

AMERICAN BUILDER

Including "BUILDING DEVELOPER" and "HOME BUILDING"

A SIMMONS-BOARDMAN PUBLICATION

Vol. 49.

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No. 1

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MAY AMERICAN BUILDER

will offer:

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Also Home Modernizing . . . Summer Cottages . . . Many Popular Home designs . . . Apartment designs . . . New Ideas . . . Financing . . . Contractors' Business Methods and Cost Keeping—

Don't miss the May issue.

—The Editors.

Published on the first day of each month by the American Builder Publishing Corporation. *President*, Edward A. Simmons; *Vice-Presidents*, Henry Lee and Samuel O. Dunn; *Treasurer*, John T. DeMott; *Secretary*, Elmer T. Howson; *Editors*, Bernard L. Johnson and Charles G. Paker; *Associate Editors*, P. W. Hanna, E. B. Quigley, L. E. Arent; *Business Manager*, Robert H. Morris; *Advertising Staff*, Delbert W. Smith, C. R. W. Edgcumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, R. E. Clement, Homer Beach.

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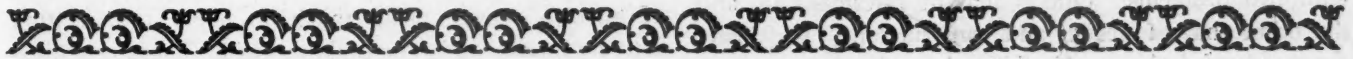
MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS
AND OF THE ASSOCIATED BUSINESS PAPERS

MAILED 10000
MAY 1930

AMERICAN BUILDER

Including "Building Developer" and "Home Building"

BERNARD L. JOHNSON AND CHARLES G. PEKER, Editors



Meeting This New Competition

THE recent newspaper stories and advertisements announcing that the large Chicago mail-order houses are engaging aggressively in home financing and home building on almost a nationwide scale are causing much discussion in building circles.

Dealers, builders and manufacturers are concerned. They hear that a hundred million dollars will be available through Sears, Roebuck & Company for home financing—a tidy sum, although actually only 2½ per cent of the nation's normal yearly home building budget. Montgomery Ward & Company, Hartman's, Gordon-Vantine, and others also are coming forward with home building propositions which largely ignore the local dealers in building materials or the local contractors and builders. Financing will be available on long and moderate terms. Local labor will be employed, supervised by some out-of-town company men on each job. Local dealers may be called upon to supply part of the materials, although the greater part will be shipped in. Local architectural service may be employed, or stock designs or special designs by the company plan department may be used.

The houses to be built under this program are said to be not the ordinary ready-cut or sectional houses, but may include larger and more expensive houses costing up to \$25,000, and may be of brick, stone or stucco, as well as of wood. Some realtors will act as agents.

Much is made in the news stories of the fact that in building these homes there will be a single, undivided responsibility from start to finish—financing, design, supply, and construction all being guaranteed by the big mail-order houses.

Favorable Impression Made

Such a program has its appeal to the average home seeker who knows or cares little about the building industry, but is thinking only about how he can get a home on the most attractive terms.

It evidently looks good also to some of the builders and contractors, and to some of the home building developers; for we see them signing up in several cities to work as subcontractors and foremen on these jobs.

Some of the retail lumber and supply dealers evidently also show approval—at least, to the extent of cooperating

by furnishing certain items of materials that are not so conveniently shipped in from out-of-town.

The special occasion and opportunity this year for this mail-order house invasion of the home building field is, of course, the shortage of mortgage money and the difficulty recently experienced in many cities in obtaining financing along customary lines. Faced with these obstacles, the old established factors in the home building industry have been placed at a disadvantage, and an opening has been left for the entrance of outsiders.

Consider Lasting Effects

This program of the mail-order houses for engaging extensively in home building naturally has a strong popular appeal at a time when an increase of building activity is regarded as highly desirable as a means of increasing employment and stimulating general business. The building industry in its own interest must, however, consider not only its temporary but, also, its more lasting effects. The amount of capital the mail-order houses plan immediately to furnish is very small compared with the normal average annual investment in home building; but if the movement they are starting is successful the amount of capital provided by them for home building undoubtedly will be increased, and the more successful they are the more restricted will become the business opportunities of the local dealers and builders throughout the country.

All that has been written and said regarding the chain stores and their menace to the local merchants and to community prosperity and growth holds true as to these giant out-of-town mail-order concerns in control of local home building.

The local dealers in lumber, masonry materials, hardware, paints, plumbing and heating would be largely forced out of the picture, if this program should become established.

The builders also would suffer through their loss of independence. It may look good to some of the builders this spring to sign up under the mail-order flag as subcontractors or as boss carpenters or masons, or even perhaps as skilled laborers. But how will they relish the idea of *continuing* in such reduced capacities?

Local Building Industry Can Win by Offering a Comparable Service

There is only one way for local builders and dealers to meet this new competition. This is by cooperative efforts in each community which will enable them to render at least as attractive service to home builders as the mail-order houses can render. They are presented with two problems. One is that of salesmanship, and the other that of design and construction. The many thousands of dealers and builders throughout the country are, because of their number and location, better situated to sell their goods and services to local people than are the few big centralized mail-order houses, and they can conduct more effective selling campaigns if they will take full advantage of their superior opportunities in this respect.

By intelligent cooperation and use of the most improved methods and equipment, they can also build homes at least as economically. Strong evidence in support of this view already has been supplied in some places—as in the Greater St. Louis district, to mention only one. When the first announcement of the mail-order invasion broke, a committee there of local dealers and builders got together and, somewhat to their own surprise, found they could beat the mail-order house prices by fully 20 per cent on definite job figures—using the regular building materials out of stock and having construction done by the skilled local builders. Furthermore, they found that financing was available to them on just as attractive terms as their big competitor was quoting.

What did they do? They bought full page space in the local newspapers and *told the public these facts!*

Team Work Required

In order to meet this new competition, the newest and best methods must be used. Team work by the dealers, builders, architects and loan organizations must be effected. Then when they are ready to offer the home seeking public a responsible and well-functioning service, they should not hesitate *to tell the public about it!* The local building fraternity, if they will pull together, really have an immense advantage over their big, impersonal, out-of-town competitors. The local overhead management expense is less, and the local personal interest, with its accompanying service, is many times greater.

The AMERICAN BUILDER believes in the local dealers and in the service that they render. We honor the integrity and the skill of the local builders. And we are confident that these two basic factors of the building industry, working together in harmony and backed up by the manufacturers, the architects, and the financing agencies, can continue to give the best value, dollar for dollar, in homes and in other needed building improvements.

Even in these complicated and difficult modern times,

local enterprise and brains can hold their own against centralized capital and organization.

The Census of Construction

A CENSUS of the construction industry has been undertaken by the United States Department of Commerce, through the Bureau of the Census, as a part of the current Census of Distribution. The possibilities of such a census mean much to every organization actively interested in the building field. These organizations have found themselves constantly hampered by a lack of complete and definite information about the industry as it exists. The greatest possibilities of the census can only be realized by the wholehearted co-operation of all contracting and building organizations.

On March first the Bureau mailed a schedule of questions to 150,000 contractors with a request that they be filled out and returned within 15 days after being received. While the schedule is comprehensive and calculated to develop the fullest amount of information, it has also been planned with the idea that it shall require the smallest amount of time and research on the part of contractors in filling it out. It represents the results of many conferences between officials of the Bureau and leaders in the construction industry.

This initial census will only be taken of those contractors who did a gross business of at least \$25,000 in 1929. Contractors who did less than that amount of business are requested, however, to note that fact on the report blanks and return them to the Bureau.

It is rather to be regretted that the Bureau has seen fit to place the \$25,000 limit in taking this census. One of the conspicuous defects in the building statistics which have been available in the past has been the fact that they did not include the work done by the smaller contractors. While these smaller contractors do not represent individually a large volume of work, when considered as a group they represent a surprisingly large proportion of the entire building of the country; and this volume is essential to a true picture of the construction industry as a whole.

The present census will, however, produce much valuable information. It is to be hoped that it will become a permanent activity of the Census Bureau and will in the future be extended to include all of the building in the country. It is most certainly an important step in the right direction.

Among the questions covered in this study are those concerning the number of workmen employed, wages paid, amount of work done during the year, values and types of materials used and character of construction operations. A series of questions is asked in regard to overhead expenses, use of equipment, types and values of subcontract work, number and value of buildings in each class, amount of work classified by ownership, and the degree to which firms undertake work in other cities than those of their headquarters.

No contractor need hesitate to furnish the information requested. Under the law no one who is not a

sworn employee of the census bureau will be permitted to examine the reports; and no information can or will be given out to other government bureaus or to any individual concerning any individual report.

With such objectives in prospect, it will be good business for every contractor to give the necessary time to filling out his census report and returning it promptly. Promptness is an essential feature of co-operation, as delay in completion of this construction census will reduce its value.

Building Codes and Costs

AN early reduction of building costs which will tend to stimulate construction in New York City is foreshadowed by the recent action of Mayor Walker in causing the introduction in the Board of Aldermen of a series of amendments to the New York Building Code. These amendments were drawn by The Merchants' Association which, at the request of the Mayor, has been drafting a proposed new building code.

The Building Code Committee informed the Mayor some time ago that it would be possible to put into effect these reforms regulating the use of structural steel without waiting for the completion of the entire new code. The basic principles contained in the amendments will be included in the new code but will be elaborated in greater detail.

Because of the rapid development of structural steel in the last few years old building code regulations in regard to its use have become out of date, and their enforcement in cities which have failed to revise them has placed a burden of unnecessary cost on building.

Some building code revisions have been made and a curious situation has been created. That is, according to the building codes, construction which is not only safe but legal in one city is illegal and treated as unsafe in other cities. A general standardization of building regulations is badly needed.

The chief provisions of the New York revision are:

1. An increase in the allowable working stress for ordinary structural steel from 16,000 to 18,000 pounds per square inch.
2. Permission to use special steels such as nickel, silicon and high carbon steel.
3. Decrease in the load for wind pressure from 30 to 20 pounds per square foot and requirement that all wind loads shall be carried in the structural frame.
4. Considerable reduction in the minimum live loads for many types of buildings, notably reduction in such loads for office space from 60 to 50 pounds and in various kinds of places of assembly a reduction from 100 to 60 and 75 pounds.
5. Considerable decrease in the minimum loads

required for light factory buildings, stables and pleasure car garages.

6. Reduction in the live loads required on columns, piers and girders in buildings over five stories high.

7. The allowable working stresses on steel used in reinforced concrete and on steel and concrete columns have likewise been increased in general conformity to the increase made on structural steel alone.

While no accurate estimates are obtainable as to the amount of saving in building costs that the enactment of these amendments will bring, engineers are agreed that there will be some saving in all steel and concrete building construction and that this saving will run from \$100,000 to \$500,000 on the larger type of buildings. Experts place the saving on steel alone at approximately \$6,000,000 a year for the city of New York.

With the strong types of steel now available and their uniformity of quality, these reductions are entirely justified. The building industry would profit by a stimulation of business if other cities would follow the same lead.

Canada Building Active

WHILE the United States was suffering a slump in building during the year 1929, Canada was enjoying the biggest building year on record. According to the Annual Review recently issued by Dominion Bureau of Statistics, the value of building permits issued by 61 Canadian cities reached a total of \$234,944,549, as compared with \$219,105,715 for 1928, the largest year previously recorded since the Bureau was established in 1920.

According to the MacLean Building Review for January, the value of contracts awarded throughout Canada was \$576,651,800 in 1929 as compared with \$472,032,600 in 1928, an increase of 22.1 per cent. An analysis of these figures shows that there were slight declines in contracts awarded for business, industrial and residential buildings, but large increases in those for engineering projects.

The noteworthy increase in construction as indicated by the permit records was also reflected in the Bureau's index of employment in building, based on returns from some 600 contractors employing an average payroll of 51,851 persons. This index, based on the average employment in 1926 as 100, averaged 135.3, as compared with 112.0 in 1928. This was the highest on the record which goes back to 1920.

It is stated, further, that this building activity in 1929 had a decidedly stimulating effect on the various industries related to construction, notably lumber, clay, glass and stone and structural iron and steel works, in which employment was at a considerably higher level than in previous years.

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**"ALL SPECULATION REMOVED from SPECULATIVE BUILDING"**  
is an important article to run in MAY American Builder. Its Study will  
bring Success and Profits to many of our readers.—The Editors.



*Solarium or Sun Porch (above) and Stately Rooms with Arched Openings (below) Typical of the Improvements which the past twenty-five years have brought*

# TWENTY-FIVE YEARS

American Builder Celebrates Its Twenty-Fifth Anniversary, Covering  
a Period of Remarkable Progress in the Building Industry

**T**HE years between 1905 and 1930 have brought many developments to the building industry. Always important, it has only been during the latter half of this period that building has received public recognition as America's second largest industry, taking its proper place in the forefront of American activities as giving employment, directly and indirectly, to the greatest army of men dependent upon any industry; as involving, also, the greatest use of capital and offering the most stable form of investment.

Building is a national necessity, just as much as food or clothing. Those who best know the facts realize that building on a huge scale is an economic necessity for a great nation like the United States, with its 124,000,000 population, its ever advancing standards and its great national wealth.

The proportions of this building requirement, as recorded in building permits granted in our leading cities, emphasize the importance of the residential requirement as being by far the largest, both in volume and value, compared to all other types of buildings erected. Taking the period from 1921 to 1928, representing eight of our most active years, residential building constituted over 62% of the total value and non-residential about 38%.

Unquestionably, there has been a trend towards apartment house living in the last few years, based on the number of families for which new housing has been provided. For instance, considering only new residential building permits in the principal cities during 1928, 47.8% of the total new family housing was in apartment buildings—a larger percentage than ever before.

## DESIGN TRENDS

**T**HROUGHOUT the period, 1905-1930, building design has passed through many phases and it is safe to say that marked progress has been made toward a newer and better era.

The trend in the design of our large buildings has been towards the modernistic, which seeks its architectural effects largely through the proportioning of its masses, to the exclusion of extraneous ornament. Heavy ornamental cornices are all but a thing of the past. Cupolas and towers must be an integral part of the structure. These towers have usable floor space, and, in conformity with zoning ordinances, their set-back architecture tends to sound proportioning and a minimum of light obstruction.

Interior design, finish, equipment and lighting effects have reached new standards of refinement and luxury. Our large office buildings, public buildings, hotels and

theaters surpass the palaces of old in their interior finish and decoration, and in their perfection of construction.

## APARTMENT BUILDINGS

**A**PARTMENT building design has seen considerable evolution in the last two decades, with particular attention paid to orientation for liberal daylighting and cross-ventilation. These buildings may be divided into two general classes—fireproof, elevator apartments of considerable height and the English basement type of three or four stories. Landscaped light courts are commendable features, more generally found in connection with the latter type. There has been constant progress towards greater convenience, living comfort, and even luxury, in both types of apartment buildings. Playrooms, adult recreation rooms, dancing and community rooms, as well as outdoor playgrounds for children, are common features of the better type of apartment buildings.

The equipment of these buildings provides every modern convenience for living comfort, including automatically controlled heat, artistic radiator covers or else recessed circulating wall radiators; bathrooms with tiled floors and walls, plate glass shower enclosures and colored baths and plumbing fixtures; kitchens with gas or electric ranges, mechanical refrigeration, convenient storage cabinets and cases, incinerator chutes to a central incinerator plant, milk and package receivers, dishwasher sinks with acid-resisting porcelain finish, built-in ironing boards, electric clocks and motor-driven beaters. Some of the more modern designs have garages in the basement connected by elevators to the floors above. It is probable that this tendency towards more lavish equipment will continue. Each new invention or modern development, such as the radio, affects the design and equipment of these buildings. Most of them are now wired for radio, so that all the new tenant has to do is to plug in his receiver into a baseboard outlet. The increased use of table and floor lamps, vacuum cleaners, toasters and other electrical conveniences has vastly increased the amount and complexity of the wiring.

## SINGLE DWELLINGS

**A**S AFFECTING by far the greater number of the population, trends in the design of single dwellings have the greatest significance and importance. There has been a gradual evolution in housing since the early days of the republic, but, in the last 10 years, the changes have been most rapid. Dwellings of the more modern type set an entirely new standard of living. This is a

gratifying development. Just as the family is the basis of organized society, so the more convenient and attractive home environment contributes to the welfare of the nation.

What would have been considered a comfortable, modern home in 1905 is now obsolete and not representative of the housing standards of to-day. This feature of obsolescence is a most important one as affecting the national building program. It is a heavy factor in creating a demand for new construction, as well as modernizing alterations and additions. The desire to keep up with progress is a national trait. Our people don't want to be considered "back-numbers." Besides all this, there has been a very real need for improvement. There was too much drudgery and discomfort connected with the houses of a former day.

The use of insulation against heat and cold has become a feature of modern home construction, making these dwellings more comfortable in both winter and summer. Money spent in this way and in efficient heating plants returns dividends in the way of lower heating costs. Clean, automatic heat may cost more in some instances but the advantages gained are so marked as to be well worth the investment. One result of this is to make basement space available for living and recreational use.

Perhaps the most recent and significant development in dwellings is the trend towards the more permanent, fire-safe construction, gained through the use of masonry, steel and concrete.

## LUMBER PROGRESS

**A**MERICAN progress has been greatly aided by its forests and its lumber industry which remains, today, one of our largest and best organized industries.

The most outstanding development in the lumber industry during the period, 1905-1930, has been the marked shift in lumber producing areas, especially in regard to softwoods. During the early years of this period, the South superseded the Lake States, as they, in turn, had superseded, in 1860, the region of the Northeastern States and the Allegheny Mountains. It was in 1890 that the industry moved into the Southern States. In 1914-15, however, the State of Washington displaced Louisiana as the largest lumber producing state and this trend has continued until the Pacific Coast States are now the largest producers.

## PORTLAND CEMENT GAINS

**B**UILDING activity has been reflected in no other industry to the same extent as in the portland cement industry. Our total output has grown from 35,246,812 barrels, in 1905, to 176,195,000 barrels during 1928. Values have increased from \$33,245,867 to \$276,626,150, which is almost nine times as great.

While considerable progress has been made in concrete construction prior to 1905, the expansion has been most marked since that date. The possibilities of steel

reinforcement were early recognized and it may be said, to-day, that it is the union of cement and steel which gives the ideal result of permanence, fire-safeness and strength, so necessary to good buildings. Even steel frame skyscrapers require vast quantities of concrete in their foundations, also to fireproof the steel members and for floor construction.

One reason for the rapid growth in concrete construction has been the perfection of engineering technique and the technical efficiency attained in its use. To the Portland Cement Association must go a great deal of the credit for the advances made.

## THE HUMAN EVOLUTION

**W**E ARE apt to think of changes and developments in any period in terms of their physical expression. But buildings, equipment and transportation are only the outward manifestations. The underlying cause—the real development—is human. It is the divine discontent in man continually striving to better his surroundings.

The human development during the last quarter century has been the constant progress towards greater efficiency on the part of builders and contractors. This has been demonstrated by the large and constantly increasing output of contractors' machinery and equipment.

Builders were quick to apply the efficiencies of motor trucks and cars to their business. It is doubtful if any other industry is motorized to such an extent. This applies, not only to general contractors and resale builders but to all throughout the long list of dealers and sub-contractors.

With the advent of the motor car and truck and smooth, paved highways, the builder has enlarged his horizon. His operations cover a large territory and he buys, as well as builds, at a distance, whenever the situation justifies it. If the local markets are insufficient for his needs, he drives as far as necessary to secure the goods he desires. The same factors operate in allowing him to take contracts at considerable distances from his local headquarters.

During the last 25 years, we have seen a new school of builders and developers arise having highly developed merchandising ability. These men are not mere order-takers or contract-receivers; they are business men with the selling point of view and these characteristics show in the selection of their building sites and the design and equipment of their buildings. These men are largely responsible for the many fine, new residential sections in or around our principal cities and deserve great credit for the splendid work they have done.

In this quarter-century, too, the builder, generally, is better educated in his craft. Many high schools and technical colleges have well attended classes in draftsmanship, engineering and construction work. The modern builder is constantly reading and studying to keep up with the trend in design and the newer methods and materials.

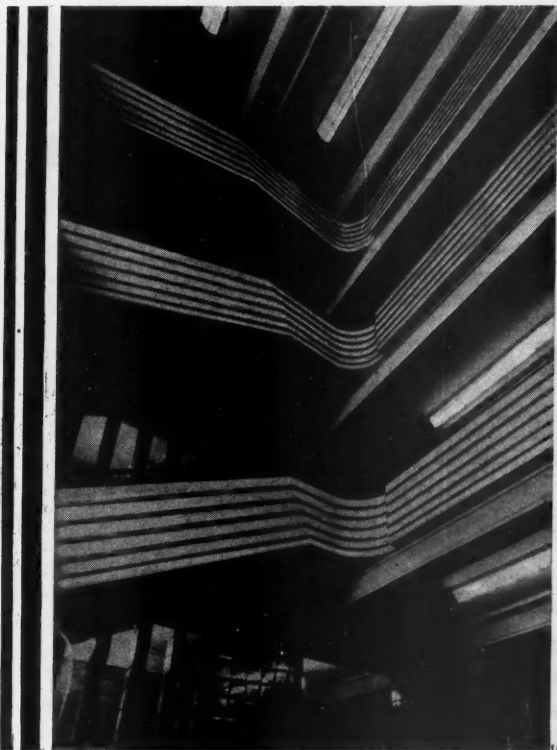


# Straight Line Architecture



**O**NE of the outstanding examples of the new style of straight-line architecture is the new City Hall pictured above—at Reutlingen, Germany. The clock is about the only feature of the building that shows the circular form. The great tower not only adds to the artistic appearance of the building, but also serves to conceal the highly useful water tower.

Remarkable effects have been produced in the interior construction and finish of this Reutlingen City Hall. Below we show the stair, this is of concrete construction painted a silver gray with green glazed ceramic strips in a straight line design.



A Trend of Design  
in both  
America and Europe

**O**NE of the earliest examples, and perhaps the origin of straight-line architecture in America is the rear facade of the New York Public Library built some thirty years ago. Carrere and Hastings were the architects.



**T**HE Daily News building, East 42nd Street, New York, is one of the best examples in the United States of straight-line architecture. A close neighbor is the Chrysler building, which towers up some 68 stories.

# Organizing a Modernizing Campaign for Your Town

By L. BRANDT, *Housing Engineer*

**T**HIS year will probably establish a record of the greatest home modernizing movement even known in America. There are three logical reasons for this situation. The first is that the number of homes requiring modernizing has increased with startling rapidity until several million dwellings of this nature exist in United States today. The second reason is that attention has been effectively directed to the possibilities of reclaiming old buildings, so that we have not only learned and developed efficient methods of modernizing, but home owners have become interested in the great possibilities of re-establishing values in this manner. The third reason is that the business values of home modernizing have been more clearly recognized, so that it is now a well established fact that through the remodeling of houses and the installation of modern equipment, real estate values may be greatly increased. Such houses can be rendered attractive in appearance and can be made to provide domestic comfort and convenience as required by the standards of the day.

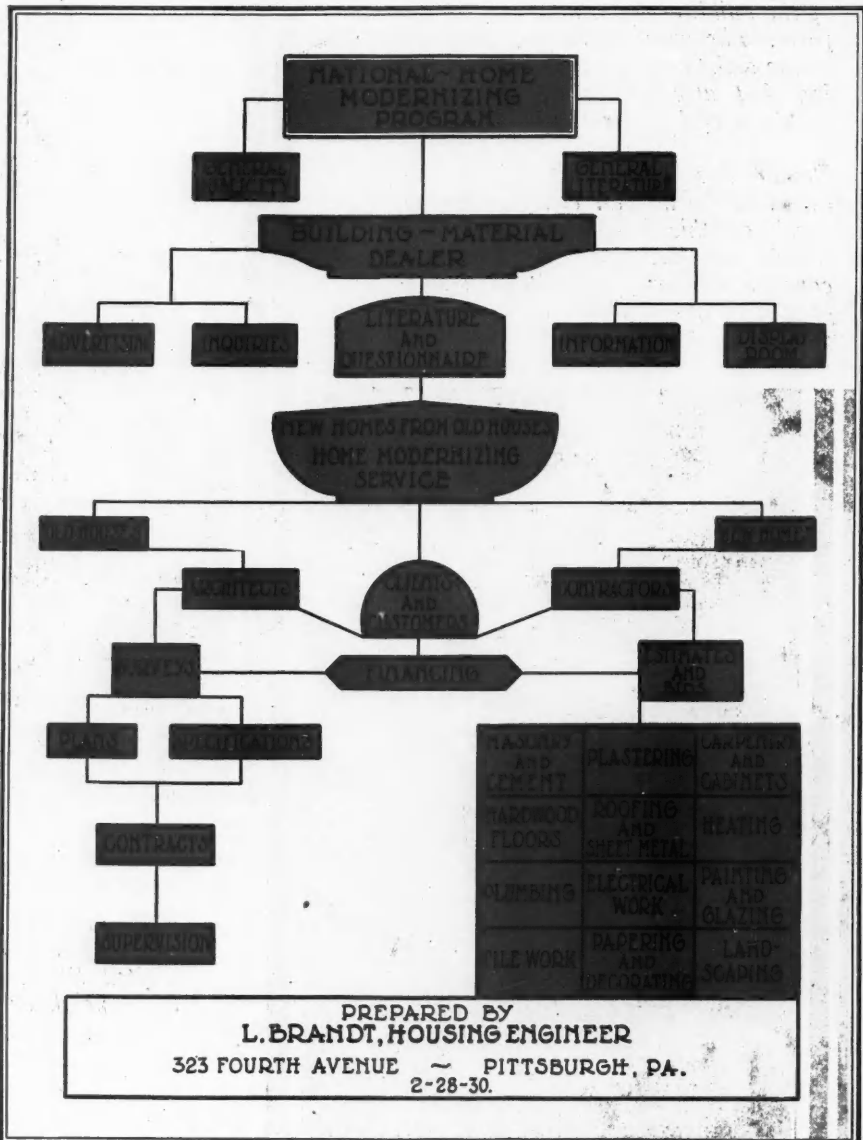
Modernizing in all its phases should be simplified for the home owner, whether it includes an entire program or the installation of but one item of equipment. This condition may be met and modernizing made popular and effective through the establishment of a local home modernizing service. This service should be the most simple procedure in dealing with surveys of work to be done, furnishing plans and specifications, placing contracts, supervising the work and arranging financing.

Local home modernizing service should be set up in a well established business location, equipped with show rooms to display the many nationally advertised specialties that are in demand and required in modernizing work. The branch of the building industry probably best qualified to put on a home modernizing service is the building material dealer, many of whom have well located offices and show rooms already established in their places of business. The material dealer from a merchandising standpoint can well afford to establish a modernizing service department as a branch of his business. This department can be organized on as small or as large a scale as the business demands.

The building material dealer's home modernizing service can be organized so as to function with the local architects and contractors. The material

dealer can establish this service in his community through local advertising, surveying various districts, circularizing home owners and by personal solicitation. There is much general literature already available that may be obtained so that he may enter upon the work at the outstart with a low initial expense. His modernizing department should furnish information and send out questionnaires that will not only interest but will aid the home owner in an understanding of the work that should be done.

When surveys have been made and plans and specifications have been prepared, whether in the service department itself or by the local architects, the home modernizing service department should take fixed bids for each branch of the work so that a fixed sum contract for the entire work may be entered into between the home owner and the modernizing department. The



APPLICATION AND QUESTIONNAIRE FOR HOME MODERNIZING

To:  
Home Supply Company,  
2580 Home Owners St.,  
Washington, D. C.

Attention: Home Modernizing Service Department

Gentlemen:

I would be pleased to have your free inspection and advice in the modernizing of my home.

I have listed the items in this application blank and questionnaire that I may want done. I am prepared to spend \$..... for all the work I wish to undertake at this time.

My home is located at:

No.....Street.....  
City.....  
State.....

DESCRIPTION OF PROPERTY

Lot size..... Frontage..... Depth.....  
Overall dimensions of house ..... Frontage.....  
Depth..... House is ..... stories high.  
Exterior Walls (Check which): Brick ....., Siding.....,  
Shingles....., Stucco..... House is ..... years old  
from the date it was built.  
I consider my property worth \$.....  
Is property paid for? ..... If mortgage is carried, what  
was the amount of the original mortgage? \$.....  
How much remains unpaid? \$..... Do you require financ-  
ing for the modernizing work proposed? No or yes .....

APPLICANT CHECK ITEMS WANTED AND CLASS OF WORK DESIRED

| Listing for modernizing work | Class of work desired | Approved |
|------------------------------|-----------------------|----------|
| 1 Masonry and cement work    |                       |          |
| A Foundation repairs         |                       |          |
| B Brickwork repairs          |                       |          |
| C Cement floors              |                       |          |
| D Sidewalk                   |                       |          |
| E Driveway                   |                       |          |
| 2 Plastering                 |                       |          |
| A Interior work              |                       |          |
| B Texture finish             |                       |          |
| C Exterior Stucco            |                       |          |
| 3 Carpentry and Cabinets     |                       |          |
| A Framing work               |                       |          |
| B Recovering outside walls   |                       |          |
| C Porches                    |                       |          |
| D Sun parlor                 |                       |          |
| E Doors                      |                       |          |
| F Windows                    |                       |          |
| G Cabinets                   |                       |          |
| H Interior finish            |                       |          |
| 4 Hardwood floors            |                       |          |
| A Living Room                |                       |          |
| B Dining Room                |                       |          |
| C Halls                      |                       |          |
| D Bed Rooms                  |                       |          |

| Listing for modernizing work | Class or work desired | Approved |
|------------------------------|-----------------------|----------|
| 5 Roofing and sheet metal    |                       |          |
| A Roofs                      |                       |          |
| B Gutters                    |                       |          |
| C Conductors                 |                       |          |
| D Valleys and decks          |                       |          |
| E Flashing                   |                       |          |
| F Clothes chutes             |                       |          |
| 6 Heating                    |                       |          |
| A Hot water                  |                       |          |
| B Vapor                      |                       |          |
| C Steam                      |                       |          |
| D Warm air                   |                       |          |
| 7 Plumbing                   |                       |          |
| A Kitchen sink               |                       |          |
| B Toilets                    |                       |          |
| C Wash stands                |                       |          |
| D Bath tubs                  |                       |          |
| E Shower baths               |                       |          |
| F Laundry trays              |                       |          |
| G Water heater               |                       |          |
| H Piping                     |                       |          |
| I Drains                     |                       |          |
| 8 Electrical work            |                       |          |
| A New wiring                 |                       |          |
| B Convenience outlets        |                       |          |
| C Power outlets              |                       |          |
| D Lighting fixtures          |                       |          |
| 9 Painting and Glazing       |                       |          |
| A Exterior                   |                       |          |
| B Interior                   |                       |          |
| C Glass                      |                       |          |
| 10 Tile work                 |                       |          |
| A Bath rooms                 |                       |          |
| B Lavatories                 |                       |          |
| C Kitchens                   |                       |          |
| 11 Papering and Decorating   |                       |          |
| A Wall papering              |                       |          |
| B Wall painting              |                       |          |
| C Ceiling painting           |                       |          |
| 12 Landscaping               |                       |          |
| A Grading                    |                       |          |
| B Soiling                    |                       |          |
| C Seeding                    |                       |          |
| D Planting                   |                       |          |

Respectfully submitted,

Name.....  
No.....Street.....  
City.....  
State.....

References:

.....  
.....  
.....

A Typewritten Survey Form Like This Can Be Prepared at Small Expense, and Proves a Great Help in Handling Modernizing Jobs.

material dealer can work out the functioning of financing for modernizing work better than most any other agency. He can pass on credits, make collections for all work done, pay the labor and material cost and control the value of work to be done to the benefit of all interests.

Home modernizing service has an obligation in surveys, plans, specifications and management to protect the home owner from any unsound investment. Only homes

that justify the expenditure for reconditioning should be considered. Such a service can be made of great value to any community and can be made of commercial value to the building material dealer and the contractors especially in stimulating business in times when new building work is not available.

The writer has prepared the chart shown herein which simplifies and outlines a complete plan for the building material dealer's home modernizing service de-

partment, also a form of application and questionnaire for home owners to study their modernizing problems and to make application for the work he most desires. This form of application is then used as a basis for making the survey by a modernizing service.

### National Headquarters Ready to Help

**H.** H. SACKETT, Director of the Home Modernizing Bureau, Chicago, has issued the following helpful suggestions for local modernizing bureaus in organizing their campaigns:

The formation of a home modernizing campaign in any community should be approached only with a determination to maintain a co-operative program until results have been obtained, by educating home owners on their modernizing needs through publicizing the idea by various methods and making the community "modernizing conscious."

The essentials of a successful campaign include:

**Publicity Through the Local Press and by Direct Mail:** The Home Modernizing Bureau at Chicago issues each week a *news service* consisting of editorial matter and illustrations on modernizing and the different phases of new construction. This should be secured by the local newspaper and a regular "Building Section" established. The cost of this service to newspapers is from \$1.00 to \$10.00 per week, depending on its circulation.

The use of this service should be supported through co-operative and individual advertising by the local dealers. Mats covering full, half and quarter page co-operative advertisements may be secured from this Bureau at \$3.00, \$2.00 and \$1.00, respectively.

Direct mail publicity, including booklets and folders, may be secured from this Bureau at cost, as well as poster stickers, large posters, street car cards, etc.

**Architectural Visualization Service** should be made available by securing the services of a local architect to make sketches showing how homes will appear after modernization, or arrange to have such work done by the Home Modernizing Bureau at Chicago at the nominal cost of \$2.00 per room. This particular activity is 50 per cent of the sales effort in closing a modernizing job.

**Financial Service** should be supplied by providing the home owner, when necessary, with the privilege of paying for his improvements on a time-payment basis.

**Vigorous Sales Effort** should be made by the already existing sales forces of the local building industry through personal surveys and solicitations.

Other effective features are as follows:

**Prize Contest** on the best letter, "How I Would Modernize My Home for \$1,500.00" may be conducted by the newspaper, and prizes consisting of modern home accessories and perhaps some cash, should be contributed by the local merchants. As much publicity as possible should be given to this feature.

**Demonstration Home:** An old house, well located, should be modernized and used for demonstration purposes, and as much publicity as possible given to it through the local press, well lighted signs, and personally conducted inspections. For advertising purposes, the local merchants should be willing to furnish this demonstration home and the public utility company should be glad to furnish the lighting.

**Co-operation of Local Civic Groups:** The local Chamber of Commerce should co-operate by advocating the home modernizing idea in its civic program, as well as conduct a survey of the entire community through the help of the Boy Scout organization. The Women's

Clubs should be induced to do their part in the campaign by giving lectures and holding divisional meetings to encourage the idea. Pastors in the local churches may be asked to talk on the subject of modernizing purely from the standpoint of happier home life.

**Methods of Procedure:** First, call a meeting of all groups comprising the building industry, including a representative from the local newspapers and from one or more of the best financial houses.

Second, appoint a chairman and secretary, discuss plans for the campaign, and establish a budget for running it a year or at least six months. The size of the budget will be contingent upon the amount of publicity to be given the campaign, and whether a central information office is to be maintained with a salaried person in charge.

Third, appoint committees to take charge of and carry through to conclusion the different activities listed above.

All inquiries coming into the newspaper should be turned over to each member for follow up. No attempt should be made to allocate business. It should go through the regular business channels and to those groups which are most aggressive.

The more publicity given to the modernizing idea, the better the results.



### Summary of Business Conditions

By Julius H. Barnes, Chairman of the National Business Survey Conference

**C**OMPREHENSIVE reports from virtually every important line of industry make it possible to draw a fairly accurate picture of the business situation as it is now, four months after last fall's security decline.

The reports indicate that the importance laid upon construction as an influence in restoring industrial balance have not been over-emphasized. They show that for a revival of construction in its manifold forms a first requirement is adequate and reasonably priced credit.

**LONG TERM CREDIT:** January and February bond issues were 33 per cent larger than the same period last year. Bond prices formerly tending downward have turned upward in these last few weeks. The general outlook in the investment field is favorable, although bankers continue warnings against artificial stimulation.

**SHORT TERM CREDIT:** Customers' rates at their banks have shown a declining tendency. There is evidence that the general easing of bank credits is reaching the smaller centers. Total bank loans are increasing, showing funds going into use.

**SAVINGS:** New York Saving Bank deposits since the first of the year show steady net increase, substantially greater than last year's corresponding months. Elsewhere some districts show moderate increases over last year and others slight losses.

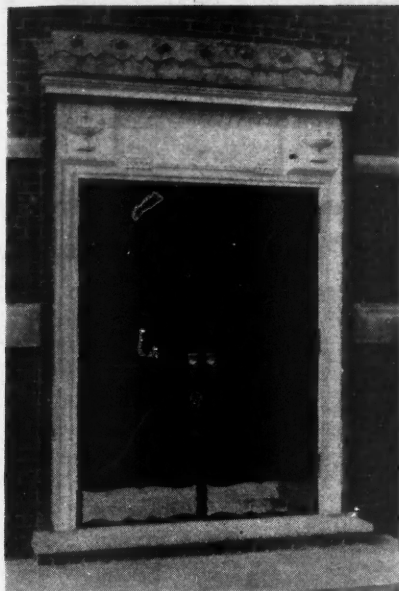
**LIFE INSURANCE:** New February business at \$1,003,000,000 exceeded February, 1929, by three per cent. Thus the December estimate of \$800,000,000 from life insurance reserves for new investment during the first half of 1930 is proving conservative.

**BUILDING AND LOAN ASSOCIATIONS:** In most sections a marked increase in receipts in comparison with closing months of 1929 is seen. Some associations have begun actively to solicit applications for home construction and for modernization.

**MORTGAGES:** City mortgages show smaller volume than last year and year before with a small increase in delinquencies and foreclosures. Adequate funds are reported available for conservative new loans.

# ORNAMENTAL FLASHINGS

*A New York Architect Starts a New Trend in Design*

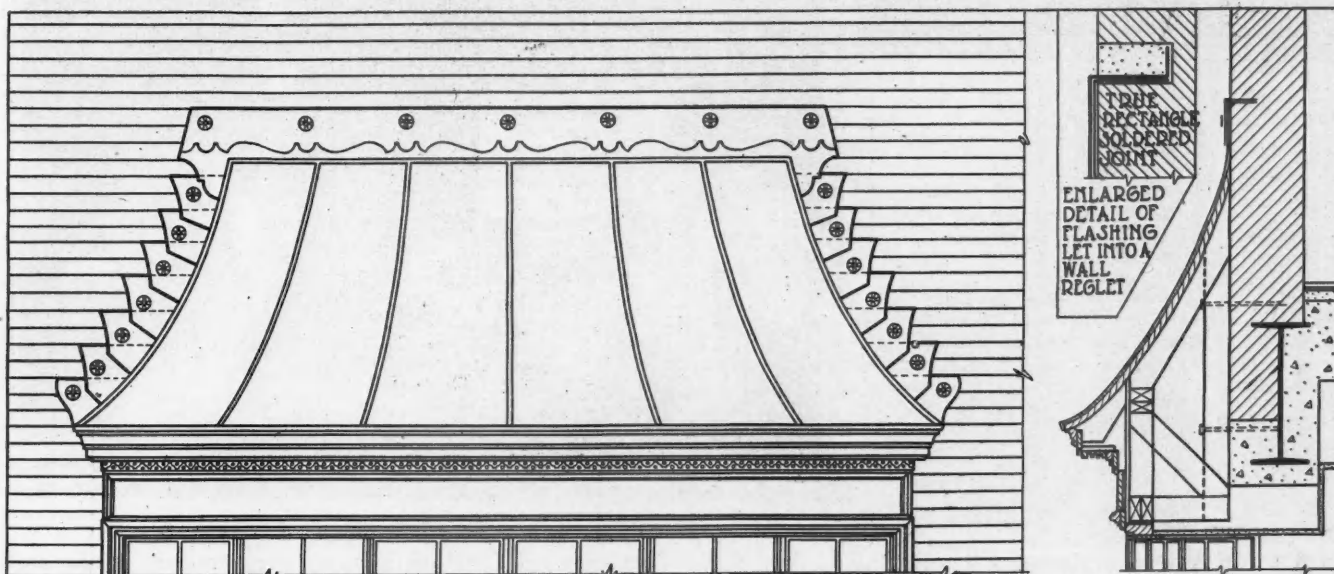


FLASHINGS and counter flashings are a most necessary adjunct to every building that is to remain storm tight. They have been used for centuries, but no one seems to have thought of their possibilities as an ornamental feature until Mr. Henry J. McGill, an architect of New York, started a new fashion of using them for this purpose on the Ursuline School for Girls, New Rochelle, N. Y.

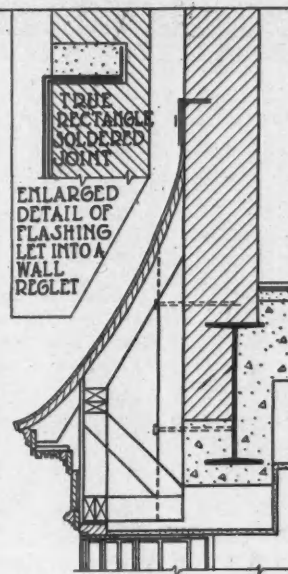
There are many varied effects to be had from the humble, but necessary, flashing if one will use ingenuity in making up a design.

Lead, zinc, tin, copper, galvanized iron, etc., can be readily used to advantage. A number of stock pressed ornaments can be had and these can easily be soldered to flashings, thereby obtaining many desired effects.

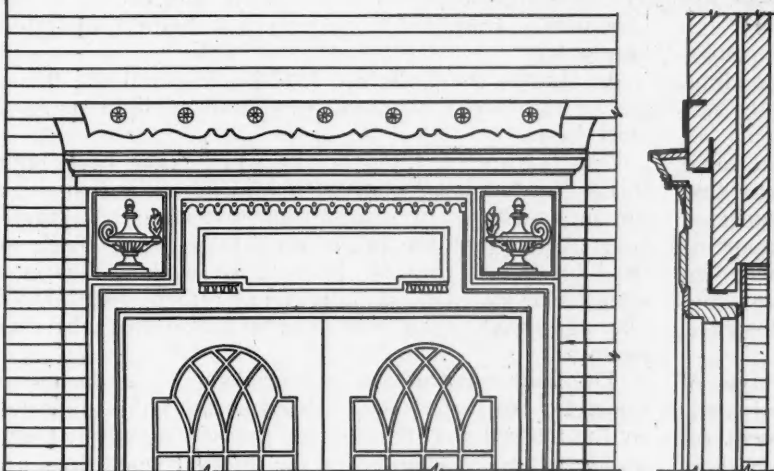
Those who favor the modernistic style will find a new source of delight in the discovery that flashings will lend themselves to decorative treatment.



DETAILS OF CONTINUOUS HEAD FLASHING AND OF SMALL STEPPED SIDE FLASHING OVER BAY WINDOW.



SECTION



DETAILS OF ORNAMENTED CONTINUOUS FLASHING OVER ENTRANCE DOORS.



## *Studies of* DECORATIVE FLASHINGS

HENRY J. MCGILL, A.I.A.  
TALBOT F. HAMLIN, A.I.A. ~ ARCHITECTS.

# Firesafe

*Light Steel Joists and Masonry  
Bearing Walls Produce Quality  
Homes at Low Costs*



Experience of  
**THE WARREN E. RICHARDS CO.,**  
Cincinnati, Ohio



*Above: Attaching Metal  
Lath to Underneath Side of  
Second Floor Steel Joists.*

*To Right: Workmen Lay-  
ing the Concrete Second  
Floor of the Cincinnati  
Enquirer Model Home.*



**A** NEW era of fire-safe home construction, using steel, masonry and concrete, is at hand. We say "new," although it has passed the early stages of occasional use in costly homes and is now available for wide general use in homes costing \$10,000 and up, as well as the smaller dwellings—bungalows, etc. It has been made possible because the steel companies, realizing the enormous market in residential building, have perfected light steel joists of two types—light section I beams and light fabricated trusses.

The wonderful efficiency of truss construction for a spanning support has long been known. It was first perfected in light steel in trusses for the support of garage buildings or any large buildings where supporting columns were undesirable. Now, it has been proven that trussed joists of light steel are adaptable to floor support in house construction and, when properly designed, are adequate for any required live load.

Other factors in the progress of this new style of construction have been the perfection of ribbed metal lath which serves both as forms and reinforcement for the concrete floors; and also the perfection for backing up outside walls of light weight concrete block and tile using cinders or burned clay aggregates, and combining strength and heat insulation value so that plaster can be applied direct without furring and lath.

The Warren E. Richards Company, developers and

builders, of Cincinnati, have been pioneers in the construction of the medium priced fire-safe home using these materials. Three of them have been built in Cincinnati by this company. The first was sponsored by the Cincinnati "Enquirer" and it was known as the Cincinnati "Enquirer" demonstration home, illustrated herewith.

As shown, the walls are load-bearing and the floors are of reinforced concrete, supported on light, trussed steel joists.

One feature of these homes which have been built in the Beech View Subdivision, Cincinnati, is that there are no partitions of combustible materials. All partitions throughout the house are of the same block as used in the back-up of the exterior walls. This is a concrete block made with portland cement and burned clay aggregate. This block can be nailed into wherever necessary.

The floor construction is interesting. Two inches of concrete, reinforced with ribbed metal lath, supported by the trussed steel floor joists, provide rigidity, as well as fire-safety. Grounds for the finished wood floor are embedded in the concrete.

While the element of fire-safety is an important advantage, an equal and, possibly, a greater advantage is to be found in the enduring nature of the construction. It is not dependent upon nails to hold it together.

# and Rigid Construction

It does not swell, shrink or warp and no cracks develop from settling, wind-sway or vibration.

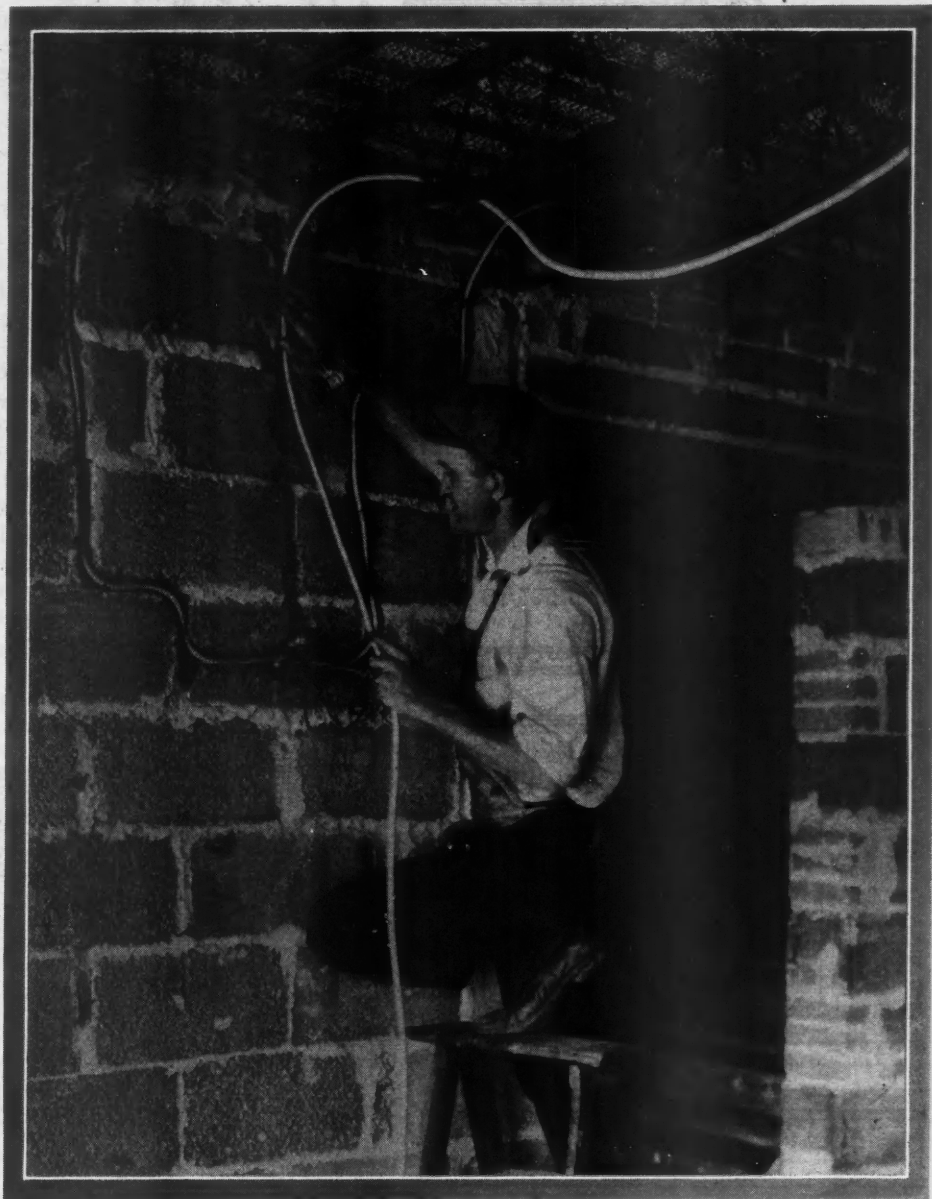
Such a house has but little depreciation and requires little or no upkeep or repairs. For these reasons, it is high class security for loans—a feature already recognized by some mortgage bankers, who are advancing as high as 75 per cent on first mortgage.

One of the outstanding features in connection with this type of construction is its comparative low cost. As builders become more generally familiar with it and learn how to take advantage of its inherent economies, it will cost no more than old style construction, and, in some cases, less.

The light weight steel trusses are easy to place and settle into a true plane by gravity. Thus, the moment the joists arrive and are set upon the supporting walls, boards can be laid across them as runways for barrows and they can be walked upon, even before being built into the walls or the metal bridging placed. Joists 12 inches in depth have bearings nine inches long at each end, but only require an actual bearing of four inches at each end so that there is considerable tolerance or give and take, making it possible to use stock lengths in almost any location.

The construction schedule is such that the various trades come onto the job with almost no necessity for stopping work until some other craft has carried the work farther forward. There is no rough carpentry until the walls are up to the plate and the roof framing begins. So quickly can the steel be set that the masons are not delayed in their work but keep on the job from the time the concrete men have finished their foundation work until the walls are up to the plate. There are, of course, slight intervals for the concrete men between the pouring of the two floors in a two-story house and for the steel men between the setting and bridging of the first and second floor steel. However, where union activities do not prevent it, this steel can easily be set by common labor under adequate supervision.

A great advantage in connection with the open trussed joists is the ease with which wire conduit, water, gas or heating pipes, or even soil pipes, can be run through them without the necessity for any cutting or delay. One of our pictures shows the placing of wire conduit



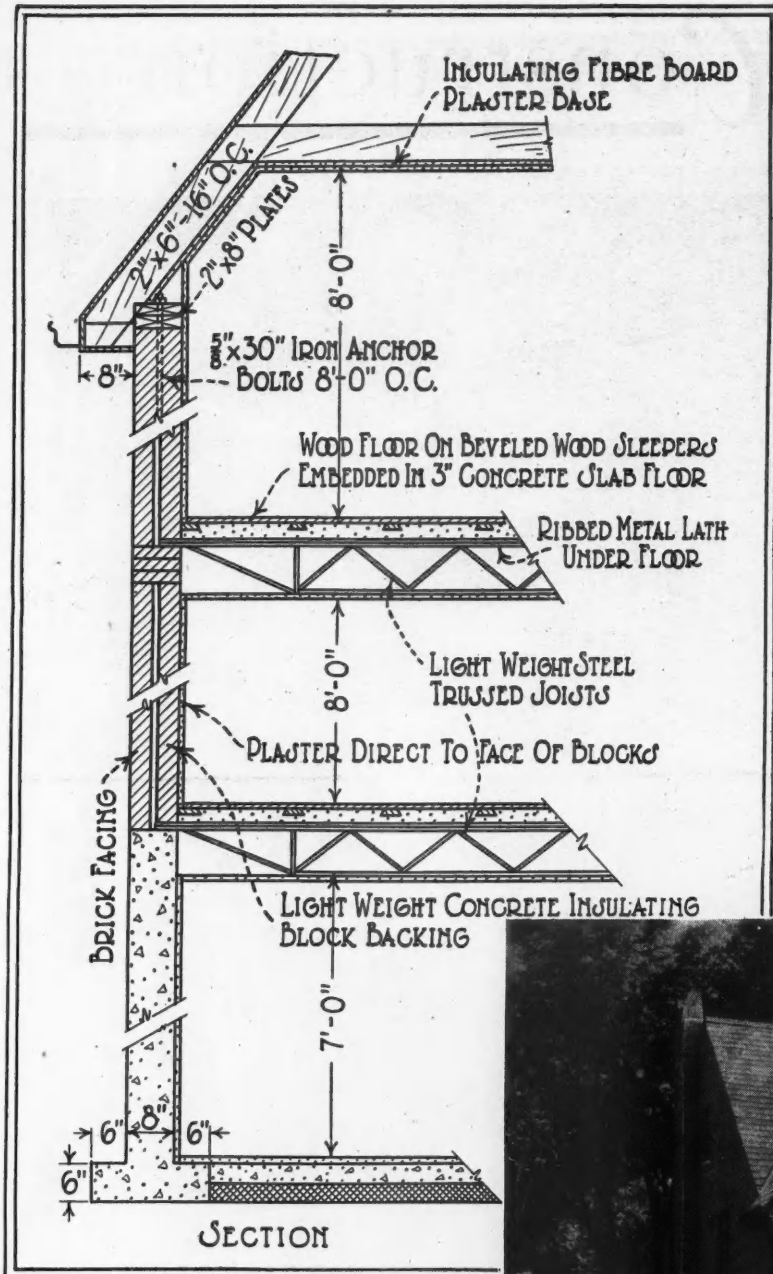
The Porus Back-Up Tile (Cinders or Haydite) Are Easily Channeled for Conduits. Plaster is applied direct to inner face of wall without furring or lath.

in an outside wall where the plastering was to be direct upon the back-up tile.

These block may be cinder concrete, or, as in the demonstration house illustrated, concrete made with a burned clay aggregate. Where there is facing brick or stone and a back-up wall of these blocks, plastering may proceed over their interior surface without the necessity for furring out for metal lath or any other plaster base. Furring out, however, will improve the good qualities of such a wall for a cooler house in the summer and easy heating in the winter.

Tying the metal lath in place is slow, at first, for inexperienced men, but, with proper attention to tools and methods, soon proceeds rapidly.

The Warren E. Richards Company installed in this



Above: Essential Details of This Firesafe and Rigid Construction, Using Steel Joists, Concrete Floors and Masonry Walls.

house high class finish and equipment. All water supply pipes are of brass, including the service pipe from the street to the house. Any home owner who has had to have his lawn trenched and go to the expense of replacing leaky service pipe eaten by electrolysis, will appreciate this feature. There will be no corrosion in the brass pipe.

The kitchen and breakfast room are floored with rubber tiling, cemented down. These floors can be mopped without injury from soap or cleaning powders and will always present an attractive appearance.

The heating plant is a one-pipe, low pressure steam system of a well known make. The windows are steel casements, also by a well known manufacturer.

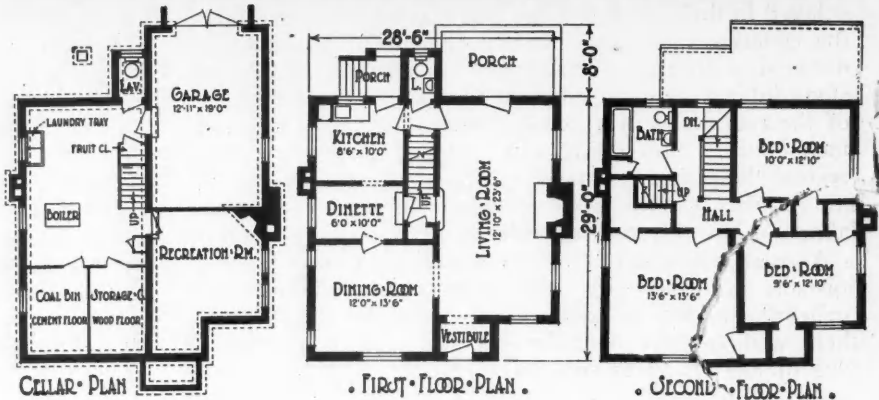
The window sills have a special quality feature. They are of laminated wood veneered with a new composition finish which is impervious to the effects of sun or water and is mar-proof. Burning cigars or cigarettes laid upon it will leave no mark. It is even unaffected by a 30 per cent solution of sulphuric acid.

The attractive roof covering is of color-blend asphalt shingles, the stone coating of which renders it spark and ember-proof. The exposed woodwork consists of solid oak timbers for porch lintels and columns and the gutters and downspouts are of galvanized iron.

The floor plans of the house show an attractive and convenient lay-out of the interior.



To Right: Photo and Plans of Cincinnati Enquirer Home, Built by the Warren E. Richards Co., Using this New Method.





# Standard Loading Table for Open Web Steel Joists

**M**UCH confusion has arisen in the design of steel joist construction, due to the fact that the joists made by different manufacturers vary considerably in capacity. As a consequence it has been impossible for designers to completely specify steel joist constructions without designating some particular producer.

To avoid these difficulties it has been agreed by the members of the Steel Joist Institute, an organization of the ten leading manufacturers of steel joists, that after January 1, 1930, all open web steel joists having depths of from 8 to 16 inches, inclusive, shall conform to the standards in the table reproduced below. The joists produced by different companies will vary in details of design but will have a resisting moment and end reaction not less than those shown in this standard loading table. Each manufacturer uses his own system of numbering his products, but all catalogs issued after the first of January, 1930, will in addition carry the Steel Joist Institute number as given in this table.

*Lengths*—Joists longer than shown in the table are not manufactured. Shorter joists are made where for

any reason it is not practical to use shallow joists for short spans. In computing the strength of short joists the maximum end reaction should be divided by one-half the span to obtain the safe allowable load per foot. Thus the joist SJ125 on a span of 15 feet would safely carry 333 pounds per foot. In such cases the safe load is determined from considerations of shear in the web system and not from stresses in the top and bottom chords.

*New Designs*—It is recommended by Frank Burton, consulting engineer for the Steel Joist Institute, that designers of work to be constructed after January 1, 1930, designate the joist sizes required in accordance with the notation of this table. Thus if it is desired to construct a floor having a total dead and live load of 110 pounds per square foot and a clear span of 19 feet the joists required would be SJ104 at 20 inches on centers, SJ123 at 18½ inches on centers, or SJ124 at 23 inches on centers. After the date of effect all members of the Steel Joist Institute will be ready to supply joists to meet the above design.

A. I. A. File Number 13-g

| Properties and Allowable Total Loads in Pounds per Linear Foot of<br>STEEL JOIST INSTITUTE STANDARD<br>Open Web Steel Joists |        |        |        |        |         |        |         |         |         |         |         |         |         |         |                                                                        |
|------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|--------|---------|--------|---------|---------|---------|---------|---------|---------|---------|---------|------------------------------------------------------------------------|
| American Institute of Steel Construction Stresses.                                                                           |        |        |        |        |         |        |         |         |         |         |         |         |         |         | Adopted by Steel Joist Institute Aug. 20, 1929. Effective Jan. 1, 1930 |
| Steel Joist Institute Designation                                                                                            | SJ81   | SJ82   | SJ102  | SJ103  | SJ104   | SJ123  | SJ124   | SJ125   | SJ126   | SJ145   | SJ146   | SJ147   | SJ166   | SJ167   | Steel Joist Institute Designation                                      |
| Depth In Inches                                                                                                              | 8      | 8      | 10     | 10     | 10      | 12     | 12      | 12      | 12      | 14      | 14      | 14      | 16      | 16      | Depth in Inches                                                        |
| Resisting Moment In Inch Pounds                                                                                              | 29,500 | 52,500 | 63,000 | 82,000 | 100,000 | 92,000 | 115,000 | 142,000 | 175,000 | 156,000 | 205,000 | 246,000 | 232,000 | 281,000 | Resisting Moment In Inch Pounds                                        |
| Maximum End Reaction In Pounds                                                                                               | 1600   | 1900   | 1900   | 1950   | 2200    | 2200   | 2300    | 2500    | 2700    | 2900    | 3100    | 3400    | 3200    | 3600    | Maximum End Reaction In Pounds                                         |
| Span 4 Feet                                                                                                                  | 800    |        |        |        |         |        |         |         |         |         |         |         |         |         | Span 4 Feet                                                            |
| 5                                                                                                                            | 640    |        |        |        |         |        |         |         |         |         |         |         |         |         | 5                                                                      |
| 6                                                                                                                            | 530    |        |        |        |         |        |         |         |         |         |         |         |         |         | 6                                                                      |
| 7                                                                                                                            | 402    |        |        |        |         |        |         |         |         |         |         |         |         |         | 7                                                                      |
| 8                                                                                                                            | 308    |        |        |        |         |        |         |         |         |         |         |         |         |         | 8                                                                      |
| 9                                                                                                                            | 243    |        |        |        |         |        |         |         |         |         |         |         |         |         | 9                                                                      |
| 10                                                                                                                           | 197    | 350    |        |        |         |        |         |         |         |         |         |         |         |         | 10                                                                     |
| 11                                                                                                                           | 162    | 289    |        |        |         |        |         |         |         |         |         |         |         |         | 11                                                                     |
| 12                                                                                                                           | 137    | 243    | 292    |        |         |        |         |         |         |         |         |         |         |         | 12                                                                     |
| 13                                                                                                                           | 116    | 207    | 248    |        |         |        |         |         |         |         |         |         |         |         | 13                                                                     |
| 14                                                                                                                           | 100    | 178    | 214    |        |         |        |         |         |         |         |         |         |         |         | 14                                                                     |
| 15                                                                                                                           | 87     | 155    | 187    | 243    |         | 272    |         |         |         |         |         |         |         |         | 15                                                                     |
| 16                                                                                                                           | 77     | 137    | 164    | 213    | 260     | 240    |         |         |         |         |         |         |         |         | 16                                                                     |
| 17                                                                                                                           |        |        | 145    | 189    | 230     | 212    |         |         |         |         |         |         |         |         | 17                                                                     |
| 18                                                                                                                           |        |        | 130    | 169    | 205     | 189    | 236     |         |         |         |         |         |         |         | 18                                                                     |
| 19                                                                                                                           |        |        | 116    | 151    | 184     | 170    | 212     |         |         | 288     |         |         |         |         | 19                                                                     |
| 20                                                                                                                           |        |        | 105    | 137    | 167     | 153    | 192     | 237     |         | 260     |         |         |         |         | 20                                                                     |
| 21                                                                                                                           |        |        |        |        |         | 139    | 174     | 215     |         | 236     |         |         |         |         | 21                                                                     |
| 22                                                                                                                           |        |        |        |        |         | 127    | 158     | 196     | 241     | 215     |         |         |         |         | 22                                                                     |
| 23                                                                                                                           |        |        |        |        |         | 116    | 145     | 179     | 221     | 197     | 258     |         |         |         | 23                                                                     |
| 24                                                                                                                           |        |        |        |        |         | 106    | 133     | 164     | 202     | 180     | 237     |         |         |         | 24                                                                     |
| 25                                                                                                                           |        |        |        |        |         |        |         |         |         | 166     | 218     | 262     | 247     |         | 25                                                                     |
| 26                                                                                                                           |        |        |        |        |         |        |         |         |         | 154     | 202     | 243     | 229     |         | 26                                                                     |
| 27                                                                                                                           |        |        |        |        |         |        |         |         |         | 143     | 187     | 225     | 212     | 257     | 27                                                                     |
| 28                                                                                                                           |        |        |        |        |         |        |         |         |         | 133     | 174     | 209     | 197     | 239     | 28                                                                     |
| 29                                                                                                                           |        |        |        |        |         |        |         |         |         |         |         |         | 184     | 223     | 29                                                                     |
| 30                                                                                                                           |        |        |        |        |         |        |         |         |         |         |         |         | 172     | 208     | 30                                                                     |
| 31                                                                                                                           |        |        |        |        |         |        |         |         |         |         |         |         | 161     | 195     | 31                                                                     |
| 32                                                                                                                           |        |        |        |        |         |        |         |         |         |         |         |         | 151     | 183     | 32                                                                     |

\*Note. These Joists are not produced by all Manufacturers.

A. I. A. File Number 13-g



L. E. Fite,  
President,  
Guaranty Bldg.  
Corp'n

# Planning—Building—



## Developers of Parkmoor Place, San Antonio

Other officers include V. F. Buchek, vice-president, and A. D. Willbern, secretary.

Recognized for qualities of aggressiveness, well tempered with conservatism, Mr. Fite brings to his enterprise a wealth of practical experience.

As active vice-president and general manager, Mr. Buchek is in direct touch with every detail of the construction and selling of Parkmoor homes. Young, being in his early thirties, he has risen rapidly to his present position, having been cashier of a Texas bank, on the staff of the Texas bank examining board, and bank president. Such experience in finance furnishes valuable background for him in his present field.

Parkmoor has been selected as being a type development of medium-priced homes, and the co-operation of Mr. Fite and his organization has been secured in presenting to the readers of *AMERICAN BUILDER* certain plans and procedures used in Parkmoor in the construction and selling of homes. These are presented for what they may be worth to building contractors and developers. Doubtless, some of them might be of use to men who contemplate the development of a tract of land into home units and who wish to get a comprehensive idea of how this San Antonio organization does such work and handles the problems connected with it.

The selling of homes is certainly one of the biggest of these problems, and since it is, plans used in selling Parkmoor homes will be outlined first.

### Night Selling

Prominent among these is the innovation of Mr. Buchek, who floodlights his new homes in a night selling campaign that results in a quicker turnover. The night-selling plan has certain significant advantages, according to Mr. Buchek. Although the homes are displayed at night, the visitor misses nothing that he might

**D**RIVE through Parkmoor Place, fostered by the Guaranty Building Corporation, in the Woodland District, northwest of the business district of San Antonio, and you will see today nearly two hundred homes built on land that was rough cow pasture three years ago. For it was on March 24, 1927, that the first home in this development was completed. Parkmoor Place is a community of moderate-priced houses, where homes are built in architectural units, fifteen or twenty at a time in one block. From these units it is easy for the home buyer to select a substantial frame house, a Spanish stucco dwelling, one in English brick, native Texas rock, or French Normandy stucco.

The first program of home building in Parkmoor Place was modest but consistent, and the development has never been spasmodic, but orderly, the houses usually being sold soon after being completed. Now in its third year of building, the organization behind Parkmoor plans to continue building and selling until it has placed a home on each of the 400 or more lots in the development.

The success of any building project, or any other business enterprise for that matter, rests largely on the men who are at the head of it. A small efficient, loyal organization controls both construction and selling. Headed by the Guaranty Building Corporation is L. E. Fite.



# Financing—Selling



## Win Success with Complete Service

see by daylight, for powerful flood lights are so arranged that they rival the sun in portraying the street, the shrubbery, the exterior finish, and the house and grounds. These are thrown into bold relief.

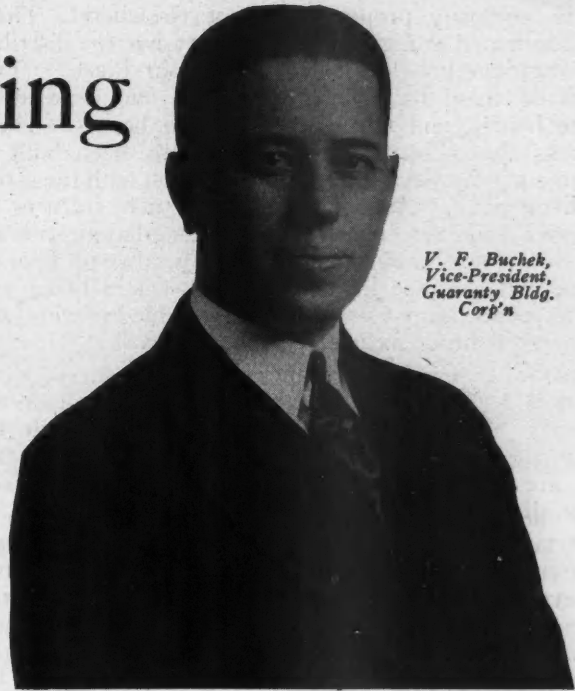
"On account of the heat, mid-summer days are not ideal for the showing of homes," said Mr. Buchek. "And even if they were, there are many people who could not find time to visit them during the day.

"There is also the matter of expediency. In a city the size of San Antonio it is common for many new homes to be open for the inspection of the public at the same time. With so many homes to see and show, it becomes an impossibility to display them all by day, and so the innovation of night showing serves a real need."

Night selling was first employed in the Parkmoor development in the summer of 1928. It was so successful that it was continued through the winter of 1928-29. During the summer of 1929, night selling was used frequently, and when this was written it was the intention of the Guaranty organization to use it through the winter of 1929-30.

In preparing for the night showing of houses, the building company resorts to powerful flood lights placed in front of the dwelling in such a way that every feature is displayed as accurately as by day. The concentrated beams turn night into day and attract attention to the location for many blocks in every direction, making the homes far more conspicuous and easy to find than during the day.

The plan is not expensive to put through since the reflectors are placed on low wooden stands in the front corners of the lawn, the current being furnished directly from the new house. These stands are moved from lot to lot as need requires. The plan could be used in smaller cities and towns as well as in metropoli-



V. F. Buchek,  
Vice-President,  
Guaranty Bldg.  
Corp'n

tan centers. It need not be restricted to homes of the more expensive type. In fact, none of the houses in Parkmoor sell for as much as \$8,000. Frame houses run from \$5,250 to \$5,750; stucco finishes and brick veneers from \$6,750 to \$7,850. The Guaranty company has built in Parkmoor one unit of nine apartment homes, that sold in two weeks' time from \$4,450 to \$4,950. Seven of these were sold the first week.

Two or three homes are floodlighted in the same unit at a time, and perhaps as many as six or eight houses of the unit may be open for inspection. Concentration makes both construction and selling easier.

Some homes, but not all shown, are furnished completely for exposition purposes. It is Mr. Buchek's idea that when a woman sees furniture in a house she is attracted to the place much more strongly than when in its bareness she has to visualize or attempt to visualize how it would look furnished. The furniture is put in by the leading furniture companies of the city who welcome the opportunity to show their wares in this way. They make no charge, but get a return from the publicity and from sales that result directly from the showings.

### Advertising That Pays

Of advertising mediums, the newspaper is placed first by the company. Use of outdoor bulletins is made



on the company property but not elsewhere. These are illuminated at night. The company has for distribution attractive booklets called "Parkmoor Place." Two issues of these have been published, one devoted to frame homes, and the other to stucco homes. These booklets show homes that have actually been built in Parkmoor, being made from photographs, with the street numbers given. They also play up such features as reinforced concrete pier and beam foundation, guaranteed roofs, insulated outside walls, hardwood flooring throughout, sub-flooring under hardwood in living and dining rooms, large closets and serviceable built-ins, and attractive lighting fixtures.

Practically every newspaper advertisement is illustrated by a photograph of a house actually built on the property. Street address and terms for which the house may be bought are played up. Attractive layouts are made, with plenty of white marginal space being allowed for.

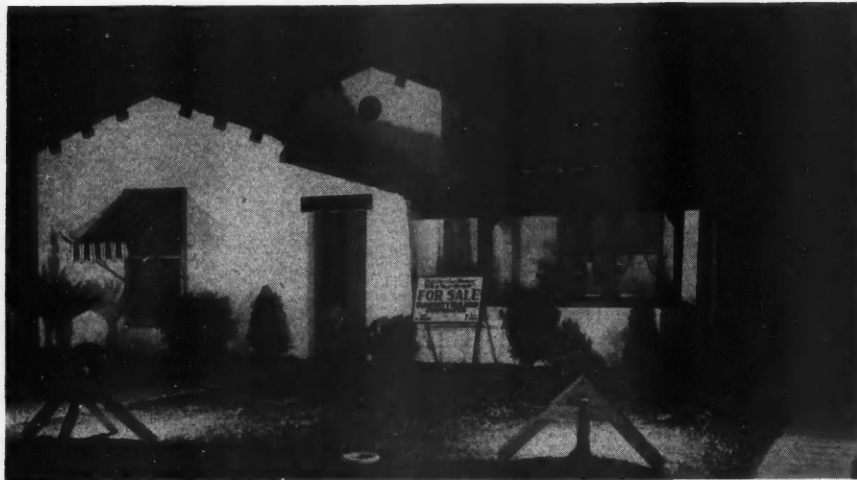
Certain attention-getting phrases are used in the advertisements from week to week. These serve to attract the eye of newspaper home shoppers at the same time that they label the advertisement. Some of these phrases that have been used repeatedly are: "Distinctive Homes Within Your Reach;" "Lighted and Open Till 9:30 P. M.;" "Inspect Them in the Cool of the Evening;" "First Cost Covers Everything."

Advertisements appear most commonly in the real estate sections of the two Sunday papers. No advertisements are duplicated. The company employs the services of a publicity writer, K. E. Torrance, who attends to the advertising copy and the publicity stories. At no time during the last two years has Parkmoor been out of the papers for a whole week at a time.

The publicity stories are invariably illustrated with cuts of homes that have been sold. After a story has appeared, it is clipped and sent with a letter to the home owner. In about 50 per cent of cases the home owners react with a letter in return or phone in. This type of direct mail serves to retain the goodwill of patrons, and doubtless causes them to recommend Parkmoor to their friends.

#### Closing the Sales

Sparing use is made of the telephone in selling, instead, salesmen are encouraged to go out and deal with the prospect directly. New people phone into the office, of course, but these are not given complete information over the phone. In fact, about all that is done is to extract the name and address adroitly from



Night Illumination Brings Out the Prospective Buyers in the Cool of the Evening.

Did You Ever Hear of a Home Builder or Home Building Company Celebrating with an Anniversary Event? Well, the Guaranty Building Corporation, owners and developers of Parkmoor Place in San Antonio, did that very thing in March of 1929, commemorating their second anniversary of building in Parkmoor Place with events that helped to sell 11 homes during the event. The celebration was given suitable announcements in the display advertising columns.

the party. Then the salesman calls. Persistence is used in dealing with prospective buyers, but if after the third call it seems that no headway has been made the prospect is usually allowed to pursue his way unattended. Later on he may be tried again.

Usually six salesmen are kept actively busy selling the homes in Parkmoor Place as fast as units are completed. Sales meetings are held twice a week, on Mondays to follow up Sunday, which is a big home-shopping day in San Antonio, and on Fridays to prepare for the week-end. Salesmen are routed twice a week from the office but are not required to report for routings every day. They are instructed to have something definite to lay before the prospect before calling.

#### Architectural Service

All plans for Parkmoor houses come directly under the supervision of Mr. Buchek, whose offices on the development and in the Robert E. Lee Hotel building in the business district,

are well equipped for this work. All elevations and floor plans are worked out under his direction. He also takes the rough ideas of a prospect and gets up an acceptable plan from them. Individuality and beauty are stressed. Variety of exterior, of interior, arrangement and of finish lend a distinctive air to Parkmoor homes that helps to sell them. No two homes in Parkmoor are alike.

Use is made of the building publications and of various plan books in drafting ideas for plans and construction. No outside architect is consulted. The company employs a combination architect and draughtsman who works out the details of the plans right in the field office.

### Building the Homes

Actual construction is somewhat on the factory plan. There is, for instance, a crew that does nothing but concrete work, being employed steadily in laying walks and foundations. Another crew takes care of the walls, while another group does stucco work. Several masons are kept busy all the time. Then the plastering, the papering and the painting fall to men who are specialists in those lines. About 100 men are employed continuously in Parkmoor, and they are not moved from this development to others in the city. Time is thus saved.

At all times houses are in all stages of development from concrete foundation to interior finishing so that the different men have work to employ them each working day. The different crews work under the direction of two general foremen who assist Mr. Buchek. All men work on an eight-hour day schedule. No work is done on Sundays or holidays.

All house construction is done by the Guaranty Building Corporation directly. The company also builds the walks and drives and sods the lawns. Shrubbery is put in by a landscape company on contract. The company also contracts the plumbing, street paving and sewer laying. Electric connections are installed by the San Antonio Public Service Company on a deposit and refund basis. The ideal contour of the land eliminates the necessity of grading or filling in.

The putting in of all utilities, paving of the street in front of the lot, laying of sidewalks, sodding and landscaping, costs from \$250 to \$350 per 50-foot lot.

### Service from Local Dealers

Standard materials, all of the best grades, are specified for Parkmoor homes. The building company uses certain nationally advertised goods, made by first-class manufacturers, but this practice is not highly featured in advertising or selling.

Considerable publicity was featured by the company when it was a first prize winner in a national contest, fostered by a prominent wall board manufacturing company in 1928.

All lumber is bought directly in job lots from San Antonio lumber dealers. It is Mr. Buchek's opinion that as building houses for sale and the operation of a lumber business are separate and distinct activities, it is poor economy for a home builder to attempt to operate his own lumber yard. A sash and door company of the city furnishes Parkmoor homes with its millwork.

Advantage is taken of all discounts. About \$150,000 worth of lumber and other commodities in proportion



Street of Quality Homes in Parkmoor Place, San Antonio, Built and Sold by Guaranty Bldg. Corp.

were used in one year. Thus it can be seen that savings on discounts mount upward. The telephone is used, of course, in getting the orders, but in no unusual way. Some materials are bought outside of San Antonio, but it is Mr. Buchek's idea that the tie-up between a builder and local concerns is so complete that it pays the builder to buy from home companies. Service is usually better, too, he thinks.

The square foot cost of the houses in Parkmoor varies considerably, being less for frames than for stuccoes and brick veneers. Frames run from three to four dollars per square foot; brick and stuccoes from four to five dollars. The company has turned out houses considerably under these figures. Since its ceilings are of nearly the same height, the company estimates in square feet instead of cubic dimensions.

### Financing Plans

Important as are the construction and selling features of such a development as Parkmoor Place, the success of the venture in its final analysis rests on sound financing.

Two major plans of financing are used. One of them is known as the 5-year maturity plan, under which fully 90 per cent of the homes are sold. Under this plan the buyer makes a down payment of 10 per cent. Sixty per cent of the selling price of the house is put into a first lien, with payments of one per cent a month and maturing in five years. The balance of the selling price is put into a second lien, with payments of one and one-half per cent a month, also due in five years.

The second plan used is a 10-year maturity. It carries the same down payment. Sixty-five to 70 per cent of the selling price is placed in a first lien, payable \$12 per \$1,000; the balance is represented by a second lien, providing for a small monthly payment, all due in five years.

The monthly payment in both instances is calculated at \$12 per thousand of the unpaid balance after the first payment is deducted.

Disposition of the first liens is made through regular channels by the executives, but they find it better to retain the second liens, using them as collateral for loans and thus avoiding the heavy discounts. One big disadvantage of the second lien is that it freezes capital, and if the operating company needs all of its capital for operating funds, the second lien acts as a real impediment. When used as collateral for loans, the amount of frozen capital is reduced.



*Electric Fan Installed in Outside Wall.*

*Your Clients Want—*

## KITCHEN VENTILATORS!

**S**TRICTLY modern throughout" is a selling phrase that today means more than just "hot and cold running water, furnace heat and electric lights." It has come to include such conveniences as automatic heating systems, space and labor-saving devices, electrical refrigeration and electric ventilation.

Electric ventilation stands out among these features as an exceptional contribution to good housekeeping and the comforts of home. For that reason, most persons look for it and demand it whenever they buy or rent a home or apartment.

Pleasing the particular housewife is the sure way to quicker sales or easier, permanent rentals, for it is on the word of a woman that nine out of ten apartments are rented and approximately 75 per cent of the homes are sold. The housewife is especially interested in ideal working conditions in the kitchen, because it is there that she spends more than one-tenth of her entire life, cooking, baking, washing dishes—perhaps ironing.

For that reason she insists on "kitchen efficiency," and her requirements demand that there be an electric ventilator to remove irritating cooking odors and excessive heat and make the atmosphere pleasant in any kind of weather. There must be no greasy fumes to spoil her curtains or settle on shelves and tables; no condensation of steam on cold windows; no stifling from oppressive air conditions. An electric ventilator in the up-to-date, scientifically arranged kitchen will catch the eye of the modern woman and prove a big factor in turning the quick sale or obtaining a signed lease.

Broadcasting dinner menus from the kitchen to the front door is considered bad taste in cultured homes, and every member of the household appreciates the value of having an electric ventilator in the kitchen to remove humiliating cooking odors and keep them from permeating the entire house.

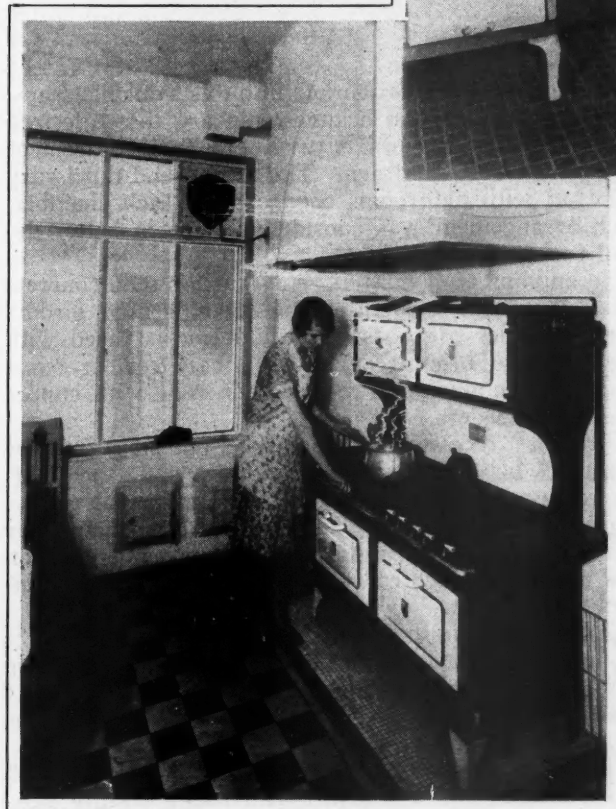
Many modern homes and apartments have a break-

fast nook in connection with the kitchen, and an electric ventilator serves to maintain an inviting atmosphere at meal times by whisking away the cooking smells before the family comes to the table—a feature that never fails to impress the average buyer or renter.

Electric kitchen ventilation is an extremely important feature to the owner of apartment buildings. Not only is it an inducement to quick rentals and permanent, satisfied tenants, but it is, in effect, a common courtesy to guests and occupants alike. No matter how pretentious the building may be—no matter how gorgeous its lobbies and halls—no matter how artful its decorations, the whole effect can be spoiled by offensive cooking odors from one apartment. Out of consideration for those who are sensitive to pungent cooking odors, either from their own kitchens or some one's else, and in defense of his original investment, every apartment owner should install an electric ventilator in every kitchen.

Another point which the apartment owner should consider in selecting kitchen ventilators is their power and capacity. No ventilator should be employed which is incapable of throwing odors and fumes far enough away from the building to prevent them from drifting up to the apartments above, especially in sultry weather. There must be a strong, steady air current to keep odors from congesting outside the fan housing and clinging to the walls.

To Left: Fan Installed in Transom — Below: Fan Installed in Window.



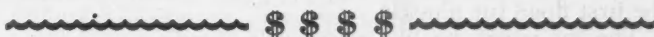
Every home or apartment kitchen is of a size that can easily be correctly ventilated with either a 12-inch or 16-inch ventilator. The proper formula is to change the air at least every two minutes. This means that if the kitchen has 1500 cubic feet of air space, a ventilator should be used that has a capacity of 750 cubic feet per minute. A 12-inch size is ample for this purpose.

Where the kitchen has more than 1500 cubic feet or air space, the 16-inch size should be used. Both of these sizes can be furnished with cabinets for built-in-the-wall installation, having a specially designed glass-pannelled door which when opened and closed automatically starts and stops the ventilator. It also protects the kitchen from wind, weather, flies, insects, etc., when the fan is idle. Then too, there is the transom type which can be quickly installed in any ordinary kitchen transom. This model is also entirely automatic in operation.

An electric ventilator in the kitchen helps to ventilate all the other rooms on the same floor when the connecting doors are open. While the ventilator removes cooking odors, the rest of the house is subsequently ventilated, because the air is being drawn to the kitchen. In other words, as the air in the kitchen is exhausted, other air must take its place, coming from the adjacent rooms. In this way, the air in all the adjoining rooms is kept in motion. This action is really effective in cooling the whole house during warm weather, and helps to remove tobacco smoke and musty smells from the living room.

But the paramount issue is building the sales argument around the kitchen by making an appeal to the good taste of the discriminating housewife and pointing out to the thoughtful husband the many comforts and conveniences of electric ventilation. Today, the kitchen is truly a part of the home, modernly equipped, conveniently arranged and attractively decorated—and none is complete without an electric ventilator.

It is an inductive sales and rental feature that the up-to-date buyer or builder can not overlook. There are actually instances where one building, equipped with electric ventilators, remained rented 100 per cent; while the building next door, which did not have electric ventilators but otherwise was identical, was seeking tenants.

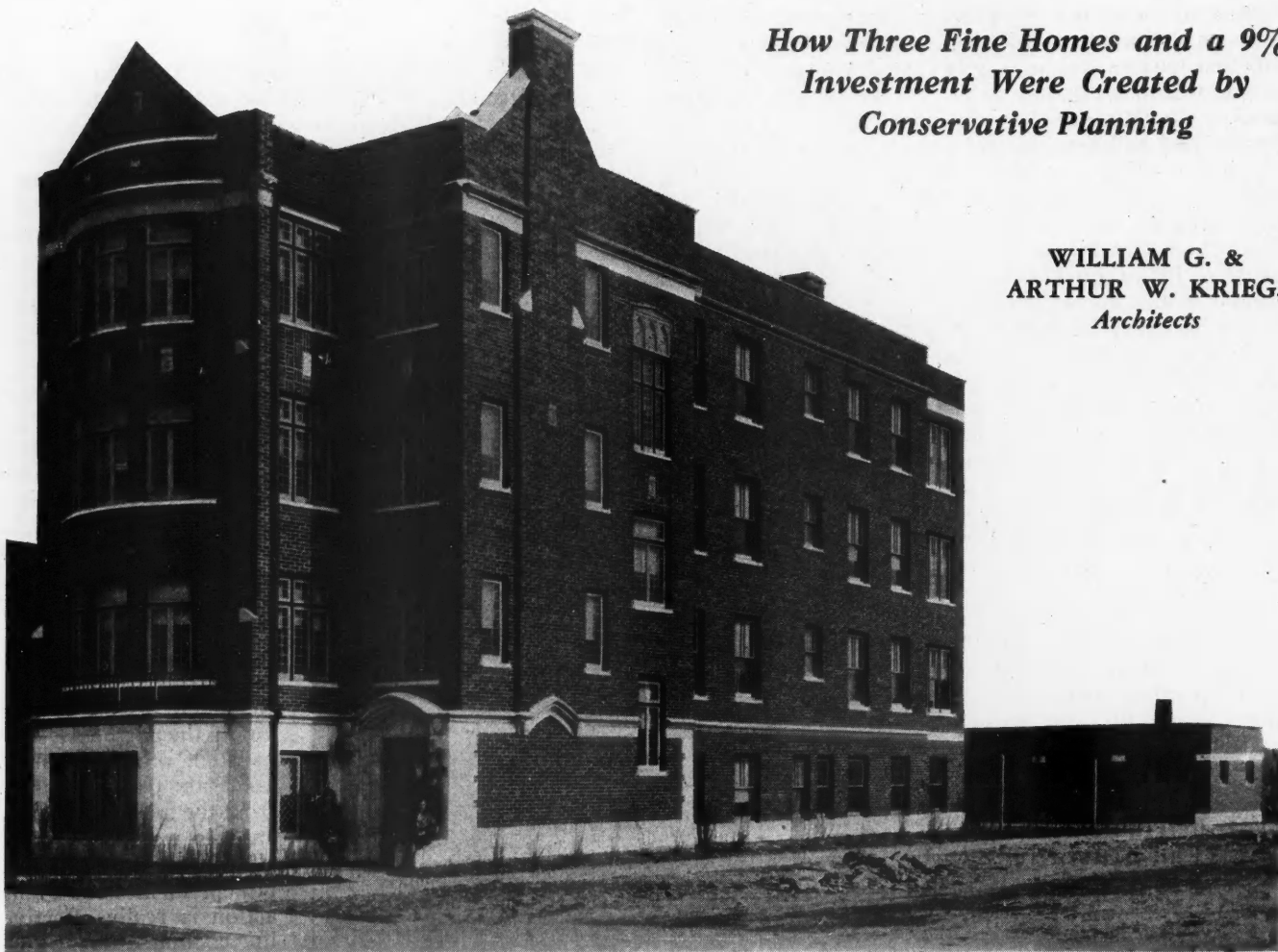


The resale value to Builders of AUTOMATIC REFRIGERATORS will be presented in the May American Builder.

# A Three-Family Co-op.

*How Three Fine Homes and a 9%  
Investment Were Created by  
Conservative Planning*

WILLIAM G. &  
ARTHUR W. KRIEG,  
*Architects*



**I**N certain residential districts of our larger cities, the co-operative ownership of apartments, so successful in the larger fireproof buildings, is now being developed in smaller buildings containing from two to six apartments.

A building of this character, with three apartments, each containing the room arrangement and all the essentials of a complete home, was built in Chicago about seven years ago. The builder who was also the owner sold two of the apartments outright, giving each buyer a one-third interest in the land and building and retaining one apartment for himself with a one-third interest. In this building, the expense of operation is equally divided and the owners are well satisfied with their purchase. There has been no friction or misunderstanding in the seven years of its joint ownership.

Based on the experience gained in this building, the owner of the building herewith illustrated, had this structure erected in the North Shore district of Chicago with the idea of selling two apartments and retaining the first floor for himself.

The lot which he had previously purchased was restricted under zoning laws so that the building could occupy only a proportion of the lot area. These laws also governed the height and volume in cubic feet of the building, practically establishing the width, length and height of the building, and the rooms as shown on

the floor plans had to be worked into this available space.

The first floor room arrangements are those desired by the owner, who also has two rooms in the basement for a private office and den. The second and third vary somewhat with bathrooms connected to each chamber, which arrangement was considered to be in better demand for renting or selling.

The building is of masonry construction on a concrete foundation with structural steel supporting girders under each tier of joists. The exterior is faced with rough texture brick relieved with cast cement stone base and trimmings and a green tile roof with copper gutters and leaders.

Through a recessed stone entrance, one steps into the vestibule which has caen stone side walls and a tile floor. The radiators are recessed back of ornamental grilles, then through the inner glass doors to the main stair hall which has an open stairway with ornamental iron hand rails and is lighted from the outside by large windows on each floor.

From the stair hall access to each apartment is through the reception hall which is separated from the main rooms by arched openings. A full length plate glass mirror conceals the door to a coat closet in this hall.

The living room has a Gothic stone mantel flanked with low bookcases and is finished with rough texture plas-



tered walls with no wood trim excepting the window stools and a narrow base board.

The sun porch is divided from the living room with a glass partition and a pair of French doors, the floor is of tile with walls and ceilings in rough plaster to match the living rooms.

On the first floor the dining room faces the front of the building connecting with the sun porch and living room through French doors. This room is panelled in weathered oak and has oak ceiling beams.

Back of the dining room is the breakfast nook and the kitchen which have rubber tile floors and white glazed tile wainscotings. The sink is set under the windows and the range is provided with a metal and plaster hood. Cases line the walls and storage space for kitchen utensils is provided in a pot and broom closet. There is an electric refrigerator in each kitchen also a ventilating fan and a door to the incinerator. The walls above the tile wainscotings are white enameled with all wood work in white and colored relief panelling.

The service stair is on a small corridor leading off of the kitchen and connects all apartments with the basement where the locker room and a completely equipped laundry are located.

The chambers are of good size with ample light and cross ventilation, they are trimmed in walnut, have oak floors and canvassed walls relieved with moulded wood panelling.

The bath rooms are wainscoted in tile and have the latest modern bath equipment in colors. In the main bath room there is a shower bath with plate glass enclosure. This room has faience tile walls and an arched recess for the bath tub. There are towel cases provided for each bath and a metal cabinet recessed into the wall.

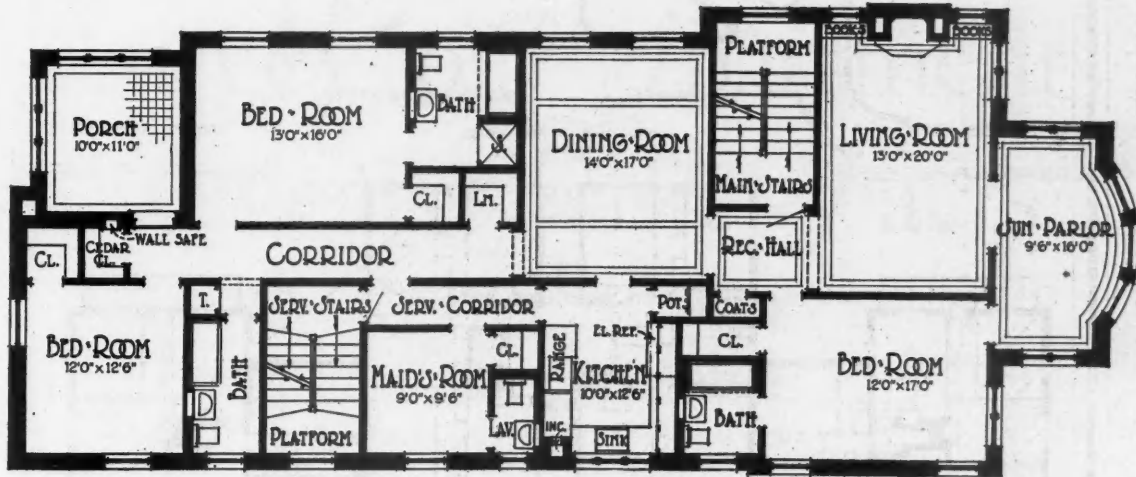
The building is heated with a steam vapor system with an oil fired boiler and has automatic gas water heaters to maintain a constant circulation of hot water to all plumbing fixtures.

A brick garage, for the housing of four automobiles is located in the rear of the lot. The heat for this garage is conveyed in underground piping from the heating plant in the basement.

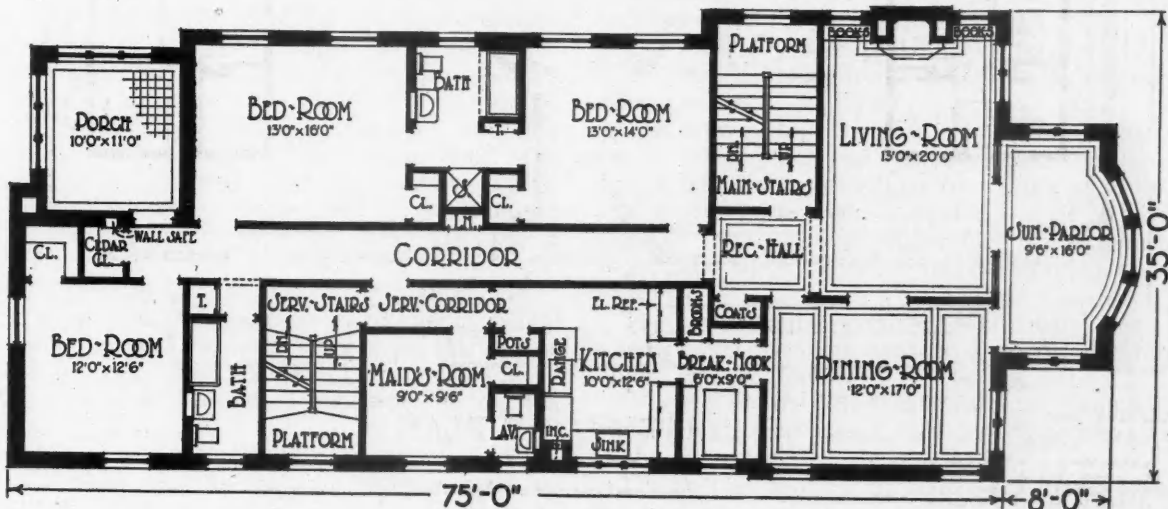
The cost of this building was close to \$40,000 on a lot costing \$8,000 which, with carrying charges, financing expense, landscaping work and architect's fees make a total investment of \$52,250 in round numbers.

The selling price of each of the two upper apartments is set at \$20,000 while the lower apartment including the double garage, and the basement rooms is valued at \$22,500.

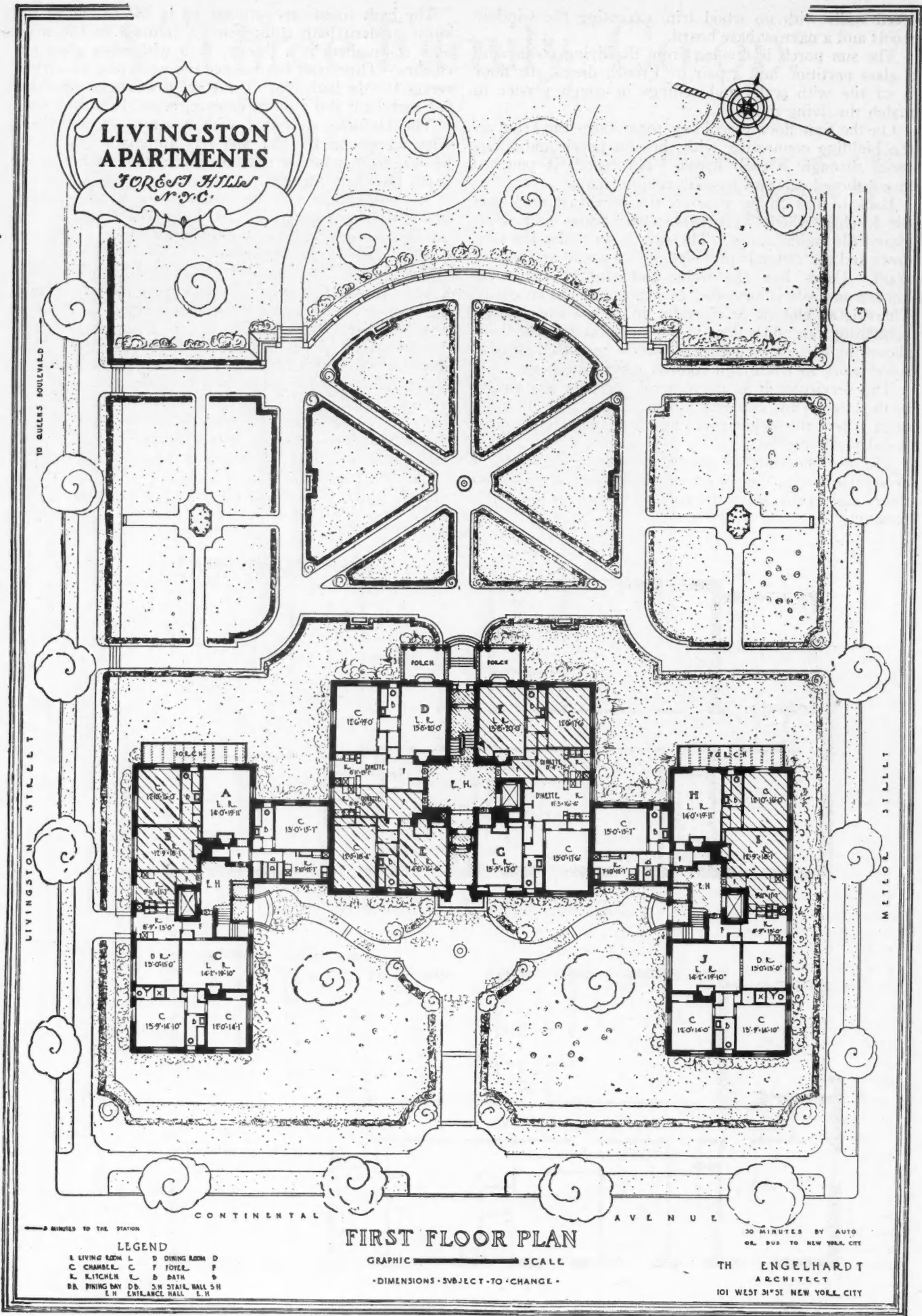
At the present time the upper floors are leased with purchase options at the rate of \$200 per month. Allowing the same rental for the first floor would produce an annual gross rental of \$7,200 and a net income of approximately 9 per cent on the total investment after deducting operating costs.



ALTERNATE SECOND & THIRD FLOORS.



FIRST FLOOR PLAN.



**LIVINGSTON  
APARTMENTS**  
*FOREST HILLS  
N.Y.C.*

TO QUEENS BOULEVARD

LIVINGSTON STREET

METCALF STREET

CONTINENTAL AVENUE

5 MINUTES TO THE STATION

30 MINUTES BY AUTO  
OR BUS TO NEW YORK CITY

- LEGEND**
- A. LIVING ROOM L. D. DINING ROOM D.
  - C. CHAMBER C. F. FOYER F.
  - K. KITCHEN B. BATH B.
  - DB. BREAKING BAY DB. S.H. STAIRS HALL S.H.
  - E.H. ENTRANCE HALL E.H.

**FIRST FLOOR PLAN**

GRAPHIC SCALE

DIMENSIONS SUBJECT TO CHANGE

**TH. ENGELHARDT**  
ARCHITECT  
101 WEST 31<sup>ST</sup> NEW YORK CITY



THE LIVINGSTON APARTMENTS, FOREST HILLS, L. I.; CORDMEYER DEVELOPMENT CO., BUILDERS; T. H. ENGELHARDT, ARCHITECT. (*Plot Plan on Page Opposite*)

# Survey of Apartments Reveals Basic Facts

By PAUL A. BANKSON, *City Plan Consultant*

**R**ECENTLY the New Rochelle (N. Y.) Planning Board conducted a door to door survey of apartment houses with a view to determining amongst other things, their economics, viz:

1. Do apartments pay the City?
2. Do apartments pay the Tenant?
3. Do apartments pay the Owner?

Two typical comparative fields were created. One was composed of entirely modern apartment houses. The other consisted of typical single family houses in districts amongst apartment houses consisting of about the same class of people. Information covering twenty-nine buildings containing nine hundred and forty-five suites and over fifty single family houses was tabulated according to assessed land and building value, number of tenants, suites, rooms, etc. In addition the records of the building department were analyzed in some detail.

In general the results of this investigation show:

The building cost per room averages about \$1300 for the dwellings and between \$1500 and \$1700 for the apartments, the difference being accounted for by the fireproof or semi-fireproof construction of the apartments.

The land cost per room taking an average of 15 apartments is \$130 whereas the land cost per room for 56 typical dwellings averages \$575 or 4 to 5 times as much for the dwellings.

The building cost per family or per apartment averages \$9100 for the dwellings and \$5600 for the apartments or less than two-thirds as much for the apartments. If the same construction were used in the dwellings as in the apartments the latter would cost less than half as much per family.

The land cost per family or apartment is \$465 for apartments and \$5020 for the dwellings or nearly nine times as much for the dwelling.

The assessed value of land per family runs from 6 to 13 times as much for dwellings as it does per apartment.

The average number of square feet of land per person is 203 square feet for the apartments and 1180 square feet for the dwellings or 5 times as much.

The average number of square feet of building floor area per family is 956 square feet for apartments and about 2000 square feet for the dwellings or over twice as much.

The apartments average 3.4 rooms per family, whereas the dwellings average 7 rooms per family or almost exactly double.

Whereas the dwellings have twice as many rooms per family as the apartments, they cost three times as much as the apartments.

The average number of people per family is 4.25 for the dwellings and 2.8 for the apartments.

The number of children or minors per family is



**THE BENJAMIN FRANKLIN APARTMENTS, LOS ANGELES, CAL.; ARTHUR I. ROUDA, ARCHITECT AND BUILDER.**

0.4 for the apartments and approximately 1.5 for the houses. In either case two-thirds of the children are of school age.

The automobiles are only one for every two families in the case of apartments and at least one for every family in the case of dwellings.

The garage capacity on the premises is only about one car for every 8 families in the case of the apartments, whereas it averages over one car per family in the case of the dwellings.

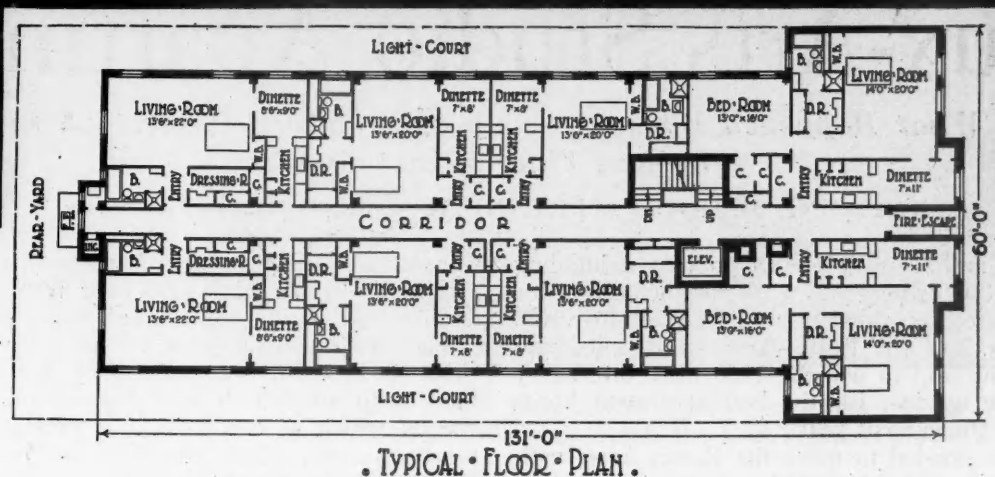
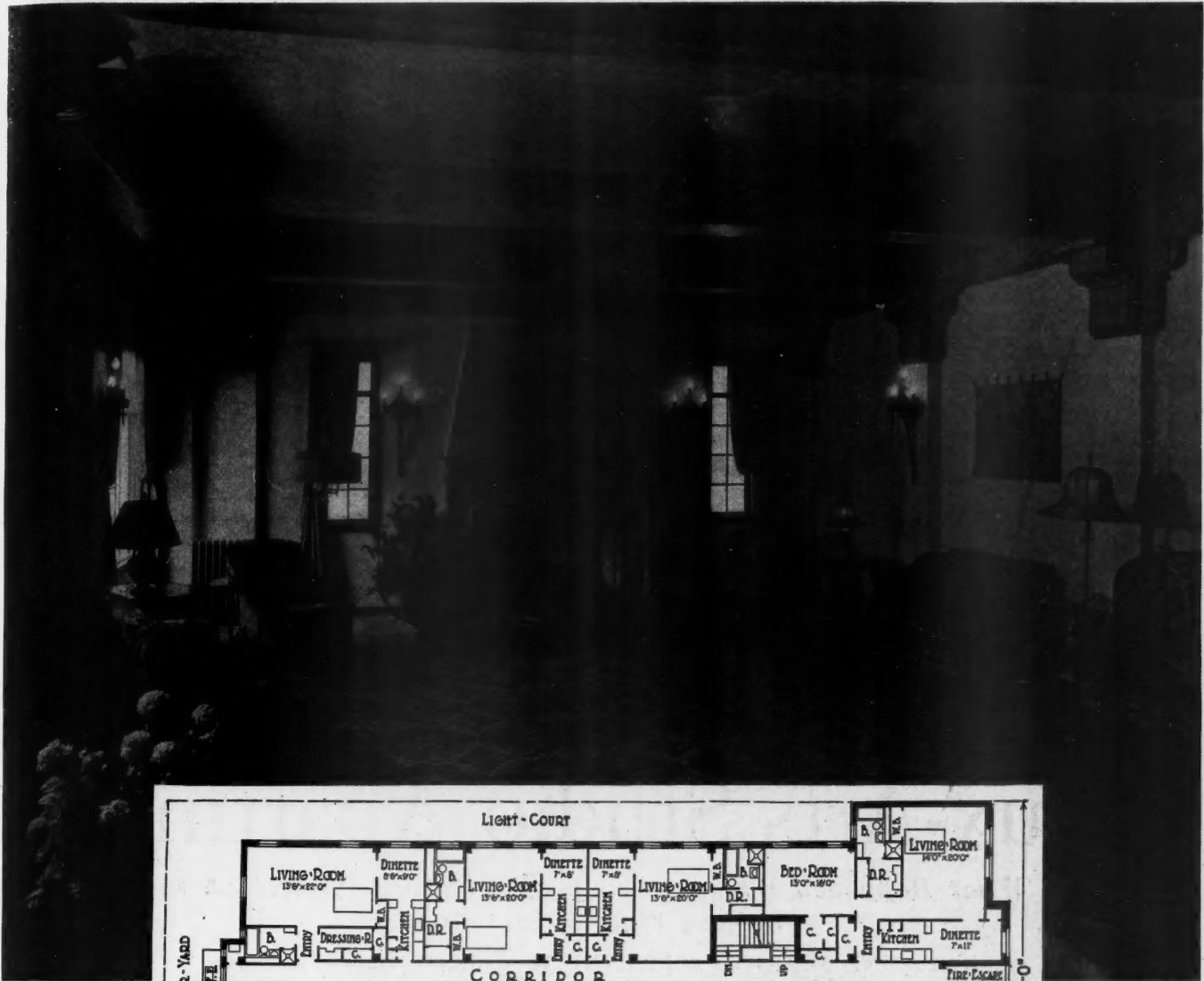
The apartment dwellers appear to use the shops in New Rochelle fully as much as the house dwellers.

The average monthly rent per room is \$29.20 for apartments, which is approximately \$350 per year. As there are on the average of  $3\frac{1}{2}$  rooms per family the average rent per apartment per year would be \$1225. In proportion to the number of rooms the dwellings

should rent for an average of \$2500 per house per year. The actual rents for such few houses as are rented are not available but 12 per cent of \$15,300 the average cost of land and dwellings is \$1825 per year or 50 per cent more than the apartments for 100 percent more rooms.

All costs are based on assessed valuations.

From these statistics it would appear that the apartment house and the dwelling each has its place. Where there is a family of children of pre-school or school age, the dwelling offers more advantages in proportion to the rent than does the apartment. However, for families where there are no young children, or possibly at most one child, and for single adults the apartment offers distinct advantages. With the constant decrease in the size of the family, the number of families or individuals who would find it preferable to live in an apartment is constantly increasing. Therefore, the



**VIEW OF LOBBY AND INTERIOR ARRANGEMENT OF THE BENJAMIN FRANKLIN APARTMENTS.**

market for apartment houses is increasing.

From the standpoint of the building owner the rapidly increasing price of land per square foot in New Rochelle and the number of square feet that must be preserved around houses for health and safety is making it more and more difficult each year to build new one-family houses to rent. On the other hand even the garden type of apartment with relatively large open spaces around it is a more economic proposition to the owner and to the tenant than is the one or two family house.

From the city's standpoint the apartment house pays in taxes per square foot of land about three times as much as the dwelling. However, the apartment brings about half as much in taxes per family as does the dwelling, but it is believed that this is more than counteracted by the lesser service per family which the city is required to render the apartment dwellers in all sorts

of public services and improvements including schools. The fact that there are over three times as many children of school age in the dwelling as in the apartments would alone go far toward striking the balance in favor of the apartments from the standpoint of the city's service.

As to fires and contagious disease, the records seem to show no advantage one way or the other, although the increasing tendency to build fireproof apartments is tipping the balance in favor of the latter.

Furthermore, the investigation shows that it is entirely practicable and economic to insist that no new apartment house should cover over 40 per cent of the lot and under many conditions it would be practicable to limit them to 30, 20 and even 15 per cent of the lot. The survey also shows that it is no hardship to limit apartments to 4 stories in height.



# Beaux-Arts Studio Apartments

*What Happened When a Group of Architects Undertook to Design, Finance and Build*

RAYMOND M. HOOD and KENNETH M. MURCHISON, *Architects*

WHEN architects decide to go into a building project as owners and work for themselves for a change, something unusual is likely to result. That is exactly how the Beaux-Arts Apartments happened to be built and to win the 1930 prize offered by a New York magazine, for the best apartment house erected during the current year.

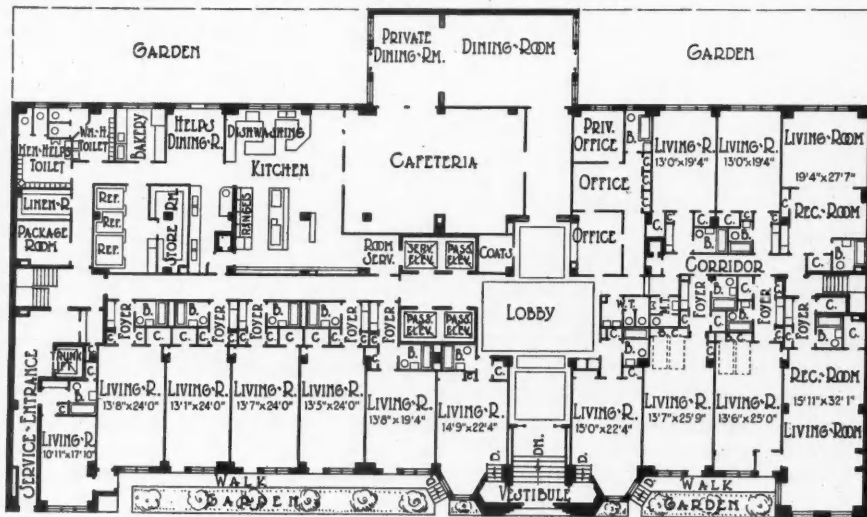
When it was decided to move the Beaux-Arts Institute of Design from its former location to one nearer the center of architectural activity in New York City, Raymond M. Hood and Kenneth M. Murchison, two prominent New York architects, decided that this offered an opportunity for a group of studio buildings in the same vicinity which would create a mid-town artistic center.

These two gathered together a group which included a number of leading architects, artists and others and this group organized the Beaux-Arts Development Corporation for the purpose of carrying out such a project.

While the studio idea was the heart of the new undertaking the practical side was recognized. It was decided to erect two large apartment buildings facing each other on opposite sides of Forty-fourth Street. These

were to be made up mostly of one room apartments with serving pantries and a first floor restaurant and with double height studios on the two upper floors.

The problem of financing this project, which involved about \$5,000,000, was solved by the National City Bank with an entirely new type of financing scheme, one by which, it is stated, it is practically impossible for the participants to be wiped out by a foreclosure. It involves no mortgage whatever. Figuring the cost



• GROUND FLOOR PLAN •

of the complete project as \$5,000,000, the scheme was developed as follows:

First Preferred stock was issued to the amount of 75 per cent or... \$3,750,000

Second Preferred stock was issued for the remaining 25 per cent or... 1,250,000

Common Stock was issued to the First Preferred on a ratio of 1 to 1, or ..... 37,500 shares

Common Stock was issue to the Second Preferred on a ratio of 3 to 1 or..... 37,500 shares

The bank's management company received.. 18,750 shares

Total ..... 93,750 shares

All maintenance cost, including taxes, interest and operating expenses are paid first; then six per cent is paid on the First Preferred stock; then six per cent is paid on the Second Preferred stock. The balance is used for the amortization of the two types of preferred stock, 75 per cent to the First and 25 per cent to the Second.

When the First Preferred stock is reduced one-third, making it represent 50 per cent of the total cost of the project, its amortization ceases on the theory that it might easily be converted into a mortgage if money conditions justified such a move. This would require about seven years. At the end of 10 years the Second Preferred should be entirely amortized and then the common stock will begin to earn from three to five dollars a share.

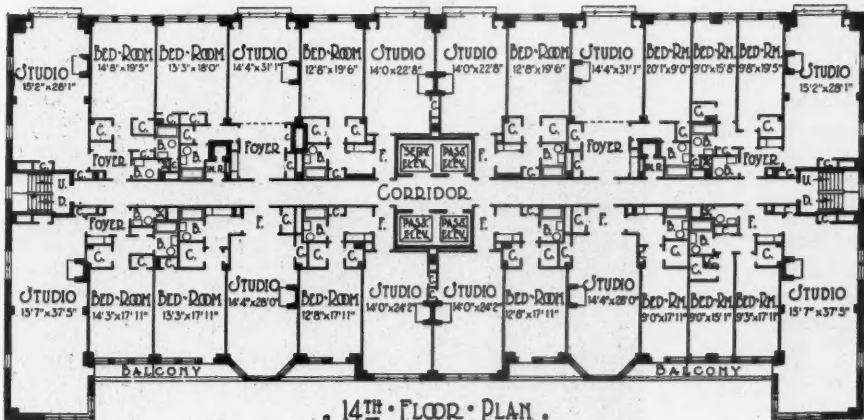


The Lobby of the Beaux-Arts Apartments, Finished in Imported Brown Glass and Vivid Colors, Is the Last Word in Modernistic Art.

With financing arrangements complete, wrecking of the old buildings on the selected building sites was started in March 1929. The new Beaux-Arts Apartments were ready for occupancy on January 1, 1930.

This was an outstanding achievement for the mechanical trades were forced to handle some complicated work due to the set-backs and the staggered floors of the design. The general contract was handled by the George A. Fuller Company, of New York.

The lower 12 floors of these buildings consist of one room apartments. Each apartment consists of a room 22 feet long by 13 feet wide with metal casement windows occupying the entire street side of the room. There is a foyer opening from the corridor and the bath is off this corridor. There is also a coat closet, pantry and dressing closet, almost as



. 14TH FLOOR PLAN .



**The Two Buildings of the Beaux-Arts Apartments Consist Mostly of One-Room Apartments Which Afford the Very Latest Refinement in the Development of Small Space Living Quarters.**

big as the bath, off the foyer. The first floor apartments all have individual outside entrances on the garden which occupies an eight-foot set-back from the building line.

The first floor also provides an entrance lobby, offices, telephone switchboard and a restaurant divided into three rooms. The lobby is finished in imported brown glass held together with aluminum bands and with doors in vari-colored metals. These color combinations are also used in the elevators. The whole lobby is in the modernistic style in harmony with the general design of the building.

Inside the living room of each apartment is a closet with shelves from floor to ceiling, for artists' materials, or whatever purpose it may be desired. A closet with sliding doors contains two disappearing beds. The partition walls of the rooms are sound-proofed by an air space with the walls resting on a thick sound-absorbing material. The floors are of cork tile, cemented directly to the concrete floor which reduces noise, and aids greatly in renting the apartments.

The pantries are also all of one size, one foot seven inches deep by five feet six inches long. The sink is small with a drainboard length of about four feet. Under the drainboard is a metal closet and an electric refrigerator. The upper section of the pantry is a built-in cabinet. When the pantry doors are opened they form a side wall for the kitchen space cutting it off completely from the rest of the apartment.

The studios on the upper floors are a story and a half







In Each Apartment the Bathroom, Dressing Closet and Pantry Open Off a Foyer and Are Thus Separated from the Living Room.

high, two studios equaling three stories of bedrooms. The space between the top and bottom bedrooms which are connected with the upper and lower studios, is occupied by one-room studio apartments.

The high ceilinged living studios are as large as 36 feet by 15 feet. They have wood burning fireplaces and a clear ceiling height of 13 feet. The corner studios have windows of a most unusual and interesting type. These windows are at the corners of the building and make a right angle turn around the corner.

The seventeenth floor is composed of studios and bedrooms of a single story height and the pent house consists of one, two and three room sites with large, private roof gardens.

The restaurant is a striking example of modern art. The three rooms are decorated, one in blue, one in lemon and one in green. The walls are covered with fabricoid over felt. There is a fluted wainscot and zig-zag grilles in the ceiling of the most modernistic type.

The exteriors of these buildings are equally striking and have been the subject of much comment among the architectural and construction experts. To make the end of each room facing the street entirely of glass the exterior is developed in horizontal treatment.

On the theory that windows are black in reality the spaces between the windows, horizontally, were made of dark brick. Mixed colored brick were used in horizontal bands between floors with the result that the general effect is a series of horizontal stripes. This takes away from factory-like appearance that would otherwise result from the large window expanse. The entire design is unique in both conception and execution.





GUARANTY BUILDING CORP., Architects &amp; Builders, San Antonio, Tex.

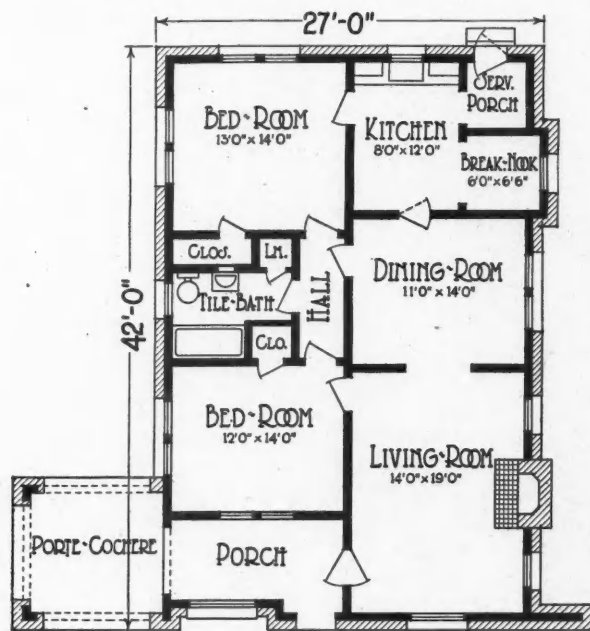
## A COTTAGE OF RANDOM STONE

*Once More It has Been Demonstrated That Stone Is Just as Appropriate for the Small Home as for the Large One*

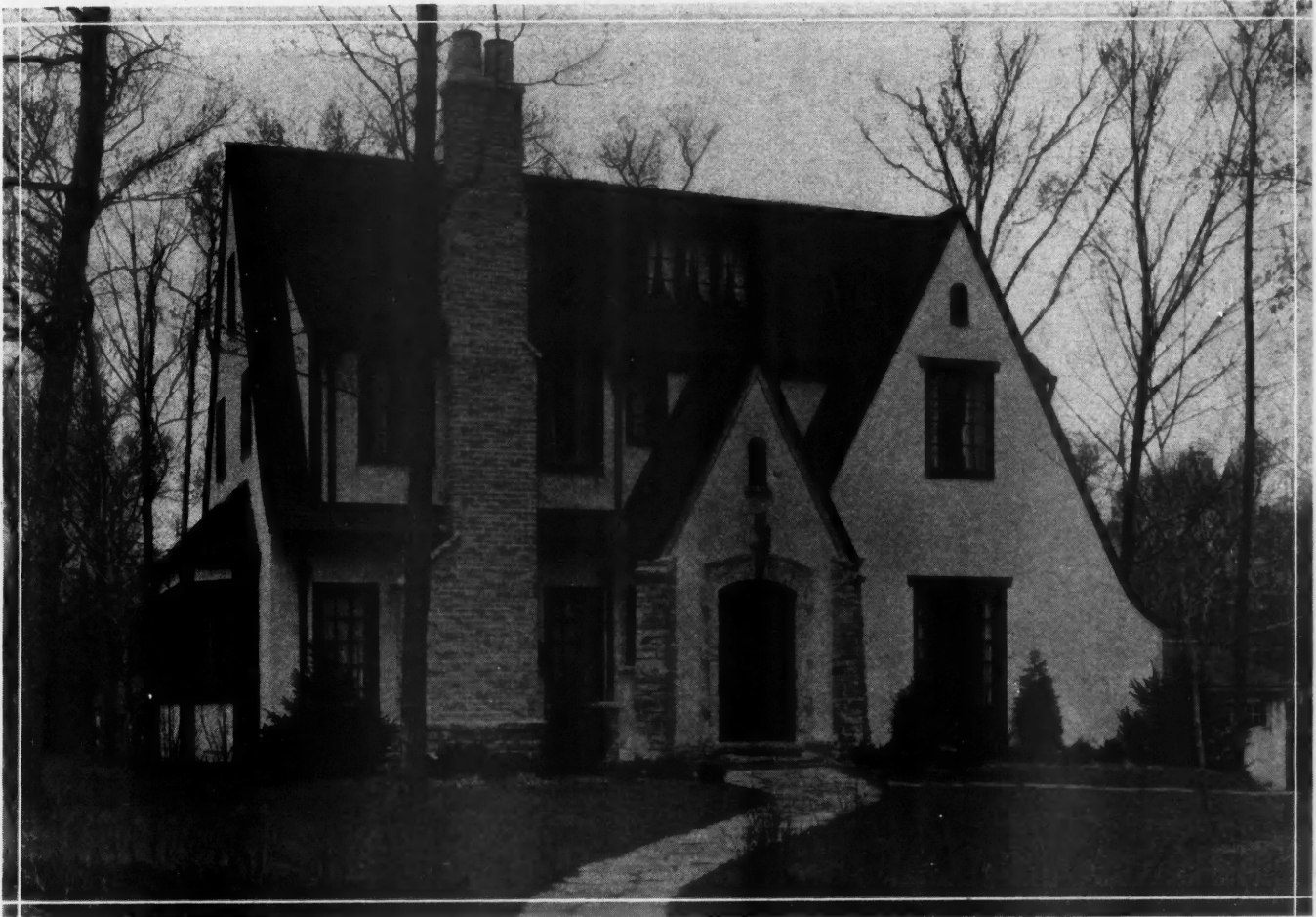
### SERVICE TO HOME BUILDERS

*Throughout this magazine we present many building designs. A variety of home plans are included, selected from many parts of the United States and designed by various architects of standing.*

*The "American Builder" will gladly serve its readers by bringing them together with these architects if any further information or plans are desired for any of these designs. Address the American Builder Home Planning Service, 105 West Adams Street, Chicago, or 30 Church Street, New York City.*



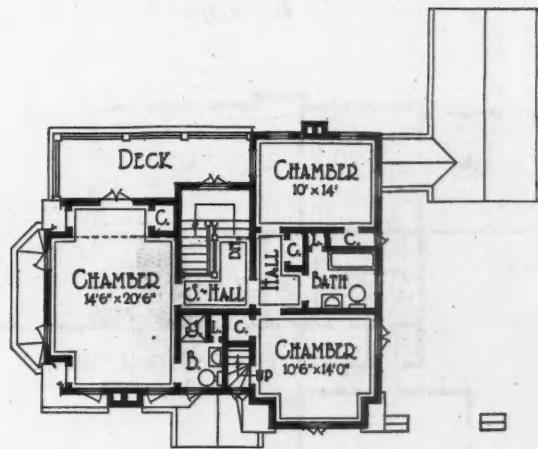
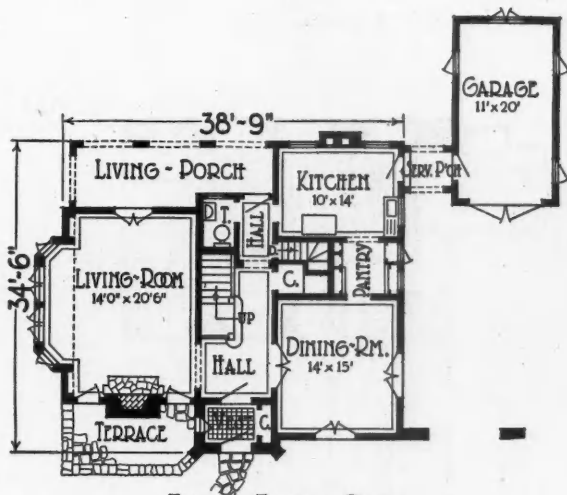
. FLOOR PLAN.



ALLEN E. ERICKSON, *Architect*, Chicago

# BEAUTIFUL SUBURBAN RESIDENCE

*This Handsome House, with Seven Rooms, Two Baths, Lavatory and Garage Was Built at a Cost of \$18,500*



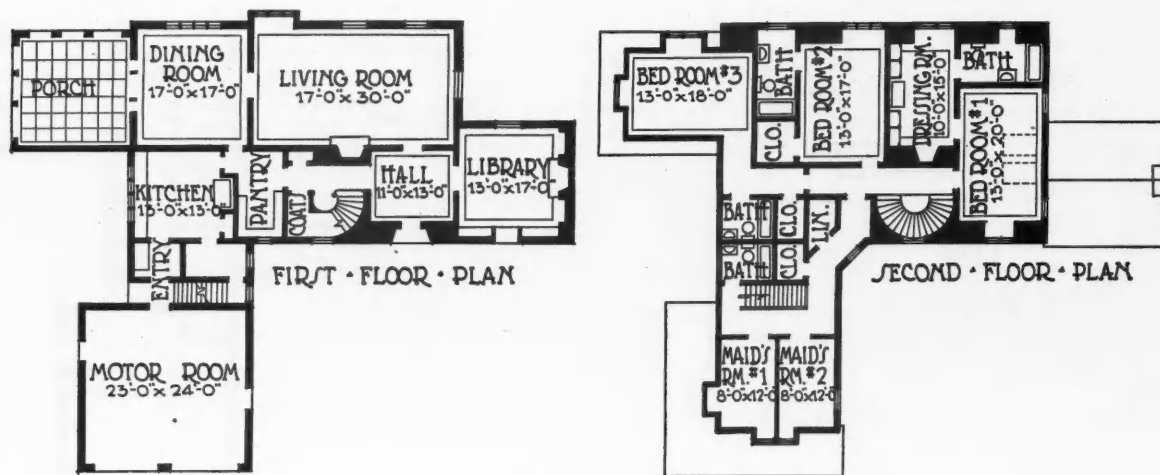


RUSSELL S. WALCOTT, Architect, Chicago

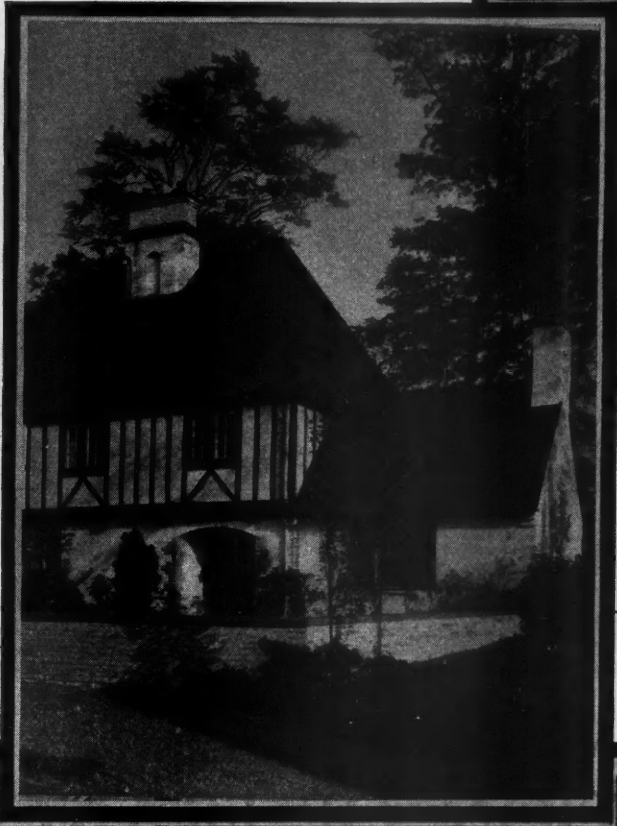
# RESIDENCE OF W. F. SPENCER, ESQ.

Erie, Penna.

*A Beautiful Expression of Homey English Architecture*



*Two Garden Views---*



Below:

The Vista from the Living Room Through into the Dining Room and Sun Porch in the W. F. Spencer Home, as Designed by Russell S. Walcott, Chicago Architect.

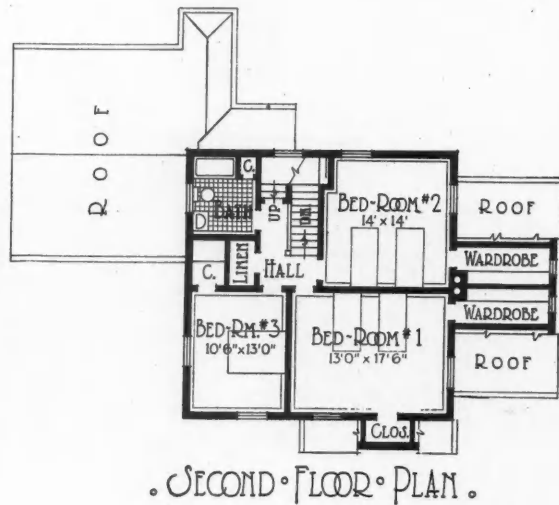
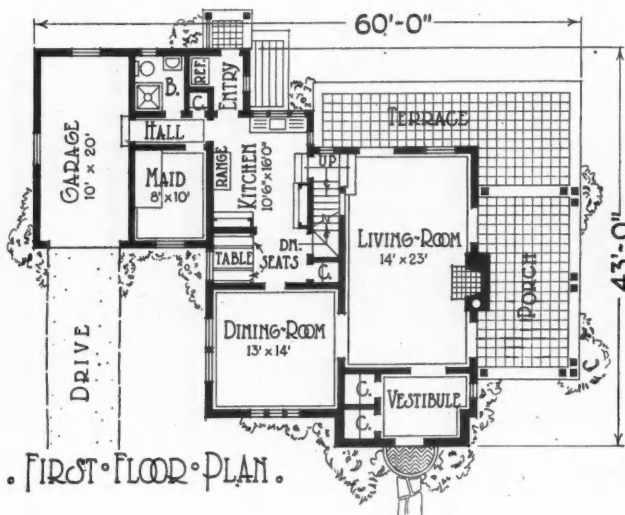




R. C. HUNTER & BRO., Architects, New York City

# WITH A SUGGESTION OF FRANCE

*The Two Windows at the Eaves Carry the French Suggestion and Give This Design an Air of Individuality*

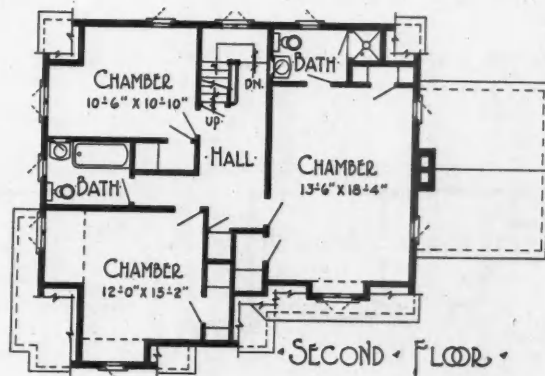
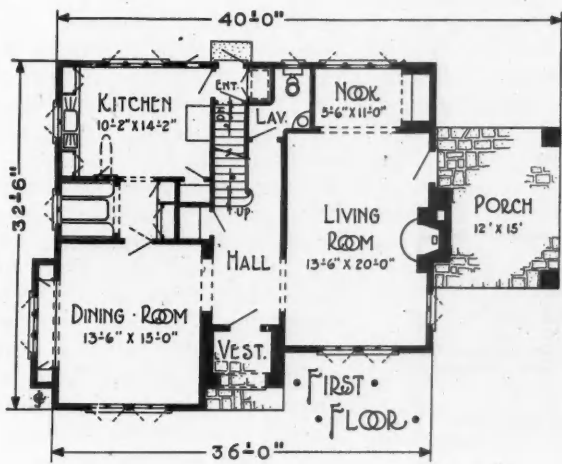


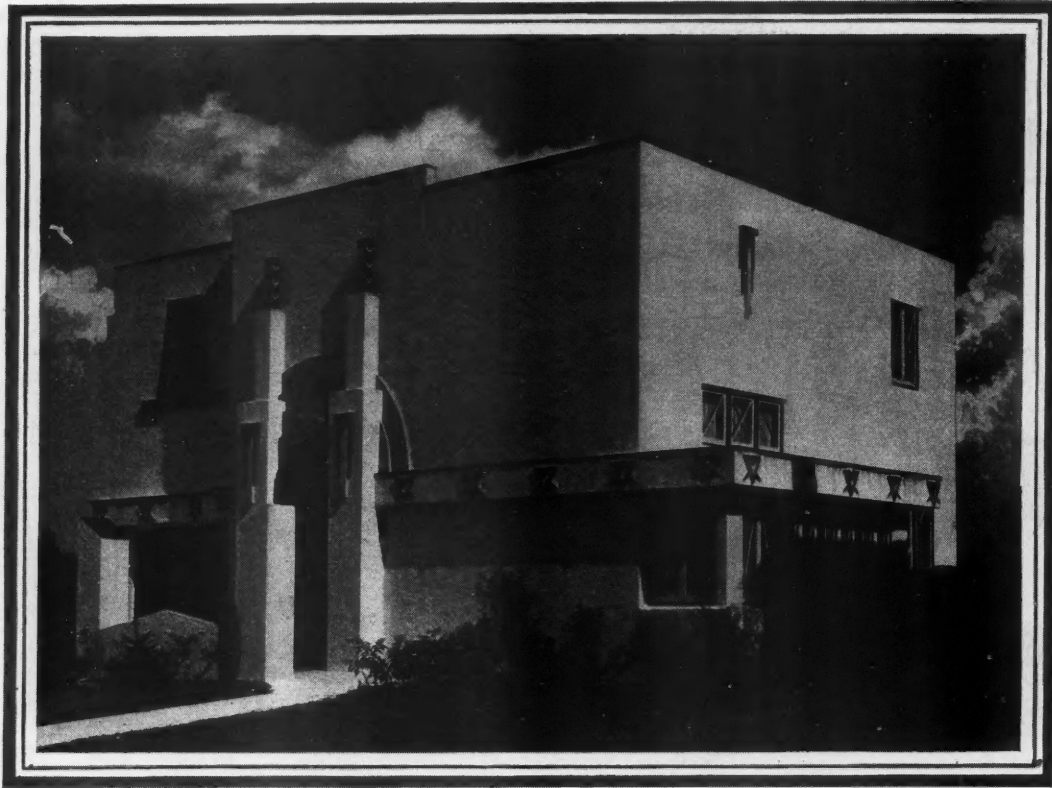


J. W. REPPENHAGEN, *Architect*, Hempstead, N. Y.

## UP-TO-DATE ENGLISH COTTAGE

*The English Cottage Possesses an Informal, Homey Air and Is Well Suited to Conditions as They Exist in this Country*





## Moderne Electric Home

CHARLES P. RAWSON, *Architect*

**“DIFFERENT?”** Yes, but not alone in being “different” is the Moderne Electric Home worthy of special note. Built in Park Ridge, Ill., as an incentive to better and finer homes in the community, it is both beautiful and striking and does in a large measure accomplish its purpose of anticipating all the worth-while innovations of the next few years.

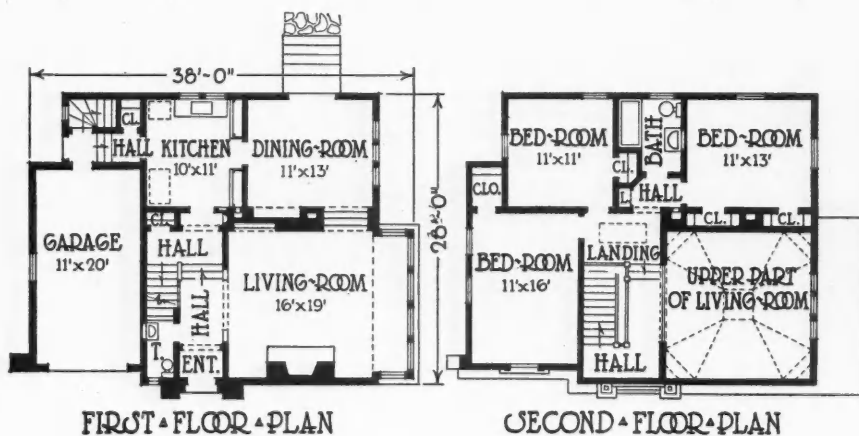
The Moderne Electric Home was sponsored by the Mell Tierney Post 247 of the American Legion. It was designed by Charles P. Rawson, architect, of Chicago, whose work is already widely known. The construction was handled by Edward E. Bjork, general contractor, who played a large part in the excellence of the finished house.

This house, built at a cost of \$22,000, stands on a 50

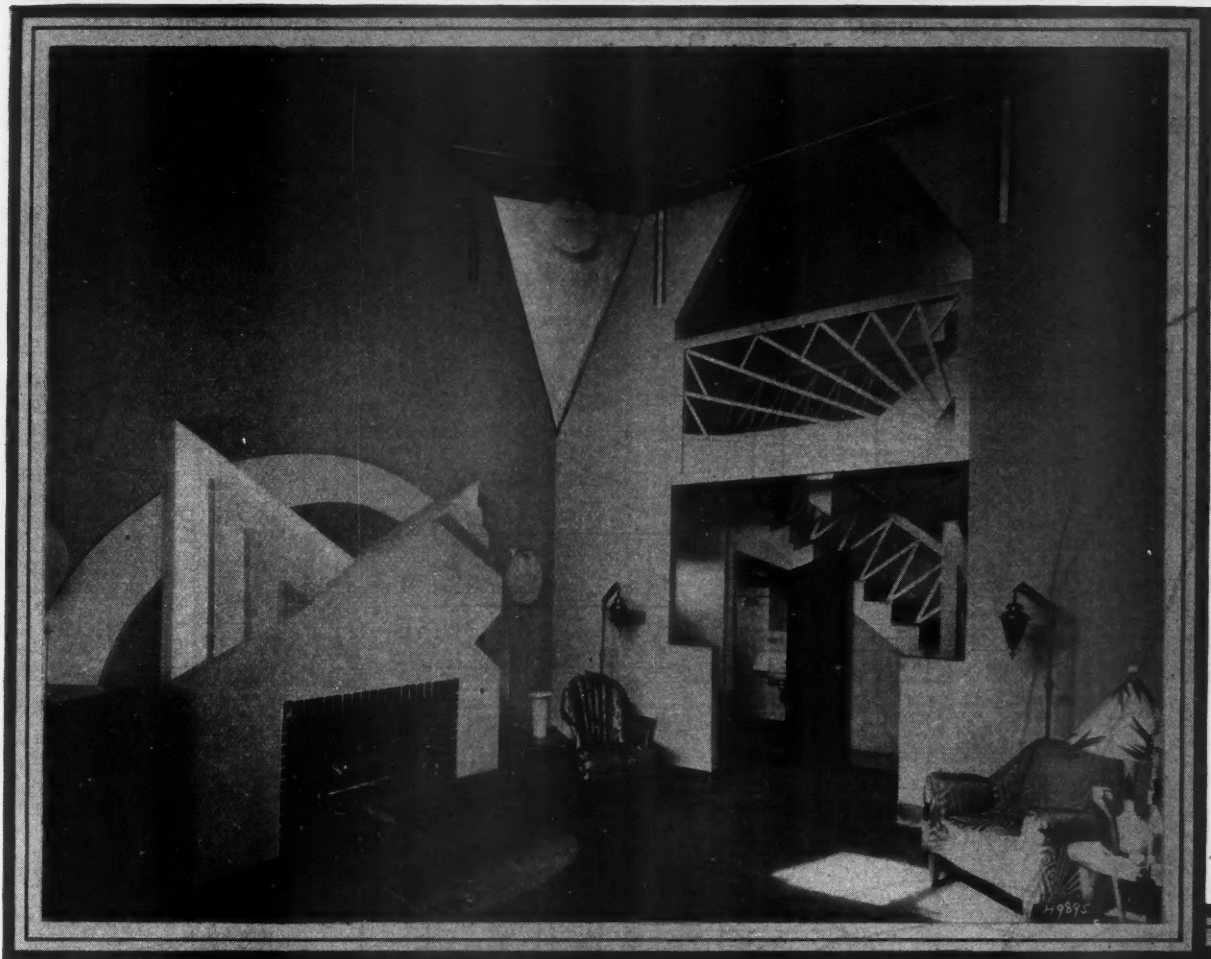
by 175-foot lot. Its lines are easy and graceful. The exterior is finished in three coats of a white, waterproof cement which is known for its permanence. The walls are completely insulated with fiber board.

The six large rooms within the house were a surprise and a delight to the many visitors who inspected it when opened to the public from June 15 to September 14, last year. While the living room embodies the height of moderne art it is both restful and cozy. It is of the studio type with a silvered ceiling producing an expanse of shimmering reflected light. An indirect lighting system affords a play of colors to suit the mood. The whole wiring of this home is in accordance with the Red Seal Plan of adequate and complete electric service.

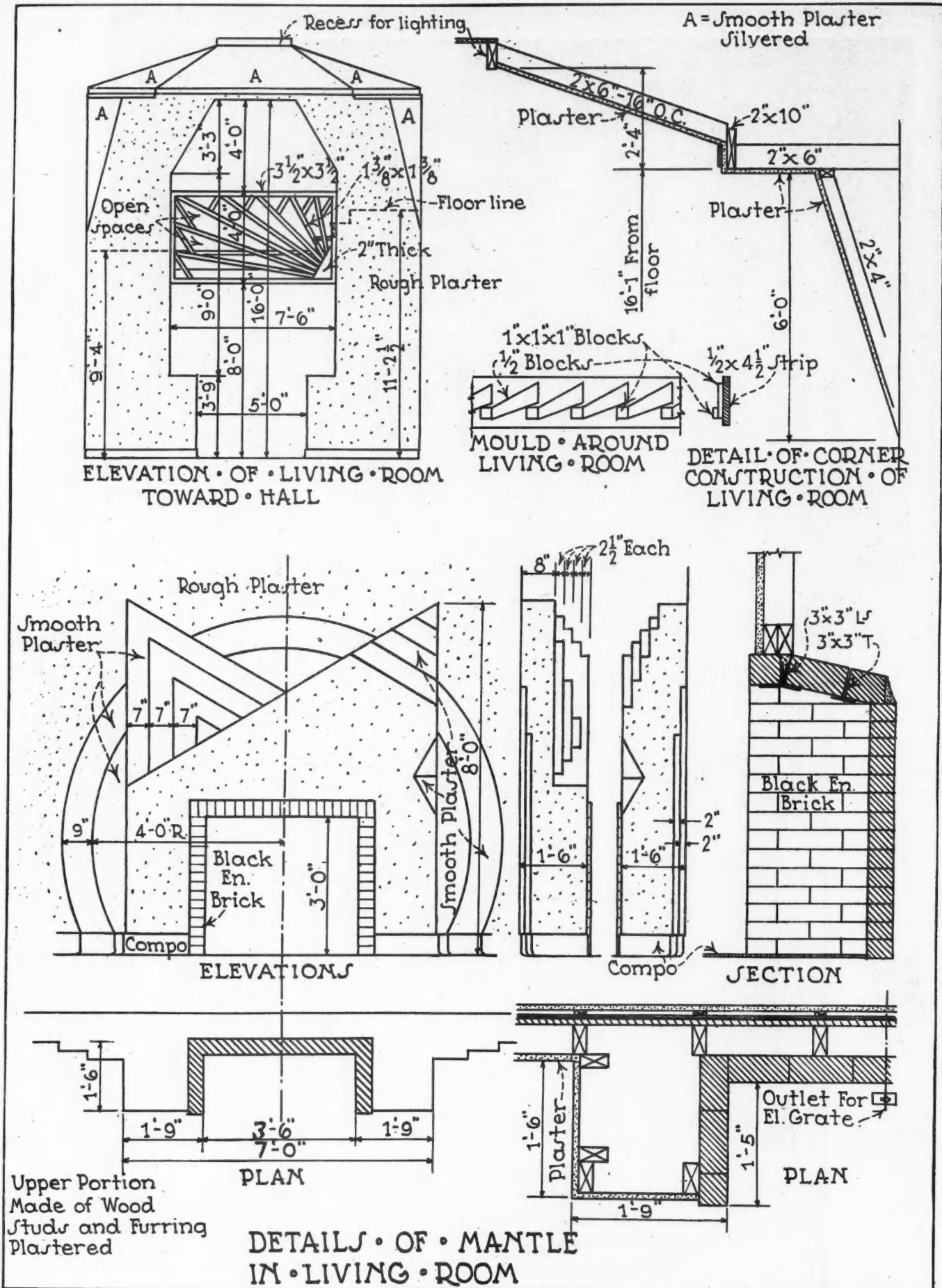
Two steps above the living room is the dining room, to the left of which is an extremely compact and well equipped kitchen. The garage is an integral part of the house, on the first floor level and can be entered without going outdoors. On the second floor there are three large bedrooms all arranged for cross ventilation. They are reached by an open stairway of unique design. In addition the second floor bathroom there are toilet facilities downstairs. Two French windows open to the rear from the dining room onto a little flagstone walk. The walk leads to a 40-foot lily pond with an inviting pergola and seat beside it. At night the grounds are lighted by floodlights.



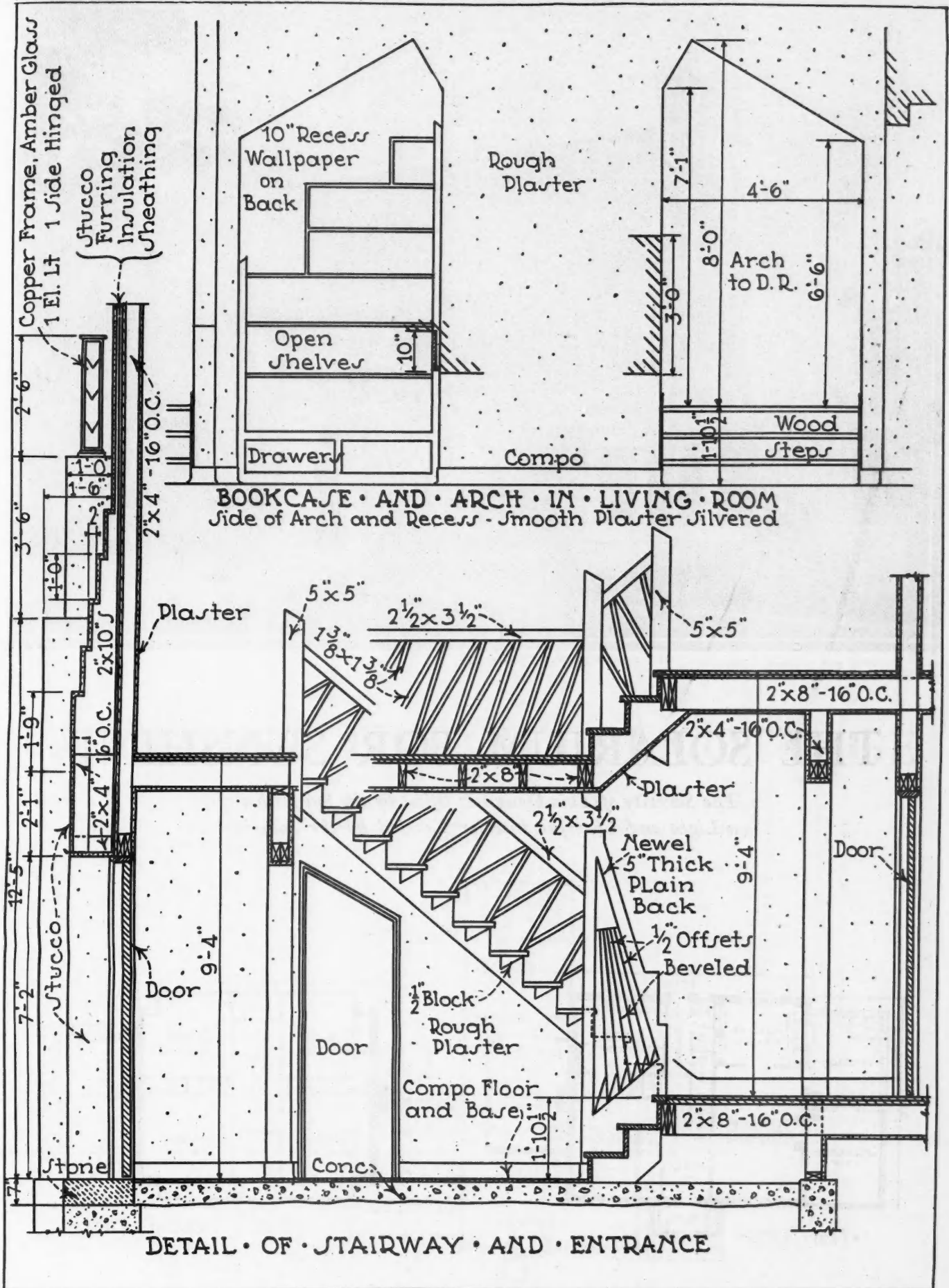




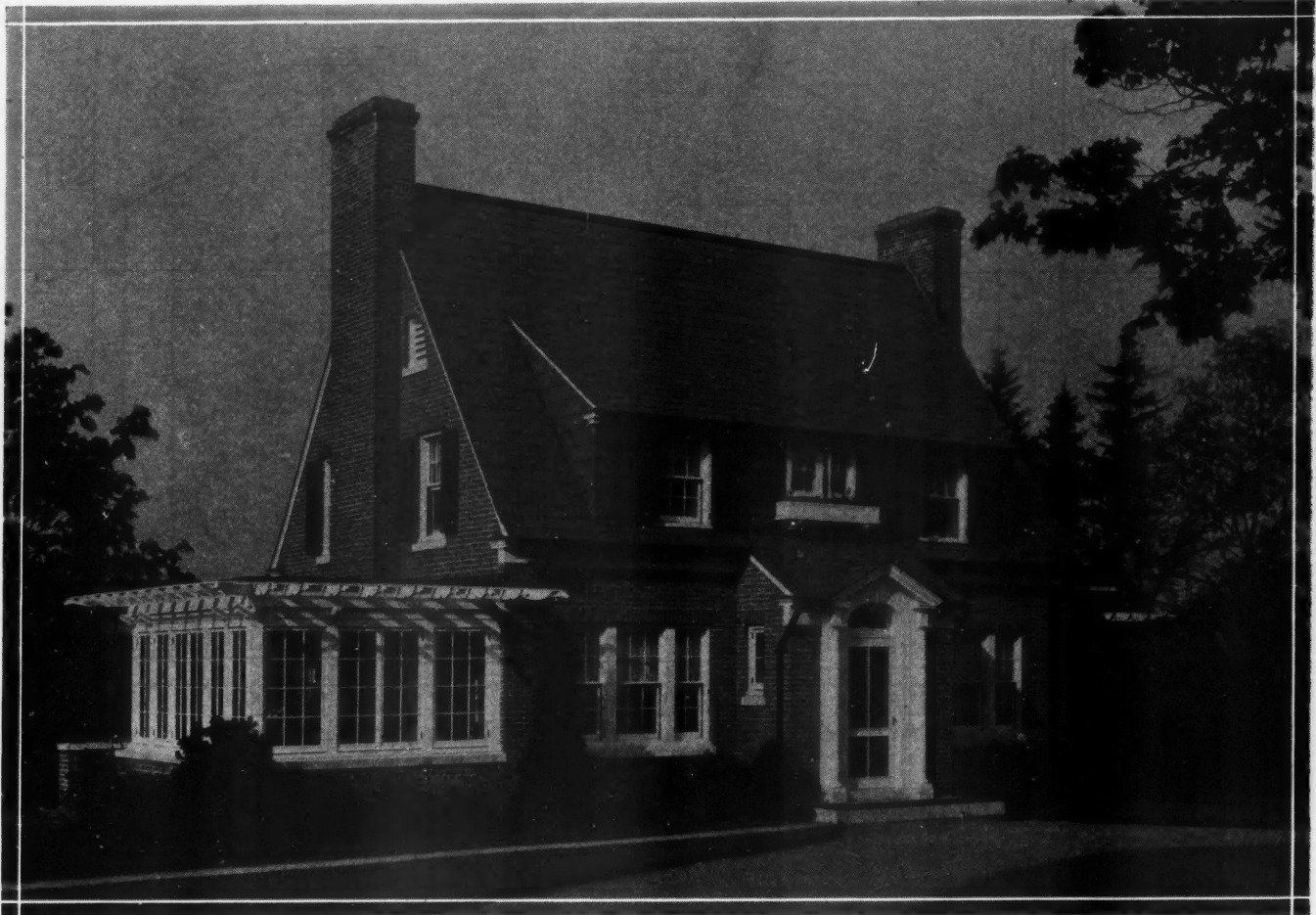
Modern Art at Its Best Finds Expression in the Studio Living Room of the Moderne Electric Home (above); While (below) the Kitchen Is a Model of Compactness and Modern Efficiency.



How the Striking Beauty of the Studio Living Room in the Moderne Electric Home Has Been Achieved Is Brought Out in These Detail Drawings.

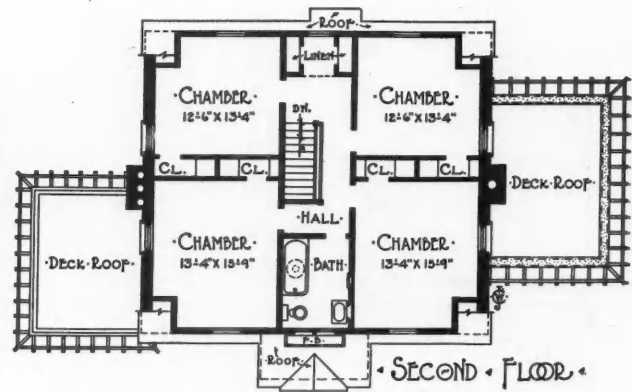
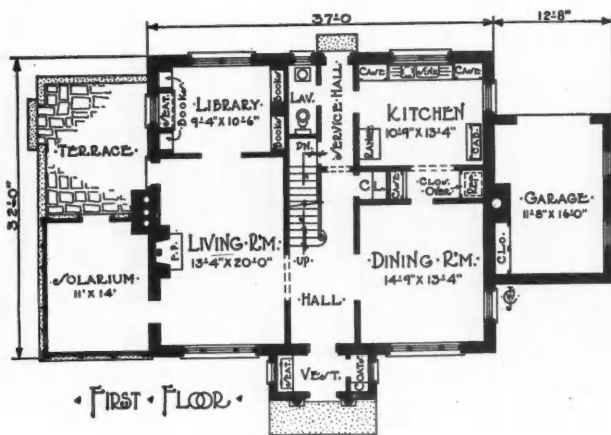


Further Details, Including the Entrance and Stairway, the Living Room, Bookcases and Arch and a Section of the Exterior Wall.



# THE SOLARIUM FOR SUNSHINE

*The Severity of This Design Is Offset by the Suggestion of a Light and Cheerful Interior Carried by the Solarium*

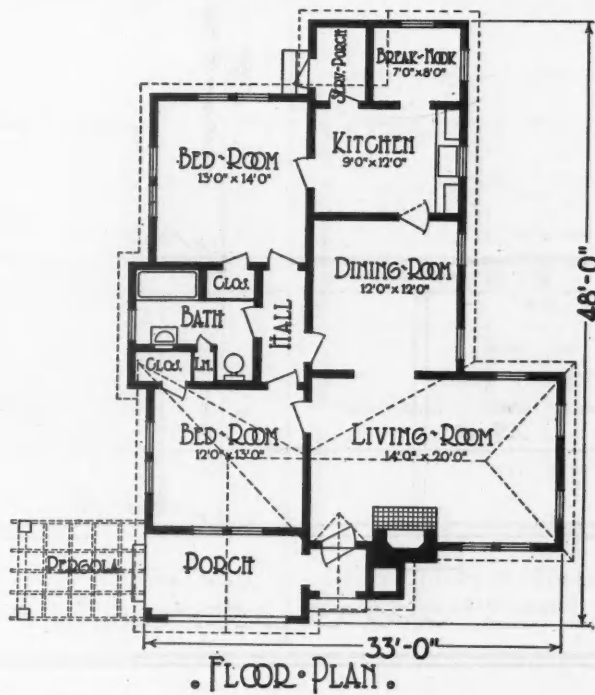




GUARANTY BUILDING CORP., Architects & Builders, San Antonio, Tex.

# CHARMING FIVE ROOM COTTAGE

*Built at a Cost of \$5,650, This Little House Can Well Be Copied by Anyone Desiring an Attractive but Inexpensive Home*



# Graceful Gambrels

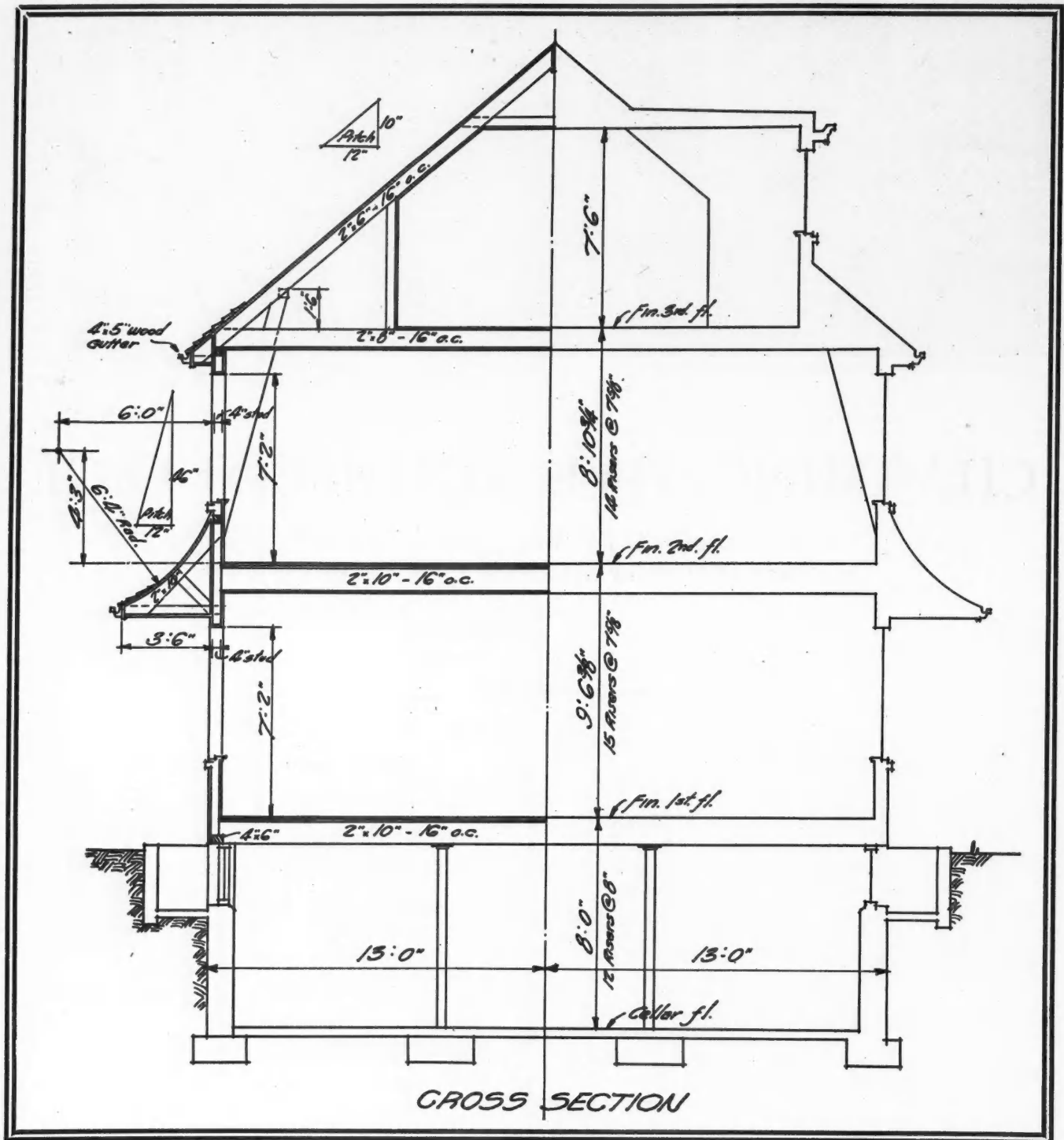
## How to Proportion the Roof Slopes for the Popular Dutch Colonial Homes

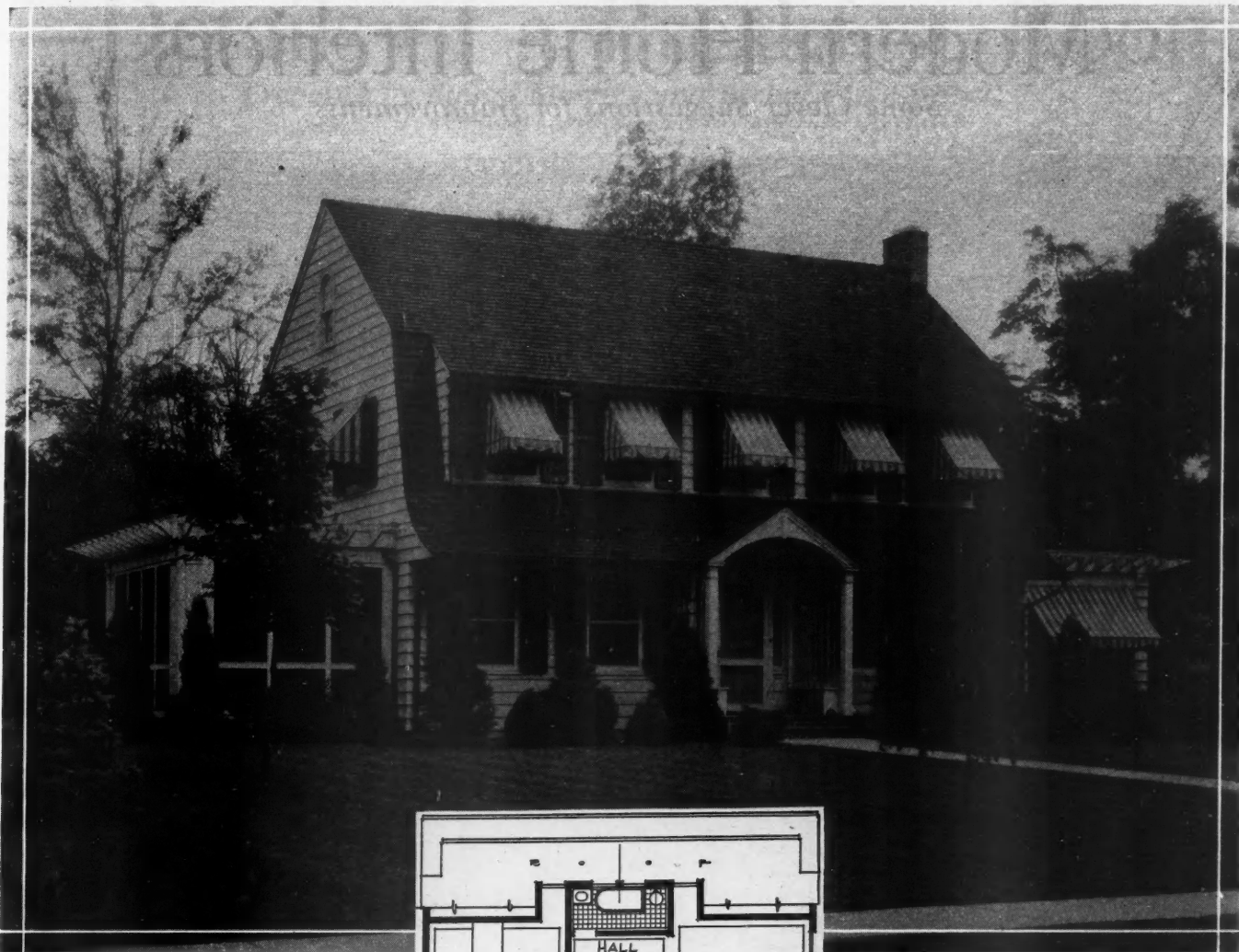
**T**HAT ever practical home, the Dutch Colonial, presents a design problem that is often too much for carpenters and builders, resulting in roof proportions that are awkward. R. C. Hunter and Brother, Architects, New York City, demonstrate in the cross section view below and in the photograph opposite the proper slopes and story heights for good looks. Notice that the pitch of the upper roof is 10 to 12, while

that of the lower roof is 46 to 12. The lower eaves flare out on a graceful curve tangent to the roof line.

Correct story heights are an important factor in the design of a Dutch Colonial roof. Architect Hunter in his drawing below makes clear this vital detail.

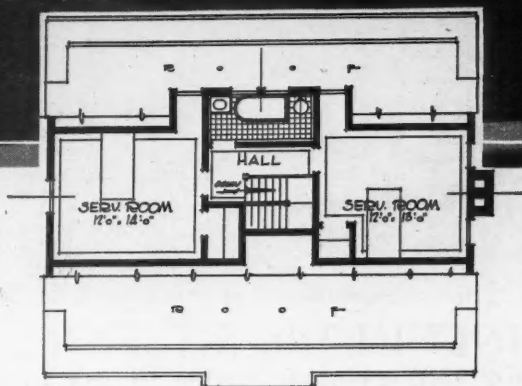
Here is a house that provides the maximum of room for the minimum of money, consistent, of course, with good design.



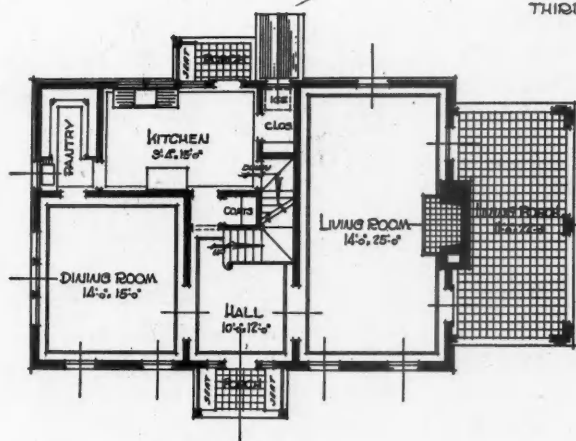


DUTCH COLONIAL  
HOME AT  
PLAINFIELD,  
NEW JERSEY

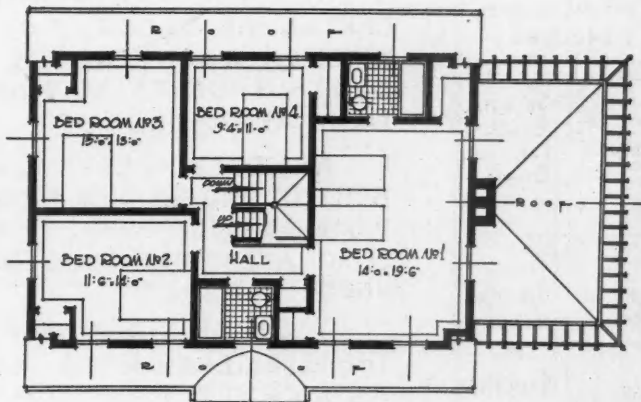
R. C. HUNTER & BRO.,  
*Architects*



THIRD FLOOR PLAN



FIRST FLOOR PLAN

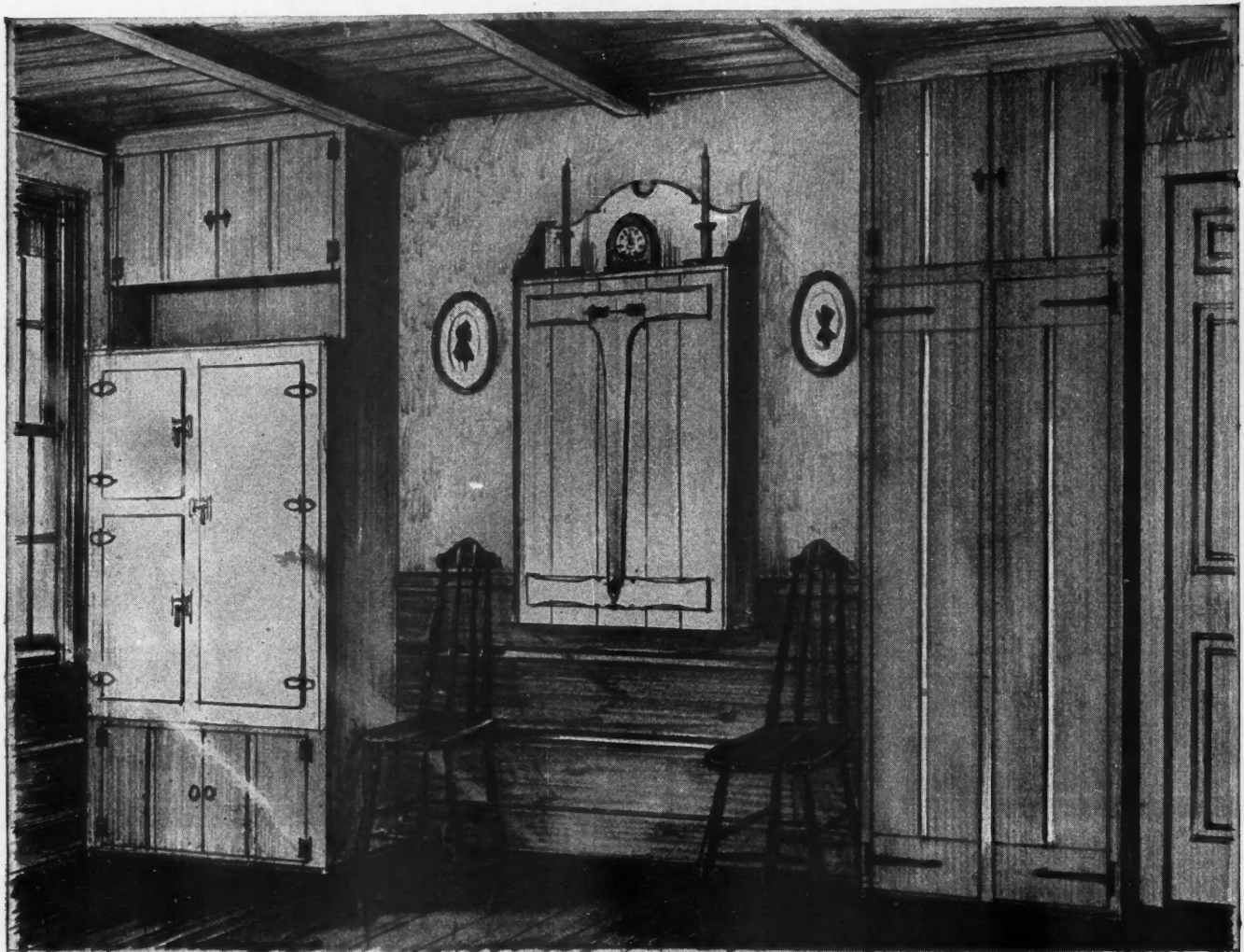


SECOND FLOOR PLAN

One Look at This Design Satisfies as to the Gracefulness of These Proportions for the Gambrel Roof. The floor plan also is very meritorious.

# Modern Home Interiors

*Some Clever Suggestions for Improvements*



**A BREAKFAST CABINET IN THE KITCHEN** IS A PRACTICAL MEANS OF ATTAINING THE CHARM DESIRED BY MODERN WOMEN IN THEIR SERVICE ROOMS.

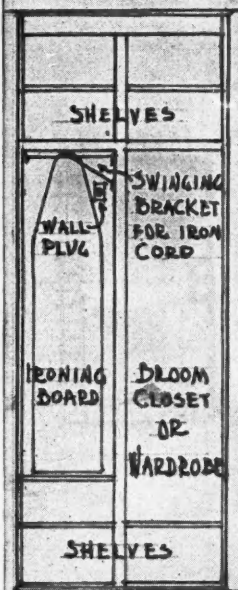
— THIS FEATURE PROVIDES A CENTRE OF DECORATION FOR THE KITCHEN ABOUT WHICH OTHER BUILT-IN UNITS MAY BE ATTRACTIVELY ARRANGED.

— A STOCK REFRIGERATOR BUILT IN AND RAISED FROM THE FLOOR IS MORE CONVENIENT AND ELIMINATES DIRT-COLLECTING SPACES UNDER AND BACK.

— PART OF THE CUPBOARD UNDER THE REFRIGERATOR MAY BE FITTED AS A CHUTE TO A LAUNDRY BELOW.

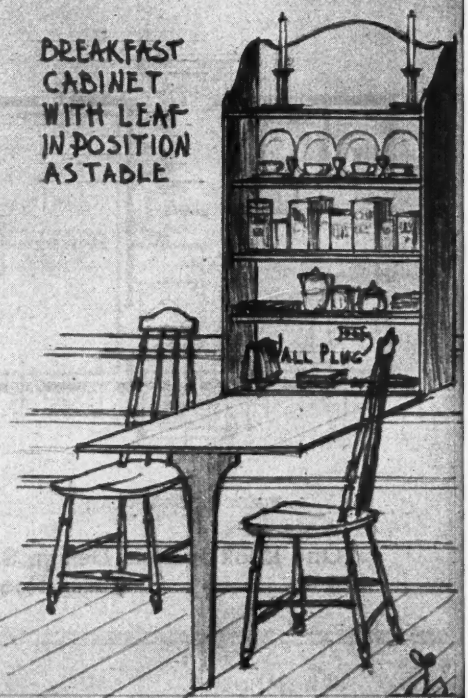
— THE IRONING BOARD CABINET MAY BE RECESSED INTO THE WALL SEPARATELY IF DESIRED.

— THE BEAMED CEILING AND STAINED WOOD WAINSCOT SUGGEST THE HOMELIKE KITCHENS OF OLD NEW ENGLAND.



**ELEVATION OF CUPBOARD** WITH DOORS OMITTED SHOWING INSIDE.

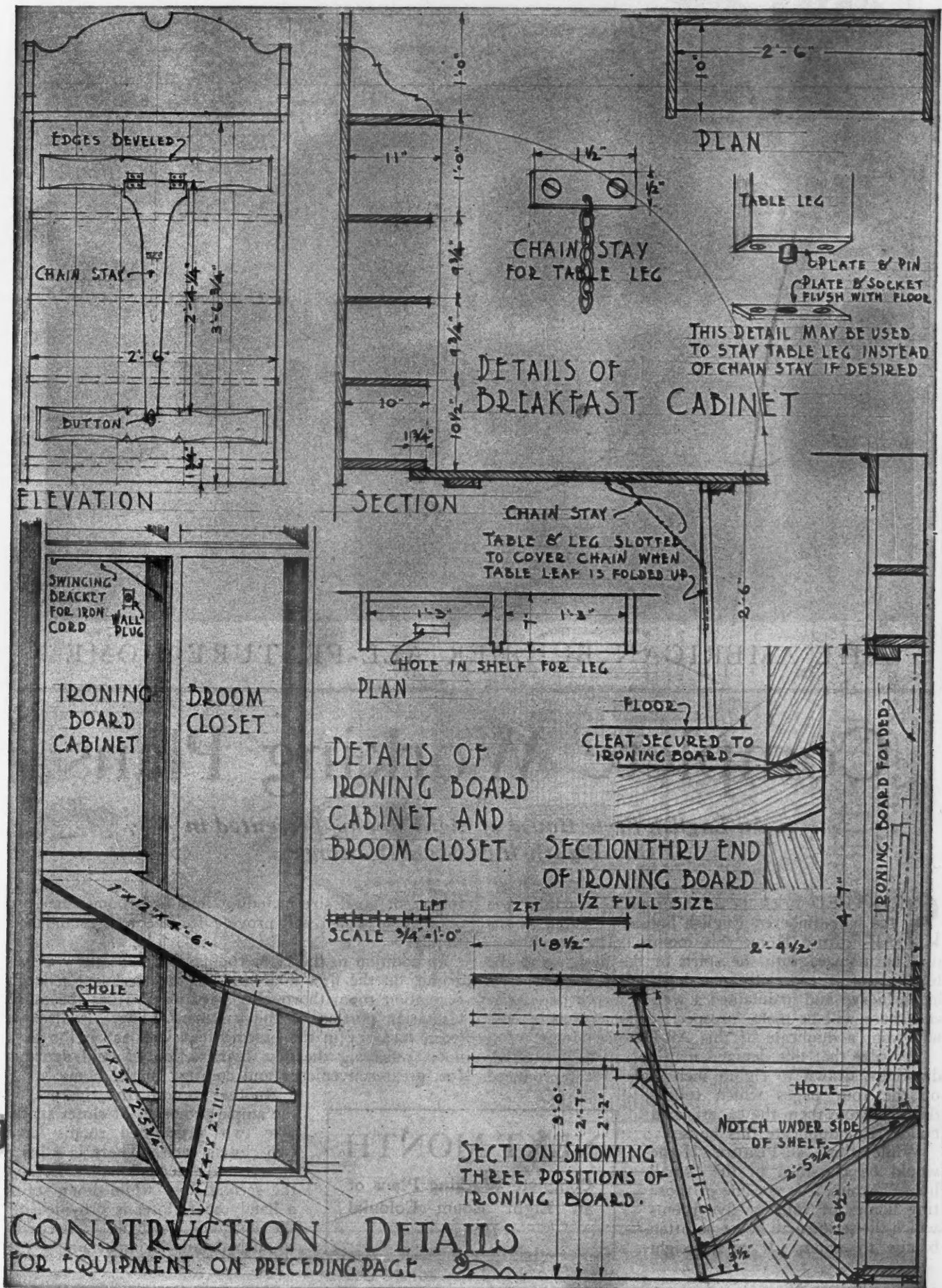
**BREAKFAST CABINET WITH LEAF IN POSITION AS TABLE**





# —Details of a Breakfast Room

Prepared by Eldred Mowery and Richard G. Kimbell  
of The National Lumber Manufacturers' Association





THE AMERICAN BUILDER ALL-FEATURE HOME

## Complete Working Plans

*An English Style House of Eight Rooms Presented in  
One-Eighth-Inch Scale Drawings*

**S**KINTLED brick is an appropriate medium for the half-timbered English house presented as the All-Feature Home this month. The rough texture harmonizes with the spirit of the design and the total effect is especially pleasing. The English style has achieved and maintained a well deserved popularity and there will be many prospective home owners who will want a duplicate of this All-Feature Home.

In order that this demand may be satisfied, working drawings, drawn to eighth inch scale, are reproduced on the four pages which follow this and from them the experienced builder can duplicate this house.

While this All-Feature Home would be classified in the "small house" group, it is not one of those tiny homes of four or five rooms which the term small house so often brings to mind. It offers eight

rooms, of good size including four bed rooms, the sort of a home which will provide for the well established family.

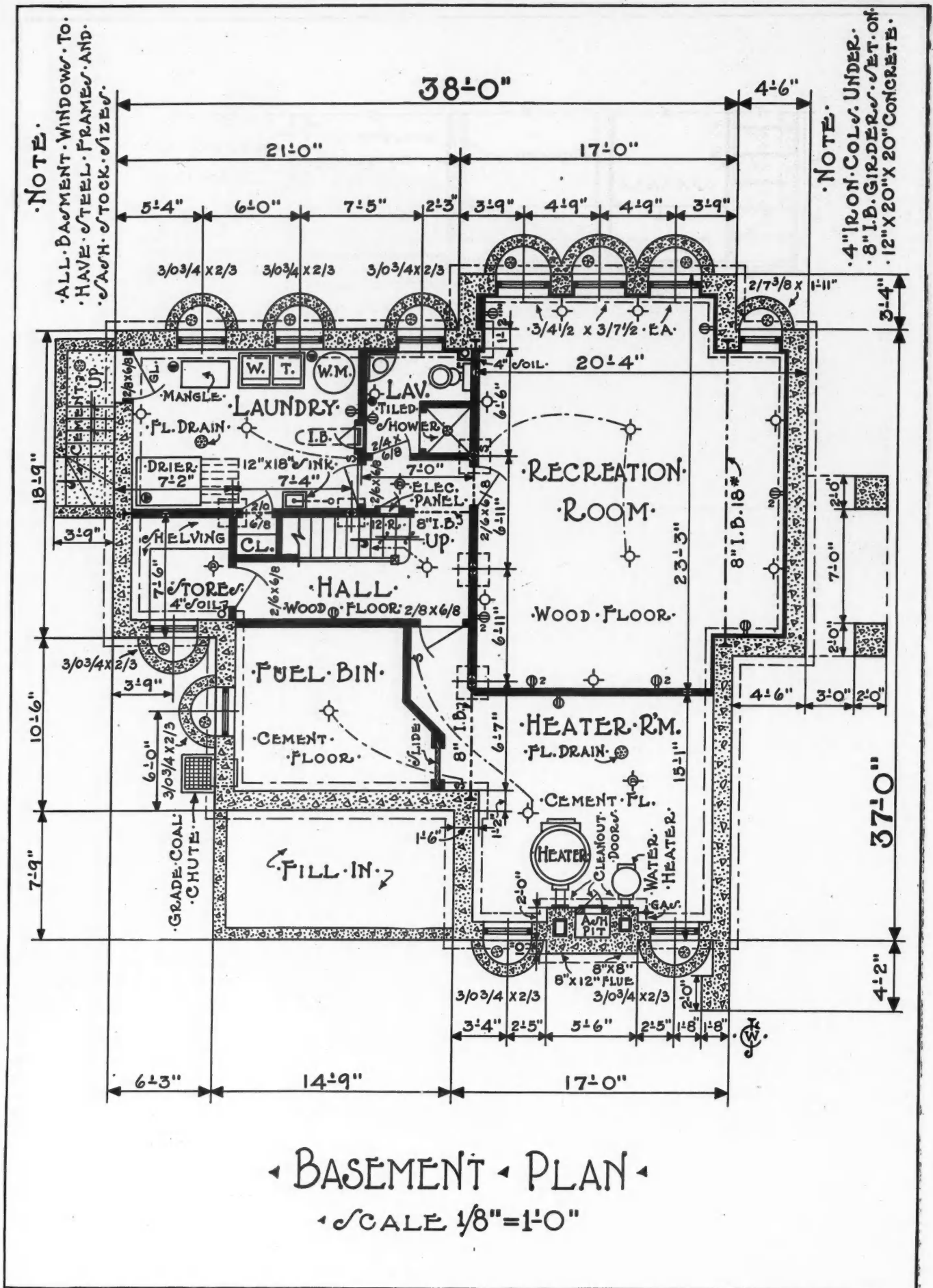
In addition to the eight rooms, the plans show a solarium, on the first floor and, in the basement a large recreation room thoroughly partitioned from the more utilitarian portion of the basement. There is also an extra lavatory in the basement as well as on the first floor, reflecting the new appreciation of, and demand for, great convenience and comfort in the home.

Another noteworthy feature is the ample provision of closet space. The two larger bed rooms have two closets each. There is a linen closet and a second hall closet on the second floor while down stairs a handy coat closet is provided off the entrance vestibule. Attention to such details is important.

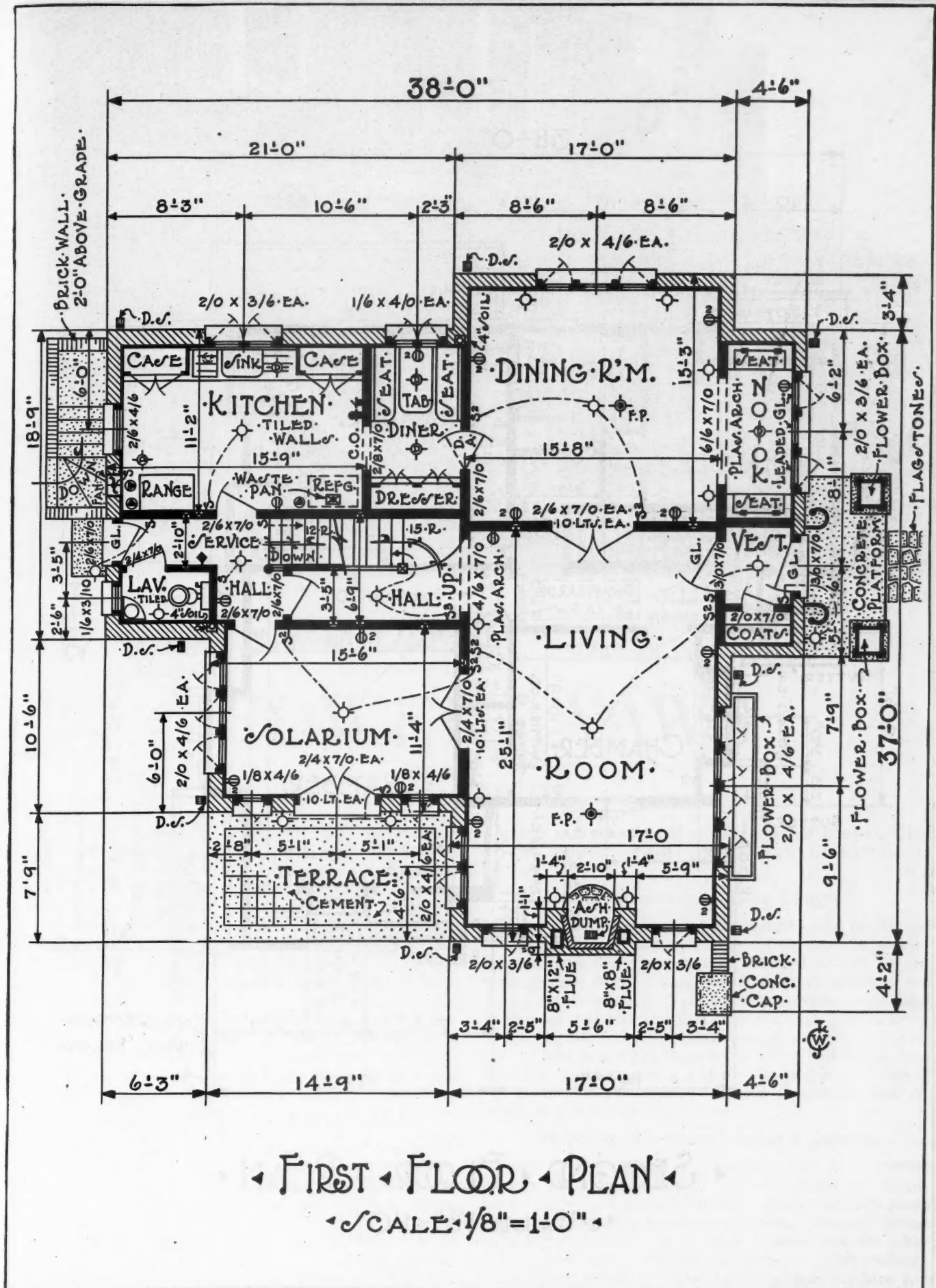
### NEXT MONTH

Complete Working Plans of  
an Eight Room Colonial  
House.

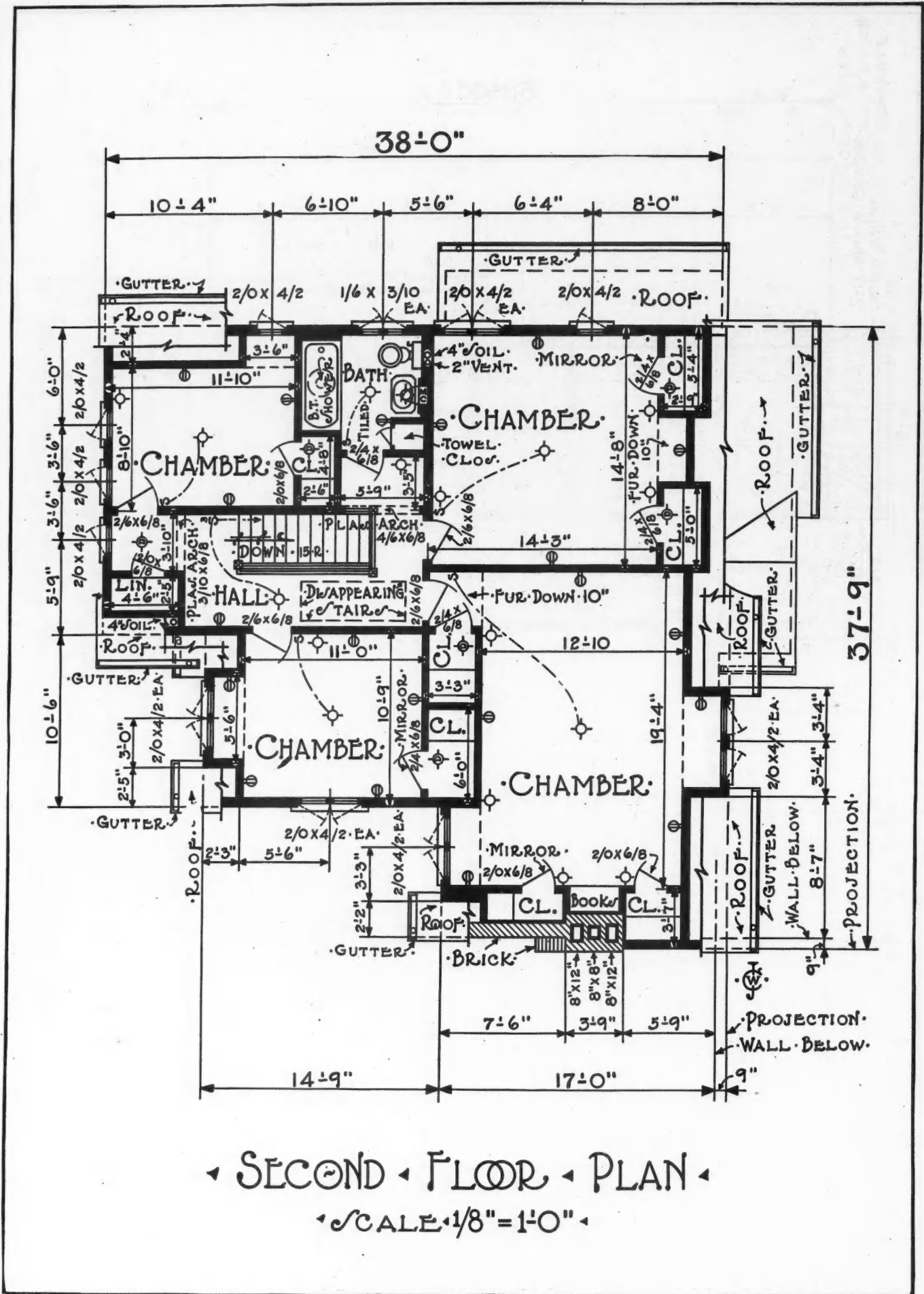




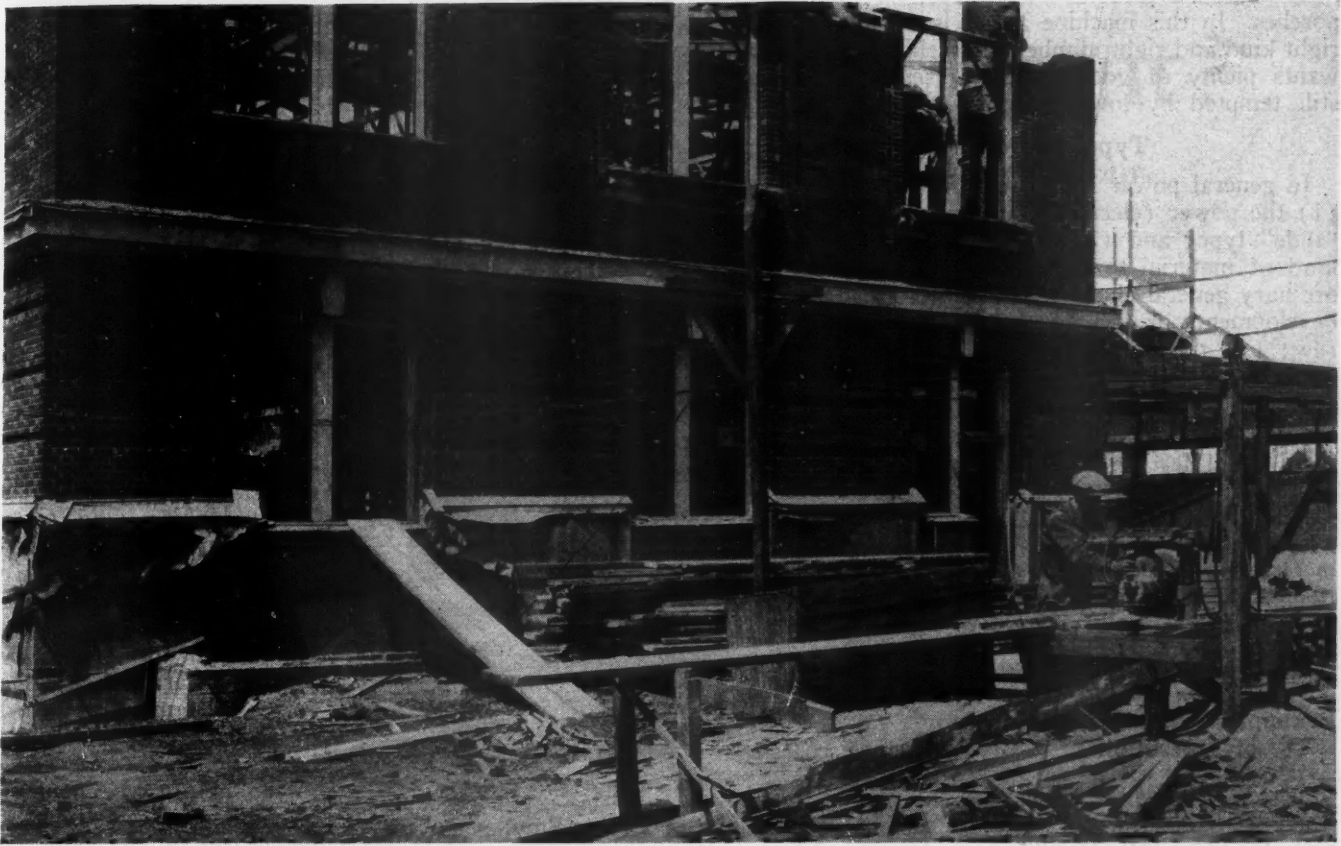
This Basement Is Thoroughly Modern, Not Only in Arrangement But in the Completeness of Its Equipment.



Every Modern Convenience from Breakfast Nook to Built-in Equipment Is to Be Found in This All-Feature Home.



Above the Second Floor Is an Attic Space Reached by a Disappearing Stair, Just One More Point of Perfection.



## Getting the Most Out of POWER SAWS

By L. G. KELLEY

**A** FEW years back when quite different methods of framing and finishing buildings were the vogue, it was a comparatively easy matter to decide for or against the usual type of power saw *then made*. Then concrete and concrete form building were not so common, and a type of framing demanding plenty of hand work was used for wooden houses. The trim details, even the exterior cornice, were heavy and of such a nature that actual millwork and much fitting by hand was required.

Today concrete work, for example, is almost a specialized line of work, and is "old stuff." The Western, or platform, frame is used more and more for frame or wooden houses, and the trim members are generally simple, plain and small.

### Discarding Old Ideas of Economy

There is still another thing we must not overlook—Economy. To lessen the cost in the old days we "economized" (?) on material. Spacing studs, rafters, etc., on other than 16 inch centers to save material means more than "getting the full strength of the piece," it complicates the whole process of erection. Why? Well, our lath, wallboard, etc., is made for the 16 inch spacing, and a saving in studs or joists by spacing on 18 inch or 20 inch centers resulted in a *waste of time* putting in nailing blocks. Then again perhaps the old sizes of

framing members would allow for other than standard 16 inch centers, but now we deal with pieces smaller in section.

### False Economy of Long Lengths

Then we believed in using long lengths, and we wasted much material. Today we realize the economy of shorter lengths, and that these can be handled, stored or cut with greater ease. Today we consider it wiser to use a style of framing that allows us to utilize economical lengths of material and that can be cut by power saws. We also realize that the reason some power equipment did not add to our profits as much as we had hoped, was because we never gave it a chance on buildings *designed for modern methods*, or we bought the *wrong kind* of equipment or the *wrong size*.

### Everybody Has Been Buying Equipment

Some years ago it was possible for a contractor having power equipment to take a contract at "hand-work" prices and make handsome profits, but with more contractors buying power equipment, contract prices were lowered until now *we must assume that the other bidders will also use power equipment*. This reduces the problem to one of selecting the proper machine for our work. Cutting costs by using the old ideas of economy must go, along with the brackets and "jig-saw"

porches. In this machine age it is up to us to use the right kind and right number of machines. The customer wants plenty of good material used properly, and is still tempted by lower prices.

### Types of Power Saws

In general power saws are of three different types—(1) the power (electric) handsaw; (2) the “slung” or “slide” type; and (3) the table saws. As far as the kind of material to be cut is concerned, and also the ordinary general characteristics, these modern saws are developments of the three older forms, (1) the handsaw; (2) the “swing cut-off”; and (3) the simple old time “table saw.” Although in general each of the three types are adaptable to a rather wide range of work, each is especially suitable for use in cutting material of a certain size range, and also each possesses certain features of operation not possessed by the others.

### Principles and Methods of Operation

As far as their operation is concerned, these saws may be described as follows:

(1) The handsaw we must take to the material, operate the saw, and generally we must hold the material also. Fast cutting or cutting of large pieces is out of the question if time is important.

(2) The “slung” or slide saw is designed for material that is difficult to handle or hold. Hence we *move the saw instead of the material when operating.*

(3) The table or bench saw does not require either the actual operation of the cutting element like the handsaw, nor do we push the saw onto the work like the “slung” or slide type, but we must *hold the material or guide it, and often carry the material for some distance to and from the saw because this saw is often built on a heavy frame.*

To make clear the distinction between these types, we call the reader's attention to the impossibility of cutting out a section of floor with an old time table saw or trying to do thickness planing with an electric handsaw by merely holding it in one's hand.

### Analyzing the “Points” of Power Saws

In order to get down to “brass tacks” on the various types of saws, we will recall the “points” we sometimes hear. These we will consider as features to be looked for in selecting the proper power saw.

(1) *Power and Maximum Cutting Capacity.* Here we have the usual “for” and “against” arguments. The saw must have a large blade to make a deep cut. Yet, if the blade is too large, there is too much vibration, and too wide a “kerf” for fine work. Also when we consider the material to be cut we can see that *heavy pieces will lie still while sawing, where the smaller pieces must be held or fastened down.*

(2) *Portability.* Here we must consider one of two conditions, anything else introduces loss of time and profits. *The saw must be either brought to the work or the work brought in large quantities to the saw.* By this we mean that this program must be carried out consistently. Unless a cut is especially difficult to make by hand, we cannot afford to carry just an occasional piece

to the saw and expect any great saving from it.

For framing and heavy work where the problem of holding the material is of little importance, we believe most operators will agree that the larger electric handsaws are the best. Slung or slide saws that can be placed on ordinary saw horses or cheaply constructed frames are also excellent. Here we can *take the saw to the lumber pile*, do the laying out and marking right on or close to the pile, cut the pieces and re-pile where they can be obtained when needed. In this way we can answer that old objection raised about “too much carrying material.” On the average job where the lumber can be piled in even a half-way suitable place there is no need for carrying material, at least as far as the power saw is concerned.

(3) *Making Odd Cuts.* We might call this quality “adjustability.” Here we have a rather wide range of sizes of material generally difficult to mark or lay out, awkward to arrange for sawing, more awkward to hold while the sawing is being done. As we mentioned before, the field of usefulness of each type of power saw today is so large that these fields overlap,

and hence machines in each “type-group” will be found that will handle odd cuts with ease, but the one which seems especially fitted for this kind of work is the “slung” or slide type.

If the material is both large and awkward, and the cuts are difficult, the slung type of saw is often considered best. If the material is “just medium” in size, and the cuts are just ordinarily difficult, a good operator on a medium size electric handsaw can get good results. For light material the adjustable small table saw is best because even a light electric handsaw is not as good for this work.

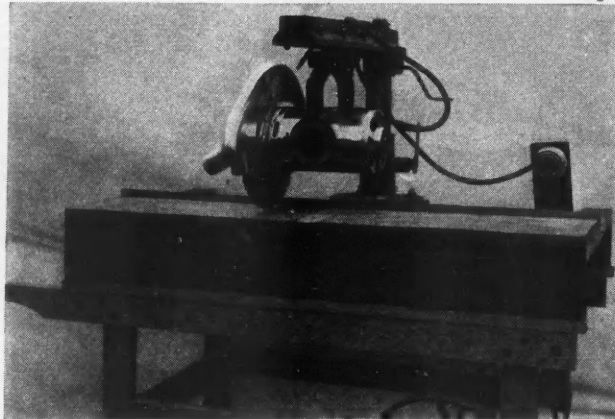
There are some cuts that are difficult due to the location or placing of the work such as cuts in floors or decking for concrete slabs. Here the light electric handsaw is without question the best of all, but for thick floors a larger saw should be used. Many of the old time “table” saws are now made as “bench saws,” that is, to set on a bench. If a bench is “portable,” surely such saws are portable. They take up little space and when run by electric motors generally do not need the anchoring and holding down we used to do.

(4) *Accuracy.* For interior finish work the material is generally small, or at least thin, hence we can and should use smaller and finer saws. For accurate cutting of such material the table type of saw is the best of all. Only on a carefully designed and well built bench or table saw can we get the real finish and extreme accuracy generally required on fine finish work.

### The Combination Woodworkers

We have not used the term “Combination Woodworkers” because in a sense it is meaningless as so few single purpose machines are used that the term is misleading. However, there are a few machines, generally of the “table saw” variety, that can perhaps always be best described as such.

Every contractor who does a great deal of residence work, for example, should have a shop and in it one of these machines. Also it must be remembered that these



Slide Type of Power Saw.



# How Much Equipment?

## Speed, Economy and Efficiency Demand Use of Labor-Saving Tools and Machinery

By L. G. KELLEY

**I**MPROVED machinery for contractors and builders is here to stay. Also we believe we have learned how to use the extra assistance given us by such machinery with more real wisdom than has often been exhibited in the past. Modern miracles have been performed by machines, and we feel in many cases that the real credit for these has not always been placed where it belonged. We also believe that some sort of mechanical aid can be found for almost every difficult job that contractors encounter. However, considerable care must be exercised in selecting the machine for any given job.

### Size of Job—Size of Machine

In the past we know that many machines have been bought blindly without regard to operators, size of crew, size of the job, or knowledge of how to charge for the first cost or maintenance of the machine. In many cases, because previously the work had been done by hand, a reasonable (when viewed as hand work) contract price was paid for the machine on the first job, *if the job was large enough and the machine not too expensive*. This condition led some contractors to believe a machine should pay for itself on the first job, which is not always possible. Also if the job *was* large enough to pay for the machine, the machine was neglected and allowed literally to fall to pieces when it could have paid a further handsome profit with a few worn parts replaced.

In many cases the first machine bought by the contractor, which was suitable for small jobs, was used on a larger job in an attempt to save the price of a new one, and as a result many high priced mechanics were forced to wait for the machine, and this slowing up of the work ran the costs higher than figured. Often in such cases, the real cause of the loss was not discovered, or if it was traced to the machine, the blame was placed on the manufacturer or the type of machine when the real cause was *the use of the wrong size of machine*.

### Two Small Machines or One Large One

As soon as machinery came into more general use, there was a tendency to buy larger and larger machines and also to use machines that were intended for much larger jobs. Thus attempts were made to use these on jobs where they could not be used economically. We have all heard of the story of the tug boat captain who used a liner's whistle on the tug's engine. Everything went all right until he blew the whistle then the tug stopped. Yes, the joke is supposed to be on the tug, but is it? When any contractor sustains a loss, we all suffer a little.

Generally two small machines will cost more than one large machine for the same work. Often the one large one is capable (theoretically) of producing more than the two smaller ones, and with a single crew. Here it would seem that the larger machine is the best all around. But when we consider the relative *amount of work to be done*, the difficulty of bringing material to

the machine in large enough quantities over a period long enough to realize on the increased output, we find that even one of the smaller machines, in an emergency could have done all the work and two would have done it at a handsome profit because of the saving of cost of handling or moving the material such long distances. To keep a large machine running at a profitable rate there must be a continuous supply of work. This means that there must be much material *"in transit"*.

### Factory Production Methods Not Possible

One of the most noticeable characteristics of the building industry is its periodic or intermittent nature. This applies to the industry as a whole and to individual contractors or even workmen, and also to the actual work itself. A building represents so many different operations and so many different materials that no great amount of any one material is possible in the same sense that we consider the operations in a factory. Thus although the general principles of economic production in a factory do apply, they must be modified.

The problem of analyzing the situation for the benefit of all concerned is immense. The sale and use of machines properly designed, built and sold to fit the varying needs of the contractor is the real problem that is facing us. We have attempted to point out that when machines of the wrong size are used, a loss is usually incurred, and generally this is "passed on" or it cripples the contractor. In any case the industry is injured.

Using machines that are too small increases the labor cost. Using machines that are too large often requires an expenditure of the contractor's capital for which he gets little or no return. Few jobs are too small for using machines, providing they are well chosen. We should not hesitate to utilize improved methods just because we cannot pay for the machine on the first job.



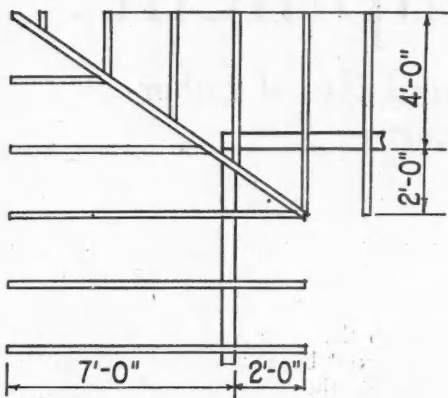
### Getting the Most Out of Power Saws

(Continued from page 136)

are especially useful in getting out interior woodwork, and in this case the need for easy portability is not so great, as they can be placed inside the building being finished and there is no use of scattering sawdust over every room. There is a limit to the needs for portability.

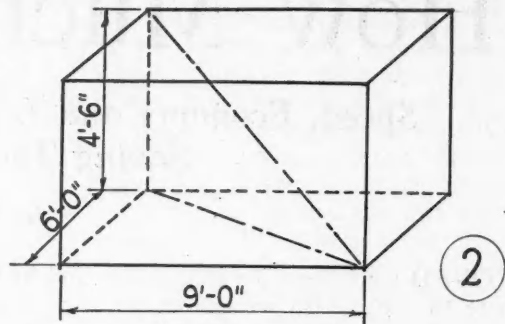
### Planers and Sanders

We must not forget the planers and sanders. Here it often pays to use a single purpose machine, because generally the cost, except for a few varieties, is rather moderate and the separate machine may be used occasionally without interrupting the set up of the regular saw which is often used with a planer head. What we need most is a greater number of machines. These need not be "single purpose," but it is almost impossible to expect one machine to do everything with *equal efficiency*. Most contractors could use perhaps an electric handsaw, a bench or table saw, and a planer. Others might want a slung, or slide, saw and a planer and sander. But these are suggestions only.

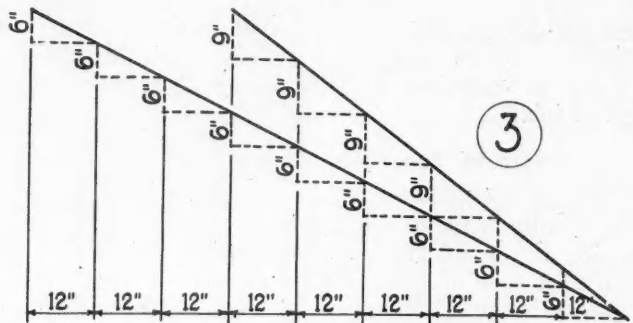


① PLAN OF ROOF CORNER

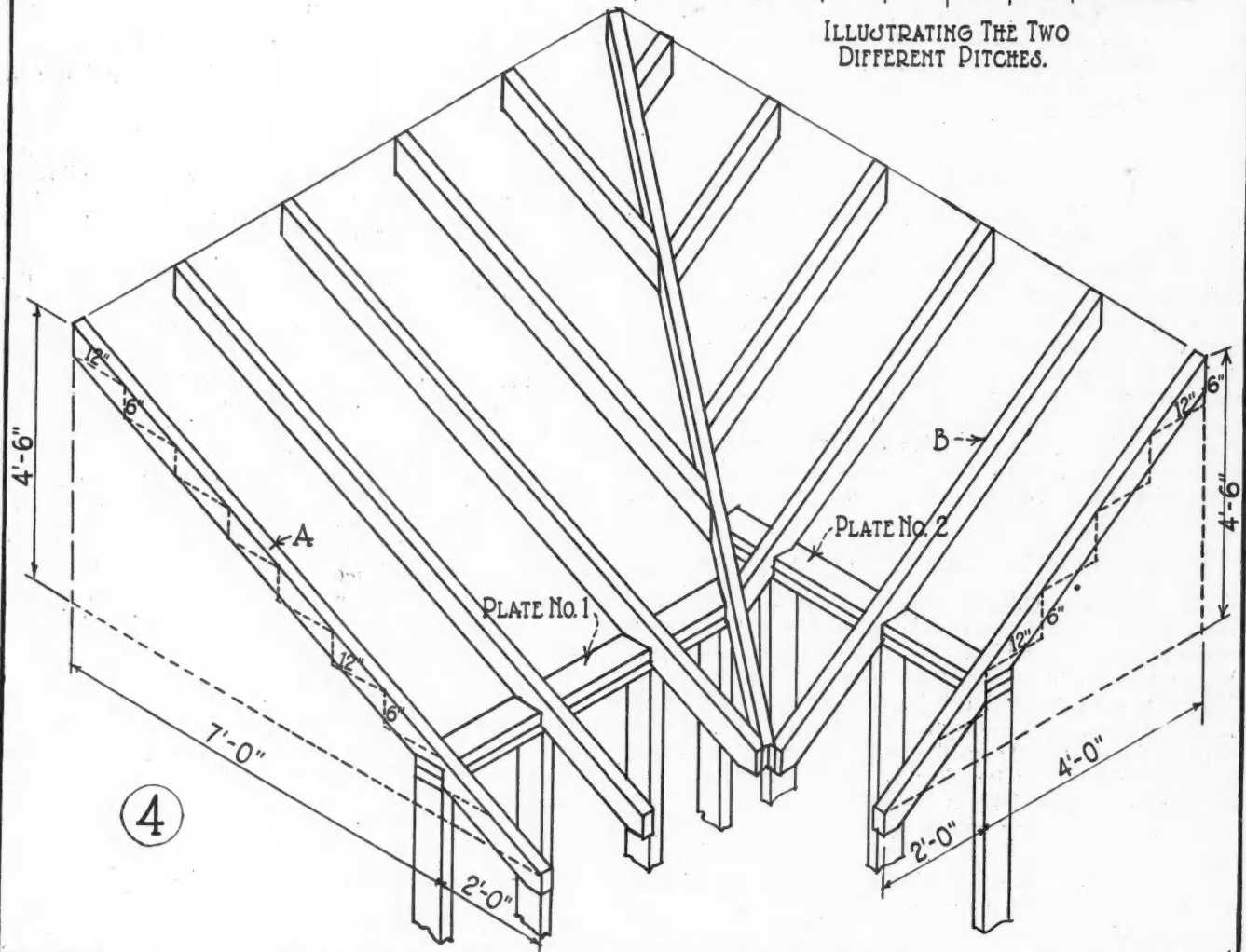
PROBLEM: TO FRAME A ROOF WITH TWO DIFFERENT PITCHES SO THAT THE CORNICE IS THE SAME WIDTH ALL AROUND AND THE SOFFIT IS ON A LEVEL.



ILLUSTRATING SQUARE ROOT METHOD OF FINDING LENGTH OF VALLEY RAFTER FOR ROOF WITH TWO DIFFERENT PITCHES.



ILLUSTRATING THE TWO DIFFERENT PITCHES.



Joining Roofs of Different Pitches as Explained on Page Opposite.

# Joining Different Pitches

Several Problems Encountered in Joining Roofs of Different Pitches—  
Diagrams on Page Opposite

By JOHN T. NEUFELD

THE problem of the month is one sent in by a reader of the *AMERICAN BUILDER*. He wishes to join two roofs one having a pitch of 9-inch rise per foot run and the other having a 6-inch rise per foot run, in such a way that the cornice is kept the same width and also on the same level. He also wishes to know at what point the rafters would be at the same height.

We will note that the one rafter has a rise of 6 inches per foot run while the other has a rise of 9 inches per foot run. The one therefore rises 3 inches more for each foot of run. We will for the first assume a cornice 24 inches wide built so that the soffit is on the same level. The one rafter "A" rises 2 times 6 or 12 inches in the two feet while the other rises 2 times 9 or 18 inches in the same space or distance. Thus the rafter "B" is 6 inches higher at the plate than the rafter "A."

## Length of Valley Rafter

Figure 2 shows one way of finding the length of the valley rafter. This is by square root. The length of the run is first found. The run in this case is as follows:  $\text{Run} = \sqrt{9^2 + 6^2} = 10.82 \text{ ft.}$  The length of the rafter is  $\sqrt{4.5^2 + 10.82^2} = 11.71 \text{ ft.}$

Another way to find the length would be to draw a diagram of the layout at a large scale such as one inch to a foot. Draw a triangle for the two runs, letting one side represent the 9 feet 0 inches and the other the 6 feet 0 inches, then scaling diagonally to find the run of the valley rafter. The run in this problem scales 10 13/16 inches. Another triangle is now drawn using this 10 13/16 inches as one side and the rise 4 1/2 (4 feet, 6 inches) as the other. The length of the rafter is then scaled.

If the drawing is laid out to a scale of 1 inch to a foot then each 1/12 inch would represent 1 inch, and each inch would represent one foot.

If the drawing is laid out to a scale of 3/4 inch to a foot then each 1/16 inch on the drawing would represent an inch and each 3/4 inch would represent one foot.

If the drawing is laid out to a scale of 1 1/2 inches to a foot then each 1/8 inch on the drawing would represent 1 inch and each 1 1/2 inches would represent 1 foot.

Every workman whose ambition it is to be more than just a laborer in the building line will find plenty of use for a scale, which will make problems like this easier; however, the ordinary rule and steel square will be sufficient to solve the problem in case that is the best available.

## REVIEW PROBLEMS

1. What is meant by the span of a roof? What is the run of a rafter?
2. Give three ways of describing the pitch of a roof.
3. What is the rise per foot run for a 1/6th pitch roof?
4. A building is 28 feet wide and has a 1/4th pitch roof; what is the total rise?

5. A roof 36 feet wide has a rise per foot run of 8 inches; what is the total rise?

6. What is the pitch of a roof 24 feet wide and 11 feet high?

7. What numbers on the square would you use to lay out the cut for a common rafter of 1/2 pitch?

8. One roof 16 feet wide and of 1/4 pitch frames to a roof 12 feet wide and 1/3 pitch. What would be the difference in the height of the ridges if the plate or starting point is on the level?

9. A rafter has a length per foot run of 13.42 inches and the total run is 9 1/2 feet. What is the total length of the rafter?

10. If the roof in figure four had a cornice 18 inches wide, how much higher would plate No. 2 be than plate No. 1?

## ANSWERS

1. The span of the roof is the total distance, horizontally, that the roof covers—in general, the distance between the two outside edges of the plates.

The run of a rafter is the total horizontal distance that the rafter covers.

2. The pitch of a roof may be expressed as the ratio of the rise to the span of the roof; thus a roof 18 feet wide and 6 feet high is said to be 1/3 pitch.

The pitch of a roof may also be expressed by giving the rise per foot run in inches; thus the above roof would rise 6 feet in 9 feet of run, or 72 divided by 9 equal 8 inches per foot of run. The pitch therefore could be expressed by stating that the rise per foot run was 8 inches.

The pitch may also be expressed by giving the angle of inclination of the roof. The above would be 33 1/2 degrees.

3. The rise per foot run for a 1/6 pitch roof is 4 inches.

4. The building is 28 feet wide and the pitch is 1/4; then the total rise is 1/4 of 28 or 7 feet.

5. If the span is 36 feet the run is 18 feet. The rise per foot run is 8 inches. The total rise is  $18 \times 8$  or 144 inches which is 12 feet.

6. The pitch of a roof 24 feet wide and 11 feet high is 11/24. The rise is 11 inches per foot run.

7. Use the numbers 12 and 12 or any other even numbers, as the angle is a 45-degree angle.

8. The one roof rises 1/4 of 16 or 4 feet. The other rises 1/3 of 12 which is also 4 feet, therefore the ridges are even.

9. The total length is  $13.42 \times 9 1/2 = 127.49$  inches or 10 feet 7 1/2 inches.

10. Rafter A would be  $1 1/2 \times 6 = 9$  inches higher at the plate than at the starting point. Rafter B would be  $1 1/2 \times 9 = 13 1/2$  inches higher at the plate than at the starting point, or 4 1/2 inches higher than rafter A at this point. Plate No. 2 therefore would be 4 1/2 inches higher.

# “It Will Not Smoke”

## Common Sense in Fireplace Construction

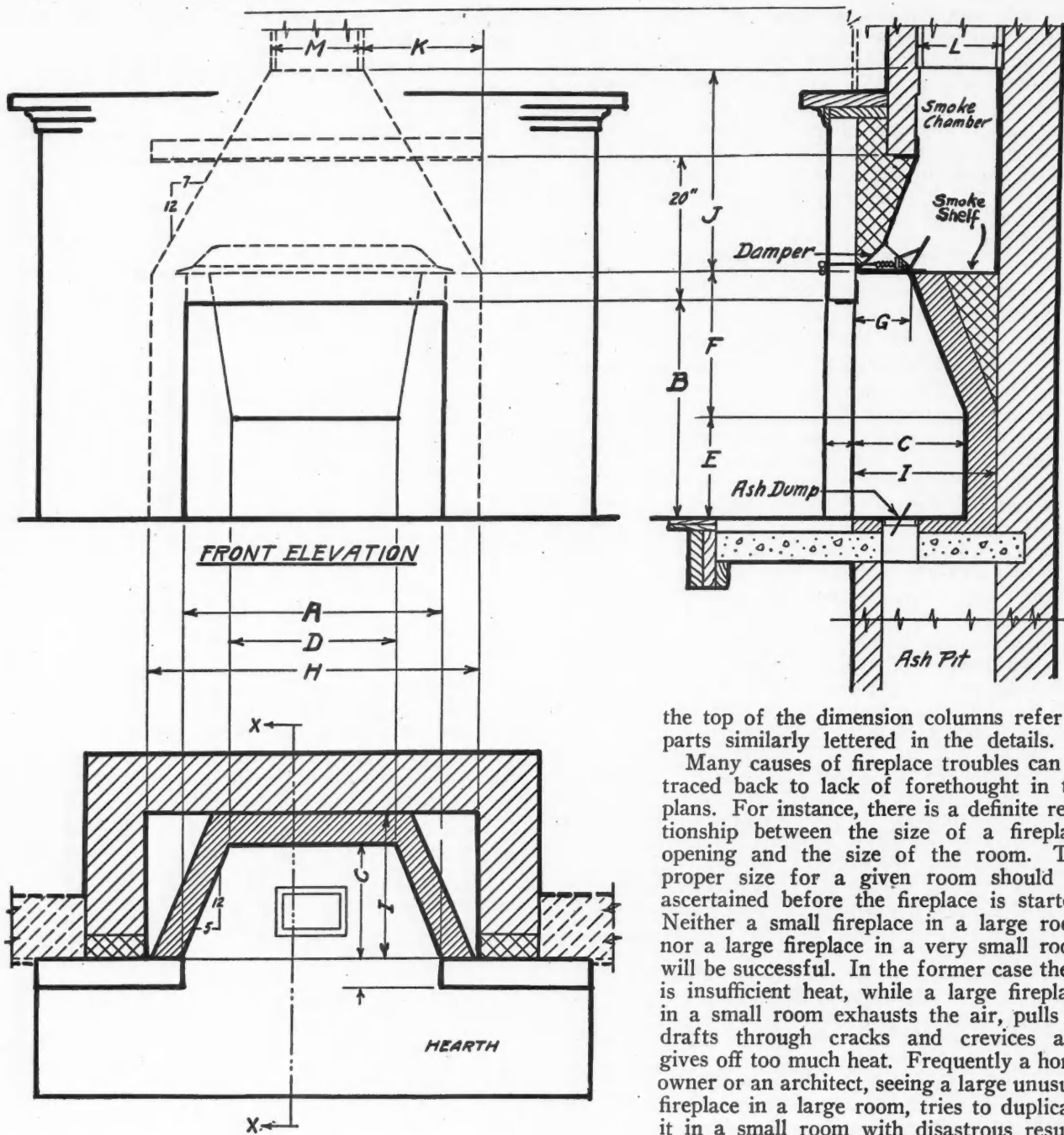
W. D. WILL

“OUR fireplace smokes. You will have to send a man out to fix it.” This is one of the most frequent complaints the builder receives from the new home owner. It is either “the fireplace smokes” or “the fireplace doesn’t draw right.”

Many authorities on fireplace construction say that 75 per cent of all fireplaces are incorrectly built. There are, however, a few well defined common sense principles in fireplace building which, if followed, will eliminate practically all of these complaints with-

out any additional expense to builder or owner.

In order that the reader may easily follow the construction ideas as outlined in this article, we are showing a front elevation and section of a fireplace. We are also giving a dimension table which is to be used in conjunction with the sketches. In the left hand column are the more common sizes of fireplace openings. By selecting any size opening and reading from left to right, you can obtain the correct dimensions for all the important parts of that particular sized fireplace. Letters at



Standard Non-Smoking Fireplace Details.

the top of the dimension columns refer to parts similarly lettered in the details.

Many causes of fireplace troubles can be traced back to lack of forethought in the plans. For instance, there is a definite relationship between the size of a fireplace opening and the size of the room. The proper size for a given room should be ascertained before the fireplace is started. Neither a small fireplace in a large room nor a large fireplace in a very small room will be successful. In the former case there is insufficient heat, while a large fireplace in a small room exhausts the air, pulls in drafts through cracks and crevices and gives off too much heat. Frequently a home owner or an architect, seeing a large unusual fireplace in a large room, tries to duplicate it in a small room with disastrous results both from decorative and practical standpoints.

Fireplace authorities have computed that a room with 300 square feet of floor space is well served by a fireplace 30 inches to 36 inches wide, 28 inches to 32 inches high, and 21 inches to 24 inches deep. Rooms of other dimensions in proportion. In larger rooms increase the width but add very little to the height or depth.

The next and possibly the most neglected step in fireplace building is determining the correct size flue to use with a given size of fireplace opening. This proportion should be accurately figured out before a brick is laid. The net area of the flue should not be less than one-twelfth the area of the fireplace opening. Remember that there is a definite relationship between the size of fireplace opening and the size of the flue. Flues that are too small cannot carry away all the smoke and gases from a large fireplace. Rather have flues too large than too small. The following table of dimensions will enable the reader to select the size flue (rectangular or round) for many of the more popular fireplace openings.

| DIMENSIONS                 |        |       |      |                    |                  |        |                 |       |               |                        |                                               |                                       |     |
|----------------------------|--------|-------|------|--------------------|------------------|--------|-----------------|-------|---------------|------------------------|-----------------------------------------------|---------------------------------------|-----|
| Finished Fireplace Opening |        |       |      |                    |                  |        | Rough Brickwork |       |               |                        |                                               |                                       |     |
| Width                      | Height | Depth | Back | Vertical Back Wall | Sloped Back Wall | Throat | width           | depth | smoke chamber | slope of smoke chamber | Sq. Rectangular Flue Lining outside dimension | Sq. Round Flue Lining inside diameter |     |
| A                          | B      | C     | D    | E                  | F                | G      | H               | I     | J             | K                      | L                                             | M                                     | φ   |
| in.                        | in.    | in.   | in.  | in.                | in.              | in.    | in.             | in.   | in.           | in.                    | in. x in.                                     | in.                                   | in. |
| 24                         | 28     | 16    | 11   | 14                 | 18               | 8      | 37              | 20    | 24            | 14                     | 8½ x 8½                                       | 10                                    |     |
| 28                         | 28     | 16    | 15   | 14                 | 18               | 8      | 42              | 20    | 25            | 14½                    | 8½ x 13                                       | 10                                    |     |
| 30                         | 30     | 16    | 17   | 14                 | 20               | 8      | 42              | 20    | 25            | 14½                    | 8½ x 13                                       | 10                                    |     |
| 34                         | 30     | 16    | 21   | 14                 | 20               | 8      | 46              | 20    | 28            | 16½                    | 8½ x 13                                       | 12                                    |     |
| 36                         | 30     | 16    | 23   | 14                 | 20               | 8      | 46              | 20    | 28            | 16½                    | 13 x 13                                       | 12                                    |     |
| 40                         | 30     | 16    | 27   | 14                 | 20               | 8      | 50              | 20    | 32            | 18½                    | 13 x 13                                       | 12                                    |     |
| 42                         | 30     | 16    | 29   | 14                 | 20               | 8      | 54              | 20    | 35            | 20½                    | 13 x 13                                       | 15                                    |     |
| 48                         | 33     | 18    | 33   | 14                 | 23               | 8      | 59              | 22    | 40            | 23                     | 13 x 13                                       | 15                                    |     |
| 54                         | 36     | 20    | 37   | 14                 | 26               | 12     | 67              | 24    | 42            | 24½                    | 13 x 18                                       | 18                                    |     |
| 60                         | 39     | 22    | 42   | 14                 | 29               | 12     | 71              | 26    | 45            | 26½                    | 18 x 18                                       | 18                                    |     |
| 72                         | 40     | 22    | 54   | 14                 | 30               | 12     | 83              | 26    | 56            | 32½                    | 18 x 18                                       | 18                                    |     |

Table of Fireplace Dimensions.

The third point in fireplace construction that calls for common sense is the location of the damper. The best position for the damper is at the front of the fireplace and from 2 to 4 courses of brick above the fireplace opening. (See details.) This rule holds good with nearly all types of dampers. However, a few dampers are made so that they can be installed on a level with the fireplace opening. The location of the damper above the level of the fireplace opening provides more space for the smoke to collect before passing through the damper, especially when the fire is first lighted.

All manufacturers of dampers and fireplace authorities agree that the damper should be placed against the front wall of the fireplace instead of at the back. There is a definite common sense reason for this position. When the damper is placed at the front, the back wall of the fireplace opening must be sloped forward to support the back flange of the damper. This helps to radiate heat out into the room. In addition it forms immediately above this slope and back of the damper a ledge called the smoke shelf. (See section in details.)

The smoke shelf plays an important part in the arresting of down draft. Due to compensation for up draft from the fire, adjusting differences of temperature between the outside and the inside, and to actual winds or combinations of these three causes, down draft is present at some time in all chimneys. When there is no smoke shelf, this down draft will drive the

smoke back into the room even though there is a damper. The down draft is deflected by the smoke shelf and the open valve plate of the damper diverts it back up the chimney. The smoke shelf also acts in arresting falling soot.

A great deal of care should be taken in selecting the proper size damper. The width of the finished fireplace opening is your dimension for the proper size damper. If you cannot get a damper exactly the width of the finished fireplace opening, use the next larger size. Too small a damper constricts the size of the opening for the smoke and causes fireplace smoking.

In the details the space immediately above the damper and smoke shelf is labeled smoke chamber. We have seen many cases where it was left out altogether. The cubic capacity of the smoke chamber reduces the violence of the draft impulses from above and below, giving it a sort of absorbing function. It has a pyramid-like section on two sides, narrowing to the size of the flue. Its sides should have a slope of 7 inches to one foot of height. If the sides are too abrupt, they prevent the smoke from rising. When it is desired to deflect a flue, see that the deflection starts in the flue above the smoke chamber, not in the chamber itself. Be sure both sides of the smoke chamber slant equally, otherwise the fireplace will draw unevenly.

These are a few of the causes of fireplace failures that common sense construction will prevent. There are a few other causes that may give trouble. For example, if the chimney is below the roof line, wind may strike the roof and be deflected down the chimney so strongly as to force smoke out into the room. A tree in close proximity to a chimney opening will cause the same trouble.

Only recently two or three unusual causes of fireplace smoking have been brought to our attention. In one case a fly screen was used at the top of the chimney to prevent flies from coming down the chimney into the room. Soot had collected against the fly screen, shutting off the escape of all smoke. In another case the brick supporting the first section of the flue extended too far into the flue space, thereby constricting the actual area of the flue itself to less than 1/12 of the fireplace opening. In still another instance, chimney pots were used which narrowed up to a small opening at the top. They were highly decorative, but by constricting the opening they naturally constricted the area the entire length of the flue and caused the fireplace to smoke.

Builders who follow these common sense construction points can be assured of fireplace success.



### Found Refrigeration Institute

AS a memorial to C. H. Leonard, founder of the Leonard Refrigerator Company, the Leonard Institute of Food Preservation is to be established at Grand Rapids, Mich., according to a recent announcement from the Leonard Refrigerator Company. The work of the institute will be largely investigation and research in various fields of food preservation, including refrigeration, and is expected to develop information which will be helpful to those who design and build homes.



### Westinghouse Builds Laboratory

AN expenditure of \$1,500,000 will be made by the Westinghouse Electric and Manufacturing Company in the construction of a central engineering laboratory and an addition to the present direct current power laboratory, both in East Pittsburgh. Work has already started on the laboratory, an eleven-story structure 80 by 225 feet.



# Questions and Answers

This Department Conducted by  
V. L. SHERMAN

*Have You a Question You Would Like to Have Someone Answer?*

*Have You An Answer to Any of the Questions Listed Below?*

## QUESTIONS TO BE ANSWERED IN THE JUNE ISSUE

*Give Us Your Answer—Those Published Will Be Paid For.*

1. Can deep basement windows be used satisfactorily? Will such windows, going deeper than an ordinary area-way, be of any greater use in ventilating the basement?
2. What should be the treatment of painted plaster walls in preparation for wall-papering?
3. Do the small lowered openings into attic space provide a real means of ventilation? Will these openings help in cooling the attic?
4. The corner braces which I cut for the outside corners of a shed roof fit nicely at the ends of the braces, but the sheathing does not lie flat on the top side. These top sides should be flush with the sheathing, but I cannot see what I did wrong. Can you help me, as I need the same cuts on a much larger job?
5. Would it be possible to place French Doors and have the steam radiators arranged below the floor just inside? The grills could be covered during the summer. Or is this asking too much of the heating contractors?
6. My attic floor is insulated. The inside of the roof sheathing frosts over during the cold weather and then drips during a warm spell. This has left ceiling stains below and seems to keep the roof sheathing damp. How can I help the situation?
7. Is common brick ever used for a fireplace facing all the way from floor to ceiling?
8. Should the footings for the foundation walls under an unexcavated part of a house be as far down as the footings under the excavated part?

SEE MAY FOR ANSWERS TO MARCH QUESTIONS

## Following are the questions asked in the February issue, and their answers

**Question:** I used to know of many substantial and attractive wide board, soft-wood floors, but I cannot find anyone to agree with me. What can you tell me about them?

**ANSWER:** Perhaps the questioner is a good deal like the editor of this department. He can remember wide-board floors, and soft-wood floors. He wishes he could see more of them. He went to the trouble of using them in the upper halls and bedrooms as shown in Figure 1. He used paint and hoped for nice carpets such as he used to see. So far he has not got the carpets. But the floors are all right. They look well, they have stood a tremendous amount of racket, they feel good to walk on, and have not developed any creaks. But they need paint occasionally.

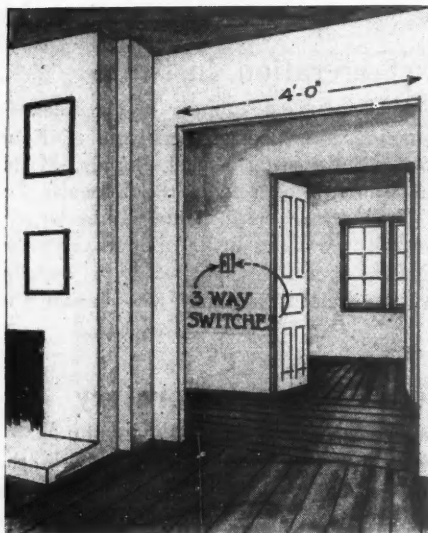


Fig. 1.

The two bedrooms and hall as shown in the picture have four-

foot doors between so that furniture can be moved readily. The wide boards give it a more homey air. The direction of laying was to avoid walking across the grain, as much as possible. From the experience of the last four years the writer would say that these floors are generally satisfactory, have some advantages and unless subjected to heavy traffic will stand up.

**Question:** Is it feasible to use iron railings for stairs, etc., in the house? Are they at all attractive or do they make much of a contrast?

**ANSWER:** "There are many places where iron railings for stairs and steps should be used. Rails are first for safeguarding. When it is a matter of two or three steps the rail is left off at times because it might look cumbersome. There should be a rail, and there should be rails on either side if the steps are more than 3 feet 6 inches wide. The 'few steps' are the most dangerous. Notice the lower sketch in Figure 2.

"Then there is another view point. Many times the stair rail would be out of proportion with the rest of the room if it was not iron. For instance, take the upper sketch in Figure 2. Such arrangements are more or less common these days. How would this look unless iron railings were used? And with all the trim missing, or at least most of it, how could this railing be carried unless it was iron? It is surprising that wrought iron is not used as much as it might be. With the new styles for interiors, the wrought iron decorations can nearly go the limit, especially with the new styles in wrought iron hardware. When it is used as it should be there is nothing prettier than wrought iron rail."

**Question:** How are sizes of sewer-lines figured in building groups of houses?

**ANSWER:** In general the amount of sewage disposal may be determined by the amount of water supplied to the group. From the water-department figures may be had showing the average supply in the locality. When the average water supply is determined, an excess of 75 gallons per person should be added for accommodation. For definite figures it is suggested that a handbook for civil engineers be consulted. Finally, it should be remembered that the design of the system, and especially the pitches of the lines, have as much to do with free-flow as do the pipe sizes.

**Question:** How can I deck a flat roof to make it absolutely rain and snow proof, and strong enough to walk on occasionally without harming it? I would like to use canvas.

**ANSWER:** "For decking a flat roof, for water-tightness as well as an occasional promenade, this type of roof has been used on hotel roof-decks for dining and dancing.

"Over either wood or concrete deck apply what is called a built up roof. This should consist of one layer of 30-lbs. asphalt-saturated rag felt, lapping two inches. (If over wood deck, nail with large headed nails or nails with tin caps. If over concrete, lay the first layer of felt in a mopping of hot asphalt.) Then mop the felt with 30-lbs. of hot asphalt. In this mopping of asphalt roll in one layer of 15-lbs. asphalt-saturated rag felt, lapping last layer 17 inches. Then roll in another layer of 15-lbs. felt, lapping 17 inches. Over this layer of felt and before the asphalt is cool, roll in a layer of 55-lbs. smooth surface roll roofing, butting the joints of this last layer as closely as possible. After this is done you may calk the butted joints with hot asphalt, and then iron out with a hot iron, spreading talc over where same has been ironed. It is not necessary to use canvas with the above, however, you may do so with the same results."

"In using canvas for a roof covering be sure the roof-boards are all clear and sound-knotted, and nailed tight, and all the nail heads flush. Canvas should be at least 10 ounce. Seams should lap an inch and be secured with 7/8-inch galvanized tacks, spaced 3/4-inch apart. Shrink first by wetting. Paint with three coats, and, most important of all, keep the canvas painted. It gets much more wear and should be painted oftener than the house walls." This note is from L. B. Harmon.

We have another answer from the east which is interesting. Mrs. J. Edward Martel, Jr., writes:

"This is a cement which is almost as durable as slate, and is fire-proof and water-proof. Slake stone-lime in a large tub or barrel with boiling water, covering the tub to keep in the steam. When thus slaked, pass 6 quarts through a fine sieve. It will then be in a state of fine flour. To this add 1 quart of rock-salt and 1 gallon of water. Boil the mixture and add 1 pound of alum and 1/2 pound of copperas.

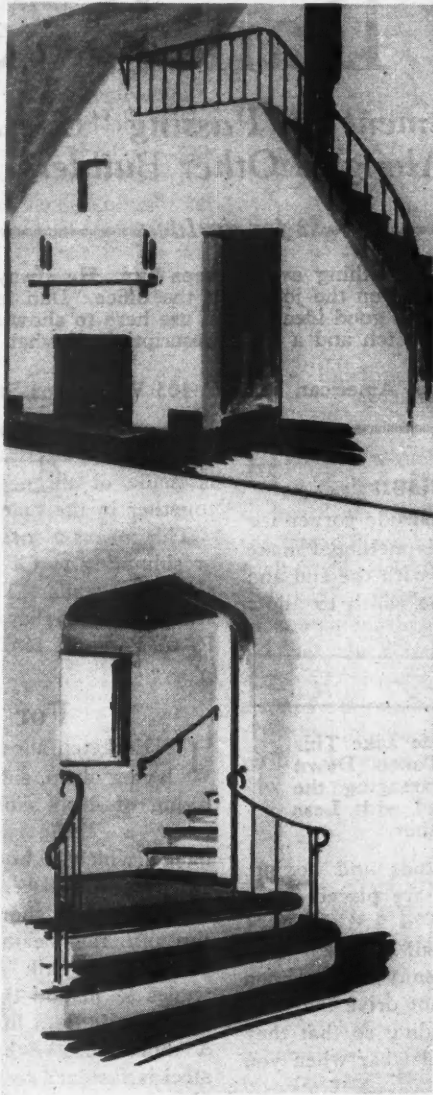


Fig. 2.

By slow degrees add 3/4 pound potash and 4 quarts of fine sand or wood-ashes, sifted. Both of the above will admit of any coloring you please. It looks as well as paint and is very durable."

**Question:** The sketch submitted shows a thatched roof over an entrance which seems impossible as a real thatching job and therefore out of place even when it is roofed with cedar shingles. What do you think about it? Would I be justified in using thatching effects this way?

**ANSWER:** The verdict seems to be that the thatching meets the walls with no protection, as thatching. That is not a good place to use thatching. That thatching, either as real thatching or as the cedar shingle variety or the composition shingle variety, is entitled to better usage. One contributor, however, has this to say, "I would suggest using coated asphalt shingles or asbestos shingles, either straight or irregular butts, and varicolored. Each shingle would have to cut on both edges for a taper, but would look well."

**Question:** How much heat is lost through a fireplace?

**ANSWER:** The actual heat lost through a fireplace depends on the size and shape of the throat, the size of the flue and shape of cross-section, the height of the flue, and the difference in temperatures between the room and the outside air. There are three or four other factors which enter the calculations, and the heat losses are extremely variable. If the damper of the fireplace is closed there is practically no heat loss. If there is a fire in the fireplace, either of coal or wood—that is to say, a fire that is worth while—the balance of heat losses is reversed.

"Supposing, for example, that the throat of a fireplace has an area of 2 square feet, and that a current of warm air at 70 degrees is passing through at a rate of 4 feet per second, or 240 feet per minute, or 14,400 feet per hour. That would be, say, 30,000 cubic feet per hour at a difference in temperature of 70 degrees, if the outside temperature were zero. Each cubic foot of air replacing it would need .02 B.t.u. per cubic foot, per degree rise in temperature. Then the B.t.u. loss would be about 40,000 B.t.u., or what might be expected from 8 pounds of coal per hour in the heating plant. Such heat losses would not be average, but high. However, to be on the safe side keep the damper closed when the fireplace is not in use. It does show, however, that on days that are windless that the fireplace can be used well for ventilation."

**Question:** When using an oil burner, is the flue ever likely to fill up? I understand this sometimes happens and would like to know the reason.

**ANSWER:** The answer is "incomplete combustion," which usually means not enough air for the amount of oil supplied.

(Continued to page 144)

# How Dan Does It

A Department for Passing "Life Savers"  
Along to Other Builders

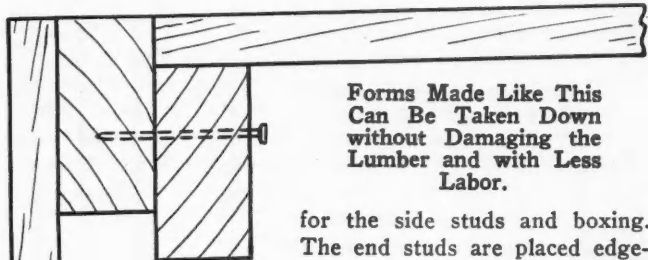
\$2 for an Idea

Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is editor of this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

Address Dan-Do-It, care of American Builder, 105 W. Adams St., Chicago, Ill.

## Better Form Construction

HERE is a sketch and description of an inside corner for concrete forms as I build them. By this method I make the sides full length and the end studs flush with the end and flat. The ends are enough shorter than the width to allow



Forms Made Like This Can Be Taken Down without Damaging the Lumber and with Less Labor.

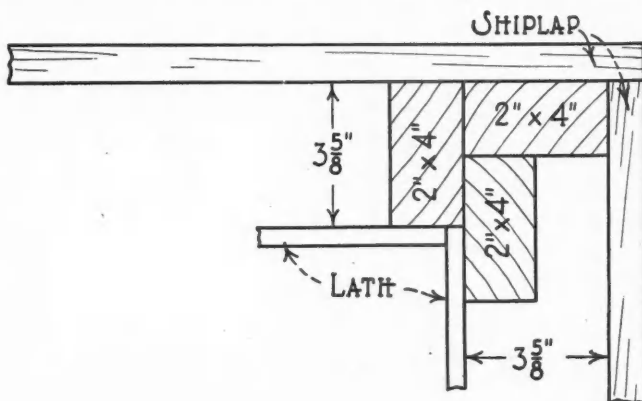
for the side studs and boxing. The end studs are placed edge-wise.

In putting the ends together, nail the two studs at each corner together with 16-penny nails, driven from 16 to 24 inches apart. Do not drive the nails fully in but leave the heads protruding so that they can be drawn with a hammer or clawbar when you come to take the form down.

After the nails have been drawn, the studs can be pried off quite easily and the form taken down without breaking up the lumber. The single two by four usually used for inside corners has to be torn out, sometimes reducing it to kindling wood and there is considerable loss of material and time as well.—C. E. Myles, Box 368, Harrison, Ark.

## Improved Corner Stud

I HAVE noticed, from time to time, different ways of applying corner studding. I am enclosing a sketch of a method I use and find very satisfactory. This corner stud



Corner Studs Made in This Way Do Not Require Blocking or Shimming to Fill to the Width of the Other Studs.

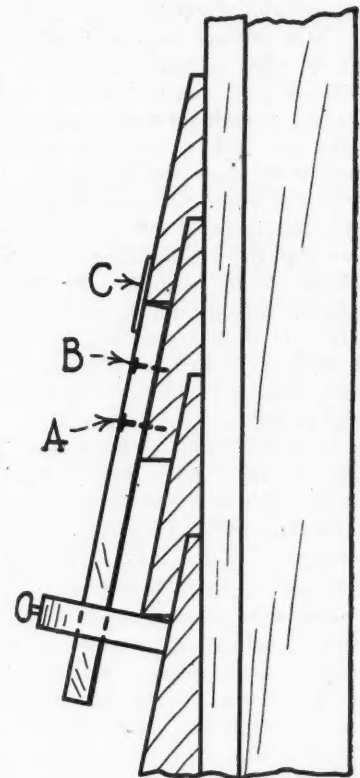
is made of three pieces of two by four studding spiked together in the manner shown in the sketch.

This makes a corner exactly the right size without blocking or shimming to fill it out to the width of the other studding along the walls. The sketch shows a cross section of this stud and, I believe, makes the method perfectly clear.—R. C. Parsons, 1661 Hilyard St., Eugene, Ore.

## For Laying Lap Siding

THE sketch shows a simple gauge which I find handy in laying drop siding. It is easily made and makes the laying of drop siding a one man job. I made my gauge from a cheap working gauge which I bought at the five and ten cent store. I drove two short nails through the beam. The point of the nail "A" protrudes 1/4 in and the point of the nail "B" a little less. A short piece of brass or steel is fastened to the end of the beam at "C" to prevent the siding from slipping off.

After the gauge is set for the required exposure of siding, the head of the gauge is placed under the row already laid and a slight tap of the hammer drives the gauge onto the last row. The marks left by the nail points are small and not noticeable on the finished work. The new piece of siding rests on the end of the beam while you nail it in place.—C. J. Gardner, Stony Creek, N. Y.



A Cheap Marking Gauge Used in This Way Makes a One-Man Job of Laying Lap Siding.

## Questions and Answers

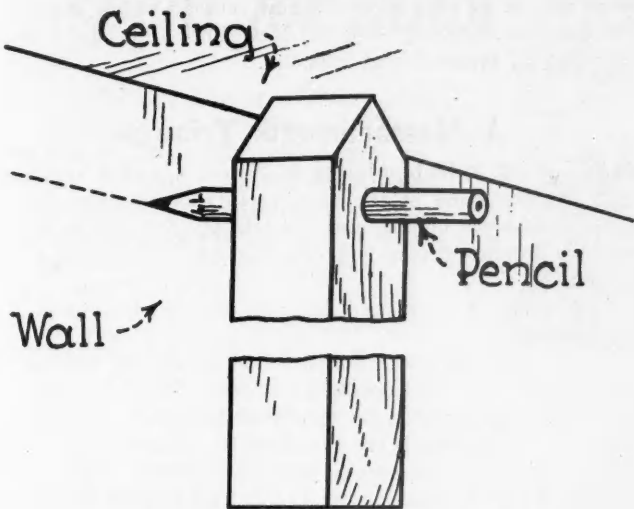
(Continued from page 143)

The wick needed snuffing in olden times, and that is just about where the trouble lies in cases where soot lines the flue. Properly operated the combustion should be such that flues may be free. If it is not the case, and this can usually be detected by watching the chimney (and the neighbor's washing), the burner should be inspected.



### For Scribing Wallboard

TO save the inconvenience of standing on a ladder or horse to scribe wallboard to fit the ceiling, I use the device shown in the sketch and find it most convenient. Take a stick long enough to reach the ceiling easily when you are standing on the floor. Cut it to a ridge at the top as shown, making sure that the top is square with the sides. Bore a hole through the stick just large enough for a pencil to fit snugly. With the top of the stick against the



Scribing Wall Board to Fit the Ceiling Is Much More Conveniently Done in This Manner.

ceiling and the point of the pencil projecting slightly from the hole scribing is a simple matter.

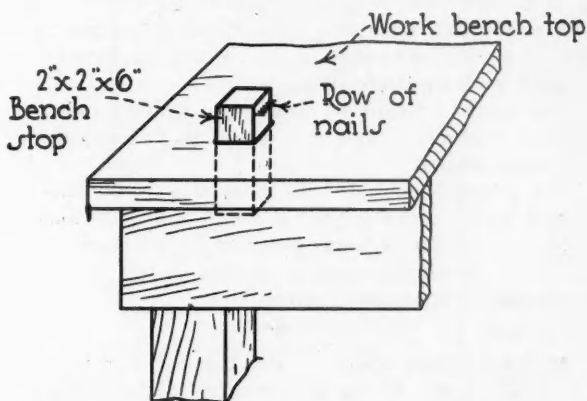
J. R. McKAY, Crystal City, Texas.

### Handy Bench Stop

THE bench stop described here has never been described before, so far as I know. I have used it for over 50 years and because I think it is the best stop I have ever used I am passing it along to others.

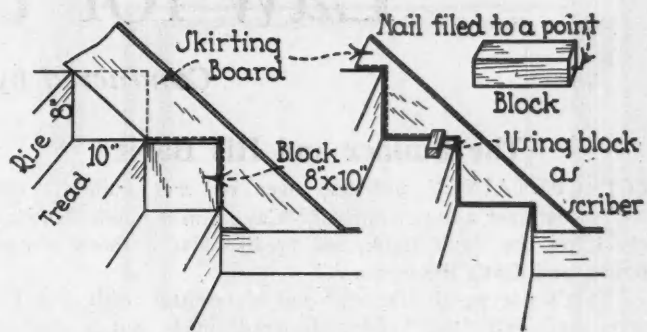
Select a piece of hardwood about two inches by two inches and six inches long. Near the top end drive a row of six penny finishing nails not more than 1/4 inch apart. Cut these nails off about 1/4 inch long and sharpen them by filing, top and bottom. Make a mortise in the top of the work bench of such a size that the stop which has been made will fit snugly into it. Insert the stop in the mortise. It may be used at any height and by cutting small grooves for the teeth it may be pushed down flush with the top of the bench when a smooth surface is required.

JERRY W. BURNS, Brevard, N. C.



Simple but Practical, a Bench Stop Which This Man Has Found Satisfactory for 50 Years.

### Fitting Skirting Boards



Skirting Boards Can Be Fitted to the Stair Quickly and Accurately by This Means.

HERE is a method of cutting the skirting board to obtain a perfect fit on the stair. First cut a rectangular piece of board of a length equal to the tread and a width equal to the rise. Place the skirting board on the stair, just touching each tread. Place the small board on each tread, and against the skirting board and mark its outline on the skirting board as shown in the illustration, at the left.

When the skirting board is cut on these marks it gives a rough fit. Now place the skirting board on the stair. Drive a nail in a small block of wood, leaving the head projecting slightly and file this head to a point. Use this block as a scribe, drawing it down the risers and across the treads. Saw to the line just scribed and a perfect fit is obtained.

H. E. MEADE, Waterbury Sta., A. A. Co., Md.

### Convenient Tile Carrier

HERE is a device I use for carrying roofing tile up to the roof. It is made of light lumber, 1 by 3, or 2 by 2 or any material that is handy and is, at the same time, light enough and strong enough for the intended load.

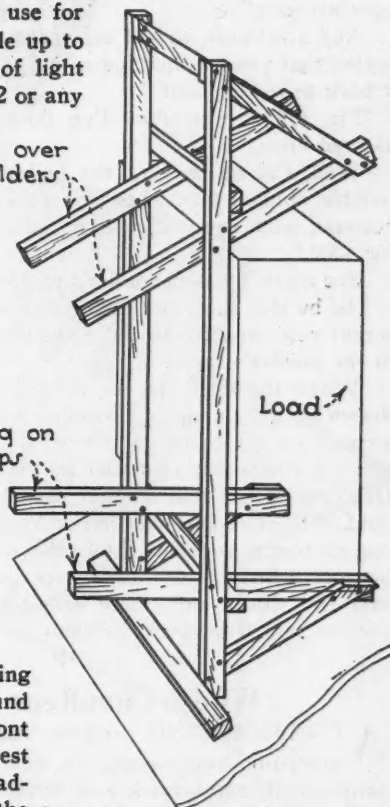
The idea of this carrier is to have the weight of the load resting on both the shoulders and the hips and back at the same time. This leaves the arms free when climbing the ladder. On reaching the roof one turns around and sits down. The front of the carrier will then rest against a rung of the ladder or a strip nailed to the roof and the carrier can be unloaded without help.

The sketch shows how the pieces are put together and how the load is placed. This carrier can also be used for handling other materials, in other places.

PAUL NESS, 1036 S. Union Ave., Los Angeles, Cal.

Hooked over the shoulders

Resting on the hips



A Carrier Like This Can Be Used to Take Roof Tile to the Roof and Can Be Unloaded Without Help.

# Law for the Builder

Conducted by M. L. Hayward

## The Builder and His Bank

"I CERTAINLY put one over on that builder," the customer assured himself, "Gave him a hundred dollar check on the Sand Bank, my credit balance there is one figure, and that's the figure 3."

"That's not worth the stub pen it's written with, but I'll soon find out," the builder declared, made out a deposit slip for the Sand Bank, where he carried his account, and sent slip and check to the bank, by the errand boy.

"Have it credited to my account, if the check's good," was his order.

Ten minutes later the boy pushed the check through the paying teller's window, the teller ascertained that the customer's account was on page 773, turned to page 377, saw a credit balance of \$500, charged up the check, credited it to the builder's account, and gave the boy a slip in the words and figures following, as the lawyers say:

"We credit your account \$100 check."

"Well, that's a stroke of luck," the builder declared, when the boy returned with the slip.

The next morning the paying teller telephoned for the builder and explained the error which had been made.

"Well, what are you going to do about it?" the builder demanded.

"I'm not going to do anything—I've done it already," the teller stated. "I've credited the \$100 check to the wrong account that I charged it to, and have charged it back to your account."

"And you mean to tell me that after you sent me a slip, saying that you credited me with \$100, you're going to charge it back to my account?"

"I'm telling you that I've done it already," the teller assured him.

"Well, I'm no lawyer," the builder declared, "but, it's my humble opinion that when you once credit the check to my account, you can't charge it, and I'm going to sue you for \$100."

"Sue away," was the teller's parting shot.

The builder sued, and the Supreme Court of Kentucky in a recent case reported in 240 Southwestern Reporter, 78, ruled in the builder's favor.

"When the customer of a bank presents to it a check drawn on it by another customer, and is given credit by that amount on the books of the bank, the transaction is closed, and the depositing customer has the right to rely upon the fact that he has that amount placed on deposit in the bank. And, if there is any question of loss, as between the depositing customer and the bank the bank must bear the loss, because it brought the loss by its own mistake or oversight," said the Court, and there are Alabama, Arizona, Illinois, Indiana and New York decisions to the same effect.

## Whose Chauffeur Was He?

A CONTRACTING company had more hauling than the company trucks could do, and applied to a truck company for an extra truck and driver.

"You can have a first-class truck and a competent chauffeur for \$3 per hour," the truck company offered. The next morning the chauffeur came with the truck and went to work under the control of the delivery manager of the contracting company. The contracting company loaded the truck at the point of departure, and unloaded it at the place of destination. Between those two points the truck remained in full charge of the chauffeur. While the chauffeur was in

charge of the truck in this way he negligently injured a third party, and the third party sued the contracting company.

"The rule now is that, as long as the employe is furthering the business of the general employer by a service to another, there will be no inference of a new relation unless command has been surrendered," said the New York Court of Appeals in ruling in favor of the company.



## A Massachusetts Triangle

"I'M going to build a house on the lot I bought yesterday. I know none of the builders in this city, but I have every confidence in you, and I would like for you to recommend a builder whom you can depend on in every way," A stated.

"I'll think it over, and let you know," B agreed, and approached C.

"I can get you a contract to erect a building for A, if I recommend you," B suggested.

"If you do, and I get the job, I'll pay you for your trouble," C agreed. B recommended C, A gave him the contract, and B sued C for pay "for his trouble." The decision of the Massachusetts courts is reported in 136 Mass. 265. The court decided in C's favor, on the ground that the promise was unenforceable, as B was in a position of trust and confidence and, even though his recommendation was honest, he was really "selling out" as far as A was concerned.



## The Ohio Statute

"NO nine-pin alley appurtenant to or in connection with a saloon or tavern shall be maintained," an Ohio statute provided, and also prescribed a penalty for the violation thereof. While this statute was in force, an Ohio builder agreed to build a nine-pin alley in connection with a tavern, completed his contract, and the owner refused to pay.

"The alley was built contrary to law, and you cannot collect," the owner maintained.

"If you've broken the law, that's a matter between you and the State. I've carried out my contract and am entitled to my pay," the builder claimed.

"No—you're presumed to know the law of your own state," the owner persisted, and the Ohio courts decided in his favor, so that the owner had the nine-pin alley and the builder the experience.



## "Equal Annual Payments"

A KENTUCKY building contract provided that the contract price was to be paid in equal annual payments, without specifying how many payments, and thereby laid the foundation of an interesting lawsuit.

"The contract means the smallest possible number of payments, in the plural, and that would be two payments" the contractor argued.

"The contract does not say how many payments, so I'm entitled to as many payments as I want, as long as the number is reasonable," was the owner's contention.

An the Kentucky courts, having heard the argument, decided in the contractor's favor.



"Making Cellars Dry" is the title of Farmer's Bulletin No. 1572, of the U. S. Department of Agriculture, which may be obtained from the Government Printing Office, Washington, D. C. Price, five cents per copy.

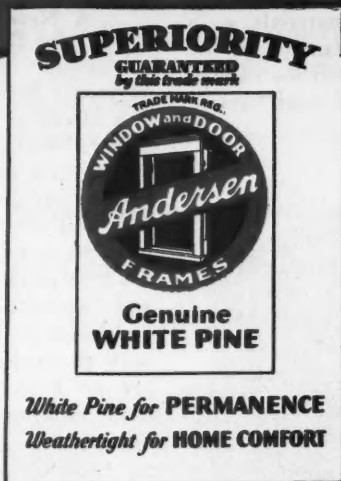
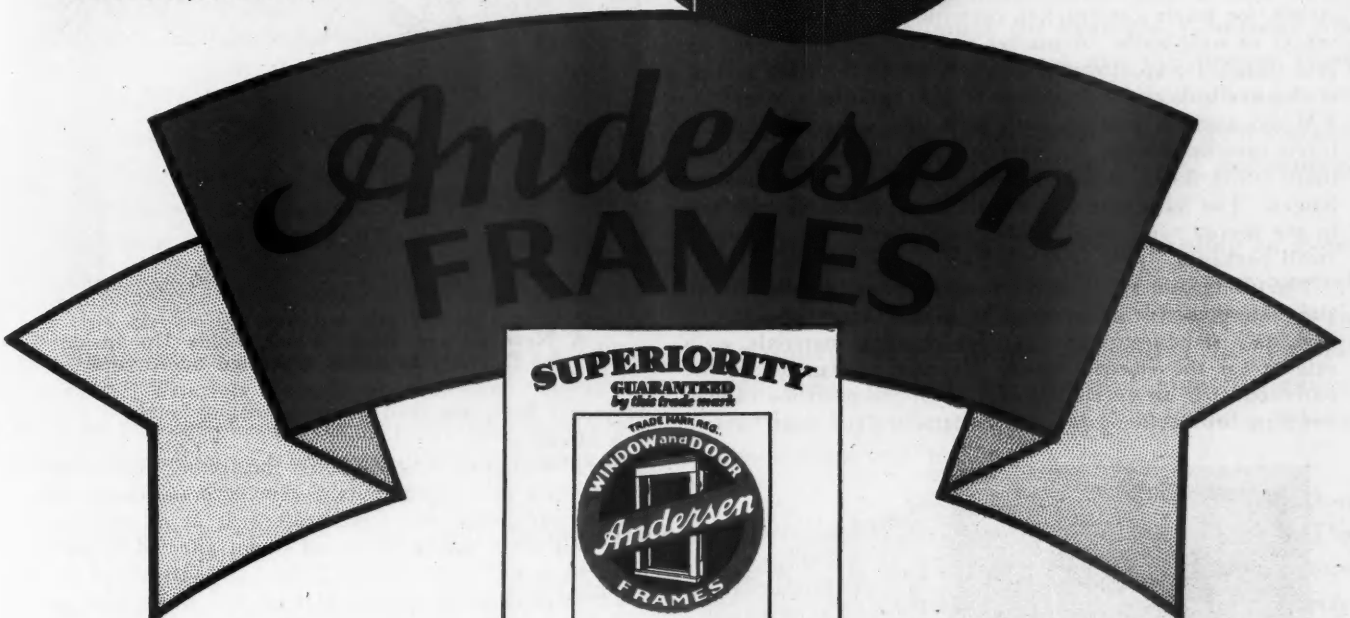
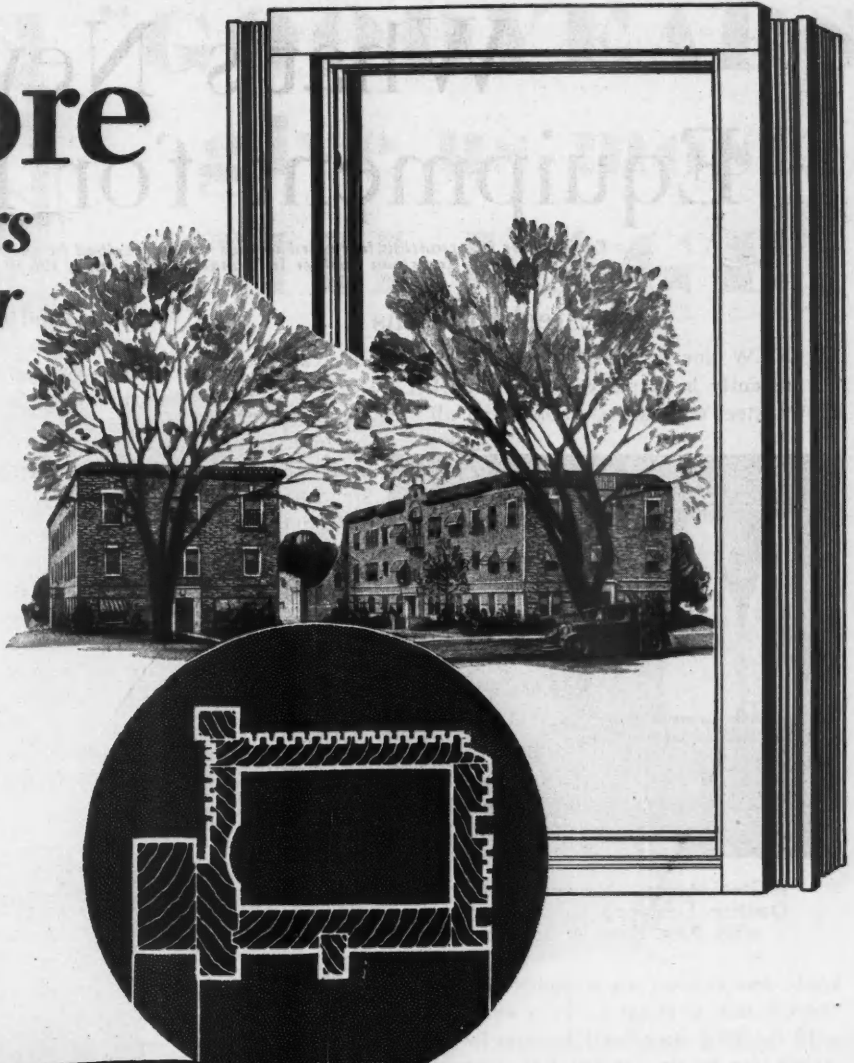
# Get More for your dollars spent for labor

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Andersen Master Frames not only save time, but improve the quality of buildings you erect. They are of genuine White Pine; our patented design makes it easy and economical to secure weathertight installation. (See detail at right, described below.)

Thirty-five hundred Andersen dealers are ready to give quick service to builders in every section of the country. There is one in your locality, and we will be glad to send you his name and address.

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(Above) Boulevard Court Apartments, Dayton, Ohio. Andersen Weathertight Frames were installed. Builder, A. P. Ziegler Company of Dayton.

Detail above illustrates the patented mortar clinch groove in the Andersen Frame for Masonry Construction. Mortar slushed into these grooves makes a tight bond between frame and wall, reducing air leakage around frame 42%.

**FOR WEATHERTIGHT CONSTRUCTION USE *Andersen* FRAMES**

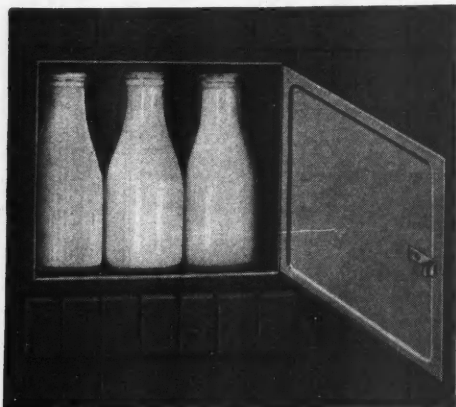
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# What's New in Equipment for Buildings

For further information in regard to any item described in the "What's New" Departments address, American Builder Information Exchange, 105 W. Adams St., Chicago

## New Steel Built-Ins

A NEW line of package receivers and utility cabinets has recently been placed on the market by one of the well known steel companies. This is an all steel line designed to



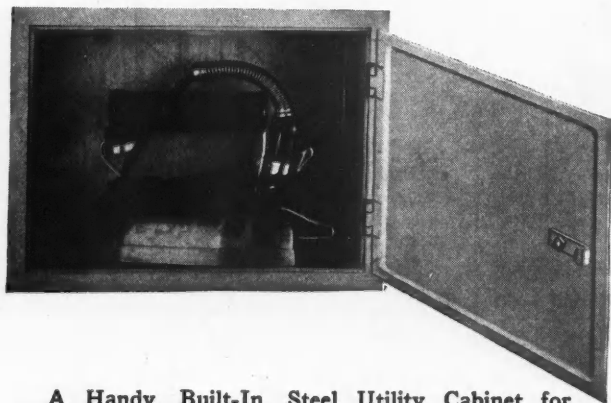
A Steel Package Receiver of High Quality Designed to Harmonize with Any Kitchen Interior.

be built into the wall of any house or apartment harmonizing with the interior finish and afford that factor of up-to-date convenience which is demanded in the modern residences.

The package receiver, made of bright, copper bearing metal, can be finished to harmonize with any kitchen interior. The knobs and catches are nickel, the design is attractive and the construction is rugged. It is available in two sizes, one for a 12 by 10½ inch wall opening with a body depth of 5¾ inches, for frame construction or with a 9¾ inch depth for veneer or solid walls. A smaller size wall opening, seven by 10½ inches, for apartments, with a body depth of 5¾ inches, is also available.

Wood trim is not necessary with the receivers and the frame provides for the keying of plaster. Both models have tight fitting doors nicely embossed and hung on concealed hinges. The large size will handle three quarts of milk and in the deeper type there is also ample room for additional small packages.

The utility cabinet has many uses, especially in the kitchen and bathroom. It may serve as a safe receptacle for an iron, as a handy storage place for cleaning materials, as a cabinet for the electric toaster or other appliance. In the bathroom it is an excellent auxiliary to the medicine cabinet handling articles too large for the latter. It is built for two



A Handy, Built-In, Steel Utility Cabinet for Kitchen or Bathroom Installation.

sizes of wall opening and two depths of body. A laundry chute is also available with door and frame finished in the same style, glass knob and concealed hinges of sturdy construction to insure permanent usage.

## Improved Type Garage Doors

INSTEAD of swinging or sliding, this door folds up and down, inside the opening, with very little effort. It is something new, in design, construction and operating feature. It is suitable for private and public garages, factories and warehouses. It operates so easily and quietly that it is never disturbing and, once installed its operating qualities are permanent.

No tracks or equipment of any kind on the ceiling and no springs are used with this door. The door guides and counterbalances are safely enclosed in slender metal casings just inside the door jambs and may be built in, if desired.



A New Garage Door Which Folds Up Inside the Opening Is Easily Operated by Anyone.

With this door, less than the usual ceiling height is required, it is stated.

The door closes snugly against the frame. The joints are tongue and groove, there is a flexible weatherstrip at the bottom and permanent weatherproof fit at all points. The door will never sag or stick and is not affected by temperature changes.

The woodwork is of the best quality white pine and fir and leaves the factory primed with aluminum paint, or unprimed if preferred, completely assembled and crated, with all hardware in place, including a cylinder lock. There are no fittings or adjustments to make and the door is easily and quickly installed in any kind of building, old or new.

The Pittsburgh Testing Laboratory, Pittsburgh, Pa., has published a brochure outlining the professional services and facilities offered by this organization.

# "GOODYEARS give us most MILEAGE"

*Henry Frerk Sons, Inc.,  
Fuel and Building  
Material, Chicago,  
have used Goodyears  
for the past four years.*



**T**HE heavy dump trucks of Henry Frerk Sons call for a lot from a tire. A lot of cushioning—a lot of traction—a lot of ability to resist grinding wear. These trucks deliver heavy building material in Chicago and suburbs. They must make time on long hauls, stop and start quickly on slimy pavements, ease the load over curbs, timbers, bricks and other obstructions; and under any and all conditions must be reliable.

For this strenuous service the Frerk dump trucks are equipped with Goodyear Heavy Duty Cushion Truck All-Weather Treads on the rear wheels for tractive power—Goodyear Super-Cushion, Smooth Tread on the front wheels protect the engine and make easy steering. Here's what the Frerk people say about them:

"Our tire mileage, as well as service in the past four years excels that of any competitive tire we have used."

*More tons are hauled  
on Goodyears than on  
any other tires*

For other hauling duties Goodyear builds other tires. On faster hauls, for example, Goodyear All-Weather Tread Pneumatics are the proper type. Their deep-cut All-Weather Treads, and the extra vitality and longer life of SUPERTWIST give you the right combination of tractive power, cushioning, and economy.

Likewise, when it comes to heavy hauling in excavation work, nothing serves like Goodyear Special Dump Truck Tires. Their extra wide treads, with the burly rubber flanges extending far up the side walls, protect the tire and give the added traction to pull you out of tough holes where lesser tires will fail.

Goodyear Truck Tire Service Station Dealers are equipped and trained to recommend the *right* tire for your needs... On your new trucks specify Goodyears.

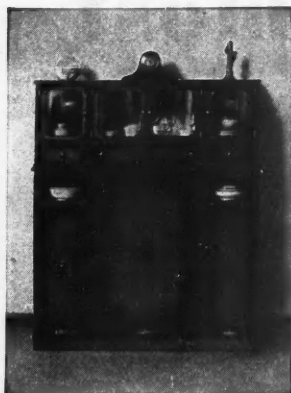
# GOODYEAR

Copyright 1929, by The Goodyear Tire & Rubber Co., Inc.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

### Combined Dinette and Cabinet

THE breakfast and dinette set illustrated here is attracting much attention among architects and builders. It is



a handsome piece of furniture with the appearance of a high-grade, well made buffet. Its beauty of design and finish appeal to all who appreciate the artistic in home furnishing. By a simple adjustment, it may be transformed into a table and seats for four. While it is very compact, it has a surprising amount of space which may be used for the storage of china, linens, silver and even foods.

This unit takes the place of a complete dining set for four and may be either built-in or used as a separate unit. Its use allows the space in small homes or apartments to be used for other purposes and is like adding a new room. It may be had in any of the popular colors, in mahogany or walnut or is furnished plain to be finished in harmony with the color and finish of any type of woodwork. It adds an ultra modern touch to either new or old homes and is an attractive and important



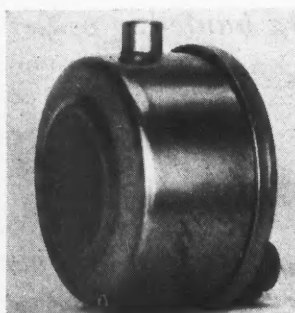
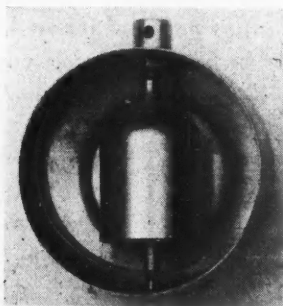
The Installation of This Unit Adds a Dinette to the Home or Apartment.

factor in the modernizing of homes. It is most substantially made, easily placed in position and easily operated.

### New Valve Equalizes Heating

THE air valve illustrated here has been developed to meet the conditions created in a steam heating system by the oil burner, that is the slow heating up of radiators at the end of the line. This condition is caused by the thermostatic control of the oil burner which is governed by the temperature of the room in which the thermostat is located.

When this room temperature drops to 68 degrees, the thermostat turns on the oil burner and the steam is soon on its way to the first radiator, then to the next and so on until it reaches the last radiator on the line. Because the first radiators take the steam as fast as the oil burner generates it, until they are filled, and as the thermostat room is usually



Interior and Exterior of a New Valve Which Equalizes the Heating of Rooms by Oil Burners.

among the first heated up, the thermostat often shuts off the oil burner before the cold rooms, at the end of the line, are heated.

The only way to overcome this condition is to equalize the heating system by controlling the flow of steam to the radiators so that all radiators will heat up at about the same time. Equalizing a steam heating system is accomplished by means of this valve which is made in two styles and which controls the flow of steam to the radiators by a special method of venting.

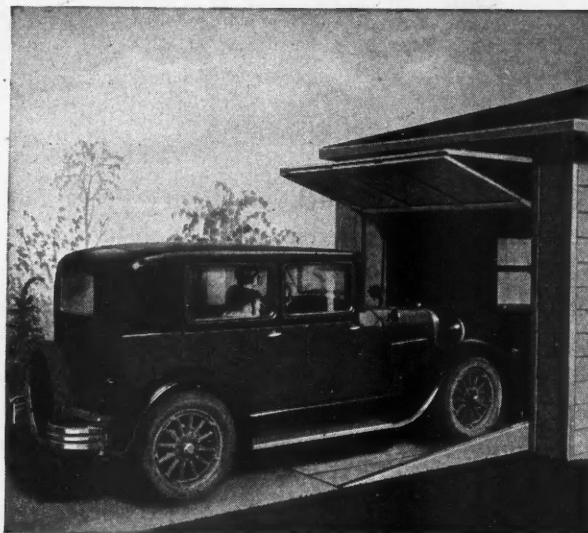
One model has a larger air outlet than the other. The model with the smaller outlet is attached to the radiators nearest the boiler and in the thermostat room. The one with the larger outlet is attached to the radiators in the cold rooms and those farthest from the boiler. When so equipped all the radiators heat up at about the same time. These valves have standard size connections so they can be attached to all radiators.



### Automatic Garage Doors

FOR the private garage, the automatic garage door shown here is a great convenience and is so simple that it is adapted to installation on any garage. There is no electric motor in connection with this device and so no expense for electricity. The weight of the moving car raises the door, from the outside or inside of the garage.

There is a slightly elevated platform or approach, the width of the garage door, both inside and outside. As the wheels of the car run onto this platform it is gently depressed by the



The Weight of the Car Automatically Opens the Door. There is no motor.

weight of the car. This operates the simple elevating mechanism of the door.

When the car rolls off the platform on the other side of the door the lifting mechanism is released and the door is lowered, closed neatly and locked. The action is the same whether going into or out of the garage. It is unnecessary to get out of the car to open or close the door when coming in. Going out, one merely gets into the car and backs a few inches toward the door, onto the platform and again it is not necessary to get out of the car to open or close the door. In coming into the garage at night the headlights light the interior, an important item for safety.

None of the mechanism except the platform is on the outside of the garage. The lifting device is all inside, at the sides of and above the door. It is simple, strong and positive in action, takes up little space and does not interfere with the use of the garage.



# Roofs of BLENDED COLORS *attract buyers*

No matter what style or price house you build, or what rooflines you remodel, you can now have roofs of scientifically blended colors. Such roofs please the eye and help make the sale.

These beautiful fire-resisting, weather-defying roofs have been chosen by color experts. They come in asphalt or asbestos shingles, in a wide range of styles, designs, weights and thicknesses for all types of architecture and to fit every pocketbook.

There are solid colors in non-fading shades of reds, greens, browns, purples, greys and mixed tones, perfect in color balance. See these beautiful colors and color-blends at your dealer's or write direct to the nearest division or office for samples of the colors today.

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ROOFING MILLS

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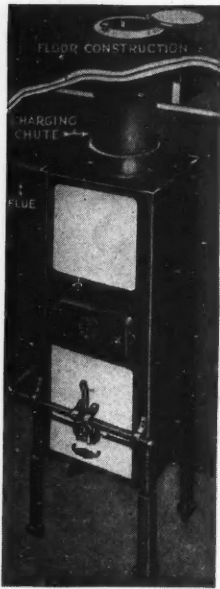
*Divisions of*

**The RUBEROID Co.**

**Offices: New York - Chicago - Boston (Millis) - Erie - Baltimore - Mobile**

### An Incinerator for Any Home

**T**HIS kitchen-fed basement-burning incinerator is installed as easily as a gas stove and should appeal strongly to the architect, home owner and builder. A white vitreous enameled feed door is conveniently placed level with the kitchen floor, and usually under the sink, while the incinerator is set in the basement directly underneath. No extra flue or brickwork is required for this complete, compact unit.



**In New or Existing Homes Kitchen Fed Incineration Is Possible.**

Refuse dropped through the kitchen feed door passes through a steel chute onto a trap door, leading into the incinerator. By merely stepping on a foot pedal the material is released into the combustion chamber, and this door automatically closes tightly by a spring action. Both the feed door in the kitchen floor and the trap door at the bottom of the tube are foot-operated, and smoke-tight. The position and construction of the floor door also allows sweeping directly into the chute, eliminating a dust pan in the kitchen.

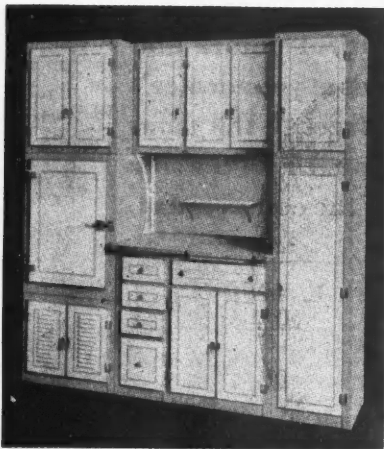
The incinerator itself is of sturdy cast iron construction. Underneath the combustion chamber there is a gas burner designed so as to insure even heat distribution throughout the entire mass, in order to quickly consume the contents to a few handfuls of clean, white ash. The entire contents are consumed in from thirty minutes to an hour. An automatic shut-off can be connected, which turns the gas off at the time set.

This incinerator can be installed in new or existing homes. Adjustable legs and chute allow for variation in basement heights. All that is necessary to install the unit is a nine and one-half inch hole in the floor and a standard seven-inch flue pipe leading to the nearest flue connection.



### Complete Unit Kitchens

**C**OMPLETE, porcelain, steel kitchens, as illustrated here, include four kinds of units; cabinets, refrigerators, ranges and sinks. All these units are made in sections of unit dimensions which are easily built into any combination desired. This complete flexibility makes it possible to fit practically any requirement or space.



**All-Steel Units of This Type Can Be Adapted to Any Space or Requirement.**

Being built of steel, porcelain finished, these units are fire-proof and vermin-proof and easy to keep clean. The steel construction gives maximum space for food and utensils at a minimum expense of kitchen space. The fine porcelain finish, burned onto heavy gauge steel is practically indestructible so that there is no up-keep expense. The units are light and graceful in appearance and give a choice

among a number of standard finishes to match the room.

Only high grade materials and workmanship are used in the manufacture of the units. All hardware is of brass, chromium plated, which is beautiful, will not tarnish and is easy to clean. Selected hardwood is used for all cutting boards which work in accurate steel channel guides. The best corkboard insulation, dipped in odorless pitch, is used.

The refrigerators have one-piece liners with welded seams and corners. All doors are of double steel construction with rubber stops to prevent noise. The drawers are suspended in close fitting steel channels, insuring free movement without side-sway. All corners are ground and filed to perfect smoothness before the finish is applied.



### Garage Doors Open Overhead

**C**ONVENIENCE, security, ease of operation and permanent dependability are the features of the new overhead opening garage door shown in the illustration. No special construction is necessary for their installation and they can be installed in a few hours' time on any garage, new or old. With such doors in use there is no danger of damaging the car when driving in or out of the garage and no annoyance from doors that won't stay open on a windy day.



**These Doors Slide So Easily and Smoothly That Anyone Can Operate Them.**

These doors consist of three sections, the top section glazed and the lower sections with heavy wood panels. They are completely assembled and squared for the opening, the hardware attached ready to install. It is only necessary to anchor the hanger brackets and tracks to the jambs, fasten the ceiling pulleys, erect the weight box and attach the door stops.

They are of solid construction for long service and can not pull apart. The hinged intersections are also deeply rabbeted, making them weathertight. The operation is entirely mechanical, with no springs to break or lose their tension.

All hardware is included with these doors and it is of special design, substantially made of steel and malleable iron, black japanned. The pulleys have roller bearings. The counterbalancing weights are of cast iron made in four sections. A high grade cylinder lock, operating in connection with the spring bolts is included. Only 1 3/4 inches of head room over the top of the doors is required and the rear bumper of the car may be within 12 to 15 inches of the door.



# REID-WAY WHIRLWIND SANDER

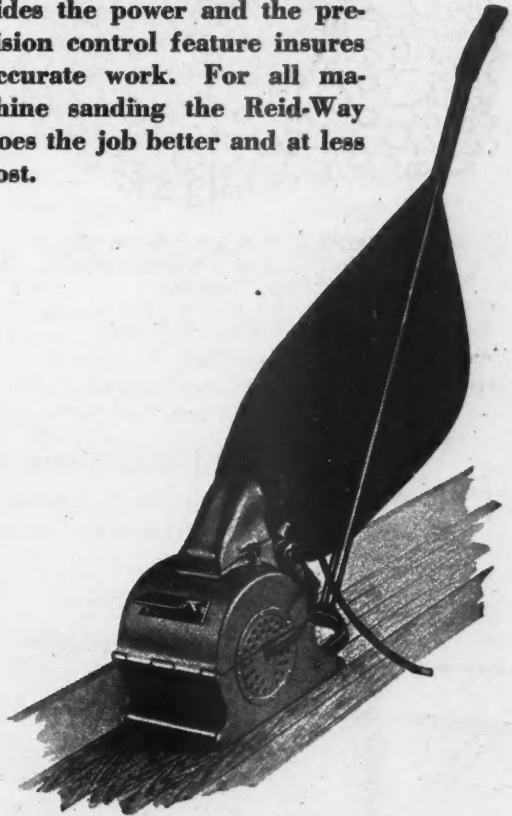
**F**OR bench and floor sanding, the Reid-Way does the job. It will save you money by eliminating costly hand sanding on all classes of work. It is efficient because it is properly constructed. In no other machine can you find the many construction features which make the Reid-Way the outstanding machine in its field.

## Exclusive FEATURES

**I**N one compact unit, the Reid-Way motor and sanding drum, as shown below, permits the direct application of power because the revolving drum is the motor—the only moving part.



**T**HE Reid-Way is a fast worker and accurate. Plenty of power—under control. That is the requirement of a good sanding machine. The new Reid-Way motor provides the power and the precision control feature insures accurate work. For all machine sanding the Reid-Way does the job better and at less cost.



**THE REID-WAY CO.**  
2907 FIRST AVENUE • CEDAR RAPIDS, IOWA

Reid-Way Company,  
2907 First Avenue,  
Cedar Rapids, Iowa

Gentlemen: Please send me circular describing the new Reid-Way Whirlwind Sander.

Name.....

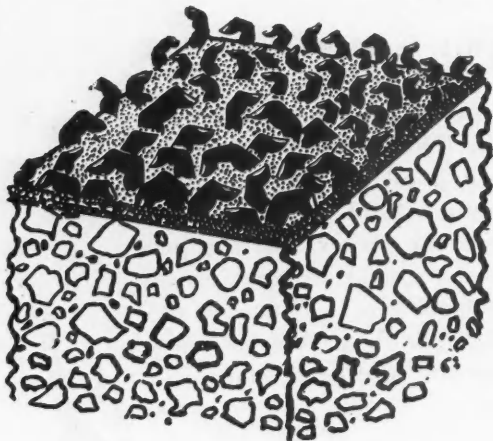
Address.....

# What's New in Construction Materials

For further information in regard to any item described in the "What's New" Departments address, American Builder Information Exchange, 105 W. Adams St., Chicago

## Efficient Bonding Material

"A MILLION little fingers reach up and grasp the topping as it is applied." This is the way a prominent chemical company describes and illustrates the action that



This Bonding Material Fills All Air Spaces and Creates a Perfect Bond of Floor Topping.

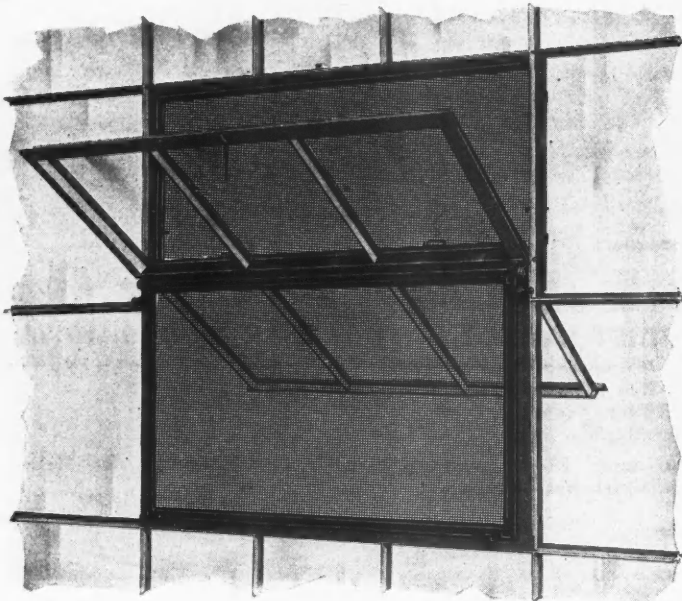
takes place when its metallic floor bond is applied to the concrete floor slab.

Not only does this method form a perfect bond, but it also fills all air spaces that may be created as the topping is laid. This filling action takes place after the topping has

been laid and while it is setting. It is the air spaces that form between the slab and the topping that cause loosening.

## Screens for Pivot Windows

THIS pivoted window equipment is adaptable to all makes and types of windows screening the openings in a neat



This Pivot Window Screen Equipment Entirely Closes All Openings and Makes a Neat Outside Appearance.

and simple manner with a permanent installation at minimum cost. Windows of this type have been difficult to screen and by methods used in the past not all openings were entirely closed or parts placed on the outside of the building were unsightly. The manufacturer of this equipment claims to have entirely overcome these objects.

The lower screen is held in place by two brackets at the bottom of the ventilator and two turn buttons at the top which release the screen by merely turning the buttons. A bronze contact plate is fitted across the center of the ventilator to form a constant contact with sash and glass. The top of the inside screen remains in contact with the bronze plate during operation of the pivoted section.

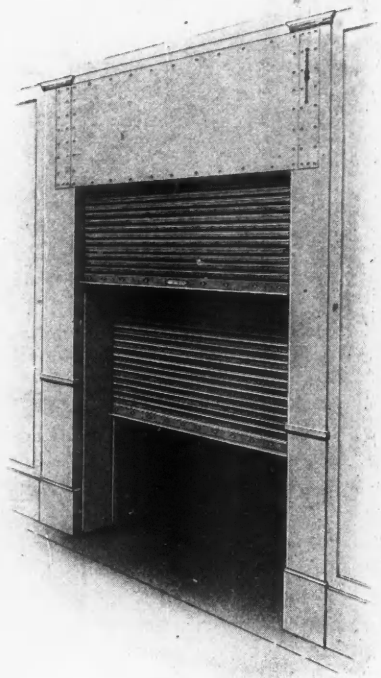
The upper screen is held in place at the top by two stationary brackets and on each side near the bottom by two spring bolts. The screen makes contact with the angle guides at each side and with the bronze contact plate at the bottom. The contact plate is fitted to the sash to close all openings and the screen maintains contact with the plate during the operation of the section. ✦

## Steel Doors for Commercial Work

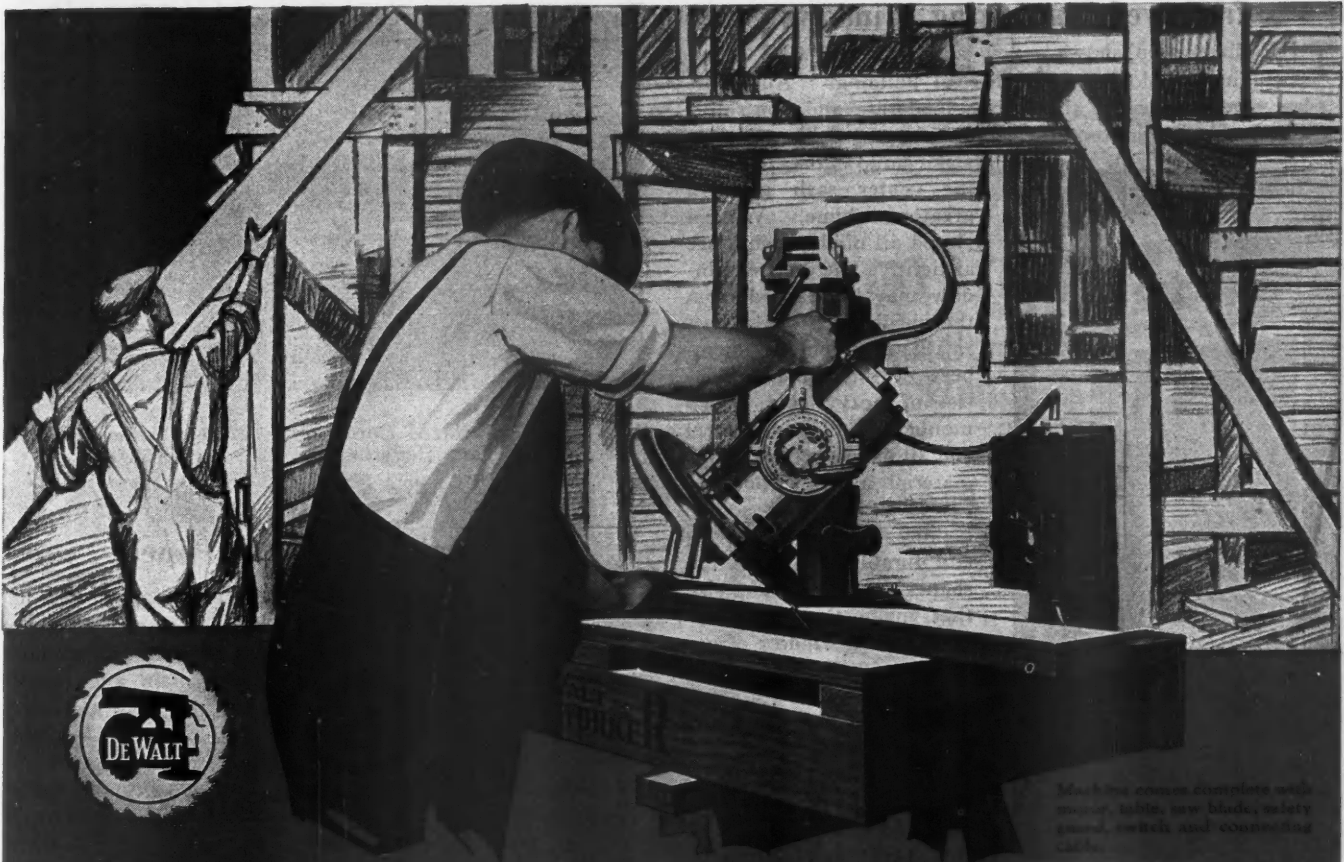
ROLLING steel doors of the type illustrated are designed for installation in clubs, hotels, restaurants, office buildings and other places where appearance is an important consideration. This construction requires at least a 16 inch width of jamb but permits complete concealment of the coils at the top.

These doors are Class A Underwriters Labeled and are proof against fire, burglars and weather. They roll up overhead and waste no floor space. They are built up of a series of interlocking mouldings or slats and while flexible in rolling up are stiff against pressure.

The door is retained at the sides in guides and rolls on an overhead steel pipe roller or shaft. This shaft is supported at each end in a steel bracket which is fastened to the heavy steel side guide. The shaft contains springs which counterbalance the door at any point in its travel. The smaller size of doors push up and pull down by means of handles on the bottom.



Rolling Steel Doors Which Permit Complete Concealment of the Coil at the Top.



Match the cross members with motor table saw blade, safety guard, switch and connecting cable.

## Figures that mean Profits wherever wood is cut

DeWalt Wonder Worker Hand Saw. Weighs only 15 lbs. Cuts 2 1/2" deep.

Remarkable combination of portability and capacity. Cuts full 4".

Most complete hand-saw on the market. Cuts 4 1/2" deep. Bevel cuts to 60°. 1 1/2" blade. Tilting base.

Most powerful hand-saw made. Cuts heavy lumber on production basis. Depth of cut 4 1/2". Bevel cuts to 60°. Tilting base.

ON any building job you can effect real savings with a DeWalt Wonder Worker. For the DeWalt speeds right through the largest lumber as easily as it does the small pieces, on either rough or finished work.

Thousands of builders can testify to DeWalt economies of performance. For example—

"Two men cut 683 3" x 10" joists, 16' long with a fire cut on one end and notched on the other in 8 hours."

"In 1 1/2 hours the operator cut 12 stair horses out of 2" planks."

"I was able to cut out all material for 74 drawers as well as all material used in 20 cabinets in one 8 hour day."

"He dadoed 600' of base for 8 rooms in 3 hours."

From roughing-in to trimming-out right on the job with a DeWalt! Let us show you how you can cut your costs.

**DE WALT PRODUCTS CORPORATION**  
154 Fountain St., Lancaster, Penna.

Sales and Service in All Principal Cities in U.S.A. and Foreign Countries  
Made for Canada by DeWalt Products Corp. of Canada, Calgary, Alberta

DeWalt Products Corporation  
154 Fountain Street  
Lancaster, Penna.

Please send me full particulars of the DeWalt Wonder Worker. Also the DeWalt-Wodack Electric Hand Saw.

Your Name .....

Firm Name .....

Address .....

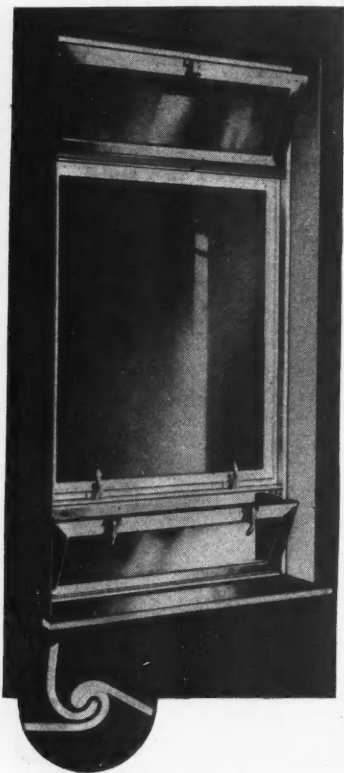
# DE WALT

## Wonder Worker

The Economy Wood Worker

### Improved Inswinging Windows

THE illustration shows a new and improved type of inswinging window for commercial buildings. All of its sashes can be opened, all provide moderate and controlled ventilation. The extreme upper and lower sashes admit a



The Three Inswinging Sashes Permit Controlled Ventilation with This Window.

small inflow of air while the center sash gives a greater volume. When closed all of the sashes are airtight. The entire window may be washed from the inside.

All construction members of this window consist of heavy cold drawn mouldings, 12 gauge steel and 10 gauge bronze. This material makes it possible to weld all fixed joints, making the frame strong and durable. The different shapes are formed in a size that make them self-supporting in a window of unusually large dimensions.

Another point of construction is the special waterproof hinge which is a distinctive feature of this window. It is a continuous hinge formed as a part of the sash and adjoining member. This arrangement assures a weather-tight job and eliminates the expense of fitting separate hinges.

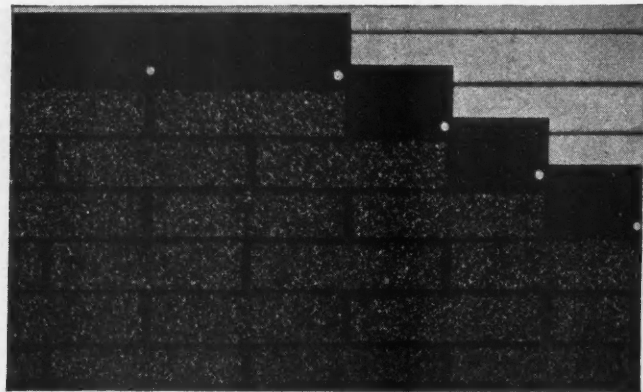
Fittings are furnished in non-ferrous metal and applied at the factory. The center sash is controlled by a self-adjusting friction operator while the upper and lower are held in an open position by means of metal brackets placed at the sides. This window is furnished in three types, large sash at the top and ventilator at the bottom, large sash in the middle and ventilator at top and bottom; large sash at the bottom and ventilator at the top.

### Brick-Like Composition Siding

FOR either new construction or for modernizing old houses a new siding material just placed on the market offers interesting possibilities. This material is being made by a well known manufacturer of composition roofing. It is similar to roofing but when applied to walls gives the appearance of face brick.

The new material comes in strips six by 30 inches which are laid with a 2½ inch exposure and one inch headlap. The 2½ inch butt is marked off with recessed mortar joint effect into three 9¾-inch brick faces. A standard slate surface is applied to the upper portion of the strip and a special, coarse slate on the lower or exposed portion. The color now available is an attractive red.

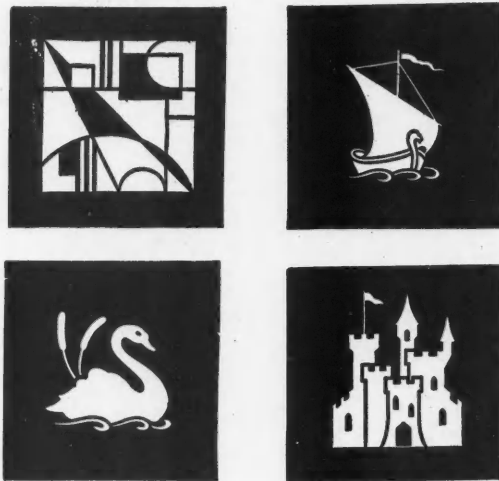
This material has a very considerable insulating value, it does not require painting and once applied needs no further attention. When applied over old siding, which can be done without removing the siding, it completely changes the appearance of the building which is being remodeled. No nails are exposed, all nail heads being covered by the next strip. It can be insured against hail and windstorms and forms an economical, efficient and attractive means of modernizing old exteriors. It keeps its original appearance without upkeep and the color does not fade nor wear off.



A Slate Surfaced Composition Which Makes an Excellent Covering for Exterior Walls.

### Decorative Linoleum Panels

THE decorative possibilities of linoleum floors have been greatly enlarged by the introduction of inset panels and strips. The strips are feature borders for use around linoleum floors and are supplied in all the plain and marble border colors manufactured by the company which has introduced the new products. Some of the colors are available in both A and B gauges only while others can be had in any gauge excepting the ¼-inch. These strips are cut in 45-foot lengths and shipped in packaged rolls. A wide variety of multiple border effects can be secured with them. They are intended for use either as feature strips between wider borders or else next to the field pattern.



Some of the New Decorative Panels to Be Set Into Linoleum Floors.

The panels carry 12 different designs: a knight, castle, swan, escutcheon, helmet, lion, deer, ship, star, shield, fleur-de-lis and a modernistic motif. Three of these are set in 24 by 24-inch panels and the others in 36 by 36-inch panels. They are made up in combinations of two colors including plain, jasper and marble border lines and are supplied either in light battleship or B gauges. The installation consists simply of cutting out a square piece of linoleum flooring and putting the panel into its place. Waterproof linoleum cement is used to fasten them down.

"Electric Heat in Industry" is the title of a new booklet published by the General Electric Company, Schenectady, N. Y., illustrating the application of electric heat to groups of basic operations commonly found in industrial plants.

# The New American SANDERPLANE

## Eliminates—

Hand Scraping  
Hand Sanding  
Hand Planing

### SAVES TIME LABOR MONEY



Here it is!—just the portable machine you have been waiting for—that you can pick up and carry around with ease. You've had your fill of hand scraping and hand sanding edges, stair landings, doorways, sash, trim, etc. Put this new SANDERPLANE to work and make more money.

The SANDERPLANE is low in price. It can be purchased on a convenient monthly payment plan. For your own profit, and to get the complete story, we suggest that you Mail the Coupon NOW!

**Exceptional SPEED—over-abundant POWER—assured DEPENDABILITY**

## These are the World's Most Widely Used

### Floor

### Sanders

All  
Three  
Are  
Money  
Makers

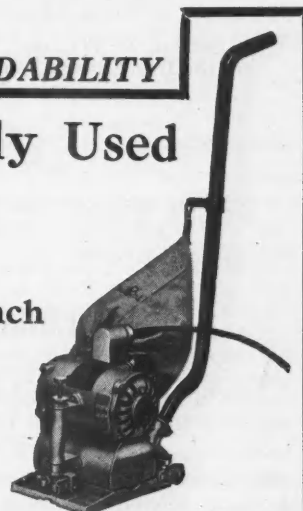
12-inch 8-inch 6-inch  
sanders for all  
requirements



American High Production Floor Sander



American Universal



American Handy Sander

## The American Floor Surfacing Machine Co.

515 South St. Clair St., Toledo, Ohio

*Factory branches and representatives in principal cities*

Without obligation, please send me detailed information covering the American Sanders checked with an X.

- SANDERPLANE
- Handy Sander
- High Production
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Name.....

Street.....

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

**BUILDERS OF DEPENDABLE FLOOR SURFACING MACHINES FOR OVER A QUARTER OF A CENTURY**

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

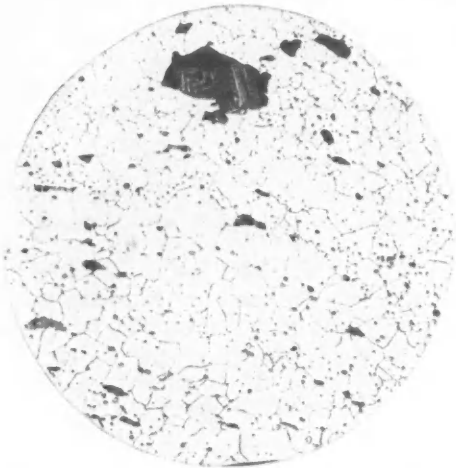
### Wrought Iron Sash Resists Rust

**A**N outstanding development in the solid section metal windows industry is the introduction of genuine wrought iron window sash. One of the chief advantages of solid section metal windows is the almost unlimited size of windows and combination windows. Up to the present time it has been a serious problem to devise an effective means of protecting the metal window from corrosion. It was found that coatings were at best a make-shift and investigation was made to find a suitable metal that would of itself resist progressive corrosion.



**Cruciform Construction Used in These Sash.**

Genuine wrought iron, made in a plastic state, below the melting point of iron, thus retains a percentage of cinder or slag, iron silicate, which through rolling and rerolling becomes disseminated in very fine lines or threads throughout its structure. Iron silicate, a glass-like substance, is impervious to corrosion and adds this quality to the wrought iron.



**A Section of Wrought Iron Showing the Iron Silicate Which Prevents Corrosion.**

Wrought iron in window sections is made to A. S. T. M. specification A-84-27, grade C, for all pig puddled iron. Wrought iron windows are available in cruciform, heavy duty construction, all rolled sections with minimum

thickness of  $\frac{3}{8}$  inch. All ventilators double contact, pivoted type equipped with extra large malleable iron cup pivot. Wrought iron can be furnished in pivoted, commercial and architectural projected, continuous windows, and residence casements.



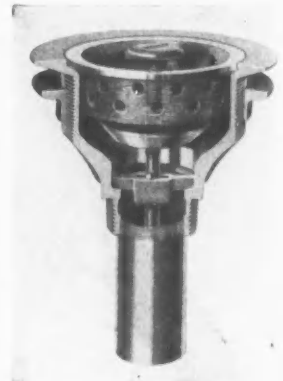
### Floor Lining Felt Improved

**A** 45-INCH wide lining felt, for use underneath linoleum floors that are laid by the modern cementing method, has recently been placed on the market. Previously it has been made only in 36-inch width. This wider felt has several advantages over the narrower material. With it, it is easier to avoid having the linoleum seams coincide with the felt seams. It reduces the labor cost for laying the floor as less handling of rolls is required and the 45-inch roll is just as easy to handle and can be laid as quickly as the 36-inch width. It is supplied in 25 and 50-lineal-yard rolls.

The cement and felt method of laying linoleum is now generally accepted by builders as the most satisfactory method. It consists, briefly, of pasting a layer of lining felt over the subfloor and then pasting the linoleum onto it. At the seams and around the edges of the floor a waterproof cement is used instead of paste. The resultant floor is smooth, permanent, and gives the appearance of being a single piece. The new wide felt gives improved results with this method.

### New Outlet Strainer for Sinks

**I**N past years it has been necessary to wash dishes in pans placed in the sink. It is now possible to wash dishes in the sink proper with the new style strainer and lift waste. The large strainer, or cup, is designed to catch all waste material too large to pass through the trap. To dispose of waste material accumulating in the strainer, it is only necessary to lift the strainer from sink and upset as any dish or container of waste material.



**Waste Can Not Clog the Drain When This Strainer Is Used in a Sink.**

This strainer has several new features that are worthy of consideration. The strainer is of cast brass throughout, except the outlet tailpiece. When waste plug is not in use the strainer remains in same position as it would when waste plug is closed. Operation of waste plug is very simple. To open, lift the waste knob and rotate the knob one quarter turn either left or right. The outlet tailpiece will fit any  $1\frac{1}{2}$ -inch inlet trap.



### Coal Chutes Improved

**N**EW and important features have been incorporated in the improved coal chutes illustrated here. They are the latest type made by a company which is a leader in this class of equipment. One notable feature is the panels of  $\frac{1}{4}$ -inch plate glass, which is now being used instead of wire glass. It is stated that actual tests have shown these panels to be six times as strong as those of wire glass.

The glass panels are held by an angle iron frame and metal division strips. In addition to rubber packing, two long strips of rubber are used between the angle iron frame and the glass to take up any uneven pressure. In this way breakage from impact is prevented and the glass is held permanently firm and solid. A steel shield protects it when the door is opened.

The door is of heavy pressed steel, rust-proofed by electro-galvanizing. The frame and hinges are of certified malleable iron and the hinges are flat with double support, a break-proof construction throughout.



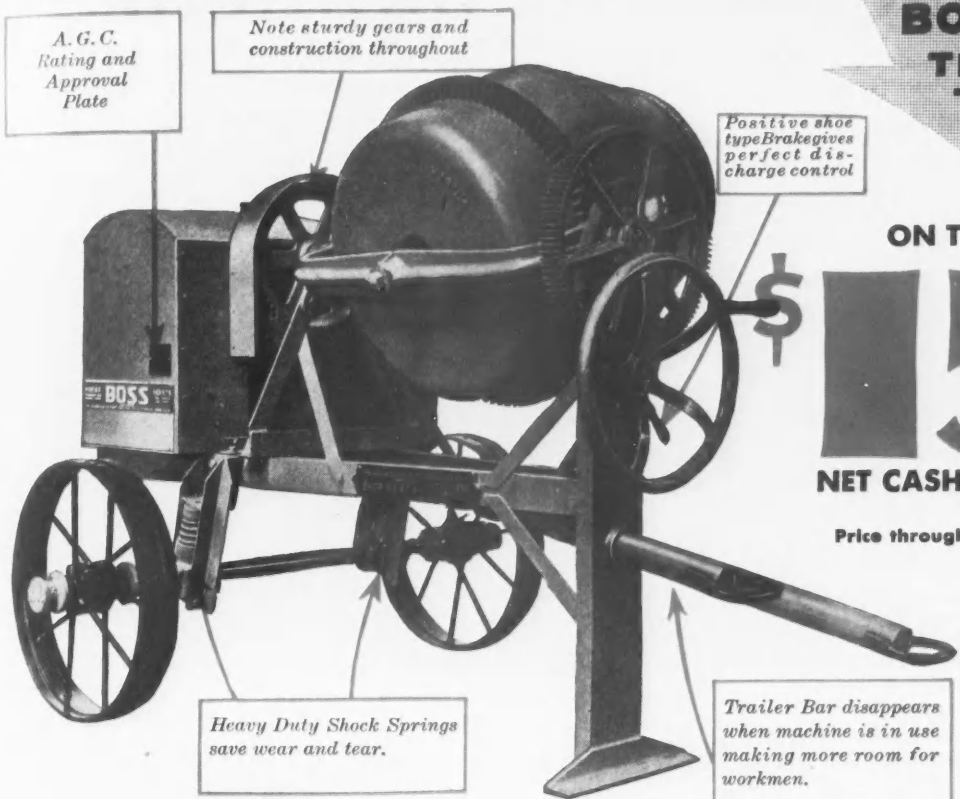
**The Plate Glass in These Coal Chutes Has Proven Stronger Than Wire Glass.**



**The Heating Systems Corp.**, Joliet, Ill., has circulars on two products in its Heat-O line, the Oil-Fired Aerologer, and welded steel boilers.

# NEW LOW PRICE

DIRECT FROM FACTORY



ON THE  
**BOSS 3 1/2 S**  
**TRAILER**  
**TILTER**

ON TWO STEEL WHEELS

**\$152<sup>00</sup>**

NET CASH F. O. B. KEOKUK, IOWA

Price through dealer is \$200.00 F. O. B. Keokuk

Your saving by **\$48<sup>00</sup>**  
buying direct is

**5 Days Trial**

**1 Year Guarantee**

Trailer Bar disappears when machine is in use making more room for workmen.



**BOSS 3 1/2 S Trailer Tilter**  
on cushion rubber-tired wheels with roller bearings...

**\$172<sup>50</sup>**  
NET CASH

f. o. b. Keokuk, Iowa. Price through dealer \$227.00 f. o. b. Keokuk

Your saving by buying direct is \$54.50

**5 DAYS TRIAL**

So confident are we that every BOSS Mixer, Paver, Hoist, Dump Body and Cart will give complete satisfaction, that we offer you five days' trial as follows: Ten percent (10%) of the purchase price shall accompany the order. The balance of purchase price, as shown on our draft with bill of lading attached, shall be paid to your bank on arrival of machine. Bank will be instructed to hold money five days so you may try out equipment. If, within five days, the machine is not exactly as represented, NOTIFY US immediately, giving details, so that difficulty may be corrected or PURCHASE PRICE REFUNDED. This protects you; you can't go wrong on a BOSS. As long as we have sold on this basis, we have never had a customer demand his money. This proves BOSS quality. Every BOSS machine is guaranteed for one year.

# BOSS MIXERS PAVERS HOISTS DUMP BODIES

Manufactured by  
**THE AMERICAN CEMENT MACHINE CO., Keokuk, Iowa**  
for Sixteen Years

**RUSH  
ORDER  
BLANK**

### READ THESE SPECIFICATIONS

The BOSS 3 1/2 S Half Bag Trailer Tilter is furnished either with cushion rubber-tired wheels with roller bearings or steel wheels with plain bearings; heavy duty shock springs; 2 HP new enclosed type Stover engine; Wico Magneto; steel engine housing; positive shoe-type brake discharge control; disappearing trailer bar; Alemite lubrication; built to A. G. C. Standards and carries A. G. C. rating and approval plate. Shipping weight approximately 1120 lbs.

### HIGHER QUALITY THAN EVER

See how, as manufacturers, our policy of selling direct to user saves you money. We have deducted the dealer's profit and the salesman's commission. You get the saving. The quality of materials and design has been improved throughout. BOSS equipment has had an enviable reputation for dependability for 16 years. Now you can get even better machines at the lowest price in history. This saving can be had on every machine in our large and varied line of BOSS Mixers, Pavers, Hoists, Dump Bodies and Concrete Carts. Get the new catalog showing prices.

**THE AMERICAN CEMENT MACHINE CO., 307 Bank Street, Keokuk, Iowa.**

Ship to (name) .....

(Street)..... (Town)..... (State).....

via (Give name of delivering Railroad).....

(Your Bank).....

| Quantity | Machine                                             | Direct from factory net cash price F. O. B. Keokuk |
|----------|-----------------------------------------------------|----------------------------------------------------|
|          | Boss 3 1/2 S Tilter - 2 steel wheels                | \$152.00                                           |
|          | Boss 3 1/2 S Tilter - 2 cushion rubber-tired wheels | 172.50                                             |
|          | Boss 3 1/2 S Tilter - 4 steel wheels                | 156.00                                             |
|          | Boss 3 1/2 S Tilter - 4 cushion rubber-tired wheels | 197.00                                             |

10% Cash with order..... balance c.o.d. subject to 5 days trial.....

..... (amount)..... (amount).....

Signature of Purchaser..... Home Address.....

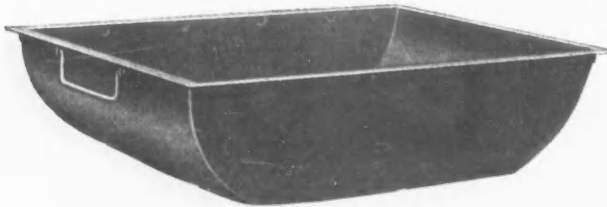
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# What's New in Contractors' Equipment

For further information in regard to any item described in the "What's New" Departments address American Builder Information Exchange, 105 W. Adams St., Chicago

## One-Piece Steel Mortar Box

THE one-piece, steel mortar box is fast gaining popularity among contractors and builders because of its durability and economy: it requires very little space for storage, and



Stamped from a Single Sheet of Steel to Form a Perfectly Smooth Inner Surface Mortar Box.

permits the heating of mortar in freezing weather. A company, long established as a manufacturer of truck cabs, has recently developed the one-piece mortar box.

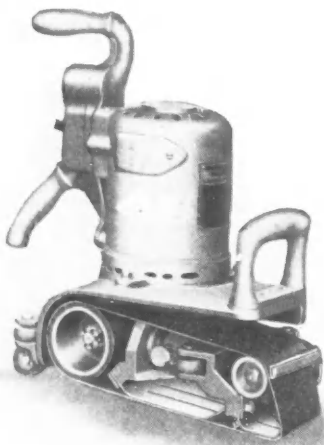
It is made in three sizes, nine, 17, and 31 cubic feet capacity.

This mortar box is stamped from a single sheet of steel, and curved on the ends to a 12 inch radius, making it easy to remove mortar. Corners are welded on the outside to give the box a perfectly smooth interior surface for mixing.



## Combination Edger and Bench Sander

ONE of the largest manufacturers of floor surfacing and polishing machines is making an announcement of special interest to contractors, builders, floormen and the woodworking trades in general relative to a new sanding machine.



This New Sander Can Be Taken Anywhere and Operated from a Light Socket.

This new product is a light weight portable belt sander powered with a heavy duty universal type motor making operation possible directly from the light socket or base plug. An outstanding feature is its rugged construction which insures continual operation under the most severe operating conditions.

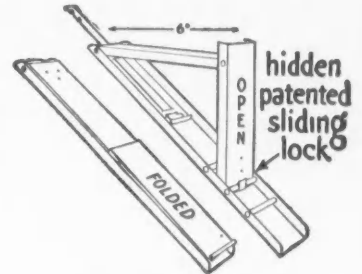
When equipped with sanding shoe attachment, this machine entirely eliminates the tedious task of scraping and sanding the edges by hand. The manufacturers state that this machine will sand with the grain the butt ends of the floor as well as the edges right up to the baseboard. This new sander is also used with great satisfaction for sanding stair-landings, doorways and other small places which ordinarily would require scraping by hand.

Substituting the sanding shoe for the roller instantly converts this belt sander into a highly efficient machine for sanding and refinishing table tops, desks, doors, sash, trim and other flat wood surfaces. Instead of taking the sanding job to the machine, this new belt sander can be carried to the job.



## Small Size Roofing Brackets

A RECENT addition to a well known line of contractors' equipment is illustrated here. For years, carpenters have used this company's brackets in providing stagings for doing roofing work. The new model combines all the essential features of design of the larger brackets, including the patented hidden sliding lock; it has three adjustments for varying pitches of roof.



A Small Edition of a Well Known Roofing Bracket Recently Announced.

It is a smaller edition of the former bracket designed to sell at a price that brings it within the easy reach of every carpenter and contractor.

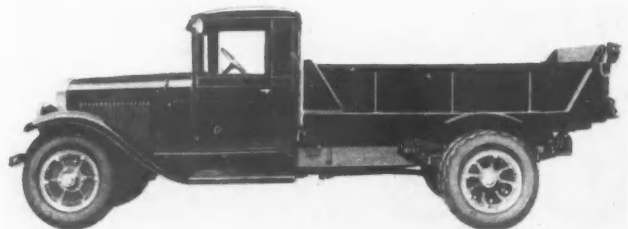
These brackets make roofing work safe and far more comfortable. One of the convenient features is their compactness when folded, making it easy to carry or store them.



## A New Three-Ton Truck

THE new 3-ton speed truck, illustrated here, recently announced by a well known manufacturer and now on display, is designed and built to meet a wide range of hauling requirements. This model incorporates many refinements and features that contribute to improved performance and operating economy.

This truck is built in four wheelbases—156-inch for dump and semi-trailer service, 170, 190, and 210-inch for general hauling of all kinds. The longer wheelbases provide for maximum body lengths (back of cab) as follows: 170, 190, and 210-inch wheelbases; 13 feet, 15 feet, and 17 feet 6 inches respectively. Two and one-half-yard dump bodies of 9 feet or 9 feet 6 inches in length may be mounted on the 156-inch wheelbase chassis.



This New Truck Is Designed to Meet a Wide Range of Requirements in Hauling.



# Can You Read Blue Prints?



## Without Cost or Obligation Investigate Chicago Tech's Blue Print Way to Bigger Pay!

**MEN**, here's a liberal offer if ever there was one! By acting at once, every ambitious builder in America who wants to win quick promotion and run big building jobs may now secure a valuable book and real blue prints, together with full details about a wonderful new method of training that teaches you how to read plans and qualify for leadership in Building. Send no money. Simply fill in and mail the coupon below.

### Big Demand for Men Who Can Read Blue Prints

Right now there is an urgent need for practical men with actual building experience who know how to read plans and are able to supervise construction. This amazing book that is now offered to you free will show you how you can, in surprising short time, qualify for positions that only men with a knowledge of plan reading can fill. It tells how you can in your spare time, right in your own home, put yourself on the "headwork" side of Building and earn the kind of money that you want.

### Easy, Practical Training . . . Mastered in a few Short Weeks

Chicago Tech's Blue Print Method is entirely different from ordinary schooling. You'll be surprised and delighted at the ease with which you will master every basic principle of plan reading, this fascinating blue print way! There are no textbooks to read—no useless theory. Instead you are given actual working blue prints to examine and keep. Twenty famous experts go over these with you, step by step, explaining everything in plain, everyday language you can quickly grasp. No wonder

**If You Live Nearby**  
Visit our big Day and Evening School attended by over 1,000 builders. You get this training at home by mail—same plans, lessons and instructions.

**Chicago Technical School for BUILDERS**



Dept. D-123, Chicago Tech Bldg.  
118 E. 26th St., Chicago, Ill.

builders everywhere proclaim this to be the most practical and the easiest training method they have ever seen!

### Brings Quick Promotion

A few short weeks of practical instruction while you are still on the job, and you are prepared to accept the higher positions that are open only to trained builders. See what this marvelous training has done for others. Baker, Ohio, made \$3,800 clear profit in three months as a contractor. Depke, R. I., increased his salary 700 per cent in twelve months. And Clifford Scholl, a laborer, became assistant superintendent in eight months!

### Don't Delay—Act NOW!

Smart builders will grasp this opportunity immediately and get before them the free book and plans that will show them how quickly the success they want can be realized now as a result of Chicago Tech's Blue Print Way. Remember—there is no risk whatever, no obligation in mailing the coupon. So send it at once.

### SIMPLY MAIL COUPON NOW

It will bring you at once the valuable free book, *How To Read Blue Prints*, the free blue print plans, as well as full information about Chicago Tech's Blue Print Way to Bigger Pay. No obligation whatever, so write immediately!



**CHICAGO TECHNICAL SCHOOL FOR BUILDERS**  
Dept. D-123, Chicago Tech Bldg.  
118 E. 26th St., Chicago, Ill.

Yes, send me at once without cost or obligation your **FREE BOOK** and complete set of blue prints. Also full details about your easy, practical home training. It is understood no salesman will call on me.

Name.....

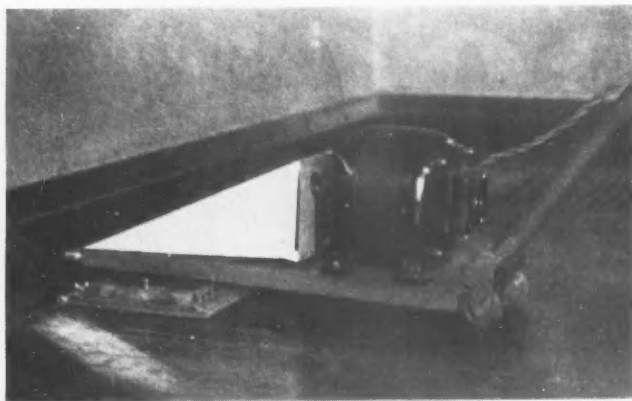
Address.....

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

Age..... Occupation.....

### Edger Eliminates Hand Work

THE illustration shows a new edger which should prove valuable to many contractors who have in the past had the labor and expense of hand scraping floors along the baseboards. This new machine will finish the floor completely up to the baseboard so that no hand work is necessary. It consists of two shoes which move with a lateral action, powered by a small electric motor. These shoes sand just as effectively with the grain as across it. The machine is equipped with a stop which rests against the baseboard and keeps it from being marred. Power is taken from the ordinary electric light circuit.



This New Edging Machine Eliminates All Hand Work on Floor Finishing Jobs.

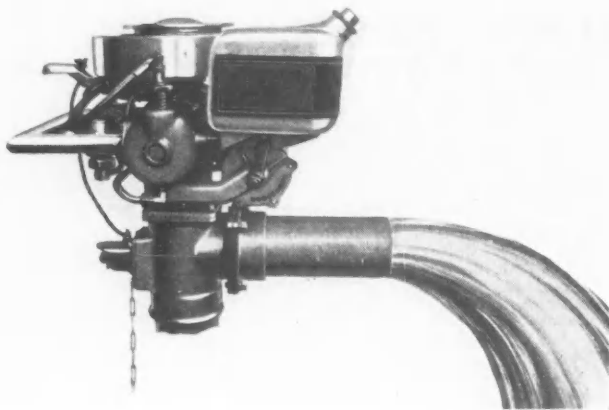
### New Outboard Motor Drainage Pump

A NEW type of drainage pump which is powered with an outboard motor and which is self priming and will shut itself off when the supply of water to be pumped is exhausted is offered by a leading manufacturer of outboard motors. This pump consists of a long pump shaft with a light twin cylinder outboard motor mounted on the top. The motor powers the impeller which is located at the bottom of the shaft.

As the pump shaft sinks to the bottom of the water and the impeller is always submerged no air can be sucked while there is still water to be pumped. Thus delays in priming are eliminated. In addition starting difficulties are also eliminated as the water begins to flow immediately after the motor is started.

Contractors of all kinds, public utility companies and others have found uses for this pump on a wide variety of jobs. Some of these include pumping water from excavations, concrete forms, manholes and barges.

It will pump 195 gallons of water per minute and 1,000 gallons for the approximate cost of one cent. Contractors



Economy in Draining Excavations and Similar Work Is Obtained with This Outboard Motor.

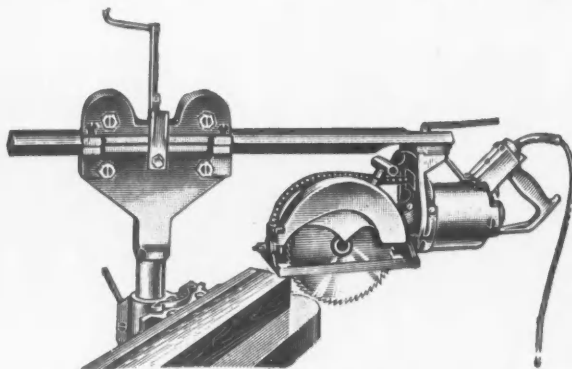
find it valuable in cutting down transportation expenses. Where a truck might have been formerly used in transporting pump equipment from one job to another, this pump, weighing only 85 pounds can be thrown over the shoulder of any laborer or placed on the side of an ordinary automobile.



### Radial Arm for Power Hand Saw

THE illustration shows a radial arm which makes a combination radial saw, table saw and electric hand saw out of a portable electric hand saw. All this can be had for less than half the price of a good table or radial saw.

The radial arm makes play out of all sawing regardless of angle or depth of cut. Tile, marble, concrete, block,



The Radial Arm Makes a Radial Saw or Table Saw of Any Electric Hand Saw.

brick, vitritile, stone, etc., can be cut as easily with the radial arm as you now cut wood. This simplifies wood cutting, dadoing, dovetailing, mortising, compound angles, rip, cross or any cutting and reduces costs.

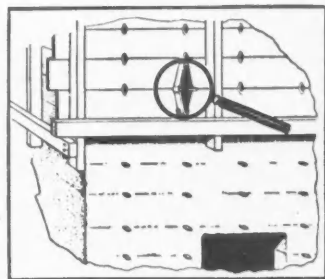
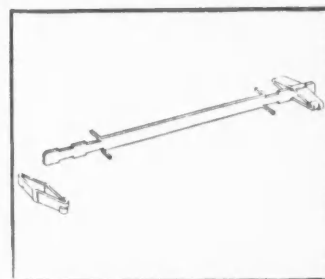
The arm can be adjusted to any electric hand saw, without the need for any changes.



### For Economical Form Work

A COMPANY manufacturing concrete form ties and spacers has recently put out a new model with a detachable head. This feature makes for considerable economy in panel type construction, where the forms are moved in sections from floor to floor. The heads, which represent about 25 per cent of the cost of the device are saved and used many times.

These ties are designed to entirely replace tie wires, wood spacer blocks and a large part of the studs, wales and bracing required for concrete form work erection. Where they are used, it is stated, there are no thin walls due to wire being twisted too tight, and no thick walls due to wire stretching. Every wall is straight and of uniform thickness. The manufacturers state that one contractor reports to them a saving of 46 per cent as compared with the best wire tied concrete form job, through the use of these ties and spacers.



These New Concrete Form Ties Have Detachable Heads Which Can Be Used Repeatedly.

**ILG AIR**  
**ELECTRIC VENTILATOR**  
*Every Home Buyer or Renter wants it - looks for it - expects it.*



**NOT** a suggestion of cookery passes the kitchen door where there's an Ilgair Electric Ventilator. See for yourself—note how the cooking odors, greasy fumes, and excess heat are whisked away before they have a chance to trail thru the house.

It's a joy to work in a kitchen where there's an Ilgair Electric Ventilator — that's why particular housewives want it — look for it — and expect to see it in every modern home or apartment.

Make sure you buy or specify the Ilgair — it is the only Electric Ventilator made with a *fully enclosed self-cooled motor*, guaranteed as a complete unit — it's painted green.

*Send for booklet of special interest to architects, contractors and builders.*

**ILG ELECTRIC VENTILATING CO.**

2852 North Crawford Avenue . . . . Chicago, Illinois

Reg. U. S. Pat. Off.



**FREE BOOK**

— of special interest to architects, contractors, builders.

**ILG ELECTRIC VENTILATING CO.**

2852 N. CRAWFORD AVE., CHICAGO, ILL.  
 Without obligation send me the New Illustrated Ilgair book.

Name \_\_\_\_\_

Full Address \_\_\_\_\_

# News of the Field

## Convention and Show Dates

- Apr. 5-12, 1930**—Indianapolis Real Estate Board, Annual Home Complete Exposition, Indianapolis, Ind.
- Apr. 7-12, 1930**—American Oil Burner Association, Annual Convention and Oil Burner Show, Stevens Hotel, Chicago.
- Apr. 8-10, 1930**—Lumbermen's Association of Texas, Annual Convention, Dallas, Texas.
- Apr. 14-16, 1930**—American Institute of Quantity Surveyors, Annual Convention, Statler Hotel, St. Louis, Mo.
- Apr. 24-25, 1930**—National Lumber Manufacturers Association, Annual Meeting, Congress Hotel, Chicago.



## Open New York Office

THE Milwaukee Corrugating Company, Milwaukee, Wis., has announced the establishment of a Milcor New York district office at Room 418 Pershing Square Building, 100 East 42nd Street, New York, N. Y. The telephone number is Caledonia 7920.



## Woodworking Machinery Listed

THE name of the Woodworking Machinery Co., Inc., Frazier Bldg., N. Eleventh St., Philadelphia, Pa., should have been listed in the Classified Directory and Buyers' Guide, in the February issue of American Builder, under the following products which it manufactures:

|                                           |     |
|-------------------------------------------|-----|
| Bandsaw Machinery.....                    | 206 |
| Jointers—Woodworking .....                | 206 |
| Machinery—Bandsaw .....                   | 206 |
| Machinery—Woodworking (Power Driven)..... | 206 |
| Machinery—Woodworking (Second Hand).....  | 206 |
| Machinery—Woodworking (Universal) .....   | 206 |
| Saws—Band .....                           | 206 |
| Saws—Electric .....                       | 206 |
| Saws—Portable Power .....                 | 206 |
| Saws—Swing .....                          | 206 |
| Sawrigs .....                             | 206 |
| Woodworkers—Combination .....             | 206 |
| Woodworking Jointers .....                | 206 |



## Ruberoid Products Listed

THE name of The Ruberoid Company, 95 Madison Ave., New York City, should have been listed in the Classified Directory and Buyers' Guide, in the February issue of AMERICAN BUILDER, under the following products which are manufactured by this company and its subsidiary divisions, the Continental Roofing Mills, the Ruberoid Mills, the Safepack Mills and the H. F. Watson Mills:

|                               |        |
|-------------------------------|--------|
| Roofing—Asphalt (Ready).....  | 29—131 |
| Roofing—Asphalt Shingles..... | 29—131 |
| Roofing—Blended Shingles..... | 29—131 |
| Roofing—Built-up .....        | 29—131 |
| Roofing—Composition .....     | 29—131 |
| Roofing—Roll .....            | 29—131 |
| Roofing—Slate-surfaced .....  | 29—131 |



The Annual Sales Convention of the National Steel Fabric Company, of Pittsburgh, Was Attended by Delegates from Practically Every Section of the Country

## Vento Opens New Plant

THE Vento Steel Sash Company of Muskegon, Michigan, announces the construction of a new plant, composed of two separate buildings, one of which is for manufacturing and one for storage and shipping. These are connected by a



Two New Buildings Compose the Recently Completed Vento Plant.

40-foot building in which is located the paint room and heated drying room. The growth of this company's business in the past three years has been so great that they have been forced to build this plant which is three times larger than their former one.



## Open New York Office

THE Concrete Reinforcing Steel Institute, Chicago, has opened a New York office at 11 West 42nd Street (Room 2486) and has placed its district engineer, J. P. Thompson, in charge. The telephone number is Pennsylvania 3033. Mr. Thompson's territory will comprise the entire East coast.



## Consolidation Completed

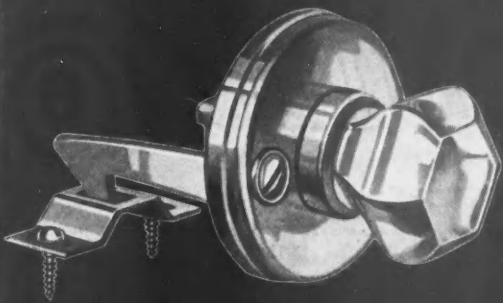
A CONSOLIDATION of the Brock Glass Co. of Santa Ana and the Consolidated Hardware Manufacturers of Pasadena has been brought about by the organization, under the laws of California, of a corporation to be known as Consolidated Factories, Ltd., Santa Ana, Calif.



## National Steel Fabric Convention

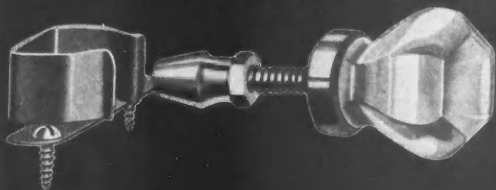
THE National Steel Fabric Company, Pittsburgh, Pa., recently concluded one of its most successful and interesting sales conventions, held in the Keystone Athletic Club in Pittsburgh. It was attended by delegates from practically every section of the country.

The spectacular feature of the convention was a mammoth electrically illuminated display, 35 feet in length and seven feet deep, depicting the potential sales market for the company's products in a striking and impressive manner.



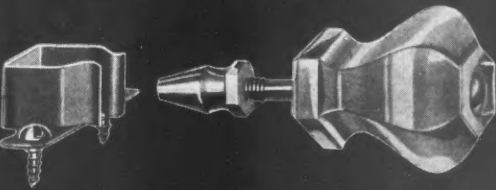
CATCH No. 330

For doors from 1/2" to 1 1/8" thick. Glass knob 7/8" and brass plate 1 1/2" in diameter. Slight turn, right or left, unlatches catch. It locks automatically. Furnished in any standard finish.



FRICITION CATCH No. 726

A simply constructed catch for doors up to 1 1/8" thick. Spring steel "grip" can be installed on shelf or 5/8" door stop. Glass knob 7/8" in diameter. Packed complete with necessary screws.



FRICITION CATCH No. 727

Same general construction as No. 726 except that bolt goes through glass knob. Installing is simple—merely bore one hole and sink two screws. Packed complete with necessary screws.

# 4 CATCHES

*that have a place in every home.....*

Contractors, builders and carpenters everywhere are specifying and installing Frantz Catches because they are new—they're different. Today's home builders insist on the most modern conveniences—that's what makes these unique latching devices so popular.

The No. 330 Glass Knob Catch, introduced a year ago, filled a long felt need for improvement in design and appearance of the common "cupboard turn." This new Frantz Catch met with immediate acceptance. Today it is one of the fastest selling specialties in the Frantz Line.

The popularity of the original catch prompted the creation of a full line of new cupboard and cabinet equipment. Your hardware dealer will gladly show you samples. Mail the coupon below for complete information.



## QUALITY CABINET HARDWARE



FRICITION CATCH No. 725

The simplest constructed and easiest installed catch made. Will last a life-time. Can be used on any size or type of cabinet door. Packed in sets complete with all necessary screws.

# FRANTZ

TRADE MARK  
*Guaranteed Builders Hardware*

THIS COUPON IS FOR YOUR CONVENIENCE MAIL IT TODAY

Frantz Mfg. Co., Dept. A-5, Sterling, Illinois.

Kindly send me complete information on the Frantz Catches checked below:

No. 330       No. 725       No. 726       No. 727

Name ..... (Print plainly)

Address .....

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

My Hardware Dealer is.....