

AMERICAN BUILDER

Including "BUILDING DEVELOPER" and "HOME BUILDING"

A SIMMONS-BOARDMAN PUBLICATION

Vol. 48.

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No. 4.

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Including "Building Developer" and "Home Building"

BERNARD L. JOHNSON and CHARLES G. PEKER, Editors



American Builder Survey for 1930

AS the building figures for 1929 are summed up and compared with those of former years, it becomes apparent that the year just closed has not only failed to approach the high record of 1925 to 1928, but has actually failed by almost a billion and a half dollars to provide for the nation's normal annual building requirements.

Of residential construction alone, there is an indicated shortage for the year of more than \$900,000,000 under normal annual requirements.

These facts have significance when attempting to forecast the building figures for 1930. With such a shortage in home building in 1929, and with financing conditions and consumer demand both favorable, as they are now, it is reasonable to expect a very much larger home building program for 1930.

The AMERICAN BUILDER forecasts 1930 home building at \$4,300,000,000, an increase of \$600,000,000 over 1929.

Non-residential building has made a strong record in 1929, with a total of \$2,800,000,000, which is just about normal. So there it not the same opportunity for expansion in 1930 in the non-residential classification.

The AMERICAN BUILDER forecasts the 1930 non-residential building at \$2,800,000,000, which is practically the same as last year.

The forecast figures for the principal divisions of the non-residential group are—commercial buildings, \$950,000,000; industrial buildings, \$700,000,-

000; educational buildings, \$450,000,000; hospitals and institutions, \$200,000,000; public buildings, \$180,000,000; religious and memorial buildings, \$120,000,000; and social and recreational buildings, \$200,000,000.

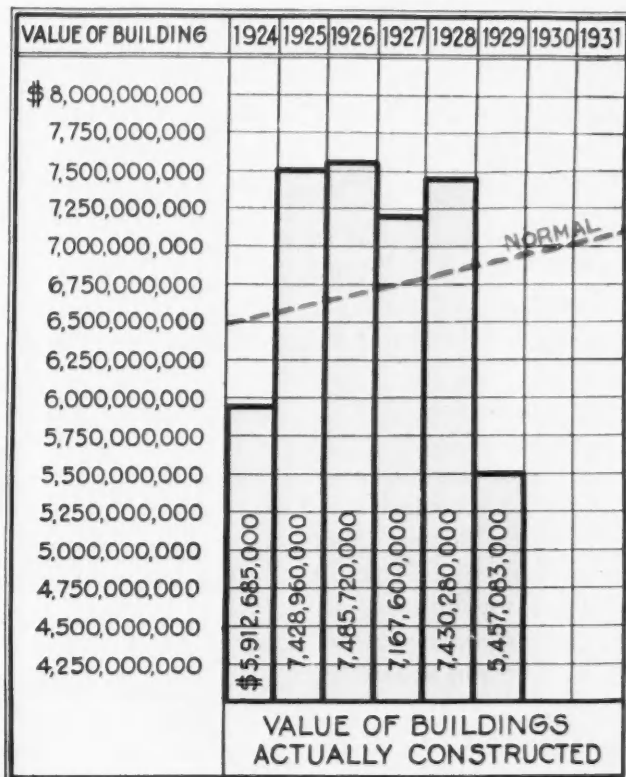
"Normal" Home Building Much Larger than Generally Realized

The statistical and reporting bureaus of the building industry have, in general, been slow to recognize the true size of the total home building market in the United States. The AMERICAN BUILDER, in its statistical work, includes both reported and unreported building operations, so as to cover truly the entire country, including cities, towns and rural.

Recognizing the need of the building industry for accurate information as to what constitutes a "normal building year"; the AMERICAN BUILDER has prepared the accompanying chart, covering a five year period of actual construction.

To arrive at the "normal" line, shown on the chart, it has been necessary to consider many factors. Hence the following explanation of how our conclusions were reached is of interest.

Building necessarily follows population. Buildings are not needed where there are no people. Our population increases by births and immigration. Population in the United States, as a whole, has constantly increased. The latest census taken in 1920 gave the population



Actual Building Compared with Normal Demand.

(Public works and utilities not included.)

as 105,710,620. An estimate of the population as of July 1, 1928, made by the Bureau of Census, gave it as 120,013,000; an increase of 14,302,380 in eight and a half years, or an annual increase of 1,682,683 persons. According to government averages, 4.3 persons constitute a family, which means an annual increase of 391,310 families; and that many new homes or apartments will, on the average, be required to take care of this natural increase in population.

In addition to homes, we also require other buildings to take care of the various needs of these 391,310 families. We can visualize the building needs of this yearly increase of population by comparing it with the state of Connecticut, the estimated population of which in 1927 was the same as the entire country's annual increase. Consider the construction in one year of all the buildings in the cities, towns and rural sections of this state and you have a good picture of what must be built each year in the United States to take care of the annual increase in population.

Annual Replacement Need Huge

Every year a great many buildings are burned or otherwise destroyed, or discarded as obsolete. To estimate the extent of this *replacement* market, we will use government figures.

The United States Department of Labor Survey (published in the November issue of the Labor Review) is based on data secured from a survey of over 142,000 housing units built in 1929, and discloses the following information regarding the residential building market:

Average cost—Single Family Dwellings, \$4,902; Average cost (per single unit) Duplexes, \$4,005; Average cost (per single unit), Multifamily Apartments, \$4,454; Average cost per unit (all types) \$4,546. Total Population U. S. A., 1929 (approximate) 120,000,000. Total number families (Census Bureau figures 4.3 persons as average family) 27,906,976. *Replacement cost of all present dwellings*, \$126,865,112,896.

This final figure is arrived at by multiplying the total number of families in the United States (27,906,976) by the average present cost per housing unit (\$4,546). Allowing 2 per cent per year depreciation—a most conservative figure—for losses from fire, flood, tornado, etc; for obsolescence and fluctuating population requirements; and for advances in standards of living; the annual *normal* residential *replacement* market for the housing of present population amounts to \$2,537,302,257.

New housing for the 391,310 families, annual increase, at \$4,546 each, amounts to \$1,778,895,260.

The total *normal* yearly requirements for home building to take care of depreciation and replacement of existing residential structures and to pro-

vide new housing for the annual increase in population is therefore \$4,316,197,517.

The AMERICAN BUILDER believes that 1930 will see a strong revival in home building and home modernizing that will carry the total for the year well up toward this normal mark, a gain of at least \$600,000,000 over 1929.



What Are YOU Doing About It?

HAVE you tried to garner in a dollar's worth of business by selling the idea that more construction at this time will help absorb unemployment and in other ways to keep up business activity so there will be no bad business slump?

Last month in these columns we tried our best to lay before you the idea of the big opportunity and the big duty which lies with the construction industry to keep up activity.

We tried to get you to rally to the standard of President Herbert Hoover, and we printed right in the center of the page his declaration, "Build Now and Aid Industry."

Everyone knows of the conferences and the publicity which have been occasioned by the President in his effort to ward off possible ill effects which might ensue from the severe stock market liquidation. He has voiced the thought that if America keeps to hard work, therein lies our industrial salvation.

Of course conferences by the roomful and publicity by the mile will not ward off anything unless action follows. There must be a followup to anything no matter how worth while. So, sitting here one month after doing our part the best we could to apprise the builders and others in the construction industry of the timeliness and the possible profit in action, we have become filled to the crown with an intense wondering what YOU are doing about it.

To make this matter concrete, let us suppose that the President of the United States has sent for you and that you are now sitting in his office.

"Mr. Builder," says the President, "you are from Builderstown, I believe, and you have a modest contracting business there."

"Yes, Mr. President, that is true except that my modest business has been pretty slack during the past twelve months."

"Mr. Builder, you are aware that this great United States may pass into a state of acute business depression if we allow the improper state of mind to get in control and if we do not immediately swing into all the constructive activity we can to absorb unemployment and to nurture business in general. You are aware that important conferences have been called. Leaders of industry have come here and discussed this thing and it has been universally agreed that a program of activity well laid will do much

to prevent or to vitiate the effects of a business doldrums."

"Yes, Mr. President, and I am absolutely with you on this program."

"That is fine, Mr. Builder. What have you done specifically?"

"Why-er-er, why Mr. President, while I believe fully in this, I really have done nothing, but I certainly am in accord. The fact is, Mr. President, I am too small to do anything direct. I'm not a leader. I'm willing, —"

"You really have not done anything?"

"No, Mr. President."

We trust this did not fit you—but perchance it did. It might have because the thought is often in many men's minds, that only big business can start anything—that only the big leaders can do things.

One man of modest influence points the way. In his town the publicity stirred the City Council into voting to do such public work as could be done. At least this grave body argued the point and came

to the conclusion that the engineer should get more busy than usual.

The Public Utility Company doubtless planned on doing something fine—we will assume they did.

But our friend, a small mason contractor, is the man we are talking about now. He nosed around and discovered that the gas company had an old dilapidated brick structure which might be revamped into a serviceable garage. He went to the officials and told them that one practical way for them to help out the Hoover program would be to let him show them a figure on which he could rebuild this building.

The pleasant part of this is that he actually did get the job. He did his one bit to foster construction activity NOW—not next year but right now.

No other man can build your business as you can. No other man can perform your part in a national campaign to promote construction activity.

Now is a good time for anyone to have needed construction work done. Prices right, conditions are right. "And now, Mr. President, I am glad to tell you that I have—"

Constructive Plans Made

*National Business Survey Conference at Washington
Stresses Importance of Building Activity*

OPTIMISTIC reports as to the business situation and outlook for next year and reassuring statements as to the inherent economic soundness of the country's business were voiced by most of the speakers at the National Business Survey Conference at Washington on December 5, called by the Chamber of Commerce of the United States at the suggestion of President Hoover. The purpose of the conference was to set in motion a survey looking to the stabilization of business and the maintenance of the national economic momentum and to this end the chairman, Julius H. Barnes, chairman of the board of the National Chamber, was authorized to appoint an executive committee to obtain and collate more detailed reports than those presented at the meeting and to devise measures to eradicate whatever weaknesses in the national economic structure they might reveal.

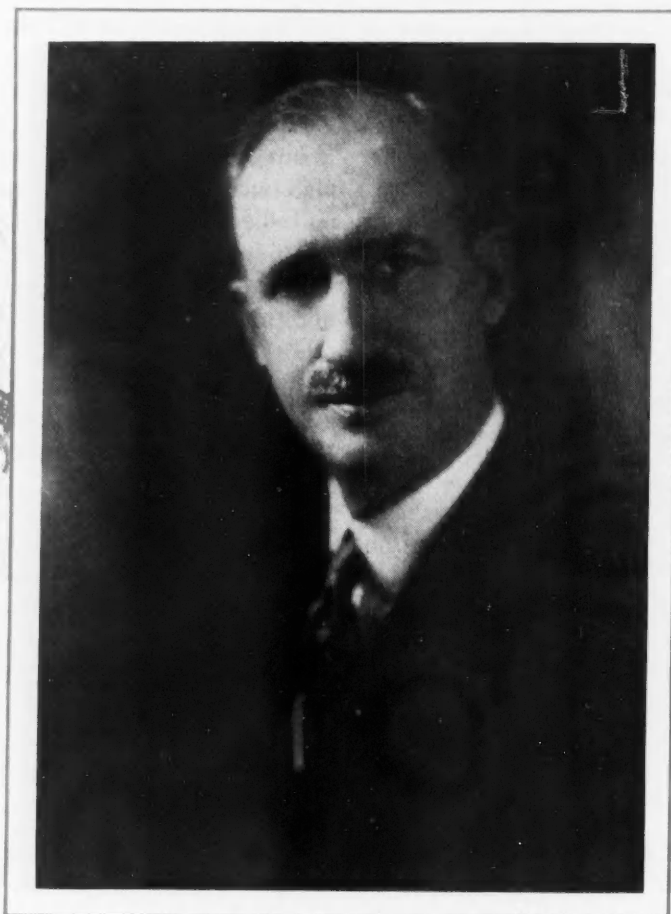
Nearly four hundred business executives, representing almost every branch of industry, trade and transportation, attended the conference and reports outlining the conditions in their respective groups were presented by thirty-two spokesmen, among whom were various representatives of the different construction industries. These and others emphasized the favorable opportunity for an expansion of construction activity presented by the reduction in interest rates and the release of funds which had been drawn into speculative activities.

In the main the statements confirmed the earlier impressions given at the series of conferences held at the White House that business is proceeding for the most part in an orderly way and that there is nothing to fear beyond possibly some temporary recession in activity as a result of the stock market break.

President Hoover explained the purpose of the conference in his opening address when he said: "The greatest tool which our economic system affords for the establishment of stability is the construction and maintenance work, the improvements and betterments, and general clean-up of plants in preparation for cheaper production and the increased demand of the future. It has long been agreed by both business men and economists that this great field of expenditure could, by its acceleration in time of need, be made into a great balance wheel of stability. In the inevitable periods when the demand for consumable goods increases and labor is fully employed, the construction and maintenance can slacken and we actually again gain in stability. . . . Much construction work has been postponed during the past few months by reason of the shortage of mortgage money due to the diversion of capital to speculative purposes, which should soon be released."

Secretary of Commerce R. P. Lamont said: "It has been obvious for some time that all was not well in our economic structure. The outstanding difficulty, of course, was the excessive amount of available credit absorbed for speculative purposes. While we had observed for some time a month to month falling off in house building, it was hardly realized that the decline was at the rate of a billion dollars for the year less than the average for the several years past. With the country generally prosperous and dazzled by the unusual activity in some industries, we did not sufficiently note the slack condition of others. Under present conditions, there is no more wisdom in unnecessarily curtailing buy-

(Continued to page 134)



Myers Y. Cooper, Builder and Governor

EVER since his inauguration last January as governor of the state of Ohio, the fame of Myers Y. Cooper as a statesman as well as the builder of more than 2,100 homes has been spreading beyond the confines of his native state.

Considering the great importance of the building industry, which adds, each year, billions of dollars to the national wealth and gives employment to millions of men, it is only natural that it should produce executives of great constructive genius, well fitted to take responsible positions in public life.

A man of intense human understanding and kindness, Mr. Cooper "cast his bread upon the waters" many years ago when he made it easy for people of moderate means to own their own homes. If he did not actually originate the easy payment plan, at least he was the first to apply it on a large scale and there are literally thousands of families in Cincinnati today who regard him as both friend and benefactor on account of the liberal treatment received in their business dealings with him. This is shown by the fact that, with a record of over 2,100 homes built and sold, there has not been a single foreclosure.

Mr. Cooper's great popularity was revealed by the results of the primary in August, 1926, when he first received the Republican nomination for governor and the wonderful showing made in the election which

followed. He was not, and had never been, a politician but, nevertheless, polled 685,987 votes and only lost this first election by a narrow margin. In 1928, however, he was voted into the governor's chair by a handsome majority.

It was in the development of the Hyde Park section of Cincinnati that Mr. Cooper became active in the building business and, in this section, alone, he is said to have built over 2,000 homes. Many of the foremen, superintendents, carpenters, masons and other craftsmen who captained his construction gangs during these days are now successful sub-contractors executing work for the Myers Y. Cooper Company under the present plan of operations. The method of operation now is to maintain only a few construction gangs—carpenters, brickmasons, plasterers, etc.—subletting the greater part of the work to former employes.

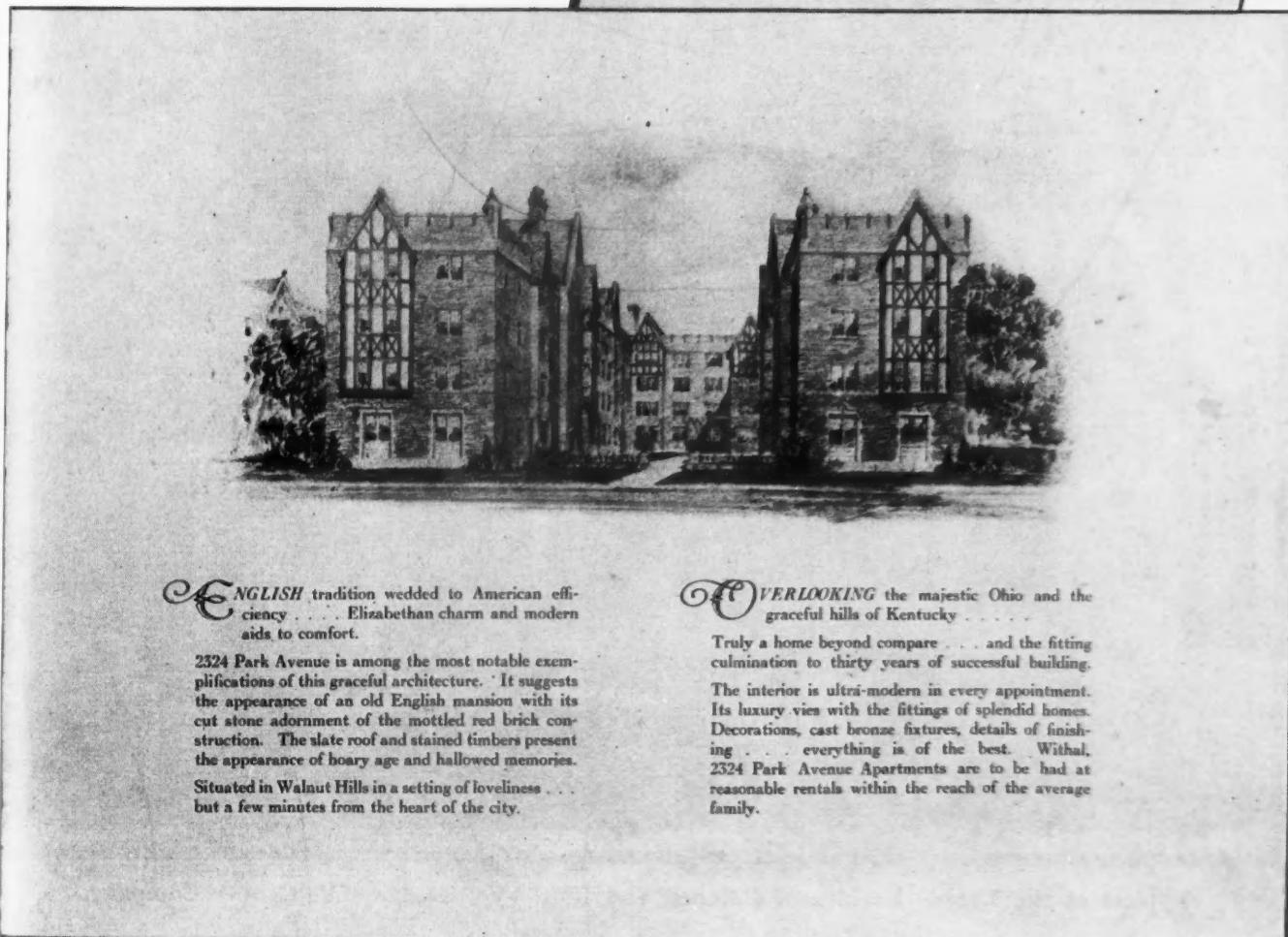
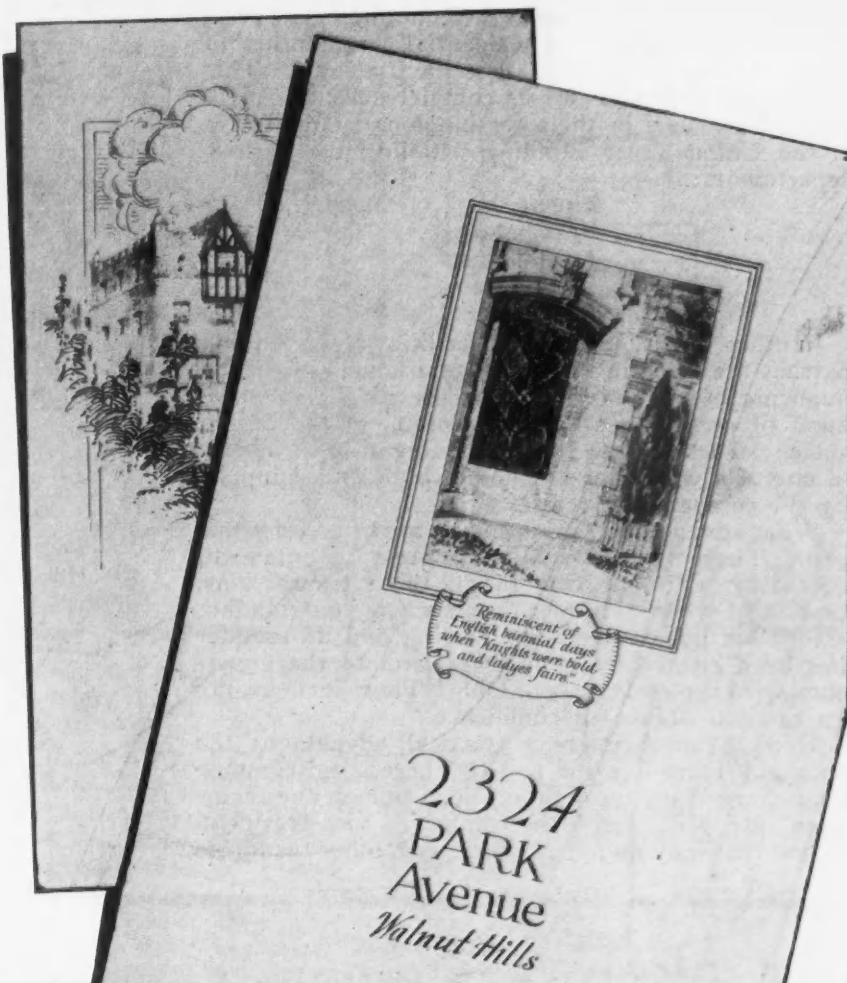
Two years ago, the business was reorganized under the firm name of the Myers Y. Cooper Company, under the active management of Raymond K. Cooper, the governor's son, as president, and Mills Judy, vice-president. A large suite of offices is maintained in the Union Trust Building, Cincinnati, and the company continues the active building program which has been its outstanding policy, building both for resale and on contract high class single dwellings

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and apartment buildings. One of these latter, recently completed, is known as 2558 Madison Road, an elevator apartment building containing 24 suites varying in size from three to six rooms each. It is of Tudor architecture, combined with Gothic and Elizabethan, built of mottled brick with slate roof and cut stone decoration. A feature of the building is the complete garage accommodation in the basement, with automatic electric elevator connection to the foyer and the apartments above. Beautifully decorated studio living rooms make the fourth floor apartments especially attractive. The building is in the Hyde Park section directly across from Madison Park. The equipment includes electric refrigeration, built-in incinerators, gas ranges, kitchen cabinets and electric ventilators.

The story of any outstanding business success has intense interest; in addition, the experience of the Myers Y. Cooper Company, of Cincinnati, contains many instructive lessons for builders and developers everywhere. For their success has its roots deep

Examples of the Sales Literature Put Out By the Myers Y. Cooper Company.



ENGLISH tradition wedded to American efficiency . . . Elizabethan charm and modern aids to comfort.

2324 Park Avenue is among the most notable exemplifications of this graceful architecture. It suggests the appearance of an old English mansion with its cut stone adornment of the mottled red brick construction. The slate roof and stained timbers present the appearance of hoary age and hallowed memories. Situated in Walnut Hills in a setting of loveliness . . . but a few minutes from the heart of the city.

OVERLOOKING the majestic Ohio and the graceful hills of Kentucky . . .

Truly a home beyond compare . . . and the fitting culmination to thirty years of successful building. The interior is ultra-modern in every appointment. Its luxury vies with the fittings of splendid homes. Decorations, cast bronze fixtures, details of finishing . . . everything is of the best. Withal, 2324 Park Avenue Apartments are to be had at reasonable rentals within the reach of the average family.

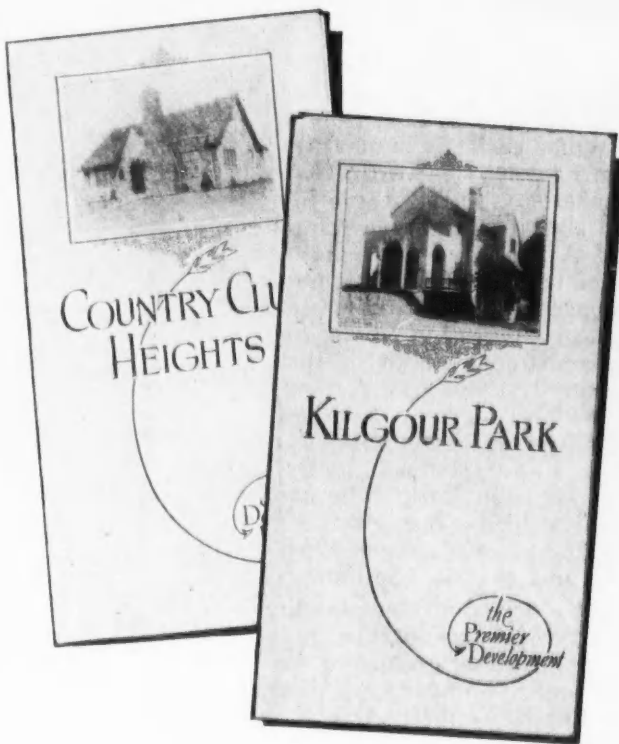
in a service of great value to the community—service which is building up fine residential communities in the most beautiful sections of scenic Cincinnati. This service is conspicuous for its completeness, as shown by a sign placed in their commodious headquarters in the Union Trust Building detailing the various departments:

Finance
Real Estate
Architecture
Building
Insurance

In other words, exceptional facilities are given and patrons are aided in the choice of a home site, in the financing of building loans and the parallel requirement of proper insurance protection, in the design and construction of the home building or in the choice of one of a wide range of homes built and equipped by the company for resale.

What advantages, you may ask, are offered by this plan? They are many. What a great advantage to deal only with one firm in all these transactions, especially when this firm has such an outstanding record for honesty and fair dealing and its founder has been elected by popular acclaim to the governorship of the great state of Ohio! These facts inspire an unusual degree of confidence.

Here is another great practical advantage: the company takes but one profit. There is no commission charged for the building loan nor on the insurance. Mr. Mills Judy, the company's vice-president, stated that they do not compete with other insurance



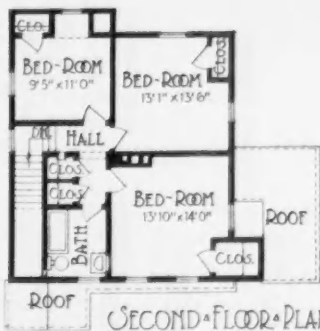
Booklets Announcing a New Home Development.



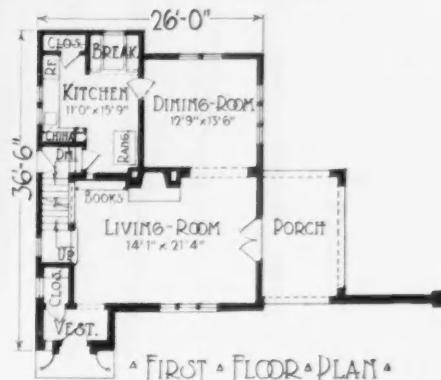
Typical of the Larger Residences Planned and Built by the Myers Y. Cooper Company.



Typical of the Smaller Homes Planned and Built by the Myers Y. Cooper Company.



SECOND FLOOR PLAN



FIRST FLOOR PLAN

agents for outside business, confining themselves entirely to insurance on their own buildings.

Another advantage is in the complete architectural service and supervision secured. Mr. Ward Franklin, an architect of outstanding merit, is the head of the company's architectural department and has a number of draftsmen working under him. He has produced a large number of unusually fine designs. He designs both the homes built for resale and those

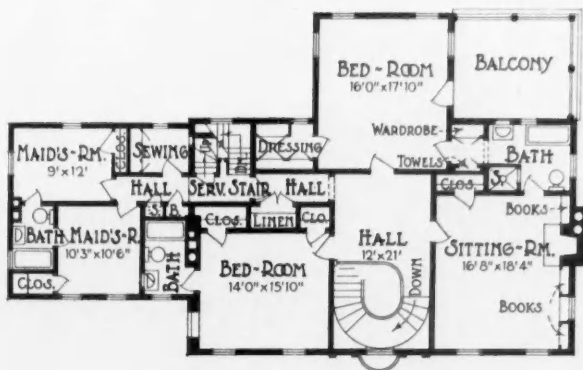
built on contract. The plans are developed after many consultations with the owner, so as to be sure that they fit his individual requirements. And construction proceeds under the personal supervision of the architect at every stage.

In the sale of their homes, the Cooper Company have been consistent and clever advertisers, using attractive printed matter such as the folders illustrated, also signs, newspaper advertising and direct mail. Their best advertisement, however, consists in the great number of fine, modern homes they have built and are building on splendidly located and developed sites. As one drives around Walnut Hills, Country Club Heights and Kilgour Park, the cumulative effect of this company's work is quite impressive and each new Cooper company house strengthens the impression of high class development and building.

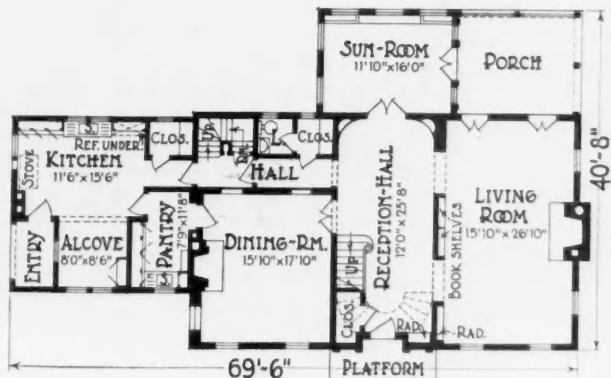
Mr. Raymond K. Cooper, the governor's son, now in charge of all the company's activities, supplements the wise and established policies of the past with the modern outlook of the coming generation. He has taken a particular interest in the promotion, financing and construction of a number of large, fine apartment buildings. For instance, the apartment building known as 2324 Park Avenue, now building in Walnut Hills, is valued at about \$750,000, contains about 40 apartment suites and is ultra-modern in design, finish and equipment.

The method of finance is interesting. Although not co-operative in any sense, the second mortgage cost has been covered by sales of stock to local investors. The security is excellent, the rental returns remunerative and backed by a company of unusually high standing and financial responsibility, so that stock has sold quite readily to Cincinnati investors.

The company's construction program, Mr. Raymond Cooper stated, has run from 50 to 75 new single dwellings each year, in addition to apartment buildings. As to the immediate future for the building industry in Cincinnati, Mr. Cooper, like a number of other men prominent in Cincinnati building circles, is optimistic.

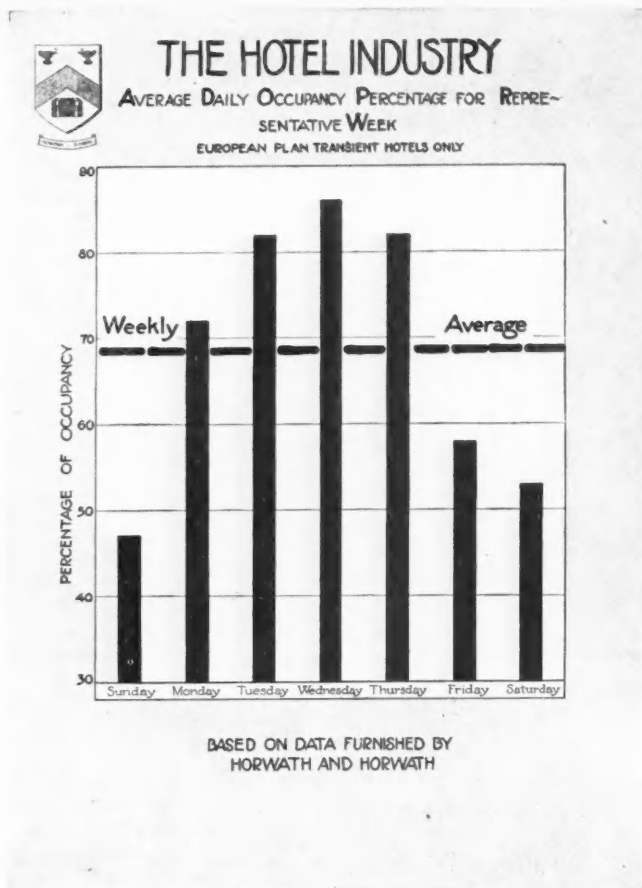


SECOND FLOOR PLAN



FIRST FLOOR PLAN

Arrangement of the Large Colonial Home Pictured Opposite.



In estimating the average occupancy percentage for the proposed new hotel, inexperienced persons frequently overlook the fact that as a rule the hotel is a four-day business.

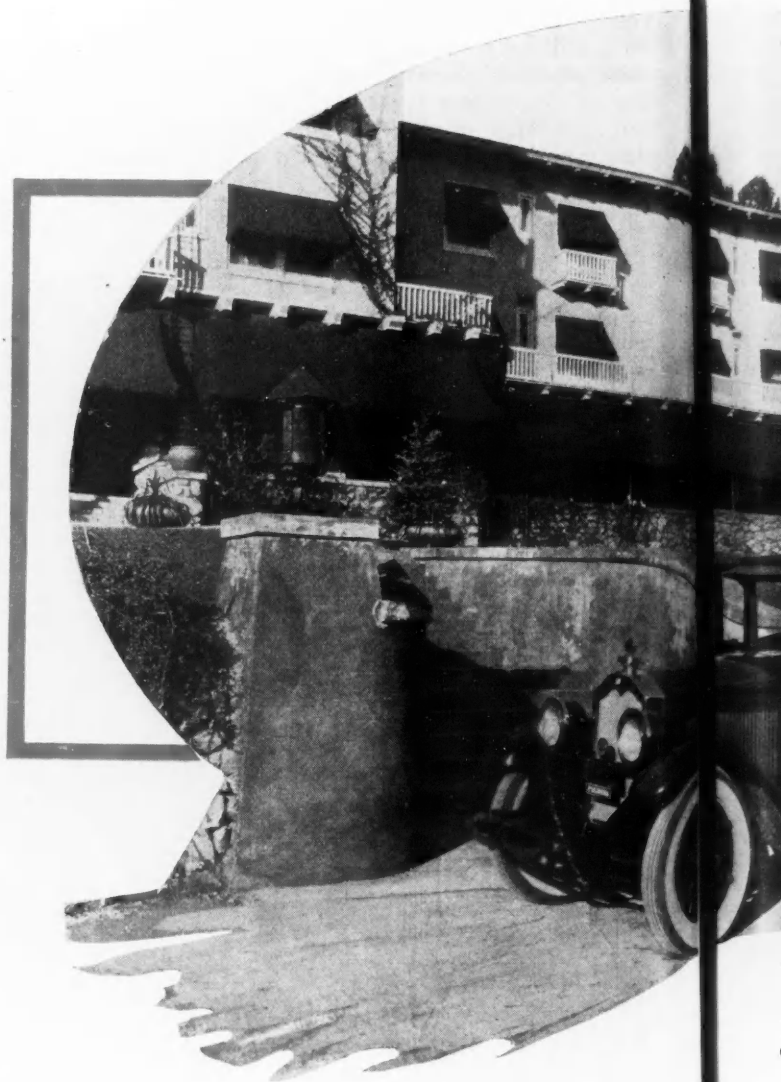
THE modern hotel building is so radically different from the hotel of even ten years ago that perhaps it will not be amiss to point out some of the more important physical aspects of today's hotels. One of the most prominent hotel architectural and building firms in the country—The H. L. Stevens Company—has, for some time now, been hammering home the slogan "The Hotel Is a Business—Not a Building." This phrase adequately describes the modern hotel proprietor's problem—which is primarily that of making his plant show a net profit rather than providing merely a beautiful and comfortable structure. He must, of course, have the latter in order to effect the former end, but he and his architect must also think out and plan hundreds of additional space-saving and profit-producing details—and his builder must carry them out for him—before he can be assured of having a profitable building.

In reality, the modern hotel man is a manufacturer, retailer, banker, engineer, maintenance expert, food expert, decorator, wholesale housekeeper and accountant combined in one.

He is a manufacturer and a food expert, in the sense that he must supervise the preparation of raw food materials, and the service both of the foods cooked in his kitchens and of ready prepared foods, in his dining rooms. This means that he must provide modern and efficiently operated food store rooms, refrigerators and kitchens. In the food service end of his business he must not only organize a competent staff of waiters, but he must also plan

The Modern Hotel's Construction Problems

By JAMES S. WARREN
 Editor "Hotel Management"



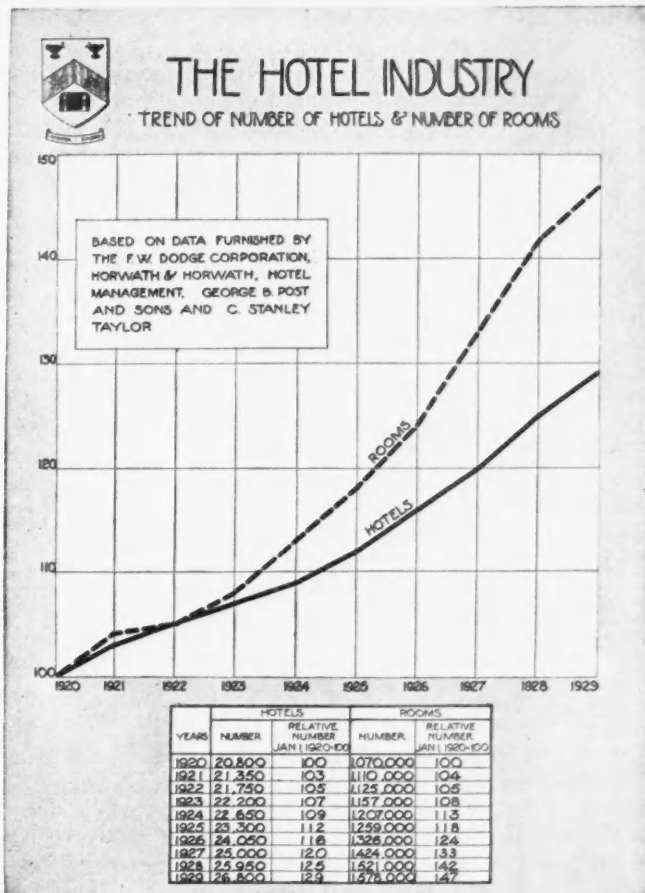
For the first time since 1925 the rate of increase in the building of new hotel rooms has not been as rapid as it was during the preceding year. It remains to be seen whether or not this decrease in the rate of building indicates a new trend.

his dining rooms in such a way that there will be the minimum of waste space and the maximum of convenient access to the tables and counters both for guests and waiters.

With the passage of the Eighteenth Amendment and the Volstead Act, many hotel men introduced quick service restaurants of various types in the quarters formerly occupied by their bars. This meant that new standards of food preparation and service had to be developed and applied. The planning and construction requirements of hotel coffee shops and soda fountains—which are the most popular types of quick-service restaurants in hotels today—are entirely different from those of the older and better known formal dining rooms.

The hotel man is a retailer in the sense that he sells both food and lodgings to the public, and, in the matter of lodgings particularly, the last ten years have witnessed sweeping changes. Most hotels must now provide either a bath or a shower with every guest room, if they are to keep pace with the new competition.

Many of the older hotel men have found that the introduction of baths is not as serious a problem as it might appear to be on the surface, because their buildings offer considerably larger guest



An Up-to-Date Resort Hotel Which Also Caters to Tourists.

Every recreational and athletic facility is provided—swimming pool, baths, tennis, golf, horseback riding, etc. **Arrowhead Hot Springs Resort, Arrowhead Springs, Cal.**

rooms than the traveling public demands today. Ingenious methods have been developed by competent architects and builders whereby baths have been introduced into these large rooms in such a way as to improve their appearance and provide the added service as well, with the result that they could be sold for higher prices than formerly in spite of the fact that their areas have been reduced.

The hotel man is a banker because a large percentage of his guests demand check-cashing privileges. This means that credit files must be maintained in the front office and a large supply of cash kept on hand at all times. There is no important structural problem here, but, nevertheless, it is indicative of the many-sided business problem that confronts the hotel man of today.

As an engineer, the modern hotel executive must be conversant with the problems of power generation and transmission, and here the experienced builder and engineer can assist him greatly. Hotel architects are frequently less conversant with this phase of the hotel man's problem than they should be, and in the smaller hotel particularly the construction budget seldom provides for the employment of a consulting engineer. Such modern problems as air humidifying, the use of oil or gas for heat rather than coal, and the employment of electricity for cooking, must be continually met.

The well rounded hotel man must be a maintenance expert in that he has found it possible to save himself thousands of dollars annually through the preservation and upkeep of his furniture and equipment himself rather than sending it out. This means that space should be provided within the hotel plant for machine, carpentry and upholstery shops—usually in the basement or on the roof—and here again hotel builders have opportunities to make constructive sug-

gestions as to the location of these quarters, which architects are prone to overlook.

In the same sense that a hotel man should understand maintenance problems, he should also be a decorator and, frequently, if he will heed the advice of the builder with good taste, he will find that he can save himself considerable expense in connection with the finishing and refinishing of floors, walls and ceilings, as well as in other respects.

Wholesale housekeeping adequately describes one of the hotel man's major problems—namely, that of providing his guests with clean and well-kept rooms, clean bed and table linen, well-laundered clothes (as well as flat work) and neatly pressed suits and dresses. The majority of modern hotels now provide their own laundries—for flat work, at any rate, and frequently for guest work as well. The laundry presents an engineering problem as well as one of housekeeping, and the well-informed builder can render valuable advice on the former aspect. Pressing and cleaning space is also provided in many of the new hotel buildings, and here again the building contractor's experience should prove of value.

The Menace of Over-Construction

Ten years ago hotel men as a group emerged from the tavernkeeper class into that of modern business men. The prohibition law, doing away with the hotel bar, was primarily responsible for this, for heretofore many hostelries had depended on their bars as their chief source of revenue. With the coming of prohibition hotel men awoke to the fact that they would have to make the major items they had for sale—their rooms and food—show a profit if they were to continue to exist.

They attacked their problems in a broad and constructive way and it was not long before, under the sponsorship of the American Hotel Association, educational courses in hotel operation—both of college grade and below college grade—had been started, and before a new and progressive spirit of businesslike administration and operating standards infused itself throughout the entire field. Not long after prohibition's enactment—which many had considered a death-dealing blow—the hotel business emerged with flying colors. Hotel profits began to mount, and as a result a far more serious problem than prohibition presented confronted the business—the problem of over-construction.

Economists are generally agreed that the period from 1920 through 1927, witnessed a transition from what they call a "seller's market" to a "buyer's market." In other words, the production of goods and service overtook their consumption during this era, with the result that thousands of manufacturers and others found themselves with an over-supply on hand.

This is just what happened in the hotel business, but the big difference between the over-supply of hotel rooms on the one hand, and an over-supply of soap, for example, is that the former can in no way be disposed of, whereas the latter can either be reduced in price and sold for something or stocked for later sale. Furthermore, the soap manufacturer can curb his future production until his present supply is disposed of, but once a hotel room is built it is there to stay for many years. A hotel room is the most perishable of all commodities. Every night it is not sold it represents an irretrievable loss, for that night will never return.

This over-production in the hotel business had

become so serious by 1928 that hotel men as a group, and the editors of hotel publications, were all discussing ways and means of combatting it. It was finally agreed that an unbiased educational organization should be asked to survey the situation and make whatever recommendations seemed to them to be pertinent after their investigation.

The Engineering-Economics Foundation of Boston, Mass., a post-graduate college for business executives, was retained for this purpose, because of its splendid reputation and lack of any hotel affiliations whatsoever. Their survey took a year's time and the two charts accompanying this article (pages 66 and 67), which were prepared by the Foundation, indicate some of their findings.

Prior to this investigation total trend statistics such as these charts give had been entirely lacking, because of the fact that the Federal Government has never seen fit to identify hotels separately in their statistical compilations for business. This survey also showed that the average annual occupancy percentage in transient European plan hotels had dropped from 85.5% in 1920 to 67.6% in 1928. This decrease, furthermore, had been a uniform one, with the exception of two minor increases in 1923 and 1926.

When it is realized that the typical transient European plan hotel must average approximately 74% occupancy if it is to show a 6% return on its



investment (another fact ascertained by the Foundation) it will be readily appreciated that the situation was serious indeed. This whole problem is best summed up in the following letter from Dr. Hollis Godfrey, President of the Engineering-Economics Foundation, to the writer:

"My dear Mr. Warren:

"Now that the Foundation's study of supply and demand in hotel rooms has been brought to a conclusion, and that the facts this study brought to light have been transmitted to the interested groups, I feel confident that the Foundation's staff will be entirely safe in emphasizing our original tentative recommendations with regard to the serious economic status of this business, wherever, in the course of our contacts with other business fields, we feel that they may prove of value. You will recall that these were as follows:

"First—That city hotel associations whose members are threatened with the over-construction menace conduct a survey similar to the one recently carried out by the Hotel Association of New York City.

"Second—That before any new hotel is financed a detailed and unbiased survey be made by qualified and experienced hotel experts and accountants, and that prospective investors be urged to request all such information as this and to consult with their bankers

regarding the investment.

"Third—That hotel and allied interests insist upon a stricter enforcement than is at present exercised over the laws regarding the issuance and sale of real estate bonds, to the end that inflated appraisals and speculative securities will be eliminated from hotel financing."

"You have permission to broadcast these recommendations, as coming from the Foundation, as you see fit, for with the wealth of factual evidence now before us, and the wealth of practical hotel experience which Mr. Hamilton has presented as his contribution to the survey, it is entirely obvious that the hotel business is badly over-produced and over-financed.

"Very truly yours,
"(Signed) Hollis Godfrey,

"President, Engineering-Economics Foundation."

Since the publication of the Foundation findings, however, there can be no question but that the hotel business as a whole has become better stabilized and that it is improving gradually and steadily. For example, Horwath and Horwath, leading hotel accountants, report that for the past six months the aggregate business of their hundreds of hotel clients in all parts of the country is from 1% to 4% better this year than it was for the corresponding months of 1928, whereas in 1928 the same six months showed a 2% to an 8% drop under the corresponding months of 1927.

Builders should be vitally interested in these fundamental facts regarding the hotel business, for two good reasons. In the first place, no matter how well a hotel is built, if it fails to show a profit after the first—and sometimes the second—year in which it is in operation, the reputation of its builder will be hurt.

In the second place—and particularly in connection with community hotel developments—the builder is frequently asked to take stock as part or all of his fee, and here, of course, he is directly interested in the hotel's success.

This survey showed that there were many parts of the country—particularly in the medium sized cities—in which there seemed to be real opportunities for new apartment hotels. The "apartment hotel idea" is apparently spreading very rapidly from the larger cities where it originated, into medium sized communities.

The years just ahead will unquestionably also bring to light some unique opportunities for the building of new airport hotels. Some 2,000 airports are now either in operation or in process of completion throughout the United States, and many of these will be sufficiently far from their civic centers so that hotel enterprises of the right sizes and types will prove sound investments. It should be kept in mind, however, that many of the existing hotels are now laying well-grounded plans to attract this new type of patronage, and carefully-made surveys of the existing nearby hotel facilities should be made in each case before new airport hotels are undertaken.

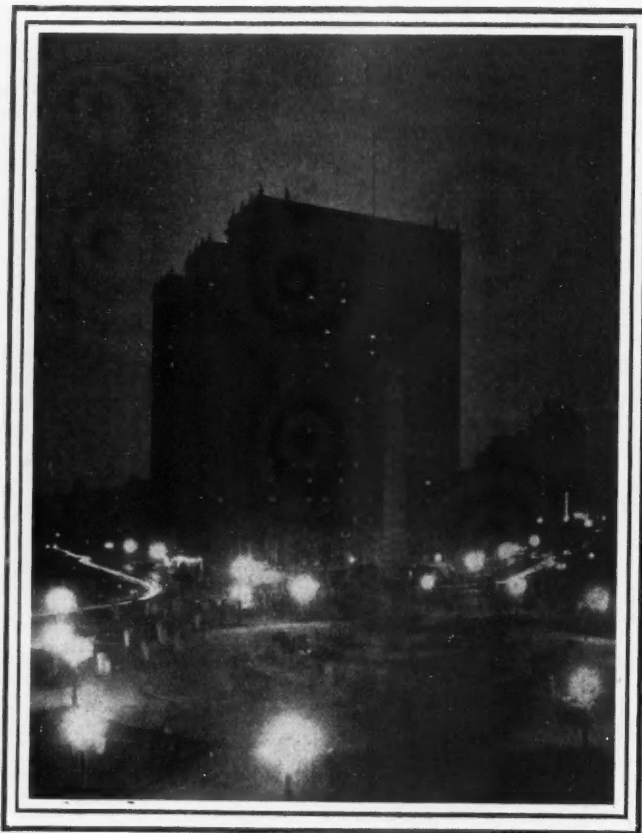
Finally, I would like to stress the fact that, in my

The Beauty to Be Found in Many of the Older Hotels That Have Kept Up with the Times Is Well Exemplified in This Perfectly Appointed Lounge in the Persian Hotel, Samarkand, Santa Barbara, California.





A Typical Modern Transient Hotel, Depending Primarily on Commercial Travelers and Pleasure Tourists for Its Business. Omdorff Hotel, El Paso, Texas.



A Modern Transient Hotel in a Large City, New Hotel Statler, Buffalo. McKinley monument in foreground.

opinion, the greatest opportunity for progressive builders in the hotel field today rests with the remodeling of existing structures. Hotel operators have discovered that the best way to stave off competition from further ill-advised new hotels is to bring their plants up to date, and literally thousands of modernization programs—some elaborate and some small—are now being contemplated. It is considerably easier to finance undertakings of this character than it is to raise funds for new hotel construction, and from the builder's standpoint these remodeling and modernizing operations constitute a real challenge to his ingenuity.

If the readers of this article will go through their local hotels, the prediction is made that they will find many places where remodeling would pay, and pay handsomely. In bringing these matters to the hotel proprietors' attention they would be performing not only for their local hotel men a very genuine service, but also for the traveling public—and they would be playing an important part toward the further stabilization of America's ninth greatest business.



More Homes Needed, Post Office Survey Shows

CHICAGO is underbuilt, according to a survey just completed by Postmaster Arthur C. Lueder. Instead of the normal 10 per cent vacancies in rentable space, the government survey finds that the city has only a 4.7 per cent residential and store area not rented.

And, according to Albert W. Swayne, president of the Chicago Real Estate board, a normal and healthy construction program is scheduled to start shortly.

"A 4.7 per cent vacancy figure is considered a low one by real estate, building, and financial authorities," said Mr. Swayne. "This occupancy factor, with Chicago's increase in population, has brought the Chicago rental market back to a point of stability."

Throughout the country as a whole, the family home and the business property have at present a healthy ratio of supply and demand, according to the semi-annual survey of the real estate market made by the National Association of Real Estate Boards.

This conclusion, which was reached by definite figures sent after a careful survey of each community reporting, may run somewhat counter to a general existing impression—that the country is overbuilt.

In single family dwellings 62 percent of the 411 cities supplying data for the survey showed a normal ratio of supply and demand, 19 per cent reported overbuilding in family homes and 19 per cent reported a shortage in this type of property. Business properties showed normalcy as to supply and demand.

MODERN RESTAURANTS

A Valuable Contribution to This Series Will Be Made by J. O. Dahl in the February "American Builder." His subject is "Designing and Building the Modern Restaurant."

The Town for the Motor Age

Boasts Exceptional Features

SCIENTIFIC town building along new and progressive lines has produced in Radburn, New Jersey, a development of homes, stores and apartments that is receiving international attention.

Barely more than a year ago, the City Housing Corporation, New York City, announced the beginning of work on a new town which had been so planned as to protect suburban life and suburban dwellers from motor traffic. It was to be known as the Town for the Motor Age.

The peculiar block plan which makes Radburn so unique has been followed meticulously in construction. On a big expanse of level ground near Paterson, New Jersey, there has arisen during the past year an amazing community which now welcomes the visitor into long, smooth streets of concrete, lined by gardens and parkways on which well designed homes have been scientifically placed to provide sunlight, view, and remoteness from motor traffic.

The best idea of just what the scheme of street layout is can be obtained from a study and comparison of the airplane photo and map which follow. First, note the broad motor highway through the center, then the narrow pedestrian walks running out from it into the park areas, and finally, observe the wider, dead-end motor lanes behind the

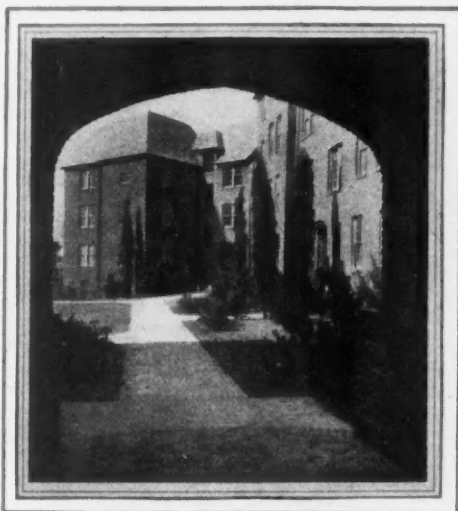
homes, leading in to garages. This is the fundamental block plan which will be followed in every section of Radburn. Each super block will be connected with another by means of underpasses for pedestrians beneath the motor highways (see upper end of highway on the map, page 73).

There are now completed 175 houses at Radburn, one large apartment, containing room for 92 families, and a Community House, with stores on the street level. This is the 1929 quota.

Houses sell from \$7,900 to \$18,000. A six room house with bath and garage sells for \$9,500, \$950 of which is down payment, with a monthly payment of \$75.99, that covers interest on mortgages, payment to reduce second mortgage, all taxes, water rates and fire insurance. A seven room house of brick costs \$14,200; the same house in wood is priced at \$12,800.

The price of every house includes: storm and sanitary sewers; concrete street paving; concrete walks, paths and driveways; complete grading and landscaping; municipal water system; complete park and playground system.

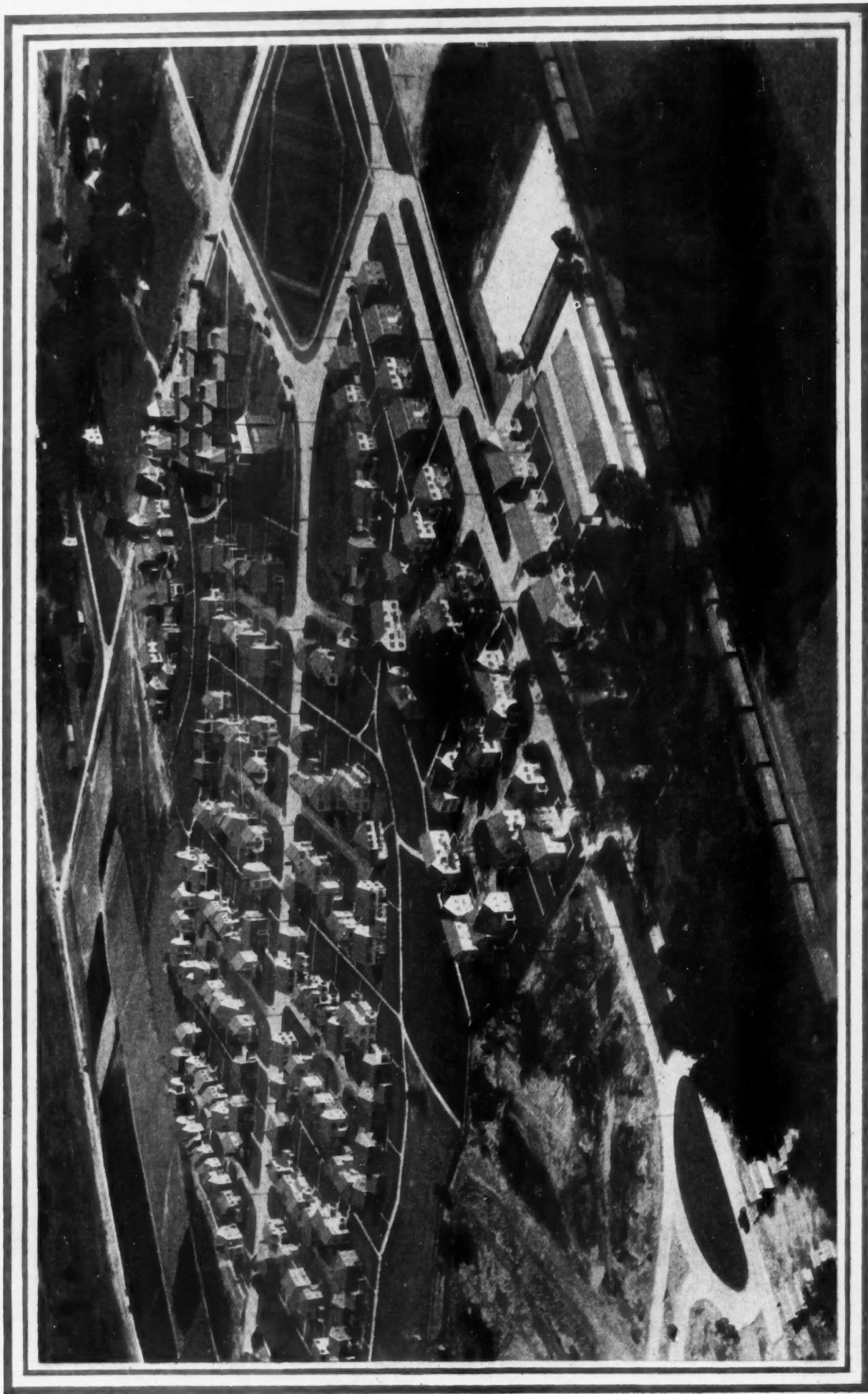
Nothing fancy nor highly ornamental is attempted in the inside finish of the houses. Metal door frames are used in practically all homes. Walls are left bare



Two to Five Room Suites Are Provided in the Abbott Court Apartments, Radburn.



Homes at Radburn, N. J., Show Pleasing Diversity Within a Unified, Architectural Harmony.



Airplane Photo of Radburn, N. J., as It Now Is. Compare these streets and areas with the map below (on the opposite page) and note how closely they agree.

and note now closely they agree.



-NOTE-
 THIS PLAN IS SUBJECT TO
 MODIFICATION EXCEPT AS TO
 USE AND MUST NOT BE TAKEN
 AS THE BASIS OF ANY CONTRACT

DIAGRAM OF SECTION 1
 AND VICINITY
RADBURN
 "THE TOWN FOR THE MOTOR AGE"
 CITY HOUSING CORPORATION
 A Limited Liability Company
 Organized to Build Better Homes and Communities
 BOROUGH OF FAIR LAWN, MIDDLESEX COUNTY, N. J.
 AUGUST 15, 1928



At Radburn the Short, Closed-end Street (Above) Provides Access to Rear Garages, Leaving the Beauty of the Garden Side (Upper Right)—Unmarred.



Homes Vary in Price from \$7,900 to \$18,000. All have the advantage of garden walks and beautifully landscaped surroundings free from motor peril and noise.

so that buyers may select their own wall decoration. Base plugs are placed about two feet above floor level to eliminate stooping.

Rooms are large and well lighted as a rule. Electric light fixtures are of unusually high quality and appearance. Quality ranges are found in the kitchens along with cabinets and linoleum. Bathrooms are well tiled and well fitted up.

In no house is construction of the slipshod variety. Inspection of finished houses seems to indicate a fair standard of workmanship throughout.

The City Housing Corporation is its own general contractor on all construction work. Sub-contracts

are given out to responsible builders on a bid basis.

The apartment house group is attractively designed in Norman-Tudor style with brick and slate as the materials. Two, three, four and five-room apartments are provided, comprising accommodations for 92 families. Interiors are of the usual prevailing standard of finish. Rents are about \$20 per room per month.

The feature of Radburn that strikes the visitor most is its exceptional "finish." This newly created town automatically displays its royal birth. The visitor knows instantly that he is in a well-planned city. The attractiveness and advantage of the park system and unique street layout are remarkable and the har-



The Unique Radburn Block Plan Provides Acres of Park in Every Block, Thus Assuring Abundant Sunlight and Pleasant Views.



Selling Residences on the "Cafeteria" Plan. So many prospects crowded out to inspect these homes in Radburn, New Jersey, that the developers had to adopt a new selling method.

mony of the architecture is everywhere apparent, though individual residences have, each one, a charming and variable diversity. All this creates an impression of smoothness and completeness rarely present in developments of this size during the early stages.

Another thing about Radburn is its location. This experiment has been tried in a locality which will undoubtedly benefit greatly following the opening of the new Hudson River Bridge, connecting upper New York City with the New Jersey side. There is no question about Radburn being "out in the country." As time goes on there will be the necessity of improving the train service on the Erie road which goes right past the town and connects it with New York.

At the present time 5% of the contemplated houses and 8% of the roads and streets have been completed. The remainder will be finished in a program embracing ten years' time.

Selling on the "cafeteria plan" is the way the City Housing Corporation designate their method of taking care of the crowds of prospects which visit their project every week end.

After their ordinary selling system cracked under the strain, it was found necessary to place a salesman in every house to answer questions and to close the sale with interested prospects. In the window of each residence is placed a small placard like the one

**8 ARLINGTON PL.
6 ROOMS, BATH AND GARAGE**

PRICE **\$ 9,500.**
 DOWN PAYMENT (10% of PRICE) **\$ 950.**
 ALL-IN-ONE MONTHLY PAYMENT **\$ 75.99**

Your monthly payment includes: Interest on mortgages, payment to reduce second mortgage, all taxes, water rates and fire insurance.

THE PRICE INCLUDES:

1. Storm and sanitary sewers.
2. Concrete street paving.
3. Concrete walks, paths, and driveways.
4. Complete grading and landscaping.
5. Municipal water system.
6. Complete park and playground system.

Our representatives do not solicit, but will be glad to give you further details or show you through this house.

CITY HOUSING CORPORATION

A Limited Dividend Company

reproduced herewith which gives visitors the essential information about the house. Other questions are answered by the salesman present.

This method effectively limits selling operations to those persons actually interested in buying and, at the same time, caters to their psychology.



JOHN M. ALEXANDER of Lincoln, Neb., Successful Developer and Builder, will tell us in the February **AMERICAN BUILDER** how he operates.



Money in Cement Products



WHENEVER a group of concrete products men get together and begin "talking shop", the chances are that before long their conversation is going to include George Saffert of New Ulm, Minnesota. It is not hard to understand why, for George Saffert is president of the Saffert Cement Construction Company, employs 40 men or more the year around, often runs his plant nights, has done nearly \$180,000 worth of business in one year and—but that's getting ahead of the story.

First of all, let it be understood that New Ulm is not a big city. More than that, it isn't even *near* a big city. It is simply a typical American town of less than 8,000 people in a region whose chief interest is farming. It lies about 80 miles southwest of Minneapolis in rather thinly settled country. In fact, the territory westward consists chiefly of "wide open spaces", and it is safe to say that no man of only ordinary vision and energy would think of establishing a concrete products plant in a town like New Ulm and hope to get anything but a modest volume of business from purely local demand.

But George Saffert is not a man of ordinary vision and energy, or this story could not have been written. The ten or fifteen mile radius that is the usual barrier for a building material merchant holds no limitations or terrors for him. Reasoning that an honest product, honestly and aggressively sold, can always find a profitable market, he has gradually extended his area from the immediate vicinity of New Ulm to include towns and cities 300 miles away! Think of that—a cement products man daring competition, daring freight rates, daring added selling and handling costs, in communities hundreds of miles away and actually selling his products there at a profit! Truly this must be a remarkable business and a remarkable man at its head. Let's turn back a few years and see how the business developed.

It was back in 1909 that Mr. Saffert started in business for himself, at an age when most young men are still content to put their feet three times a day under a table provisioned by their fathers. The town was Fairfax, Minnesota, and the business was general contracting, with the manufacture of concrete building products

George Saffert, of New Ulm, Minn., and His Cement Products Plant.



as a side line. Concrete units were new in that day and the machinery for their manufacture crude and inefficient compared with modern equipment and methods. Nevertheless, this side line business soon became interesting, and young Saffert was quick to sense its possibilities. A market began to open up in concrete specialties, and he added new equipment from time to time until almost before he knew it, he was devoting nearly his entire time to the manufacture and sale of concrete products instead of to contracting.

One of his first discoveries was that it was a mistake to think of concrete building units in terms of sub-grade construction only—that a much larger field lay in above-grade construction. That discovery contributed immeasurably to the growth of the business.

"Our policy from the very beginning," says Mr. Saffert, "was always to take care of business in a way to satisfy the customer, giving service with material. When we get a job, we see it through. We furnish drawings and sketches if needed. We want the customer to feel that all he needs do is place the order, the rest is up to us."

In seven years, this policy brought such satisfactory returns that in 1916, Saffert moved to his home town, New Ulm, and formed a \$100,000 corporation for the purpose of manufacturing concrete products. Gone was the general contracting business. Saffert was now a

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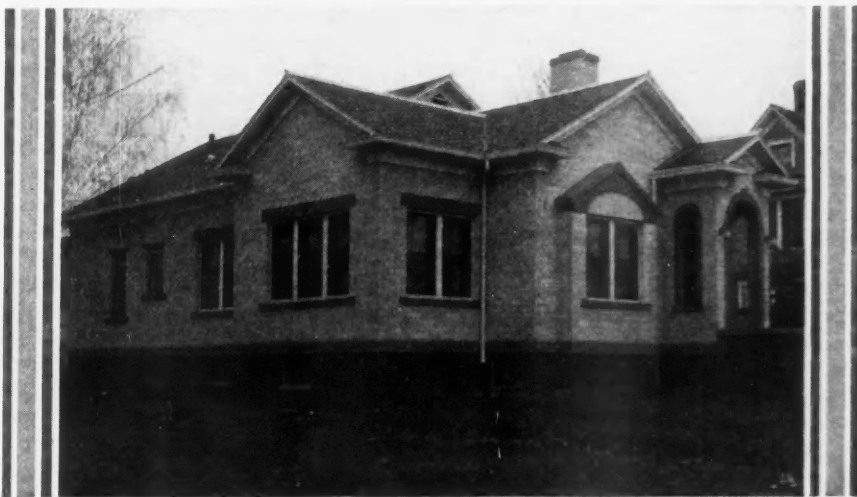


full-fledged and going concrete products specialist.

His main line is concrete tile for buildings, both faced and plain. The addition of appropriate and beautiful colors in particular has spread the demand for his products into communities hundreds of miles away. "In fact," he adds, "although we feel that we get our share of the business in New Ulm, it is from neighboring towns and rural districts that our volume comes." It is his ability to sell outside his immediate territory that represents the most phenomenal feature of his business. Bear in mind that Minnesota is distinctly a lumbering state, and that lumber is as low there as anywhere in the country. It is also a clay products center, at least in the southern part, and more than that, is adjacent to the big shale and clay region of Iowa. New Ulm itself has four lumber yards, a brick plant, and agencies for the sale of clay tile. And every car that Saffert ships means freight costs of \$15.00 to \$30.00 per thousand tile. Add that to the selling price of your own tile, and see where you come out!

The plant has been operated full time since its start, and at this writing, employs over 40 men. The policy of filling orders promptly often necessitates night shifts. Full time salesmen are employed, and a separate drafting department. An addition to the plant and curing rooms is now in prospect although the plant is already a huge affair. It now measures 95'x110' and has two floors throughout. The first floor is yard level and the second, street level. Boiler and storage rooms are separate, as is also a 200 yard capacity aggregate bin constructed along one side of the plant below the

One of the Homes Built of
George Saffert's Cement
Building Tile.



SAFFERT-ISMS

"The customer must be satisfied."

"Regular tests and a good cost system enable us to tell the truth to the public."

"The public at heart knows that good work always costs more but pays in the long run. There is a natural desire for permanent beauty. These two facts convinced me that there is a permanent place for concrete building units."

"The application of permanent colors has created a new demand and has extended our market hundreds of miles."

"People want and will pay for beauty. That's why Faced Aristone Duntile is our best seller."

"There is more future for concrete building units above grade than below."

"When we take a job, we see it through."

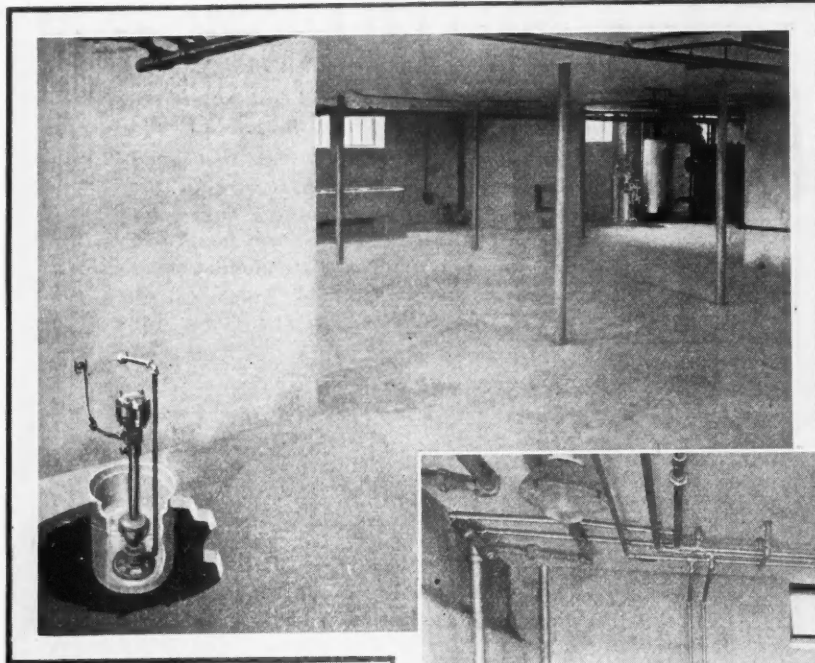
"I am not afraid to advertise; I would be afraid NOT to advertise."

second floor level, for economical winter operation. Steam curing is used throughout. Cement is used in bulk and both it and selected aggregate are stored in four big silos constructed at the end of the plant. The yard is three blocks long.

The complete line includes practically everything in the concrete products field. His ribstone silos are known throughout the entire Northwest. He makes drain tile, ornamental products, such as vases, window boxes, urns, garden furniture, etc. Even grave stones! His slogan might well be, "If it's made of concrete, we make it."

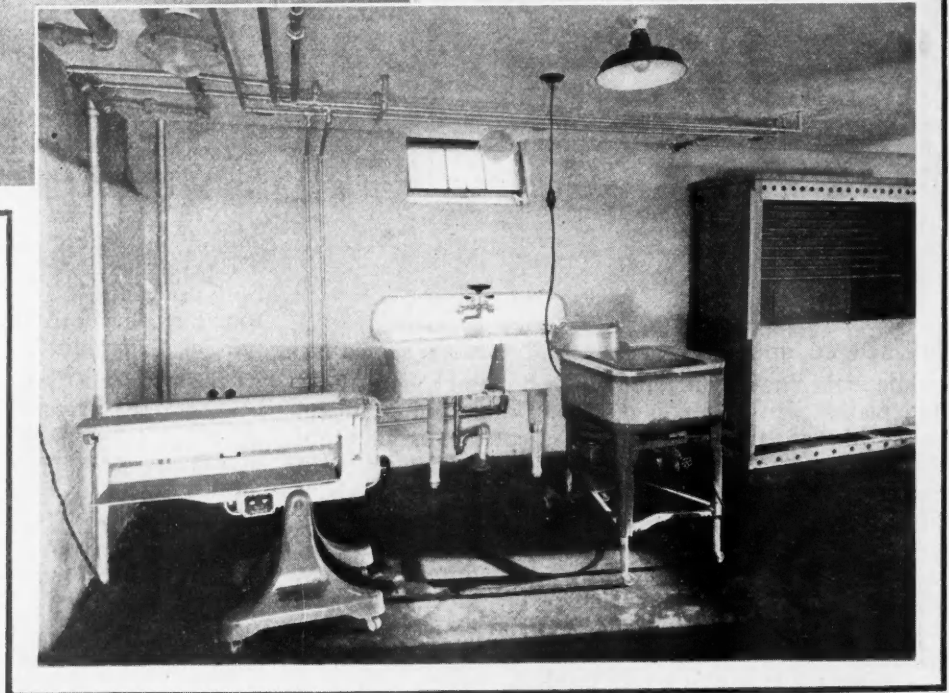
When asked how he came to concentrate his efforts in the manufacture of concrete building units, and how he succeeded in creating the demand for Saffert Cement Construction Company's products, he had ready answers. "The realization and appreciation on the part of the public that good work always costs more to begin with, but actually costs less over a longer period, plus the natural desire for *permanent beauty*, convinced me that there is a permanent place and future for concrete building units. As for the demand for our products over others, having regular tests performed on our products, and keeping a good cost system, enables us to tell the truth to the public. In the long run, the public knows. You can't fool them long or often."

Making the Pay



Above: An Automatic Cellar Drainer Insures a Dry Basement.

To Right: Completely Equipped Basement Laundry Has Sales Appeal.



IN a former article on this subject,* I showed how it is possible to reduce costs by taking advantage of modernized basement space. That, of course, is but one phase of the subject. The modern basement idea had its inception as a luxury feature. But the luxury of today is the necessity of tomorrow—so rapidly does the world move. For this reason, it is certain that many basement features now regarded as luxuries will soon come to be regarded as necessities.

With the finished basement and livable floor space, a prime essential is to make it clean and dry. In my first article, comment was made on the precautions necessary to protect basements against water and dampness. Most builders are fully posted on these matters and yet we find many instances where they have been neglected. The point is, that, where designers plan to make full use of basement space for modern features, these precautions cannot be neglected.

After we have waterproofed and dampproofed the basement, there is still another possibility of water damage to be guarded against. It should be remembered that the basement, if it is to be of the modern type, will contain valuable furnishings, fittings, equipment and, possibly, musical instruments. In many localities, there is danger of storm drains or sewers backing up during heavy storms and flooding the basement. An automatic cellar drainer placed in a sump just below the basement

floor level will be a wise precaution to protect the contents of the basement against water damage from the backing up of sewers or drains.

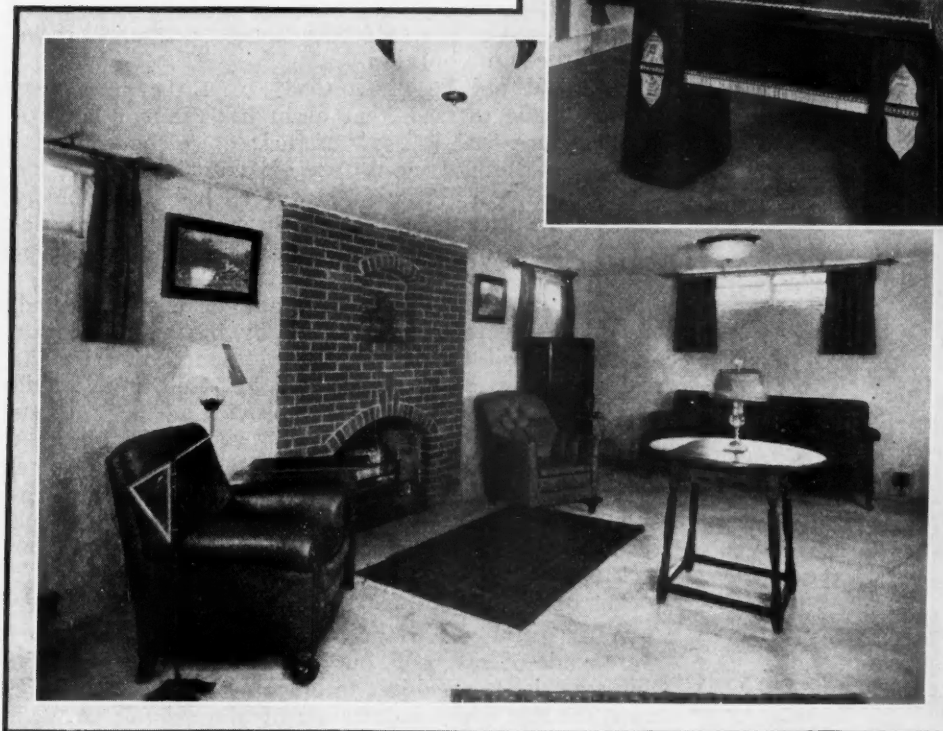
This equipment takes on greatly added importance with the development of the modern basement, the increasing value to the household of this space and its contents. These automatic cellar drainers can be had for either hydraulic or electric operation. One type operates on pipe line water pressure and the other is an electric pump ejector. Water rising in the sump operates a float valve and starts the pump before the water reaches the basement floor level. It will continue to pump the water to a point outside the foundations until the water recedes, when the use of power automatically stops. A device of this kind, although the cost is not great, can be effectively merchandised in the sale of a house. It is sure to create in the prospect's mind an impression of quality which is more than surface deep. The average man or woman appreciates such a device all the more because they will realize that the builder—had he not been looking out for their interests—could easily have omitted it. It will be classed as a necessary modern feature after the builder points out that the device may pay for itself many times over by protecting against what might easily be a heavy loss, when one considers the money value of the equipment, furnishings and fittings in a modern basement.

*Nov., '29, American Builder, pages 89-92.

ne Basement

*The Second in a Series
of Articles*

By E. A. MAGURN



Above: The Basement Game Room Is a Popular Feature.

To Left: A Well Furnished Basement Living Room or Den.

We have been considering precautions to keep water out; it may be well to consider next the water which is a necessity in basements—for laundry, lavatory and domestic hot water supply. You may say that these are ordinary equipment. It is true that they are essential. But I believe that a clean, bright laundry, with plenty of daylight and well arranged equipment of laundry tubs, hot water supply and drainage will make a strong appeal to the average woman. Three tubs are much better than two, even where there is a washing machine, for bluing water, as well as first and second rinse. Some clever merchant builders will undoubtedly see the advantage of a complete laundry installation, including washing machine and clothes dryer, as well as an electric or gas ironing machine. Gas heated clothes dryers have a strong appeal in the ordinary apartment building; why not in a private home? They are great time and labor savers and a distinct contribution to modern, comfortable housekeeping.

The heating plant may be termed the heart of any basement, or, indeed, of the entire home, since a comfortable, healthful degree of heat in every portion of the house is a fundamental requirement for comfortable home life in most sections of the United States. And the modern, livable basement owes its development to clean, automatic heating devices, which many builders are now installing, as pointed out in a former article on

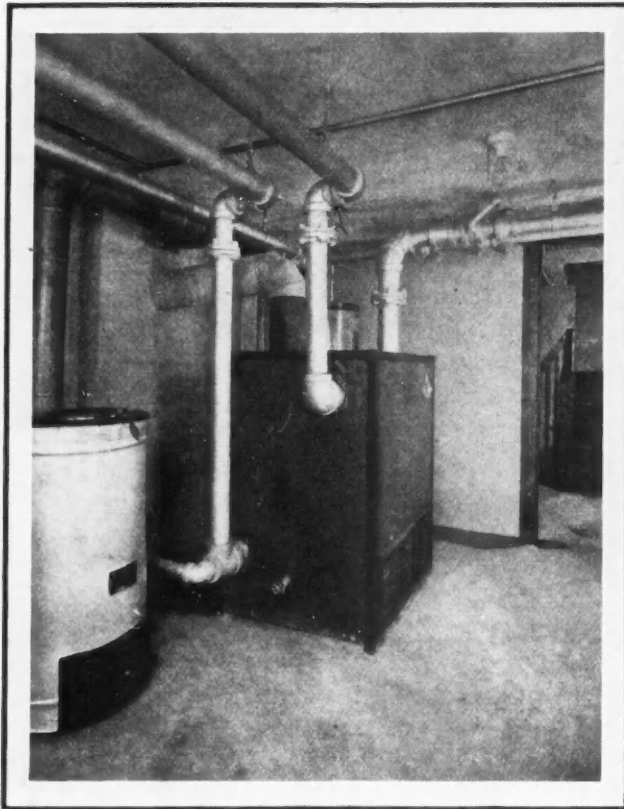
oil burners. However, there are other forms of clean, automatic heating and the choice of fuel and heating plant will vary in different sections of the country. One modern method of heating which seems to be finding increasing favor is the gas-fired boiler or warm air furnace. In quite a few sections of the United States, natural gas is available and is economical in operation, as well as perfectly clean and automatic. It is operated by a very simple mechanism subject to almost no mechanical troubles and requiring little expert service. Like practically all automatic heating devices, it is thermostat operated and temperature is maintained throughout the house at any desired point—usually 70 degrees. The clock-operated thermostat has a worthwhile advantage because it provides a means of lowering the temperature in the house at night, both for sleeping comfort and economy. At any desired time in the morning, the clock thermostat will operate the heat regulator so as to have the warmer daylight temperature prevailing throughout the house before the family arises in the morning. The strong sales appeal of such a device is unquestionable.

Even in cities where natural gas is not available, heating with manufactured gas has made considerable progress. With properly built and insulated houses, heating costs with this form of heat are said not to be excessive. A new home, which can be insulated be-

tween the walls as well as under the roof at the time it is built, is a more logical structure for economical gas heating than is a house already built, where insulation can only be added under the roof.

I had the pleasure, recently in Cleveland, of inspecting a number of new houses built by the Keyes-Treuhaff Company for resale in the \$40,000 and \$60,000 price range. They built some 30 houses last year, and, at the time I was there, had built about 15 this year. These were scattered in various locations in the Shaker Heights district and were of fine design, splendid material and workmanship and very comfortably equipped, all having modern basements with recreation and living features. Practically all these houses were heated, as were scores of others inspected in both Cleveland and Buffalo, by gas-fired boilers and hot water radiation.

I quote from the prospectus of a recently projected group development in the heart of Buffalo which in-



**Gas Burning Heater and Incinerator
Make for a Clean Basement.**

cludes sixteen individual homes, as well as two co-operative apartment buildings and six attached houses:

"The homes in this development are to have very complete equipment, including large recreation room with wood-burning fireplace, laundry and fruit room and large closets. Heat is to be supplied by individual, automatically controlled gas boiler."

They say that when a woman looks at a house, she is most interested in the kitchen, but that a man finds his greatest interest in the basement where the heating plant and working equipment are placed. The only amendment I would make to this is that the woman, today, has an interest in the basement equal to that of the man. This is particularly true now that builders are letting the light into basements and making them attractive and livable. Indeed, clean, automatic heat means more to a woman than it does to a man because the man is away from home all day and the heating responsibility rests with the woman.

Gas resembles oil in one particular and that is that both require a much longer fire travel than coal or coke. The limiting factor, here, is the ability of the boiler to absorb the heat, so the shorter the fire travel, the greater is the loss of heat up stack or chimney. Special boilers are almost always used for gas and should always be used with oil heat. Fortunately, there are on the market a number of boilers especially designed for gas operation which are remarkably efficient and several new boilers especially designed for oil fuel have recently been placed on the market which should greatly increase the efficiency and reduce the cost of heating with oil.

Coal, oil and gas, as fuels, each have their adherents. As relating to all items of building material, finish and equipment, it is indeed fortunate that some differences of opinion exist. It would be a monotonous world if we all had the same opinion.

It should not be understood, from the references already made to coal, that clean heat cannot be produced where coal is used as fuel; quite the contrary. We hold no brief for any type of fuel. The perfection of oil and gas heaters, however, has undoubtedly stressed the advantages of clean heat, and the manufacturers of coal burning equipment have shown that they are prepared to meet this development.

Now, whatever type of fuel and heater is selected, any basement will be improved by having a separate furnace or boiler room, tightly partitioned off from the rest of the basement space. At the same time, it will be wise, if coal is to be used, to provide adequate means for delivery and storage, as well as ash disposal. A metal coal window and chute will be a great advantage, to protect the house walls, basement window frames and sash. Coal deliveries through wood frames and sash cause disfigurement and depreciation. The window lock is apt to be injured, the glass to be broken and a means of access provided for thieves.

When metal coal windows were first introduced, they were made of cast iron, but it was soon discovered that this material was subject to cracking and breakage; so, now, the best coal windows are of unbreakable wrought iron. They are so made, that, when opened for coal deliveries, they extend full height above the window, protecting the wall from masses of coal thrown against it. The window cannot be opened from the outside but is readily opened from the inside by a convenient chain. When dropped shut from the outside after the delivery is made, the window automatically latches and locks. Where the coal bin has no other source of daylight, coal windows are available, glazed with heavy plate glass. Wire glass was first used but plate glass has proven itself stronger and better adapted for the purpose.

It seems fitting at this point, to refer to dustless coal—a comparatively recent development. It has been discovered that coal treated with calcium chloride is practically dustless and enterprising coal dealers will furnish coal so treated for a small extra. Coke has an excellent reputation as a clean fuel, with little dust on delivery and a small percentage of ash when burned.

In designing the coal bin, however, it will be wise to provide against coal dust, as poor grades of fuel may be used by some future owners. Not only should the partition be tight and extend all the way to the top without openings but the construction of the coal bin door should receive special attention, so that it is tight and strong. Inside the coal bin, some provision should be made to prevent the coal from blocking the door or sliding down, raising dust and littering the floor beyond the bin.

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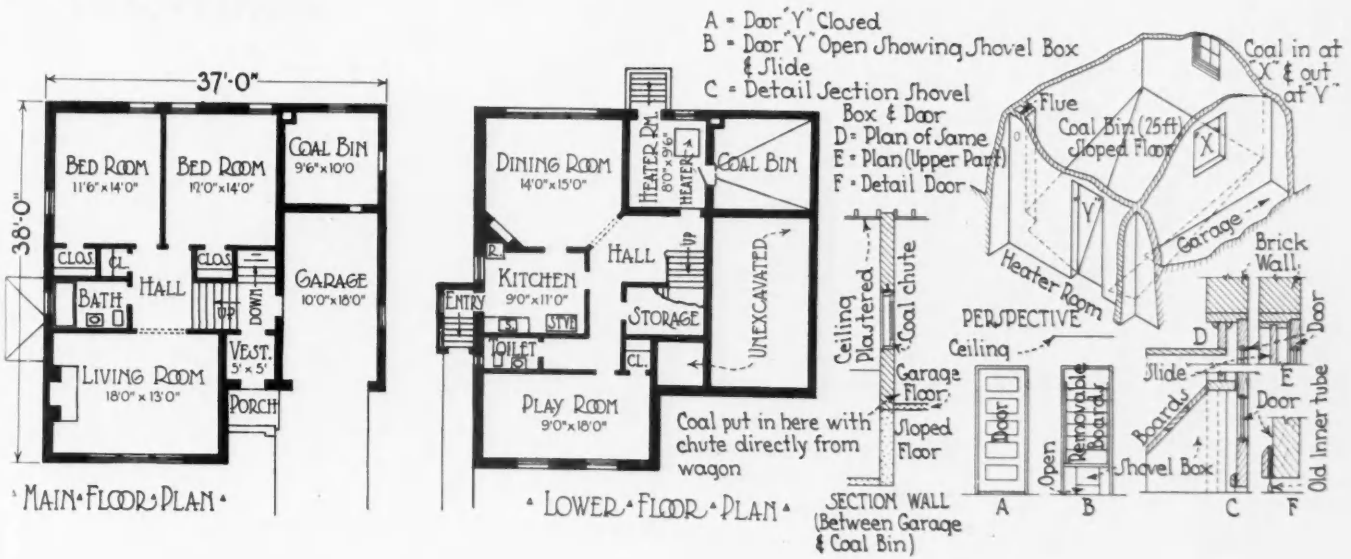


Basementless Plan Cuts Cost

THE idea for this cost-cutting English basement bungalow plan has grown out of the series of articles now running in AMERICAN BUILDER on utilizing modern daylighted basement space. This attractive English basement bungalow, designed by Charles P. Rawson, architect, has a cubage of 23,578 cubic feet. Using an estimating figure of 45 cents per cubic foot, this house can be built in many localities of wood frame and face brick veneer, with stone trim, for about \$10,600.

To put a full basement under this house and provide equivalent living room space above, will add between \$2,000 and \$2,500 to the cost of the house and this extra basement cost is saved in the new plan presented herewith.

This attractive home has many convenient features which will be revealed by a study of the floor plans, including exceedingly convenient coal delivery and storage, if it is desired to heat with coal. The coal truck can back into the garage and deliver coal through a window in the rear wall which is about at the truck body level. Coal bin details are illustrated in a sketch, which shows a sloping floor for the 25-ton storage. The coal feeds by gravity to a shoveling box at the lower level, which is just inside a tight coal bin door. As the heater room is also tightly partitioned off from the rest of the basement space, this portion of the house will be as clean as the upstairs portion. A play room or recreation room across the front at the lower level is an attractive feature of the plan.



Guild Quality

*Tile Contractors Organize for Real
Craftsmanship in Tile Setting*

By ALBERT L. GALE

IT isn't the fault of the material—the trouble is in the way it is used. That has been the wail of many manufacturers in the building field.

Raw products are selected and combined with care; modern equipment and skilled factory mechanics unite in turning out goods of artistic design and close to mechanical perfection—and then comes the man-handling after the merchandise has passed beyond the control and direction of its makers.

It is conspicuously true of building materials that they are of little real value to anyone until they have been assembled and placed where their services are to be rendered. The work of many hands, other than those of the manufacturer's employes, is involved. This means that the fate of the goods, however fine they may have been when they left the plant, is actually at the mercy of men hundreds or thousands of miles away from where the goods were produced.



Albert L. Gale

In no other branch of business is this true to so great a degree.

The work of application and installation in the building field therefore assumes an importance fully equal to that of manufacture, for such materials either may be injured by those who put them in place, or their beauty and practical worth may be properly brought out in the finished work. In no other activity does the manufacturer of a good product depend so heavily upon those who are to handle his wares after they are delivered.

All this being true, a larger appreciation of the importance of true craftsmanship in the building world is sorely needed. The tile trade, sensing this need, is showing its appreciation of it in a movement recently started by the Tile and Mantel Contractors' Association of America in behalf of "Guild-Set Tiling."

The word "guild" takes the student of history back to the careful, painstaking handiwork of the artisans of the Middle Ages. In those days there was unusual pride in workmanship. A member of a guild would lose his standing if he violated the principles for which his guild stood. Repeated offenses meant his exclusion from the guild and ostracism from the ranks of those with whom quality was the constant watchword.

In these modern days, when the demand for fast work is more or less insistent and when quantity has to be considered along with quality, the more tedious features of craftsmanship are, of course, out of the question. Yet adherence to definite guild standards is quite possible, even in the rush and bustle of the largest jobs. It is this conviction that has led the tiling contractors, through their national association, to declare allegiance to the slogan "Good Tile Deserves Good Workmanship."

Possibly the need for true craftsmanship in tiling is more pronounced than in the average building or finishing trade, for the reason that tile, considering its many separate small units, is in itself so very incomplete when delivered on the job for instal-

(Continued to page 110)

by this
emblem



**GOOD
TILEWORK**

is known



A GUILD-SET TILING sign in front of the house you build or remodel is your assurance that the contractor is giving you the kind of workmanship that as fine a material as Tile deserves.

Any Tiling installation depends as much upon selection, design and handling as upon the Tiles themselves.

Tiles are beautiful, permanent, economical, and easily kept in perfect condition. But the way they are applied to walls and floors—and the intelligence shown in choosing the proper Tiles for the job—are as important as the decision to use Tiles wherever possible.

Consult with any of these Tiling contractors. Get their ideas—see their samples—profit by their experience with Tiles and the best ways to use them.

THE TILE & MANTEL CONTRACTORS' ASS'N. OF AMERICA

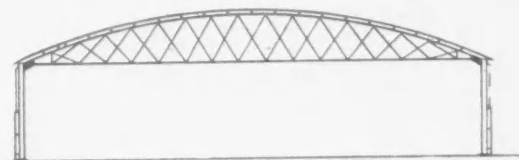
(Names, addresses and telephone numbers of Tiling contractors)



One of the Many Educational Advertisements to Be Used in Local Newspapers.

Airport Construction Invites

Prize Design for Elaborate Terminal and Practical Ideas for Service Hangars—Timely Business for Builders



ACCORDING to latest reports of the Department of Commerce, some twelve hundred airports are already in use and many more are being planned for early development. Most of these ports are merely flying fields at present, involving grading, drainage, fencing, lighting and the erection of a few hangars and service buildings. In the near future, however, these flying fields will be vastly developed in their character, and their construction opens up many opportunities for the builder and contractor which he rarely visualizes today.

The airport of the future will require many types of structures, from passenger terminal buildings and hangars to hotels, restaurants, stores, garages and other units, many of which have real investment value for their promoters and owners. This development of airports must inevitably stimulate building activity and real estate values.

Airport Prize Competition

THE Lehigh Airports Competition, which recently closed, was the first American contest for designs of modern airports, and was sponsored by the Lehigh Portland Cement Company. The designs resulting from this competition picture for the first time the character of work which builders and contractors will have to perform before our present flying fields may legitimately be called air terminals or ports.

Out of 257 designs that were submitted in the competition, 16 were awarded prizes totaling \$10,200, and the publication of these drawings, together with

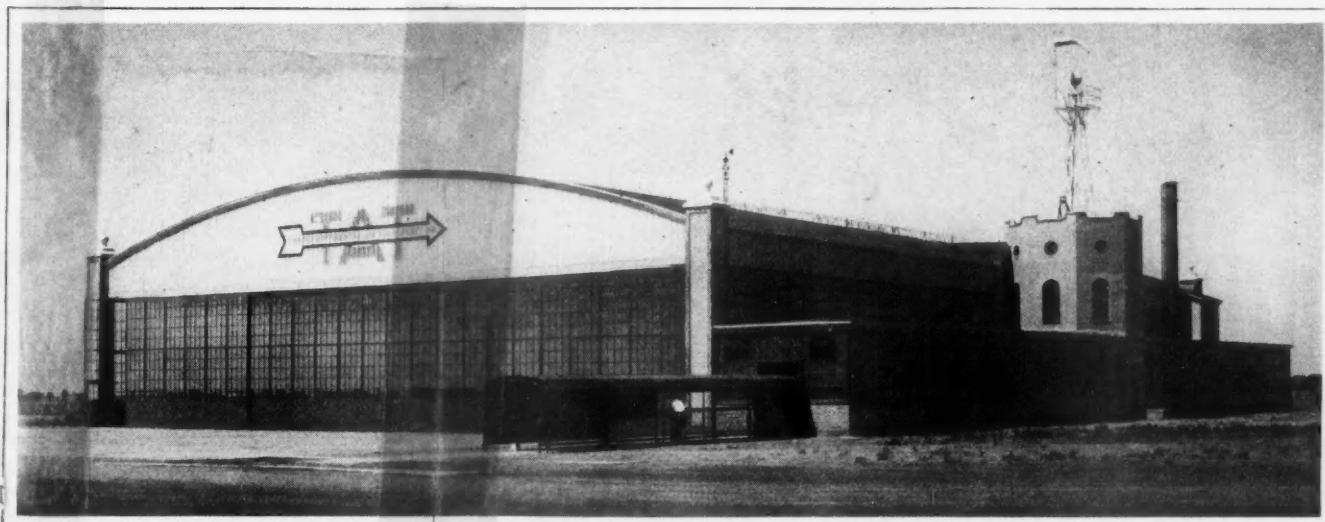
many others of almost equal interest, is expected to stimulate proper airport development.

The winners in the Lehigh Airports Competition were selected by a jury of awards, headed by Raymond Hood, architect. First prize of \$5,000 was awarded to A. C. Zimmerman and William H. Harrison, associated architects and engineers of Los Angeles, Cal., who submitted a joint design. (Illustrated on page 84.)

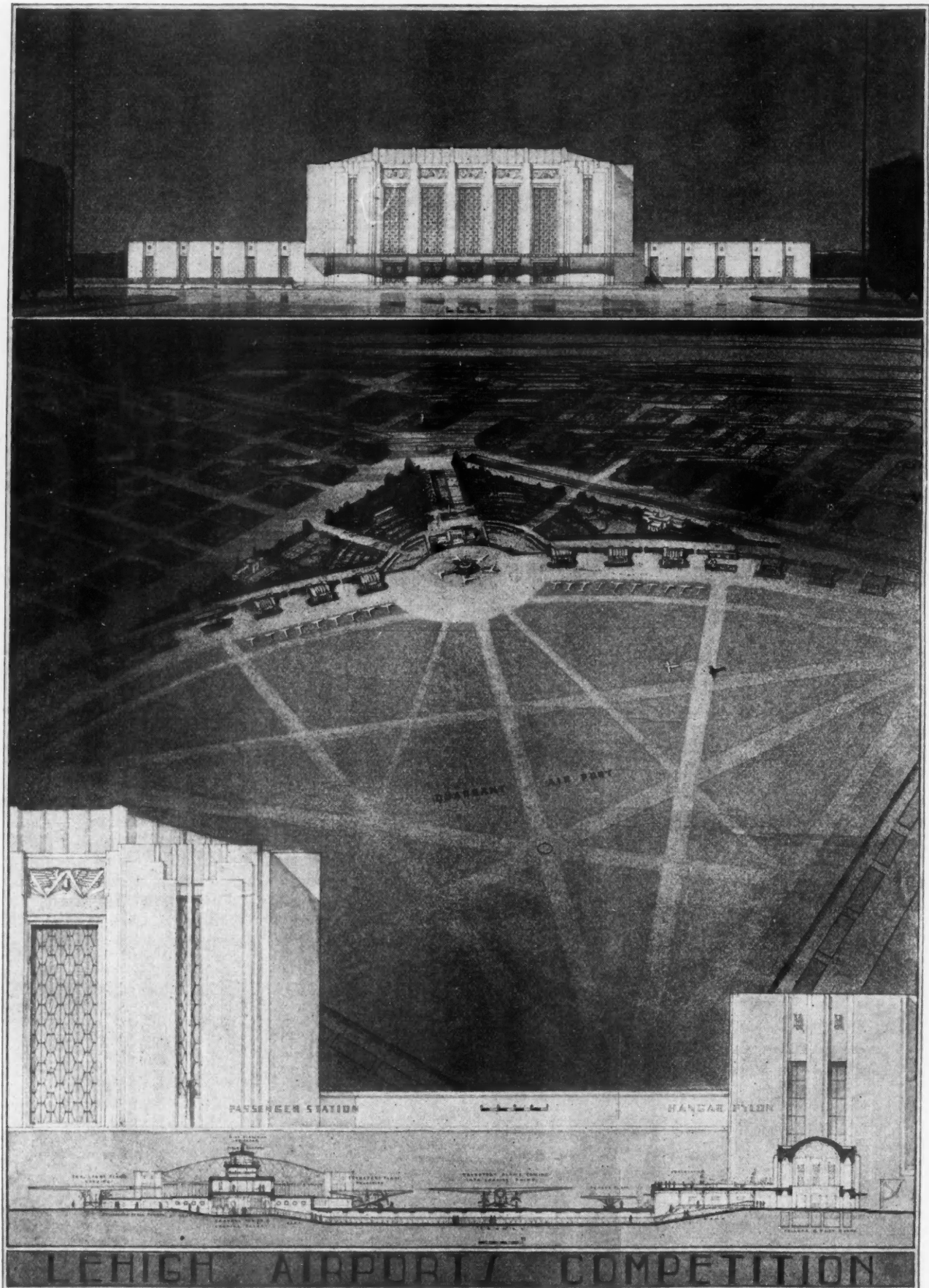
This first prize design was particularly commended by the jury because of its very logical and ingenious use of all elements for the comfort and convenience of passengers and fliers. Visitors and passengers reach the airport through a broad plaza at the junction of two important boulevards where provision has also been made for underground approach of a subway or a railway.

The approach plaza is developed as a dignified park and is provided with huge parking spaces for automobiles, arranged in a great semi-circle along the passenger terminal. This building has a waiting room very similar to that of a railroad station with ticket and information booths, baggage rooms, a large restaurant and lunch counter, news-stands and similar facilities. Provision has been made for mail, express, and freight handling with offices for immigration, customs and public health officials controlling all incoming passengers from foreign ports.

The passengers go down separate ramps to an underground passage leading to a star-shaped structure at the edge of the flying field.



The T. A. T. Hangar and Santa Fe Station at Waynoka, Okla. Curved roof is supported by lattice trusses; side walls and doors steel and glass.



First Prize of \$5,000.00 in the Lehigh Airports Competition Won by A. C. Zimmerman and William H. Harrison, Associated Architects and Engineers, of Los Angeles, California, for This Conception of a Modern Airport to Serve a Typical American City. This design concentrates all of the buildings in one corner of a rectangular field. A passenger terminal building with underground access to loading and unloading points.



The Canadian Airways Hangar at the Albany, N. Y., Airport, a Typical Service Hangar of the Better Sort.

Hangars Present No Structural Difficulty

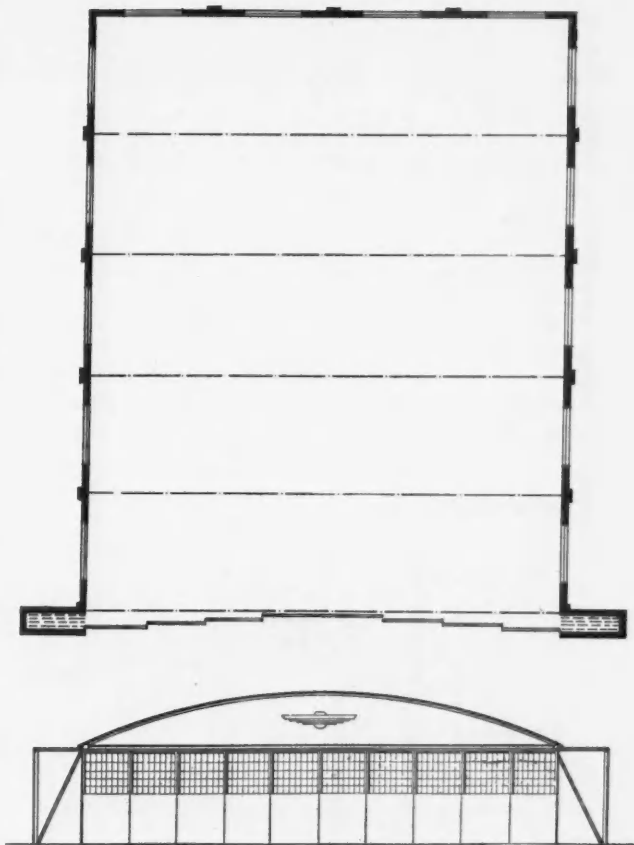
IN every field of endeavor, there is a certain air of secrecy and exaggerated difficulty attached to performance in that field. So in the construction of airports and airplane hangars the smaller contractor has been led to believe that only a talented few were capable of constructing a modern airplane hangar. Airplane hangars are simply "garages of the sky." Any contractor who has erected a modern garage is capable of erecting a modern airplane hangar. Of course, the designs in hangars as in garages determine their practicability; and naturally economy is not to be overlooked. The accompanying photographs and drawings will illustrate the average type of hangar that has been erected and for which the ordinary airport has need. Any of these can be satisfactorily erected by a good contractor and he will find them to be attractive contracts from the standpoint of profit and early execution.

Airplane hangars are divided into two principal classes. First, the all steel hangar which is used for temporary quarters and also for the economical housing of planes for principally storage purpose only. In the construction of an all steel hangar concrete footings and floors must be placed which can be done by any contractor. The structural frame, steel sash, steel siding and roofing can easily be placed with the aid of detail drawings. One of the most important problems about the hangar is the steel doors which a number of companies have solved to the complete satisfaction of airport operators.

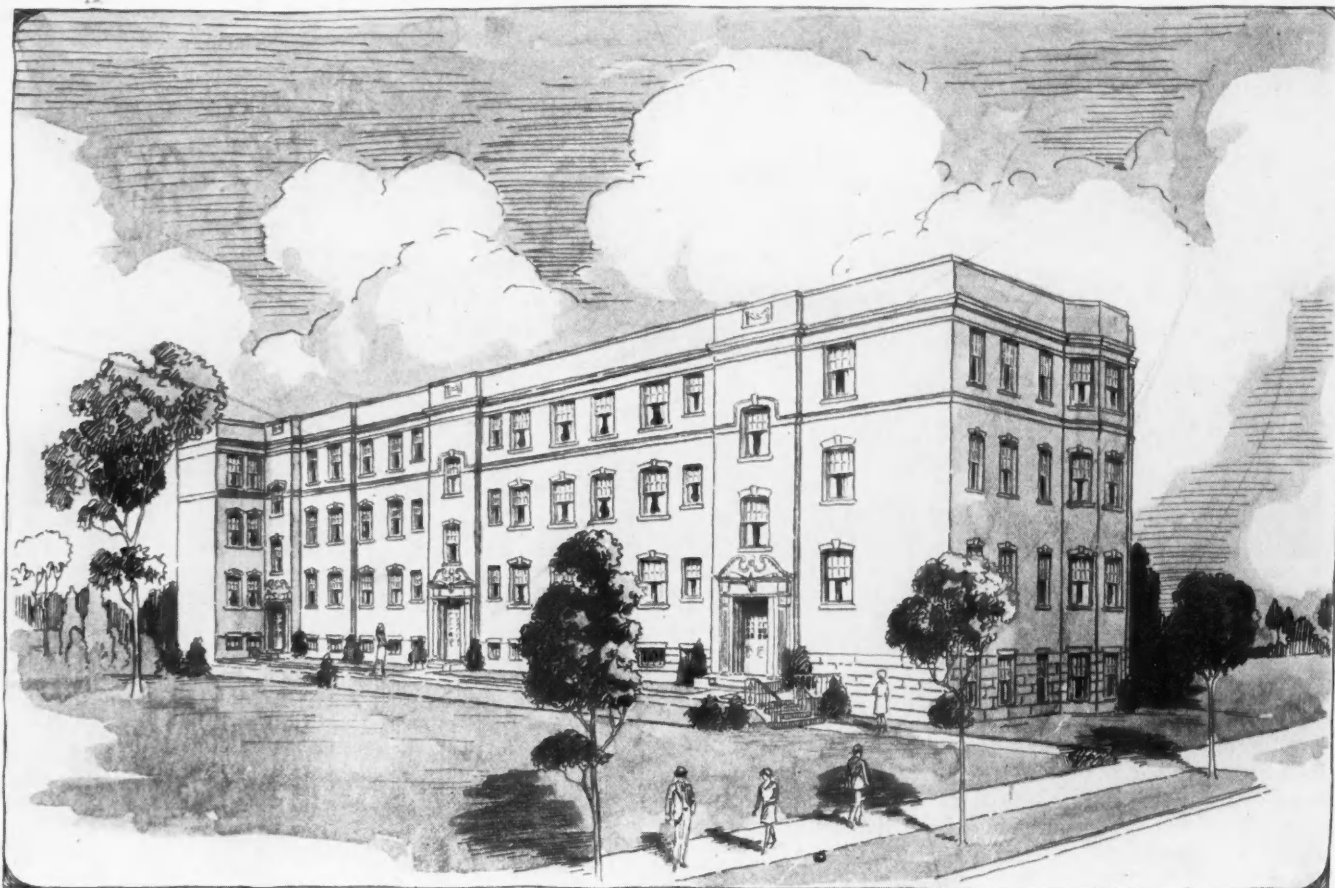
The more permanent type of hangar constructed of brick and steel has of course concrete footings and floors, structural frame, steel sash for side walls, supplemented by brick curtain walls below the sash. The roof is either of wood, cement tile or steel. The doors are the all steel door placed on either an overhead track or bottom rollers. The bottom roller type has ordinarily been found to be the most satisfactory for the larger types of hangars.

Contractors will find airplane hangar construction a very attractive field in the next few years and will do well to investigate their construction and to get in

touch with local operators or those of any nearby cities assuring them that they can construct economically a modern airplane hangar. Contractors will find that there is a ready service to aid them in designing and securing materials for the construction of airplane hangars. The AMERICAN BUILDER will be glad to put any contractor in touch with such service and aid them in any way to perform the service to their community it has the right to expect of a good general contractor.



Floor Plan and Front Elevation of Typical Service Hangar.



Creating a 13% Investment

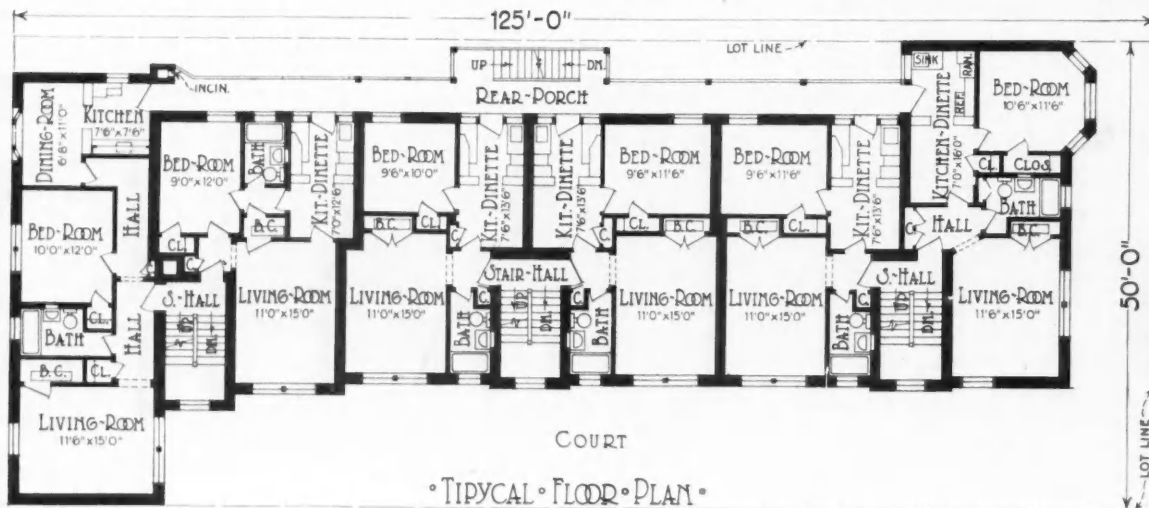
Well-Planned Apartment Buildings Yield Well

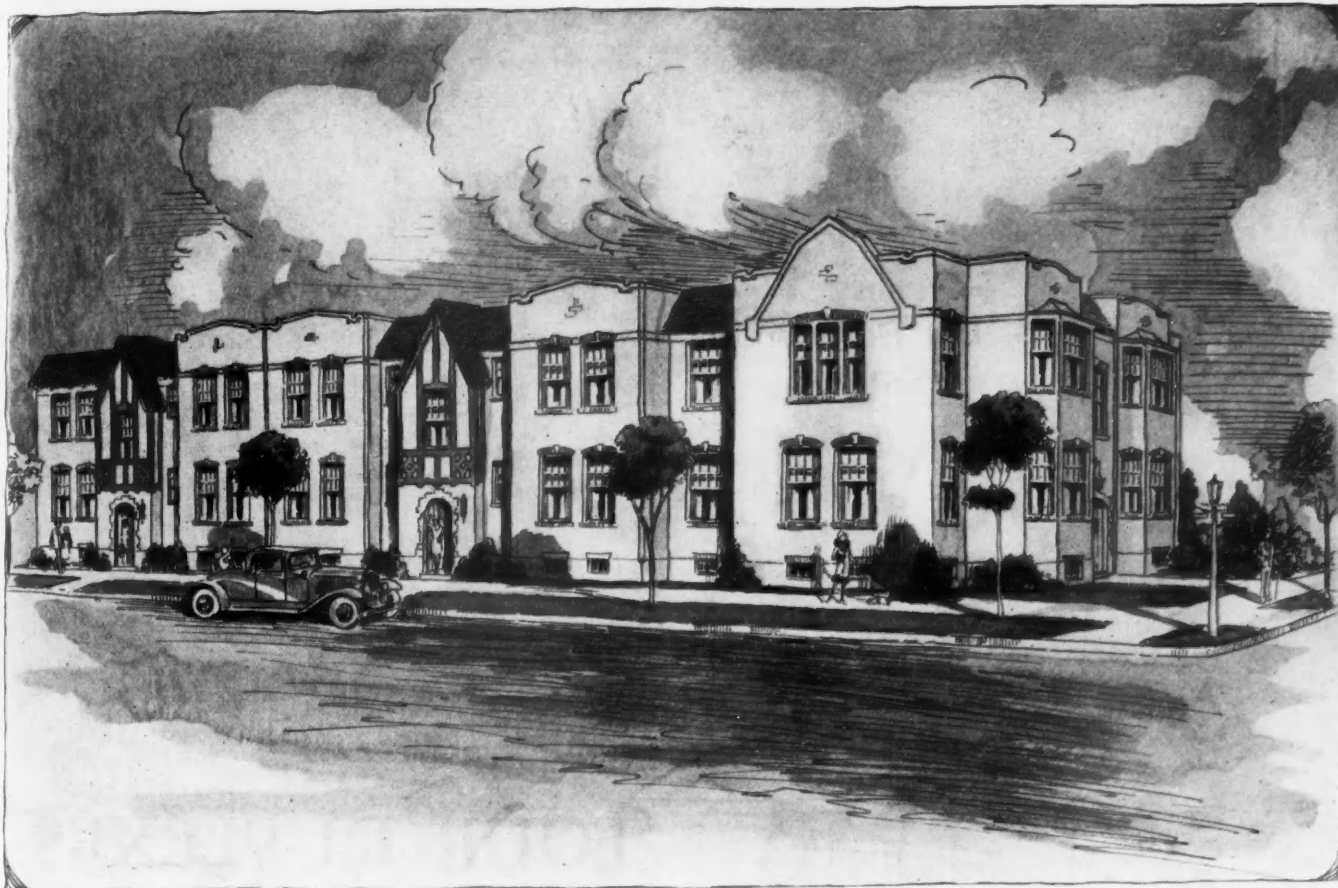
TO invest \$70,000.00 in land and building and have only a 6% return would be poor business policy. Good bonds can be bought to bring that with no apparent upkeep or depreciation.

The problem to the architect is to produce from improved real estate a larger return than bank interest. Due to rising costs of construction, he must arrange the modern building in such a way that a given area will produce more income than formerly. Starting with the omission of the old-fashioned dining room, for the smaller apartments, he substitutes a

dinette, the living room functions as a bed room by using concealed rolling or folding wall beds, and then, by the elimination of useless halls and corridors, he cuts down the cost of building to make what is commonly known as a real estate investment.

The apartment buildings herewith illustrated, designed by William G. and Arthur W. Krieg, architects, of Chicago, embody all the above ideas. The first is designed to fit an ordinary 50x125-ft. inside city lot with alley at rear, and covers approximately 60% of the lot, assuring unobstructed light and air.





A compact plan, eliminating costly vestibuled entrances and all waste space, allows for six efficiency apartments on each floor and for an apartment or club room on the street front of the basement; also a janitor's flat adjoining the boiler room, which is at the alley end. Electric refrigerators, ventilating fans, metal bath room cases, kitchen cabinets, tile walls, folding beds, etc., are incorporated and the interior trim is birch stained in walnut finish. Floors are oak, except kitchens of linoleum.

In the central states such a building should not exceed \$60,000.00 in cost, on a lot worth \$7,500.00, making a total investment of \$67,500.00.

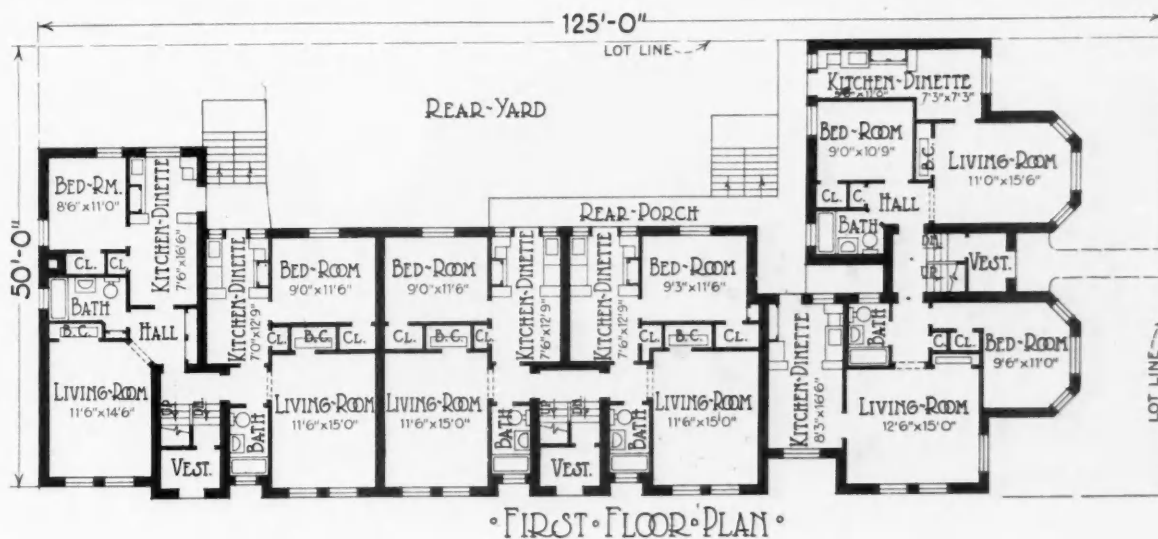
The gross income at \$60.00 per apartment would be \$12,960.00; less one-third for operation, leaves a net income of \$8,640.00, which is equal to 10% on an investment of \$86,400.00.

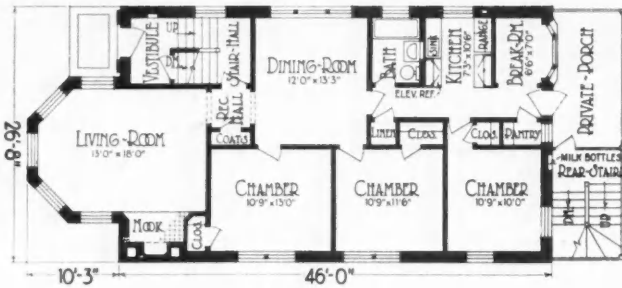
You now set aside an annual fund to offset depreciation and, where borrowed funds are used, pay the interest and installments to reduce the incumbrances; and you have left more for your money than bank interest. You have created a real estate investment.

The two-story apartment building on this page is planned to fit a corner lot 50x125 ft. with court or alley in rear for service entry.

Such a lot would cost from \$4,500.000 to \$6,000.00 in favorable neighborhoods and the building \$37,500.00, making a total investment of approximately \$43,000.00.

The income should average \$60.00 per month, producing an annual gross income of \$8,640.00, or a net income before depreciation, of \$5,760.00, or 10% on approximately \$57,000.00.

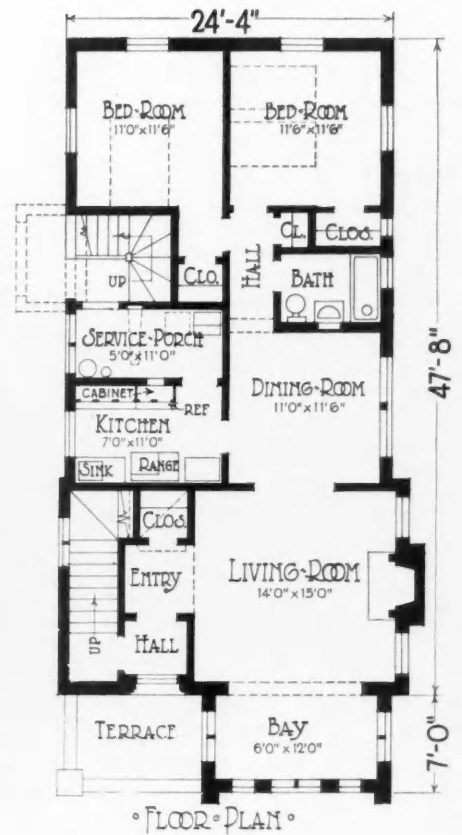
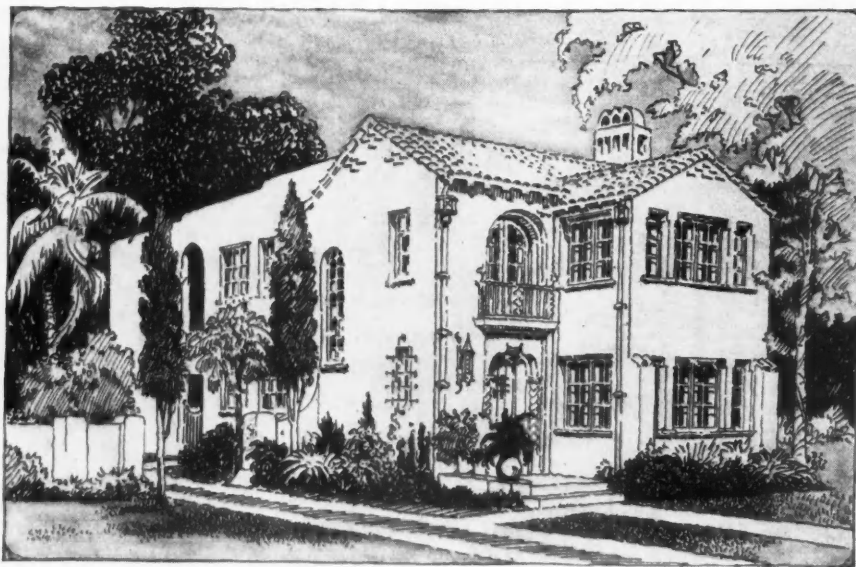


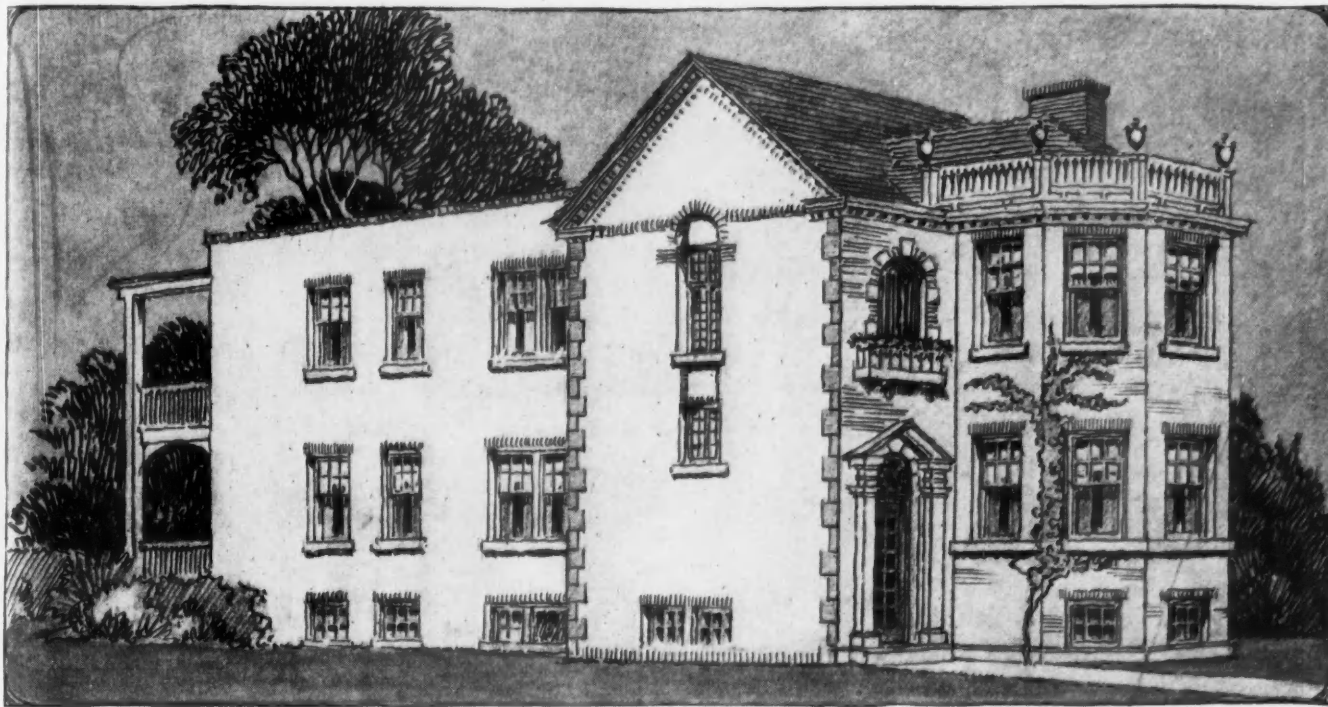


FOUR DUPLEXES

WILLIAM G. and ARTHUR W. KRIEG
Architects

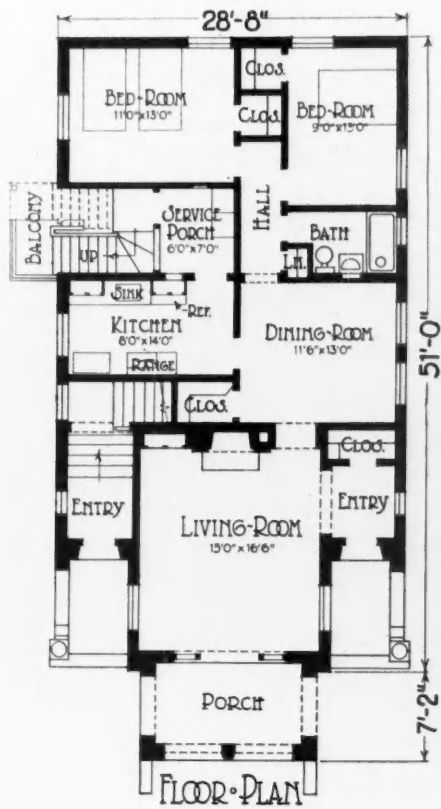
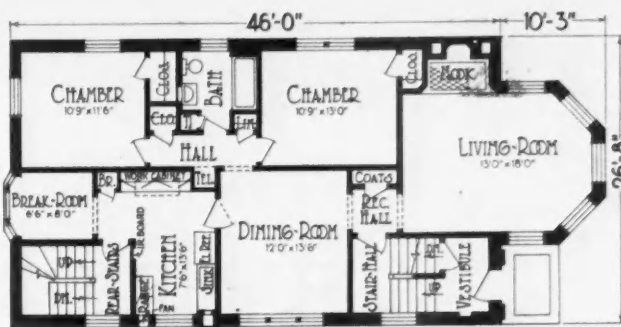
*Designed like a fine home, these Duplexes
are acceptable anywhere*



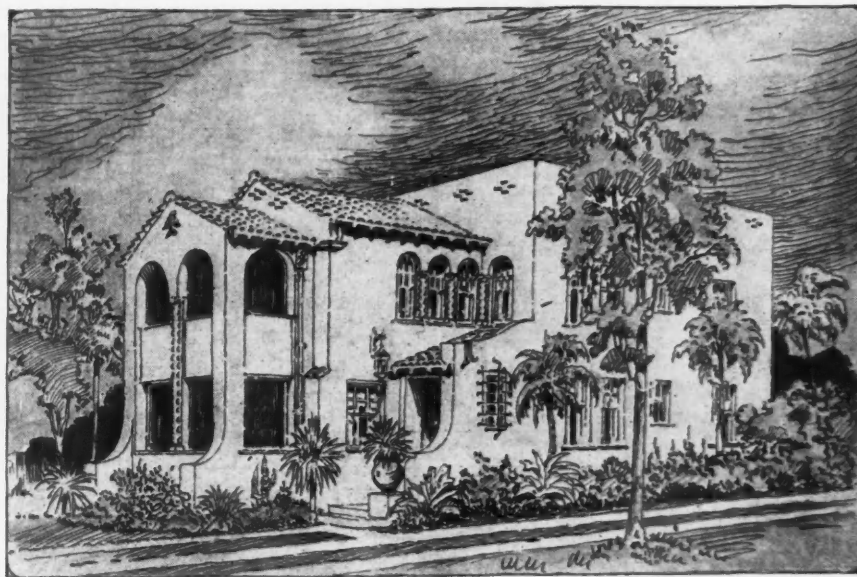


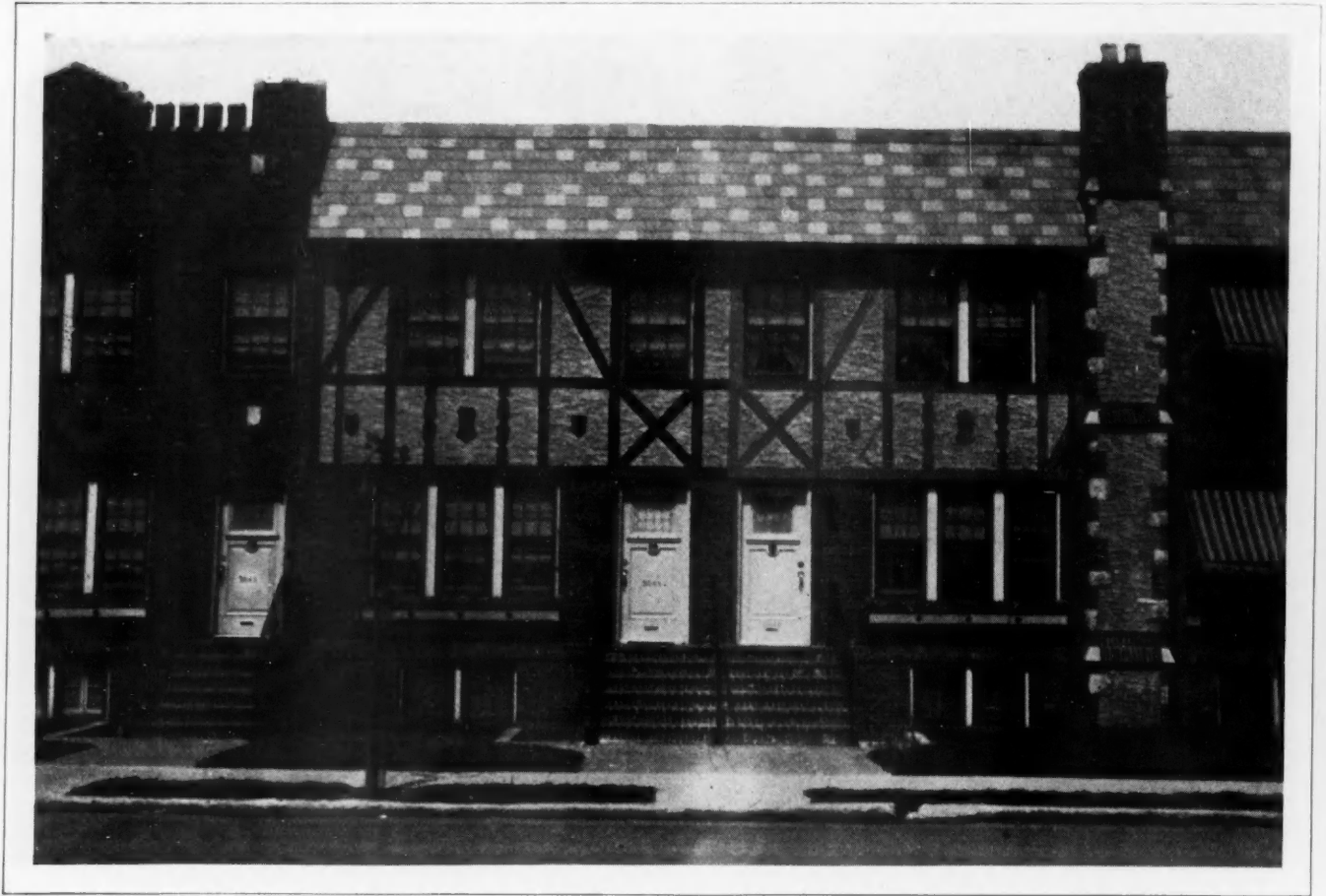
FOR THE SUBURBS

WILLIAM G. and ARTHUR W. KRIEG
Architects



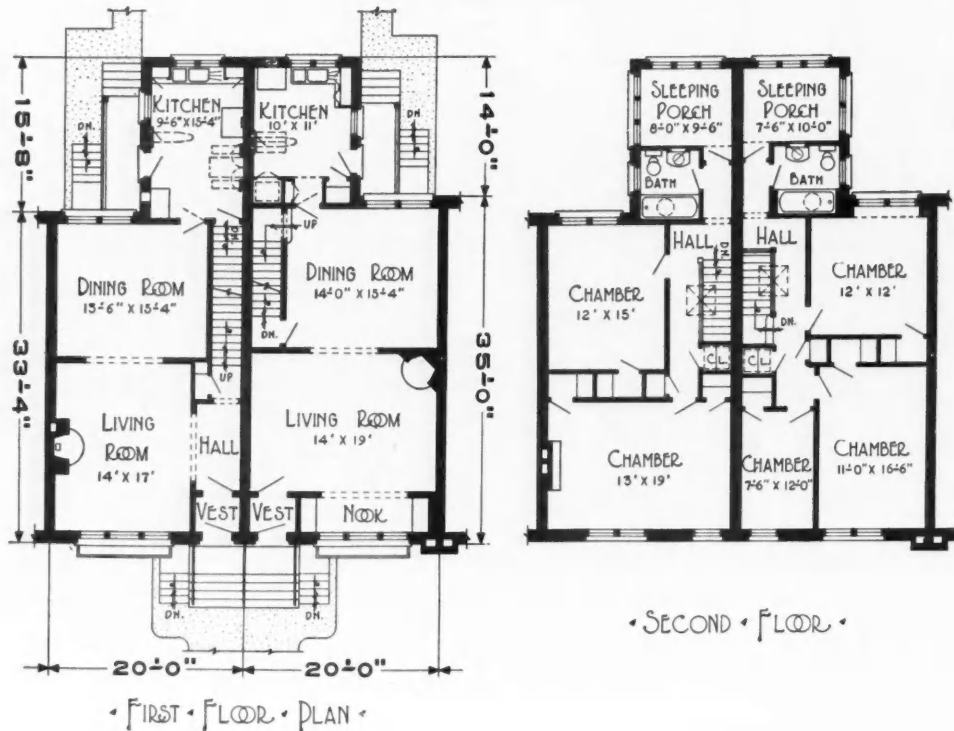
Period Styles, Colonial, Spanish, Italian, English, mark these Exceptional Designs.

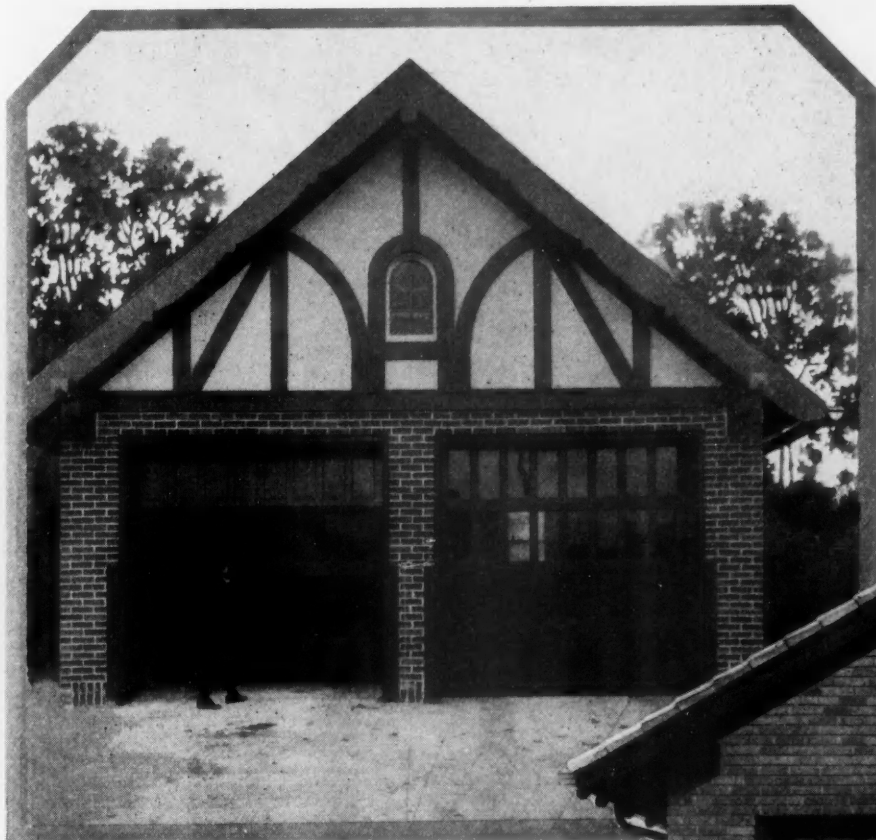




A SUPERIOR ROW DESIGN

Six well lighted rooms on 20 feet is the achievement of this successful Eastern Design





Counterbalanced Doors Rolling Up Make These Garages Secure.

To the Left: A Double Garage of English Design.

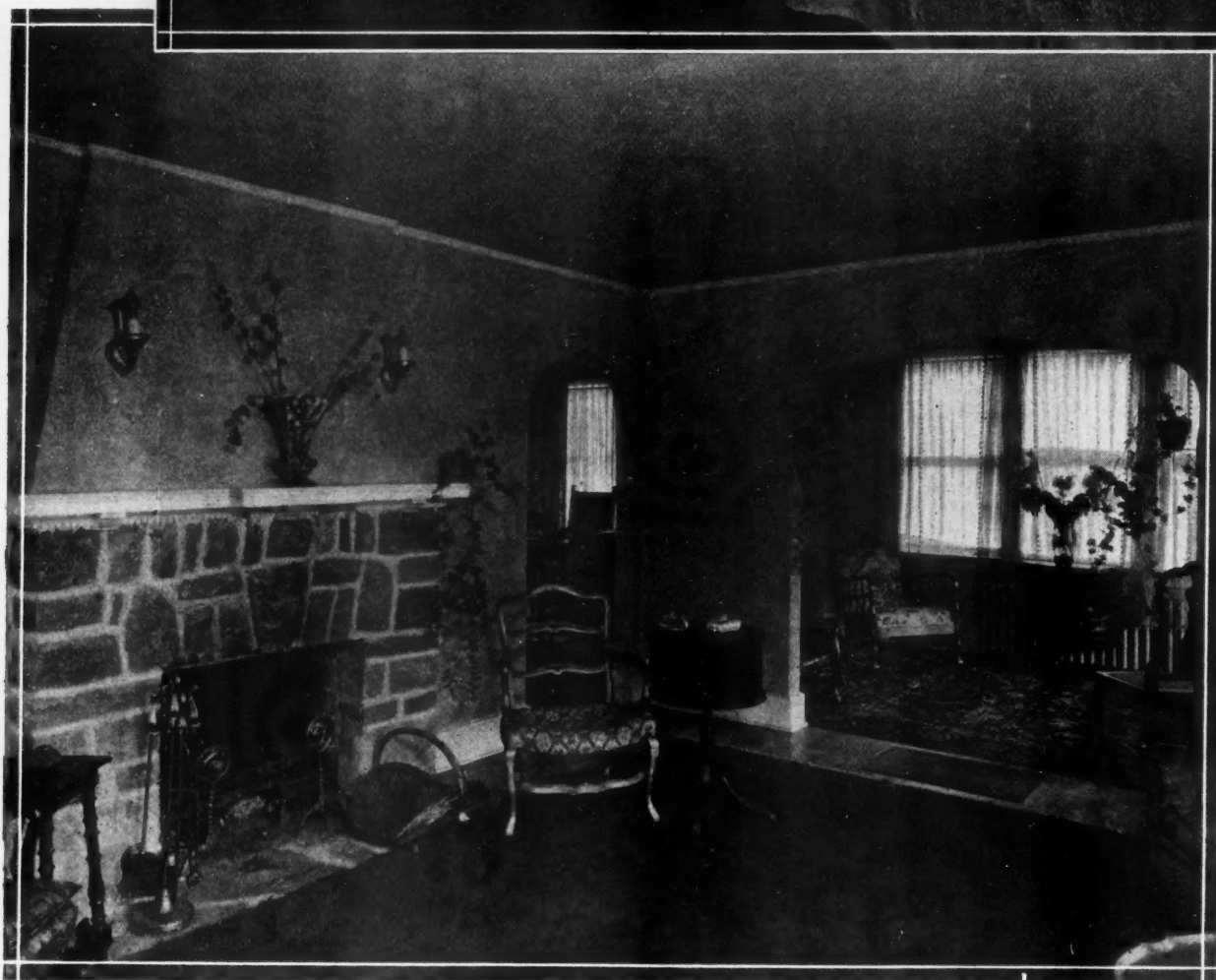
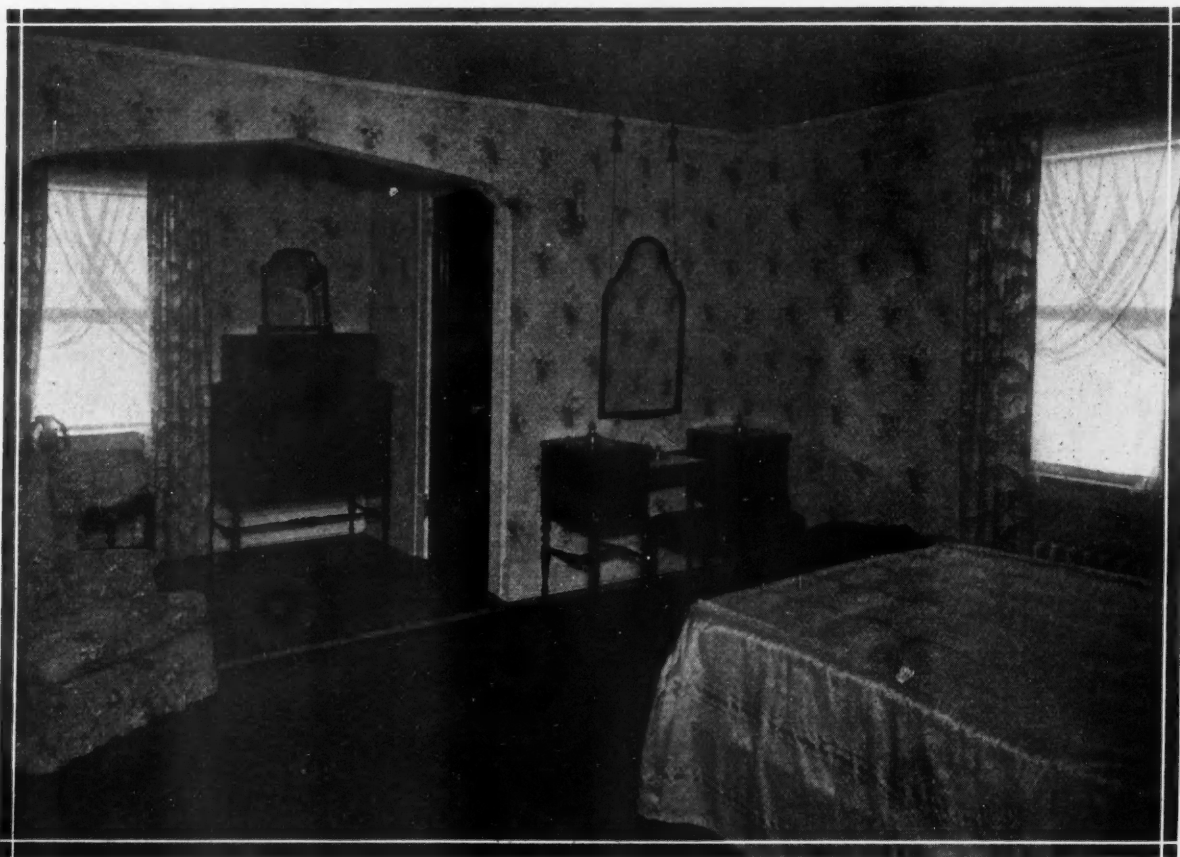
Below: An Inexpensive One-Car Model.



Below: An Attached Garage of Attractive Lines.



CONVENIENT HOME GARAGES



The House Illustrated on the Opposite Page, Designed by Marcel Villanueva, Architect, East Orange, N. J., Was Build by McPike Bros., Builders, and Completely Furnished in This Style as a Demonstration Home in That Organization's Development.

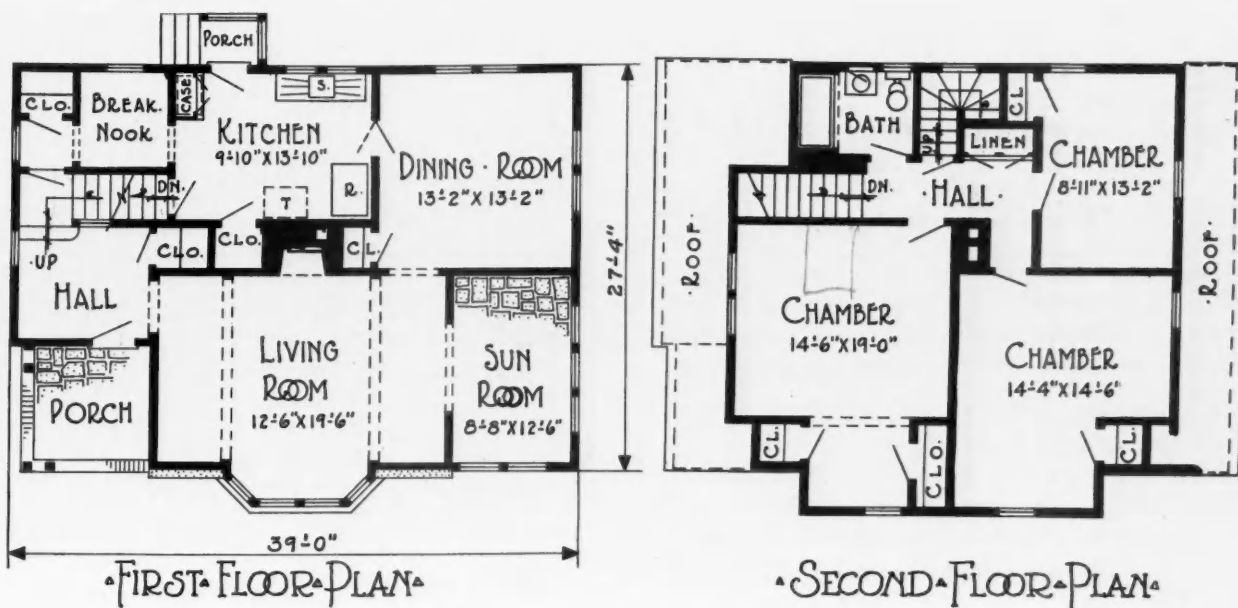


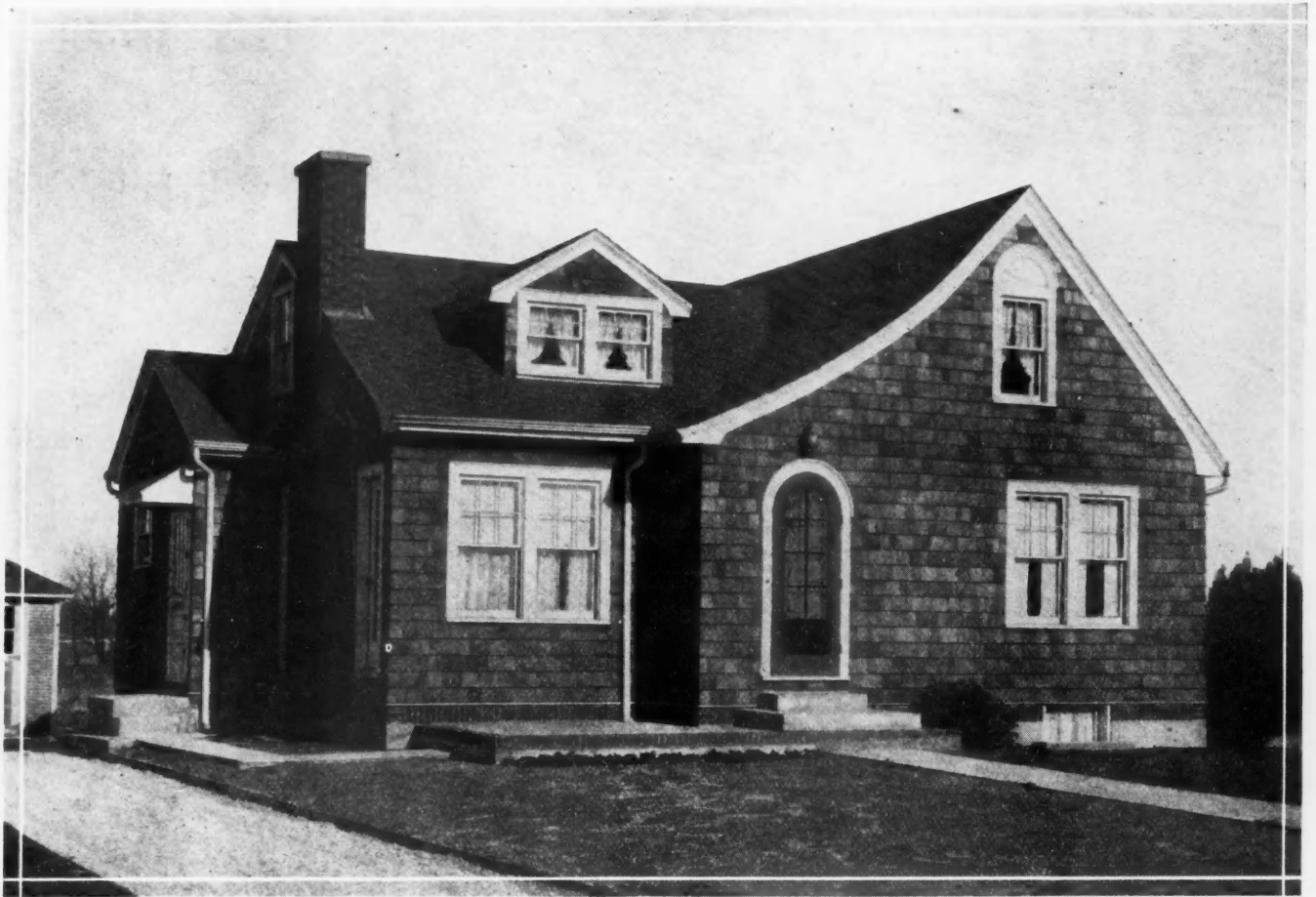
McPIKE BROS., Builders

MARCEL VILLANUEVA, East Orange, N. J., Architect

STONE, STUCCO AND LAP SIDING

An Interesting and Pleasing Example of Combining Varied Wall Materials to Form an Harmonious Whole





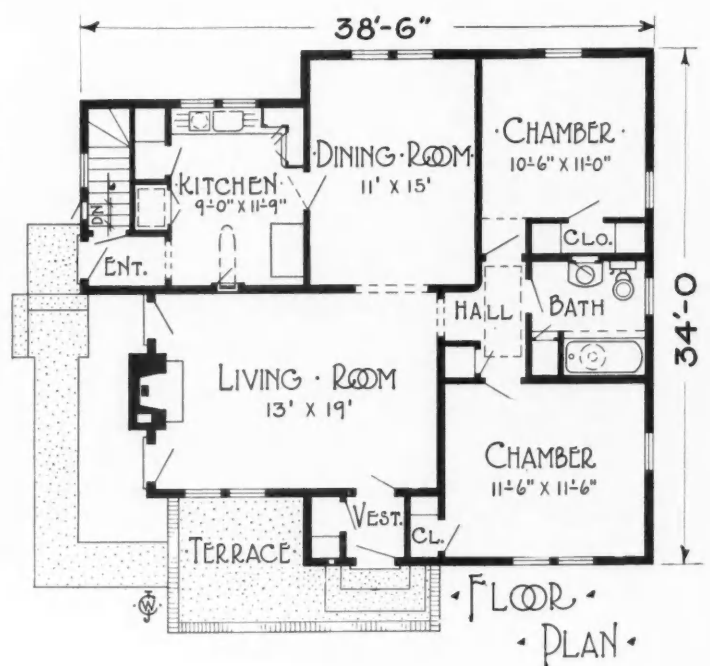
THE EVER POPULAR BUNGALOW

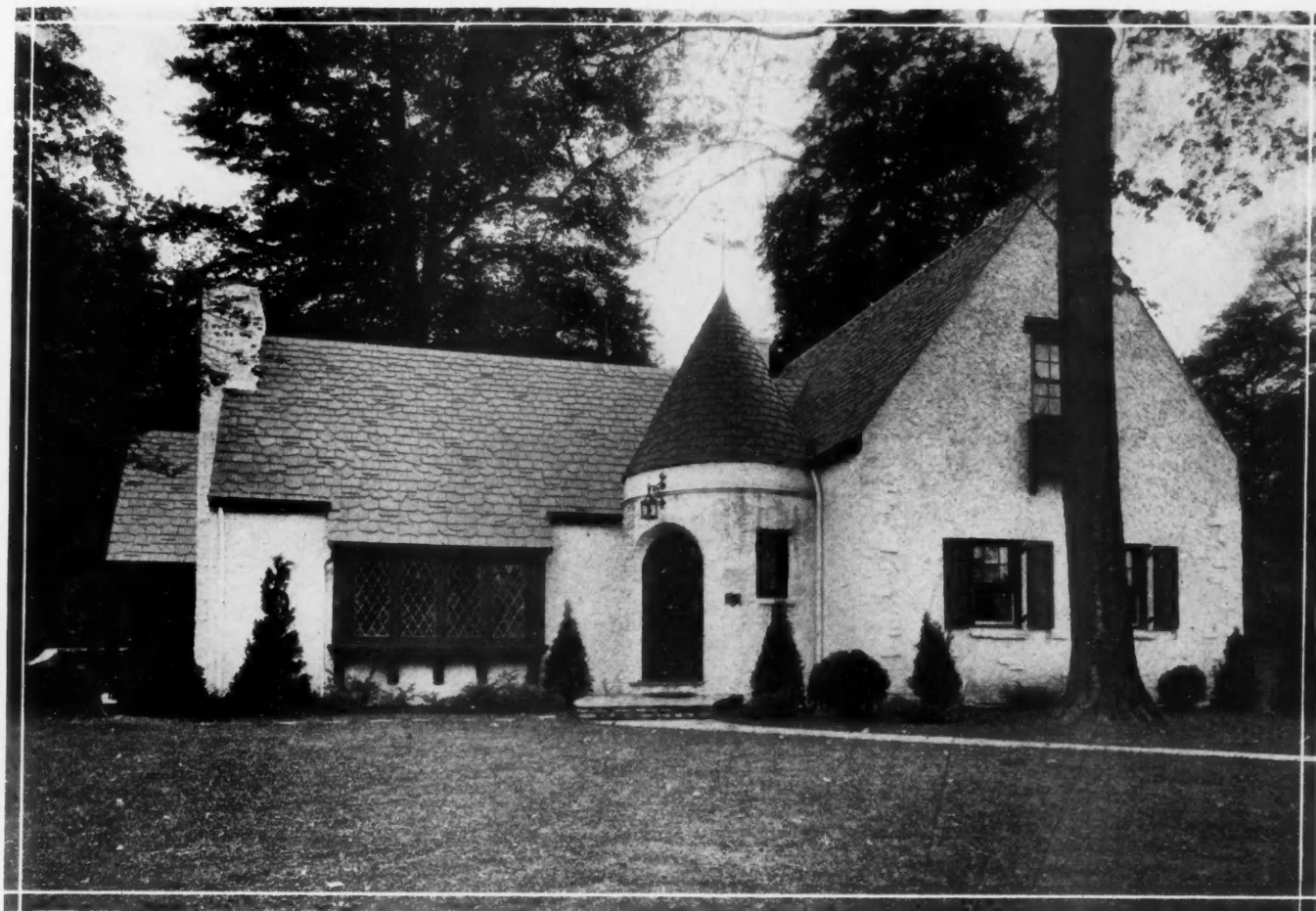
One-Floor Convenience Combined with Good Lines to Produce a Decidedly Attractive Small Home of Wide Appeal

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.



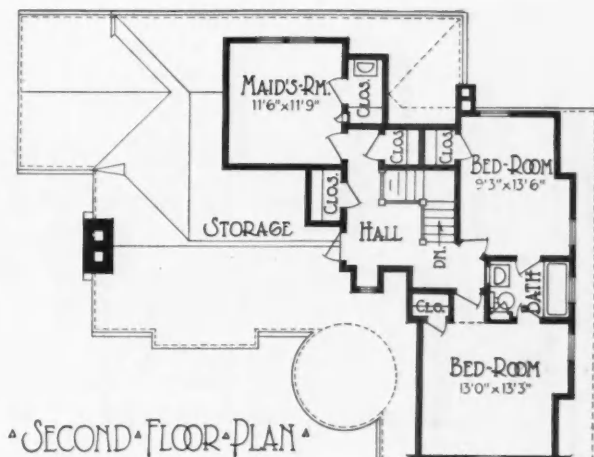
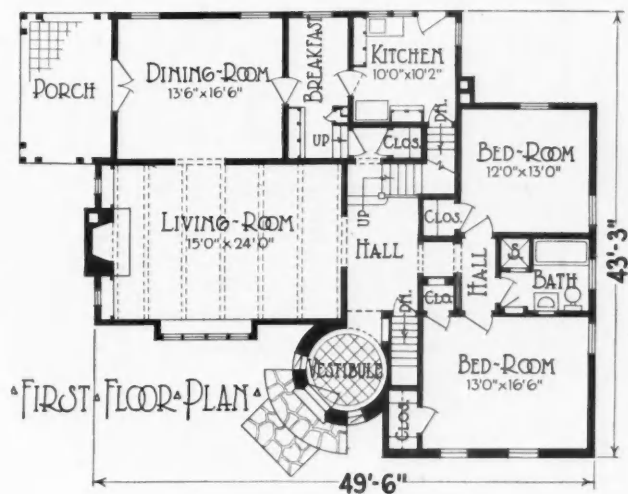


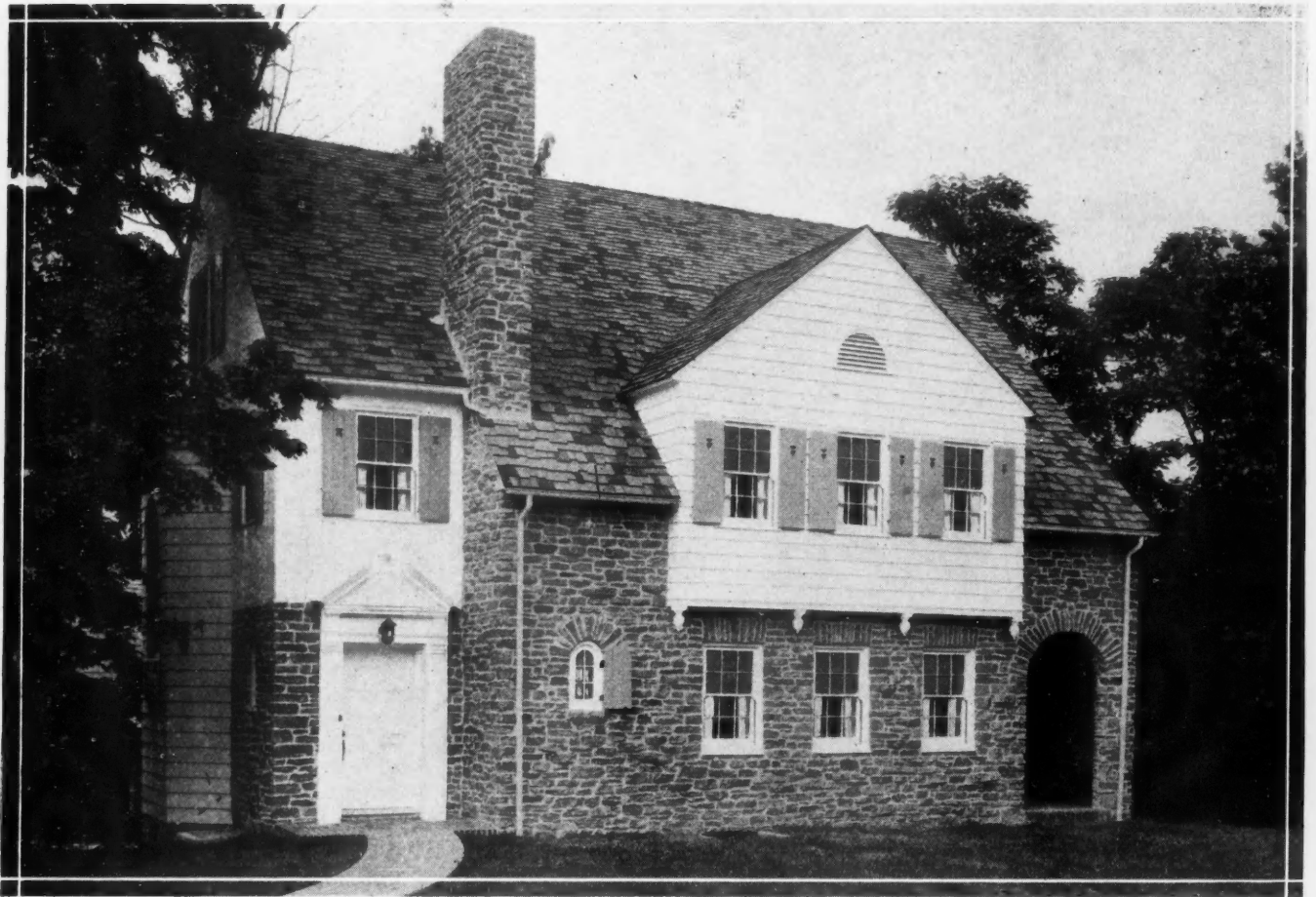
MYERS Y. COOPER, Builder

WARD FRANKLIN, Cincinnati, Architect

IN THE NORMAN STYLE

Dignified Yet Homelike. This is a Design Inspired by a Period Which is Rapidly Gaining the Appreciation it Deserves



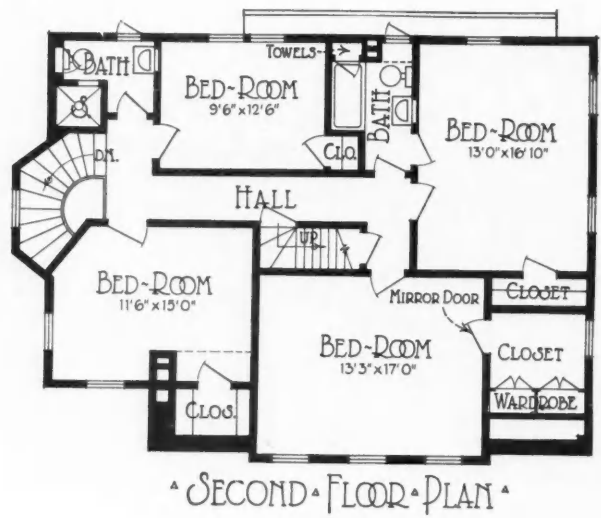
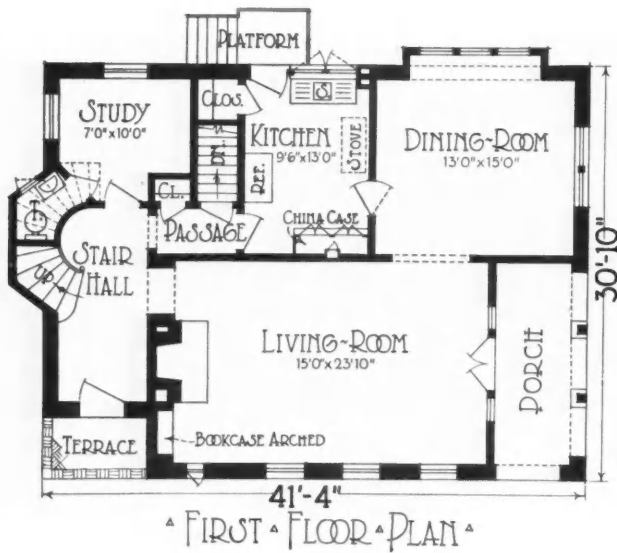


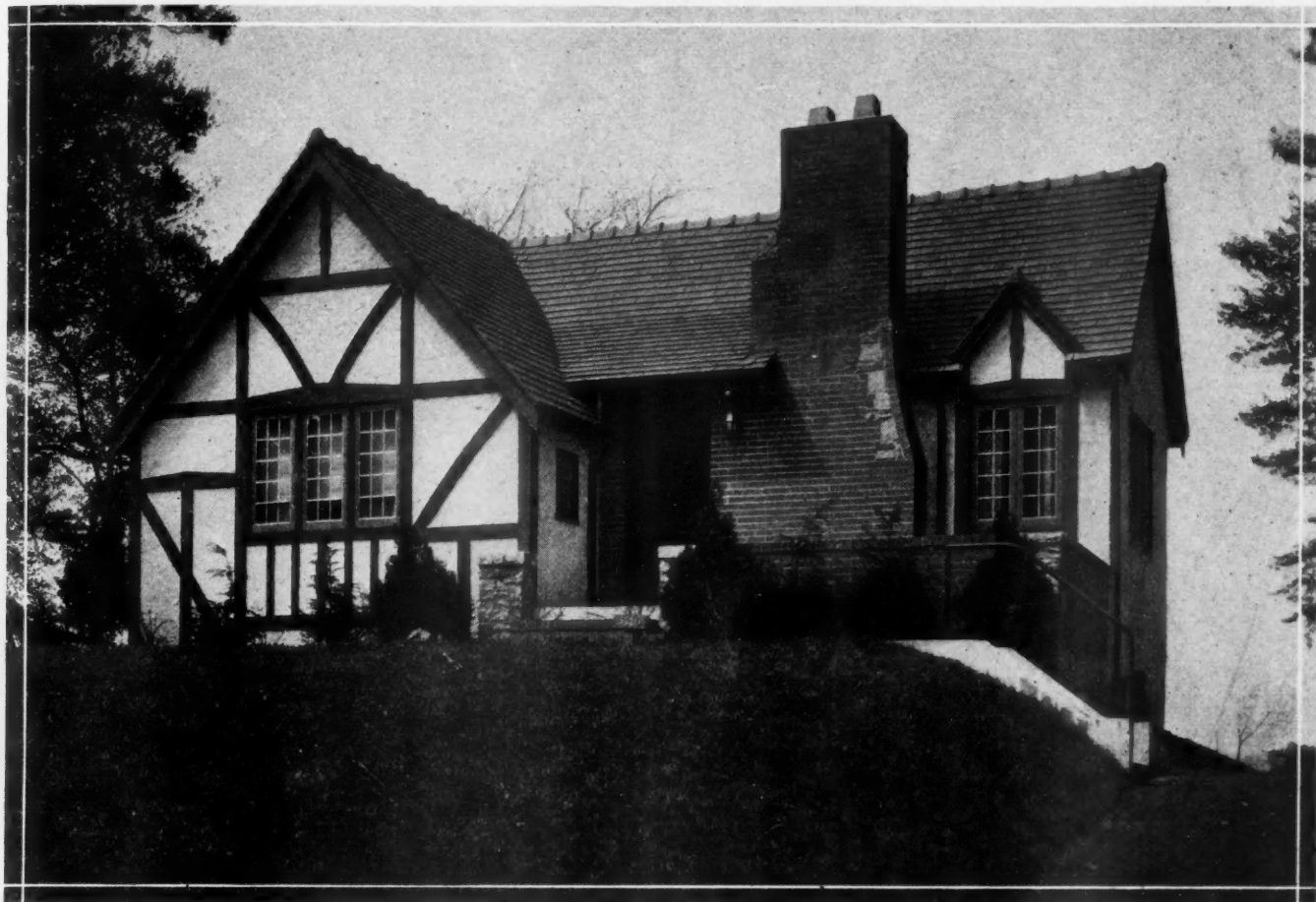
MYERS Y. COOPER, Builder

WARD FRANKLIN, Cincinnati, Architect

CHARM OF ROUGH STONE WALLS

Here is an Antique Effect at Once Quaint, Charming and Genuine in the Colonial Simplicity of Its Design



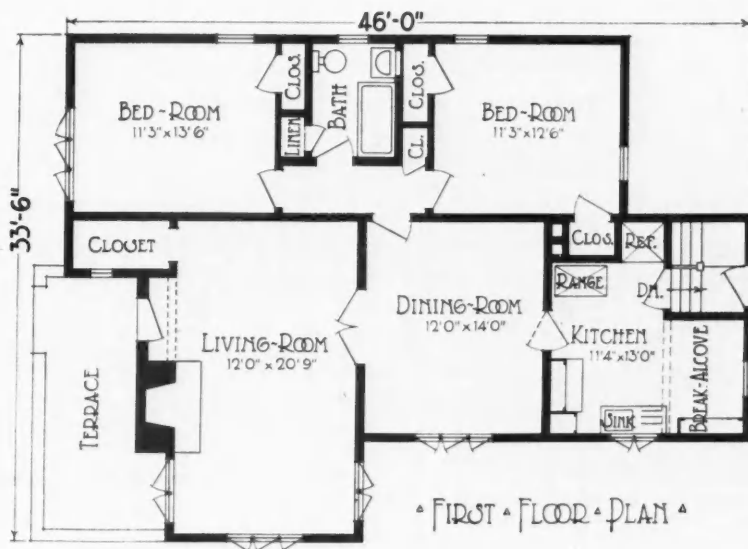


MYERS Y. COOPER, Builder

WARD FRANKLIN, Cincinnati, Architect

THE COTTAGE ON THE HILL

The Unusual Site is Both a Problem and an Opportunity But the Architect Has Solved the Problem and Used the Opportunity to Good Effect



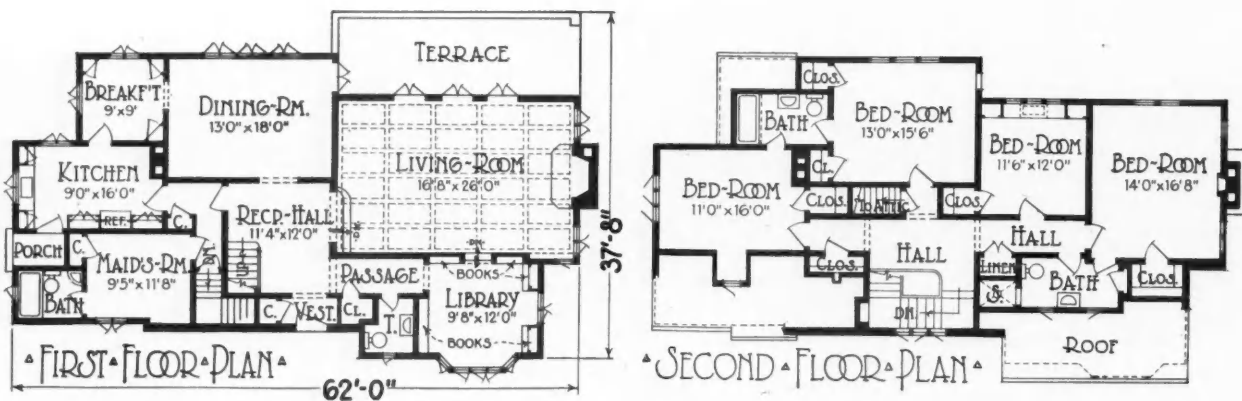


MYERS Y.COOPER, Builder

WARD FRANKLIN, Cincinnati, Architect

WHERE BRICK AND STUCCO BLEND

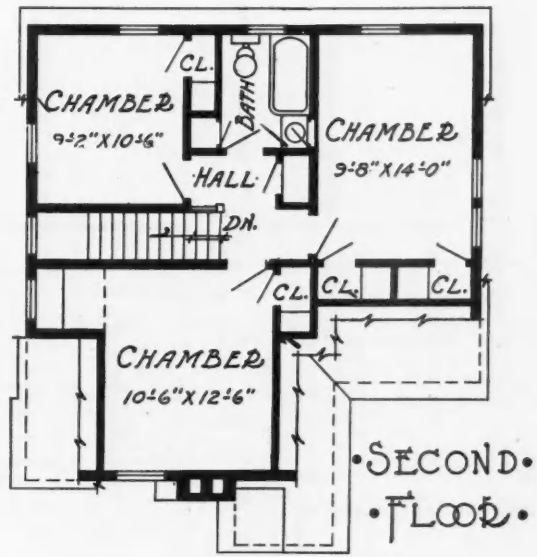
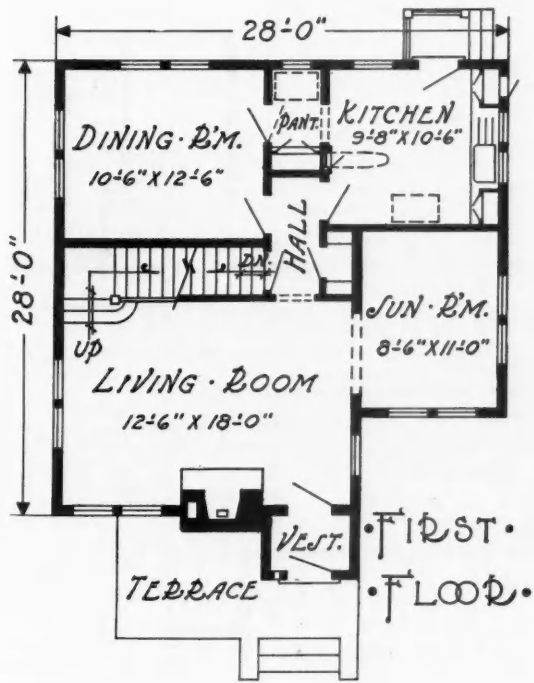
Advantage Has Been Taken of a Combination Offering Almost Unlimited Possibilities in Decorative Exterior Treatment





A LITTLE SHINGLED COTTAGE

*A Tiny House But One So Truly Homelike That
Anyone Would Fall in Love with It at Sight*



• SECOND FLOOR •



CHESTER N. LOWE, Cleveland, Architect

ENGLISH IN EVERY LINE

A Residence of the More Pretentious Sort in Which the Architect Has Caught the Real Spirit of the English Style of Architecture





THE AMERICAN BUILDER ALL-FEATURE HOME

Complete Working Plans

*A Home Finished in Cedar Shakes Presented in
One-Eighth-Inch Scale Drawings*

ROOFs covered with hand rived shakes were a characteristic feature of American homes of the pioneer period. When the early settlers moved westward into new country they were forced to make homes from the materials at hand, using only the simplest of hand tools. The trees cut in clearing land furnished logs for side walls and, when split with ax and wedge produced shakes as the most readily available roofing material.

With the progress of civilization and the development of machinery the home builders were more than glad to forego the labor involved in such construction. Labor grew more costly, machines produced cheaper and better materials. The hand rived shake disappeared as a building material.

Of recent years with more leisure at our disposal there has come a new appreciation of the artistic and we have discovered beauty in many of the primitive products which were once considered merely crude. The shake with

its rough texture surface, wide exposure and thick butt making deep shadows has come into its own as offering valuable architectural possibilities.

Today, with labor costs at high levels, the cost of hand rived shakes makes it prohibitive for any but the really wealthy. Much of its beauty, however, has been preserved in a modern cedar shake which can be produced by more efficient methods, making it available to the building public at a reasonable cost.

On the next page there is a detail illustration of the entrance to the All-Feature Home. Here we see how the modern cedar shakes afford the beauty of wide exposure, rough texture and deep shadows, not only in roof treatment but for side walls as well.

For certain types of houses the shake is particularly appropriate and effective and was well chosen by the architect who designed this house.

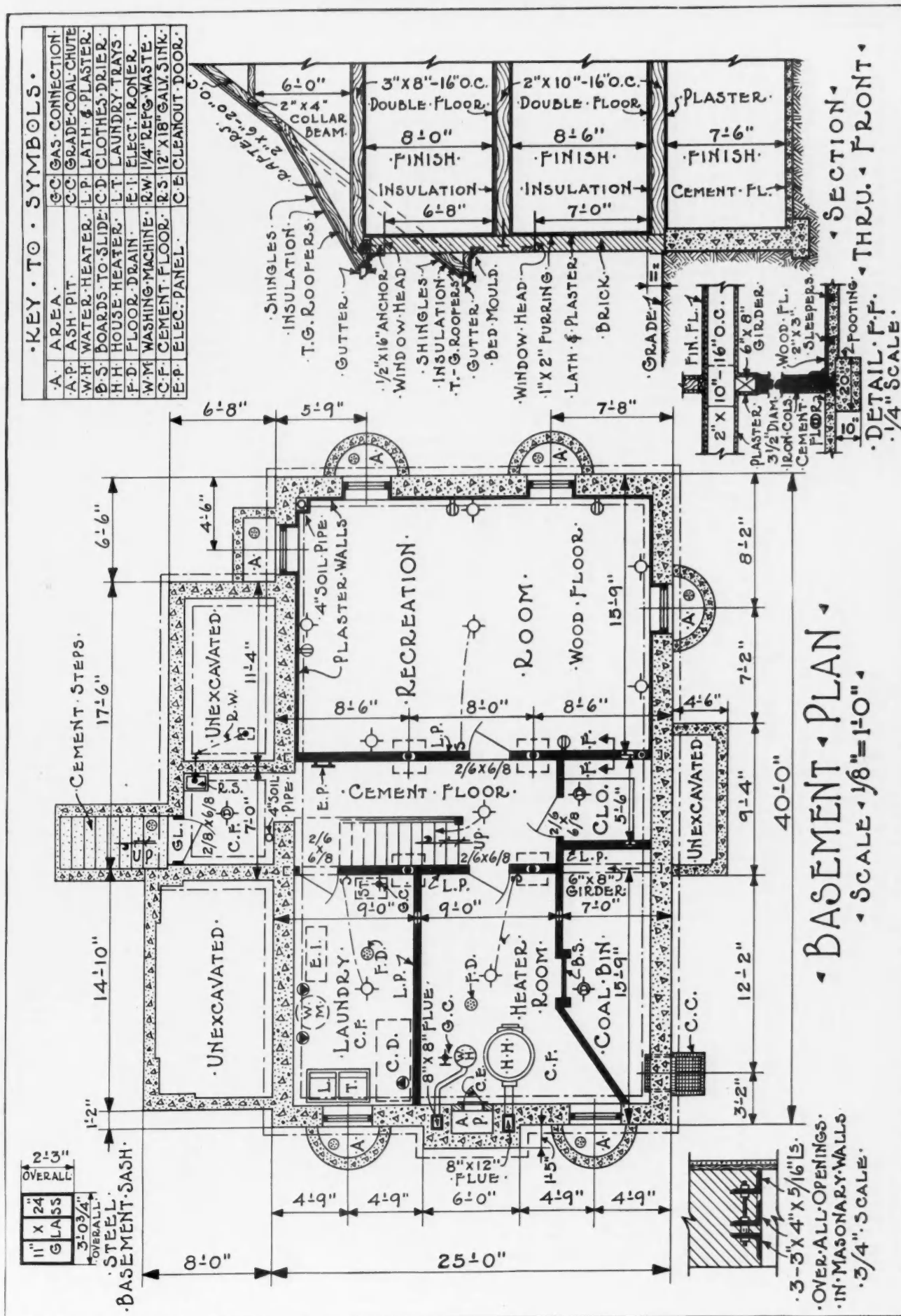
The house itself is done in the Colonial spirit and preserves many of the features of the early Colonial homes.

NEXT MONTH

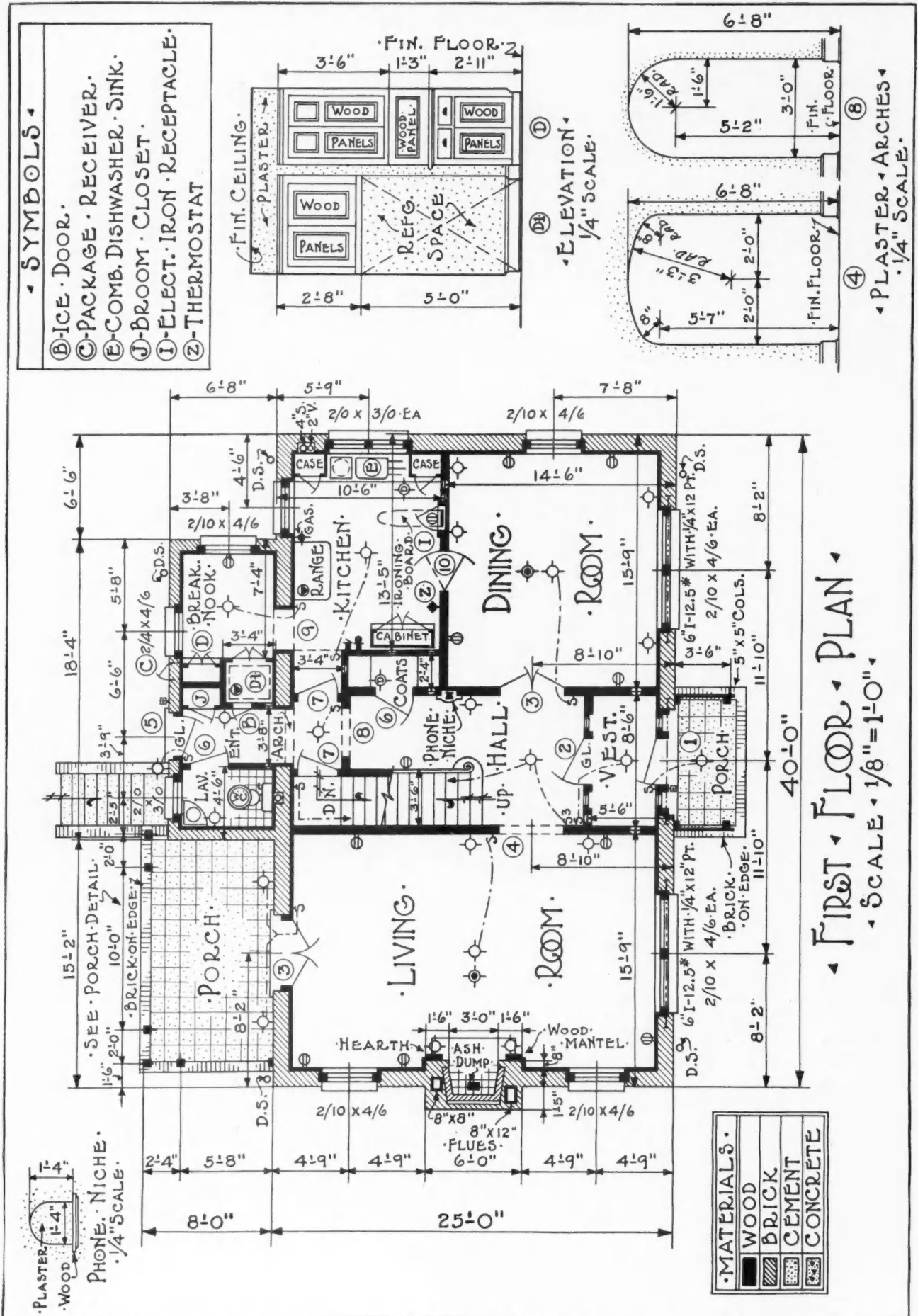
Complete Plans of a Dutch
Colonial Home Done
in Brick



Cedar Shakes on the Outside Walls Play a Large Part in the Effectiveness of This "American Builder" All-Feature Home Design as Developed by J. Charles Stanley, Architect.

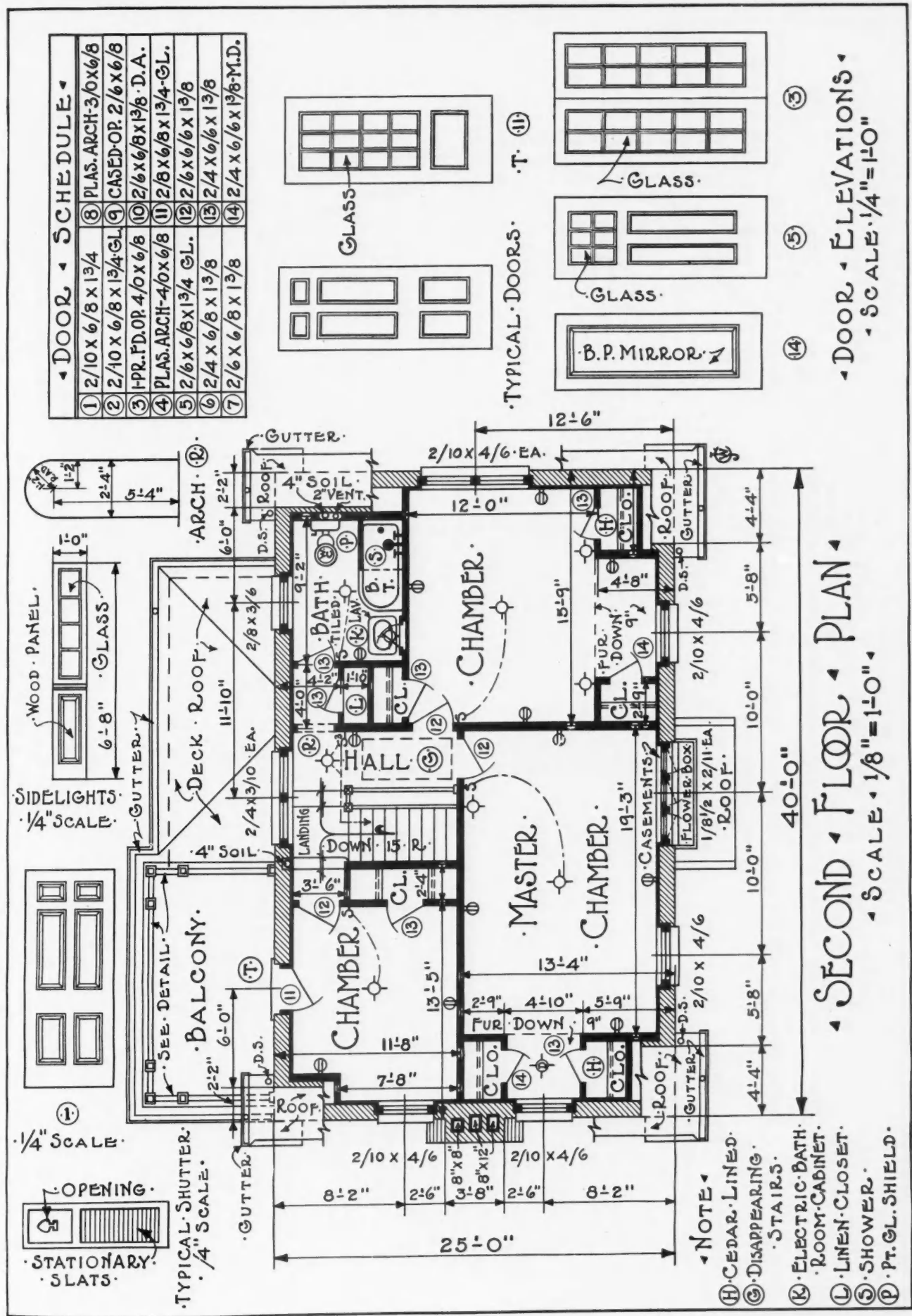


A Basement Recreation Room, with Wood Floor and Plastered Walls, Increases the Actual Size of the All-Feature Home, as Well as Its Desirability.



What a Contrast with the Home of a Generation Ago Is Seen in This Floor Plan with Its Provision of a Multitude of Convenience Equipment That Is Now Being Demanded.

1/4" SCALE.



On the Second Floor of the All-Feature Home Is Found Much Special Equipment Making the Modern Home a Veritable Palace as Compared with Homes of Other Days.



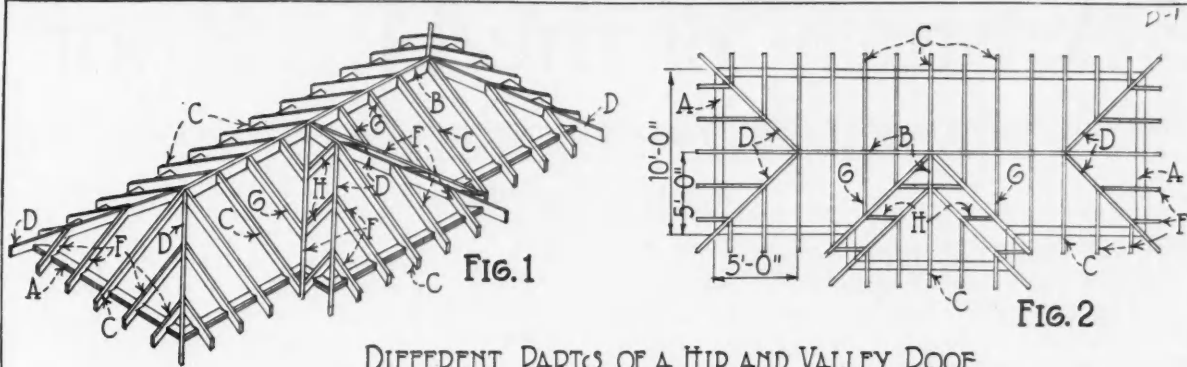
◀ RIGHT ◀ SIDE ◀ ELEVATION ▶



◀ FRONT ◀ ELEVATION ▶

◀ SCALE ◀ 1/8" = 1'-0" ▶

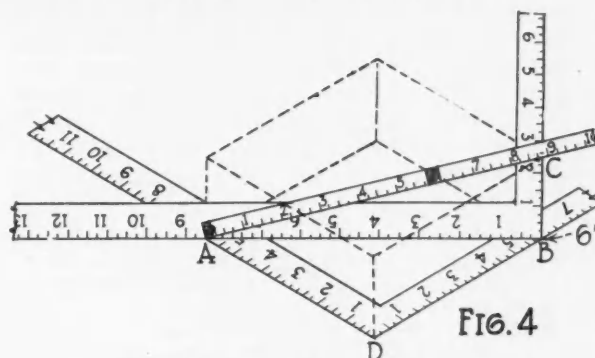
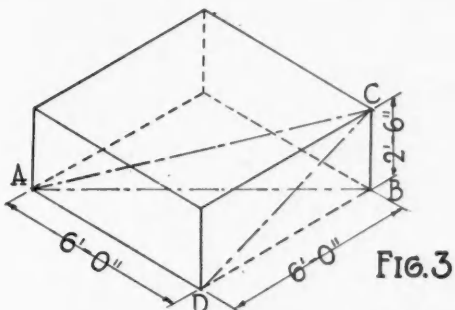
Front and Side Elevations of the All-Feature Home Showing Certain Details Required for the Construction of This House from the Complete Working Plans Presented Here.



DIFFERENT PARTS OF A HIP AND VALLEY ROOF

- | | | |
|-----------------|-------------------|----------------------|
| A PLATE | D HIP RAFTER | G VALLEY JACK RAFTER |
| B RIDGE | E VALLEY RAFTER | H CRIPPLE JACK |
| C COMMON RAFTER | F HIP JACK RAFTER | |

FIGURE 1 IS AN ISOMETRIC VIEW OF A HIP ROOF. THE SAME ROOF IS SHOWN IN PLAN IN FIGURE 2. A PLAN VIEW IS ALWAYS HELPFUL IN SOLVING A ROOF PROBLEM.

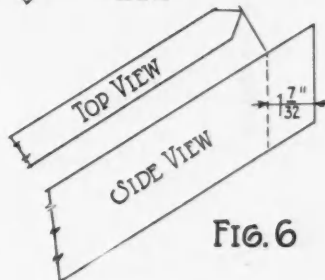
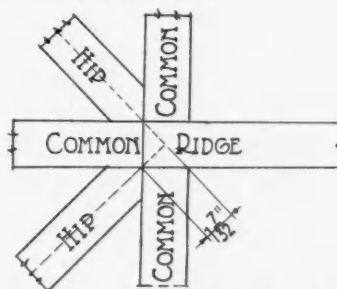
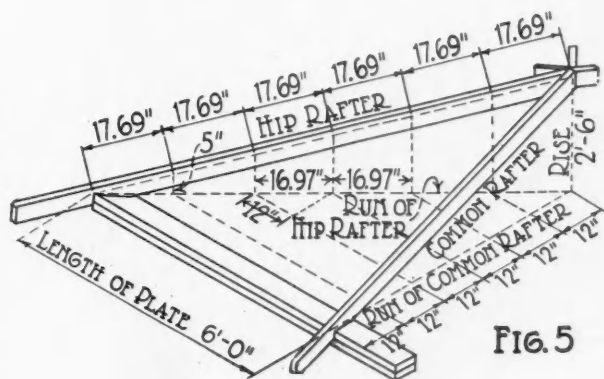


FINDING THE LENGTHS OF HIP RAFTERS MAY BE COMPARED TO FINDING THE LENGTHS OF THE DIAGONALS OF A CUBE.

WITH THE HELP OF SQUARES AND RULER THE LENGTHS OF THE DIAGONALS MAY BE SCALED AS SHOWN ABOVE.

- LET D-B BE THE RUN OF COMMON RAFTER.
- D-C BE THE LENGTH OF COMMON RAFTER.
- A-B BE THE RUN OF HIP RAFTER.
- A-C BE THE LENGTH OF HIP RAFTER.

COMPARE ALSO THIS BOX FIGURE WITH THE ILLUSTRATION OF A CORNER OF A HIP ROOF IN THE NEXT ILLUSTRATION.



THIS ILLUSTRATES WHAT IS MEANT BY "RUN OF HIP" AND "LENGTH PER FOOT RUN" OF HIP

FIG. 6

NOTE: THE LENGTH PER FOOT RUN IS PER FOOT RUN OF COMMON RAFTER.

SHOWING HOW THE DEDUCTION FOR THE THICKNESS OF THE RIDGE IS MADE.

Hip Roof Illustrated and Analyzed—See Explanation on Following Page.

A Study of the Hip Roof

Continuing Our Course in Roof Framing Simplified—Diagrams on Page Preceding

By JOHN T. NEUFELD

THE first figure, page 107, illustrates an ordinary hip and valley roof. Figure 2 shows this same roof in plan or as it appears when looking directly upon it.

Again as with the common rafter we emphasize that we must be familiar with the different parts and we must also understand the principles on which the rules are based before we can do good work in framing a hip roof.

The Different Parts

A is the plate on which the rafters rest. This is of importance to us as its upper outside edge is the line from which the measurements are taken.

B is the ridge board which is generally made from a piece of material of the same thickness as the rafters only a little wider. The ridge board is not always used and in many cases is not necessary.

C is the common rafter; a rafter extending from the plate to the ridge board and not connected to any other rafter.

D is the hip rafter. This rafter forms a hip or ridge in the roof, usually extending from the corner of the building to the ridge. (There are six hip rafters in the illustration.)

E is the valley rafter. This is similar to the hip only that it forms a valley or depression in the roof in place of a ridge or hip.

F is the jack rafter, sometimes called hip jack. This rests on the plate at its lower end and frames to the hip rafter at its upper end.

G is the valley jack which frames to the valley at its lower end and to the ridge at its upper end.

H is the cripple rafter. This frames to the valley rafter at its lower end and to the hip rafter at its upper end.

In the lower figure we are looking down upon the roof and the dimensions that we get from this plan gives the actual length of the run of the various rafters but not the lengths of the rafters.

We have learned from previous articles that if we know the run and the rise of a rafter we can easily find the length.

The length of the various other rafters have a definite relation to the run of the common rafter, and the run and rise of the common rafter is the base from which the run and also the length of the other rafters are calculated.

The Length of the Hip Rafter

Finding the length of a hip rafter may be compared to finding the length of the diagonal of a box.

In Figure 3 we show a box with a width and length of 6 feet and a height of 2 feet 6 inches.

A school boy would find it easy to get the lengths of the different diagonals. He would first find the length of the diagonal of the bottom of the box from A to B, and then he would find the diagonal of the box from A to C. He might also find the length of the diagonal from C to D. He would use "square root"; however we are sometimes afraid to use square root too much, for fear of being called down.

We will start with a simpler method.

If we compare a part of a hip roof with this box we will have the following dimensions:

A is the corner of the building.

B to C is the total rise of the roof.

D to B is the run of the common rafter.

D to C is the length of the common rafter.

A to B is the run of the hip rafter.

A to C is the length of the hip rafter.

Compare figures 3, 4 and 5.

With the help of a square we may now find the length of the hip rafter without any calculations.

Lay the first square flat on the bottom of the box as shown. Each edge of the bottom is 6 feet. If we measure across between 6 on the tongue and 6 on the blade we find the length from A to B which is the run of the hip rafter. This is nearly $8\frac{6}{12}$ or $8\frac{1}{2}$ inches. Therefore the run is $8\frac{1}{2}$ feet or 8 feet 6 inches.

Another square may be placed with the blade along the run of the hip and the tongue along the rise. The run is $8\frac{1}{2}$ feet and the rise is $2\frac{1}{2}$ feet. We measure between the points $8\frac{1}{2}$ on the blade and $2\frac{1}{2}$ on the tongue and find the length of the diagonal that stands for the length of the hip rafter. This distance is $8\frac{10}{12}$ inches, therefore the length of the hip rafter is $8\frac{10}{12}$ feet or 8 feet 10 inches. By this method of measuring across the square we may find the length of rafters to a fair degree of accuracy; however, care should be taken in measuring. Steel squares usually have one side graduated into twelfths of an inch. If we take inches for feet then twelfths of inches on the square represent inches on the rafter.

Another method that is more commonly used for finding the lengths of hip rafters is the "Length Per Foot Run Methods." In this method we use the foot run of the common rafter as basis.

The hypotenuse of a right triangle whose sides are each 12 inches is 16.97 inches long. We see from the illustration (Figures 3 and 5) that the run of the hip rafter forms the hypotenuse of a triangle whose sides are the run of the common rafter and the length of the plate. (In the illustration this is the length of the plate from the corner of the building to the first common rafter.)

If we take only one foot of run and one foot of length of plate we have a right triangle whose sides are each 12 inches long and whose hypotenuse is 17 inches or, more accurately, 16.97 inches.

The long side, or hypotenuse, in this case, is a portion of the run of hip rafter corresponding to one foot run of common rafter. Therefore, we say that the run of the hip is always 16.97 inches for every foot (12 inches) run of common rafter, if the roof is of an even pitch.

The hip rafter always has the same rise as the common rafter, therefore the rise for each 17 inches of run of hip is the same as the rise per foot run of common. In this problem the rafters have a rise of 5 inches per foot "run of common rafter" or 5 inches for every 17 inches of "run of hip."

BRIXMENT *protects* winter masonry...

BRIXMENT mortar, like any other mortar containing water, is not freeze-proof. Nevertheless it is used regularly for mid-winter masonry even in the severest northern climates. In fact during the winter months more BRIXMENT is sold in proportion to the volume of building construction than at any other time.

BRIXMENT mortar sets up faster than portland-cement-and-lime mortar in which a large quantity of lime is used and this set can be made to take place at any temperature before freezing occurs by heating the sand and water. Once BRIXMENT mortar has set, it remains sound and unimpaired no matter how long and severe the freezing period may be.

The oily content of BRIXMENT which reduces the freezing point of the mortar gives further protection in freezing weather. Send for architect's handbook. Louisville Cement Company, Incorporated, Louisville, Ky.

District Sales Offices: 1610 Builders Bldg., Chicago; 301 Rose Bldg., Cleveland; 602 Murphy Bldg., Detroit; 101 Park Ave., New York

BRIXMENT *for Mortar and Stucco*

When a concrete mixer is used, the mortar can be heated by means of a torch attached to the mixer so that the flame is thrown inside the drum. If the weather is not too severe, this method alone will suffice.



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To get the length of hip rafter per foot run of common rafter take 17 inches on the blade of the square and 5 inches on the tongue. This is usually stated thus: "Run of hip on blade, rise of hip on tongue." The distance between these two points is $17 \frac{2}{3}$ inches. This is the length of hip rafter per foot run of common rafter. This length can be figured more accurately thus: Length of hip rafter per foot run equals the square root of (the sum of the squares of 16.97 and 5), written thus: $\sqrt{16.97^2 + 5^2} = 17.69$ inches.

In practice we usually take this length per foot run from tables in hand books or from the steel squares. The common rafter in this problem has a six-foot run and therefore there are also six such lengths for the hip rafter, as can be seen in the illustration. The total length of the hip rafter, therefore, is 6×17.69 inches = 106.14 inches = 8 feet $10 \frac{1}{8}$ inches.

In Figure 6 we show a small framing detail taken at the point where the hip rafter meets the ridge. This is a view in plan and shows the upper ends of the rafter as seen from above.

The length of hip just found is to the center point "O." As the hip rafter does not extend to this point we must deduct a small amount from the length. On a horizontal plane this is $17/32$ inches and is deducted as shown in the lower part of the illustration.

PROBLEMS

Some tables give the length per foot run for various pitches expressed by the rise per foot run. Other tables give the length per foot run for various pitches expressed in degrees. The following are taken from such tables.

Rise per foot run	Length per foot run	
	Common	Hip
6 inches	13.65 inches	18.00 inches
8 inches	14.42 inches	18.76 inches
9 inches	15.00 inches	19.21 inches

Pitch by degrees	Length per foot run	
	Common	Hip
30 degrees	13.86 inches	18.33 inches
45 degrees	16.97 inches	20.78 inches
55 degrees	20.92 inches	24.11 inches

Find the length of common and hip rafter for a roof

- A—with 6-inch rise and 8-foot run;
- B—with 8-inch rise and 14-foot run;
- C—with 9-inch rise and $16 \frac{1}{2}$ -foot run;
- D—with 30-degree pitch and 10-foot run;
- E—with 45-degree pitch and 9-foot run;
- F—with 55-degree pitch and 13-foot 6-inch run.

ANSWERS

- A. Common rafter..13.65 in. \times 8 = 109.2 in. or 9 ft. $1 \frac{3}{8}$ in.
Hip rafter18.00 in. \times 8 = 144 in. or 12 ft. 0 in.
- B. Common rafter..14.42 in. \times 14 = 201.88 in. or 16 ft. $9 \frac{1}{8}$ in.
Hip rafter18.76 in. \times 14 = 262.64 in. or 21 ft. $10 \frac{1}{8}$ in.
- C. Common rafter..15.00 in. \times 16.5 = 247.5 in. or 20 ft. $7 \frac{1}{2}$ in.
Hip rafter19.21 in. \times 16.5 = 316.97 in. or 26 ft. $4 \frac{1}{8}$ in.
- D. Common rafter..13.86 in. \times 10 = 138.6 in. or 11 ft. $6 \frac{1}{8}$ in.
Hip rafter18.33 in. \times 10 = 183.3 in. or 15 ft. $3 \frac{1}{8}$ in.
- E. Common rafter..16.97 in. \times 9 = 152.73 in. or 12 ft. $8 \frac{3}{4}$ in.
Hip rafter20.78 in. \times 9 = 187.02 in. or 15 ft. 7 in.
- F. Common rafter..20.92 in. \times 13.5 = 282.42 in. or 23 ft. $6 \frac{7}{8}$ in.
Hip rafter24.11 in. \times 13.11 = 316.08 in. or 26 ft. $4 \frac{1}{8}$ in.

Guild Quality

(Continued from page 82)

To achieve an artistic, practical and satisfactory tiled surface, whether wall or floor, decorative inset, swimming pool, fountain or whatever the work may be, there must be a proper selection of sizes, shapes and textures. There must be a harmonious combining and blending of colors and tints. There must be a suitable appreciation of the relation of the tiling itself to other building units and processes. And finally there must be the right kind of trade practices in the actual installation after the sketch has been made, patterns and designs approved, and material selected.

The art in tilework is created on the job as well as in the plant where the tiles are made. It is attained by properly putting together certain units of the thousands that are available. Selectivity is therefore all-important. Sensible choices must be made so that when the different forms and colors of an inherently beautiful material are assembled, they may represent an equally beautiful piece of finished work.

When all of this is done, the result is an installation of enduring charm and practical worth.

It is hoped that the spirit and intent of the Guild-Set emblem will appeal to the imagination and stimulate the pride of every contractor whose work justifies its use. These contractors, and the mechanics they employ, are being exhorted as to the very important part they play in the industry. The unlimited possibilities of tile are being emphasized. The contractors are being urged to live up to these possibilities, which means that they should be satisfied with nothing less than the best that can be done for a given price.

The program involves also a certain amount of public education. It is only too true that a large number of owners fail to appreciate the real economy of good workmanship. Such owners must be made to know that it does not pay to permit cheating on any construction job just for the sake of getting a lower price. Shoddy workmanship represents the biggest waste in the building trades. Any material is practically helpless, and of greatly reduced value, when improperly or carelessly handled.

The tiling association has declared it to be its intention and desire to elevate the standards of workmanship, and the presence of the Guild-Set emblem on any job will be physical evidence of such intention and desire.



Building Costs

The American Appraisal Company gives the following:

The index numbers of building construction costs, based on costs in 1913 equal to 100, are:

	November, 1929	October, 1929	November, 1928
Boston			
Frame	217	214	207
Brick, wood frame.....	225	223	218
Brick, steel frame.....	205	205	202
Reinforced concrete	214	212	208
United States			
Frame	205.5	205.4	204.2
Brick, wood frame.....	214.6	214.5	212.6
Brick, steel frame.....	197.8	197.8	197.2
Reinforced concrete	201.9	201.9	200.6

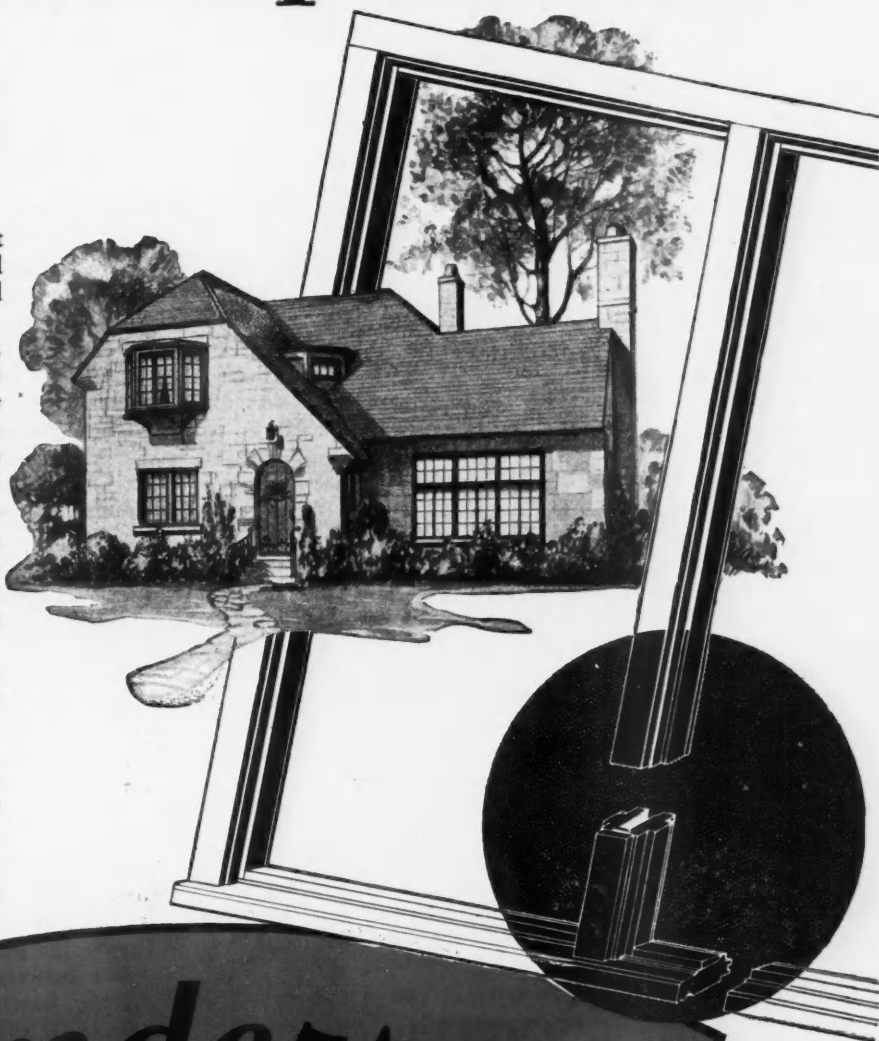
Build your reputation with weathertight construction

BUILD a house snug and tight against wind and dirt, and the grateful owner advertises you as a good builder.

If you would build a draft-free house, you must be sure your window frames are weathertight. Andersen Frames are designed to make this task easy. Extremely accurate milling makes snug joints and permits close fitting of sash. A patented feature provides for the use of an economical wide-blind-stop construction which tests prove will reduce by 53.4% the air leakage around frames as commonly installed. This principle is also applied to make an insulated mullion.

These better window frames, with their weathertight features, will help you make homes more comfortable and improve your reputation for good building. Ask any Andersen Frame Dealer to demonstrate the advantages of these superior stock frames, or write to us for descriptive folders.

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SUPERIORITY
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Genuine
WHITE PINE
Sills and Casings

White Pine for **PERMANENCE**
Weathertight for **HOME COMFORT**

The house illustrated above was built by H. F. Libbert for Mr. A. F. Kanban, Edgewood, Terre Haute, Ind. Andersen Casement Frames used throughout

Detail above illustrates the Andersen weathertight mullion and the removable sill feature which changes the frame for outswinging sash for use with inswinging sash of the same size.

FOR WEATHERTIGHT CONSTRUCTION USE Andersen FRAMES

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

LETTERS TO THE EDITORS

This Department is for the use of our readers. Here you can feel free to express your own ideas on any subjects of current general interest to the building industry. No anonymous letters will be published; nor will the editors be responsible for what is said here.—Editors American Builder.

Why Be the Goat?

TO THE EDITORS:

Pitman, N. J.

In reading this month's AMERICAN BUILDER, which I have read for years, I find this subject: "HOW OFTEN DO YOU FIND A BUILDING JOB WITHOUT ITS CONTRACTOR?" and I am writing this little article to show how much the contractor's services are appreciated. I will call it, "Why Should the Contractor Be the 'Goat' for the Building Trade?"

In every business except the building trade the contractor or dealer is protected in his business. Any person can go to a lumber yard and buy a 2 by 4 or a bundle of shingles at the same rate a builder can buy a carload. Is that fair? We have no protection. We work for the lumber dealer who generally has made his "sock" in about fifteen years and can retire; while you find about one builder out of every thousand who can exist comfortably after he is past work.

We take all the risk; we are the "Goat" for the whole building trade. A plumber will not set a fixture unless we say where to put it and we have to do all the cutting, get everything ready for him, while he and his helper (he always has to have one) stand around and draw about double a carpenter's wages; also, try to buy a bathroom fixture and you will pay twice the value of it, then you can't get a plumber to set it. If he does he will laugh at you and show you where he got his commission.

If the mason gets the foundation out of level it is the builder's fault,—the cellar bottom was not level. If the plasterer makes a bum wall it is our fault,—the grounds were put on crooked. If the roof leaks after about ten years it is our fault,—we did a bum job.

We are responsible for everything: carrying insurance, a truck load of tools, waiting on everybody, building scaffolds, doing all the most dangerous climbing and heavy work, and getting the least wages.

I claim a builder should buy material 10% less than anyone not in the business! Let the lumber dealer make his prices so that he can give it to us. If he refuses, buy from the dealer who will. If the wholesale lumber dealer sold a contractor a carload of material his name would be "mud"; he would be blacklisted. Why shouldn't the builder have and exercise the same privilege?

If there is anyone in the building game who does not agree with me, I would be pleased to hear his argument. I have been in the game for thirty years and have built over two hundred houses beside barns, garages and doing all kinds of repair work and have never received over 2% discount.

For six years I was superintendent for a realty company and spent at least \$100,000.00 with one company and I never received "thank you."

The time is past when we take jobs just for cards. We are better friends and are working for the same purpose—the \$.

Let all the builders have an understanding with their lumber dealers; let them understand what we want (protection) and get it.

I would be pleased to hear from any brother builder on this subject.

G. O. LLOYD.

Ice Box as Package Receiver

TO THE EDITORS:

Chicago.

In your interesting article in the December issue, you illustrate the convenience of a built-in milk receiver.

The same convenience may be had where an outside icing refrigerator is built into a house or apartment, without the additional expense of an opening for receiving deliveries of milk, etc., alone. The housewife or maid may easily remove the milk, meat, or other perishable food from the ice chamber from the inside of the house and place in its proper place in the food compartment.

In addition to its cost-saving, this method of receiving maintains constant refrigeration.

ROBERT MCKNIGHT,
Director, Department of Public Relations, National Association of Ice Industries.



Plaster Trim Will Cost More

TO THE EDITORS:

Dayton, Ohio.

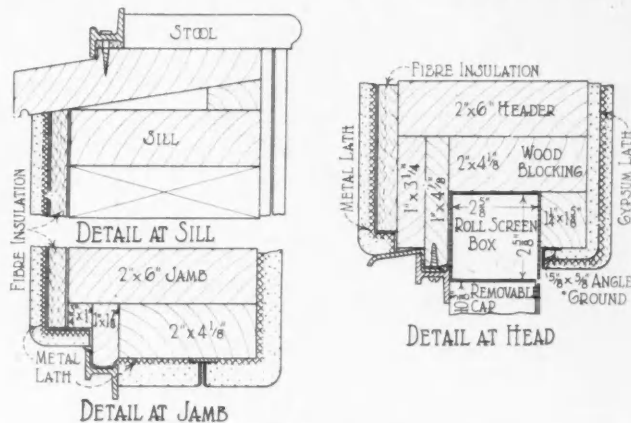
Regarding the article by Architect Rawson in your October issue of AMERICAN BUILDER, I want to say that plaster return trim will "prove out."

I have used this trim method for a number of years, principally on Spanish types, and it has proven to be very satisfactory. You should caution prospective users of this trim method to exercise exceptional care against any method whereby the plaster in the course of drying out will leave a space between the wood jambs and the plaster.

In Mr. Rawson's details he will encounter this difficulty in the inside of his door and window frames, and the method of placing the base. The detail for the outside of the frames will prove satisfactory; however, the reveal for the stucco could be a little deeper. This same method should be used on the inside, which would of course necessitate a narrower jamb, which will materially add to the appearance of the opening.

Wood sills will prove much more practical than stucco-on-frame sills.

On my plaster return trim installations I find the cost will



No-Trim Details Used by C. J. Lause,
Dayton, Ohio.



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Architect:— ARMSTRONG,
FURST AND TILTON
Chicago, Ill.
Pyramid stucco
used on outside.



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

exceed that of a small casing trim by 12%. This is due to the added labor of setting the jambs, the extra metal lathing and the additional plastering labor, and principally the expense of returning the base to the jambs. I have had no "luck" in setting the base first and then plastering. The plaster and the base dry and leave an unsightly open space.

I am enclosing a detail of an average installation. While this is for steel sash, the same method is used for wood sash and doors.

C. J. LAUSE,
Builder and Contractor.

Plastering Against Wood Not So Good

TO THE EDITORS: Moorhead, Minn.

About your question concerning the no-trim method in the October issue, it seems to me excellent except that I have a little against any plastering towards wood. The plaster inside as well as outside most of the time leaves cracks between plaster and wood. If not in a short time, anyhow in the long run. Many stuccoed houses, in this vicinity, bear cracks all along the trimming. So in this way I am against it.

Now that I am writing about this, I would ask if there is anything to do to prevent this separating of the plaster from the wood, also how to fill such cracks permanently.

CHRIS VAN OOSBREE.

No-Trim Double-Hung Windows

TO THE EDITORS: Los Angeles, Calif.

No inside trim with casement windows has become quite common in California; but for those who prefer double hung windows the accompanying plans will show an original, cheap and easy way to install these.

This method calls for a three-eighths inch plaster bull-nose all around window and door openings, thus doing away with stool. A strip of parting bead is gained into the sill, thus keeping drip out. Spring weights such as acme, pullman, counter-bal, etc., are used, these being needed on the left side only in the ordinary size openings. Pockets for these are formed by making the stud opening two inches wider than needed for the frame and then nailing 2 by 4 blocks on the stud above and below the balance openings.

These plans call for stucco to be placed directly on the studs, using woven wire for reinforcing, the method common here; but where sheathing is necessary a corresponding change can easily be made in the stile detail.

As to plastering any style can be used, interior stucco

being very popular, especially if textured. Or a home-made white stucco can be used to give texture and then decorated. This is composed of hydrate of lime 3 sacks, keene cement 2 sacks, sand 3 sacks. Ordinary white putty coat is used where no texture is desired. These walls are then flat coated with a special sealing paint and afterwards color blended, making an extremely attractive wall and of course showing little woodwork.

I have found this an exceptionally easy, cheap and attractive method of casing and is far superior to using the ordinary cheap inswung casements, which are almost sure to leak, a thing impossible with double hung windows.

W. H. TAPLIN,
Builder.

Wants Small Complete Homes

TO THE EDITORS: Yakima, Wash.

Perhaps I am assuming too much when I write this letter, but I have a suggestion I wish to make. I am hoping you are open to suggestions. Mr. Swan has been a subscriber to the AMERICAN BUILDER for some time and I have studied the entire book, but especially the section showing plans and pictures of homes. The homes are lovely, but not practical for very small families with moderate incomes. May we have a few small homes, three and four rooms and as complete as you make the present day small apartment? A house for two people to be happy and comfortable in and in which they can spend their declining years. A house that two can live in very comfortably and also small enough that when one of the two dies the remaining one can still live in it. A house that is small enough and compact enough so the upkeep would not overtax an old lady or an old man with a modest income.

In this community a small house sells best and also rents best, the big majority of the time.

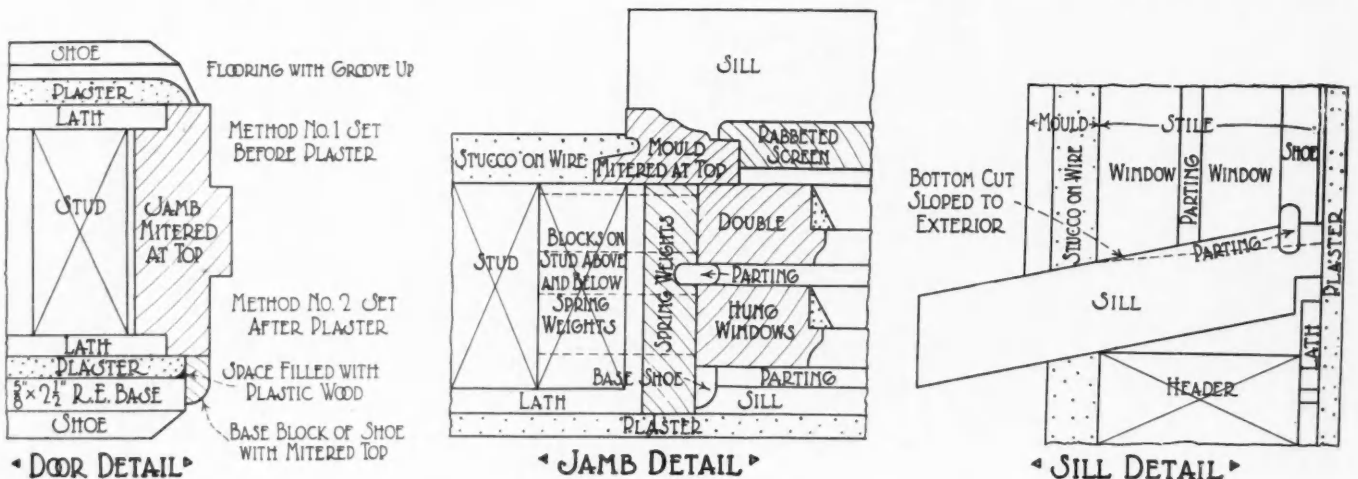
MABEL L. SWAN.

Fibre Boards Only Referred To

TO THE EDITORS: Albany, N. Y.

I have had several letters commenting on my wall board article in the September AMERICAN BUILDER. Some have agreed and others have not agreed with me. This morning I received a letter from a party in Alabama; but he apparently misunderstood what the article was about as all through his letter he mentions *gypsum* wall board, whereas of course I did not have any reference to gypsum board at all, but referred only to insulating boards such as inso-board, celotex, insulite, maftex, etc.

E. W. LADD,
President, Albany Builders Supply Company.



No-Trim Details Used by W. H. Taplin, Los Angeles.

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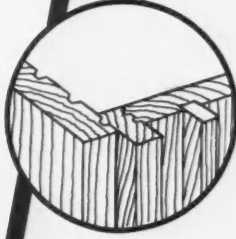
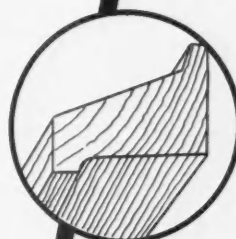
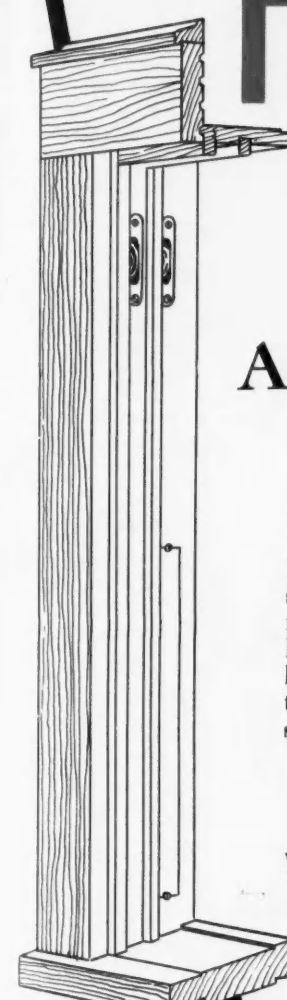
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Questions and Answers

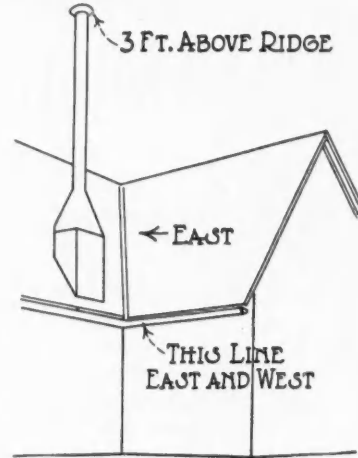
This Department Conducted by
V. L. SHERMAN

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 MARCH ISSUE

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

1. What is the reason for the pitting of plaster?
2. Will you show and explain the use of the "psychrometric chart" use in heating and ventilating?
3. For an arched lattice truss 38 feet in span, will you give the proper layout, when placed 14 feet on centers?
4. Can you give me a simple method for framing a smubbed-gable?
5. Could I safely carry a brick veneer on wood structure? The veneer is 9 feet high, above an adjoining room roof, and the span is 12 feet. The veneer wall extends down on either side of this room to a concrete foundation wall.
6. What has been your experience in the use of the better or the cheaper grades of glass in building small homes?
7. What causes discoloration in outside brick-work, especially in damp weather? Is there any way to avoid it?
8. How does a gas-fired refrigerating system operate?
9. The chimney shown in the sketch chokes badly when the wind is from the west, causing the heater to back-draw. At any other time the draft seems to be satisfactory. What is the reason?



SEE FEBRUARY FOR ANSWERS TO DECEMBER QUESTIONS

Following are the questions asked in the November issue, and their answers

Question: I am building a basementless cottage and would like to have a good method for laying out the foundation walls and under floor with concrete.

ANSWER: The following answer from Robert N. Mayer, of Elizabeth, N. J., is one of many received. The idea of a basementless home does not seem to strike so many as strange now-a-days.

"The drawing, Fig. 1, shows a ten inch concrete foundation wall with a wide footing below the frost line. The pouring

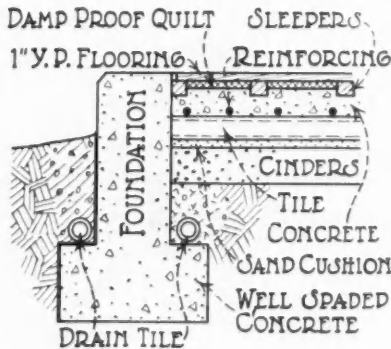


FIGURE 1

tile choking or a corrugated metal pipe used.

"Within the walls the earth should be well tamped and covered with at least 6 inches of cinders, and on top of this a cushion of sand an inch or two thick. Over the sand lay 12 by 12 hollow tile, 4 inches wide. The joints should be tight and the open ends closed with a strip of galvanized sheet metal packed up with cinders or gravel.

should be well spaded and the depth and width of the footing should be sufficient to carry the load well on poor soil. Block may be used in place of a poured wall, but is not preferred. Drain tile should be laid in mixed cinders and gravel close to the footing shoulder. The tile joints should be covered with burlap to prevent the

"On top of the tile, and on reinforcing, concrete should be placed. The concrete should not be poured but put on in a plastic state. Building felt may be used to advantage over the hollow tile. Care should be taken not to break the hollow tile. Sleepers, 16 inches on center, are then placed with one all around at the edge. Between the sleepers place quilting. The 1 inch flooring should come just to the level of the wall."

Fig. 2 is an added figure showing how wood construction is used on basementless houses. On fair, well drained ground this seems to work well.

Question: If possible, can you show me how

to rearrange the leader pipes from the furnace so as to combine them into trunks and still supply the same registers? I am given to understand that such a system saves on heat. How is that figured?

ANSWER: While it is true that warm air will travel better through pipes of circular section, individual round pipes from the furnace to the registers are not common except in the heating of homes. In indus-

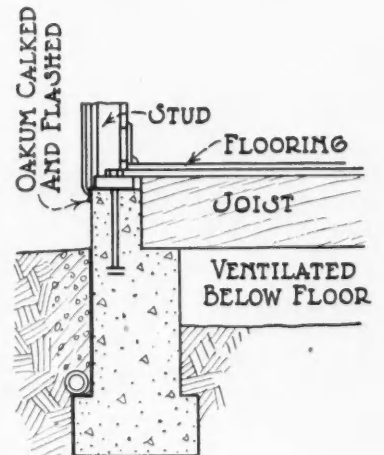


FIGURE 2

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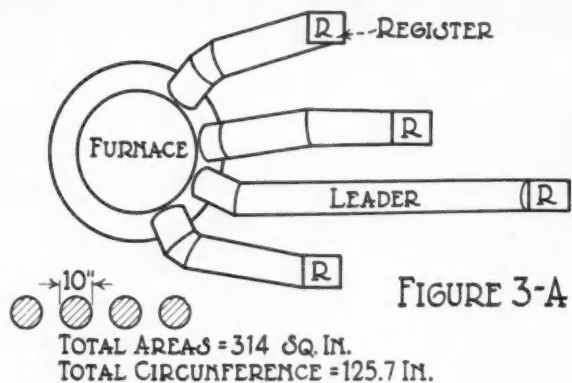


FIGURE 3-A

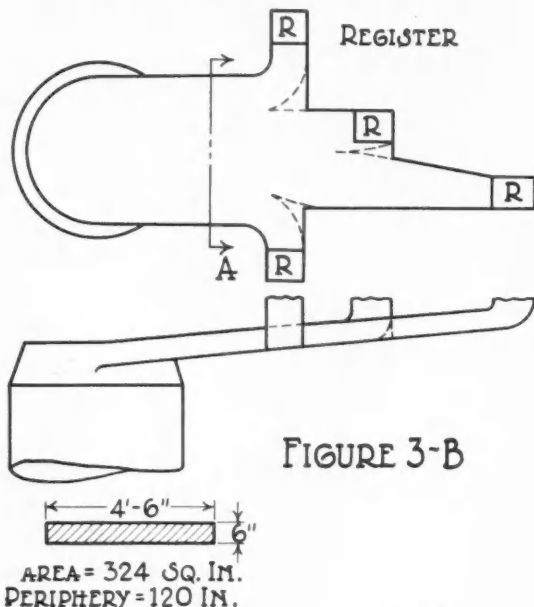


FIGURE 3-B

trial work the rectangular duct is general. The question of friction from the pipe surfaces does count but the question of insulation or proportion of heat losses from within the leaders counts more. Figs. 3-A and 3-B represent two layouts on four registers. Of the two it will be seen that the trunk carries slightly less exposed surface for its cross-section. If a deeper duct were used the exposed surface would be still less, decreasing in ratio until the section becomes a square.

Taking the warm air currents within the furnace it will be seen that the get-away from the casing is considerably increased. Also, since the air column is so much greater in sectional area, disturbing elements must be considerably greater to affect individual registers. Again, if a fan is used to promote circulation its effect is much more general than where individual leaders are used. Some build the section of individual ducts as far back as the furnace casing. Some use baffles as shown in the drawing. Unless there is a great difference in distances to the registers the first method does not seem to have any great advantage.

Question: What are the "cooling cabinets" used by California people in their homes?

ANSWER: The answer to this is from Mr. J. Oliver, of Ocean Beach, California.

"The cooling cabinet is a very essential part of the kitchen in California. It is a cabinet built at the edge of the drain-board to keep vegetables and other foods that are too bulky to keep in the icebox. If possible, we build the coolers on the north or on the northwest corner farthest away from the sun, where the cool air will circulate through it. The size is generally 18 by 20 inches, as shown in Fig. 4, and from the top of the drain-board to the ceiling. They usually contain four shelves which can be taken out and washed.

These shelves may be made of wire to allow greater air circulation, or they may be made of pine slats spaced $\frac{3}{4}$ inch apart. Two openings are cut through the outside wall, about 8 inches by 8 inches, one at the bottom and one at the top of the cooler. These openings should be tightly screened to keep out the flies."

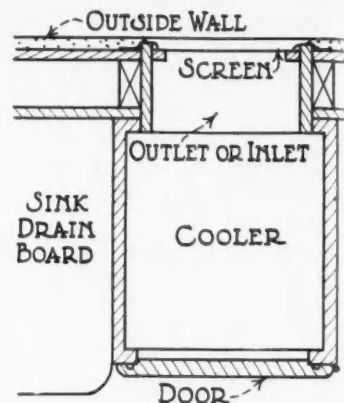


FIGURE 4

Question: What are the "unit type of heaters" used in large garages, shops, and buildings of large size and height? Are they economical? Could they be applied to an ordinary house?

ANSWER: The unit type of heater may be easily imagined as the reverse of an automobile radiator. It generally consists of an increased radiating-surface radiator with steam inlet and outlet so enclosed that a fan can pass a steady stream of air over the radiating surface, and generally so built that such a stream of air can be maintained and directed far enough to affect the improvement of air circulation in the space to be heated. Just as the efficiency of a boiler or any other heating element is increased by increasing the circulation of the heat absorbing medium so is the unit heater with its fan an improvement where adaptable over the older type of radiator which depends for its circulation on the heat induced in still air by the heat of the radiator.

In rooms of great height or of relatively great height the temperatures in the upper air are uncomfortably and unnecessarily high. A high temperature under a roof makes for large heat losses through the roof. Simply a great deal of heat gone to waste. If this upper air is relieved of its heat by circulating it downwards or against the walls so that it will drop either by means of air thrown from ducts or by using these unit heaters, the heat will be conserved and ventilation will be much improved.

Question: In building a garage under the same roof as the house what provision must be made against fire-hazard?

ANSWER: If a garage is in the basement a masonry wall should be placed between the garage and the basement. The ceiling should be covered with incombustible lath and plaster if wood joists are used. If better can be afforded reinforced concrete is advisable. It is further advised that a ventilator be run from the garage floor level through the roof so that ample draft can be secured to draw off all poisonous gases.

If the garage is placed alongside the residence it is advisable to use masonry construction with incombustible lath and plaster on the ceiling, and all door openings to the residence should be fire-resisting. If this type of construction cannot be afforded it is suggested that ordinary studding and sheathing be used on the outside, and metal lath and plaster throughout the inside.

NELLIE V. LINK, Rockford, Ill.

Question: Are lightning rods much of a help in protecting a building?

ANSWER: Yes, they are a positive help if they are properly placed and thoroughly grounded. If not, they are useless. The grounding should be in moist earth, or water. The theory is for the copper rod to allow the electricity in the ground gradually to escape from the tips of the aerials when the air above is charged with the opposite kind of electricity, thereby preventing a "stroke of lightning" which is really the coming together of positive and negative electricity.

L. B. HARMON, Somerville, Mass.

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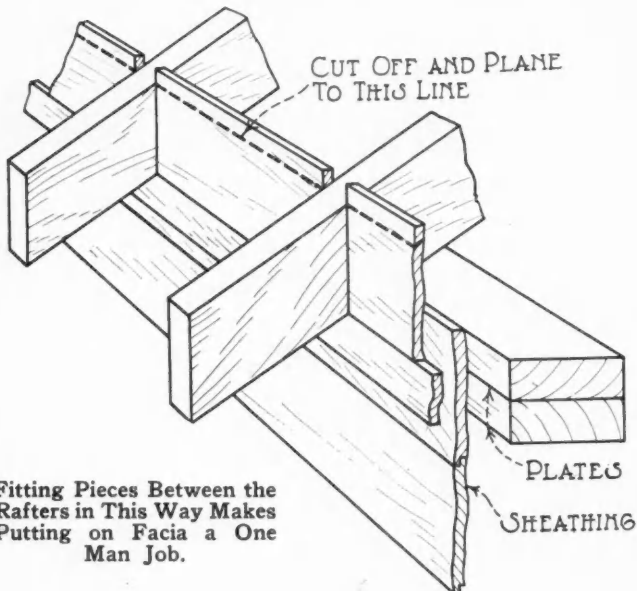
Dan is an ingenious cuss. Nothing ever stumps him. He always knows the way out when he runs into a tough problem out on the job or in the office. Dan is editor of this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough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

To Make Tight Facia

HERE is a method of cutting and putting on facia which I find has many advantages over the old method of using a full board and makes it a one-man job. It also takes the twists out of the rafters. I nail a one by two or one by three piece tight up under the rafter projection. I cut, on the ground, some one by five material into two foot lengths, marking the ends square.

I now take these one by five pieces up on the scaffold



Fitting Pieces Between the Rafters in This Way Makes Putting on Facia a One Man Job.

and mark, cut and nail them, between the rafters and snug down on the one by two piece under the rafters. They will stick up above the rafters. Laying a square edgewise on top of the rafters, I mark across and then chop and plane down to the line. By cutting the one by five pieces square and a little long, an airtight job can be obtained.

FRED E. SUPPUS, Auburn Heights, Mich.

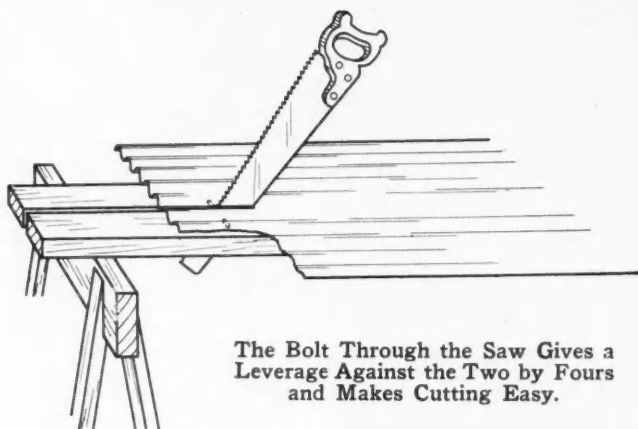
To Cut Corrugated Iron

IT is easy to cut across a sheet of corrugated iron with a pair of snips, but almost impossible to rip a sheet lengthwise with the snips. The accompanying sketch shows how I do this job. This method makes it easy. I took an old saw and drilled a $\frac{3}{8}$ -inch hole through it about six inches from the end and put a bolt through this hole.

To cut the corrugated iron I place a couple of two by fours across a pair of saw horses, place the saw between and fasten them about $\frac{1}{8}$ of an inch apart. I place the sheet on the two by fours with the line along which I wish to cut directly over the slot between them and cut by pressing the

back of the saw through the sheet.

The bolt, against the lower side of the two by fours, acts as a stop to give leverage. If the saw is kept greased it cuts



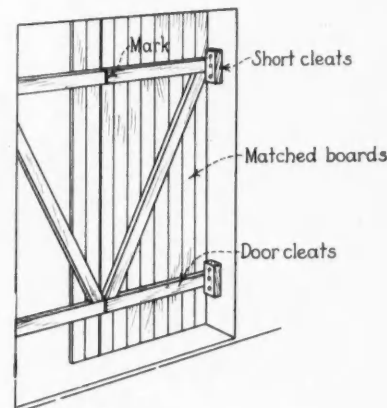
easily and quickly by taking small bites and keeping the bolt up to the under side of the bench.

J. SUTHERLAND, 276 Balbach St., San Jose, Calif.

A One Man Door Building Job

IN building large swinging doors, such as are used on garages, barns, etc., I use the following method which makes this a one-man job: First I nail short cleats onto the inside of the jambs. Onto these I tack the one by six or one by four door cleats. Then I simply nail the upright, matched boards to these cleats all the way across.

Having marked the door cleats for the center opening, I rip one of the upright boards when I come to the mark. I then put on the hinges. Last of all I cut the cleats in the center, where they are marked and the doors are finished and hung. The two vertical cleats are nailed on last of all.



The Door Is Built in Place, the Hinges Attached and Then Sawed at the Opening.

C. J. GARDENER, Stony Creek, N. Y.



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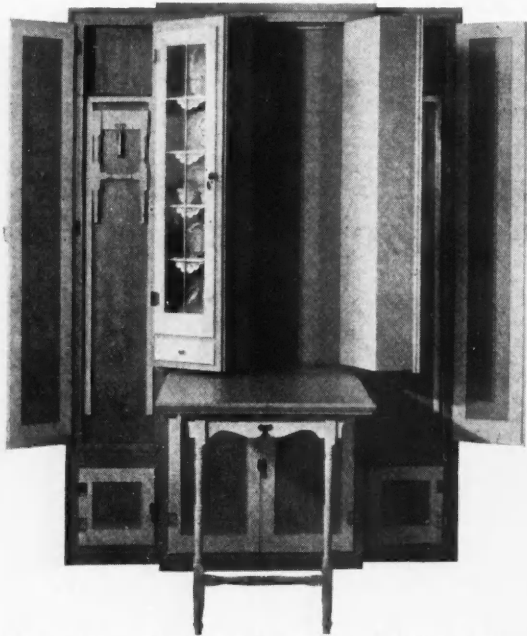
What's New in Equipment for Buildings

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

A Complete Dining Unit

APARTMENT renters of the present day are particular. They demand convenience, adaptability and beauty. Size alone does not make sales or rentals in spite of the fact that it is floor space that costs the builder money. Because of these facts the folding dining unit illustrated here saves the builder money and makes the apartments in which it is installed easier to sell or rent.

This unit is designed to save the space of one whole room. When built into the end of an apartment living room it eliminates the dining alcove or, if installed in a dining alcove, it makes that space available for other purposes between meals.



A Complete Dining Unit, China Cabinet, Linen Closet and Ironing Board to Fit Into a Four-inch Partition.

Installed in the kitchen it adds an attractive breakfast nook without the addition of an inch of costly space.

Solidly and substantially built, the unit makes an attractive addition to any room. Its style is reminiscent of Colonial cabinets, but it fits admirably into a room of almost any style. The entire front is of gum or birch. The table and seats are of pine or birch and the shelving is of white pine. The backs are three-ply veneer panels.

The construction of this unit eliminates any possibility of the table or seats slipping or collapsing. There is nothing to get out of order. Four or five persons can be seated comfortably at the table. The china cabinets swing out on full length piano hinges to permit the lowering of the table. One hundred pieces of china can be stored in the cabinets. Below the china cabinets are convenient shelves for linens as well as a shoe polish shelf and foot rest of oak. Back of one of the seats is an ironing board. It can be installed in either the right or left seat compartment, behind the seat.

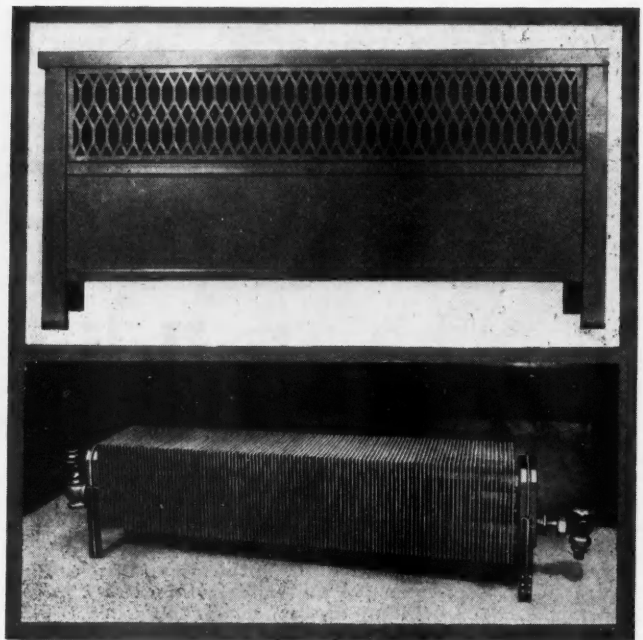
The complete unit is made to fit into a four inch partition or can be furnished in a cabinet model to fit against

a finished wall. In this way it is suitable for either new or remodeled buildings. When installed it gives access to the china cabinets or ironing board, whether the dining set is in use or not. The center section alone, including the folding table and china cabinets, can be had without the seats and ironing board. ❖

A New Cabinet Radiator

ANEW radiator, which combines improved heating efficiency with unusual attractiveness, has just been placed on the market. It is composed of two units, an outer cabinet of handsome design and a concealed heating unit of fin construction. Several advantages result from this combination and the cabinet plays as important a part in the heat distribution as does the heating unit.

The method of circulating heated air is one of the outstanding features of this radiator. The cool air enters the cabinet at the bottom, passes over the multitude of steel fins,



Above: The Ornamental Cabinet Which Aids Heat Distribution. Below: The Heating Unit.

is heated rapidly and is forced horizontally into the room with considerable velocity. Thus, instead of rushing directly to the ceiling and soiling the walls and draperies, it provides a healthful, comfortable exchange of air throughout the entire room.

In addition to its usefulness, the cabinet lends a distinct beauty to the product. Owing to the compactness and adaptability of the heating unit it has been possible to design cabinets which blend harmoniously into every home decorative scheme.

Among the other advantages claimed for this radiator are its satisfactory operation on all types of heating systems, warmer comfort zones than are provided by cast iron of equal rating, quicker response to boiler temperatures, low installation costs due to very light weight, cleanliness and sturdy construction.

The Stateliness and Permanence of

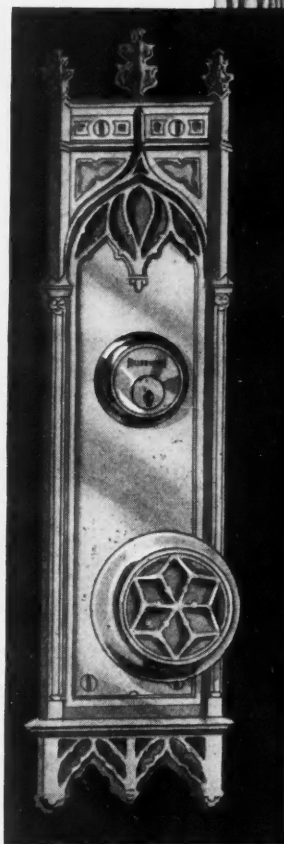
GOTHIC ART

are embodied in the

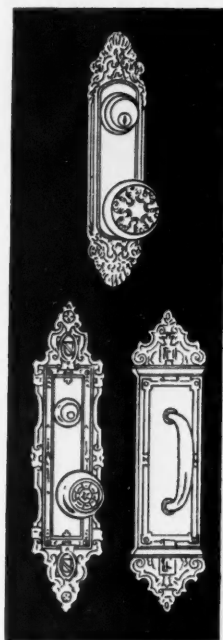
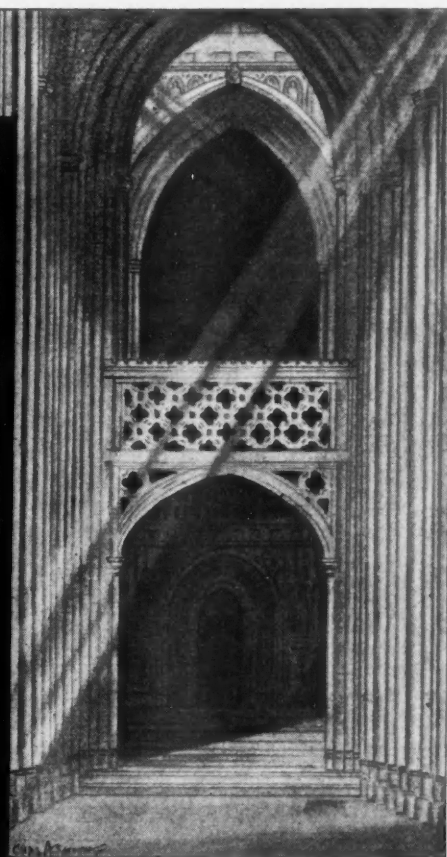
**EXCLUSIVE
DESIGNS BY**

RUSSWIN

Gothic Art, the last and greatest of the medieval styles, still lives in the mighty cathedrals and abbeys of France, England and Germany. Gothic styles are much in vogue today and **RUSSWIN** brings them to you in a series of exclusive, appealing designs. **TOULON**, illustrated on this page, is but one. There are several others equally charming in character. And they are as soundly practical as they are artistically authentic. They will decorate the modest house or the elaborate home with equal grace, and under the most rigorous usage give unfailing, trouble-free and lasting service. Whether it



TOULON



be a sturdy, handsome door knob, a lock, door closer, night latch, or even such as small hinges and locks for the corner cupboard, all will be in perfect accord if you select Russwin. Consult your architect or interior decorator, when making plans, or write to us for descriptive booklet covering Russwin Hardware expressly made for leading periods of design. Russell & Erwin Manufacturing Company (The American Hardware Corporation, Successor), New Britain, Connecticut — New York, Chicago, London.

FOR THE ARCHITECT'S CONVENIENCE, **RUSSWIN** HARDWARE IS ILLUSTRATED AND DESCRIBED IN SWEET'S CATALOGUE, PAGES C3137-C3216.

Shown at left are three exclusive designs by Russwin
Grecian Elizabethan Flemish

R&E
SINCE 1839
RUSSWIN
RUSSELL & ERWIN
**DISTINCTIVE
HARDWARE**

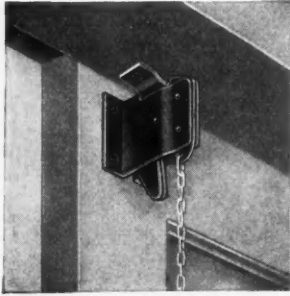
Hardware that lasts - Base Metals of Bronze or Brass

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

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

New Improved Top Bolt



Easy Locking and Easy Release Are Featured in This New Bolt.

the bolt will always lock, while a slight pull on the chain releases it.

THE illustration shows a new, gravity, locking top bolt for garages and industrial buildings, which has recently been placed on the market by a well known manufacturer. All parts of this bolt are made of heavy wrought steel which makes for long life. The absence of springs also increases the life of this bolt, as there is nothing about it to get out of order. Easy locking and easy release are features of the new bolt and, no matter how gently the door is closed,

square feet coverage with standard lapping. The rough side is used as the face side.

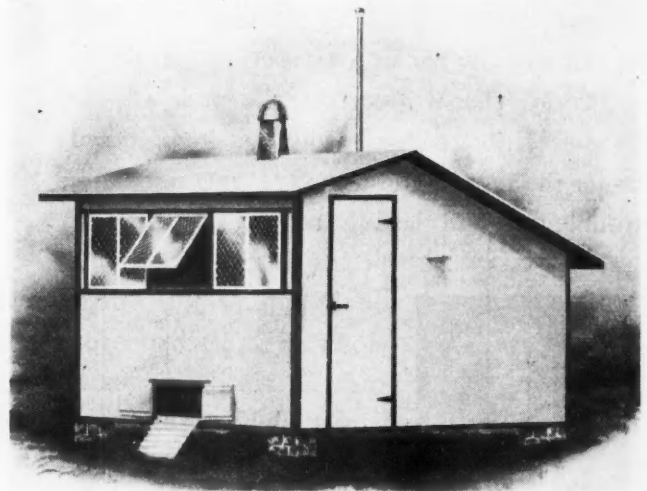
With this siding, the necessity of painting every two or three years is removed. One brush coat every five or six years is sufficient to bring back its original non-gloss beauty. It can be stained any color desired.

The manufacturers of this new stained siding have introduced an anchor, patent for which has been applied for, for fastening it to the walls. It is applied as the siding is laid and requires no special tool, being set back of the thin upper edge of the siding. The butt edge of next course is then firmly set onto it by means of a block of wood and a hammer or a wooden mallet. These anchors are Parkerized, giving them maximum holding power and preventing all rust and deterioration. They eliminate the need of nail setting and all puttying and touching up after the siding is on, leaving the surface entirely unblemished.



Poultry Houses of Asbestos Boards

A LEADING manufacturer of asbestos products is supplying one of its well-known products, in specially prepared form, for the building of poultry houses. This product consists of asbestos fiber and cement, compressed into sheets under hydraulic pressure, and forming a tough and hard but easily work board.



Poultry Houses of Asbestos and Cement Sheets Are Light, Easily Cleaned, and Fire and Vermin-Proof.

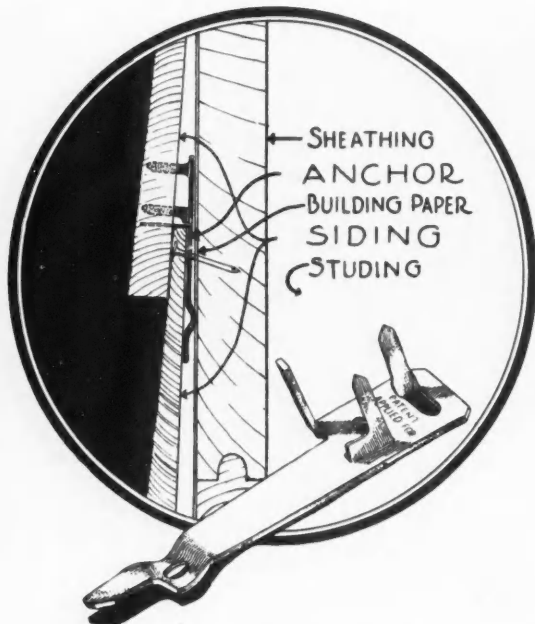
The asbestos cement boards are used for sheathing the sides of the poultry house and are supplied marked to correspond with plans. They can be easily and quickly applied to the wood frame which is erected from the same plans.

Poultry houses built with this material have been found especially satisfactory because they are light in weight, fire-proof, easily cleaned, vermin-proof, and will not deteriorate when exposed to the weather. Poultry cannot pick holes in this sheathing and the whole building can be placed on a wooden sled and moved from place to place as desired. In addition these buildings do not require painting and so are economical in upkeep.

Stained Siding for Homes

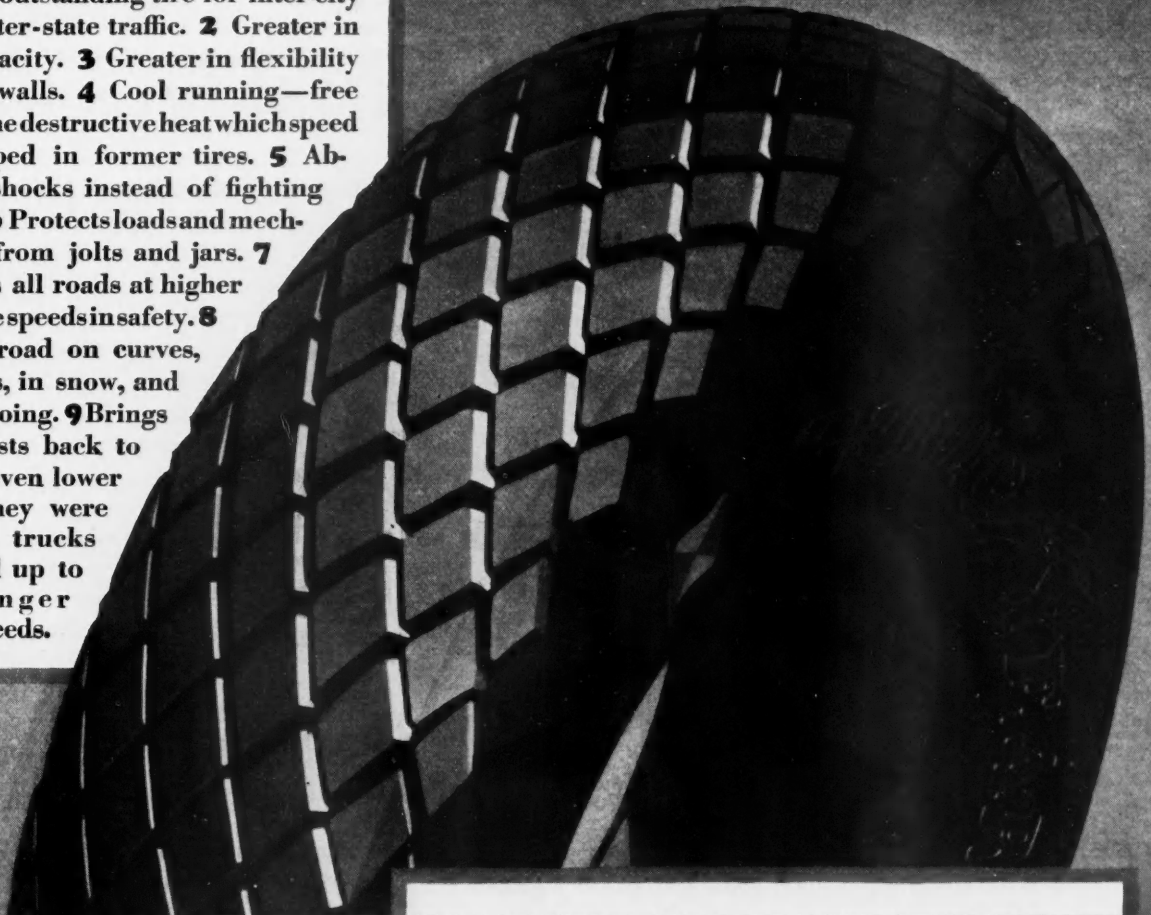
STAINED siding has recently been made available for national distribution and now offers the builders of homes something new and distinctive in house finishing material. This siding is made of the best grade red cedar bevel siding at present but can also be adapted to other woods.

Each piece of siding is dipped in a special stain and then brushed so that all possible stain is worked into the wood which is coated on all sides, making it impervious to weather and giving it longer life. The brushing eliminates all unnecessary stain and small particles. The siding is packed, for delivery to the job, in paper and sold by the square, 100



This New Stained Siding Is Attached by Means of Rustproof Anchors Which Leave the Surface Unblemished.

1 The outstanding tire for inter-city and inter-state traffic. **2** Greater in air capacity. **3** Greater in flexibility of sidewalls. **4** Cool running—free from the destructive heat which speed developed in former tires. **5** Absorbs shocks instead of fighting them. **6** Protects loads and mechanism from jolts and jars. **7** Travels all roads at higher average speeds in safety. **8** Holds road on curves, on hills, in snow, and in soft going. **9** Brings tire costs back to levels even lower than they were before trucks stepped up to passenger car speeds.



Balloon Tires *Goodyear's* *newest development for Trucks*

YOU know what balloon tires have done for passenger cars. Here they are now for trucks—pioneered by Goodyear.

Put them on your trucks — and end the tire troubles due to high speed, long distance operation.

Let your local Goodyear Truck Tire Service Station Dealer show you how easily the change-over can be made on your present trucks. Specify them on new trucks—manufacturers are rapidly adopting them as optional original equipment.

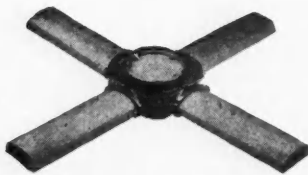


Copyright 1930, by The Goodyear Tire & Rubber Co., Inc.

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Non-Corrosive Wiring Duct

ONE of the leading manufacturers of electrical equipment has recently announced a new, non-corrosive raceway for under-floor wiring in concrete floors. A prime requisite of under-floor wiring is that raceways shall be permanently accessible for the installation of additional outlets. This system is so designed that neat appearing outlets may be



Outlet May Be Installed at Any Point at Any Time When This Raceway Is Used.

installed safely and economically at any point and at any time during the life of the building.

The raceway is composed of impregnated fiber which successfully resists corrosion. Conclusive evidence of its resistance is furnished by millions of feet of fiber underground duct which have been installed by public utilities in all parts of the country for

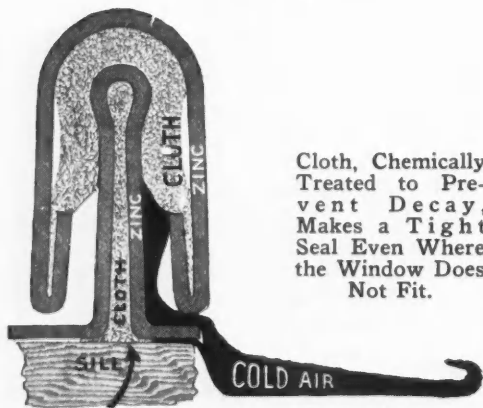
the last 25 years. The wall thickness is 3/16 of an inch and the cross sectional area is three square inches. The duct is oval in shape, so designed that when concrete is poured over it an arch is formed, assuring maximum strength. This shape offers the added advantage of minimum height, making it ideal for use where space between floors is limited.

Another feature of this new system is the cast iron rust-resistant junction box equipped with an adjustable brass cover. A line of brass surface fittings permits outlets to be established when and where they are required, in a neat, safe and economical manner. Covers can be furnished for wood, concrete or linoleum floor surfaces.



Effective Weatherstripping

THE accompanying illustration shows a type of weatherstripping which has made some interesting records during the last year or two. One of these is reported by the Director of Public Welfare of St. Louis, Mo., H. L. Salisbury, who states that its use on a group of buildings in that city eliminated the necessity of a 350 h.p. boiler thereby saving about \$1,500 a month on coal. This saving did not include fuel and ash handling or cleaning of interior decorations.



Cloth, Chemically Treated to Prevent Decay, Makes a Tight Seal Even Where the Window Does Not Fit.

THREE TIMES ACTUAL SIZE

The cost of the installation was \$13,013, but figuring out the saving in coal alone it is quite evident that the installation will be paid for in less than two years.

This weatherstripping, being metal with a cloth insert, allows for shrinkage of windows. In fact, an eighth of an inch one way or another, does not reduce the tightness of its sealing effect. The metal only coming in contact with the cloth, allows the window to be raised and lowered without effort.

The cloth is chemically treated to eliminate decay, so that from all records it will last as long as the building itself.

An Attractive New Shingle

A NEW asbestos shingle is now being manufactured by one of the leading companies in this field. This shingle measures 1/4 inch thick at the butt, tapering to 1/8 inch thick at the top and weighs 445 pounds to the square. It is made in five colors, pearl gray, gray duoface, red duoface, black duoface and green duoface.

The term duoface refers to the reversible possibilities in the application. One side is the natural gray color of the asbestos-



Permanent Colors and Rough Uneven Butts Makes Possible Artistic Roofing.

and cement and the other side is colored in the shades noted above. These colors are made from metallic oxides added during the manufacturing process, thus becoming part of the shingle itself and will not fade in the sun or wear off with the elements.

These fireproof shingles are 18 inches long and come in random widths of six, nine, 12 and 18 inches. The standard size will be nine by 18 inches.

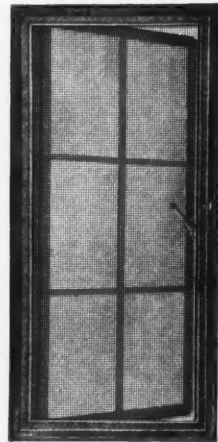


Casement and Roll Screen Unit

APPLICATION of a roller screen directly to a steel casement window is the principle used in developing the new casement and screen unit illustrated here. The new product has been evolved in the light of suggestions from leading architects, builders and screen manufacturers, and is designed as a beautiful fixture to replace adaptations of various unrelated devices for screening outward swinging steel casements.

The screen is contained in a small, inconspicuous hexagonal case at the top of the ventilator portion of the window. When the casement is closed the screen is out of sight. When the casement is opened, the screen may be pulled down. It locks at the bottom of the window, the sides sliding in grooves. A spring roller in the case holds the screen in tension and acts in the manner of a shade roller in raising the screen.

The new screen does not in any way interfere with the operation of the window's swinging sections and imposes no limitations on the beauty of casement hardware design. It furnishes full protection to curtains and drapes and adds to rather than detracts from the appearance of the window. A feature of particular beauty on the screened casement is the chrome steel fittings designed by Ternstedt.

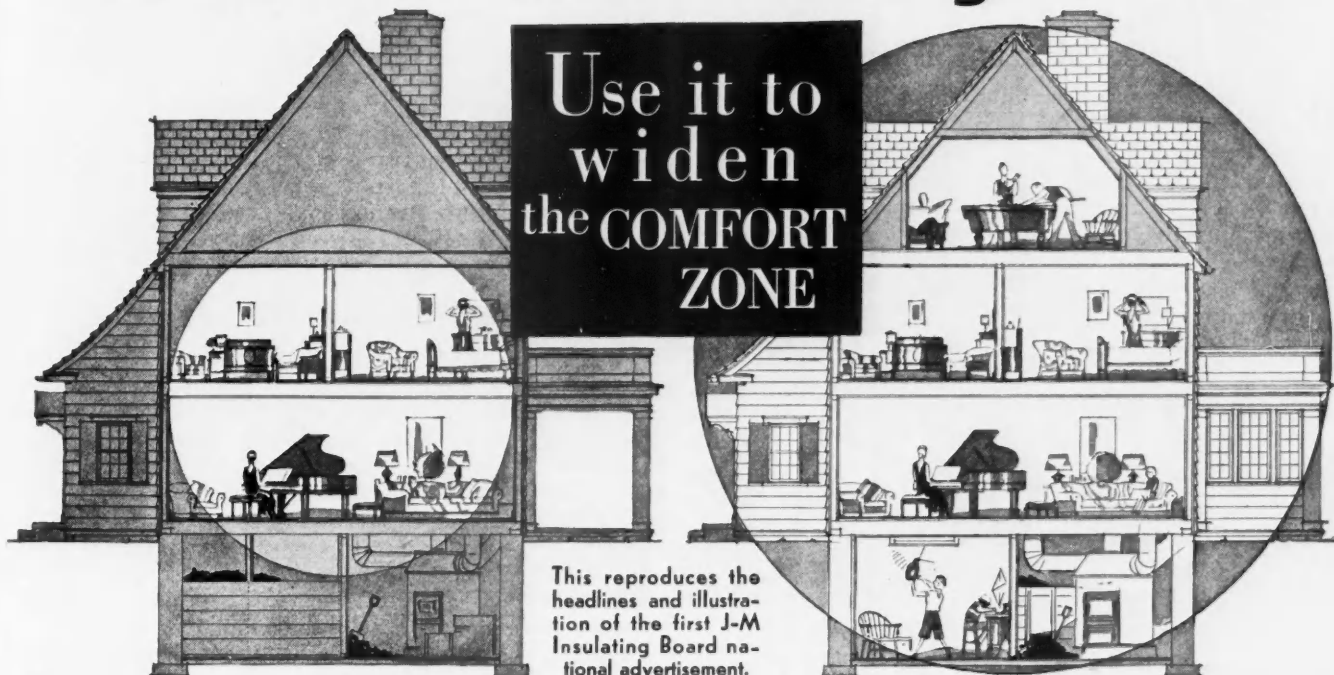


A Roller Screen Has Here Been Made an Integral Part of This Casement Window.



Seventy years of industrial insulation experience is behind this new product

Johns-Manville Insulating Board



IN announcing a Johns-Manville Insulating Board we are providing as sheathing or plaster lath a building material which bears a name already known and respected by the general public. By its use in houses built for resale you gain the prestige of the Johns-Manville name. Johns-Manville is a name more extensively advertised than any other name in the building material industry.

Twelve Points of Advantage

For your convenience we print below a brief summary of twelve outstanding advantages of J-M Insulating Board. Read these points. Consider the fact that these features provide you with good selling points when talking to customers and make your work easier in erecting or applying J-M Board.

1. Full 1/2" thickness or full 1" thickness.
2. All-wood product of homogeneous fabrication with no grain, no lamination; made from long, strong wood fibres.
3. Low co-efficient of moisture absorption; absolutely clean, sterile, and aseptically pure.

4. High insulating value from millions of tiny air cells moulded into the board.

5. Great tensile strength and resistance to wind stresses, wracking and torsion.

6. Great rigidity and non-pliable resistance to lateral bending.

7. Pleasing color, wonderfully attractive as a natural interior finish, and a perfect base for any color, requiring less sizing and giving greater coverage when paint is used.

8. More than ordinary practicality; no wetting, no extra-special nailing or other tricks to deliver a first-class job in any classification.

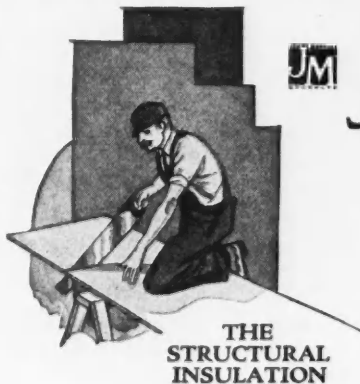
9. As Plaster Lath, this material

replaces wood lath, metal lath and other forms of plaster base. It has strong gripping bond for plaster.

10. Unsightly lath marks that result when wood lath is used are eliminated. Because of its strong bond, this board lessens the possibility of plaster cracking or falling.

11. The utmost in bonding strength with any standard brand gypsum plaster under the ordinary rules for good plastering. Such plasters will bond on J-M Lath. Utter destruction of entire section, wall, or ceiling necessary to remove the plaster.

12. Merchandised under policies and responsibility of the "Masters of Insulation."



JM Johns-Manville INSULATING BOARD—PLASTER LATH

JOHNS-MANVILLE CORPORATION
New York Chicago Cleveland
San Francisco Toronto
(Branches in all large cities)

Please give me full data on J-M Insulating Board for speculatively built houses.

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Address.....

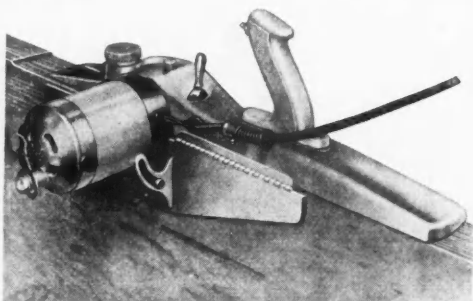


What's New in Contractors' Equipment

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

Power Plane Is Efficient

WITH the power plane illustrated it is possible to plane and fit doors, sash, transoms or any edge from three to five times as fast as by hand and to produce a surface that is uniform throughout, without the use of either scraper or sandpaper. With the built-in fence, straight or bevel cuts may be immediately made. All cuts are smooth, regardless of the grain of the wood, due to the spiral cutter and the speed of 18,000 r.p.m. This tool will plane surfaces up to $2\frac{5}{8}$ inches wide.



A New Power Plane for Planing and Fitting Doors, Sash and Transoms.

This plane may also be used as a bench jointer by clamping it into the bench bracket which is a part of the grinding attachment furnished as standard equipment with each plane. The grinding attachment will, in a few minutes' time, resharpen the cutter and restore it to its original new condition.

The front and rear shoes are adjustable to compensate for the wear of the cutter and a dial is conveniently located for immediately determining the depth of cut or it may be varied during the cutting. Power is furnished by a $\frac{3}{8}$ -h.p. universal motor. Standard equipment includes 20 feet of cord, cutter grinding attachment with bench bracket, grinding wheel with shaft, special wrench, one high speed cutter and carrying case. The weight is 10 pounds.

Two Electric Screw Drivers

AN important addition to a popular line of electric tools has been announced recently. Two electric screw drivers have been added to the line. Designed similar to



One of Two New Electric Screw Drivers Added to a Well Known Line of Tools.

this company's electric drills, these screw drivers have a smooth, compact construction with ample power. They have a positive clutch in the spindle which disengages when pres-

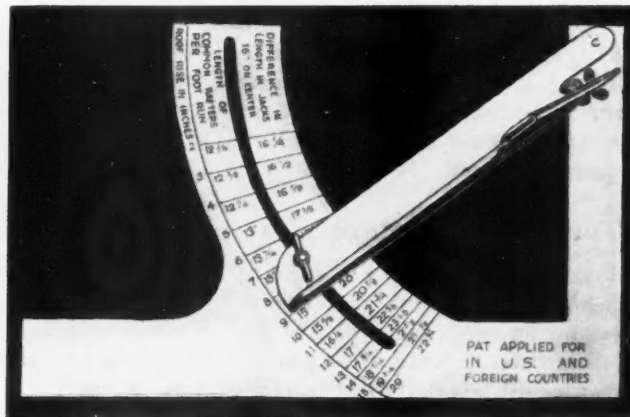
sure is released. The number one driver is capable of driving screws up to 2 inches, number 12 size. The number two driver is capable of driving screws up to $3\frac{1}{4}$ inches long, number 16 size. Lag screws, $5/16$ -inch by four inches long and bolts and nuts up to $3/8$ -inch. Universal motors, ball bearings and other features are the same as in this company's electric drills. A full line of screw driver bits can be furnished for use in these tools.



New Tool Simplifies Roof Framing

ROOF framing has always required years of study and experience to master and many attempts have been made to work out more simple and direct methods for obtaining accurate results. Recently, however, a master carpenter and contractor of many years' experience worked out a method which accomplishes this work accurately, speedily and economically. This method involves the use of a roof framing tool which has now been placed on the market and is available to anyone who does roof framing. The application of this tool is said to be so simple that any carpenter can master its operation by a few minutes' study.

When this tool is set at the pitch, or rise, of the roof to be framed it shows, on the face or front side, the top and bottom cuts of all common rafters, the length of common rafters per foot run, all cuts for jack rafters and different lengths for them spaced both 16 inches on centers and two feet on centers, all cornice cuts, siding and shingle cuts in gables and dormers and panel or half timber work.



Any Carpenter Can Master the Use of This New Roof Framing Tool in a Few Minutes' Time and Accomplish Quick Accurate Work.

The back or reverse side shows the following, but for each job it must be set each time: The length and all cuts for hip and valley rafters, sheathing cuts for hips and valleys and soffit cuts for the same, polygon miter cuts for six to 12 corners.

It also shows, whatever pitch it is set for, how much shorter the jack or cripple rafters will be and gives all the top or plumb bevel or angle cuts to fit against the hip or valley rafters. This tool takes the place of square, miter square, bevel square and combined square and miter.

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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

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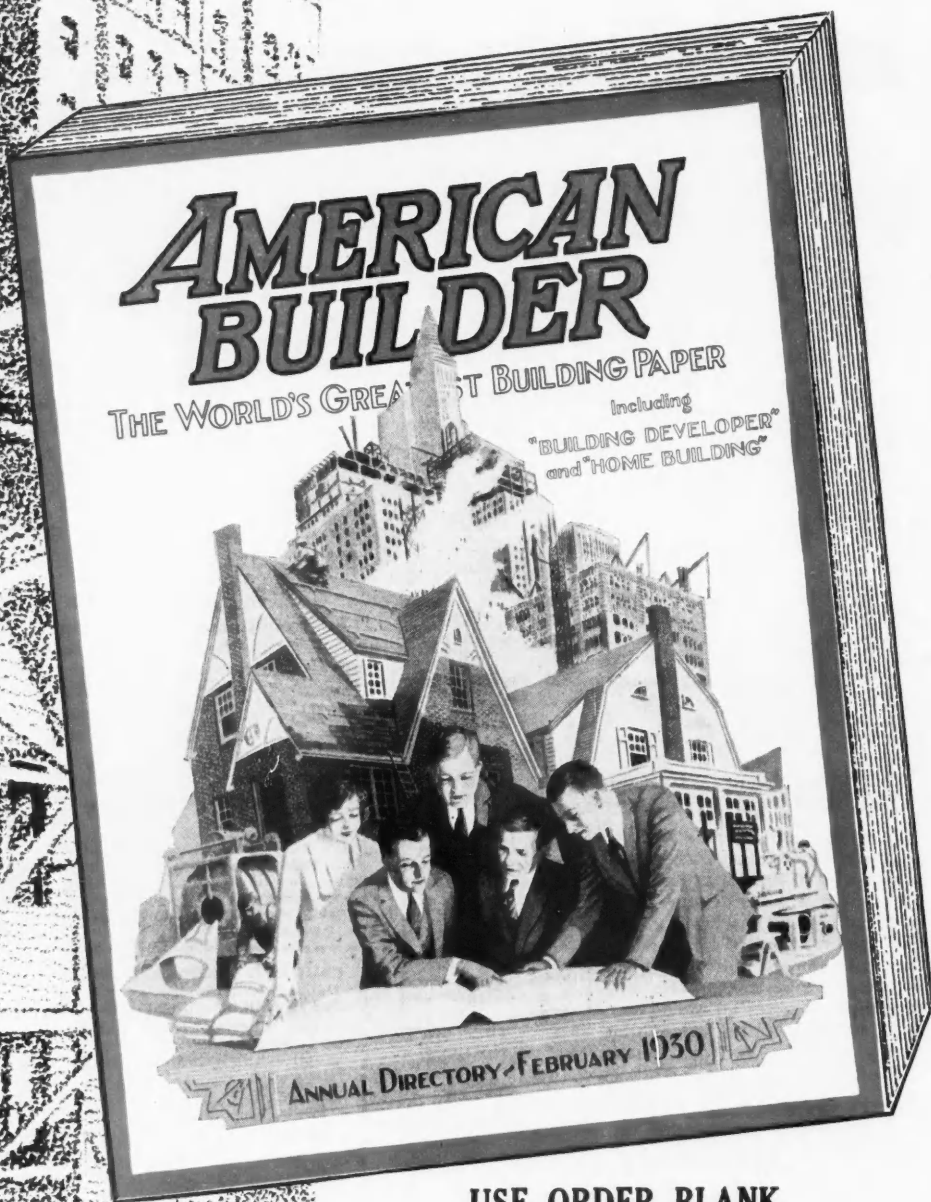
Yes, send me at once without cost or obligation your **FREE BOOK** and complete set of blue prints. Also full details about your easy, practical home training. It is understood no salesman will call on me.

Name.....
Address.....
City..... State.....
Age..... Occupation.....

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ANNUAL REFERENCE

February
1930



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THE ANNUAL AS USUAL

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**GREEN PAPER
DIRECTORY and
BUYERS' GUIDE**

You know how valuable this service has been in former years, and now *this* year—in addition to listing under related product headings the names and addresses of manufacturers—the trade names or brands of building materials, equipment and specialties manufactured by "American Builder" advertisers will also be given.

This directory alone, without all the other outstanding features of this gigantic issue, is invaluable as a continuous reference throughout the *entire* year.

Please Check Occupation

- Building Contractor
- Speculative Builder
- Real Estate Developer
- Building Material Dealer
- Architect or Engineer

Other Occupation:

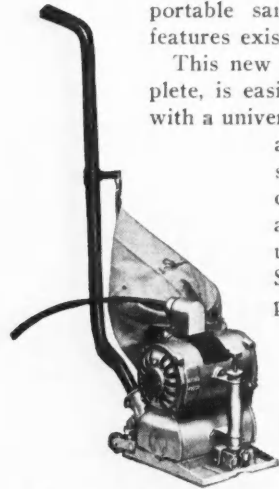
What?.....

If you are already a subscriber your new subscription will be added to your old one.

Combination Floor and Bench Sander

ONE of the well known companies manufacturing surfacing and polishing machines is introducing a new light weight portable combination floor and bench sander which it describes as "not just another portable sanding machine but one that combines the advantages of the small portable sander with many of the exclusive features existing only in our large machines."

This new sander weighs but 34 pounds complete, is easily carried in one hand, is powered with a universal motor which develops $\frac{3}{4}$ h.p. by actual test, plugs right into the light socket or base plug, is instantly changed from floor to bench sander and is rigidly constructed to stand up under severe working conditions. Sanding new floors and removing paint, varnish, shellac, etc., from old floors, is easily and quickly accomplished with this new sander. It is especially efficient for sanding floors in dwellings and apartment houses as it is sufficiently small for operation in narrow hallways, in small closets and on stair landings without removing the handle.



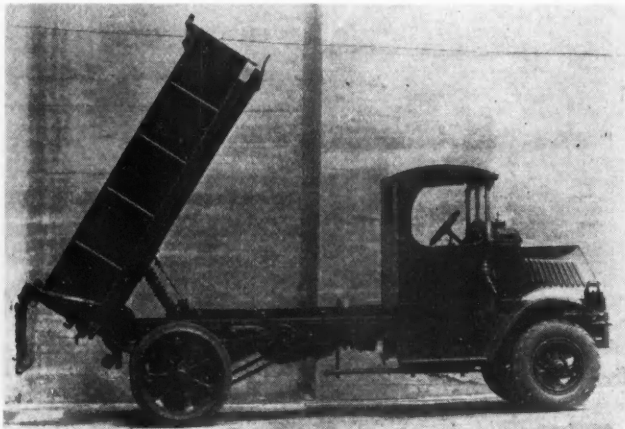
By Removing the Handle It Can Be Used as a Bench Sander.

By loosening just two nuts and removing the handle, this sander is instantly converted into a bench sander for use in sanding and refinishing table tops, desks, cabinets, doors, trim and numerous other flat wood surfaces.

Dump Bodies for Trucks

A LEADING manufacturer of motor trucks is now prepared to supply truck operators in the contracting and building supply business with a line of standard dump bodies which will cover the major portion of dump truck requirements, and meet the exacting demands of the field for ruggedness of construction.

The announcement of this company states that all of these bodies are built of No. 7 gauge sheet steel, and are constructed to taper four inches from front to rear, a feature which insures rapid emptying of the body, even with sticky



A Standard Line of Dump Bodies for a Well Known Line of Trucks.

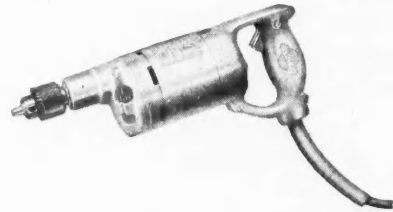
material. The bodies have full length six-inch running boards with a round front corner, which makes for a smooth rub rail the full length of the body and provides a substantial front corner body bumper. Front headboard, tail posts and gate all extend well above the body sides proper so that sideboard extension and large opening tailgate are provided for.

The bodies all have manual tailgate operation and are also equipped with a double acting tailgate at no extra charge. They may also be fitted with double acting tailgate chains with no extra expense. The bodies are substantially braced with under structure to prevent, as much as possible, the body floor from becoming wavy.



New Rapid Electric Drill

A $\frac{1}{4}$ -INCH capacity drill for all kinds of rapid drilling has recently been announced. The well-balanced design makes this drill a very easy one to use. Straight line



A New Drill Adapted to Close Quarter Drilling.

design permits close quarter drilling and it is an excellent tool for aeroplane, automobile and woodworking factories.

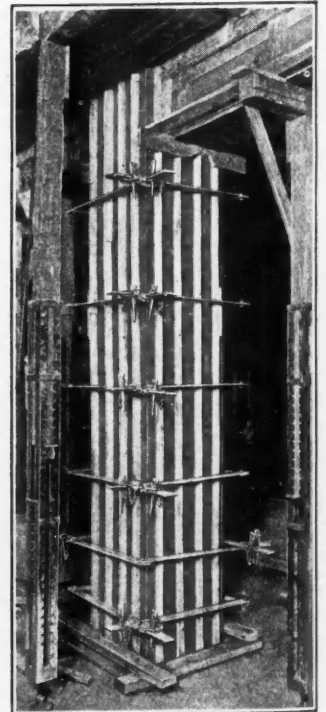


Better Column Forms

THE illustration shows the application of a concrete form system which is adaptable to both steel skeleton and reinforced concrete construction and is also used for foundation pier construction and for fireproofing wooden columns. The manufacturers of these forms state that their use will lower the cost of forms and produce better, stronger concrete with a better surface than is obtained with ordinary board forms. They do not necessitate any great investment.

Cost of form work is reduced by the greater ease in building the forms and in wrecking them, because of their light weight, great strength and durability, which reduce the time and labor required. Though definitely standardized, these forms are sufficiently flexible in their application to be adaptable to every type of concrete column construction. Their use reduces to the minimum the uncertain and variable factor of labor and reduces the chance of human error.

These forms are made of highly compressed fiberboard which produces a smooth surface with no board marks to remove but which bonds perfectly with plaster. A made up column form 16 feet long by 18 inches wide weighs only 36 pounds, one-half the weight of one-inch boards, yet its strength is said to be greater than a form of one-inch boards. No clinching of nails is necessary and fewer nails are required.



Concrete Column Forms Are Easily and Economically Built with These New Forms.

Announcing the New . . .

American Handy Sander

. . . a small portable, speedy, powerful and efficient drum-type sander for general purposes—by the manufacturers of the internationally famous American Universal and American High Production floor sanders. NOW available for floormen and woodworking trades in general.



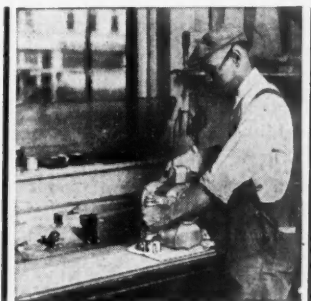
As a Floor Sander

ANY Sander of this type has these 4 features—

1. Operates from light socket or base plug
2. Can be carried any place in one hand
3. Easily convertible from a floor to bench sander
4. Powered with universal type motor

ONLY the American Handy Sander has, in addition, these 8 features—

1. A Heavy Duty motor which will not over-heat
2. An unsurpassed "under-load" drum speed
3. Automatic pressure regulator
4. Rubber covered easily accessible sanding drum
5. Full length quick-acting paper clamps
6. Three point bearing on surface to be sanded
7. S-K-F ball bearings throughout
8. All gears packed in grease



As a Bench Sander

PRODUCTION GUARANTEE

The American Handy Sander is guaranteed to sand to a finished surface without waves or chatter marks more square feet of floor area an hour than any machine on the market of similar size and type.

Equip yourself with an American Handy Sander and you are ready to sand easily and quickly ANY PLACE where wood floors can be laid—also, any other flat wood surface. Mail the coupon TODAY for complete details. There is no obligation. Get ready to easily make bigger money in 1930.

The American Floor Surfacing Machine Co.
515 South St. Clair St., Toledo, Ohio

Factory branches and representatives in principal cities

United States - Canada - Overseas

The American Floor Surfacing Machine Co.,
515 South St. Clair St., Dept. A., Toledo, Ohio.

Gentlemen: Without obligation, please send me detailed information regarding your new American Handy Sander.

Name

Street

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

News of the Field

Convention and Show Dates

- Jan. 11-18, 1930**.....American Road Builders' Association, Annual Convention and Road Show, Atlantic City, N. J.
- Jan. 22-23, 1930**.....Annual Business Meeting of the National Association of Real Estate Boards, Hotel Westward Ho, Phoenix, Ariz.
- Jan. 22-24, 1930**.....United Roofing Contractors' Association of North America, 43rd Annual Convention, Brown Hotel, Louisville, Ky.
- Jan. 27-31, 1930**.....International Heating and Ventilating Exposition, under the auspices of the American Society of Heating and Ventilating Engineers, Commercial Museum, Philadelphia, Pa.
- Feb. 4-6, 1930**.....Second Annual Convention, Iowa Lumber & Material Dealers' Association and First Manufacturers' Co-operative Exposition, Shrine Temple, Des Moines, Iowa.
- Feb. 9-15, 1930**.....Artistic Lighting Equipment Association, Annual Convention and Fixture Market, Washington, D. C.
- Feb. 11-12, 1930**.....American Concrete Institute, Annual Convention, Roosevelt Hotel, New Orleans, La.
- Feb. 16-20, 1930**.....32nd Annual Meeting and Exhibit of the American Ceramic Society, Hotel Royal York, Toronto, Canada.
- Feb. 17-22, 1930**.....Kalamazoo Real Estate Board, Sixth Annual Complete Home Show, Kalamazoo, Mich.
- Feb. 20-22, 1930**.....New England Hardware Convention and Exhibition, Mechanics Bldg. Headquarters, Hotel Statler, Boston, Mass.



Washington Business Conference

(Continued from page 61)

ing than there would be in producing and piling up products for which there is no market. What has been said about old plants may be said about houses. A great deal could be done in modernizing—adding to and making more comfortable many of the older homes. Organized community committees of numbers of industries interested in such rebuilding have brought about remarkable results in some localities."

In concluding the conference Chairman Barnes said: "I think we ought to avoid a feeling of excessive optimism, but it does seem to me in all good faith that we have ample evidence here today of a speedy recovery from whatever recession has taken place in business."

Registration

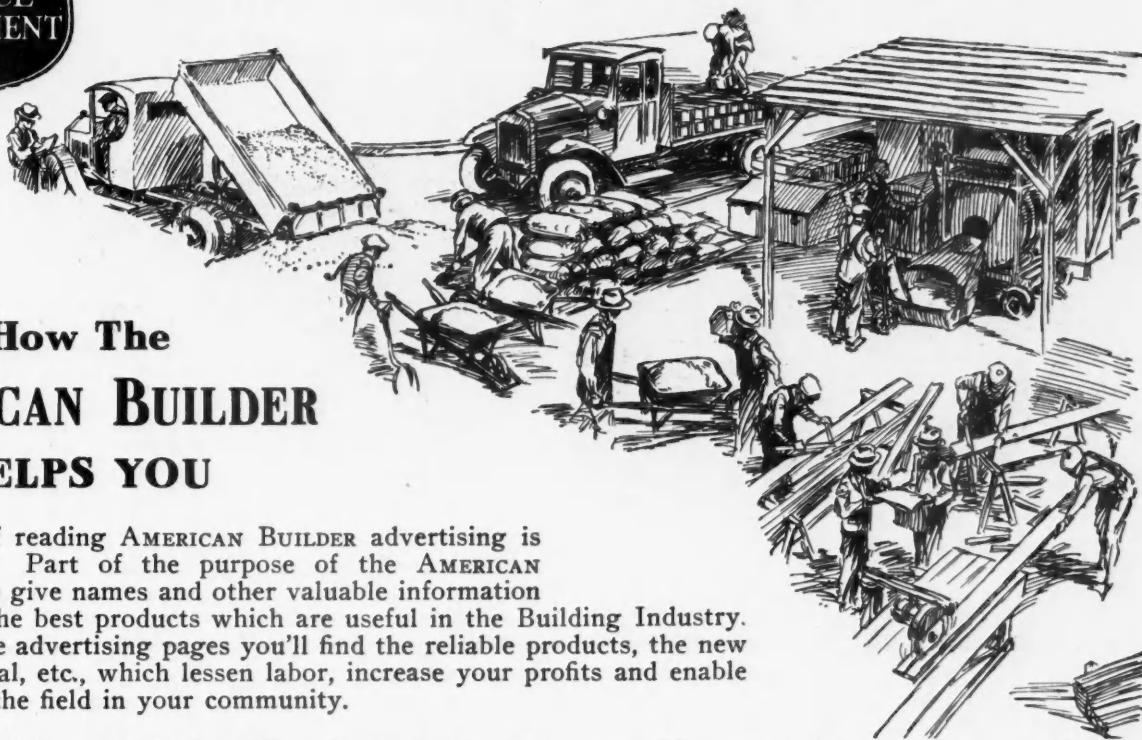
Those who registered at the conference as representing associations or companies in building and related industries are as follows:

Dwight L. Hoopingartner, executive American Construction Council; Arthur W. Berresford, president, American Engineering Council; William C. Koch, president, American Face Brick Association; J. E. Stone, president, American Hardware Manufacturers' Association; C. Herrick Hammond, president, American Institute of Architects; Charles F.

Abbott, executive director, American Institute of Steel Construction; A. J. Lockwood, president, American Steel and Heavy Hardware Association; Ralph M. Roosevelt, president, American Zinc Institute; T. T. Flagler, president, and R. C. Marshall, Jr., Associated General Contractors of America; L. P. Monks, president, Association of Manufacturers of Woodworking Machinery; William Schlake, president, Common Brick Manufacturers' Association of America; F. W. Brownell, president, Copper Institute; R. K. Hanson, secretary, Enameled Sanitary Ware Manufacturers' Association; J. H. Townshend, executive vice-president, Hardwood Manufacturers' Institute; Walter Klie, president, Heating and Piping Contractors' National Association; H. T. Richardson, president, Institute of Boiler and Radiator Manufacturers; A. C. Wells, president, Maple Flooring Manufacturers' Association; Sam Hotchkiss, president, National Association of Builders' Exchanges; Paul Robertson, president, National Association of Building Owners and Managers; David T. Riffe, president, National Association of Building Trades Employers; L. D. Lawnin, president, National Association of Manufacturers of Enamelware; T. R. Charshee, executive secretary, National Association of Ornamental Iron and Bronze Manufacturers; W. W. Campbell, president, National Builders' Supply Association; Clarence L. Collins, president, National Electrical Manufacturers' Association; A. J. May, National Hardware Association; Norman G. Hough, president, National Lime Association; Wilson Compton, secretary-manager, National Lumber Manufacturers' Association; H. S. Chatfield, president, National Paint, Oil and Varnish Association; R. K. Hanson, the National Pipe and Supplies Association; H. F. Sheets, managing director, National Retail Hardware Association; A. Pfund, secretary, National Retail Lumber Dealers' Association; John M. Bush, president, Northern Hemlock and Hardwood Manufacturers' Association; R. W. Fullerton, president, Oak Flooring Manufacturers' Association; J. E. Lockwood, president, Pine Institute of America, Inc.; P. A. Hughes, secretary, Plate Glass Manufacturers of America; Jere Sheehan, president, Plumbing and Heating Industries Bureau; Fred Swanson, president, Plumbing and Heating Industries Institute; Frank H. Smith, president, Portland Cement Association; F. W. Reimers, president, Southern Pine Association; Ernest A. Hale, president, United States Building and Loan League; Sewell L. Avery, president, United States Gypsum Company; L. S. Beale, National Hardwood Lumber Association; M. J. Beirn, vice-president, American Radiator Company; Harry A. Black, president, Black Hardware Company; Frank Carnahan, National Retail Lumber Dealers' Association; H. F. Cellarius, United States Building and Loan League; W. L. Clause, chairman of the board, Pittsburgh Plate Glass Company; E. M. Craig, American Construction Council, National Association of Building Trades Employers; Frank Dunning, National Builders' Supply Association; E. L. Flentje, Plumbing and Heating Industries Bureau; Russell Hawkins, president, Simpson Lumber Company; Charles Hill, general sales manager, Southern Pine Sales Corporation; Edward N. Hurley, chairman of the board, Electric Household Utilities Corporation; H. S. Kissel, National Association of Real Estate Boards; M. B. Nelson, president, Long-Bell Lumber Company; Herbert U. Nelson, National Association of Real Estate Boards; W. M. Ritter, vice-president, National Lumber Manufacturers' Association; Charles F. Rockwell, American Hardware Manufacturers' Association; C. E. Stedman, vice-president, The Celotex Company; Ernest T. Trigg, president, John Lucas & Co., Inc.; E. A. Simmons, president, Simmons-Boardman Publishing Company and American Builder Publishing Corp.



Subscribers' Service Page



How The AMERICAN BUILDER HELPS YOU

The habit of reading AMERICAN BUILDER advertising is educational. Part of the purpose of the AMERICAN BUILDER is to give names and other valuable information concerning the best products which are useful in the Building Industry. Listed on the advertising pages you'll find the reliable products, the new ideas, material, etc., which lessen labor, increase your profits and enable you to lead the field in your community.

Products Advertised in The American Builder Should Have Your Preference

A manufacturer does not spend great sums of money advertising a product unless he has faith that it is of exceptional value and use in its field. When you see an article extensively advertised—you can bank on its value.

The AMERICAN BUILDER Magazine itself has maintained a high standard of service and integrity for twenty-three years. During all this time it has never knowingly taken an advertiser whose product was not all their advertisement claimed for it. Therefore, you can buy any AMERICAN BUILDER advertised product with a firm conviction that it is as represented.

Do You Get Your Share of the Business of Your Community?

One or more new machines, the use of a new material or an improved method of estimating may be just what you need to increase your profits over

last year. If you are interested in any kind of building materials, contractor's equipment and machinery, power shop equipment, heating systems, plumbing supplies, water supply systems, lighting systems, elevators, school, church or theater equipment, farm building equipment, building hardware, home conveniences or anything that is used in constructing or equipping any kind of building—we will help you get all information.

Keep Informed

One method of keeping vital information at your finger tips is to maintain a complete file of catalogs.

FREE TO AMERICAN BUILDER READERS

If there is some article which you want and lack the proper information regarding it, print or write your name plainly in the coupon below, list the articles and check your occupation. We urge you to take advantage of this great opportunity to procure valuable information.

AMERICAN BUILDER, 105 W. Adams St., Chicago, Ill.

A. B. 1-30

Gentlemen: Please put me in touch with manufacturers whom you know to be reliable and can furnish goods promptly. I am in the market for the following items:

.....

Name.....

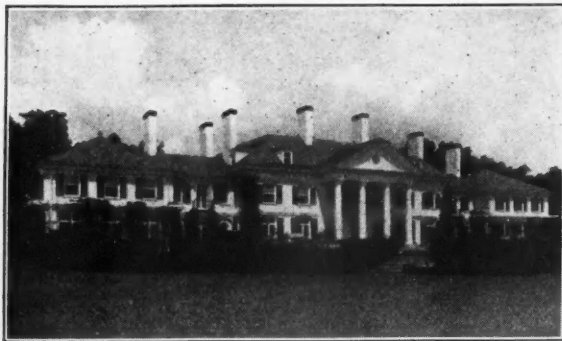
Address.....

Please check your occupation.

Building Contractor Dealer in Building Materials Prospective Home Builder Architect

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Next Year! Brilliant White Walls Glossy Green Trim



Residence of Dorothy E. Cadwallader, Wayne, Pennsylvania

Next year this great country house will stand out as brilliantly white, against its beautiful lawns and trees, as this year. For it has been painted with Cabot's DOUBLE-WHITE, a colloidal prepared white that is whiter than white lead and oil, and that stays white over long periods of time.

The trim and shutters are finished with Cabot's Green Gloss Collopakes—greens that keep their color and gloss out doors.

Be Sure to Specify

Cabot's Collopakes

Mail the coupon today for valuable details

SOLE MANUFACTURERS
AND DISTRIBUTORS OF
CABOT'S COLLOPAKES
AND STAINS IN CANADA

BRANDHAM-HENDERSON
LTD.

COUPON

Samuel Cabot
Inc.

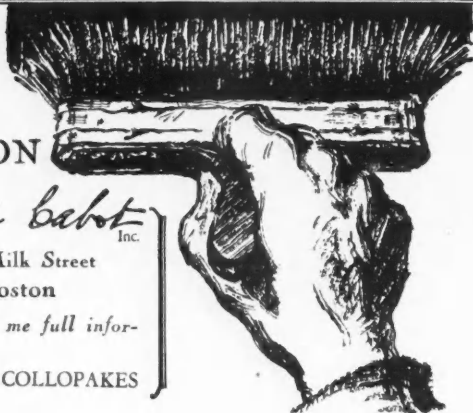
141 Milk Street
Boston

Please send me full information on

CABOT'S COLLOPAKES

Name

Address

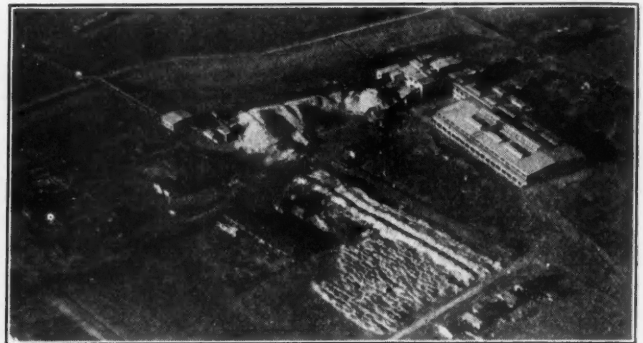


AB-1-30

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

Weatherwood Advertising Launched

UNDER the direction of Harry D. Thorn, manager of sales and promotion, the Chicago Mill & Lumber Corporation, of Chicago, has completed plans for advertising its new insulating board, Weatherwood. This includes a national advertising campaign in the leading publications, direct mail literature, steel signs and local mailing service for dealers. In addition to these features the company has started a special information service on Weatherwood which is conducted by E. W. Morrill.



The New Plant Built by the Chicago Mill & Lumber Corporation at Greenville, Miss., to Manufacture Weatherwood Insulating Board from Southern Hardwood.

Production is well under way in large volume at the company's new million dollar plant in Greenville, Miss. The product is made entirely from southern hardwood. The capacity of the new plant will be at the rate of 75,000,000 to 90,000,000 square feet of board a year.



Change of Address Announced

REMOVAL of the Chicago offices of the American Chain Company, Inc., and associated companies, to new quarters on the seventeenth floor of the Chicago Daily News Building, room 1765, has been announced.

THE American Floor Surfacing Machine Company, of Toledo, Ohio, has announced the change of address of two of its direct factory branch offices. The Detroit, Mich., office is now located at 3842 Grand River Avenue, the Philadelphia office is now located at 3704 Lancaster Avenue.



Ryerson Buys Penn

JOSEPH T. RYERSON & SON, Inc., has purchased the business, equipment, and stock of the Penn-Jersey Steel Co. of Camden, N. J., effective November 16.

This firm carries on hand complete stocks of steel shapes, plates, sheets, hot and cold finished bars, reinforcing bars, etc. It serves all industry and construction trades in the Philadelphia district with prompt shipment from warehouse.

The Ryerson company plans to add to the stock and increase the facilities in order to improve and extend its service.



Chain Belt Opens Boston Office

THE Chain Belt Company, Milwaukee, has opened a New England district office in Boston at 950 Park Square Building. This makes the eighteenth district office the company has opened in the United States. J. K. Merwin is district manager. The Boston office will manage the distribution of the company's entire line of conveying systems, power plant equipment, chains and transmission machinery.

*Plenty of PEP Left
to Enjoy Yourself*



WHEN you use the Improved Schlueter, you have *no weights to lift—no levers to bother with*. The Improved Schlueter's steel roller adjusts itself to floor irregularities because of a patented suspension feature no other surfacer can have!

5 O'CLOCK BLUES—

The Improved Schlueter does a man size job (700 to 1000 square feet like glass—in a 7 hour day) and does all the work *for you*. Let the other fellow sing the "I'm too tired" 5 o'clock Blues. If you used the Improved Schlueter, you'll have plenty of pep left to enjoy yourself!

NEW FOLDER—

Mail coupon for new folder entitled "What Kind of an Assistant Would You Choose?" and for details of **FREE Trial Offer and Easy Payment Plan**.

LINCOLN-SCHLUETER FLOOR MACHINERY CO.,
222 W. Grand Ave. (Dept. AB-1)
Chicago, Ill.

Gentlemen: Please send me new folder, "What Kind of an Assistant Would You Choose?"

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



Nowhere a more COMPLETE Line

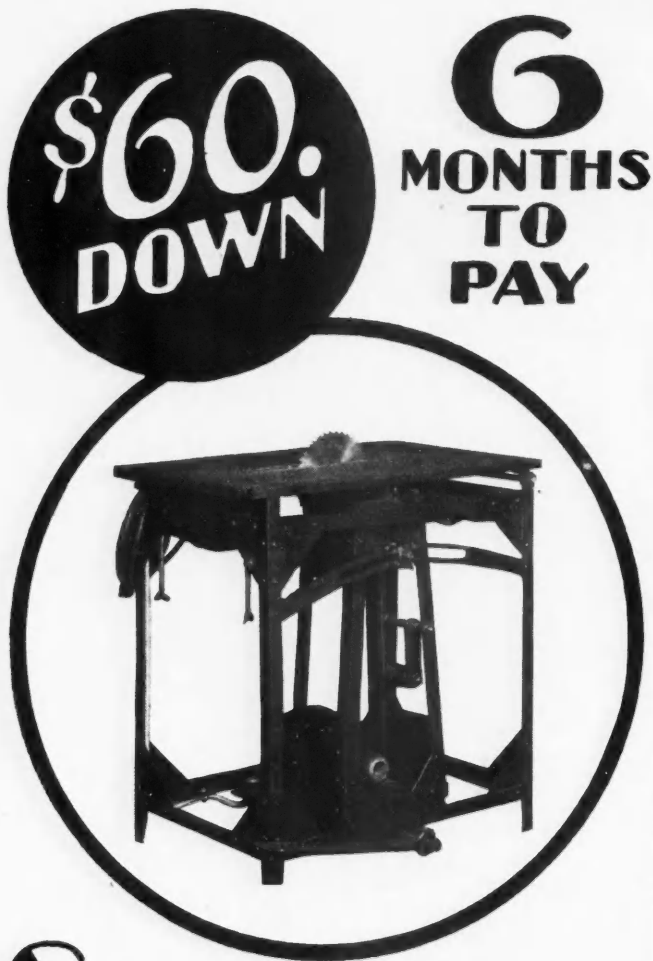
20 stock styles from which to choose—each one a masterpiece in design, material, workmanship, quality and convenience. They fit their curbs perfectly; are weather-tight; need no putty (unless a little dust is objectionable); can be assembled and installed by unskilled labor with nothing more than hammer and screw driver.

- No. 10-S —Hipped, plenty of light, unventilated.
- No. 20-S —Hipped with water-tight ventilator.
- No. 30-S —Double pitch with ventilators on end.
- No. 35-1S—Double pitch, full or sectional side ventilation, with movable sash.
- No. 35-2S—Double pitch, full or sectional movable sash, end ventilators.
- No. 40-S —Double pitch, abundance of light, unventilated.
- No. 45-1S—Double pitch, full or sectional side ventilation.
- No. 45-1S—Double pitch, center section ventilators.
- No. 45-2S—Double pitch, full or sectional ventilated sash.
- No. 50-S —Single pitch for single or continuous skylight.
- No. 60-S —Hipped style with ridge ventilators.
- No. 70-S —Hipped turret with pivoted side sash.
- No. 80-S —Hipped turret with stationary louver ventilators.
- No. 90-S —Scuttle and ventilated style with lifter and hinges.
- No. 95-S —Single pitch with center section ventilator.
- No. 71-S —Hog-house style without ventilating feature.
- No. 74-S —Hog-house style, with ventilation.

The Willis catalog is a veritable cyclopedia of skylight information. Every style and type is illustrated, with description, features and uses of each number. Builders, contractors, architects should have the Willis catalog for reference. And it's yours for the asking.

A drafting and engineering department, at the service of our customers, without charge, is for special orders of all kinds. You are invited to use this department.

WILLIS MFG. CO.
Dept. 128 GALESBURG, ILL.



SPARLING

Handy Buzzer Saws

Here's a saw you can depend on. Light in weight, built of steel, adjustable steel table; No vibration, will Rip, Cut-off and Dado; will take an Emery Wheel, and other attachments. Saw projects through table 2½ inches.

This is no toy—it's built to do the work and stand the gaff. Stands 30" high, is 19" wide and 30" long.

Operates from any light socket, special ½ H.P. Single Phase Motor.

Every Sparling Handy Buzzer Saw comes to you complete. You have nothing else to buy, just plug in any light socket and go to work. Our easy terms make it possible for you to own one at once. \$112.50 cash or \$60.00 down and \$15.00 a month for 6 months.

Fill out the coupon below and mail it to us today for Free Illustrated Circular or order today.

J. L. SPARLING MFG. CO.
 Bay City, Michigan

J. L. SPARLING MFG. CO.
 Bay City, Michigan

I am interested in your Handy Buzzer Saw. Check enclosed, ship at once.

Name.....

Address.....

Town.....State.....

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

Stanley Company Expands

THE Stanley Electric Tool Company, subsidiary of the Stanley Works, New Britain, Conn., has purchased the trade name, stock on hand, tools, jigs, fixtures and business of the Ajax Hammer Corporation, 117 West 63rd Street, New York, N. Y., and will continue manufacture and development at its main plant in New Britain, Conn. The line consists of electric hammers used extensively for construction and maintenance work.

The Stanley Electric Tool Company has also purchased the trade name, stock on hand, tools, jigs, fixtures, etc., of the Unishear Company, 270 Lafayette Street, New York, N. Y., and will continue manufacture and development at their main plant in New Britain, Conn. This line comprises motor powered shears for outside and inside cutting of sheet material of every description.



D. A. Garber Passes Away

DANIEL ANDERSON GARBER, former president of the Northwestern Construction Company, of New York, and since May, 1928, general manager of the Associated General Contractors, died recently of post-operative pneumonia, after two operations had been made in an effort to save his life. Mr. Garber became president of the Northwestern Construction Company in 1904 and erected many structures in the eastern part of the United States. He resigned in May, 1928, to become general manager of the Associated General Contractors, of which he was the first president when it was founded in 1918.



Delano Receives Appointment

APPOINTMENT by President Hoover of William Adams Delano, president of the New York Chapter of the American Institute of Architects, as a member of the National Capital Park and Planning Commission, has been announced. Mr. Delano succeeds the late Milton B. Medary, of Philadelphia, former president of the Institute.

Mr. Delano will officially represent the profession of architecture in the development of the Plan of Washington, for which Congress has authorized an expenditure of \$75,000,000.



Heckert Heads Association

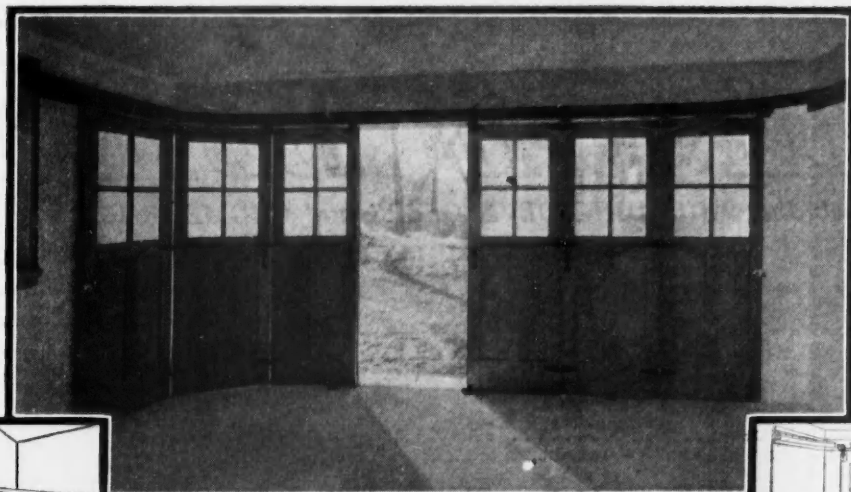
SIDNEY F. HECKERT, president of the National Fire Proofing Company of Pittsburgh, has just been elected president of the Eastern Hollow Building Tile Manufacturers' Association. This association has its headquarters at 420 East 23rd Street, New York City, and is composed of the leading manufacturers of structural clay products on the Eastern seaboard.



Representatives Appointed

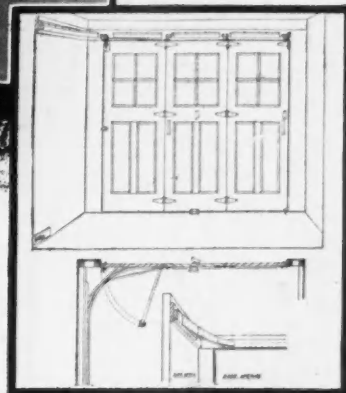
IN order to better serve the floor surfacers of Chicago, the Behr-Manning Corporation has selected two leading distributors whose locations will permit much prompter service than can be rendered from the Chicago warehouse alone. The distributor for the North Side is C. L. Schroeder & Bros. Co., 1017 Belmont Avenue; for the South Side, Bachli Paint Company, 1811 South Wabash Avenue.

THE Steel Frame House Company, Pittsburgh, Pa., announces the appointment of new special representatives for Chicago and New York City. They are Mr. W. D. Davis, 5208 Wolfram Street, Chicago, Ill., and Mr. W. A. Neate, Steel Frame House Company, 39 Broadway, New York, N. Y.



See How Quickly
This Set Can
Be Installed

Here Lies the
Secret of Perfect
Operation



A SET THAT GIVES *Twice*

the Satisfaction FOR $\frac{1}{2}$ *the Cost!*

Garage Door Fixtures No. 550 (patents pending)—the result of years of experiment—has become one of the most popular sets in the Frantz Guaranteed Builders' Hardware Line. First, because the No. 550 set is designed to eliminate all the troubles and annoyances common to "Around-the-Corner" garage door operation. Second, because No. 550 Fixtures sell at a much lower price than it has been customary to pay for "Around-the-Corner" type of equipment.

No Hardware
is Genuine
FRANTZ

QUALITY
without the
Red Label

With No. 550 Fixtures, all the doors roll 'round the corner

smoothly and easily—entirely out of the way. The automatic door guide makes it unnecessary to guide the separate passage door by hand. This unique invention holds the passage door in position and supports its weight while the doors are being operated. And too, the opening can be cleared without entering the garage.

Installing No. 550 Fixtures is a simple task. The hardware all fastens in place without cutting or fitting in any way. The "Rollaway" Track requires no blocking or bracing—it fastens flat, on the header over the opening, and on the side wall.

Each No. 550 Set is packed in a strong fibre carton with all necessary screws, bolts, lag screws for track, etc., and a complete instruction sheet for installing.

GET THIS BOOKLET
ON THE No. 550 SET
MAIL THE COUPON

A booklet that illustrates how the new Frantz No. 550 Fixtures operate and explains their construction in detail is offered FREE. Send the Coupon!

FRANTZ

TRADE MARK

Guaranteed Builders Hardware

FRANTZ MFG. CO., Dept. A-2,
Sterling, Illinois.

Kindly send me booklet that gives details about the New No. 550 Garage Door Set. (Print name plainly.)

Name..... Address.....
City..... State..... My Hardware Dealer is.....