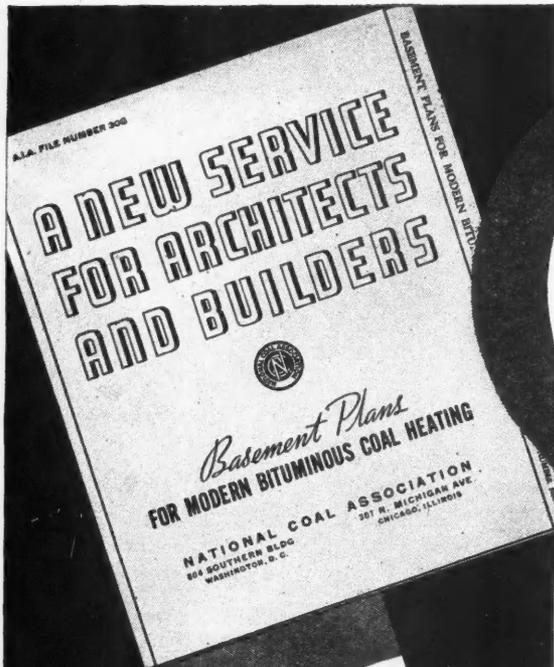
Freedom from noisy chains and trolleys insures quiet, smooth operation. A slight pull floats door to full open position, even when snowbanked.

The cost of Stanley "Swing-Up" Hardware is surprisingly low — ask your Stanley hardware dealer for complete details.

THE STANLEY WORKS, NEW BRITAIN, CONN.

**STANLEY**

HARDWARE FOR CAREFREE DOORS



Here's  
*First Aid*  
for Rush  
Designing

● Now that Spring is opening up, building plans must be rushed to completion. Our booklet "Basement Plans for Modern Bituminous Coal Heating," free to architects and builders, makes it easy for you to design basements for modern bituminous coal or coke heating—hand-firing or stoker firing.

Give your clients the great advantages of bituminous coal heating—even, healthful warmth—greatest economy and dependability with the degree of convenience for which they wish to pay. Our booklet gives you the fundamental principle of good basement design for modern bituminous coal or coke heating, 6 typical basement designs, drawings and details of enclosed coal bins of concrete, hollow tile, lumber or plywood. Send for it today.

**NATIONAL COAL ASSOCIATION**

Copyright—National Coal Association, 1938

**NATIONAL COAL ASSOCIATION**  
The National Organization of Bituminous Coal Operators  
804 Southern Bldg. 307 N. Michigan Ave.  
WASHINGTON, D. C. CHICAGO, ILLINOIS

Please send me a set of "Six Typical Basement Designs for Modern Bituminous Coal Heating," A. I. A. file 30-G. I understand there is no obligation involved.

Name .....

Firm.....Street.....

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

AB-3

SILENTITE

# Silentite's seven Dwarfs are PROFIT-MAKING GIANTS

SILENTITE • SILENTITE • SILENTITE • SILENTITE • SILENTITE • SILENTITE • SILENTITE



## THE 7 GIANTS

SEVEN sales features, seven "profit-making giants," have marked the trail of window history since the Silentite Double-Hung "Insulated" Window, the first real window improvement in nearly 300 years, was born in 1932.

Contractors and builders have gone to town with Silentite since then. This first and only trouble-proof window has gained friends and momentum. Today, it is one of America's fastest selling modern windows.

Look over these sales advantages—these "profit-making giants." Get acquainted with your Curtis dealer and use this coupon for complete details.

### CURTIS COMPANIES SERVICE BUREAU

DEPT. AB-3 CLINTON, IOWA

- 1 WEATHER-STRIPPED—patented built-in weather-stripping insures smooth window action in spite of weather changes.
- 2 WEATHERTIGHT—because it's weather-stripped, doesn't leak air or let air in; cuts fuel costs up to 20%. Doesn't rattle or stick.
- 3 NO SASH CORD TO BREAK—Silentite operates on two simple springs—tested until the odds against their breaking are about one million to one!
- 4 NO WEIGHTS—sash is balanced by these springs. Their tension is scientifically determined.
- 5 NO PULLEYS—again the springs come in to take the place of all old-fashioned window mechanisms that cause so much trouble.
- 6 NARROW MULLIONS—because cords, weights and pulleys aren't needed. You get a beautiful "streamlined" effect—and Silentite takes narrow trim economically.
- 7 TREATED WOOD—each wood part of the Silentite unit is treated with toxic preservative oil to add to its life.



AND OTHER CURTIS PRODUCTS—Silentite Casement Windows • Exterior and Interior Doors • Frames • Trim • Entrances • Molding • Panel Work • Kitchen Cabinets • Cabinet Work • Mantels • Stairways • Shutters • Screens • Storm Doors and Windows • Garage Doors • Mitertite Door and Window Trim  
Curtis Woodwork Is Sold by Reliable Dealers Everywhere

## THE "INSULATED" WINDOW

CURTIS COMPANIES SERVICE BUREAU, Dept. AB-3, Clinton, Iowa  
 Please send me more information on Curtis Silentite Windows.

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



## HAUL MORE TONNAGE AT LOWER COST WITH NEW 1938 CHEVROLET TRUCKS

Powerfully built Chevrolet trucks are being used on a big and increasing percentage of all mass tonnage operations. First, because of great pulling power and stamina, combined with fast and flexible performance. Second, because of the low first cost, the low operating cost and the low maintenance expense of Chevrolet units. Examine the rugged construction of new 1938 Chevrolet trucks—built for durable, dependable service with outstanding economy.

*General Motors Instalment Plan—Convenient, Economical Monthly Payments. A General Motors Value.*

### SIX CHASSIS MODELS

Light Delivery, 1/2, 3/4, 1, 1 1/2 Tons  
(131 1/2- and 157-inch wheelbases)

FIVE WHEELBASE LENGTHS  
112-inch to 157-inch

★FULL-FLOATING REAR AXLE

EXTRA-STRENGTH FRAME

FAMOUS VALVE-IN-HEAD  
TRUCK ENGINE

PERFECTED HYDRAULIC  
TRUCK BRAKES

★FOUR-SPEED TRANSMISSION

MODERN STYLING

★1 1/2-Ton Models

CHEVROLET MOTOR DIVISION, General Motors Sales Corporation, DETROIT, MICHIGAN

# CHEVROLET

"THE THRIFT-CARRIERS FOR THE NATION"

# "THIS CONCRETE HOUSE HAS OUTSOLD ALL OTHER TYPES *two-to-one*"



GEORGE H.  
BECKMANN

21ST CENTURY HOMES CORP.

TELEPHONE  
YEANECK 8-  
8200  
8201

November 20th, 1937.

1098 WILSON AVENUE  
CORNER  
WILSON AVENUE AND  
ROUTE NO. 6  
YEANECK, N. J.

Portland Cement Ass'n.  
33 West Grand Street  
Chicago, Illinois

Gentlemen:-

We know that you will be interested in our recent experiences with concrete housing.

For the past two years we have been building houses with concrete floors, walls, ceilings and partitions; this concrete house has outsold all other types two to one.

The reasons for this to our minds are very clear. The concrete house appeals because of its long life, its fireproof, termite proof and rot proof features, its economy in heating and general upkeep, and by no means least of all, its economical first cost. Owner occupants especially have unanimously proven to us its acceptability from an angle of its livability.

We find that the mortgage loaning institutions look with favor upon this type of construction, and in view of the fact that the term of mortgages is increasing, we believe the trend will be more and more towards the concrete house.

Yours very truly,

21st CENTURY HOMES CORP.

By *Geo. H. Beckmann*  
Geo. H. Beckmann  
President



Mr. Beckmann's experience is typical of that of realtors and house contractors throughout the country who are featuring concrete construction. It pays to sell what the public wants to buy—good-looking, firesafe, economical, enduring concrete. It's the modern way to build. Write us for information on reinforced concrete houses, concrete masonry, concrete ashlar walls, concrete floors, precast concrete joist floors or other specific subjects.

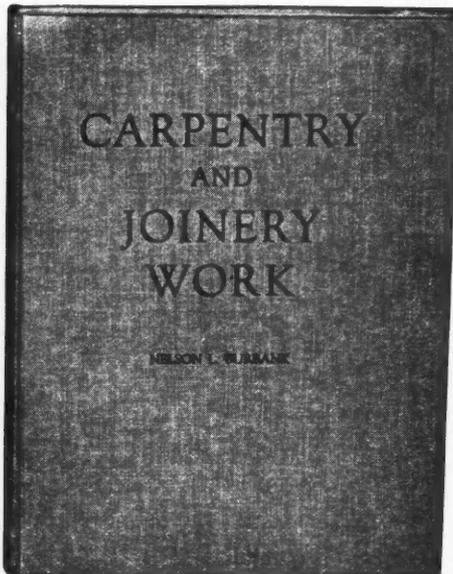
**PORTLAND CEMENT ASSOCIATION**  
Dept. A3-3, 33 West Grand Avenue, Chicago, Illinois

Second Edition

# CARPENTRY and JOINERY WORK

By Nelson L. Burbank

Formerly Instructor, Building Vocational High School, Cincinnati, Ohio



The new edition has been thoroughly revised.

The manuscript was carefully checked by a former contractor and ex-editor so that this book combines the practical outlook with the author's trade teaching experience. The cardinal principles of modern residential construction are set forth simply and logically with the aid of many photographs and line drawings. The Second Edition contains 90 revised pages with new illustrations and descriptions of new methods and materials.

The program of study as presented in this latest textbook for students of carpentry work involves class discussion, practical job work and related studies. These include Architectural Drawing, Plan Reading, Carpentry Mathematics, Business English, Applied Science, Civics and First Aid.

This book will be very useful to any man entering the home building field. Contractors can safely recommend

it to apprentices and rough carpenters who wish to improve their knowledge of the work. The complete index makes it useful as a general reference book.

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Tools and Equipment—Tool Boxes—House Plans—Excavations—Foundation Forms—Foundations—Sills—Girders—Floor Joists—Sub-Flooring—Outside Framed Walls—Inside Framed Walls—Plumbing Framed Work—Sheathing Walls—Ceiling Joists—Roof Framing—Roof Sheathing—Cornices—Roofing—Porch and Bay Framing—Exterior Wall Covering—Interior Wall Covering—Stairs—Interior Trim—Windows—Doors—Hardware—Closets and Shelving—Finish Flooring—Finishing—Index.

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*Money Back if Not Satisfied*

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**AMERICAN BUILDER AND BUILDING AGE**

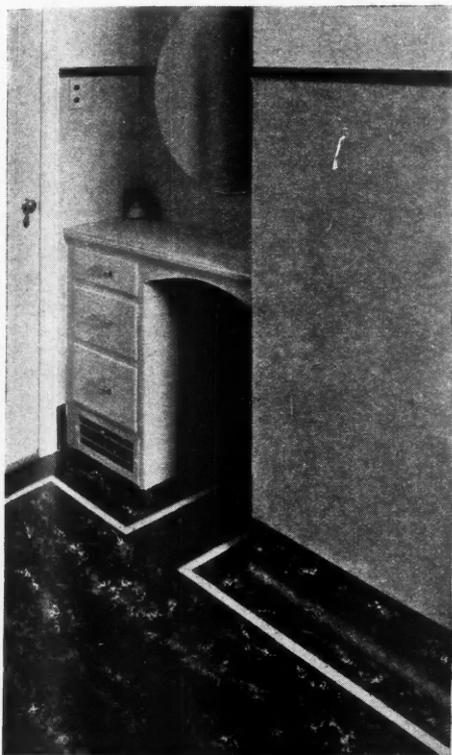
**30 Church Street**

**New York, N. Y.**

# Architects... Contractors... Owners...

## vote for Sealex Veltone

A smart powder room floor—Sealex Veltone, "Personal-ized" with a contrasting feature strip. "Personal-ized" Floors," exclusive with Sealex Linoleum, bring individually designed floors within reach of every home-owner.



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WHAT'S behind this marked preference for Sealex Veltone Linoleum in the residential construction field? *Beauty*—because Veltone provides a smart sweep of marbled color from wall to wall, with no apparent seams. *Versatility*—because its absence from geometric pattern makes it adaptable to use in any room in the house.

Economy and convenience, too! Like *all* Sealex Linoleum Floors, Veltone is moderate in first cost, eliminates costly refinishing, and wears for years. And its perfectly smooth, sanitary surface makes cleaning remarkably simple.

Installed by authorized contractors, Sealex Linoleum Floors and Sealex Wall Linoleum are backed by a guaranty bond fully covering the value of workmanship and materials. Write for details.

CONGOLEUM-NAIRN INC.

KEARNY, NEW JERSEY



Another Veltone floor—with sanitary covebase which eliminates dirt-catching corners. Both rooms illustrated here have wainscoting of Sealex Wall Linoleum—the same washable, permanent material as Sealex Linoleum Floors.

## SEALEX LINOLEUM

TRADEMARK REGISTERED

Floors and Walls

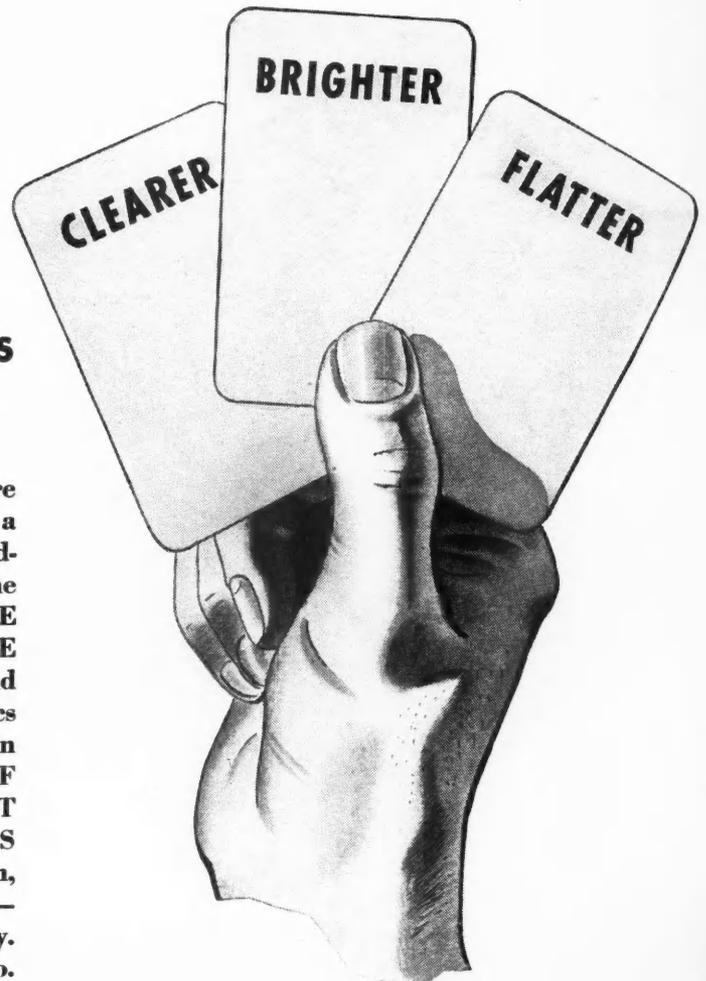


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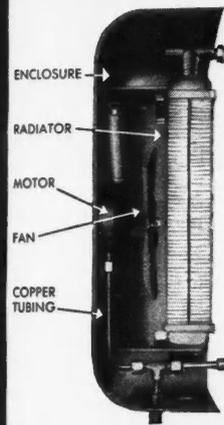
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# AMERICAN RADIATOR

## ANNOUNCES A NEW TYPE OF HOME HEATING!

### The ARCO THERMO SYSTEM



**THE ARCO THERMO SYSTEM PROVIDES AIR CIRCULATION—YES! But not from Room to Room!**

A small, silent fan driven by compressed air blows across a copper finned radiator through which warm water circulates. This system not only can warm a room under normal conditions in from three to six minutes, but it *keeps the air moving*—eliminates stratification and maintains even temperature with but 3° difference between floor and ceiling.



**T**HE Arco Thermo System uses a new principle of heat distribution in rooms. With a new unit concealed within the walls of every room it brings to homes instantaneous circulation of warm air, without the disadvantages of ducts.

**Thoroughly Tested**—Rigorously tested in competition with every other type of heating system, the Arco Thermo System provides advantages not found in many other systems, yet its cost is far below those which give comparable comfort results. Here are some of its unique features:

1. Instantaneous heat from positive heat source in each room. No lag between thermostat's call and heat delivery.
2. Positive air circulation in each room—without ducts.
3. No air recirculated from room to room.
4. Eliminates "Cold 70" and stratification, keeps floor and ceiling temperature from varying more than 3° F.
5. Completely automatic operation.
6. Units are installed flush with wall—need no floor space.
7. All copper piping resists corrosion, cannot rust. Easily installed in old as well as new homes.

8. No headroom sacrificed for ducts in basement. No weakening of structure.
9. Domestic hot water supply from indirect heater, an integral part of boiler.

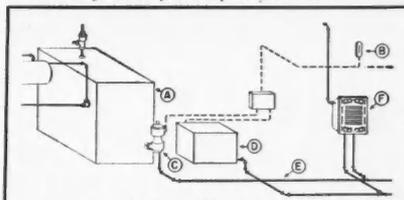
**Operating Economy Assured**—The Arco Thermo System heats only about one-third the amount of water as the average warm water system. A new fast-acting thermostat relays instantaneous calls for heat. Thus quick pick-up and fast low cost heat are assured.

**Comes Complete**—Includes an American Radiator Ideal Boiler; complete heat units for every room, including grilles; Arco Copper Fittings and Pipe; Warm Water Circulator; Air Supply Unit; new fast-acting Thermostat—everything you'll need.

Mail coupon today for installation guide which explains the system in detail, shows all component parts and piping diagram.

**AMERICAN RADIATOR COMPANY**  
DIVISION OF AMERICAN RADIATOR & STANDARD SANITARY CORPORATION  
40 West 40th Street, New York, N. Y.

**SCIENTIST MEASURES FLOW OF AIR** from grille with Anemometer. Air sweeps across floor, then rises to ceiling, thus eliminating cold spots—keeping rooms evenly warm from top to bottom.



**HOW THE ARCO THERMO SYSTEM OPERATES**

Water in the boiler (A) is maintained between 180° and 190° by temperature control switch operating automatic firing device. Thermostat (B) operates Warm Water Circulator (C) and Air Supply Unit (D), starting them simultaneously. Small diameter copper tubing (E) carries warm water to radiator and air to fan motor, both enclosed in Arco Thermo Unit (F). The fan gently circulates the air of the room through the heated radiator.

featured in the complete line of  
**AMERICAN IDEAL RADIATORS & BOILERS**

## IN 1938 BUILD BETTER HOMES BASED ON BETTER HEATING

Mail coupon for the full facts on the new ARCO THERMO SYSTEM NOW!

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Please send me installation guide that explains the new Arco Thermo System.

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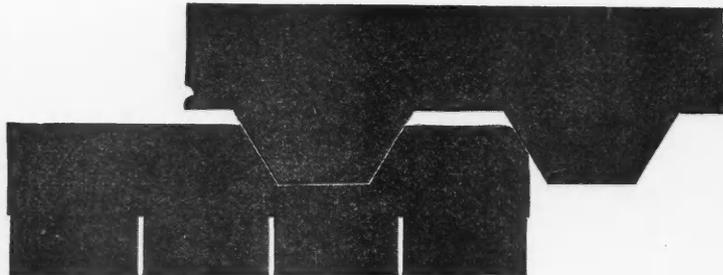
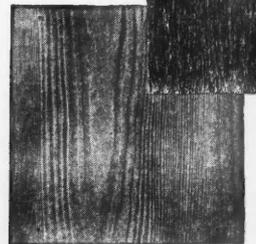
# K & M

"Century"

## ASBESTOS-CEMENT

## ROOFING and SIDING SHINGLES

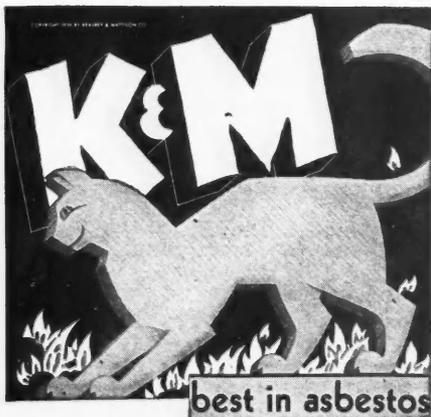
**T**HE recognized quality of K & M "Century" Asbestos-cement Roofing and Siding Shingles is an important factor to the prospective purchaser of a home. For these shingles are not only fire-resisting, weather-resisting and termite-proof, but they require no protective painting and no maintenance. Yet with all their advantages these shingles are not expensive.



# K & M

## ASPHALT ROOFING PRODUCTS

**N**OW, K & M offers a line of Asphalt Roofing Products to complement the well-known K & M Asbestos-cement line. It includes strip shingles, roll roofing, individual shingles, asphalt saturated felt, fibre roof coating, sheathing papers, liquid asphalt roof coating, plastic asbestos roof cement, and solid roofing asphalt. These products together with the K & M Asbestos-cement Roofing and Siding Shingles, assure you of durability, uniformity and lasting satisfaction in any price range.

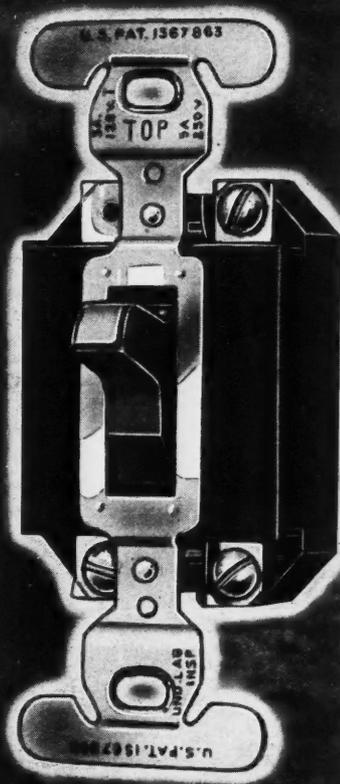
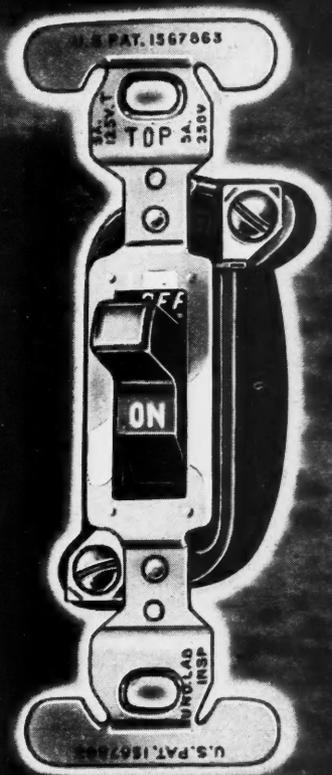


# KEASBEY & MATTISON COMPANY

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ARROW

# New Sphinx Switches



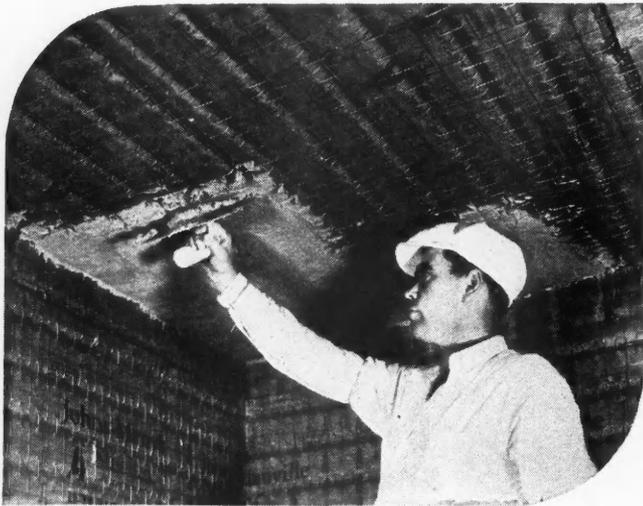
## Silent, Mercury Break

*At last* — a switch with a soft, sliding action; no springs, no blades; silent and vibrationless. Prolonged tests, mechanical and electrical, have proved that the new mercury break ensures exceptionally long life by eliminating parts that commonly wear out. Though silent, its action is positive. Here, then, is the logical switch for hospitals, churches, conference rooms, fine homes and offices where folks want the quiet refinement of high quality.

*Sphinx* Switches must be installed in vertical position, as marked. Fit standard wall boxes; have plaster ears standard; large-head binding-screws accommodate No. 12 wire. Handles come in brown Bakelite and cream-tinted white IVORYLITE to match plates. Specify Catalog numbers 821 for single-pole, 822 for double-pole, 823 for 3-way, 824 for 4-way with BAKELITE handles. For IVORYLITE add "I" to Catalog numbers listed.

**ARROW ELECTRIC DIVISION**  
THE ARROW-HART & HEGEMAN ELECTRIC CO. HARTFORD, CONN.

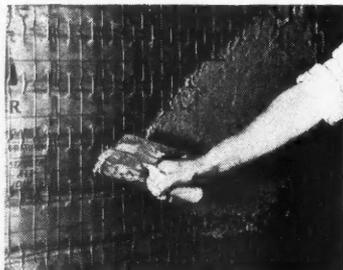
*For Better Plastering  
Johns-Manville  
Announces—*



**INSTANT BOND.** Overhead work is speeded up and plaster droppings cut down . . . resulting in definite savings in materials and time, and Steeltex Type A can be easily bent to form true, sharp corner and ceiling angles with *continuous* reinforcing.

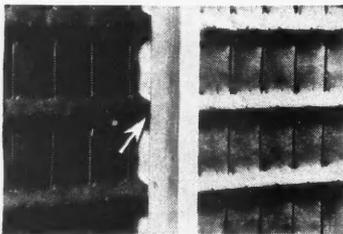
#### RIGID SHEETS

The scratch coat goes on faster and better. Steel mesh is embedded in the heart of the plaster, and this "reinforced concrete" principle gives a stronger and better finished job that insures satisfaction to the customer.



#### FLOATING WALL

Furring action of Steeltex Type A cuts down contact of wet plaster with dry lumber . . . guards against plaster cracking caused by swelling of the wood frame. Back plastering is automatic, without wasteful plaster keys.



# A NEW IMPROVED STEELTEX AT A NEW LOW PRICE

**Steel Wire Mesh provides  
Reinforcement on the same  
principle as Reinforced Concrete**

**F**OR years architects, builders, plasterers and lathers have specified and used Steeltex for plaster where a first-class quality job was required. Contractors who kept accurate cost records found that, in spite of paying a slight premium for the material, the cost of the finished job was less because of the savings in plaster, sand and time.

Now, with the new and improved product (Type A), you have a still better Steeltex, yet it is lower in price—even lower than many inferior plaster bases!

These photos show a few of its many advantages. On the job, Steeltex goes up faster . . . takes wet mortar easier . . . reinforces plaster better . . . adds permanence and reduces likelihood of cracks. Customers are more satisfied . . . profits are bigger.

Steeltex Type A is adaptable to any type of construction . . . nail-on, contact or suspended ceilings, furred walls, hollow partitions or special metal furring. Wherever used, Steeltex assures strong, durable plastered walls . . . and brings outstanding savings in labor and materials.

**MAIL THE COUPON TODAY** for interesting new Data Sheets and complete specifications covering all types of construction.

**JM** **Johns-Manville**  
Building Materials

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Please send me Data Sheets and Specifications on new  
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AB-3-38

# AGAIN

Holy Spirit School  
St. Paul, Minn.  
Architects: O'Meara & Hills, St.  
Louis, Detroit and Minneapolis  
Associate Architect: Geo. E.  
Quick  
Engineer: Schuett-Meier Co.  
Contractors: McGough Bros.,  
St. Paul, Minn.



and AGAIN  
*this Contractor Saves with*

## LEHIGH EARLY STRENGTH CEMENT

Once a contractor experiences the time and cost saving of quick service concrete made with Lehigh Early Strength Cement, he becomes a steady user. That's the way it is with McGough Brothers, St. Paul, Minn.

They have found that quick curing lets them strip forms days sooner, releasing the lumber for re-use. They have found that early use of the new concrete permits continuous construction—no long waiting for concrete to harden. They have found that the whole job is completed much sooner and the customer pleased. On the job illustrated, McGough Brothers tell us that the use of Lehigh Early Strength Cement reduced their form lumber costs by \$500; their general overhead expense by \$500—a total saving of \$1000.



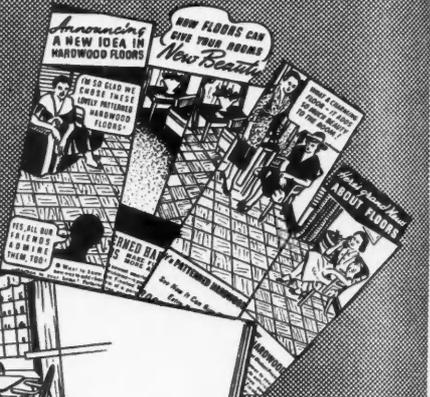
You, too, can gain the advantages of quick service concrete for any job, large or small. In 24 to 48 hours, used under the same conditions, its strength compares with that of normal portland cement at seven days. When nights are cool, its use is an added precaution against possible damage by frost. It saves on heat-protection costs. And it makes better, denser concrete.

The Lehigh Service Department will gladly answer any questions.

## LEHIGH PORTLAND CEMENT COMPANY

Allentown, Pa. Chicago, Ill. Spokane, Wash.

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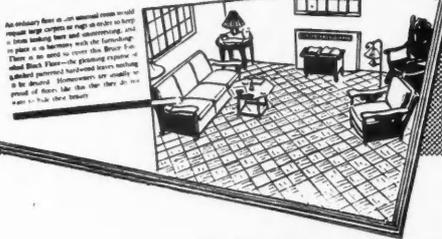
→ **AND THIS BOOK**

**HARMONIZES**



**WITH ANY STYLE OF ROOM DESIGN**

Whether it be a colonial living room, simple and fresh and warm, or a modernistic bed room, brilliant with chromom and glass, Patterned Hardwood harmonizes. This versatile flooring, inter-brilliant with chromom and glass, Patterned Hardwood harmonizes. The versatile flooring, inter-brilliant with chromom and glass, Patterned Hardwood harmonizes. The versatile flooring, inter-brilliant with chromom and glass, Patterned Hardwood harmonizes. The versatile flooring, inter-brilliant with chromom and glass, Patterned Hardwood harmonizes.



**What PATTERNED HARDWOOD Means to You**

- 1 Bruce Blocks ("Patterned Hardwood") give you a distinctive, practical flooring that always satisfies owners.
- 2 Bruce Blocks save your time—cutting out the delay and inconvenience of sanding and finishing on the job.
- 3 Bruce Blocks are easy to install—by nailing over wood or laying in mastic over concrete.
- 4 Bruce Blocks are good salesmen! One job sells others . . . helps you build a reputation for fine floors.
- 5 Bruce Blocks are for new construction and remodeling—residential, commercial and public buildings are prospects for Patterned Hardwood Floors.
- 6 Bruce Blocks are competitive in price with substitutes for hardwood flooring.

**..... ARE CHANGING FLOOR-BUYING HABITS**

Patterned Hardwood Floors of Bruce Finished Blocks are changing flooring ideas and standards. Wherever building or modernization is going on, people are asking about this modern hardwood flooring that's finished at the factory, that provides a beautiful parquet-type floor at moderate cost. Thousands of Bruce Block Floors have already been installed—hundreds more are being planned every day.

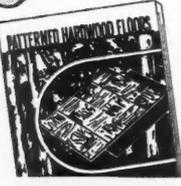
Patterned Hardwood is nationally advertised! The leads from that advertising are helping contractors throughout the country make more money on flooring jobs. Bruce Block Floors are easy to sell, easy to install, in homes, apartments, schools, stores, offices, and other places.

Write now for your copy of our new 28-page booklet, "PATTERNED HARDWOOD FLOORS—for Distinctive Decoration and Lasting Beauty." Ask your Dealer for leads on Bruce Block jobs.

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