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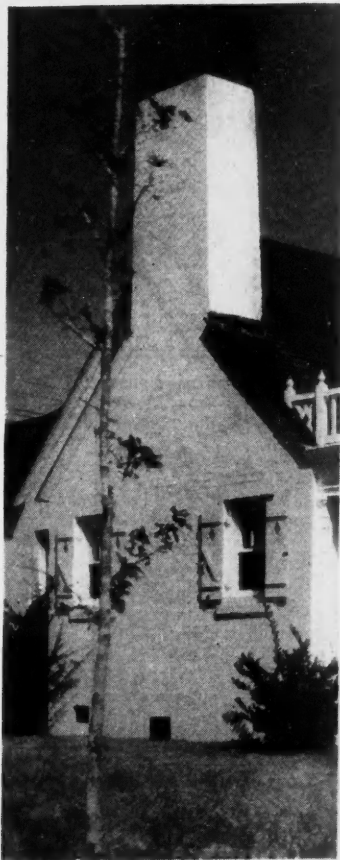
V. 50-51
AMERICAN BUILDER
 and
BUILDING AGE

(A Simmons-Boardman Publication)

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NEXT MONTH will bring you another big magazine, over-brimming with good designs and money making ideas. How to do a bigger business this Fall and Winter is the important problem now; and the November issue will give you the answer. Current business questions are discussed and a wealth of usable pointers given for modernizing and for better home building at lower cost.

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

AMERICAN BUILDER AND BUILDING AGE, with which are incorporated Building Developer, Home Building, National Builder, Permanent Builder, and The Builder's Journal, is published on the first day of each month by the American Builder Publishing Corporation. President Edward A. Simmons; Vice-Presidents, Henry Lee and Samuel O. Dunn; Secretary, Elmer T. Howson; Treasurer, John T. DeMott.

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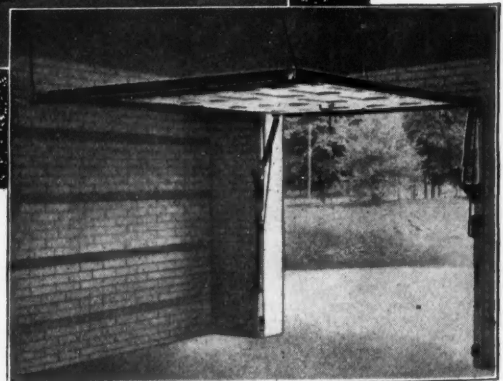
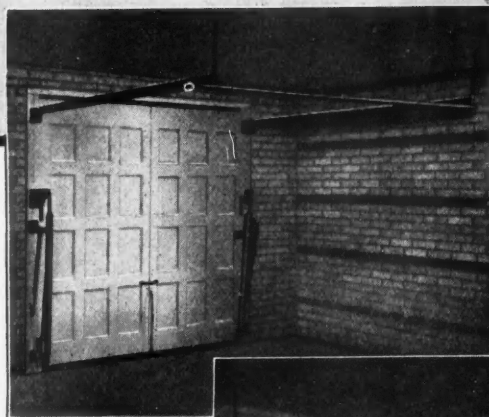
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FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

AMERICAN BUILDER AND BUILDING AGE



American Builder and Building Age

TO the end that the building industry, second only in importance to that of agriculture, shall be most adequately served, BUILDING AGE, New York City, has, effective with this issue, been consolidated with AMERICAN BUILDER. Subscribers of BUILDING AGE who have not been getting AMERICAN BUILDER will receive AMERICAN BUILDER AND BUILDING AGE between now and the time to which their respective subscriptions have been paid; while the time limit will be correspondingly extended with those who have paid for both publications.

Paralleling the trend in banking and manufacturing that has prevailed steadily for some years, many publishers of business papers have joined hands so that the industries they have served separately might benefit from literature of a higher order at less cost, possible only through concentrated effort and elimination of waste. While all this has meant some reduction of competition, there is no loss, since the former rivalry was undesirable in that it was, in the main, but duplication,

resulting in a multiplication of costs to reach a given audience.

On the surface, it would appear that the merger of AMERICAN BUILDER and BUILDING AGE has simply brought together two publications. As a matter of fact, seven are involved, since AMERICAN BUILDER included also two others, BUILDING DEVELOPER and HOME BUILDING; while three more in the same field, NATIONAL BUILDER, PERMANENT BUILDER, and THE BUILDERS' JOURNAL, had already been merged with BUILDING AGE.

Both in size and importance, the consolidation of AMERICAN BUILDER and BUILDING AGE far outranks that of any other like move in the trade paper field. On both publisher and editor this in itself imposes a duty to produce a publication that will adequately cover the great field to which AMERICAN BUILDER AND BUILDING AGE is dedicated. Bearing, as it does, the Simmons-Boardman hallmark, subscriber and advertiser alike are assured that, within the limits of human possibilities, neither will be disappointed.

E. Simmons

PRESIDENT

CONSULT A BUILDER

THE average man about to build is sorely in need of practical guidance and advice. He may not realize it; but what he doesn't know about the technicalities of home building would fill a large book.

Financing, planning, construction and equipment for the new home—how important each of these subjects is, and yet how little the knowledge or experience of the average person, not in the building business, regarding these matters!

The average man builds but once in a lifetime; or, it would be more accurate to say, the average man only once in a lifetime contracts to have a house built for him, or becomes the purchaser of a house, either new or second hand. Accordingly, any knowledge or experience gained in this single enterprise comes too late to be of much service to him.

"If I were to build again . . ." is a remark often heard, which really voices the regret of the home owner over mistakes or omissions made in his single venture into the maze of home building.

The active men of the building business, on the other hand, are experienced in all these home building problems and are expert in their solution. What appears to the layman either as too complicated to be fully mastered or too trivial a detail to be worried about, comes to the attention of the experienced builder with full understanding and in correct relationship to other parts of the job. He knows it from long and intimate contact on many similar building projects.

This knowledge and experience, as well as the skill and integrity of the men of the building business, are at the command of the home seeking public freely on request. Thousands of dollars could be saved and much more satisfactory results secured if those "about to build" would first *consult a builder*.

Probably, as a class, builders have been too modest in the past about letting the value of their services be known. They have not been good advertisers. Yet this is an advertising age and a time requiring the keenest merchandising methods. One of the most effective of advertising tools is the *slogan*—a phrase that is used over and over to drive home a fact or a suggested line of action.

This publication offers this slogan to its thousands of builder readers for their advertising to the public—"Consult a Builder."

Hammer that slogan home to the public, and the position, influence and business of builders will be still further strengthened.

We all recognize as sound advice several similar slogans such as "consult a physician" when you are ill, and "consult a lawyer" when you are in trouble. And so now we propose this slogan for those about to build,

buy, remodel or repair, "consult a builder" and get the benefit of his years of special training and practical experience.

Builders, dealers, architects, manufacturers—all are concerned with the problems of better design, better construction, lower costs and more satisfactory financing of American homes. The general public has made some headway in its understanding of some of these matters, but only on the surface. Prudent advice, assuring a successful, workmanlike job, will continue to be, "Before building, *consult a builder*."

DIVERSION OF BUILDING MONEYS

A NEW lien law goes into effect October 1 in New York State. This new law calls for drastic changes in the handling of funds for building purposes. It definitely defines what disposition a builder can make of funds received from an owner. If the funds are used for any other purpose than those specified, a contractor is deemed guilty of larceny.

The provisions of the law are stringent, the purpose being to protect owners from dishonest contractors. Of course, as in other cases, the honest man must suffer with the guilty. So far, there is no law to protect the contractor from the dishonest owner.

It behooves contractors to be very careful when making a contract to find out whether the owners are able to make payment according to the provisions of the contract, then treat the money received as a trust fund until it is distributed to all those supplying materials or labor.

A. G. C. TO ORGANIZE HOME BUILDERS

A PLAN for the creation of a residence contractor's section of the Associated General Contractors of America has been recommended by President A. E. Horst and is expected to be launched at the fall meeting of the executive board, October 6 to 8, at Rye, N. Y.

Studies of current conditions and past trends in the home building field indicate that much can be accomplished through the establishment of such a section. Although the Associated General Contractors heretofore has been primarily devoted to the problems of the larger contractors, it is now felt that some national trade association should be provided the residence builder to assist him in bettering present trade practices and to help him in promoting the construction of more and better homes.

The initiative taken by A. G. C. units in Minneapolis, Portland, and Spokane, where home builders divisions already have been formed, indicates that the contractors of this section of the industry are alive to the possibilities for benefit and that the basis of national affiliation and national effort will meet with their approval.



RAVENSWOOD Photo

ANDERSON AND TICHNOR, Architects

Some Stairways Are Built Just to Be Climbed; Others—by Far Too Few—Are So Artistically Designed That They Dominate the Entire House and Give It Beauty. This Is Such a One, Located in a House at Lake Forest, Ill.

THE DOMINANT FEATURE OF THE HOME

AGGRESSIVE SALESMANSHIP



AGGRESSIVE SELLING MEANS TAKING "MR. AND MRS. PROSPECT" OUT AND HELPING THEM SELECT THEIR HOME—SHOWING THAT BEST OF ALL TESTIMONIALS, THE WORK YOU HAVE DONE

WILL DO IT!

The Greatest Need of the Building Industry Today Is Lively, Energetic, Modern MERCHANDISING—the Best Cure for “Slump,” “New Competition” and Other Ills

SPEAKING frankly, and without undue pessimism, we must admit that the building industry has seen better days.

In the first place, there is the depression. Some people are calling it by a lot of other names.

Yes, all of us have not found the last year pleasant. People just seem to have stopped wanting new homes.

Then there is the New Competition. Along comes Sears-Roebuck, among others, with some hundred million dollars to get into the small home building field in a large way. They threaten to bring chain store merchandising, buying and selling methods into the home field.

We will have to admit that *that* is a problem. In some parts of the country, this new malady has “taken” harder than in others.

Besides this, we might mention a few other little problems. There seems to be some difficulty about getting the kind of financing needed. Materials sometimes seem high. Some customers aren't coming through with cash as quickly as they should. Home buyers appear to be on a strike.

If we went on to enumerate the full list of problems before the average builder today, it would take a lot of space. We are not going to do that. We are going to plunge right into the thing we have to say. Here it is.

The one thing that the building industry needs today to bring it out of the slump, meet the New Competition and get people to buying homes is *aggressive salesmanship*. Not just ordinary selling in the common sense of the word, but real, modern, lively, enterprising *merchandising* such as has put the successful industries of America into the dividend-paying class.

What the building industry needs is men who will crank up the 1890 business-getting machines that are cluttering up our highway to prosperity and speed them up to 1931 tempo.

We need to clear out a lot of model T ideas and get some model A activities under way in building.

The reason that there has been such a tremendous drop in demand for homes is that the manufacturers of automobiles, radios, and some thousand odd others have stepped in and, with the highest priced, most effective advertising and merchandising methods in



Selling the customer—especially the housewife—in the home, from plan books, photographs and sales literature is most effective merchandising.

the world, taught the American people to think their products are more important than homes, at least, new and modern homes.

While billions of dollars have been spent to make people “two car conscious,” “travel conscious,” “pine-apple conscious” and what not, the eleven million or so of you that get some sort of living from the building business have been swapping yarns out in the back yard—and a lot of them must have been pretty ancient ones.

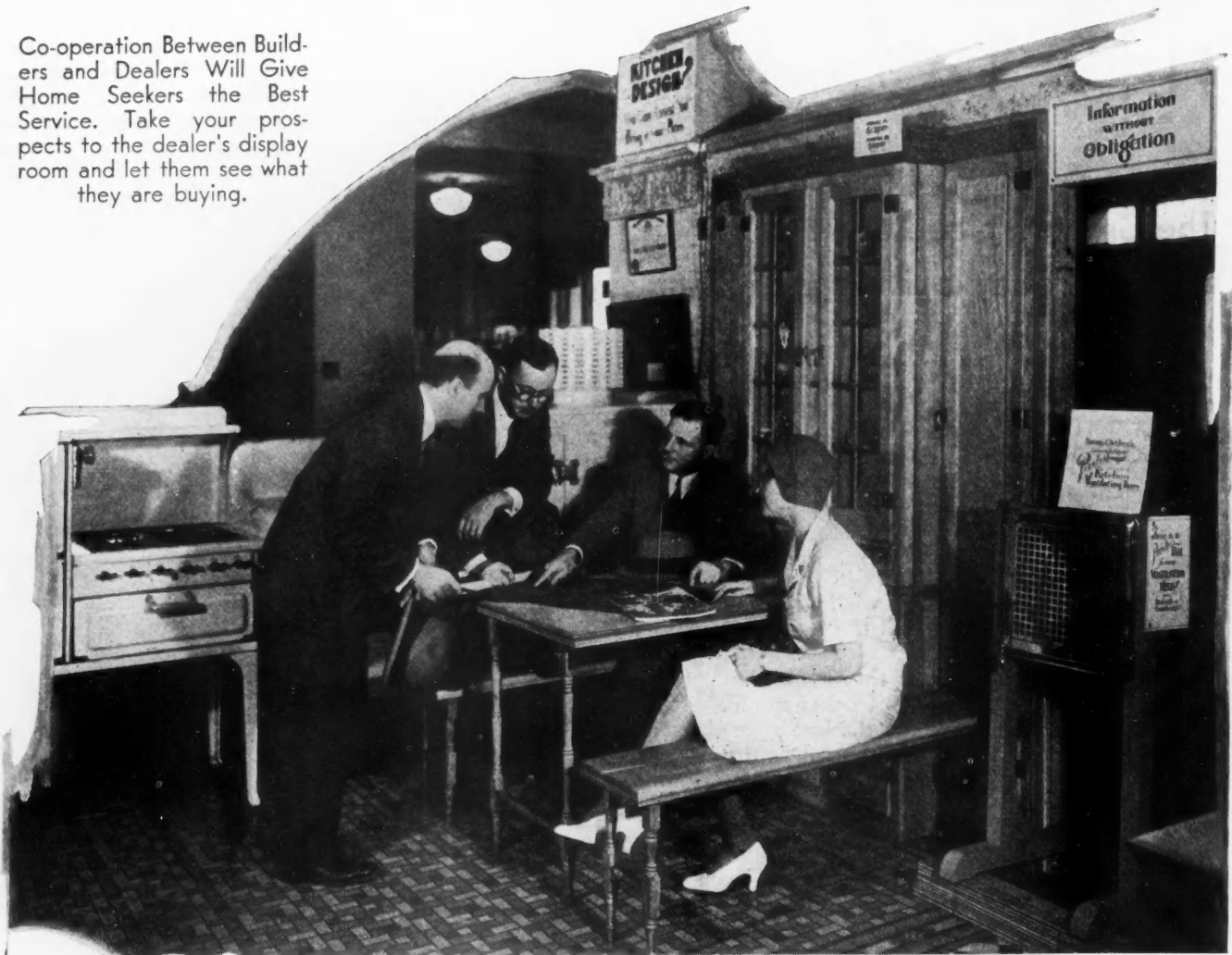
The one way the building industry can get back to a profitable foundation is for it to *sell*. Builders have got to become aggressive merchandisers as well as good business men. They have got to do a better job of selling than all these hundreds of lively competitors for the family dollar.

In just a minute we will take up what some of these selling practices are. But, before that, there is this problem of New Competition.

In the face of the dullest home building period in years, large nationally organized companies have stepped in and actually created business for themselves. They have come into a new field, fought against pretty large odds, and yet have made progress. If you don't believe this, look up, as we have, some of their sales records.

If the New Competition can get business under these conditions, what will happen if, and when, things pick up? When people come out of this anti-home buying conspiracy, who is going to get the new business?—you, the independent builder, or

Co-operation Between Builders and Dealers Will Give Home Seekers the Best Service. Take your prospects to the dealer's display room and let them see what they are buying.



some nationally organized company with a fine selling story but not nearly the capacity for doing a good job that you have?

We hope and believe that home building will soon have a turn for the better. But it won't help the independent builder very much if a large part of this new business goes to the chain store outfits.

That brings us right back to the theme song of this discourse; the biggest need of builders and the home building industry today is aggressive, intelligent, modern salesmanship.

Aggressive salesmanship implies just as much a state of mind as anything else. It means putting the builders' business on a par with the liveliest in the community. It means the builder must throw away his big boots and corduroy trousers and start mingling with the men and women in town who control the buying power. It means making contacts through the various civic and community clubs, the Board of Education, the architect's chapter, the business men's clubs.

Modern merchandising calls for putting the builder's office up on Main Street where it will be so attractive it will sell houses itself.

This is a selling age, and the old day of haphazard, easy-going "let business come to me as it will" methods is gone.

Just to give you something to shoot at, we are going to put down a few of the popular types of selling that ought to be bringing in flocks of pros-

pects for home builders right now. Listing them briefly, they are:

1. Personal solicitation—calling on prospects in their homes or offices, and selling them direct from this magazine, from plan books, photographs, and sales literature.
2. Telephone selling—making contacts, and paving the way for sales by use of that most handy instrument sitting beside you on your desk.
3. Advertising through newspapers, local magazines, theater programs, etc.
4. Advertising by means of signs, posters, billboards, electric lights and other displays.
5. Direct mail advertising—placing not only your own booklets and folders but those of manufacturers in the homes of prospective customers.
6. Selling over the radio—the latest and, some say, the most effective way to keep your name and message before the public.
7. Office selling—making your office the place for closing contracts and the headquarters for information about home building. It ought to be one of the most popular spots in town.
8. Advertising by means of model homes, window displays, displays at fairs, public buildings, etc.

The order in which these methods are listed does not indicate their worth. One may be particularly adapted to a community whereas another would be a waste of money. Possibly all of them would be worthwhile in some communities, and indeed necessary to drag people out of their lethargy.

The first step in any selling campaign is to build up a list of prospects. One excellent way is to drive

(Continued to page 126)



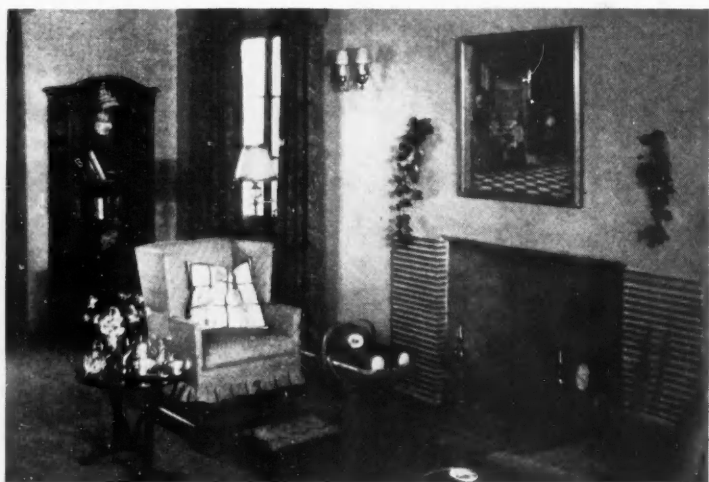
Eidson Studio

J. W. NORTHROP, Jr., Architect

Homes of Character



The Living Room



The arched doorway—and the built-in bookcase are two fine features of this living room that are popular not only in California but everywhere. The modern fireplace below is another good selling point

**Early California
or
Hacienda Period**

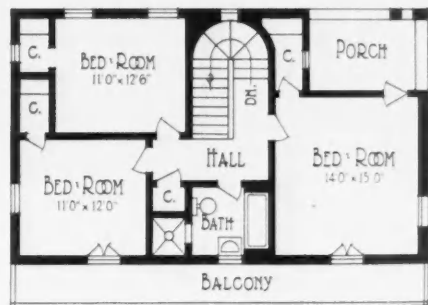


Barker Bros. Photos

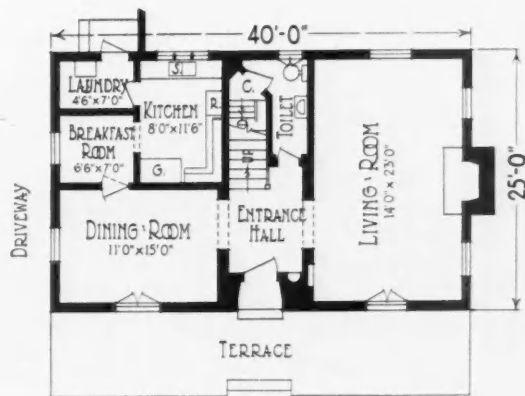
Designed by GORDON B. KAUFMAN

This house of the Early California or Hacienda type of architecture was built by Walter H. Leimert Company, Developers, for the Los Angeles Annual Small Homes Exposition. Cost with furnishings was \$14,000. It is a design suggesting frank comfort.

The overhanging porch is a feature designed for the south, where shade and exposure to all breezes possible are desired. Large windows provide plenty of light and air when it is desired, and the well designed shutters keep these same elements out when they are not wanted. Large rooms and good cross ventilation are indicated



. SECOND FLOOR PLAN .

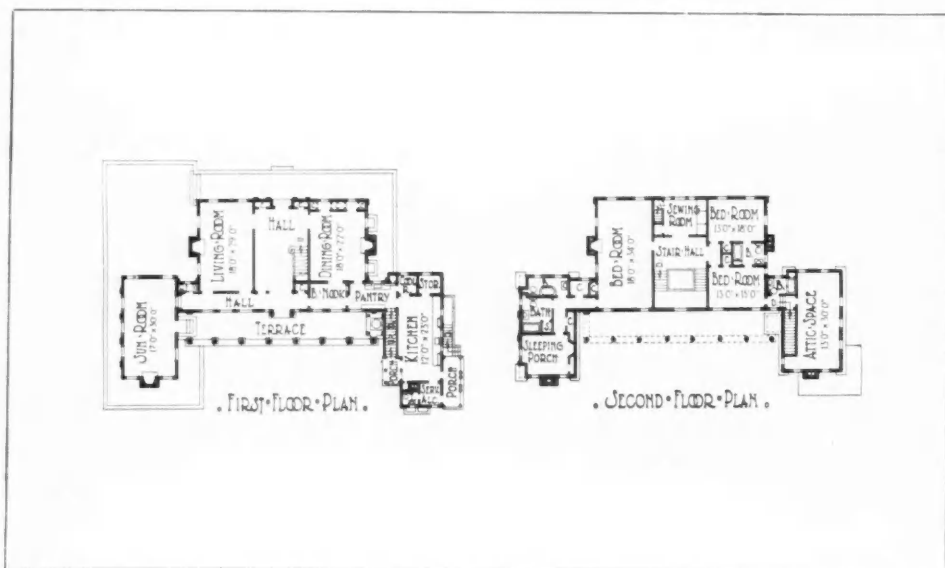


. FIRST FLOOR PLAN .



Tebbs & Knell Photo

M. E. BOYER, Jr., Architect



Nothing is more dignified than two-story columns as exemplified in the stately residence of R. Horace Johnston, Charlotte, N. C. . .

**From The
Old South**



Above is a five-room Colonial, 34 by 37 feet, built at Asheville, N. C., into which more than the usual amount of care was put by the designer in creating the Colonial details.

To the right is a six-room narrow-lot house in Milwaukee. Arthur C. Runzler, architect. Dimensions, 28 by 49 feet, include a one-car garage at the rear of the house proper.

**Small Homes
Large Profit**



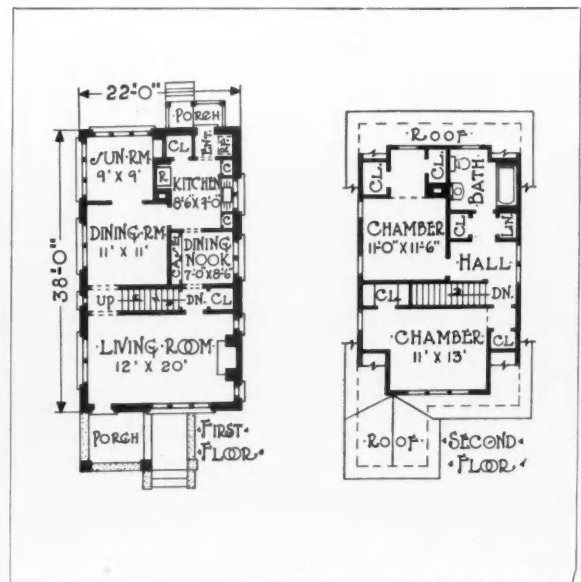


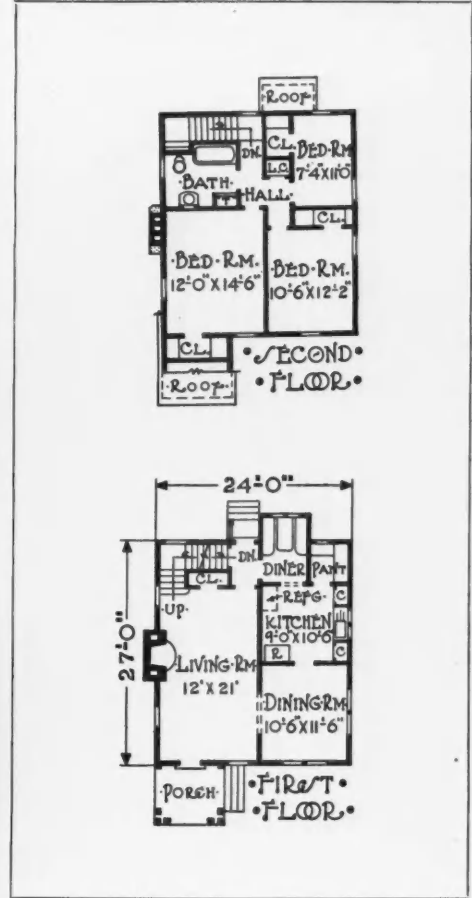
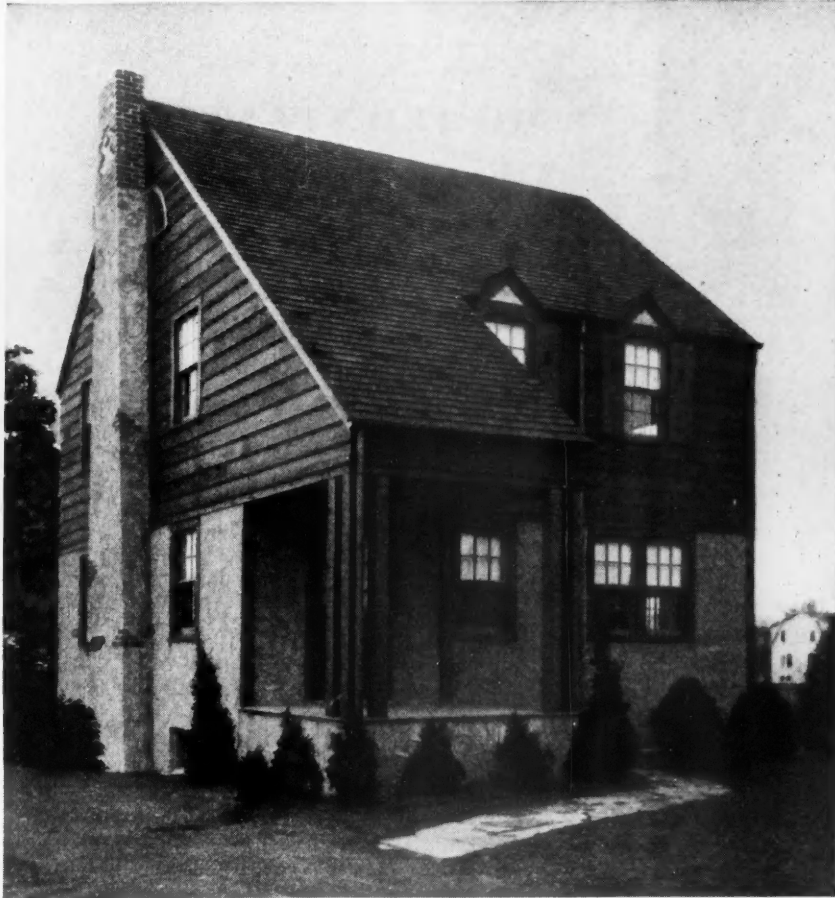
BUNGALOWCRAFT CO., Architects.



The modern home of small size presents many interesting possibilities. It can be pleasingly proportioned and supplied with convenient equipment without being costly. Here are two suggestions.

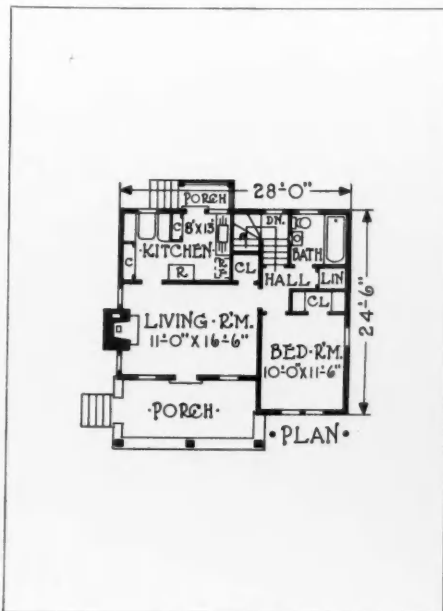
Snug Security at Small Cost





For The Narrow Building Site

Where vacant is high in price and sunlight is at a premium these narrow house suggestions are welcomed. These are homes of great economy.



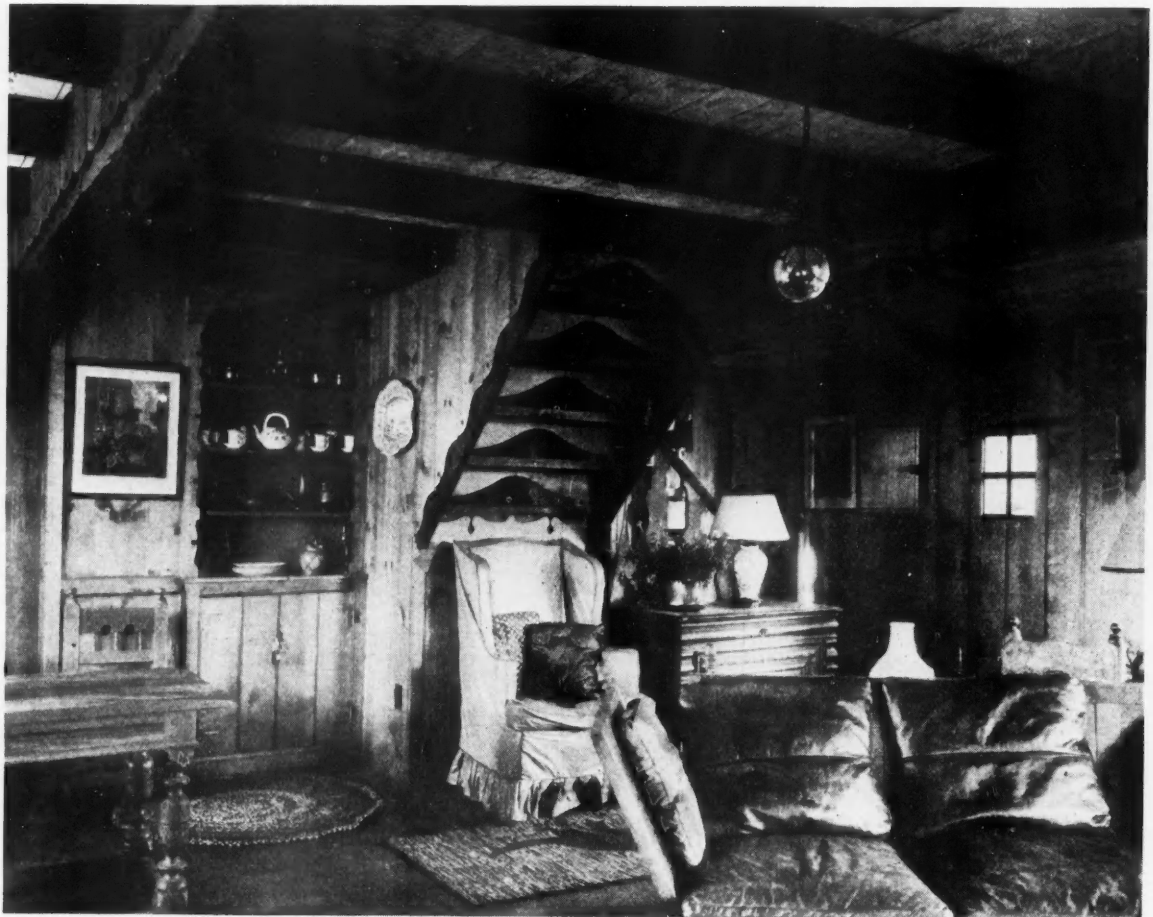


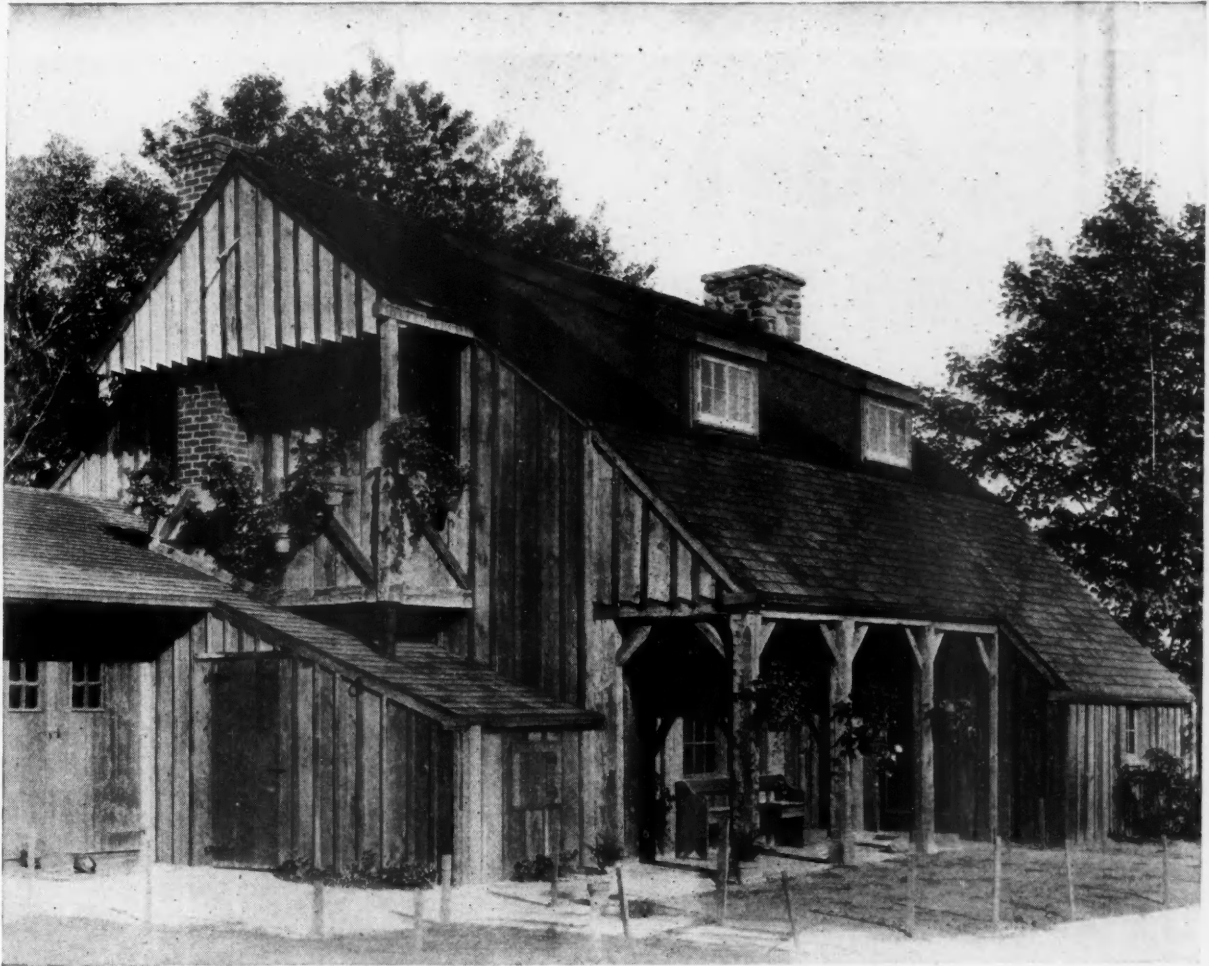
DUNCAN HUNTER, Architect

MODERNIZATION OF AN OLD BARN

Here is an example of modernizing done in a particularly interesting manner. The old barn, the property of Mrs. Lilian E. Scofield, Ossining, New York, was worthless except for its fine old timbers and good boarding and its "antique" character. These were preserved in the remodeled Dutch Homestead structure.

The job was one that required good handicraft work—the men who did it were ship's carpenters and careful hand workers who knew how to handle lumber. They preserved the ancient character of the building while yet making it thoroughly modern in its arrangement and equipment.

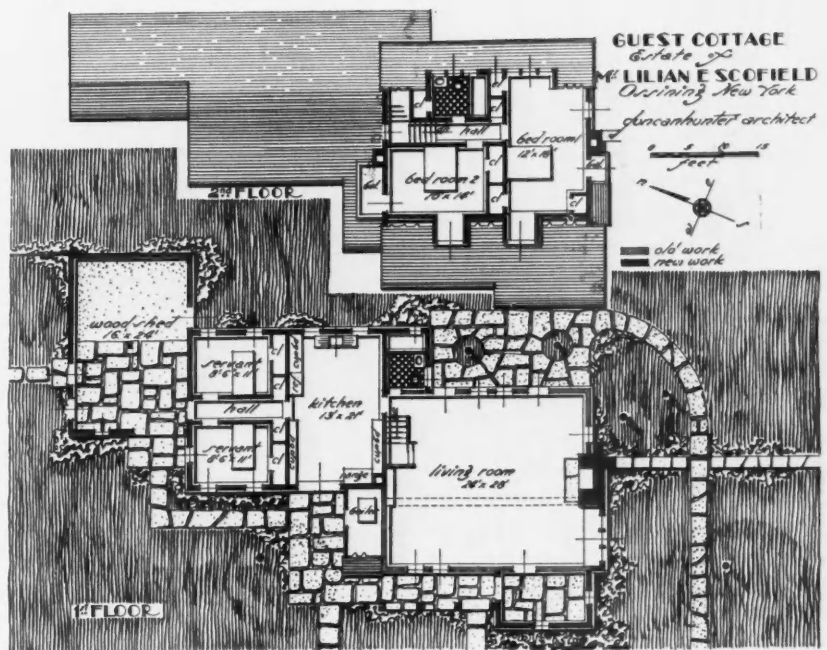




HAND WORK DONE WITH CARE

The floor plan gives the complete story—what the old structure looked like and how it was rearranged. The rambling, sprawling roofs hold the house to the ground. The old weatherbeaten boarding, salvaged from other old structures in the neighborhood, gives a sense of age.

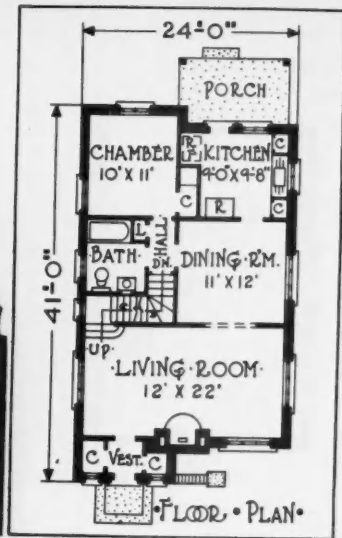
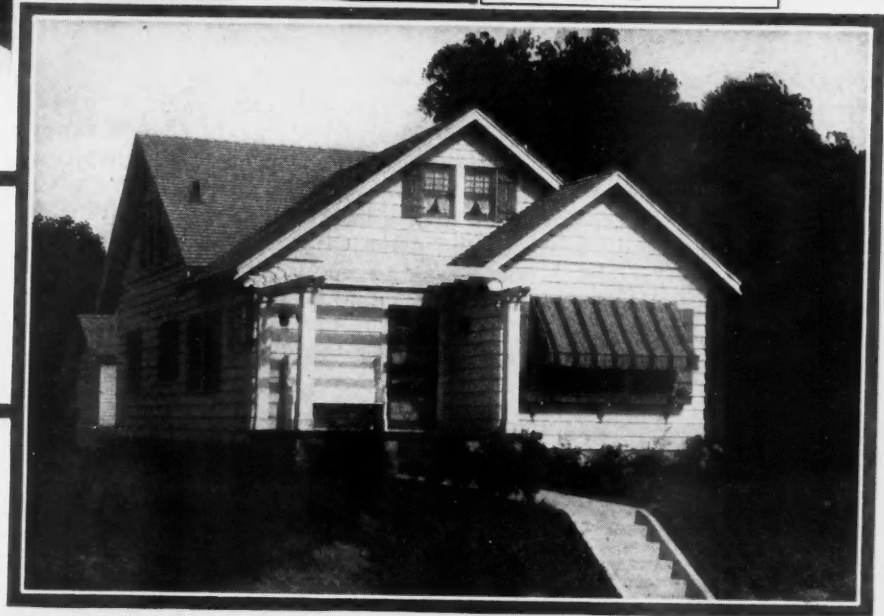
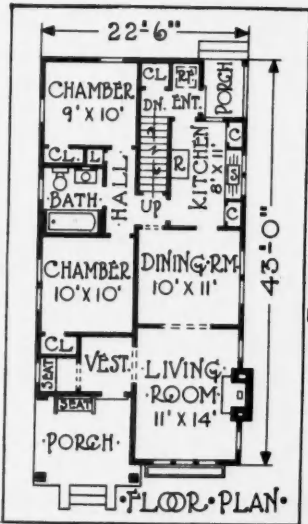
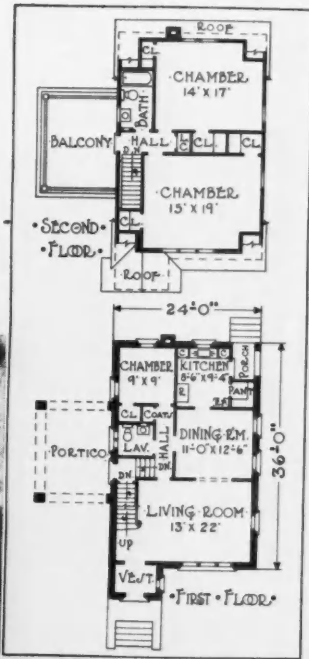
Interiors are finished in keeping with the character of the structure. Knotty pine, worked by hand, gives an antique and informal air. Careful hand work is evident throughout.

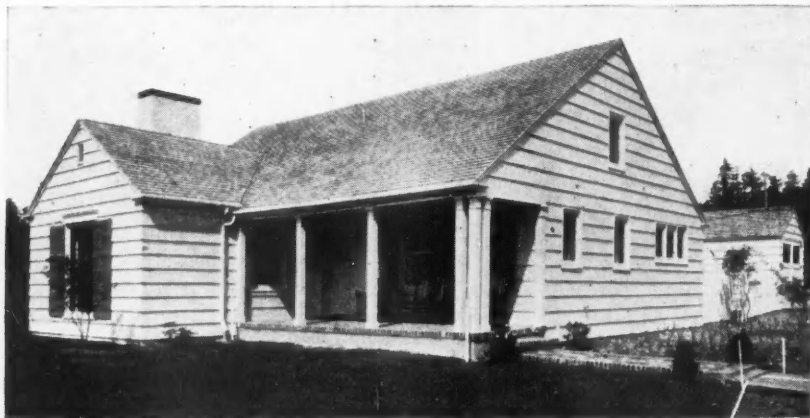




**AN ENTRANCE . .
With a Cordial
Welcome . . .**

A variety of excellently worked out details combine to make this entrance successful. The sturdiness of the door is well in keeping with the stone walls. Note the interesting lantern and mailbox fixtures, the flagstone approach and the hewn timber treatment above the door. On opposite page we are showing a group of low cost houses having especially attractive floor plans, worthy of careful study.





A Knotty Story

OR 5 ROOMS FOR \$5,000

THE builders of this house had a pretty knotty problem. In the first place, they wanted to produce an attractive, well designed, well arranged five-room bungalow for less than \$5,000.

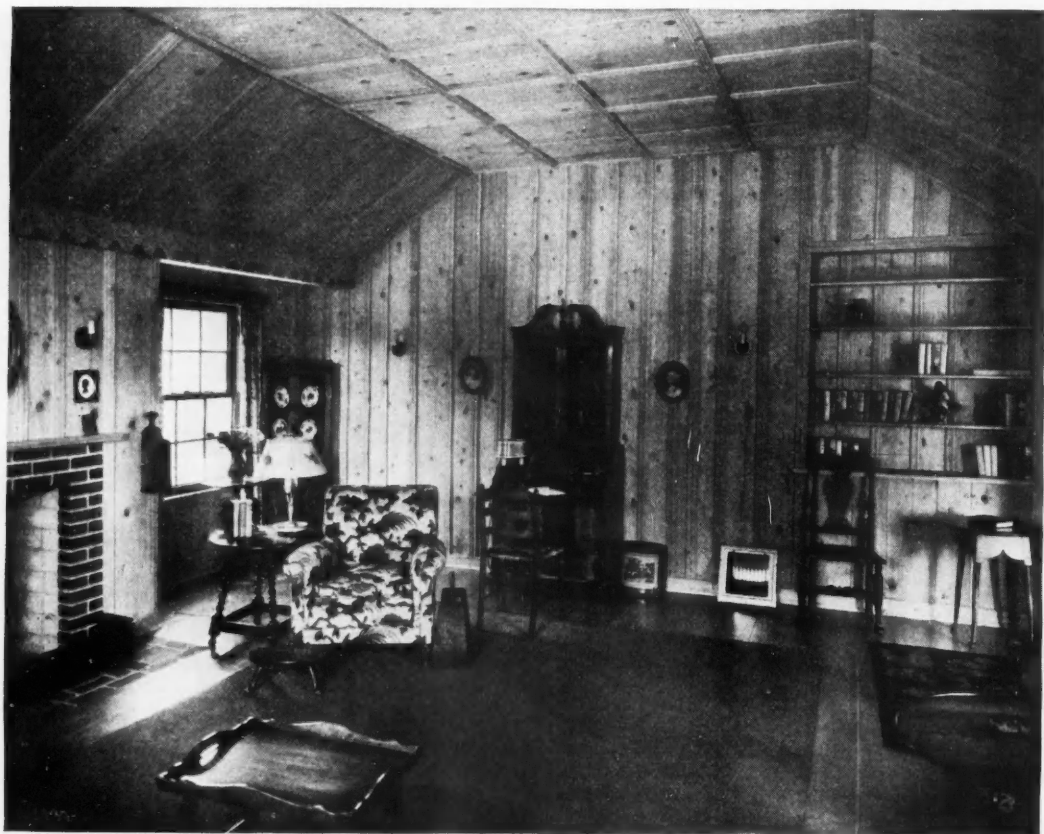
In the second place, they had to use knotty lumber, for one of the purposes of the demonstration—it was to be a “model home”—was to show how attractive knotty West Coast hemlock could be when properly used.

The result is a fine little house that deserves praise

for all who took part. It is located at Normandy Park, a suburb of Seattle, Wash., and was built under the auspices of the Seattle Post Intelligencer and the West Coast Lumberman's association. Architects are Bain and Pries.

Plans are good and allowed for easy expansion. By cutting dormers in the roof, two more bedrooms and a bath could be finished on the second floor.

The living room is paneled in random width boards of knotty West Coast hemlock, with battens. Panels



The living room was finished attractively and inexpensively with knotty West Coast hemlock. Moulded battens contribute to the appeal of the room.

were treated with clear shellac and waxed. Floors are random length hemlock, treated with hot linseed oil to which walnut stain was added.

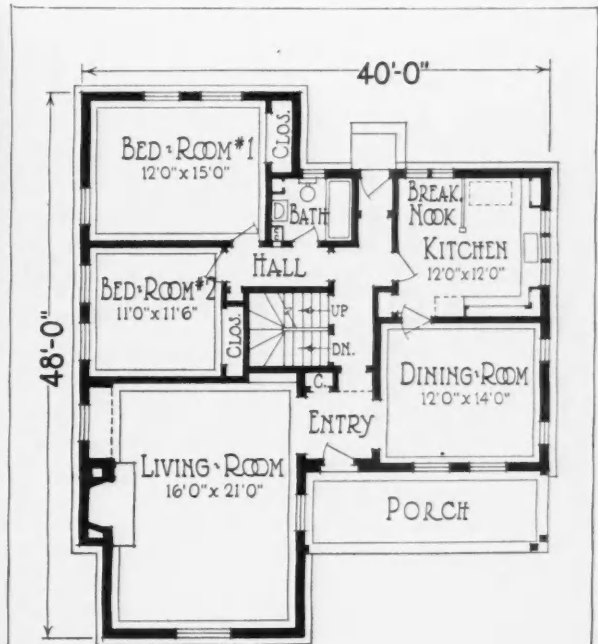
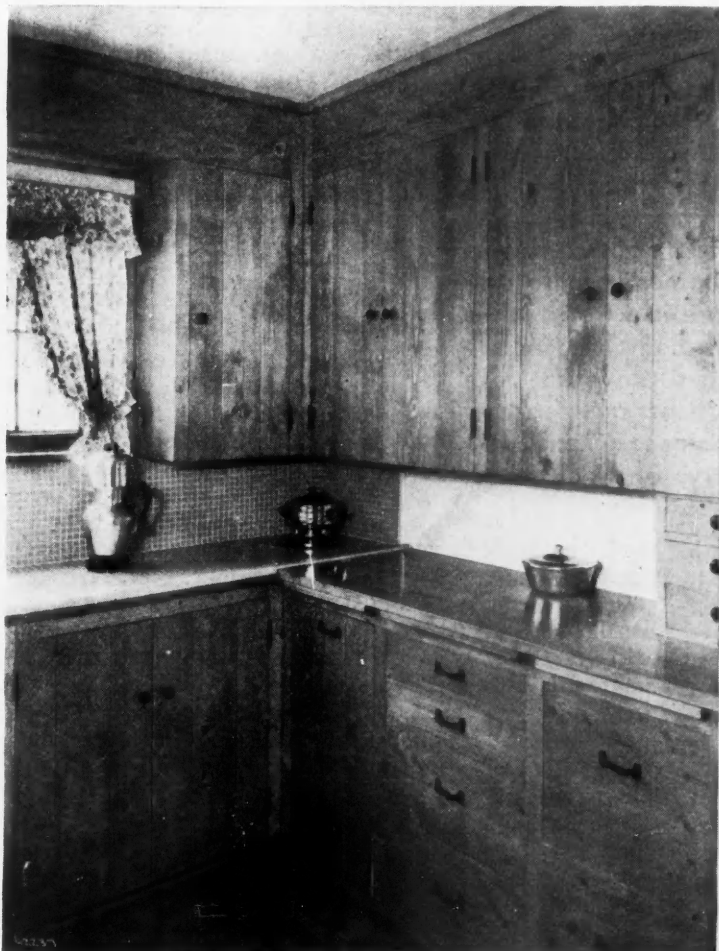
An interesting feature of the specifications was the following:

"Knots or other prominent markings permitted in this grade shall average at least one in every 16 inches in the length of the piece in 8-inch and narrower stock, and at least one to every square foot in 10-inch and wider, but in no case can a clear section of the face be more than 18 inches in length between knots or other markings."



Effective paneling, a pleasant fireplace and a large window give an informal, early Colonial air to the room.

IT IS NOT OFTEN YOU WILL FIND A HOUSE AS FINE AS THIS AT SUCH LOW COST. ITS DETAILS MERIT CLOSE STUDY



The floor plan shows evidence of careful planning; no space is wasted, and the central hall is a desirable feature.

At the left is the kitchen, showing how hemlock was used to good advantage in this inexpensive and modern style way.

Migration of Industry Presents

Home Building Opportunity



The New Jewel Tea Company Headquarters at Barrington, Ill.,
Holabird & Root, Chicago, Architects.

Jewel Tea Company Moves
Out to Barrington, Ill. and
Opens Model Subdivision
of Homes + + +

By E. A. MAGURN

HERE is a "migration" of industry, typical of thousands of others throughout the United States which add substantially to the national building program. The Jewel Tea Company has moved its headquarters from Chicago to Barrington, Illinois, and has opened a 40-acre "homes" subdivision adjoining its new plant, intended primarily for homes of officials and employees.

The moving was completed of April 1 of this year and, already some fourteen fine modern homes of brick and wood frame have been built in Jewel Park, as the new subdivision is appropriately named.

The Jewel Tea Company has grown from a small beginning some thirty years ago to a large national concern, with some 2,300 employees, doing business in every section of the United States. About 300 of these employees are now located at the Barrington headquarters, over 200 of them having been moved from the former headquarters in Chicago when the new building was completed several months ago. This moving was accomplished without the loss of a day's business, by means of an efficient, pre-arranged plan. Stocks were shipped out in advance of the office equipment. Every desk, every typewriter, every piece of office equipment, was carefully tagged, prior to moving, with its exact location in

A new day has dawned for company housing projects. New beauty, satisfaction and economies are obtained as industrial plants move out into the suburbs and the smaller cities, and far sighted plans are made to provide homes for the employees. Here is a worth while example of company enterprise, that has provided both improved business quarters and improved homes in an ideal open - country environment.

the new building clearly marked.

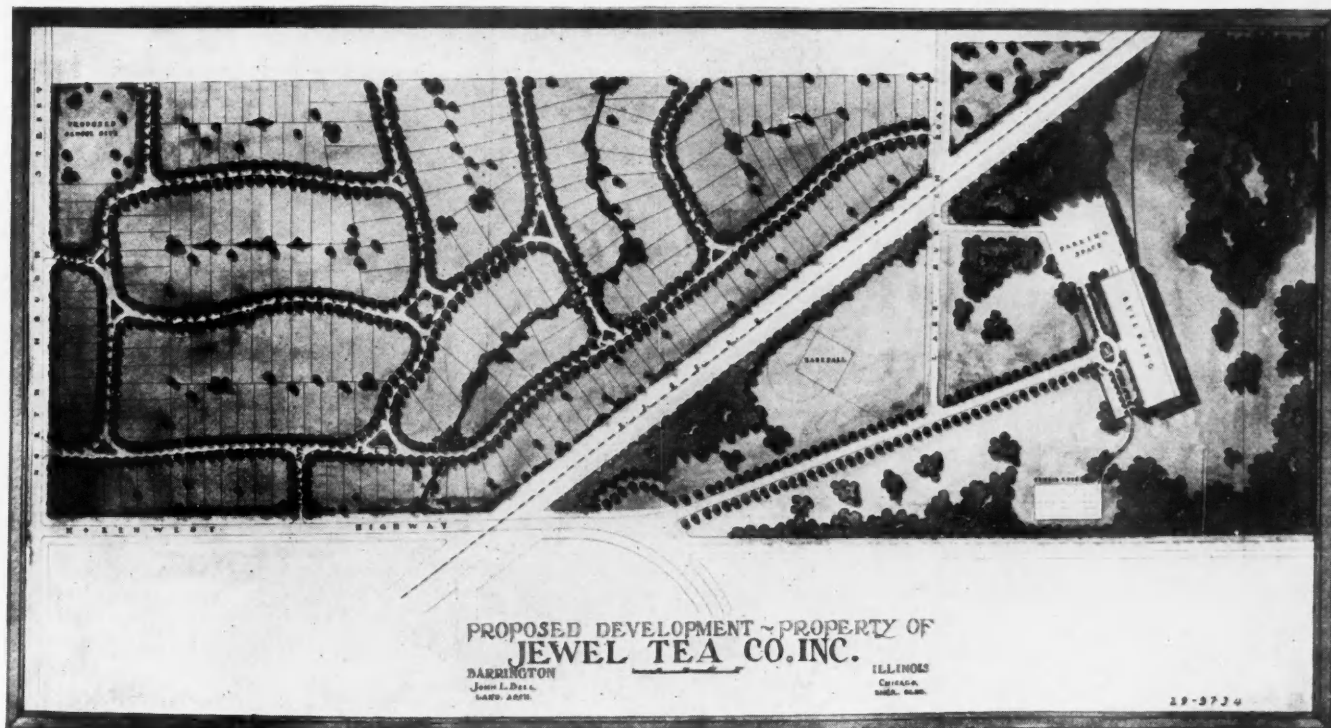
This new building, designed by Holabird and Root, architects, is a large, magnificently finished and equipped, fireproof structure. It is 400 feet in length by 100 feet in width and five stories and basement in height. As will be seen from the illustration, its architecture is in the latest mode.

In addition to extensive office and warehouse facilities the plant contains the most modern conveyor and elevator machinery, and the necessary coffee roasters and distributors, chemical laboratory, and the tea

and rice cleaning machinery, granulators, mixers, stoners, packaging and handling machinery.

Even more interesting to AMERICAN BUILDER AND BUILDING AGE readers is the layout of the company's 213-acre site, which contains the 40-acre tract set aside for a homes' subdivision. This is all laid out in winding streets with 9,000 feet of concrete paving and curbing. Electric street lights on concrete standards have been installed and shade trees set out along the parkway. Sewers, water and gas pipes and electric wires have been laid ready for service. The grounds around the main building and along a 1,500-foot approach have been attractively landscaped.

The company has shown intelligent farsightedness for the employees' welfare in the financial arrange-



213 Acres of Farm Land Developed for Plant Site and Homes Locations.

ments perfected for the building of the homes in Jewel Park. Quite a few department heads were included among the "pioneers," that is the first "bakers' dozen" to build in Jewel Park; and some of these secured homes without any down payment, other than regular monthly payments suited to their incomes. Furthermore, the lots were sold to these employees at the actual cost to the company for the land and subdivision improvements. The cost of the financing was added to each contract total, so that the monthly payments include everything.

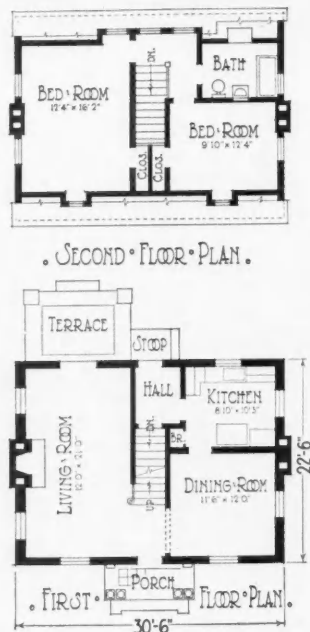
The plan adopted for the financing of the homes was the result of a series of conferences between President M. H. Karker, Assistant Treasurer J. M. Friedlander, of the Jewel Tea Company, and E. B.

Ericson, of 735 Vine Avenue, Park Ridge, a builder. Mr. Ericson happened to be a shipmate of Commander Karker's, when both were in the navy.

Most of the houses built by Mr. Ericson in Jewel Park were required for early completion—the owners desiring to have their homes ready for occupancy at the time the Jewel Tea Company moved from Chicago into its new building. This required great efficiency in laying out and executing the work. Because of this rapid construction schedule, Mr. Ericson sublet as many of the sub-contracts as possible, including masonry and carpentry. Also, the work was co-ordinated, as far as possible, so that there would be plenty of concrete men and masons to follow the excavators, and plasterers to follow the rough carpenters, moving from one house to another so none had to stand idle. In other words, the houses were not all started at exactly the same time but followed as closely as possible so that an even flow of labor and material insured steady and continuous progress. In most cases, roofers were ready to



A Home in Jewel Park; Brick Construction, Six Rooms, Normandy Type, Size 31 Feet 6 Inches by 32 Feet 3 Inches; W. H. Floerke, Architect; for Floor Plans See Page 79.



One of the Five-Room Cottages at Jewel Park; Designed by the Mountain Division of the Architects Small House Service Bureau and Built by E. B. Ericson

lay roof coverings as soon as the roof decks were on and finish carpenters were ready to move right in and complete the finish as soon as the plastering had dried out, etc.

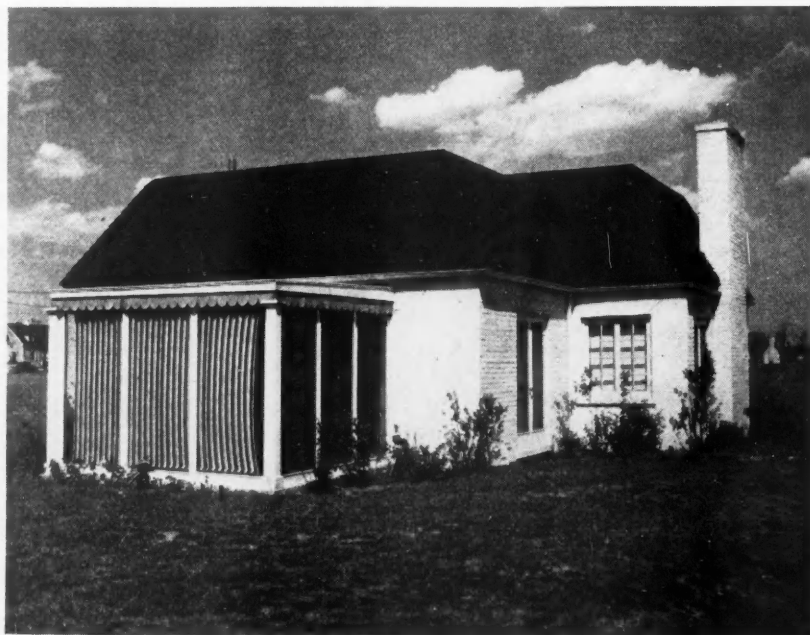
The result was that difficult schedules were met and owners kept satisfied so far as it could be done without interfering with the quality of the work. These houses are all well built.

The financing of these homes was facilitated by the enterprise of the Jewel Tea Company officials. President Karker and his associates secured a 50% interest in the First National Bank of Barrington, which then purchased the first mortgages on the homes to be built. The bank, being unable, under the banking laws, to acquire any of the junior financing, a subsidiary, known as the First National Securities Company, was organized by the officers of the Jewel Tea Company and the former directors of the First

National Bank of Barrington, and advanced the second mortgage funds. While there was some 100% financing at the outset, the policy now adopted is that individual buyers must pay between 20% and 25% of the total investment in cash.

The houses built in Jewel Park by Mr. Ericson are in the modern style, of pleasing appearance and well equipped. They have a price range from \$9,000 to \$16,000 but are worth more because of the low prices secured through the company's co-operation. Monthly payments on homes range between \$65 and \$115 per month.

The equipment included in most of these houses consists of hot water heating plants with automatic oil burners; automatic domestic hot water supply; water softener; electric refrigerator; tiled baths; in-laid linoleum in kitchens; lavatories on first floors; and, in one case, a garbage incinerator.

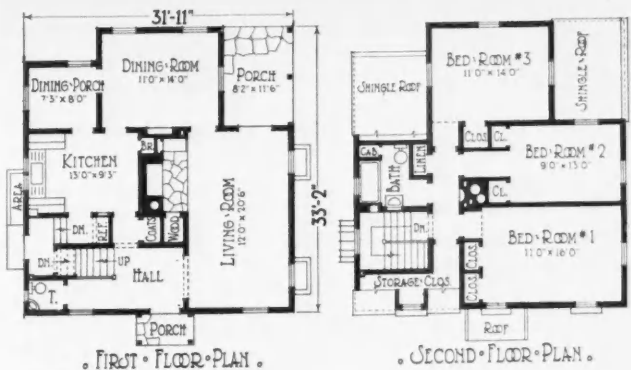




This Seven-Room Jewel Park Home Was Designed
By Weyerhaeuser Forest Products Plan Service

Outsiders, as well as employees, are permitted to buy and build in Jewel Park and are sure to do so. In addition to the officers and other employees already residing there, a number of other employees are known to be considering buying and building, so that, eventually, there is sure to be a large group of homes in this subdivision.

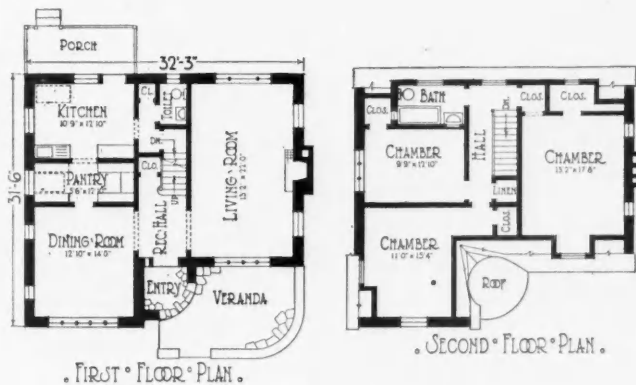
What has happened at Barrington indicates a trend throughout the United States creating a demand for new factory, residential and other buildings. This is population shift. The industries, it is true, have, in the past drawn labor from the farms. Rural young people have been flocking to the cities. The movement has not been all one way, however—a fact not generally recognized—and there has been an increasing trend for manufacturing plants to move out of the larger into the smaller cities and even into rural neighborhoods. High land valuations, excessive taxation, unfavorable living conditions for employees



and similar causes are, apparently, responsible for these migrations.

A survey, in 1927, established the fact that, out of 755 cities reporting, 406 reported the establishment of new manufacturing plants, as follows: 1233 new plants built, 218 branch plants built and 250 removed plants built, making a total of 1701. These plants gave employment to over 93,000 workers and, of course, created a demand for a considerable amount of new building, which in 1927, the survey showed, amounted to 18,600 new homes.

Like most other employees moved out of the larger cities, the Jewel Tea Company's employees have gained greatly in living conditions. They are now close to the beautiful lake country of Northern Illinois and enjoy pure air, freedom from smoke, dirt, noise and congestion. Instead of riding on crowded surface and elevated cars at the rush hours, they are now but a few minutes' walk from a fine office building and no carfare to pay. Moreover, they enjoy the healthful, pure air all day in a magnificently equipped building, with every facility for comfort and, even, recreation. Who shall say that they are not immensely the gainers over those who must live and work in a great city—especially those of them who now enjoy the freedom of their own comfortable homes, lawns and gardens in Barrington?



Arrangement of Normandy Type Home Pictured
on Page 77, as Built by E. B. Ericson.

The Active Fall MODERNIZING



This Neat Little House Took on a New Value from Modernizing Suggested by the Builder

TRY THESE ON YOUR PROSPECTS

- (1) Addition of a sun porch to make winter more pleasant.
- (2) Application of insulation throughout the house to cut coal bills.
- (3) A new roof to keep out rain and snow.
- (4) A new exterior coating of brick siding, shingles or stucco to improve appearance and increase warmth.

AND IT ISN'T A BAD TIME TO GO AFTER REPAIRS IN PREPARATION FOR WINTER

By M. J. BIGSBY

JUST a year ago, in a small mid-western town, my friend Al Swanson, the only builder in town who amounts to much, was feeling pretty melancholy and blue.

It looked as though there wouldn't be enough business in the next six months, he told me, to keep half of a one-man outfit going till Christmas; and Swanson was employing fifteen good men that he hated to lose.

He told me later that he had to do something, and a lucky thought coupled with a lot of hard work got him started right.

It was such a surprising story, and so applicable to the conditions of many builders just like him who this fall are facing the same state of affairs that I am going to put it down just the way he told it.

"First I started putting down a list of some of the things I knew I would like to do to make my own house more comfortable this winter. I thought of putting on a sun porch, or weatherstripping some of the windows I had neglected, possibly insulate the attic as I had wanted to do for a couple of years.

"Then I got really busy and made up a list of all the modernizing, improving and repairing I thought people might, or ought to be, interested in at this time of year. And opposite each one I put down a lot of the best arguments I could think of for having it done at this time.

"For instance, after 'insulation', I put down some



One of the most surprising cases of the "rejuvenation" of a house. The ancient, decaying structure shown on the opposite page was transformed to this pleasing modern home; Architect, Wilford P. Hooper, Maynard, Mass.

SEASON Is Here Right NOW

HERE IS WHAT ONE BUILDER DID TO
BRING NEW BUSINESS WHEN THINGS
LOOKED PRETTY BAD FOR THE FALL
AND WINTER MONTHS

figures I had gotten from my building supply man showing how much it would save on coal bills. I got together some data on saving of heating costs due to weatherstripping. I marshalled all the figures and facts I could get.

"But my best arguments were for beauty and comfort. Among the items, I thought of all the arguments for a cheerful, warming fireplace,—arguments that seemed particularly fitting when the chill, fall breezes were blowing.

"My list of fall suggestions was something like this: a new sun porch; insulation; a new roof; an 'overcoat' for the house, of siding, shingle, stucco or brick; interior repairs; modernizing bathroom; fixing up the kitchen; installation of a fireplace that works; weatherstripping of windows and doors; new floors; addition of playrooms in the attic or basement.

"After I had my lists made up and my arguments, I had to have someone to tell them to. I called in all the men, talked the thing over with them and asked for ideas. I got quite a few.

"Some of the men drove through town, jotting down names of those houses that looked as though they needed attention. If they didn't know who lived there, they found out from the telephone operator, or looked it up in the tax recorder's office.

"We made up a direct mail folder listing the improvements I suggested, urging that NOW was the time to do it. This we mailed to practically every-



Unrentable and unsalable—how the house looked before the aggressive builder came along.

body in town who owned a house. I got one list from a local storekeeper, another from the biggest lodge in town. I had all the men go through the telephone book and check names of everyone they knew.

"After the lists were made up, and one mailing completed, we went out selling in earnest. Due to slack business conditions, I was able to get mighty fine young men and women to go out as salesmen—canvassers at low cost.

"I put some lively ads in the paper and had one young lady spend most of her time following up leads from them, from our direct by mail, and other sources, by means of the telephone.

"Inside of two weeks, I was taking on new help to handle the work we had stimulated. Was it a good idea? I'll say it was! The work kept coming in at the end of January and February so that I kept our best men on the entire year."



Historically this might have been of value but it was a dead loss from a financial point of view. The remarkable transformation builder and architect achieved paid very well to all concerned and was a benefit to the entire community.

WHAT TO DO

WHAT TO SAY

When the House You Wish to Sell Is

OPEN FOR INSPECTION

By EDGAR C. HANFORD

Successful Merchant Home Builder, Springfield, O.

THIS REALTOR-BUILDER SUGGESTS:

- (1) Some "Open for Inspections" kill more sales than they make
- (2) Talking too much is the outstanding fault of salesmen
- (3) Demonstration houses should be kept looking clean and neat
- (4) Furnishing is not necessary and may be unwise
- (5) Provide someone to look after children
- (6) Have plenty of folders for the customers
- (7) Be sure to establish a contact which can be followed up

It is my firm belief that more sales are killed than made by house demonstrations, and the reason is that most of them are so terrible that they arouse every emotion but the desire to buy!

If I hadn't tried out the things I'm suggesting in this article, I wouldn't presume to pass them on to readers of AMERICAN BUILDER AND BUILDING AGE. But I have, and these suggestions embody methods that have produced results.

Sunday, of course, is the one day of the week every builder plans to have his house open. In many cities, however, offices and banks are closed on one afternoon during the week and practically all business is suspended on this afternoon during the summer months.

Where this mid-week closing is in effect, it is the most productive of definite sales. The reason for this is obvious. A great many Sunday visitors are not real prospects but are merely seeking to spend time visiting houses. We found that the mid-week afternoon or evening visitor is more apt to be a business or professional man and therefore a much more likely prospect.

When a visitor enters the house should the salesman introduce himself and, if so, how?

Probably the best solution is for him to hand the visitor his card which, if he proceeds to make the

proper kind of a demonstration, will be preserved for future reference.

Inducing the visitor to give his name is a more serious proposition, but a quiet, courteous manner and indirect questioning usually will produce the desired result more easily than the direct question. Getting the name firmly fixed in mind for jotting down at the first opportunity is in most cases preferable to opening a note book before the visitor and entering the name.

Knowing each other's names makes for a friendly relationship that is bound to re-act in favor of the salesman.

Salesmen and demonstrators cannot be too careful about their personal appearance, because they stand as direct personal representatives, and the impression they make on the visitor is of the utmost importance to the builder.

Gray or brown suits of a quiet tone which do not easily show dust are the best to wear, although blue serge is perhaps more dignified for Sunday.

Salesmen should be thoroughly acquainted with details of construction, conveniences, built-in features, location and objections. Because of numerous newspaper and magazine articles, the general public today is more familiar with building terms and types of construction than ever before.

The salesman should be especially familiar with the objectionable features both in the house and its location and be prepared to answer them, not by seeking to change the objector's mind so much as by emphasizing the compensating and desirable features in both the house and its location.

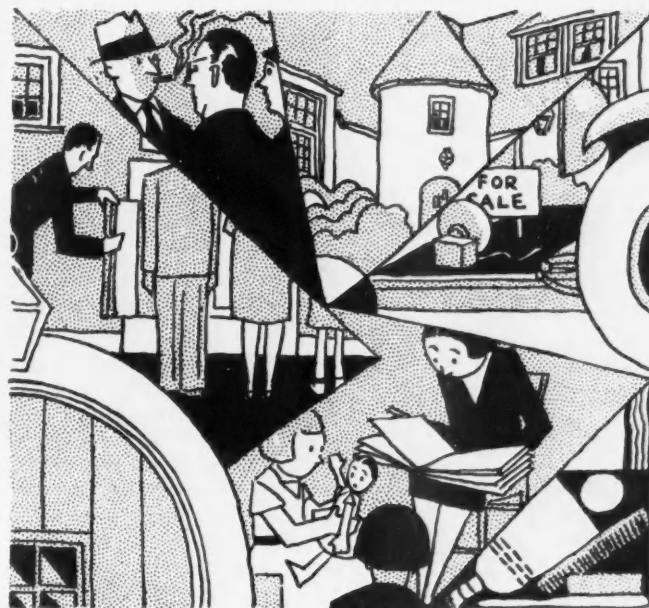
Keep in mind the fact that no prospect will buy a house until he has been conclusively shown the benefits and advantages of ownership. Objections voiced by visitors frequently are backed by real interest and where the salesman is prepared to answer these objections by stating the builder's reason for doing as he did, he not only has satisfactorily answered the objection but also has carried the prospect along just that much nearer to the closing.

No builder should reasonably expect the salesman intelligently to demonstrate a new house, satisfactorily answer all objections, bring the sale up to the point of closing and, in addition, discuss finance details of the sale which frequently are complicated and therefore a delicate subject from the prospect's point of view.

While he should have sufficient familiarity with the financing plan to enable him to answer general



Circus methods and bally-hoo won't go in this business, declared Mr. Hanford. Use dignified advertising.



Pointers for salesmen—dress neatly and keep that way; get the customer's name right; don't talk too much.

questions such as sale price, amount of mortgage encumbrance, whether or not the property can be purchased on a monthly payment plan, etc., the builder or his sales manager will find it advantageous at this stage of the closing to step in and assist the salesman.

In doing this, the builder and the prospect can adjust any difficulties of financing and thus insure the likelihood of a permanent sale, whereas if this phase of the transaction is left entirely in the hands of the salesman, there may be adjustments that will have to be made later.

Talking too much is today the outstanding fault of salesmanship. The wise salesman will talk only enough and in such a way as to induce the prospect to ask questions. This point gained, the sale usually is well on its way. Passing from room to room and rattling off a string of technical terms in describing the construction and convenience features of the house is confusing to the layman.

Or possibly the visitor may be an expert, and that is mighty uncomfortable for the salesman as in the case of a friend of mine. He was demonstrating a new house and got highly technical in his description of the electric refrigerator, about which he really knew very little. When he had finished, the visitor quietly thanked the salesman and handed him his card. He was general manager of the local sales office of that particular refrigerator!

Every builder is familiar with the type of visitor who comments on competitors' houses. This frequently is done for the sole purpose of getting an expression of opinion from the salesman, to be carried back to the other builder, of course, with proper embellishments. The salesman therefore should be carefully schooled not to make other than favorable comments regarding competitors' houses.

He should, of course, have visited competitors' houses in the neighborhood and have a general knowledge of these properties, including price, number of rooms, size of lot, etc.

Many builders prefer to show a new house furnished, the thought being that a furnished house has

more sales appeal than a vacant house. The idea is fundamentally sound, but in many cases has been greatly overdone by stores under whose directions the furniture has been placed in the house. Many times so much has been crowded into the rooms that it is almost impossible to inspect details of finish, service outlets, etc., and visitors have been led to feel that they were inspecting a furniture exhibit rather than a new house.

On the other hand, the builder who has produced a house that he knows will stand the most critical inspection with regard to arrangement, details of finish, convenience installations, etc., may create a more favorable impression in the minds of visitors by showing the house unfurnished. Women like to form a mental picture of an unfurnished room as it would look with their present furniture in it. Also, the unusual features stand out and are more apt to be retained in the mental picture of the house than if the furniture were the predominating feature.

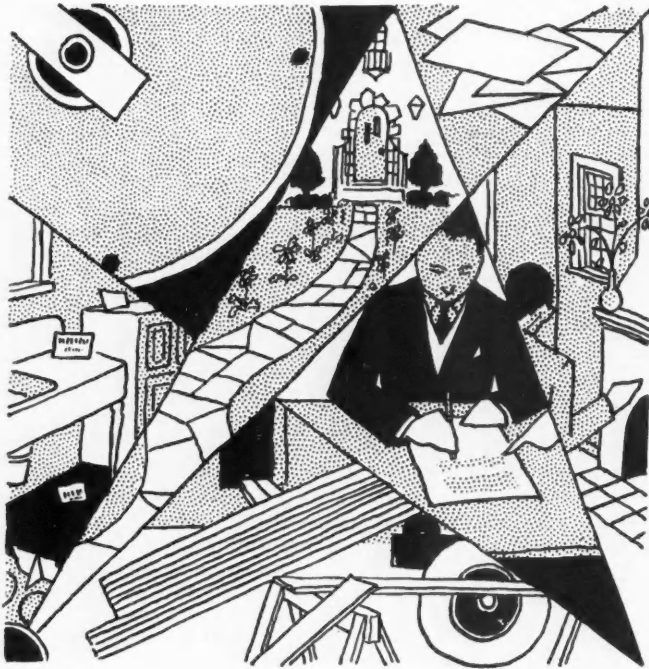
When a house is shown unfurnished, a vase of flowers on the mantel adds a touch of color that frequently causes favorable comment on the part of visitors.

Builders who do furnish their new houses should remember that it is the house they are selling and not the furniture.

A contractor in a large mid-western city obtains remarkable results in quickly disposing of his houses by grading and sodding the yard and planting shrubbery as soon as the side walls are up and the roof on. He makes provision for delivery of all building materials to the rear of the house and the foreman in charge must see that any litter accumulated during the day is cleaned up before he quits the job at night.

Automobile shoppers, passing this builder's houses during their construction, cannot help but be favorably impressed by their neat appearance; and frequently sales have resulted before completion.

If no sale has been made and the house is open for public inspection, the sod and shrubbery have had two or three months in which to "set" and the



Landscaping—Picked Up and Cleaned Up Premises—
Good Housekeeping, All Help Sales

property has a much more homelike appearance than if these items had been installed after the house was completed.

An increasing number of builders are today making use of signs furnished them by national advertisers whose products they are using, but too frequently much of the effectiveness of these signs is lost because of the careless manner in which they are displayed. The builder above referred to, is a large user of these signs but he makes it a point to see that they are placed in the yard or about the house where they will be most readily seen and yet not detract from the house or the shrubbery surrounding it.

Use of the right kind of floor covering is important. Ordinary building paper soon becomes torn and dirty, presenting a messy, unattractive appearance. Unless the house is a very cheap one, it is much better to have a floor covering of inexpensive matting or linoleum which easily can be taken up and cleaned and, at the conclusion of the demonstration period, preserved for use at another opening. A good door mat also should be placed in front of every outside entrance.

Visitors may be expected to more or less litter up the yard, but it is a matter of only a few minutes each morning to clean up this litter. Also the salesman in charge can well afford to spend his odd moments with a dust cloth inside the house.

Children who accompany their parents while inspecting the new house are one of the salesman's most serious problems. Frequently the inspection of the house follows an afternoon of riding and the children are noisy and irritable. It is obvious that, under these circumstances, the salesman cannot put forth his best efforts, nor can the parents give more than half hearted attention to what he is saying.

Some salesmen have overcome this difficulty by bringing their wives or friends to the house with a few simple toys or picture books with which to amuse and entertain the children while their parents are being shown through the house. This arrange-

ment is of great benefit to the salesman in that it enables both him and the parents to give their undivided attention too the demonstration; and the thoughtfulness of the salesman in thus providing for the care of the children is pretty apt to create a favorable reaction in the minds of the parents.

It does no harm also to have a few chairs placed in an out-of-the-way corner of the living room where elderly persons may rest. Every experienced demonstrator knows that many women visitors of all ages for one reason or another do not like to climb stairs. They will look through the rooms on the first floor and then wait while the husband completes the inspection of the basement and the upper floor. If the husband knows that his wife is comfortable while he is completing the inspection, another point has been scored for the salesman.

Many nationally advertised products today are used in house construction and wise builders are finding it pays to concentrate on such materials. Practically all of these national advertisers have folders, pamphlets or booklets, simply written so as to be understandable by the layman, and almost without exception they are glad to imprint a quantity of these silent salesmen with the name of the builder. Every builder having a house open for inspection should avail himself of the opportunity of getting booklets with his imprint thereon.

These can be neatly displayed on a table near the entrance and it is surprising to note the number of copies which will be take home by visitors who thus get a more favorable impression of the builder and the house they have seen because the builder has tied in his house with national advertising with which they are familiar. It's a splendid means of getting his name into the home of the visitor.

A scrap book in which have been pasted advertisements in color of materials makes mighty interesting reading and serves to further emphasize use of these materials in the construction of the house.

Every builder should keep in mind the thought that the house being shown stands as a lasting advertisement of his office and his ability as a builder.



Build in Line With Consumer Demand and Your Homes
Will Sell Most Readily



1212 Fifth Avenue, New York City; Blum & Blum, Architects. York Construction Company, Builders.

Apartments That Pay

Some Points to Consider in Planning an Apartment as an Investment

FOR a number of years apartment house construction has been an increasingly important part of the country's residential building program and, for the last four years more families have been provided for in apartment houses than in single-family dwellings.

When the apartment building first came into existence, it was not popular and its occupancy was confined to people who felt the need of strict economy. About 1900 an apartment house plan was developed, however, which appealed to families of moderate means and since then the development has been rapid. People have learned the convenience of apartment house life and the present problem is largely one of producing a plan and equipment which will meet the demand.

Fundamentally the apartment building is a commercial project. A reasonable return on the investment is the end sought in any apartment project. As already stated, apartments are built to meet a demand. The idea that the term "built to sell," as applied to apartments, is a term of discredit is a mistaken one. The building must be built to sell as a profitable investment, the units within it must be built to sell to the renter in order that it shall be a profitable investment. This commercial aspect must always be kept in mind if an apartment building is to be successful. A reasonable return for an apartment building investment is from ten to fifteen per cent; and if the building is properly planned and built this investment rate will be fairly uniform over a long period.

The co-operation of three factors are essential in the production of a successful apartment project. These are

the factors of design, construction and ownership. They must be brought together to harmonize aesthetic design, economy in construction costs and renting features. The first essential is a well arranged plan; and today, because of extensive study which has been given to the subject by architects and builders all over the country, such plans are readily available.

In the renting of apartments the woman is the determining factor. The man is usually satisfied with a convenient location and adequate garage facilities, though he is likely to insist on a shower bath, a well lighted shaving mirror, and bathroom plumbing that works properly. The woman, on the other hand, demands the last word in beauty and convenience of equipment.

With more home equipment, of improved types and greater beauty being advertised every day in a more appealing manner, the renter demand for electric refrigeration, chromium plated plumbing fixtures, ultra-violet glass, concealed radiation and a multitude of other refinements becomes constantly more insistent. It is a well known fact that an apartment lacking mechanical refrigeration and an incinerator will not rent. Financing agencies require that these be provided before they will advance money for any apartment project.

The rapid development of specialties has resulted in a situation where the apartment building erected before the advent of the most recent models becomes out-of-date in a short time. The problem, then, of the apartment builder is to overcome this tendency without frequently repeated outlays for modernizing. One way to accomplish this is to provide, at the start, a plan and



Apartment in Mt. Vernon, N. Y., Louis Levine, Architect
Fitzgerald Building & Construction Company, Builders

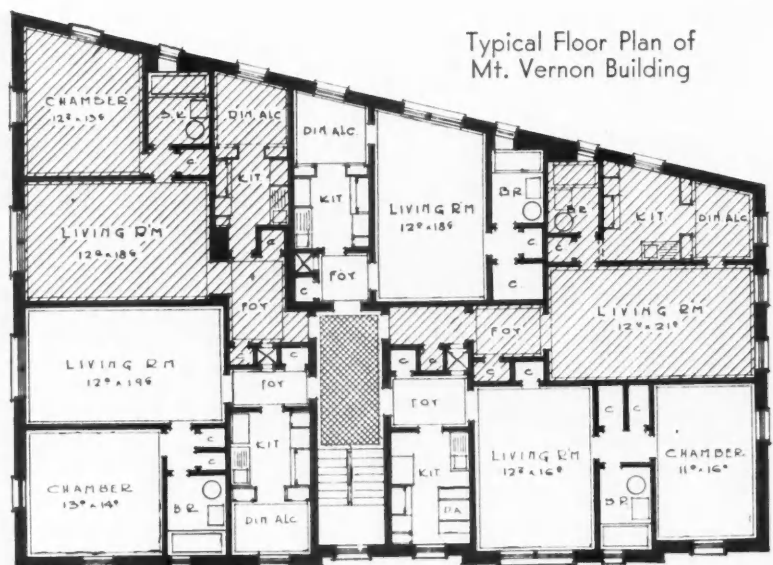
design which wisely and generously provide for the basic features.

The tenant is quite likely to remain satisfied instead of deserting a building for the newer one around the corner if the ventilation is not so good, the plan not so convenient, the rooms not so large, or the new building itself not so individual and dignified in appearance, as the one in which he lives.

One of the very important features of design in any building is the vestibule. First impressions are often taken as the index to the character of a building and any renter wants to feel that callers will be well impressed with his home right from the start. Small, poorly lighted and unattractively finished vestibules should be avoided and the entrance should set a high standard for the rest of the building.

Another matter of growing importance in apartment design is that of sound insulation. In our modern cities noise has become a serious problem. Speed and confusion create a tension in modern life which is a serious drain on vitality and which is enormously aggravated by noise.

There is a growing demand that the home, in house or apartment, shall provide compensation for this tension, providing a place for physical comfort, nervous relaxation, and mental pleasure. Sound insulation contributes



to this function. Then, too, the chief disadvantage of apartment life is the close grouping of dwellings with its attendant loss of privacy. Sound insulation, between individual apartments, is a prime factor in insuring privacy.

There are certain conspicuous trends in apartment planning which are worthy of note because of their bearing on the commercial aspect of the project, its "built to sell" qualities. Foremost among these is the trend that manifests itself in the suburban and garden apartments which have made their appearance in several cities in the last few years.

The old fashioned apartment house, built solid and right up to the lot line, lacked fresh air, sun light, and the attractiveness of a natural setting. The lack of these qualities, so easily obtainable in the single-family dwelling has delayed the development of the apartment idea of living.

With an appreciation of the importance of these qualities, renting men are now demanding, and builders are providing, buildings set well back from the street with attractively landscaped grounds and ample provision for parking and housing automobiles.

Carrying the idea still farther, the garden apartment covers a relatively small proportion of building site, enclosing or partially enclosing the balance of the space, which is developed into an attractive private park or garden. This type of building must, of necessity, occupy a larger site than the solid built type but, in spite of this fact, experience has proved that it is not more costly.

Because of the treatment it is possible to provide more rooms with good lighting and ventilation, and attractive window views, and consequently to obtain maximum rental from every room provided. With a greater rental return on the investment than is possible with the solid built apartment house, the commercial requirement of profitable investment is satisfied.

This, too, is in line with the tendency, especially noticeable in the larger cities, to build larger apartment buildings. They have been found better suited, as already stated, to the garden apartment idea and are on the whole more economical. It is not infrequent for builders holding small plots and unable to undertake large projects, to pool their resources.

Apartment Features That Interest Tenants

IN planning an apartment building it is important to make sure that you have included those features that prospective tenants look for. Satisfaction on these features means occupied apartments, which is essential to the success of the apartment investment project. When undertaking a new building check over the list below and see whether you have included enough features to make your job marketable.

In the Bathroom

- Clothes hooks
- Colored tile and fittings
- Chromium fixtures
- Drawers, built-in
- Decorative shower curtain
- Electric outlets
- Hot water at all times
- Medicine cabinet
- Ornamental mirror
- Silent toilet
- Shower bath
- Glass shower stall
- Tile floor
- Towel racks
- Modern bath tub
- Wall covering, tile, waterproof fabric or paper

In the Kitchen

- Breakfast nook
- Broom closet, built-in
- Dumbwaiter
- Electric dishwasher
- Fan or ventilator
- Floors, linoleum, rubber or cork
- Incinerator
- Ironing board, built-in
- Kitchen cabinet
- Kitchenette, built-in
- Mixing faucet
- Oven regulator
- Package receiver
- Range, gas or electric
- Sink and drainboard, stainless
- Table, built-in

In the Plans

- Adequate entrance lobby
- Ample closet space
- Cross ventilation
- Convenient door swings
- Large rooms
- Light, airy apartments
- Minimum private halls
- Outside rooms
- Rooms adapted for furniture
- Unbroken wall space

Outside the Building

- Awnings
- Children's playground
- Flower boxes
- Fountains
- Garden seats
- Landscaping
- Ornamental wrought iron
- Parking space
- Porte cochere
- Sun dial
- Swimming pool
- Wading pool

For the Closets

- Cedar lined closet
- Dressing closet
- Hangers and fixtures
- Lights
- Shelves, adjustable
- Wardrobe, built-in

In the Laundry

- Clothes drier
- Ironing machine
- Trays and tubs

In General

- Arched doorways
- Bookcases, built-in
- Concealed radiators
- Drapery hardware
- Electric outlets
- Extra lavatory
- Fireplace, wood burning or gas logs
- Floors, wood, tile, cork, linoleum, rubber, parquet
- Full length mirror
- Lighting fixtures
- Luminous apartment numbers
- Mantels, brick, wood, marble, tile, concrete, composition
- Ornamental switch plates
- Period hardware
- Plate glass
- Portable telephones
- Radiator enclosures
- Silent sash pulleys
- Transom ventilators
- Telephone outlets
- Wall finishes, coated fabric, tile, wood panelling, textured plaster, plastic paint
- Window ventilators
- Wrought iron, ornamental

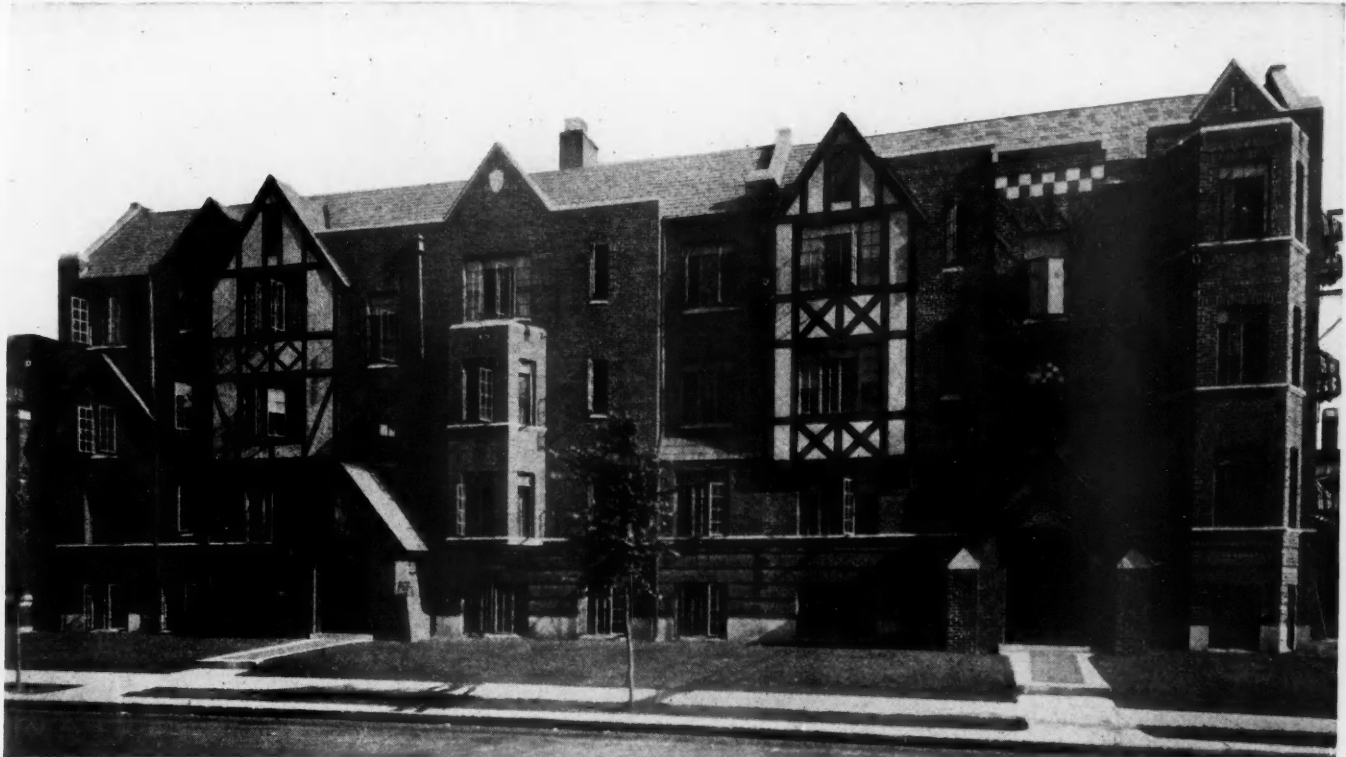
Construction and Mechanical

- Ample hot water supply
- Automatic elevators
- Automatic door checks
- Central cleaning system
- Fireproof construction
- Incinerator
- Mechanical refrigeration
- Radio outlets
- Sound insulation
- Temperature control
- Water softener



STEEL CASEMENTS AND HALF-TIMBER

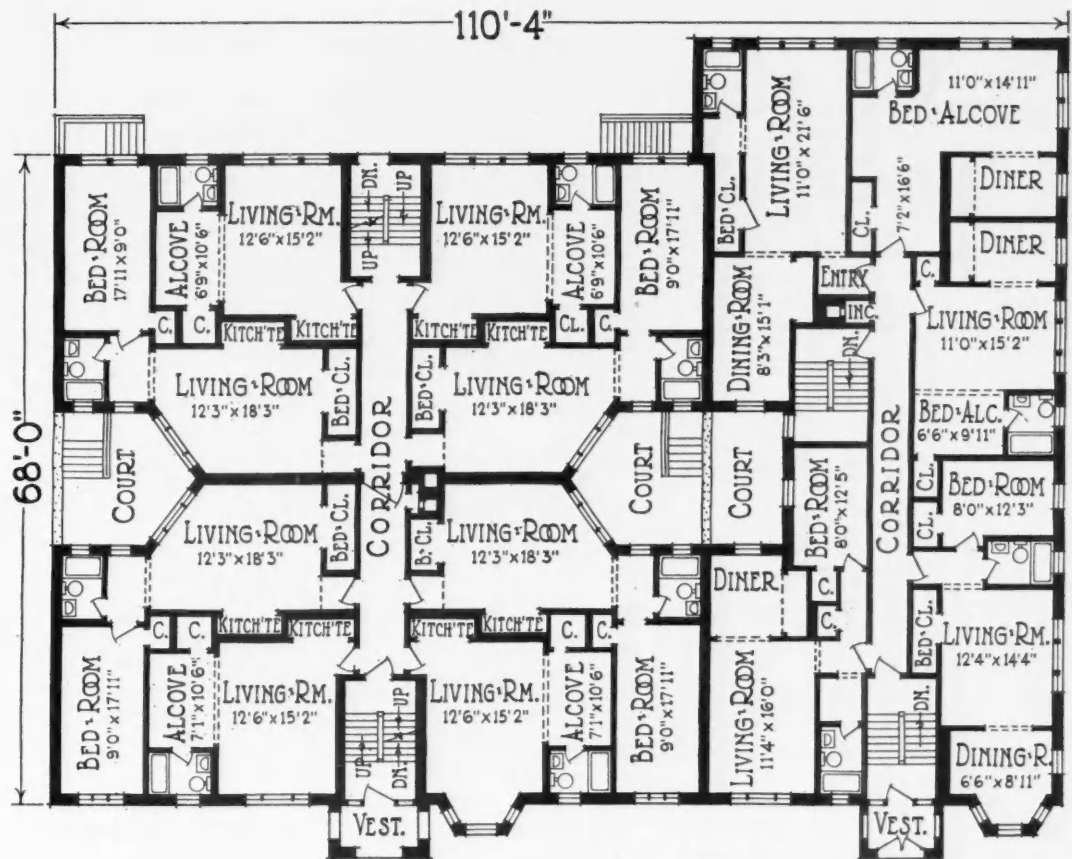
A few deft touches, such as the paneled gable, the projecting bay, the spiral copper downspouts and the outward swinging casements give this Detroit Apartment Building an inviting homelike appearance.

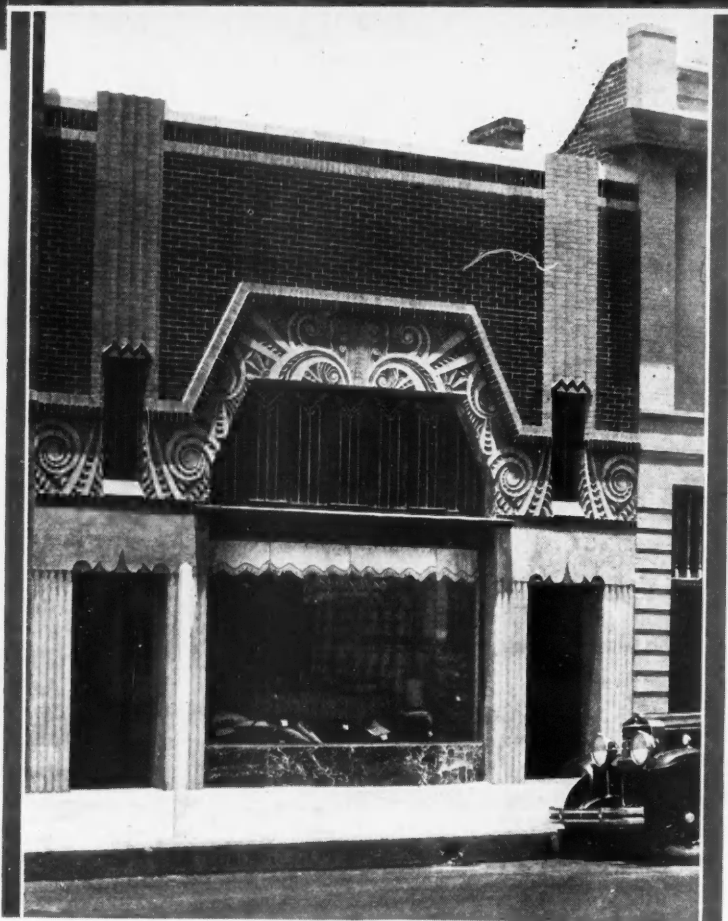


THE LONGFELLOW APARTMENTS

PROFITABLE INVESTMENT

Thirty-nine Small Units, of One, Two and Three Rooms Each, Are Cleverly Arranged in This Attractive Detroit Building



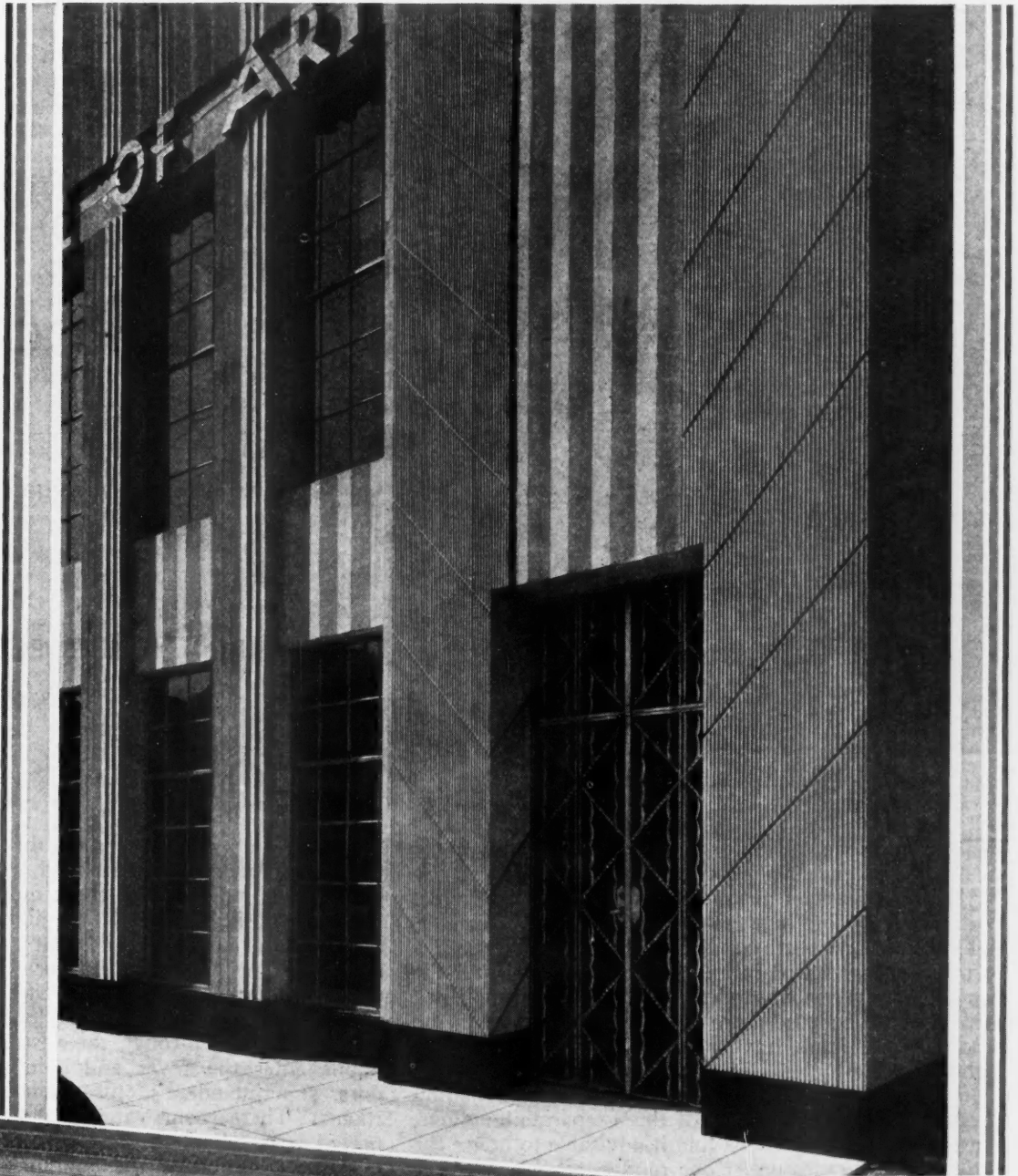


Above:
Strongly Accented Verticals
Set Off This Los Angeles
Business Block; Carl Lind-
born, Architect.

To Left:
Chinese Influence Is Seen in
This Impressively Smart Shop
in Long Beach, Cal.; Schilling
& Schilling, Architects.

Modernism in Business Fronts

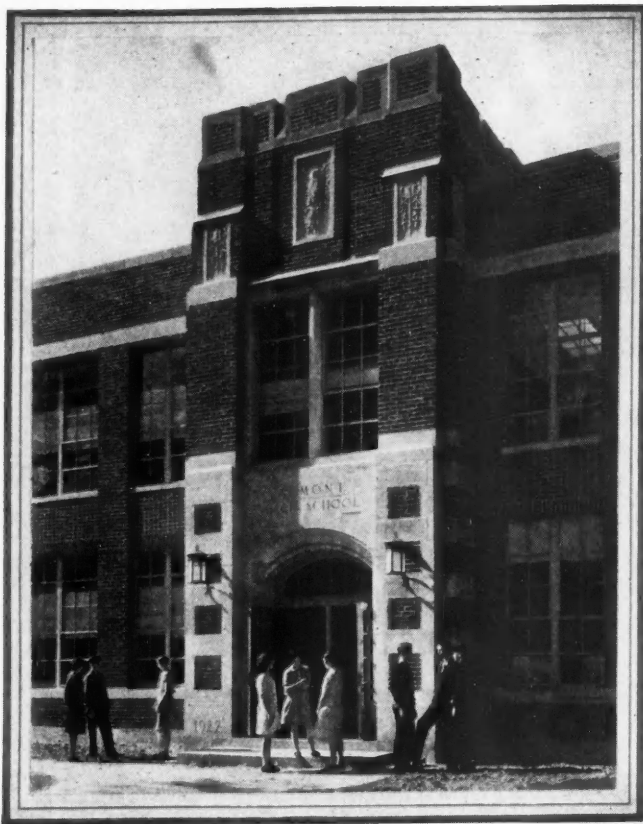
To Right:
Commercial Art
School, Grand
View Ave., Los
Angeles.
Morgan, Walls &
Clements,
Architects.



Below:
Huntington Park,
Cal., Contributes
This Inviting
Store Front.
Schilling & Schil-
ling, Architects.



New Style Fronts Bring Trade



The Main Entrance

THE purpose of junior high schools which came into existence several years ago is to lessen the abrupt transition from elementary to high schools. Ordinarily junior high schools include the seventh, eighth, ninth and tenth grades, or the two upper grades formerly incorporated in an elementary school and the two lower high school grades. They have accomplished their purpose because there is a steady decrease in the percentage of pupils leaving school after completing the eighth grade.

In small town communities the school population does not justify the erection of three separate buildings, consequently some sections find it advisable to house the entire twelve grades under one roof.

Such a plan was recently carried out in Almont, Michigan, where one building was erected to accommodate twelve grades. This structure clearly indicates the purpose for which it is intended, an institution for learning. It is imposing because of its size and simplicity; a minimum amount of money was expended on ornament because practical planning was the prime motive in the mind of the board of education when it commissioned the architects to prepare the plans. The left end of the building is allotted to the lower grades which have their separate entrance from the side street and thereby do not interfere with any high school activities.

The kindergarten occupies the choicest corner with its bank of windows on the long side and an octagonal bay at the end providing ventilation from all three sides. By the installation of a real fireplace opposite the bay, the room attains a homelike atmosphere which helps a child to adjust himself during the transition from home to school life. A separate toilet for the little tots, large coat closets, a teachers' closet, and cases for supplies furnish all the equipment required to properly conduct a kindergarten in accordance with modern educational ideals.

Planning a

12-Grade Public School

The Almont, Michigan, School

WARREN, HOLMES, POWERS CO.

Architects,
Chicago

The second grade room on the first floor, and the third and fourth, and fifth and sixth grade rooms on the second floor furnish the required accommodations for the first six grades. In the higher classes the rooms are not separated by grades but according to separate studies. The principal entrance to the high school classes is the most interesting part of the exterior design and occurs in the center of the long facade.

After passing through the vestibule, the high school pupils enter the foyer and gain access to the corridors, superintendent's office, clinic, and social science rooms. These rooms cater to the public activities connected with school life and therefore occupy the most prominent section of the building.

The two stairways at either end of the corridors lead to the second floor where the main room of the high school department, the library and study lies. This room is approximately twice as large as an average class room and serves the purpose its name signifies. Many building ordinances require the maximum depth of a school room to be twice the height of its windows. As this library is considerably deeper, because it includes the space usually serving as a corridor, ceiling lights extend to the skylight on the roof which admits an even light and consequently the room is bright and cheerful.

The science room directly above the kindergarten resembles the latter room; its bay window facing south provides an ideal place for a small conservatory where the development of plant life is studied in connection with the science assignments, where agricultural classes meet and text book lessons are supplemented by practical problems. The generous amount of cabinet space provided between the ventilating piers gives sufficient space for the storage of all necessary supplies essential to the science studies.

Besides the rooms already enumerated and the toilets on either end of the building, the second floor provides

for two high school class rooms, and for the balcony of the gymnasium. This balcony accommodates spectators' seats both on the sides and in the rear where there are several tiers of seats. A fireproof movie booth, available when the gymnasium becomes an auditorium for entertainment purposes, is included in the balcony equipment. A study of the balcony construction discloses the fact that it hangs from the ceiling beams above; the hanging rods being incorporated into the design of the balcony railing.

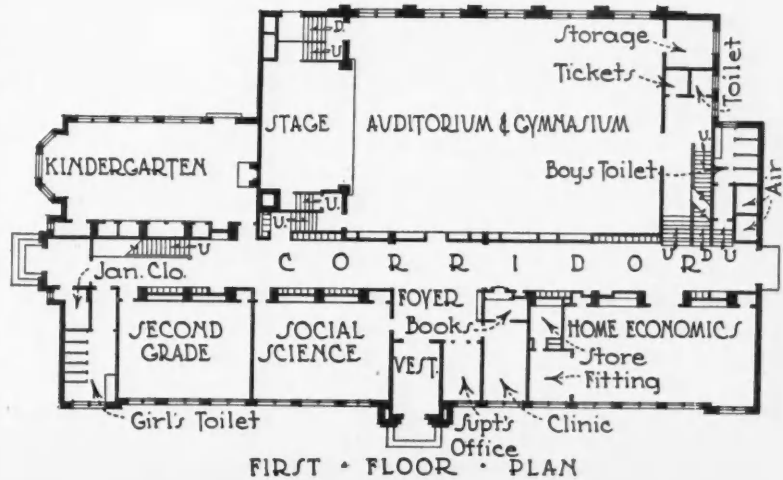
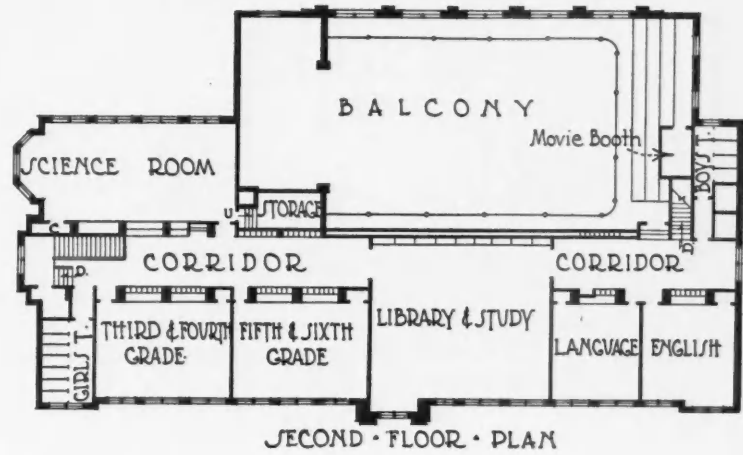
The upper walls and the ceiling of the gymnasium are plastered, the lower walls are brick veneered to withstand the hard usage an ordinary gymnasium receives. Upon first thought it seems unnecessary to incorporate a gymnasium in a school where all pupils have the wide-out-of doors to play in, but country children as well as those living in the city must be taught to develop their muscles both outdoors and indoors and learn the rudiments of constructive play. This room can be readily transformed into an auditorium for school plays, community gatherings, political meetings, or for any form of entertainment. Apparatus required to change the gymnasium into an auditorium or vice versa can be stored in the small room opening off the main floor.

Whenever banquets or similar gatherings are held in the auditorium, meals are prepared in the home economics room which is used for cooking instructions and for other lessons allied to home economics, etc. The small room at one end makes an ideal place for fitting and demonstration purposes.

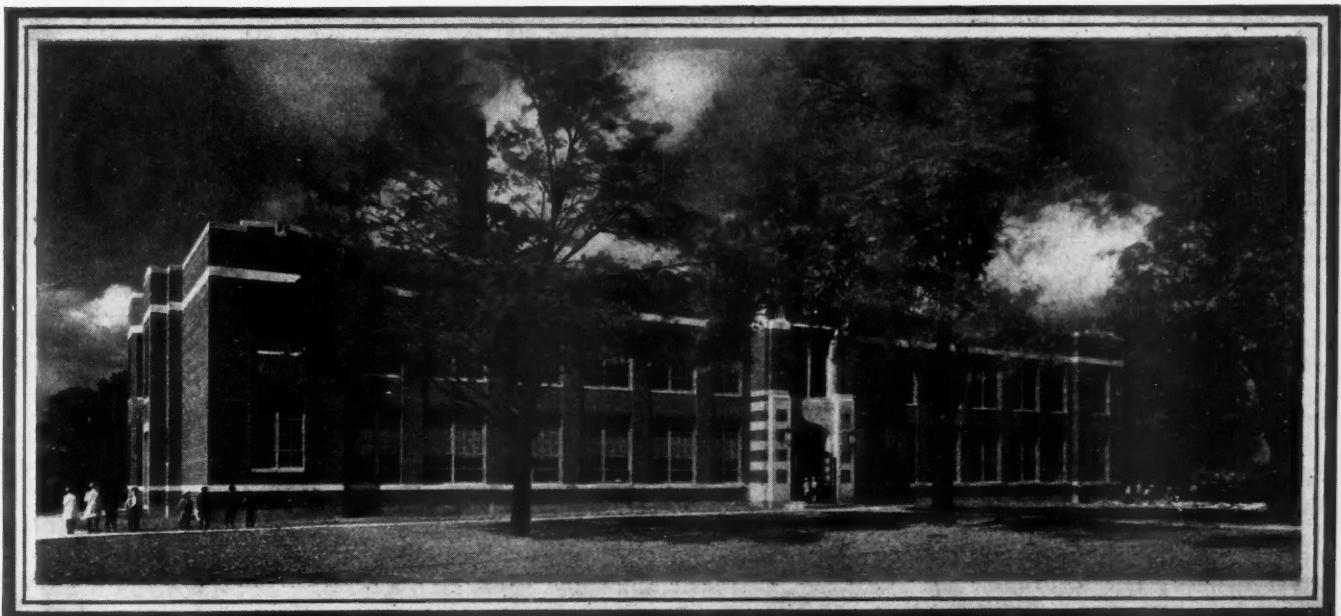
The space between the ventilating piers on each side of the corridors serves good purposes; on the classroom side are teachers' closets, cupboards and cases, while a large part of the corridor side is occupied by lockers. With exception of those in the kindergarten and first grades, all pupils in the school

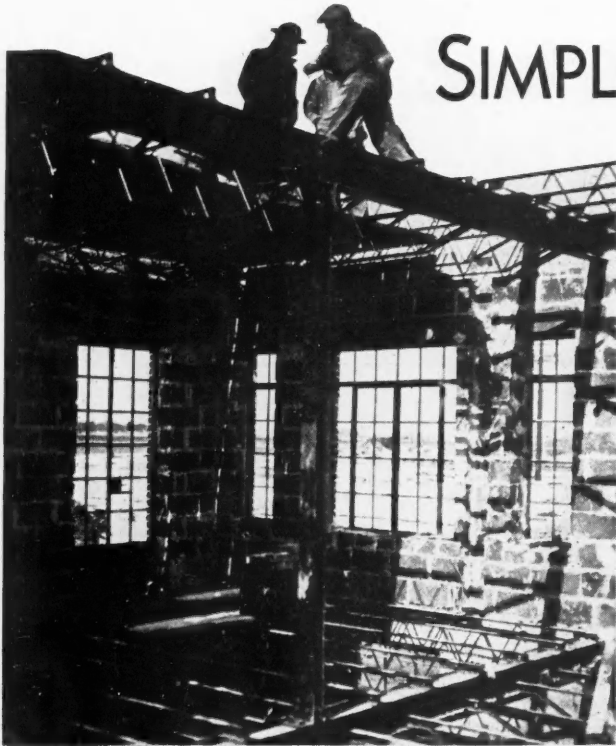
have individual lockers for their clothes and books.

Whenever the Almont School population increases to such an extent that the present facilities are inadequate, then the lower grades can be housed in a new building and the space, occupied by the present low grades, devoted to high school purposes. If the classrooms are too large, the construction permits moving the present dividing partition and transforming two rooms into three small ones. Such methods of expansion will enable the school to give the community many years of efficient service.



Floor Plans and General View of the Almont, (Mich.) School.





SIMPLIFIED PROCEDURE CUTS

35 Cents Per Cubic Foot Experienced
On Six-Room and Garage English
Type Homes Built Near Chicago

◆◆◆◆◆

HOW THE WORK WAS ORGANIZED

HOUSE construction with load-bearing walls of masonry and with steel joist floors supporting reinforced concrete slabs is already showing signs of that great popularity which, it is predicted, will make this an accepted standard throughout the United States. Besides the features of enduring value and superior investment for the home owner, it shows a construction cost which is surprisingly low and compares favorably with former methods of construction.

In various Chicago suburbs—north, south, west—building with this type of construction is now under way, notably, to the northwest in Desplaines and Arlington Heights. Our illustration shows one of these houses which was recently completed in Cumberland, a subdivision of attractive homes at Desplaines. The builder is Albert G. Fihnn, who has done considerable fine residential work in this vicinity.

A uniform method of construction and equipment is being followed, so that houses of exceptionally fine appearance and having the latest convenience equipment, as well as rigid, fire-resisting construction, will be secured. It is interesting to note that the first house built in Arlington Heights by this method shows an extremely low cost for the value given. It is a six-room house, with sun room and attached garage. It has a face brick exterior, 12-inch poured concrete foundation walls and colored cement tile roof. The selling price, on a 50-foot lot in this very fine subdivision with paved and parked winding streets, is \$11,500. This includes the cost of the lot, financing, selling cost and builder's profit.

The attractive face brick exterior is backed up with light weight blocks of cinder concrete having a heat insulating value and all partitions are of light weight, cored, gypsum blocks, three inches in width, affording a space and weight-saving method of dividing the interior, which is also fireproof.

Plastering is direct on the inside face of the exterior masonry walls while the ceilings have a suspended metal lath base. The roof coverings are all of the rigid type—either asbestos-cement, clay or cement tile or slate. All the steel sash have rolling screens attached.

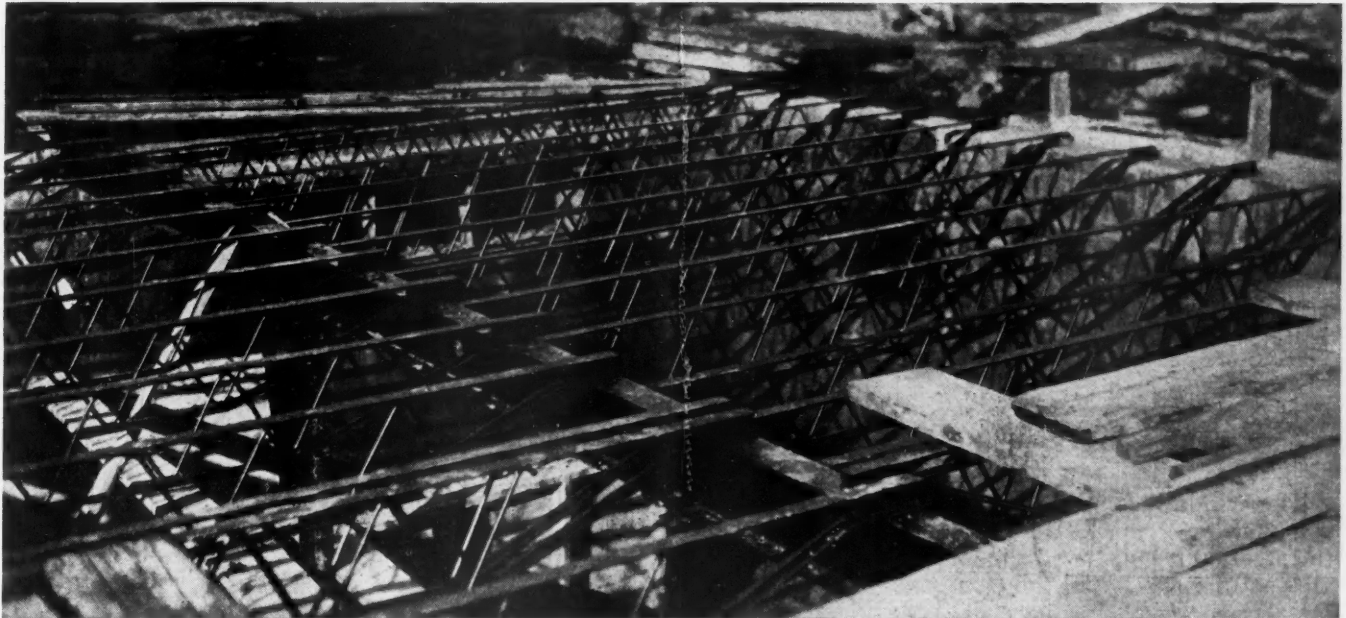
Integral steel door bucks and trim are standard throughout. This means that the doors will never stick due to swelling of wooden door bucks and casings. All eaves trough and flashings are of non-corroding metal. Ceilings over the second floor are insulated with four inches of "fill" insulation.

Now, as to the cost of construction, it is claimed that the principal reason for the low cost is that there is so little cutting and fitting at the job and that there is no lost time due to overlapping of the work of various trades.

Following the excavation and concreting of foundation walls, the structural steel men set the steel joists for the first floor. These steel truss joists are comparatively light and so made that they settle into their true plane by gravity, just as a pendulum will come to rest. So, the setting of the steel is not difficult and can be done by any class of labor, except where union rules prevent it. The steel trusses can be used to support runways or temporary floors, even before the bridging is attached or the bearings mortared into the walls.

The brick masons then lay up the exterior walls to the second floor level leaving an air space between the facing and back-up blocks, which adds to the insulation value of the wall. At the level of the first floor ceiling, metal plates are set across both back-up and face brick walls, to provide a bearing for the steel truss joists, thus supporting them with the full compressive strength of both walls, which are also tied together in the usual manner. The steel men then set the second floor joists. The masons complete the walls to the level of the plate at the eaves,

COSTS ON STEEL JOIST HOUSES



The Light Steel Joists Rest on a 9-Inch I-Beam Down the Center, Thus Keeping the Span of Economical Length.

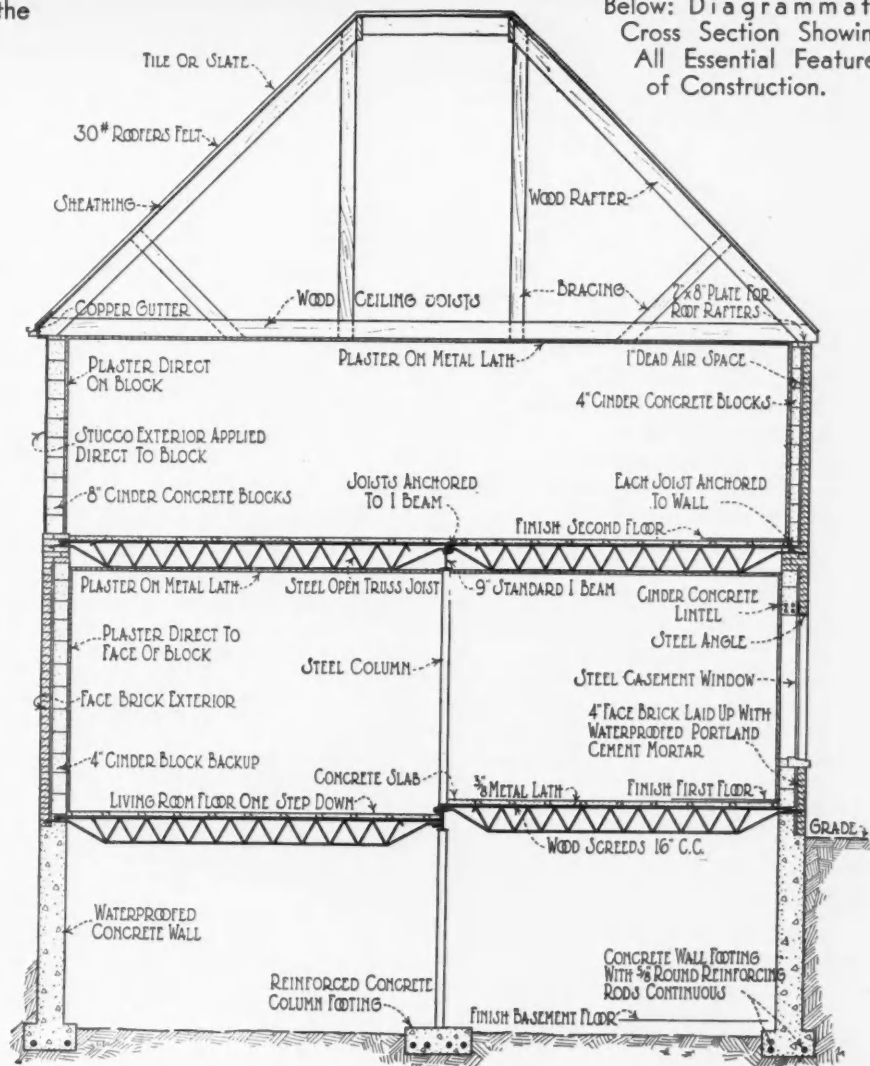
Below: Diagrammatic Cross Section Showing All Essential Features of Construction.

setting anchor bolts in the top course, to receive the plates.

Plates, rafters and roof framing are then erected by the carpenters and the roof is decked with one inch sheathing. Although this is wood construction, it is protected from fire beneath by the gypsum ceiling suspended on metal lath, as well as by the fill insulation and, from above, by the tile, asbestos-cement or slate roof covering.

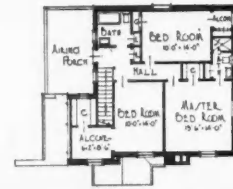
While the carpenters are erecting the roof, the plumbers and wiring men put in their rough work. One great advantage of the open steel trusses is that all pipes, conduit and wiring can be run through them without the delay or expense involved, otherwise, in cutting through solid joists.

As soon as the roof has been decked, the metal lath contractor sets the metal fabric reinforcement over the joists and one of the rough carpenters sets the screeds to receive the finish floor, leveling them up. No screeds are placed in floors of kitchens, breakfast nooks, bath rooms, pantries or lavatories. Linoleum floor coverings are provided for these latter floors, with felt underlay cemented direct to the concrete.





This Attractive English Type Home with Attached Garage was Built with Masonry Bearing Walls and Steel Joist Floors to Sell Complete with Improved Lot at \$11,500.



SECOND-FLOOR PLAN



FIRST-FLOOR PLAN

The windows and doors, of course, are set as the masonry goes up. The rough carpenter then sets the steel door bucks and the mason proceeds to erect all partitions. The lathing contractor then applies metal lath on all ceilings and the plastering contractor commences to plaster the interior.

As soon as the carpenter finishes his work, the trim carpenter comes on the job, puts in his base-board, chair rail and picture moulding, hangs doors, puts in rough and finished stairs, closet shelves, hook strips, etc. While the trim carpenter is putting in the trim, the heating contractor installs his radiators and the electrical contractor hangs his fixtures.

Tile setters set the stools for the windows, generally of quarry tile, while the trim carpenter is at work. The decorator then proceeds with the decoration. Screens are installed, the grounds graded and the house is ready for occupancy.

An important advantage in the fabrication of buildings using truss joists of this type is the elimination of load-bearing partitions, making it possible to use light, shallow partitions, saving both in space and cost. Around stair well openings, it is the practice to double the trusses, somewhat in the same fashion as with wood joists. Long truss spans are avoided where possible, as, the longer the span, the heavier the trusses must be. If the building is wide, it is the practice to use standard steel H-columns at some intermediate point, carrying steel I-beams, to support the inner ends of the truss joists.

It has been found that houses of this type, without equipment, are averaging about 35 cents per cubic

foot to build. This is about the cost of ordinary brick and wood construction in the Chicago territory.

One of the surest methods of gauging the value of a particular method of residential construction is the attitude of the financing companies towards it. It is a significant fact that one of the largest life insurance companies making building loans has already advanced over 75% on first mortgages for houses built with this method of construction. The reason for this, undoubtedly, is that they regard this as a superior method of construction, producing buildings which constitute exceptionally good loan security by reason of great endurance, long life and a low rate of depreciation.

An Indexing Idea

Rockford, Ill.

Editor, AMERICAN BUILDER AND BUILDING AGE:

I wonder if you have any readers who can remember everything they read in AMERICAN BUILDER AND BUILDING AGE when they need to? This question has often been in mind when mother and dad had annual family rows over destroying accumulated building magazines. Dad insisted he wanted to look certain things up when he needed them. However, he couldn't find them when he looked and thereby left a greater mess than ever.

When I stop to think of all the worthwhile practical knowledge that was then thrown away I keep wondering if my idea, which follows, will not help to keep this knowledge at hand and make builders who use it better exponents of their art.

I have started an index, a sample of which follows:

Cement-water ratio table.....	Am. Bldr. 1927, Apr. P. 248
Coal—ton able for bins.....	Am. Bldr. 1927, Apr. P. 250
Concrete walls—material table...	Am. Bldr. 1927, Apr. P. 252
Concrete floors and sidewalks—	
est. table	Am. Bldr. 1927, Apr. P. 253
Circles—circumference and area	
table	Am. Bldr. 1927, Apr. P. 254
Cabinets—kitchen design	Am. Bldr. 1930, Feb. P. 90
Doors—Folding in small space..	Am. Bldr. 1929, Dec. P. 108
Doors—One man bldg. and	
design	Am. Bldr. 1930, Jan. P. 120

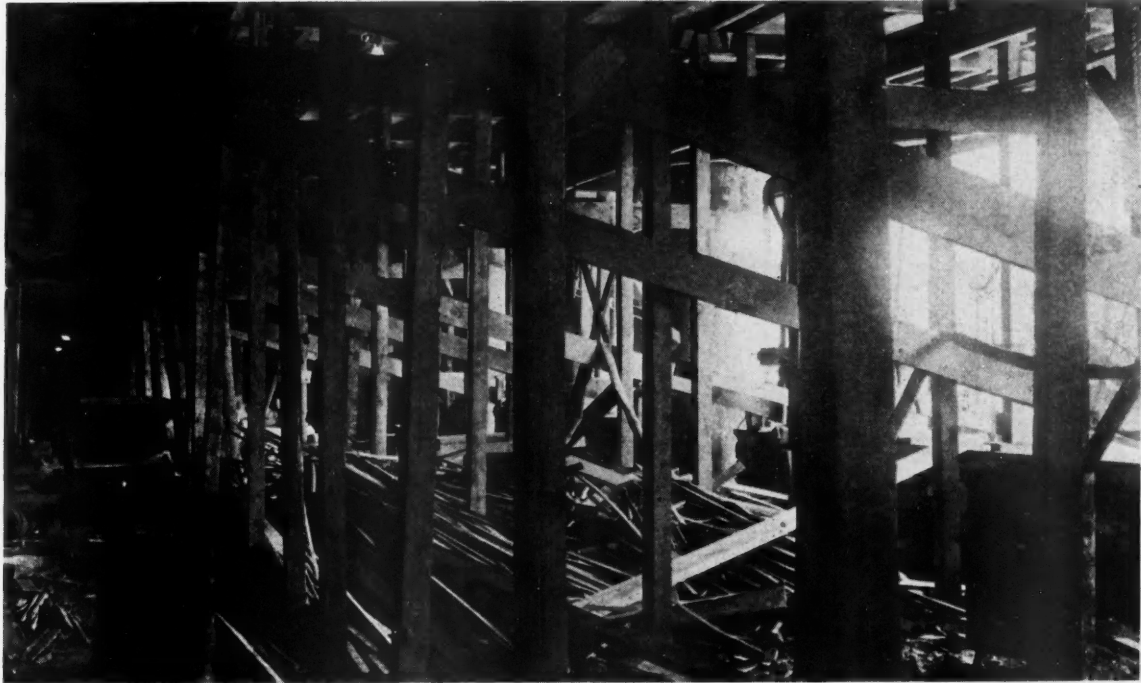
Whatever one is liable to need can be indexed and kept for immediate future use. The worth of these magazines thus kept is hard to estimate. RAY ASKA

Close-up of Exterior Wall Showing 4-Inch Veneer of Stone Over Cinder Concrete Block.



FIRE HAZARDS

During Building Operations



Here Are All the Elements for a Disastrous Construction Job Fire—All It Needs Is a Lighted Cigarette Carelessly Tossed in the Debris or the Overturning of a Salamander.

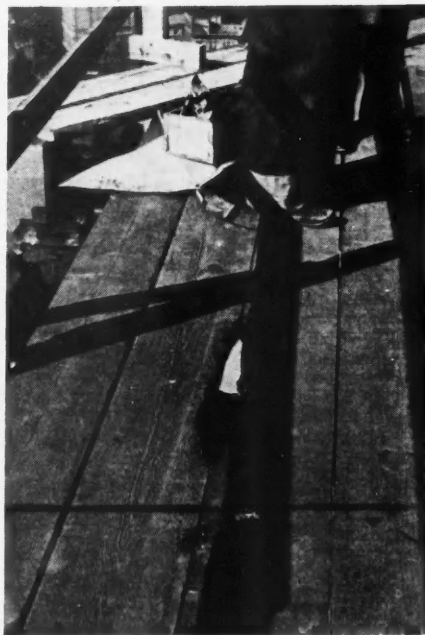
BUILDINGS in course of construction have many fire hazards not found in completed structures, since fire protection equipment, to restrict the spread of fire and extinguish it promptly, has not yet been installed. Such fires are often difficult of access by the fire department. Therefore, every opportunity exists for serious fire loss.

Fires during construction are apt to cause losses far beyond the actual physical property destroyed, by delayed completion of buildings with consequent loss of revenue. Important business projects, contingent upon occupancy of a structure at a given date, may thus be seriously deranged even by a fire causing a relatively small direct loss.

The National Fire Protection Association (Boston, Mass.), in an effort to cut down these needless fire losses, appointed a committee of which William B. Wood of the New York Board of Fire Underwriters was chairman, to investigate the matter, and they have made a report and recommendations which, if followed, will tend to prevent fires in buildings under

construction or while in the process of being erected.

These suggested good practice requirements are intended to indicate the measures through which these fires may be prevented or controlled in their incipiency with a minimum of damage.

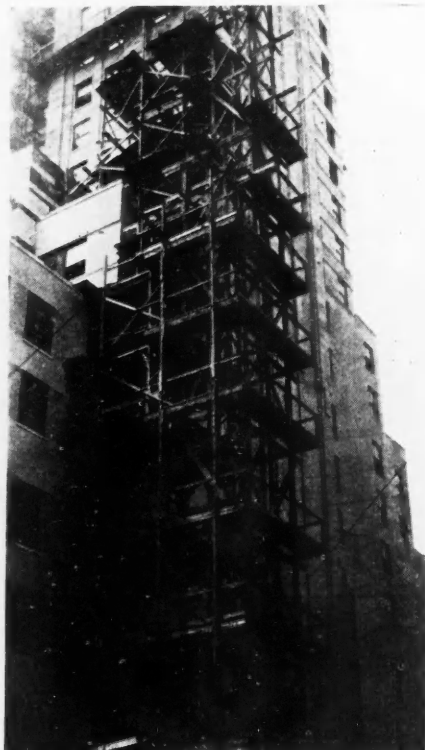


Live Coals from a Tinner's Furnace Caused This Hole.

SCOPE: These recommended good practice requirements are intended to apply to all buildings in course of erection, except that incombustible or flameproofed scaffolding may not be necessary in buildings less than four stories or less than fifty-five feet in height and which do not have a ground area of more than 10,000 square feet, provided they are located so as to be readily available and accessible to the operations of the fire department. They are intended to apply to all buildings of the auditorium type of construction irrespective of height and area.

SCAFFOLDING: Undoubtedly of the many hazards affecting buildings, especially the high modern type of fire-resistive buildings, flammable scaffolding is the predominating one.

Fires have occurred in scaffolding erected on the outside as well



Wood Construction for Material Hoists and Platforms Is a Constant Fire Menace on Tall Building Operations. The use of steel or of flame-proof treated timbers would eliminate this serious ever present fire hazard.

The Platform on the Crown of the Building Shown Below Caught Fire, but Fortunately Did Little Damage



as the inside of buildings. They have occurred on the sidewalk bridging as well as high above the street, and the fire damage in either case has been extremely heavy.

Scaffolding can be separated into two units—one the supporting members and the other the platforms.

Numerous recent scaffold installations at various locations and on differing types of structures have shown the practicability of all-metal supporting members.

In the matter of platforms the problem is different. To undertake to require all-metal platforms is probably going too far from a practical and workable viewpoint. To allow combustible platforms is to allow fire hazards of serious proportions.

The evident solution appears to be a compromise between the two and to allow the platforms to be constructed of lumber that has been flameproofed to make it slow burning.

The records indicate there is little to choose between the hazard of high scaffolding and low scaffolding once it is afire. This brings the question as to the proper method of measuring the hazard of the construction, which should be in the quantity of board feet used in the erection of the scaffolding rather than the square feet or bulk area covered by the scaffolding.

It would hardly seem fair to require that a small scaffold whether located at a high or a low point be treated the same as scaffolding at similar points when of considerable surface or volume.

The possibilities of severe damage exists in the amount of combustible construction entering into the scaffolding rather than its location whether high or low, modified of course to a certain extent in the latter case by its availability and accessibility to the fire department.

FLAMEPROOFED WOOD: There are at present available processes which are of real value in materially decreasing the susceptibility to ignition from a small

source of heat and retarding the spread of flame along the surface.

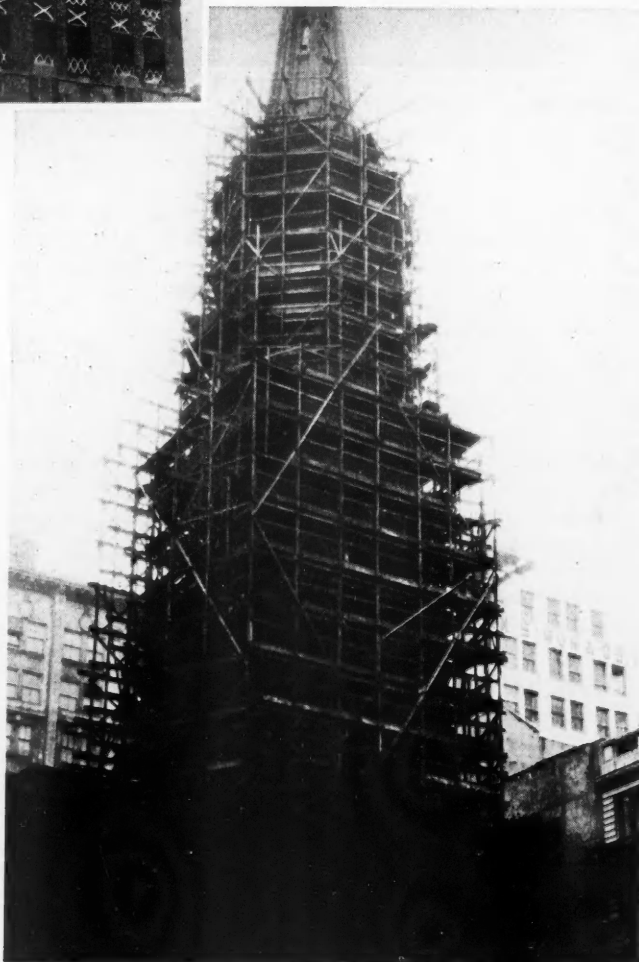
WOODEN FORMS: In the construction of fire resistive buildings, large quantities of lumber are used in the form work to support the concrete floors until they set. It seems impracticable to use flame-proofed wood for this purpose. However, the shoring should be of incombustible material and a limit placed upon the number of floors that may have the forms in place at the same time.

When the forms are removed broken woodwork unsuited for further use should be carried away from the building, and not disposed of by making bonfires upon the floor arches or by burning in the salamanders.

No part of such building where the forms are in place should be used for the storage of combustible materials.

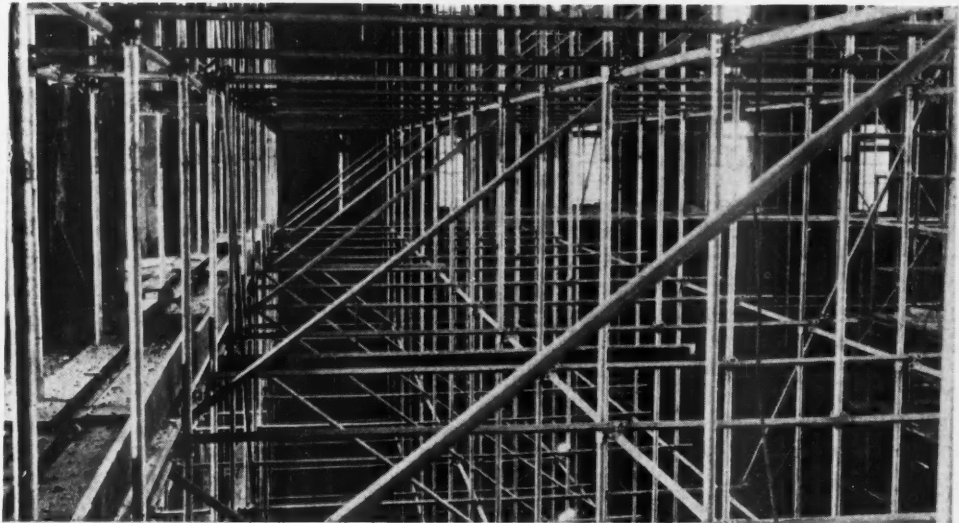
WIND BREAKERS: All temporary closures in window and door openings and around scaffolding should be of incombustible material.

SALAMANDERS AND HEATERS: Next in importance to temporary woodwork is probably the hazard



A Bad Fire Hazard Was Created by This Untreated Wood Scaffolding for a Church Steeple Repair Job.

Steel Scaffolding and Fire Protected Wood Planks for Platforms Were Used in This Large Church Interior, Replacing the Burned Out Scaffolding Formerly in Place. The fire caused a loss of several hundred thousand dollars to the uncompleted interior—just another case of locking the stable door after the horse is gone.



of temporary heating appliances, such as salamanders. Salamanders should be substantially constructed, stable, not readily overturned, and restricted to the use of coal, coke or kerosene oil as fuel. They should be under the constant supervision of an attendant on every floor where they are in use.

The kerosene heated type of salamander is usually supported on high legs and the oil supplied to the burner under air pressure from a tank located six to ten feet distant.



In Restoring Historic St. Paul's Chapel, New York, Steel Scaffolding and Flameproof Wood Platforms Were Used.

TARPAULINS: Many fires are caused by tarpaulins blowing loose and igniting from salamanders. It is important that they be securely fastened. A good arrangement is to provide vertical shores, spaced approximately four feet on centers to serve as a rigid frame for attaching the tag lines.

WELDING AND CUTTING BY OXY-ACETYLENE TORCHES: Proper protection of surroundings should be made before such torches are put in service by the use of asbestos blankets or other fire resisting materials, and all openings in floors closed.

Ashes or sand should be used for the absorption of oil and such other precautions taken as will preclude the possibility of sparks igniting combustible surroundings.

When operations cease for the noon hour or at the end of the day, the surroundings adjacent to the operations should be thoroughly wet down.

GASOLINE AND OTHER VOLATILES: Flammable liquids should not be stored or handled in the building except in approved portable tank wagon or safety cans. Reserve storage in barrels should be in yard or court, well away from the structure and kept under lock and key.

When flammable liquids are mixed in plastic floor covering or in waterproofing compounds, or when flammable paint is to be applied by the spray process, adequate ventilation is most essential. Smoking at such times should be strictly prohibited and the workmen should not wear shoes with steel nails or other metal that might cause a spark.

SMOKING IN HAZARDOUS LOCATIONS: It is not practicable to prohibit smoking generally, but it is entirely reasonable to enforce "no smoking" rules in hazardous portions of the building.

TAR KETTLES: These should be located outside of the building or on a non-combustible roof. It is desirable to use electricity or other safe heating in preference to a wood fire.

HOISTS: Temporary construction hoists on the interior or exterior of any building over four stories or fifty-five feet in height or over 10,000 sq. ft. ground area, should be of incombustible material. If platforms are erected for handling materials, flameproofed wood should be used in their construction.

HOISTING MACHINERY: The hoisting machinery, if operated from steam boiler within the building or within ten feet of any part of the building, should be enclosed in a structure of corrugated iron which may be attached to wood framing. Where bituminous coal is used for

fuel, an effective spark arrester should be provided on the boiler stack.

ELEVATORS: In all buildings over six stories or 75 feet in height, at least one elevator should be installed and be in charge of a competent operator and ready for service at all times both night and day.

STAIRS: In all buildings six stories or 75 feet in height, unless one or more permanent stairways have been installed, at least one temporary stairway should be provided, continued in height as rapidly as the work progresses to the highest floor that has been installed, and maintained in serviceable condition until a permanent stairway has been completed.

FIREPROOFING: In every building of steel frame construction, the columns in all stories below grade, and to a point at least 30 feet above grade, should be insulated with approved fireproofing before additional form work and floor arches are erected in excess of 75 feet above grade.

STORAGE OF MATERIALS: Materials stored within the building or within ten feet of the building which require covering, should be protected by incombustible material.

WORKMEN'S SHANTIES: In all buildings the work-

men's shanties for the storage of tools and materials that contain more than 500 board feet of lumber, should be constructed of incombustible materials.

STANDPIPES: In all buildings in which standpipes are to be installed, such standpipes should be carried up as the construction progresses, in such a manner that they are always ready for fire department use to the topmost floor construction that has been installed.

FIRST AID FIRE APPLIANCES: In every building operation at least one approved extinguisher should be provided and maintained in an accessible location.

ACCESS TO FIRE EXTINGUISHING EQUIPMENT: During building operations, free access from the street to fire hydrants, and to outside connections for standpipes, sprinklers or other fire extinguishing equipments, whether permanent or temporary, should be provided and maintained at all times.

Signs designating the location of first aid equipment and standpipe connections should be conspicuous.

FIRE WARDEN: A person of intelligence and diplomacy should be appointed as a fire warden to supervise the installation and maintenance of the recommended fire prevention measures.

BILLIONS OF DOLLARS For Residential Building

Loan Funds of Building and Loan Associations of the United States Show Remarkable Growth

If residential builders could today solve the problem of adequate and liberal financing, the coming season would show a big increase in construction. That the Washington government realizes this, was clearly shown in President Hoover's announcement, last August, of a commission to study the question and outline its solution. Perhaps the most significant statement in the announcement was the following:

"There have been months during this depression when shortage of capital available for home building purposes has been so acute that this branch of construction has fallen off greatly, while other forms of credit have been available throughout the depression."

He referred, also, to the high cost of second mortgages, on which commissions of 20 per cent and 25 per cent must frequently be paid, and stressed the necessity for lower costs to home owners.

We hear much of the high cost of modern homes. But few people realize how much of this lies in the real estate and financing costs. Taking a rather average home of the smaller type, with a total cost of, say, \$11,125, thirty-seven per cent of the total cost could easily be the cost of real estate and financing if the usual first and second mortgage commissions were paid, as follows:

House and Equipment.....	\$ 7,000
Site	3,000
Mortgage Commissions	1,125
Total	\$11,125

Furthermore, any renewal of these mortgages, or re-finance, might double or treble the commission cost.

The building and loan plan greatly reduces financing costs and makes a very attractive loan. If the borrower owns a good lot or its equivalent in cash, he can secure from a building and loan association 75 per cent of the total value, making a second mortgage unnecessary in the majority of cases. The borrower simply buys stock in the building and loan association, on which he makes monthly payments. A portion of each payment is credited to principal and a portion to interest, so arranged that the total loan is paid off in about twelve years. This is called an amortization and takes advantage of the principle of compound interest in the borrower's favor.

We are all more or less familiar with the fact that money at 6 per cent compound interest doubles itself in about twelve years. But the building and loans do much better than this. They compute the compound interest quarterly, or even more frequently. If it takes 60 days, on an average, for them to reloan money received on payments, they are compounding the money six times per year. If they could reloan it regularly each 30 days, the borrower would receive the benefit of 12 compoundings per year; for he shares in the profits of the association, through his stock ownership. When these profits are credited against the cost of his loan, his net interest charge for the entire period of the loan falls below 3 per cent.

To show just how a building and loan amortization works out, let us take a loan of \$5,000, with payments of \$50 per month, divided evenly between interest and principal account. In this case, the loan practically is paid off in 11 years and seven months, as follows:

AMORTIZATION TABLE

Showing How a \$5,000 Loan Is Retired in 11 Years and 7 Months by Payments of \$50 Per Month.

Years	Total of Monthly Payments	Applied to Interest	Applied to Principal	Unpaid Principal Remaining
1	\$ 600.00	\$ 291.80	\$ 308.20	\$4,691.80
2	600.00	272.80	327.20	4,364.60
3	600.00	252.75	347.25	4,017.35
4	600.00	231.25	368.75	3,648.60
5	600.00	208.55	391.45	3,257.15
6	600.00	184.45	415.55	2,841.60
7	600.00	158.80	442.20	2,399.40
8	600.00	131.60	468.40	1,931.00
9	600.00	102.60	497.40	1,433.60
10	600.00	72.00	528.00	905.60
11	600.00	39.45	560.55	345.05
12 (7 mos.)	350.00	7.20	342.80	2.25
Total	\$6,950.00	\$1,953.25	\$4,997.75	

During this period, the borrower receives his share of the earnings of the building and loan stock, which, experience shows, will be sufficient to reduce his net interest charge to less than 3 per cent per annum.

Having in mind the financial possibilities of the building and loan plan, it is easy to understand its increasing popularity, both as an investment and as a means of financing home building or refinance. The increasing popularity of the building and loan plan is shown by the rapid increase in the assets of the building and loan associations of the United States during recent years. There were, in the United States, at the close of last year, 12,342 building and loan associations, with a total membership of 12,111,209 having \$7,787,405,383 invested, mainly in mortgage loans. This mortgage investment amounts to 89.6 per cent of their total assets, according to Mr. H. F. Cellarius, of Cincinnati, Secretary-Treasurer of the United States Building and Loan League. The growth of these associations is strikingly shown by a comparison of their membership and assets for the years 1922 and 1929.

	Number of Associations	Total Membership	Value of Assets
1922	9,255	5,809,888	\$2,890,764,621
1929	12,342	12,111,209	8,695,154,220

The membership has more than doubled and the assets have more than tripled during this period.

The degree of safety connected with investments in building and loan stock is very high, as they operate under state charters, subject to state inspection and audit; and the failures and losses have been far lower than those of banks, especially when expressed in percentage of losses to total resources. This latter percentage is less than three-hundredths of 1 per cent.

There were 551 bank failures during 1929, with total liabilities of \$182,282,000. The building and loan failures during 1929 involved losses totaling \$2,312,626. It would appear from these figures that money invested in a building and loan association is safer than in a bank.

Strange to say, the popularity and prestige of building and loan associations varies widely in different cities. In Cincinnati, for instance, they are the principal source of funds for financing construction, as well as for refinance. In many other cities, however, the local associations are small and inconsequential, with the result that their operation must be,

perforce, on a small scale. The building and loan movement has reached its greatest activity and importance in the following cities:

Philadelphia, Pa.	Boston, Mass.
Newark, N. J.	New Orleans, La.
Cleveland, O.	New York City.
Dayton, O.	Chicago, Ill.
Cincinnati, O.	Indianapolis, Ind.
Columbus, O.	Milwaukee, Wis.
Baltimore, Md.	Los Angeles, Cal.

It will surely be to the benefit of the construction industry, especially in the residential division, if builders, generally, will whole-heartedly co-operate with and work for the success of the building and loan associations. They should lose no opportunity of recommending their stock for investment nor of sending prospective home owners to them for loans. Wherever this co-operation is effective, it is bound to result in an increase in the number of homes built, since, as already pointed out, favorable financing is one of the pressing problems which residential builders are now facing.

The United States Building and Loan League is now undertaking a program of special interest to the builder and building material dealer throughout the country. Acting as a sort of combined doctor, banker, and family friend to a client, the building and loan associations are now going farther than the extension of the home loan. They are taking an active interest in the construction both of the homes already built and of those to be erected with their funds. An Appraisal Conference was one of the features of the recent annual convention of the League held in Grand Rapids, Mich. Appraisal courses are outstanding in the curricula of the American Savings, Building and Loan Institute, affiliated with the League.

The stress laid on appraising is due to the new national office, and is a part of the program to see that the men and women in the business know as much as possible concerning what constitutes value, with the idea that they will be better able to advise their clients in regard to builders and building materials.

"We want to co-operate with the builders of the country who share our ideas on good construction," said H. Morton Bodfish, executive manager of the League, in commenting on this phase of the expansion program. "The good builders, who deliver well built structures, will be in sympathy with our desire to keep our clients, and incidentally our money, away from fly-by-night builders or dealers in shoddy or flimsy materials.

"This is why, particularly in our Institute work, we are featuring appraising courses so that the young people entering the business and the older ones who have not paid very much attention to this item, can become up-to-date and have a measure of value which they can apply when advising clients on the purchase of this house or that, or on tying up with this builder or that.

"With the education we are planning along these lines, our people will soon be able to pick out the reliable builders in their communities and can and will steer a great volume of business to them. Naturally, this is not an entirely new idea. The building and loan men have been interested in construction, in all its ramifications, for nearly a hundred years. We just want to tighten up the lines in the future, and we know the building trade will thank us."

New wall finishes applied
rapidly at low cost with

SPRAY PAINTING EQUIPMENT

By F. R. WELLS

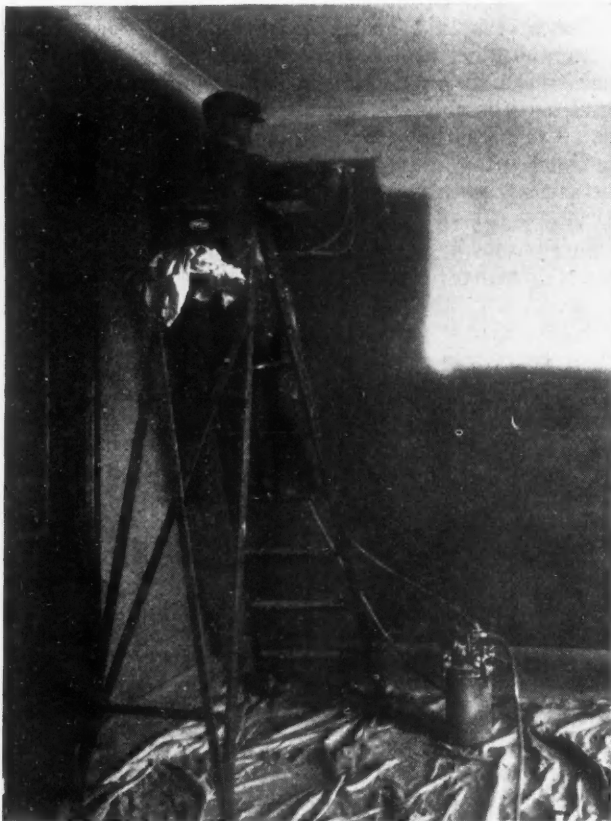
SPRAY PAINTING EQUIPMENT SAVED 71.5%

In painting the Hotel Olmstead, Cleveland, Ohio, comparison of hand versus machine methods was made with the following surprising results:

Painting corridors with hand brushes took 6 days.

Painting same type corridors with spray equipment took only 7 hours. The saving was \$32.38 per corridor.

A better and more uniform job was attained with the machine.



The painter at work, using modern spray equipment which has more than doubled average output. Such equipment is suitable for either inside or outside work.

HAPPY is the painter who is versed in the art of interior decoration. For he can supply the individuality that is much sought after in these days of pronounced departure from the commonplace in home architecture, furnishings and finishings.

The variety possible to obtain in painted wall finishes is practically unlimited. Still, the processes by which they are obtained are comparatively few in number, and well defined. Once they are understood, they become an inexhaustible source of artistic, tasteful wall finishes of individual and even original and novel character, by combining types, textures, designs and colors.

Happily, also, the modern trend of artistic wall finishes has been paralleled by the development of efficient mechanical means of applying them, so that practically all the painter needs to reap the harvest in the field of interior decoration is a modern viewpoint and modern equipment. The fundamental processes are comparatively simple and easy to acquire. To a great extent, they cover ground with which the practical painter already is familiar.

To begin with the A B C's, the general types of finishes with which modern interior decorations for the home are obtained, are as follows: (1) Flat wall; (2) Stipple effect; (3) Spatter effect; (4) Spatter blend; (5) Graduated blend; (6) Glazed finish, hand mottled; (7) Tinted plastic finishes; (8) Plastic finishes overlaid; (9) Veiling or marbling; (10) Stencil work.

These are familiar terms to the experienced painter. Indeed, the greater part of the development of the art consists of the simplicity, ease and speed with which these finishes are now applied and combined, thereby opening up this rich and profitable field to practical painters generally.

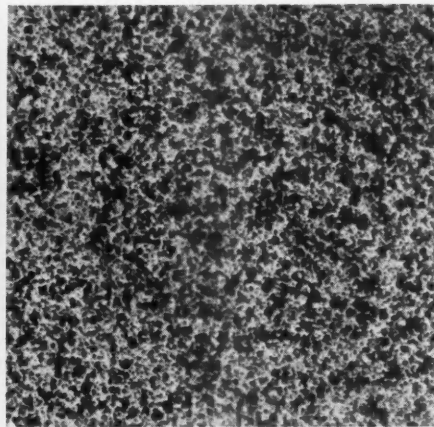
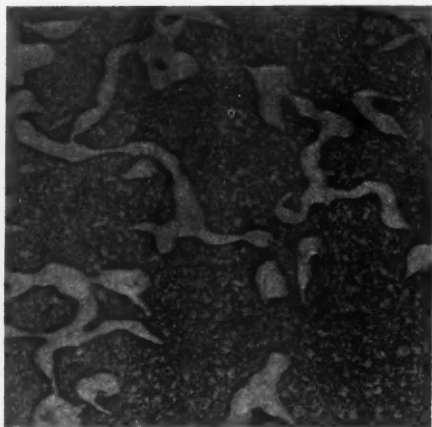
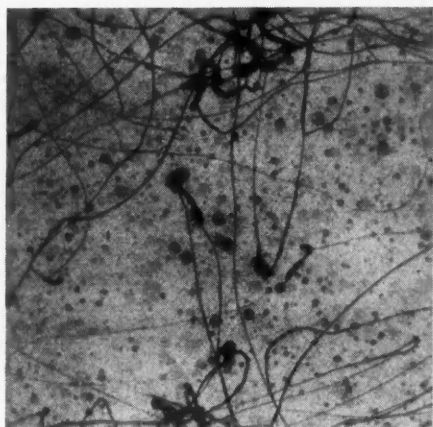
In applying any finish by the spray method, the preparatory work to be done is much the same as must be done in the case of brush work—filling cracks and patching up—in order to secure a good surface. Otherwise the decoration will accentuate the defects, such as cracks and hammer marks.

A prime coat should be applied to all surfaces to be decorated. This may be a combination of pigment and turpentine with varnish, which sizes the wall, seals the fine hair lines, checks and hot spots, stops suction, and acts as a binder for the following coats.

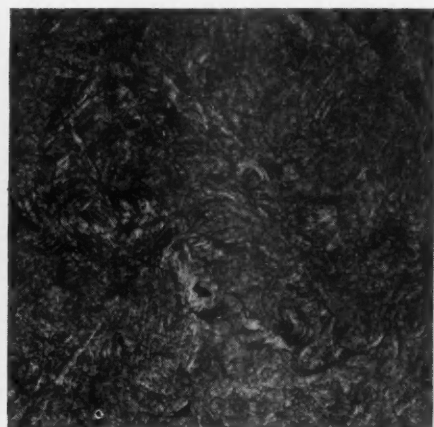
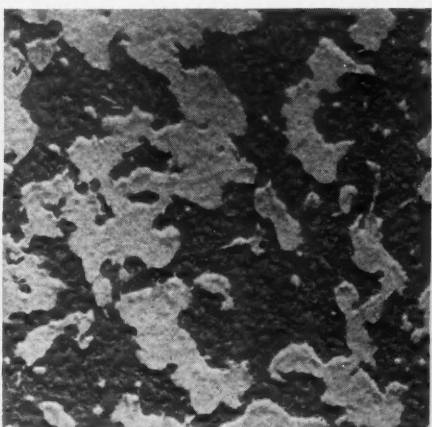
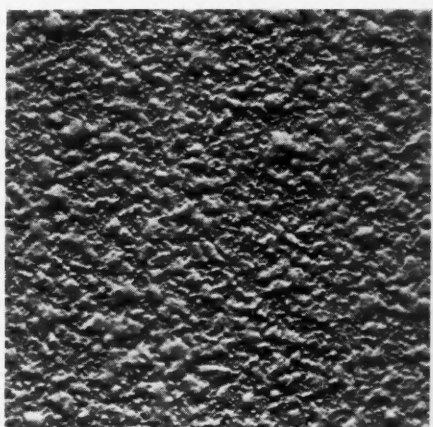
This method of sizing has been found satisfactory to hundreds of painters, but there are many different methods. Prepared wall sizes or primers may be used instead. There are many good ones on the market.

After the primer is dry, one coat of flat, semi-flat or egg-shell finish, when sprayed on, is sufficient to secure a finished job in any color desired, covering cat's-eyes, holidays, shiners and other show marks as thoroughly as two coats otherwise applied. The finish is sprayed on in the same consistency as used for brush

STIPPLE, PLASTIC SPATTER, MOTTLED EFFECTS DONE WITH SPRAY MACHINE



AT LEFT—Blue green spatter on ivory background, veiled in gold. CENTER—spattered plastic on blue background, fine and coarse. RIGHT—green spatter on ivory background with red blend overspattered.



AT LEFT—thin plastic stippled on white. CENTER—light brown background with heavy plastic spatter of white trowelled over. RIGHT—thin plastic background with lamp-black thinned with glaze, hand mottled.

work. In my personal experience I have sprayed white flat wall finish over an extremely dark background and secured complete coverage with one coat.

Stipple work is sprayed on with low atomization, the paint going on in the same shape as formed by the stippling brush, with hills and dales which break up the light reflection. But with the spray gun the finish is applied and stippled at the same time, whereas with brush work, the paint must be brushed on and leveled off, and then worked with a stippling brush. The surface may be left in stippled form or may be overglazed or over spattered.

In applying spatter work with a spray gun, the atomization is cut down a little more than for stippling, which projects the paint in small globules.

The old method of spattering consisted of whipping a heavy brush over a stick, or fanning the bristles, which is more or less laborious, requiring practice, and which does not lend itself to uniformity of pattern. With a spray gun, the spatter may be applied either unevenly, similar to a mottled effect, as with a brush, or strictly according to a uniform pattern, which gives the advan-

tage of a studied design and is preferable under a great many circumstances. With the spray gun, the size of the globules is definitely adjustable from $1/64$ to $1/8$ inch, producing either a fine or coarse spatter, as desired for various textures.

Two or three different tones may be used, producing many different color schemes of beautiful and appropriate effect. In the bedroom, for example, a spatter work of orchid, over a background of pink, followed by a spatter coat of blue green, results in a finish that is both dainty and colorful, making the room bright and cheerful, though restful. Another pleasing effect is obtained by a spatter of bronze green over ivory and an overspatter of light tan or brown. There is practically no limit to the beautiful effects to be obtained by means of spatter work.

In a spatter blend, as controlled by the spray gun, one color predominates and then fades off while another color becomes predominant, producing an effect similar to a Tiffany blend.

In the graduated blend the painter applies less color at the ceiling, gradually increasing it, which is easily done

with the spray gun, as he approaches the base. This has the effect of increasing the height of the room, better lighting at the top, and a feeling of freedom and breathing space. It gets away from the penned-in, cast-down feeling due to a low ceiling. It is particularly appropriate for living rooms, dining rooms or large rooms of any kind, but is sometimes inadvisable in small rooms because of the tendency in such cases to make the height of the room seem out of proportion.

A glazed finish, hand mottled, is produced by spraying on the finish and then mottling it with muslin, cheese cloth, newspaper or sponge, by wiping, twisting, pouncing or rolling. In each case a different texture is the result, but with the two-tone effect of looking through one color at another, and showing high lights.

This type of decoration is equally appropriate for living rooms, dining rooms or bedrooms, and for public halls and lobbies of hotels and public buildings. Harmony of contrast—red and green, orange and blue,



Contrasting the old hand way with the new machine method of decorating.

Paint Spray Decorating of the Hotel Olmsted, Cleveland.

yellow and violet—carried off to delicate tints and shades, is best used where there is not much decoration except the walls. Strict harmony colors—ivory and tan, ivory and green, ivory and orchid—are appropriate in almost any case where there are contrasting colors in the draperies, furniture or bed clothing.

Opposing colors—red and yellow, blue and yellow, red and blue—are not suitable for wall finishes for the very reason that they are used in sign work, to catch the eye. Artistically speaking, the wall finishes should form the background for the draperies and furnishings, which are the real decorations.

Plastic paint has been known for hundreds of years, but its wide usage, particularly in homes of moderate cost, is a modern development, due to the lower cost of the material and improved methods of applying it. Nozzles have been perfected which permit this heavy

material to be sprayed on as easily as ordinary paint even when too thick to run out of the can when up-ended. This greatly reduces the labor of applying it. A coating of less depth can be sprayed on than can ordinarily be brushed on, requiring less material. The many beautiful effects to be obtained by the use of plastic paints therefore can be economically utilized, both from the standpoint of effort in applying them and from the standpoint of material costs.

Plastic paint textures lack the harshness of rough plaster. The texture is in the finish, not in the wall itself, and can be removed if the owner later wishes to substitute another finish when redecorating.

Tinted plastic finish consists of one color of plastic paint, either tinted before application, or overspattered with a lighter tint of the same color, and, with a spray gun, may be applied in the spatter, stringy or stipple form. It may be left in the form as applied, or troweled to secure flat high lights, or worked out with a trowel to give a travertine or stone effect. After spraying, it may be worked into a palm effect by striking it with a brush at different angles, a basket weave by dragging the brush through it one way and then the other, a wood or bark effect by working it with a wood roller, or any one of many different forms known to painters.

The job can be finished without overglazing, or it may be overglazed with any color suitable to the room, and tinted high lights secured by wiping.

Veiling may be combined with other types of finish to enhance its artistic quality, and many stencil designs can be incorporated with the various finishes for greater ornamentation.

Reduced to these elementals, it is plain to be seen that modern interior decoration is not such a complicated subject after all. On the contrary, with the modern facilities for applying and combining the types of finishes, it is surprisingly simple, and offers to the practical painter, without exception, the opportunity to lift his work out of the commonplace into the more profitable field of artistic decoration now so much in demand.

Modernize Stables with Water Bowls

BUILDERS operating in dairy regions are doing considerable business modernizing cow barns by putting in new concrete floors and feed troughs, iron pipe stanchions and drinking water systems. Few mechanical devices have increased the dairy cow's milk flow more than individual water bowls. Although they save a good deal of time and labor, and insure utmost sanitation, the biggest advantage lies in their effect on production.

Considering that milk is 87 per cent water it is not hard to see why large quantities of warm water will furnish a basis for producing milk, especially in cold weather. Cows consuming bulky rations of hay, ensilage, and ground feeds will drink continually if water is before them. They will drink again and again as they chew their cud; not in large gulps, but just as natural thirst prompts them.

There are many estimates placed upon the value of drinking bowls in enlarging the milk flow. Some of the most inclusive of general conditions are those which come from dairy herd improvement associations. Testers place the average increase in milk production at from 5 to 20 per cent within the first month after cups are installed, and most users feel that this increase will pay for the cost of installation in one to four years. If running water is already available, the price of water bowls is not large.

According to Law

Legal Rulings of Interest to All Builders

By LESLIE CHILDS

A VERY important rule of commercial law has to do with the legal effect of the acceptance of checks marked "payment in full" of accounts that are designated. In cases of this kind, where there is no dispute over the account in question, and there is in fact a balance due, the creditor will not be bound by the payment in full statement even though he accepts the check.

On the other hand, where there is a good faith dispute over the amount of an account, and the debtor sends the creditor a check marked "payment in full," the acceptance of such check will usually mean just what it says. So that, if the creditor accepts the check he will be bound thereby, and will not, thereafter, be permitted to claim there was any balance due.

The foregoing rule constitutes a point of law of which every contractor and builder should have a working knowledge, in the every day conduct of his business. As an illustration of judicial reasoning in a case of this kind that arose in the building field, the following is of force and value.

Amount Due in Dispute

In one case of this kind, the plaintiff, a building contractor, performed work and furnished materials upon a building owned by the defendant. Upon completion of the work, the plaintiff claimed \$11,169.23 as the amount due him under the contract. The plaintiff had been paid \$8,000 during the progress of the work, so billed the defendant for what he, the plaintiff, considered the balance due.

Upon receipt of this bill the defendant refused to pay it. The defendant took the position that the total work and materials furnished should not be figured at over \$9,000 in any event, less the credit of \$8,000 that had been paid. The parties failed to reach any settlement, and finally the defendant mailed the plaintiff the following letter:

"I have endeavored to check up the work as carefully as I could, and taking all things into consideration, I feel that, if we pay you \$9,000, it will be very fair and liberal for what you did. We have already paid you \$8,000 on account. I am therefore inclosing herewith a check for \$1,000, which you will note is marked 'In full settlement of all claims to date.'

"If you are willing to accept this check, kindly receipt the inclosed bills and return them to us. If you do not care to accept same in full settlement I wish to say that I will have no further negotiations with you in the matter, and that you may then bring suit."

This letter accompanied by the check for \$1,000 was duly received at the plaintiff's office, handled in the usual way, and the check placed to the credit of plaintiff in his bank. Several months after this the plaintiff presented the defendant with a bill for \$2,169.23, that being the balance due, according to the plaintiff's contention.

The defendant paid no attention to this bill, and the plaintiff filed the instant action to enforce payment. In defense, the defendant produced his can-

celled check, which had been tendered as settlement in full of the account, and had been cashed by the plaintiff. The plaintiff sought to avoid this by claiming that his agent who received the check had no right to accept the check as payment in full. From this, the plaintiff took the position that he still had the right to sue for the balance he claimed to be due. In passing upon this contention, and in holding the plaintiff bound by his acceptance of the check, the court said:

The Language of the Court

"The defendant contends plaintiff has been paid in full, and that plaintiff's acceptance of defendant's check marked 'in full settlement of all claims to date', and contained in the letter quoted from above, established an accord and satisfaction. The record discloses that there was an honest dispute, that several of the items for which payment was demanded by plaintiff were not justly due, and that defendant's objection to paying them was valid. * * *

"For the purpose of meeting this defense, plaintiff asserts that the check was received by an agent authorized to collect the debt, but without power to compromise or release the debtor.

"The defendant's letter was received in the regular course of business by plaintiff or someone authorized to receive and open it and deposit the check. The conclusion is irresistible that it either reached plaintiff or an agent of his placed in a position to pass on defendant's offer of the sum of \$1,000 in full settlement.

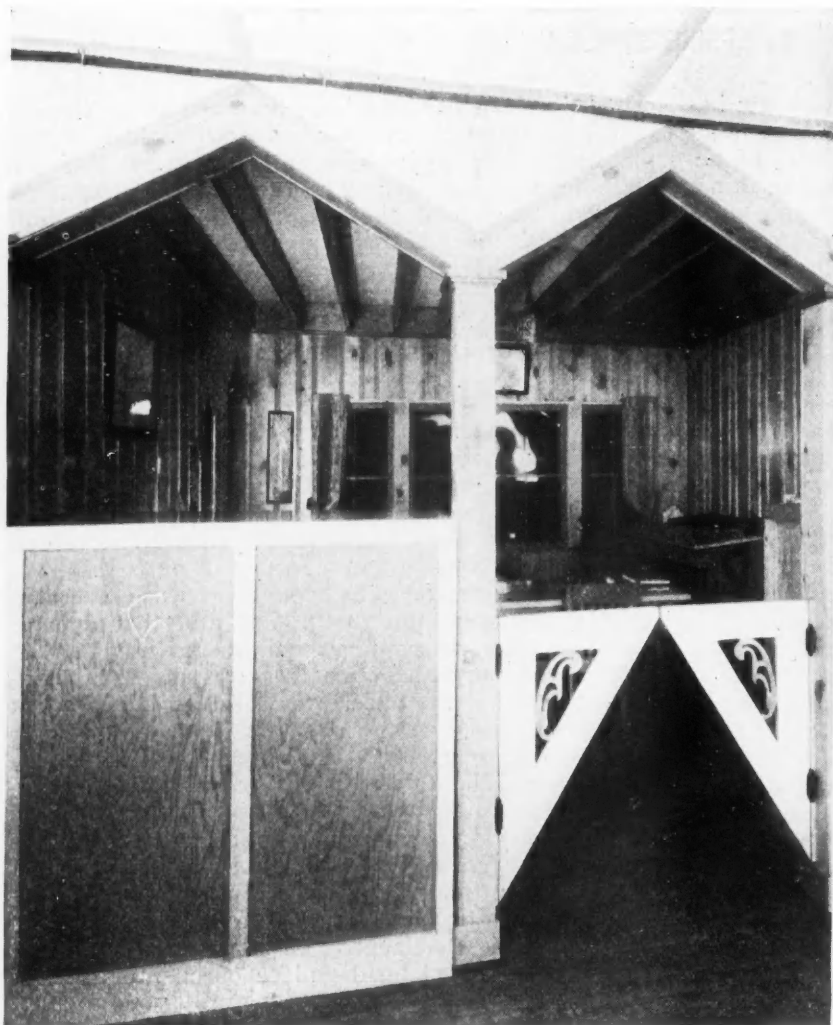
"An agent at plaintiff's place of business, whose acts are chargeable solely to plaintiff and are not even known to those outside of plaintiff's office, having power to pass on the matter to the extent of receiving and depositing the check, must be deemed, as against his employer, either to have had authority to pass on the matter himself, or to have drawn it to the attention of someone who had such authority.

"If such employee failed to perform his duty in this respect, plaintiff and not defendant is to be charged with the consequences. We believe there was neither a prompt nor an effective repudiation of the agent's acts." (208 N. Y. S. 183.)

In line with the foregoing reasoning, the court concluded by directing that the plaintiff's complaint be dismissed. Taking the position that the act of the plaintiff in accepting the check, or at any rate the act of his authorized office force in so doing, cut off all after right on his part to claim a balance due. That when the check marked "in full settlement" was accepted, the acceptance included the terms thereon and that the plaintiff could not go behind them.

The foregoing case was carefully reasoned by the court, and its holding is unquestionably in accord with the great weight of authority on the question decided. In the light of this, it is clear that when a contractor receives a check tendered in full payment of a disputed account he should watch his step. In case he is not willing to accept the check as tendered he should by all means not cash it but promptly return it.

Building Material Dealer's Store



Hundreds of Materials Are Displayed So That Customers Can Easily Visualize Their Use in Their Homes

Office of the Architectural Department of Carey, Lombard, Young & Co., Important Help to Complete Service

A BUILDING material store where the prospective home owner can actually see all kinds of material and equipment just as they will look in his completed home, that is the sort of an establishment Carey, Lombard, Young & Co. has developed in Oklahoma City, Okla. Not only that but a complete building service from planning to financing is offered to the building public.

Here is how it all came about. Carey, Lombard, Young & Co. is an old organization in the lumber business. Organized way back in 1881, it is now one of the largest, strongest and most progressive companies in the Southwest. It maintains 33 retail lumber yards and three wholesale warehouses in Oklahoma, Kansas, and Texas.

About three years ago, a new building organization was formed, in Oklahoma City, under the name Callaway, Carey & Foster, Inc. This organization is closely associated with Carey, Lombard, Young & Co.

Oklahoma City is a prosperous, rapidly growing, modern city of 219,000. The census showed an increase of nearly 100 per cent between 1920 and 1930. And the merchants of Oklahoma City are a live-wire, up-to-the-minute group of men who are setting a pace for the

rest of the country as to enterprise.

The two companies mentioned had always maintained their offices in the downtown part of the city. With the rapid expansion of the city over a large area, and the ever increasing traffic, and parking congestion, the organization faced a serious problem, one that is common to many cities scattered all

over the country. Here is the way Roy A. Foster, manager of Carey, Lombard, Young & Co., puts it.

"Every builder is faced with the problem of visualizing to the prospective home owner the appearance of the materials that may be used in his proposed new home. Heretofore it has been necessary for the builder to show the prospect a picture; to take the prospect to some building under construction; or to attempt to describe the material or finish verbally.

"In order to solve this problem, our organization recently took over and remodeled a two-story building some two miles from the former downtown location. The building was changed inside and out. The exterior was transformed to a semi-residential appearance. But it was in the interior that the most radical changes were made."

The construction department was called into consultation with the architectural staff and instructions were issued to make the interior of the offices represent, as nearly as possible, every style of finish and decoration used in the company's "Blue Ribbon" homes. At the same time, the architects and workmen were told there

Offers Complete Building Service

Planning, Financing, Materials, and Construction Are Provided for within This One Organization



Even in the Office of J. S. Callaway, President of Callaway, Carey & Foster, Inc., There Is a Display of Materials

should be no clashing of colors, or inharmonious use of materials and textures. The completed job must have an essential effect of unity and good taste.

With these rather difficult instructions to work from, the construction and architectural departments have created what is considered one of the most novel, attractive and practical builder's and material dealer's headquarters in the Southwest.

Hundreds of types of materials and equipment were used. Yet the casual visitor can detect no incongruity in the use of these varied forms of construction.

As an example of the variety of wall treatment, the offices are finished in decorated rugged plaster, hand decorated canvas over plaster, decorated plain plaster, knotty pine panelling, natural finish birch panelling, walnut panelling, fir panels burned and hand rubbed, mahogany panelling, pine walls decorated with crackled enamel, imitation travertine plaster, and plaster laid over various forms of patent base.

The floors show such widely varied treatment as tinted oak, old tavern style grooved oak set with wooden pins, plain oak of several kinds, inlaid linoleum, carpeting and tile. Doors used in the offices are as varied as the other features. There are four kinds of back doors, four front doors, four types of windows, two kinds of side-lights, three of casement windows, three French doors, and five inside doors.

A display kitchen with built-in cupboard, wall stove, range hood, tile drainboard, seven varieties of tile walls,

and numerous variations of plaster treatment, is another feature.

Advantageous location and effective display are not, however, the only things on which this organization depends for business. It maintains a complete service for the prospective home owner. There is an architectural department competent to render complete planning service and a building organization equipped to build economically and well.

Financing service is available to smooth out the often difficult and, to the layman, complicated problem of financing the new home building project. There are departments offering expert appraisal service, a decorating supervisor and 12 trained, competent salesmen; another department takes care of insurance for the company's clients and relations with real estate organizations are maintained which assist the client in the selection of a desirable building site.

In other words, the prospective home owner does not go to, and deal with, a half-dozen different organizations. The whole thing is handled by experts within a single organization.



The House Of The Month

Spanish Type In Full Working Plans

NOWHERE is individual taste a greater factor than in the designing of homes. That is what makes the business of home building at once difficult and interesting. For example, your clients may like the general style and arrangement of this Spanish design and decide to have you build from the plans shown on the next four pages. But, when they get right down to brass tacks, they are sure to want a number of changes.

Perhaps the second story windows will have to be enlarged; a different style of stucco finish will be more to their taste; they prefer steel to wood casements, or vice versa; a cement terrace across the entire front may be desirable. And when Mrs. Client goes over the plans she is sure to have very definite ideas on the selection and placing of kitchen and bathroom equipment and even the rearrangement of floor space.

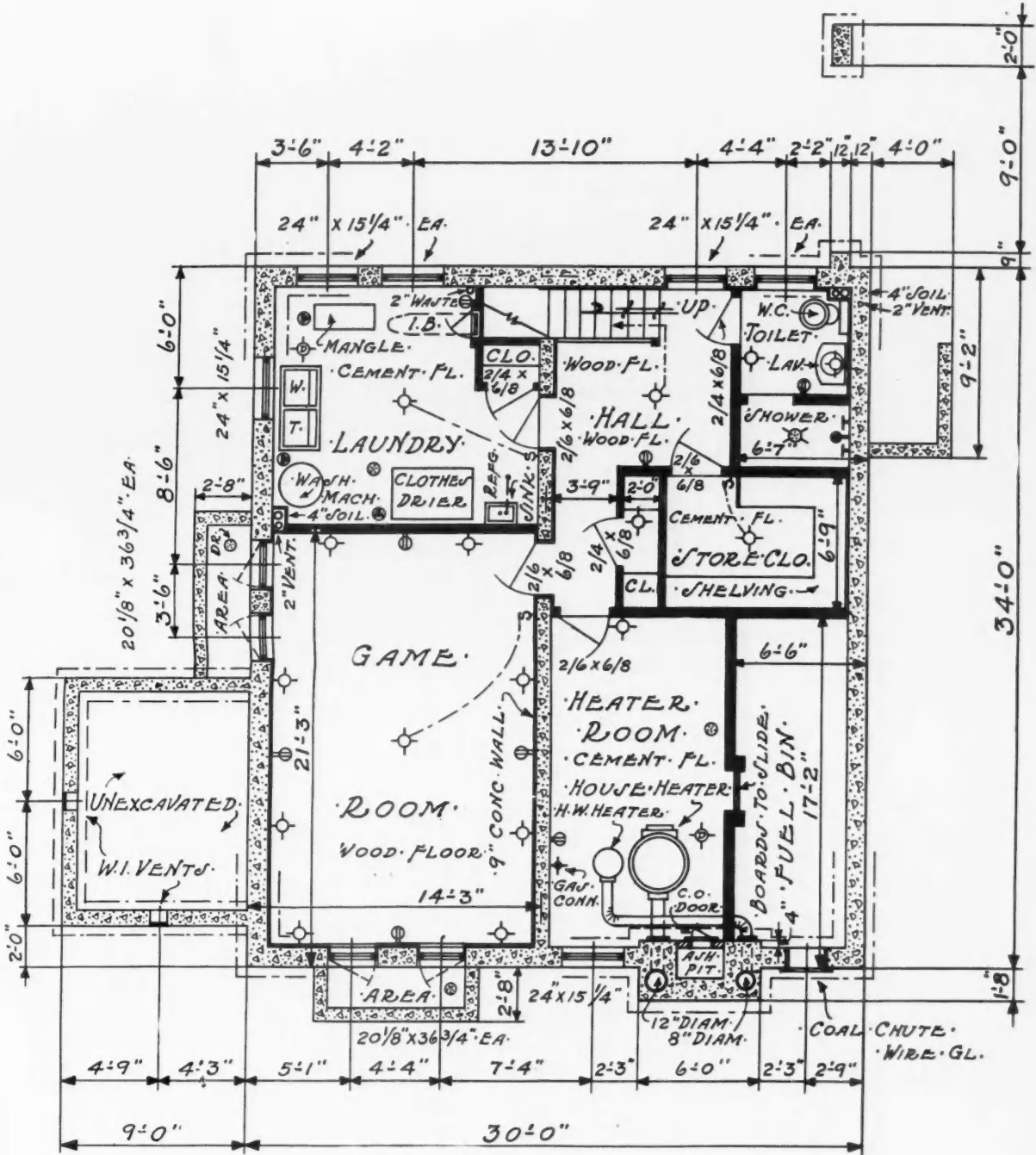
After all the questions have been settled and the house has been built you will still have the same basic design, suggested by the House of the Month, but it will be notably changed in appearance.

If you should build from these plans we hope you will send us a photograph of the house and complete cost data.—Editor.

Now all these changes affect not only the appearance of the house but also the cost of building it and one of the builder's problems is to make the adjustment between the client's desires and the cost of building as limited by the client's finances. Your solution of these problems will offer suggestions to other builders for dealing with their clients, and in a free interchange of ideas everyone profits.

It is surprising how little there is in house design that is really original. The originality comes in the skill with which ideas and suggestions, gleaned from various sources, are combined and harmonized into an attractive and distinctive whole. And so it is this Spanish design, designated as the House of the Month, can be of value.

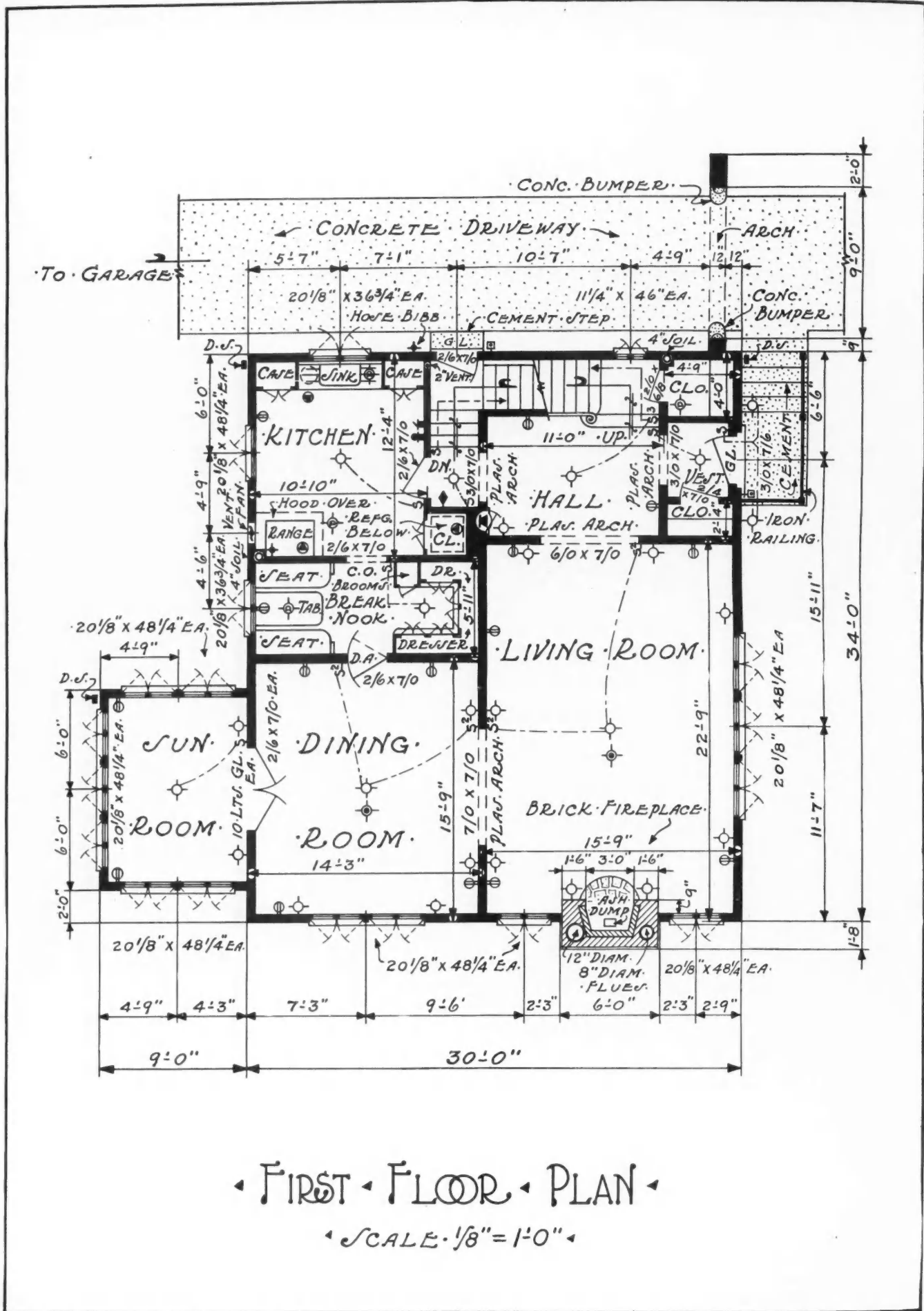
As you run through the pages with your clients you can show them in the complete working plans the layout and equipment of a well designed home of a type which meets the general requirements of the average family as to size, arrangement and equipment. It gives you a working basis for planning the house that you will actually build and sell.



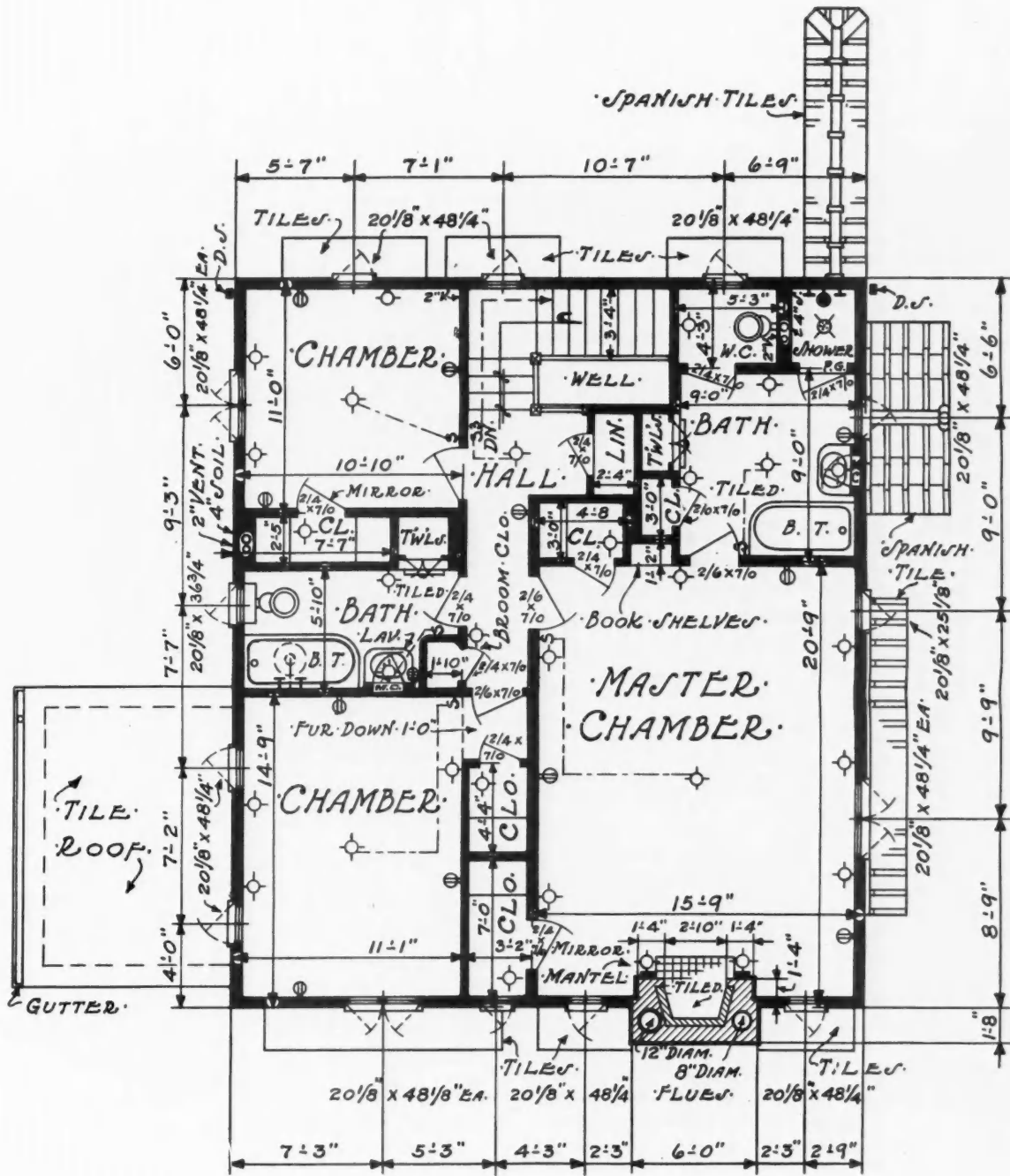
BASEMENT PLAN

SCALE: 1/8" = 1'-0"

The Prospective Home Builder Will Be Interested in This Basement Plan Which Makes Good Use of Space That Is Often Wasted

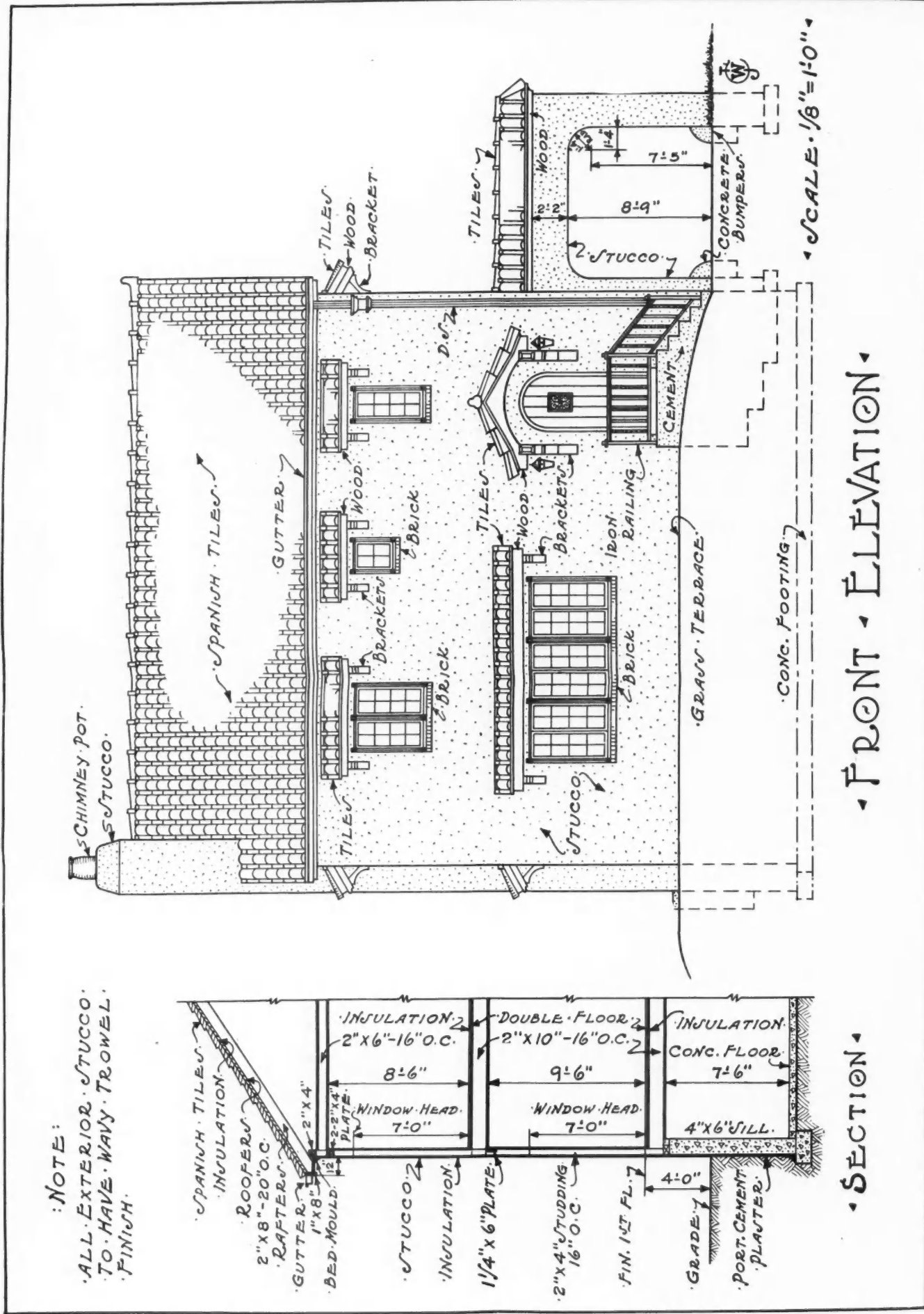


The Future Lady of the House of the Month May Make Some Radical Changes in the First Floor Layout, But the Basic Plan Is Here



◀ SECOND FLOOR PLAN ▶
 ◀ SCALE 1/8" = 1'-0" ▶

On the Second Floor, Also, Changes Will Be in Order and It Is Up to the Builder to Keep Them Within the Owner's Budget



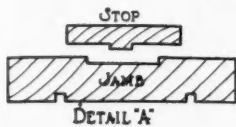
In the Exterior Treatment of the House of the Month There Lies, Perhaps, the Greatest Opportunity for Individuality

FROM AN ARCHITECT'S NOTE BOOK

Sketches that Solve
Puzzling Points

By JAMES T. NARBETT
ARCHITECT, A. I. A.

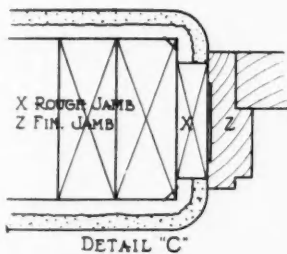
Interior Jamb



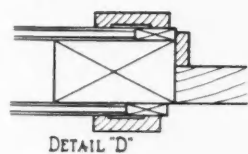
Detail "A"—Ordinary jamb from 1 1/4" or 1 3/8" stock.



Detail "B"—Rabbetted Jamb. Solid material, 1 1/2" stock.



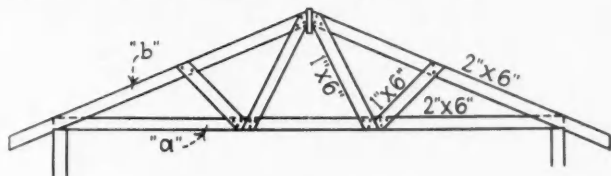
Detail "C"—Jamb for bull-nose plaster finish, omitting trim, using plinth only to receive the base which is usually set before plastering is applied. "X" is rough jamb set to perfect measurement and used as a ground for the plasterer.



Detail "D"—For mountain cabin using composition board for wall covering; the stud is used for jamb.

Trussing and Bracing Roof

CEILING joists and rafters over ordinary spans, but too long to brace from partitions, should be centered so that the rafters and ceiling joists can be formed into a truss; that is, if the rafters are set 24" on centers, then the ceiling joists should be spaced likewise and the ceiling joists furred underneath with 1" x 2". Before trussing, a temporary shore should be set up with a slight camber to the joists. The type of truss shown permits of passage through the center at high point. For trusses of from 12' to 20' spans use 2" x 4" for members "a" and "b"; for trusses from 20' to 30' span use the design shown. Trusses of greater spans should be specially designed.

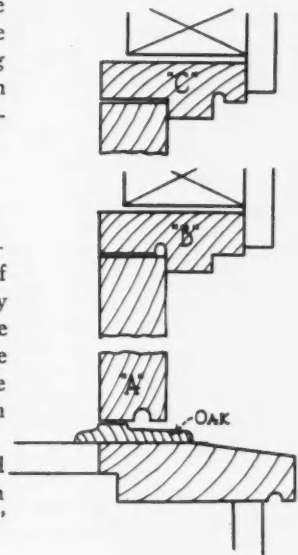


Quite often we are called upon to design rooms in which the roof rafters (false) are axe hewn and exposed; this occurs in designing in the Spanish. This type of construction is shown in sketch "B", the timber "X" is very heavy, of sufficient depth to safely carry the load and is also axe hewn. The false rafters are either set up before plastering or afterwards; in some cases an acoustic board, highly ornamented is used as panels.

A Weather Tight Door

AS a precaution, do not expose the veneered side of door to the weather, preferably a solid panel door should be used. If it is necessary to use a veneered door, see that the veneering is applied with weather proof glue.

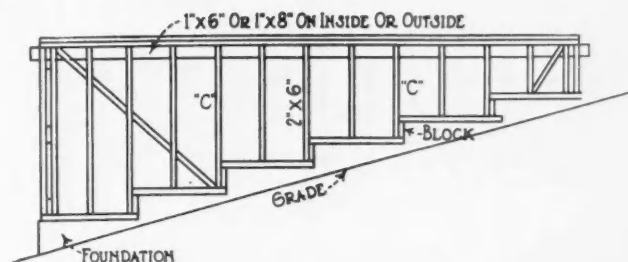
The bottom of door should be treated in the manner shown in "A", the side jamb as in "B" and the head as in "C".



Framing Basement Wall on a Side Hill

DETERMINE the height of the four corners by the use of a leveling instrument or with peep sight on a common level if you have no instrument; after corners are up, temporarily brace.

The next step is to lay out your studding locations on the lower wall plate and cutting off the ends of wall plates so that they will butt against stud as shown. Cut off several studs "C"—"C" about correct length, nail at bottom and brace both ways. Now select sufficient length of straight 1" x 6" or 1" x 8" to reach the length of building, nail flush with top of posts and straighten through. Next select studs of about the right length, fit and nail in permanently at bottom; plumb and tack 1" board to same. After all studs are set in place, rig up scaffolding if height demands and cut off studs flush with top of straightedge after squaring across; spike on the plates, remove the straight-edge and your basement frame is ready for the joists after bracing the corners well with a possible set of braces through the center if the length demands.

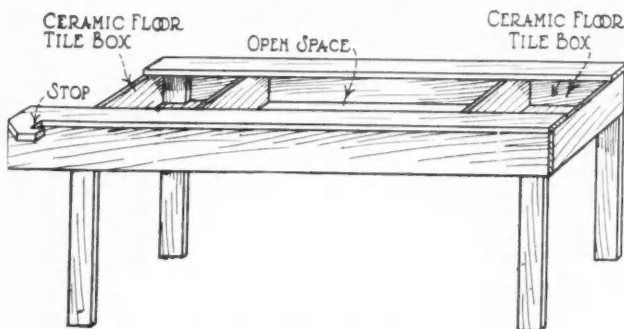


Practical Job Pointers

A Readers' Exchange of Tested Ideas and Methods, Taken from Their Own Building Experience. Two Dollars Will Be Paid for Each Contribution Published in This Department.

For Hanging Doors

HERE is a plan of a bench which I use when hanging doors. I made one of these a couple of years ago while on a big job and it worked so well that I have been using it since. I made another just a few weeks ago and am using it



The Boxes Hold All Tools and Hardware When Moving from Room to Room

on a job where there are several hundred doors to hang, and I expect to hang most of them.

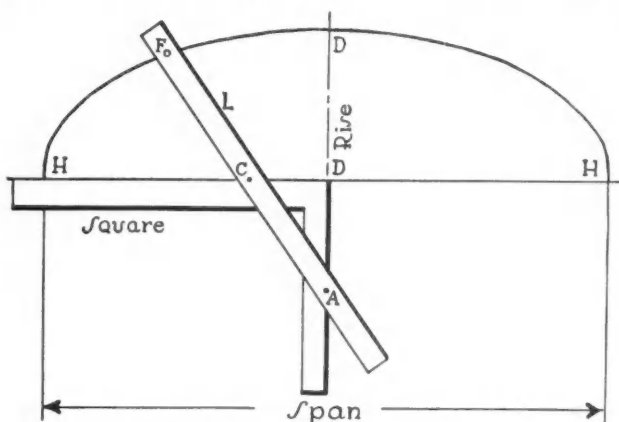
I picked up two empty boxes—ceramic floor tile boxes—which are about 26 inches long, 13 inches wide, and 8 inches deep. Such boxes are available on most large jobs where tile is used. The sketch shows how the bench is put together. The reason why it is so handy is because no saw horses are needed, the door can be laid on top for sawing off. All tools and hardware can be kept in the boxes. When moving from one place to another, you can just step inside and, with one hand on each side, carry everything to the place you want it, at one trip.

JULIUS ENGELL, 929 E. 29th St., Erie, Pa.

To Lay Out an Ellipse

HERE is a method of drawing an ellipse which I believe is more accurate for the carpenter to use than any other I have seen. I use it right along and it works most satisfactorily.

First draw the center line and mark the rise, D-D, and the span, H-H. Place the square as shown. Take a small strip



Said to Be More Accurate Than the Cord Method of Drawing Ellipses.

of wood, L, and mark on it half the span from A to F. Also mark the rise from F to C. Drive nails at A and at C, so that they protrude through the strip. Bore a small hole, large enough to put a pencil through, at F.

Keep the nails at A and C against the square until half the ellipse is drawn. Then reverse the square and draw the other side of the ellipse in the same way. I find this more accurate than the cord method.

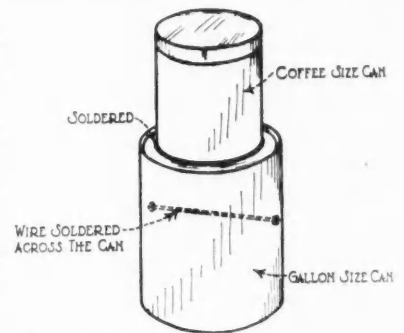
A. LEROY SMITH, P. O. Box 690, Santa Rita, N. M.

Keeps Paint Brushes Soft

PAINT, varnish and shellac brushes, if properly taken care of, can be kept soft and clean indefinitely. They should be kept in an air-tight can, in turpentine or alcohol. A suitable can may be prepared as follows:

Procure a gallon size can with a friction top that is good and tight. Such a top is practically air-tight. Cut out the center of the top and solder onto it a can the size of a coffee can, as shown in the sketch. A stiff wire soldered across the can will keep the brushes upright. Clean the brushes well after using and keep them in this can with turpentine or alcohol and they will always be in good condition and ready for use.

L. B. HARMON, 171 Central St., Winter Hill, Mass.



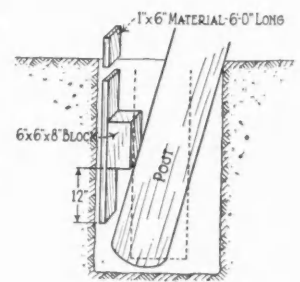
This Container Keeps Brushes in Good Condition.

It Helps Place Poles

IN placing large posts or poles, of considerable height, in holes large enough for pouring concrete around the base of the pole, it is sometimes difficult to place the poles in the holes so that they line up. If a pole is too far to one side of the hole it is out of line. I find the handiest thing for lining up the poles is what I call a post-bucker.

This bucker is made of one by six-inch material, six feet long. A block six by six by eight is nailed to it as shown in the sketch. The pole is inclined toward the side to which the bottom is to be moved. The post-bucker is lowered till the block comes in contact with the pole, as shown in the sketch. A reverse movement of the pole will bring it into position as indicated by the dotted lines. This is a simple device but entirely effective.

BERT W. CULBERTSON, Route 4, Jackson, Mich.



For Lining Up a Row of Posts.

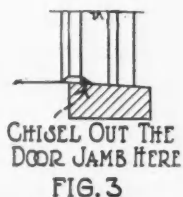
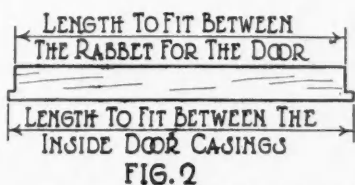
Making Tight Sills

WHEN it comes to putting down carpet sills, here is the best method I ever heard of because, when the sill is put down in this way, it can not raise up and allow water to seep in between the stone sill and the wood sill and eventually rot the wood sill. It is easier to fit in this way because there is but one notch required on each end.

First lay the sill on the floor and hold it tight against the casings, and mark the rabbet and the casing for length. The carpet sill, after being cut as marked, will look as in figure 2.

Next take a small piece of the sill and mark the jamb where the door is rabbeted to a stop. Hold the piece of sill tight to the stone while doing this.

When you have chiselled out the door jamb on both sides, as shown in figure 3, slide the sill in from the inside, driving it in with a block of wood so as not to mar the edge of the sill. As the sill is driven in it will fit tightly between the stone sill and the part of the jamb that has been notched out.



This Type of Sill Will Not Rise and Permit Seepage.

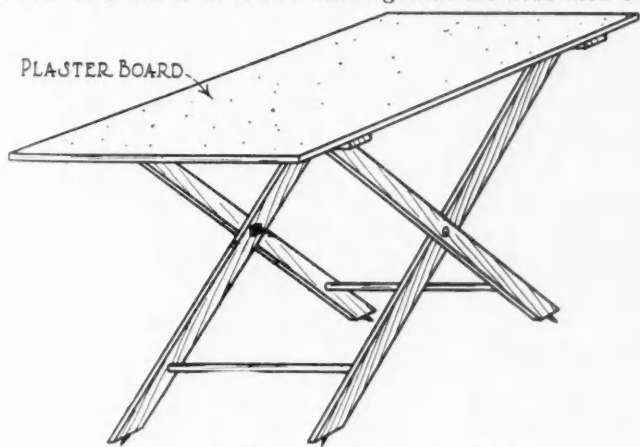
It is then impossible for that part of the sill which is beyond the face of the door, to raise. It is nailed in the usual manner.

RAYMOND RITA, 3290 Montana Ave., Cincinnati, Ohio.

Handy in Ceiling Work

HERE is a device I use for applying plaster board to ceilings, when I am working alone. It can be made from scrap material to fit any height ceiling. The sketch shows quite plainly how this device is made. The two pairs of legs are fastened together like scissors. The plaster board is placed on top. To raise it the legs are pulled together. To lower, they are pulled apart.

I find this much safer than applying the board by hand since it holds the board level across its entire width. With this device one man can do the work ordinarily done by three. If a nail is driven in each leg with the head filed off



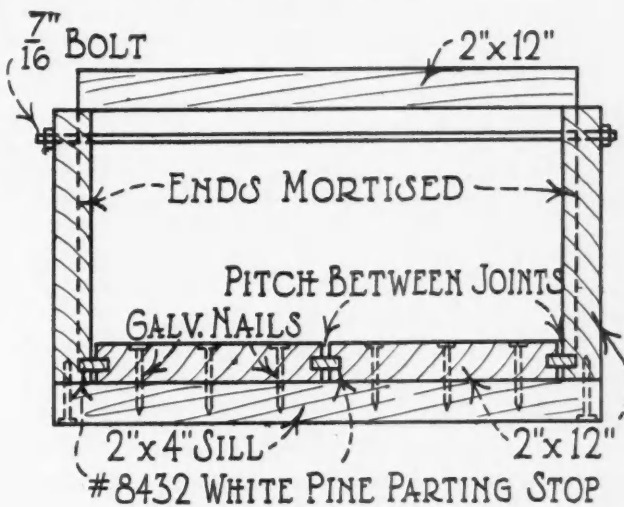
This Holds the Plaster Board Level During Application.

and allowed to protrude slightly there is no danger of the device slipping on the floor.

S. M. MCGARRITY, JR., 102 N. Mt. Olive St., Siloam Springs, Ark.

Leakproof Water Tank

A WATER trough or tank constructed in accordance with the plan shown in the sketch is ready for immediate use when it leaves the carpenter shop. Its construction prevents leaking right from the start. It will prove of special value wherever a large portable trough is needed.



This Type of Sill Will Not Rise and Permit Completed.

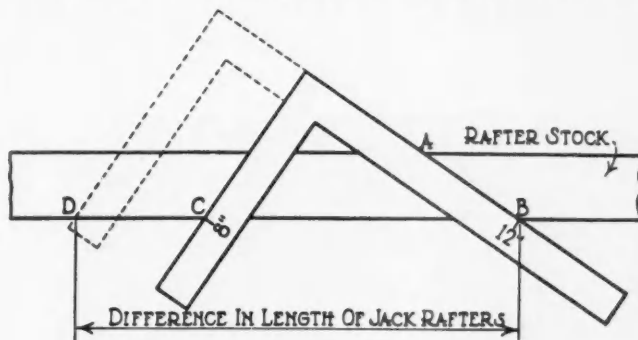
In constructing this trough it is essential to place pitch between the joints. This prevents leaking until the parting stops have time to soak up and expand. It also prevents the joints rotting.

The same plan can be followed using only one board for the bottom and eliminating the two by four sill.

CHAS. J. MAREK, Jourdanon, Texas

Length of Jack Rafters

HERE is a method of finding the difference in length of jack rafters regardless of what distance they may be spaced. The square is held to the stock with 12 inches, the unit of run, on the blade and the rise per foot run



This Way It Is a Simple Matter to Find the Difference in Length of Jack Rafters.

(eight inches as shown in the example illustrated in the sketch) on the tongue. Mark, along the blade, line A-B.

Now slide the blade along A-B until the figure representing the spacing of the jack rafters touches the point B. (In the case illustrated the spacing is taken as 20 inches.) The distance D-B will be the difference in length of the jack rafters.

CHRIS KUFT, JR., 1613 58th Court, Cicero, Ill.

Building Activities

The Month's News of the Industry

Construction Under Way on World's Fair Buildings

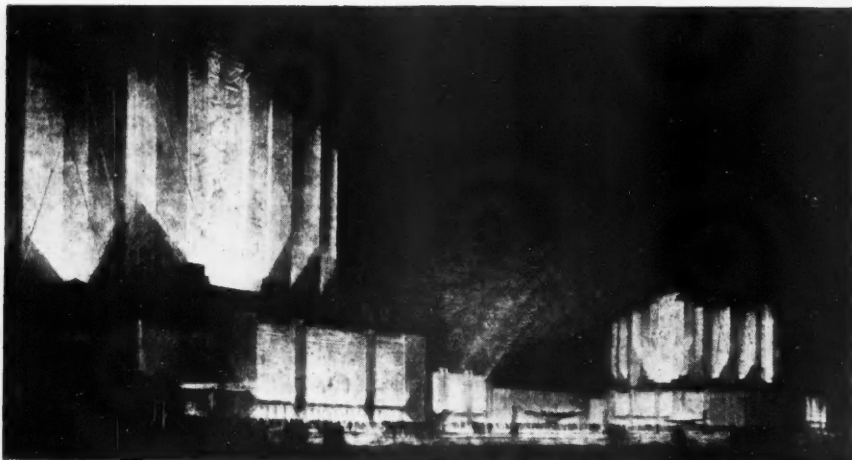
CONSTRUCTION is well under way on three of the buildings for the Chicago World's Fair which is scheduled to open in 1933. The steel frame of the Administration Building, the first to be undertaken, has advanced to the point of roof application, work on the Travel and Transport Building was started several weeks ago, and more recently a replica of old Fort Dearborn was begun.

The general contractors on these buildings are the J. B. French Company, John Griffiths & Son Company, and Erskine-Sipchen, Inc., all well known Chicago firms. The roof construction contract on the first two was placed with the Luse-Stevenson Company, which is installing a new type of roof insulation made from corn stalks.

This is a practical application of the interest in scientific development which is characteristic of the World's Fair program.

The Travel and Transportation Building will be a windowless, metal covered building with domes suspended on suspension bridge principles. This construction used for the first in building permits of a great area free of columns and other obstructions for large exhibitions.

The plan calls for a building 1,000 feet long with two domes, one at each end, each 200 feet in diameter, and 150 feet high.



The Travel and Transportation Building Now Under Construction for the Chicago World's Fair

COMING EVENTS

- Oct. 1-3, 1930—National Retail Lumber Dealers' Association, Annual Convention, Palmer House, Chicago.
- Oct. 7-10, 1930—Illuminating Engineering Society, 24th Annual Convention, Hotel John Marshall, Richmond, Va.
- Oct. 13-17, 1930—American Gas Association, Annual Convention, Municipal Auditorium, Atlantic City, N. J.
- Oct. 20-22, 1930—Concrete Reinforcing Steel Institute, Semi-annual Meeting, Briarcliff Lodge, N. Y.
- Oct. 28, 1930—American Institute of Steel Construction, Inc., 8th Annual Convention, Pinehurst, N. C.
- Dec. 2-4, 1930—Associated Leaders of Lumber & Fuel Dealers of America, Annual Convention, Congress Hotel, Chicago.
- Jan. 10-16, 1931—American Road Builders' Association, Annual Convention and Road Show, St. Louis, Mo.
- Jan. 15-17, 1931—National Association of Real Estate Boards, Annual Mid-winter Meeting, St. Petersburg, Fla.

Launch Co-operative Project

A NEW co-operative apartment building, known as the Lehman-Rabinowitz Development has been undertaken in New York City to provide good living conditions for low income families on the east side. The

price of each apartment is \$500 per room, plus from \$9 to \$12 per room rental. The buyer pays down \$150 and the Lehman-Rabinowitz organization lends the buyer the balance of \$350 per room, allows him 10 years to pay it, at five per cent interest, and gets no bonus or dividends. The building is tax free and the rental charge is set aside to meet maintenance costs, reduce the mortgage, pay mortgage interest, and take care of land taxes. The project was undertaken as a non-profit housing project. The first unit is now ready for occupancy.

To Build 100 Autohavens

BIDS are now being taken on the first 10 units of a 100 unit building project inaugurated by the National Autohaven Company, One North La Salle St., Chicago. Construction is expected to be under way on these 10 units by the middle of October and the remaining units will be built as rapidly as negotiations for sites are completed.

The Autohaven project contemplates the construction of two-story, combination hotel, service station and restaurant buildings along the main highways in the Chicago metropolitan area. These units will be placed at convenient intervals to care for the requirements of automobile travelers and will, in each case, be located near the edge of key towns and cities.

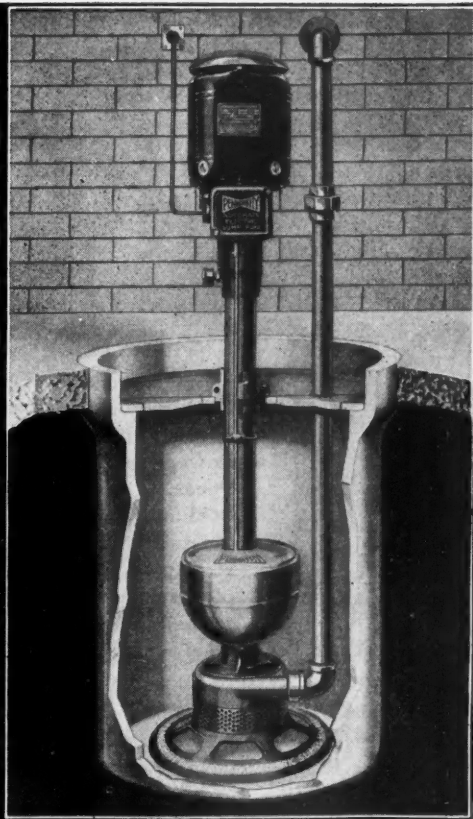
The buildings will all be of a type, two-story structures of steel and face brick with cinder-concrete back-up. The architecture will be of a style termed Normandy and each building will present an attractive appearance from all sides. The cost will be about \$50,000 for each unit. The hotel will contain 14 sleeping rooms. There will be a dining room and lunch room as well as gasoline filling station and a service unit.

Later the project is to be extended to cover other important centers and negotiations are actually under way for sites in the eastern part of the country. The National Autohaven Company is capitalized at \$2,500,000, with all the stock privately subscribed. A. J. Williams, general manager of the company, and originator of the Autohaven idea, is in active charge of the company's headquarters in Chicago.

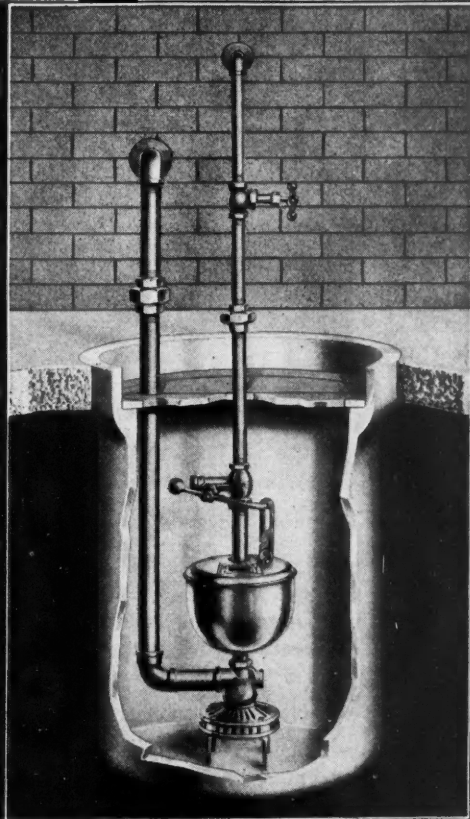
Genfire Opens New Office

THE Genfire Steel Company, of Youngstown, Ohio, has announced the opening of its metropolitan district offices, at 31 Union Square West, New York City, and the appointment of Paul R. Clark as district manager.

BRONZE THROUGHOUT



COPPER AND



A few reasons
why many
Builders prefer



To dispose of seepage below sewer level—or where sewerage facilities are not available—many builders prefer one of the units illustrated here. Local conditions determine whether the electric or hydraulic unit will be most economical—but both pumps have many characteristics that appeal to the prospective home owner and reduce the selling effort of the builder.

Both the Penberthy Automatic Electric Sump Pump and the Penberthy Automatic Hydraulic Cellar Drainer are immune to corrosion—they are copper and bronze throughout. Both are thoroughly dependable under the most severe operating conditions, and are economical of electricity and water power. They are fool-proof, require no kid-glove handling, and are easy to install—when properly installed there is no servicing.

Manufacturing a complete line of both electric and hydraulic units in a full range of types and sizes, the Penberthy organization is especially well qualified to recommend the correct equipment for any specific case. Your plumbing contractor can quickly supply and install Penberthy Pumps.

PENBERTHY INJECTOR COMPANY
Established in 1886 DETROIT Canadian Plant Windsor, Ont.

**PENBERTHY PUMPS
REMOVE SEEPAGE WATER**

CURRENT CONSTRUCTION FIGURES

DURING the month of August there was a further decline in construction. The figure for the country as a whole was \$347,318,300, divided among the following classes:

Residential	\$ 82,669,500
Commercial	50,860,300
Industrial	20,695,100
Educational	25,897,200
Hospitals and Institutions	14,089,800
Public Buildings	12,546,800
Religious and Memorial..	6,879,300
Social and Recreational...	9,478,200
Public Works and Utilities	124,202,100

Total\$347,318,300

This was a decline of five per cent from the total for July, 1930, and a decline of 29 per cent from the total for August, 1929. These figures are for contracts awarded as reported by the F. W. Dodge Corporation, plus an estimate for the West Coast and Mountain States. In addition to these reported contracts there was, of course, a large amount of outlying and rural work which was not reported, and which usually amounts to about 24 per cent additional.

Decreases from the previous month and from the corresponding month of last year were general in all sections except the metropolitan area of New York and the Kansas City area. Declines from July, 1930, appeared in all districts except the Chicago area, the St. Louis area, and the Southeastern area where gains were recorded.

The most encouraging figure is that found in the New York Metropolitan area where a gain of 11 per cent over July, 1930, and of one per cent

over August, 1929, was registered.

Statistics compiled by the Associated General Contractors of America, show a decline in construction costs in the principal construction centers for the fifth consecutive month carrying them lower than at any time in the past two years. Unemployment in the building trades, as reported by the American Federation of Labor, for the month of August was 39 per cent. Reports of increased efficiency of labor, due to the unemployment situation, are widespread.

These latter facts hold promise of an early increase in construction. As the cost of building is lower than it has been at any time in several years, and has probably already touched the bottom level of the downward swing, this is an opportune time to undertake new work.

Building Gains in Middle West

Building operations in the east north central states, including Illinois, Wisconsin, Michigan, Indiana and Ohio showed an increase of 17 per cent during August, according to a building permit summary just released by the Bureau of Labor Statistics, of the U. S. Department of Labor.

This summary, based on building permit reports from 291 comparable cities, located in all parts of the country, indicates that Illinois and its neighboring states have "turned the corner" and building activities are climbing out of the depression. The greatest gain in this group of states was in residential building which increased from \$7,436,887 in July to \$8,727,988 in August.

League Changes Constitution

CHANGES in the constitution of the U. S. Building and Loan League, made at the recent Grand Rapids, Mich., convention, provide for special divisional memberships for officers and others associated with the 1,200 local associations. These changes were made at the insistence of members who felt the need for special departments for the League work.

New Mortgage Field

SURPLUS American mortgage money may be used, in the future, to finance European home building as a result of the International Congress of Building and Loan Associations, to be held in Philadelphia next May.

The congress will be held in con-

nection with the 39th Annual Convention of the League which will celebrate, at the same time, the 100th anniversary of the founding of the first American building and loan association.

Building Literature Wanted

THE Construction Section, Indian Service, U. S. Department of the Interior, Washington, D. C., wishes to obtain manufacturer's literature to complete its present file. The Construction Section plans and builds schools, hospitals, dormitories, houses and other buildings, on Indian reservations.

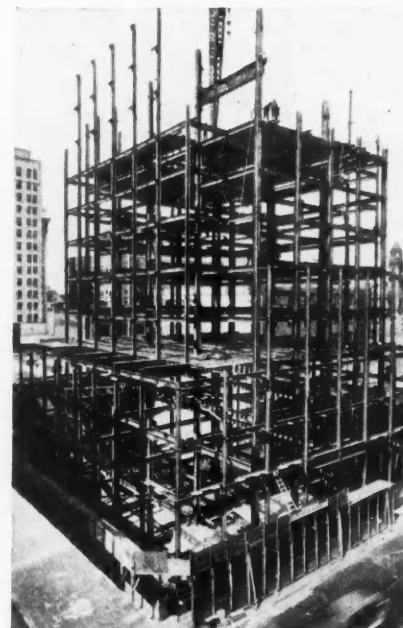
Mortgage Bankers Meet

THE 17th Annual Convention of the Mortgage Bankers' Association of America, was held in Detroit, Mich., September 16-18. The key-

note of the convention was "Management—The Mortgage Bankers Responsibility in the New Decade". Among the prominent speakers were: General Abel Davis, vice president of the Chicago Title & Trust Co.; A. A. Zinn, vice president of the Commerce Trust Co. of Kansas City, Mo., and president of the Mortgage Bankers' Association; Leonard Reaume, President of the National Association of Real Estate Boards.

Welded Construction Used

PRACTICALLY all fabricating, both field and shop, on the new 19-story office building of the Dallas Power & Light Company, Dallas, Texas, is being done by electric arc welding. The success with which this, the tallest all-welded building so far attempted, is progressing toward completion marks a definite forward step toward the elimination of noise in steel construction. This is an im-



Tallest All-Welded Steel Building

portant consideration in every large city where the noise of riveting has a serious effect on business in buildings adjacent to construction work.

Carborundum Buys Abrasive Unit

THE Carborundum Company, of Niagara Falls, N. Y., has purchased the abrasive division of the American Glue Company. The new organization will be known as the Union Sand Paper Division of the Carborundum Company. Manufacture of the established lines of this unit will be continued and the main office at 121 Beverly St., Boston, Mass., will be retained.



"In our opinion the general adoption of the balloon tire will effect the greatest saving in maintenance and tire costs in the history of motor trucking," says The A. G. Boone Company, Motor Trucking Contractors, Columbia, S. C. They operate 160 trucks in five southern states.

"Balloons stayed on top—high pressure tires bogged,"

says the report on these road building operations. Now the whole

Boone fleet is on Goodyear Truck Balloon Tires. After one gruel-

ing year the original set looks good for "six to ten months' addi-

tional service." They have already exceeded the normal mileage

of high pressure tires almost 40%. In accurate tests they have cut

gasoline mileage costs 6¼%. Wouldn't it pay to find out what

GOOD  YEAR TRUCK  BALLOONS

can do for you?

These great new tires pioneered by Goodyear stand up under high speed operation, reduce truck maintenance costs, give more powerful traction, new safety, lower tire costs.

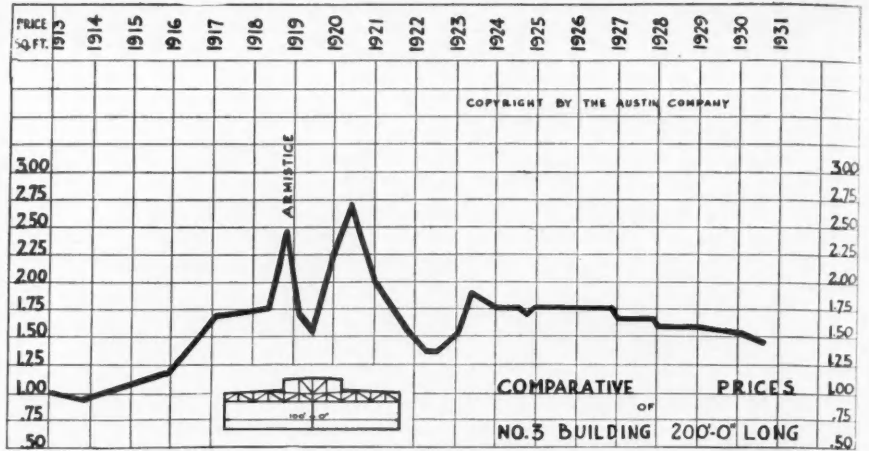
Copyright 1930, by
The Goodyear Tire & Rubber Co., Inc.

Construction Costs Down

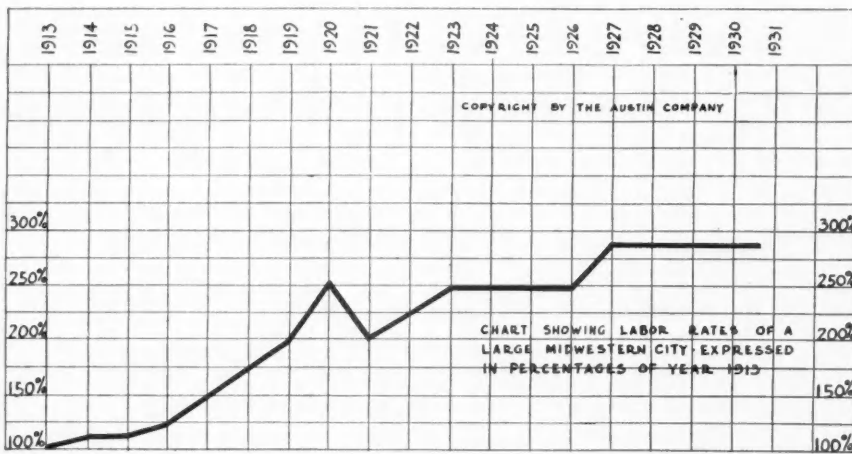
INDUSTRIAL building costs are the lowest in eight years, according to a survey by The Austin Company, engineers and builders, of Cleveland, Ohio. Except for a period in 1922, these costs have not been as low since 1916.

This decline in costs is due largely to falling prices of materials and increased efficiency of labor and construction equipment. Wage rates standing at 185 per cent over the 1913 level continue at the all time peak, while all building costs including labor, are less than 40 per cent over 1913.

A modern factory building, 200 feet long and 100 feet wide, of steel and



Industrial Building Costs Are Now at the Lowest Point Since 1923; and Except for the Spring of 1922 the Lowest Since 1916



Labor Costs Have Remained at a Uniform High Level Since 1927

concrete construction, can be erected in the average mid-western city for \$1.40 a square foot, against \$1.87 in 1923, a high mark of \$2.65 in 1920, and \$1.00 in 1913. The decline in costs is resulting in a marked increase in inquiries from manufacturers contemplating new construction, according to officials of The Austin Company.

Home Cooling System Announced

DR. DANIEL F. COMSTOCK, president of Comstock & Westcott, research engineers, of Boston, Mass., and principal inventor of the Technicolor process for making colored motion pictures, has announced the invention of a new method of refrigeration which, in addition to performing the usual function of preserving food, is adapted to the cooling of homes and small business buildings.

The new machine employs a mercury aspirator in conjunction with water as a refrigerant to perform the same function as the motor and compressor commonly used in mechanical refrigeration. All moving parts are eliminated.

MORE than 1,875,000 of Chicago's 3,375,235 inhabitants reside in one- or two-family dwellings in spite of the rapid development of apartment house living. In Chicago there are approximately 179,100 single family houses, 118,980 two-flat buildings, 56,000 apartment buildings, and 85,955 apartments located over or behind stores.

Cement is to be injected into the soil under the Leaning Tower of Pisa to prevent further sinking which increased the slant 10 millimeters between 1918 and 1929. Another 30 centimeters slant would place the tower in danger of collapse according to experts.

A new cement compound, 66 to 75 per cent lighter than concrete has been developed by Professor Albin H. Beyer, of Columbia University. When subjected to temperatures averaging 1,804 degrees, for four hours, a slab of this material recorded an in-

creased surface temperature of only 11 degrees. Theoretically, with this material used in floors, office staffs could work at their desks during four hours of a blaze hot enough to melt silver and copper without knowing that the fire was raging only 12 inches below them.

Three nails are not always better than two. United States Forest Service tests showed that three or four nails instead of two, in one-by-eight-inch horizontal sheathing improve the wall but little, but the extra nails add from 30 to 100 per cent to the stiffness of a diagonally sheathed wall.

A study by the National Lumber Manufacturers' Association, shows that in an average six-room house of about 23,750 cubic feet, only about 15,000 cubic feet are used for common domestic occupancy. The balance of the space, in basement and attic, presents a modernizing opportunity in its conversion into usable rooms.

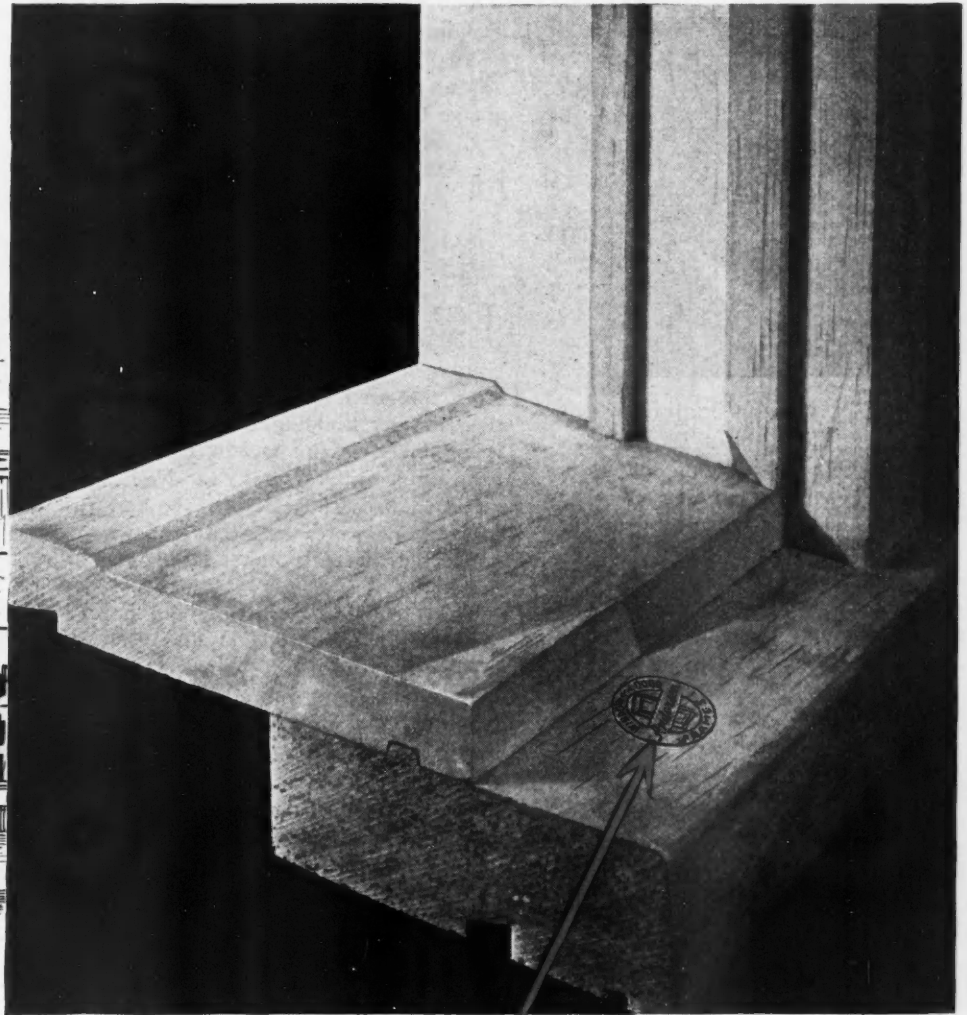
IT IS REPORTED THAT

Material Firm Organized

FORMATION of a \$10,000,000 building material and coal company, to operate in Chicago and the Middle West was recently announced. The new company, to be known as the Moulding-Brownell Corporation, has taken over the business and assets of the Thomas Moulding Brick Co.; Brownell Improvement Co.; Federal Stone Co.; Superior Stone Co.; Wisconsin-Wilcox Co.; and American Sand & Gravel Co. J. R. Sensibar, president of the Construction Materials Corp., is chairman of the board and T. J. McGuire, of the Moulding company, is president of the new organization.

Builders cut labor costs with this new frame

New Andersen Master Subsill Frame, showing trademark, die-cut in wood. This frame also made with solid sill.



BUILDERS cut all sash and fit all trim at the bench, with this new Andersen Master Frame and save as high as \$1.00 per opening in labor costs. And the new patented Andersen features give you a better job—the locked sill-joint, the steep sill slope, wide blind stop provision, guaranteed noiseless pulleys. Remember, also that Andersen Master

Frames are made only of genuine white pine and are absolutely weathertight. Anyone of the 3500 Andersen dealers will give you quick service. Write us for the name of the Andersen dealer near you. ANDERSEN FRAME CORPORATION, Bayport, Minnesota.

Andersen



Frames

FOR WEATHERTIGHT INSTALLATIONS—USE ANDERSEN SPECIFICATIONS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

Building and Loan League Opens Chicago Office

THE U. S. Building and Loan League has met the new business era with a program designed to reach into every cross-road hamlet in the



H. Morton Bodfish

country. Officers studying the future possibilities of the building and loan business and the problems confronting it, have opened an office in Chicago and placed H. Morton Bodfish, well known for his work on the staff of the National Association of Real Estate Boards, in charge.

Business building programs, meant to increase local assets, publicity to bring in more stockholders and loans, development of the educational facilities in this business, and the origination of methods of meeting competition, will be the business of the new league office.

With a staff of assistants, Mr. Bodfish will direct the work of the American Savings, Building and Loan Institute, recently moved to Chicago from Kansas City. This is the educational organization affiliated with the league and engaged in the preparation and dissemination of school courses for building and loan people.

Sell Aluminum Primed Siding

RECENTLY the Stover Manufacturing Co., of Mobile, Ala., has equipped its plant to prime siding with aluminum paint. C. D. Garrison, president of the company states that this primed siding has created more interest among retail dealers than any other idea ever offered to the trade. The company has been swamped with requests for samples and has filled orders for about 600,000 feet of the primed siding in the three months since it was announced.

The aluminum paint is applied by machinery at a very low cost. Power feed belts pass the lumber through a cylinder in which spray guns cover both sides, both edges and the ends with paint. The lumber is then

stacked on trucks, in such a way that no strips touch or mar the face, and is allowed to dry for 24 hours before bundling.

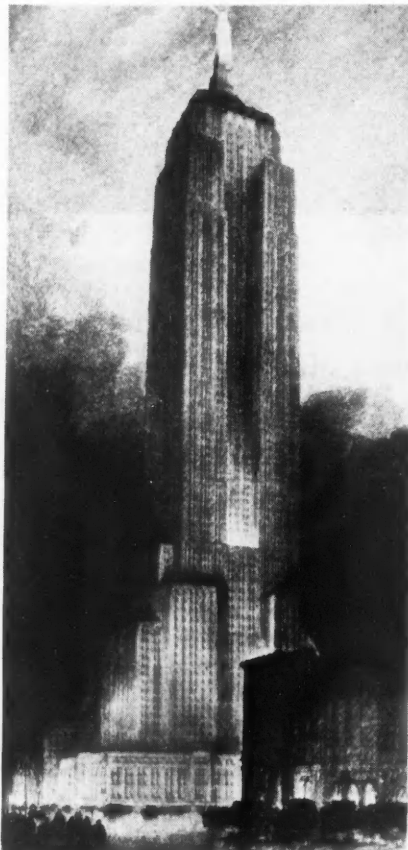
Oil Burner Use Increases

IN 1921 only 12,500 homes in the United States were heated by oil burners. Today the number is 535,000 and at the present rate of increase the total will reach 655,000 in 1931, according to a report made by the American Oil Burner Institute, of New York City.

Skyscraper Is Metal Faced

THE Empire State Building, now under construction in New York City, will be the first building, aside from the ornamental metal tower of the Chrysler Building, on which metal is employed in the facade, for structural and architectural, as well as ornamental, purposes. Shreve, Lamb & Harmon were the architects who conceived this first metal faced office building.

The metal, an unrusting and non-tarnishing chrome nickel alloy having the texture of gray-finished silver, will run in strips serving as window trim and mullions nearly the whole height of the thousand-foot building.



The Empire State Building Will Be Faced with Metal

Thermax Now in Production

A NEW company, known as the Thermax Corporation, with general offices at 1411 Fourth Ave., Seattle, Wash., has been organized for the manufacture and sale of a type of insulating and fire-proofing material new to the building industry of this country. The new product, Thermax, has been manufactured and used extensively in Europe for about



R. E. Bennett

12 years, with a consumption of over fifty million square feet in 1929. The new company is the sole licensee for North American. The first large modern unit for the production of Thermax in the United States has been built at Chewelah, Wash., and is now in full production with a capacity of thirty million feet annually.

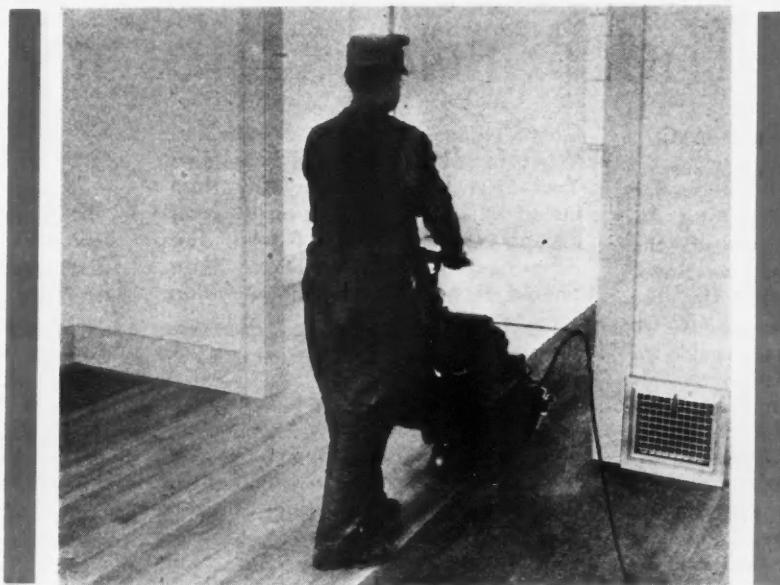
The sales program is under the direction of R. E. Bennett, who has been successful in sales direction and merchandising for leading manufacturers in nationally known building products and insulating materials.

Okay Tax Amendment

PASSAGE of the proposed income tax amendment to the Illinois State constitution was advocated in a resolution unanimously adopted by the Chicago Real Estate Board. This action was taken at the recommendation of the board of directors who have warned of a possible tax strike in 1931 unless steps are taken to relieve property owners of a too heavy tax burden.

Oil-O-Matic Holds Convention

THE Sixth International Convention of the Williams Oil-O-Matic Heating Corp., was held at the company's Bloomington, Ill., plant August 18-19. It was attended by Oil-O-Matic representatives from all parts of the world.



DURUNDUM Floor Sanding Paper
does save TIME, MONEY and MATERIAL

Floor Surfacers all over the country are proving, by their ever increasing use of Behr-Manning Durundum Paper, that this is the paper that does the work. Any Floor Surfer who has ever used Durundum will tell you the same thing --- it is tougher and more rugged, cuts faster, lasts longer, and produces a better finish than any paper ever used before.

You can try Durundum on your own work at no risk to yourself. Our Trial and Approval Terms are most liberal, and we will be glad to explain them to you and send you prices.

BEHR-MANNING
 C O R P O R A T I O N
 T R O Y , N E W Y O R K



“Good Workmen Know the Difference”

RETURN the COUPON TO-DAY

BEHR-MANNING	
P. O. DRAWER 74, TROY, N. Y.	
Send us prices and tell us how we can try Durundum at no risk to ourselves.	
Name _____	
Street & No. _____	
City _____	State _____

The Builder's Library

Offered by Book Publishers

"Building and Loan Construction Standards"

Here is a book of "Specifications for Residential Building", by John M. Wyman, Associate Editor of the American Building Association News, which has been published by the American Building Association News Co., Cincinnati, Ohio, as a guide to building and loan association officials in the supervision of home construction. Price \$1.50.

"Building Plans for Modern Homes"

This is a 224-page book of designs and floors plans, with approximate estimates of building costs, complete plans for which can be furnished by the publisher, Frederick H. Gowing, Architect, 101 Tremont St., Boston, Mass. Price \$3.00.

Construction Materials

Aluminum Paint

The Aluminum Company of America, Pittsburgh, Pa., has published a valuable booklet under the title "Aluminum Paint in the Protection of Wood." This booklet was prepared by members of the company's technical staff to furnish practical information on this recent, important development in painting practice.

Fabricated Reinforcing

A series of pamphlets on the Sereff self-sustaining fabricated reinforcing system, and one containing loading tables, has been issued by The Bellefontaine Bridge & Steel Co., Bellefontaine, Ohio.

Cleaning Iron and Steel

The Antoxylin Chemical Corp., 42 Broadway, New York City, offers its Bulletin No. A, on "Important Facts and Directions for Using Antoxylin" for cleaning iron and steel in preparation for applying primers, paints, etc.

Sound Insulation

"The Use of Materials for Sound Insulation and Acoustical Correction with Reference to the Fire Hazard" is the title of a bulletin published by the National Board of Fire Underwriters, 85 John St., New York City.

Coal Chutes

Vento Steel Sash Co., Muskegon, Mich., has issued a pamphlet illustrating and describing its new coal chute and various other products.

Wall Tile

A new booklet, describing Monotile, a tile wall board intended for the side walls of bathrooms and kitchens and similar installations, has been issued by the manufacturers, the Standard Wall Covering Co., Inc., 1819-31 N. North St., Philadelphia, Pa.

Check These Items Every Month and Write for Those You Need to Keep Your Files Up to Date. Any Item Listed Will Be Sent Free on Request Except Where a Price Is Noted. The American Builder & Building Age Should Be Mentioned When Writing for These Publications.

Metal Work

The first price list and catalog to be issued under the name Milcor Steel Company, Milwaukee, Wis., which is the new name of the consolidation of the Milwaukee Corrugating Co. and the Eller Manufacturing Co. has recently been published.

Wrought Iron Pipe

"Genuine Puddled Wrought Iron Pipe" is the title of a booklet issued by the Reading Iron Company, Reading, Pa. It contains very complete information on the characteristics, manufacture and adaptability of this product.

Wood Paneling

"Pine Homes and Interiors" is a handsome new booklet which has been published by Shevlin, Carpenter & Clarke Company, 900 First National-Soo Line Bldg., Minneapolis, Minn. It contains a large number of two-color illustrations of pine interiors including much of the now popular knotty pine panelling.

Roofing

Eternit, Inc., St. Louis, Mo., has recently established "The Eternit Dealer Magazine", a monthly periodical of interest to dealers handling roofing materials.

Wallboard

The Cornell Wood Products Co., 307 N. Michigan Ave., Chicago, has issued a pamphlet under the title "Cornell Service Builds Profits for You."

Portland Cement

A pamphlet on "Incor—A Perfected High-Early-Strength Portland Cement" is offered by the International Cement Corp., 342 Madison Ave., New York City.

Equipment for Buildings

Heating Equipment

Wolverine unit heaters and copper radiation, made by the Wolverine Tube Co., 1411 Central Ave., Detroit, Mich., are cataloged in a new booklet which includes complete data for computing heating requirements.

Lighted Bathroom Cabinets

Bathroom cabinets, with movable light fixtures incorporated, are manufactured by the Henkel "Edgelite" Corporation, 900 N. Franklin St., Chi-

cago, and illustrated in a pamphlet offered by this company.

Wrought Iron

Todhunter, Inc., 119 E. 57th St., New York City, has prepared a circular illustrating typical examples of the large line of wrought iron hardware and ornamental equipment manufactured by this organization.

"Kitchen Planning"

This is the title of a new booklet published by the kitchen planning service of the Wasmuth Endicott Co., Andrews, Ind., presenting the proper method of laying out kitchen equipment for convenience and appearance.

Contractors' Equipment

Welded Construction

A new booklet, entitled "The Arc Welding of Structural Steel", has been published by the Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa. This is a thorough discussion of the subject including specifications and illustrating welding equipment. Another bulletin, No. 14, contains additional information on automatic arc welding.

Cement Brick Machines

A new two-color booklet, giving complete information and technical details of the recently introduced Dunbrik machine, has just been issued by the W. E. Dunn Mfg. Co., 45 W. 23rd St., Holland, Mich. The mechanical details of the machine as well as the physical qualities of Dunbrik are fully covered.

Surveying Instruments

A new Service Booklet "M" has been published by W. & L. E. Gurley, Troy, N. Y., under the title "The Care of Surveying Instruments". It contains an introductory article by Howard S. Rappleye, of the U. S. Coast and Geodetic Survey and practical information for the user of such instruments.

Motor Trucks

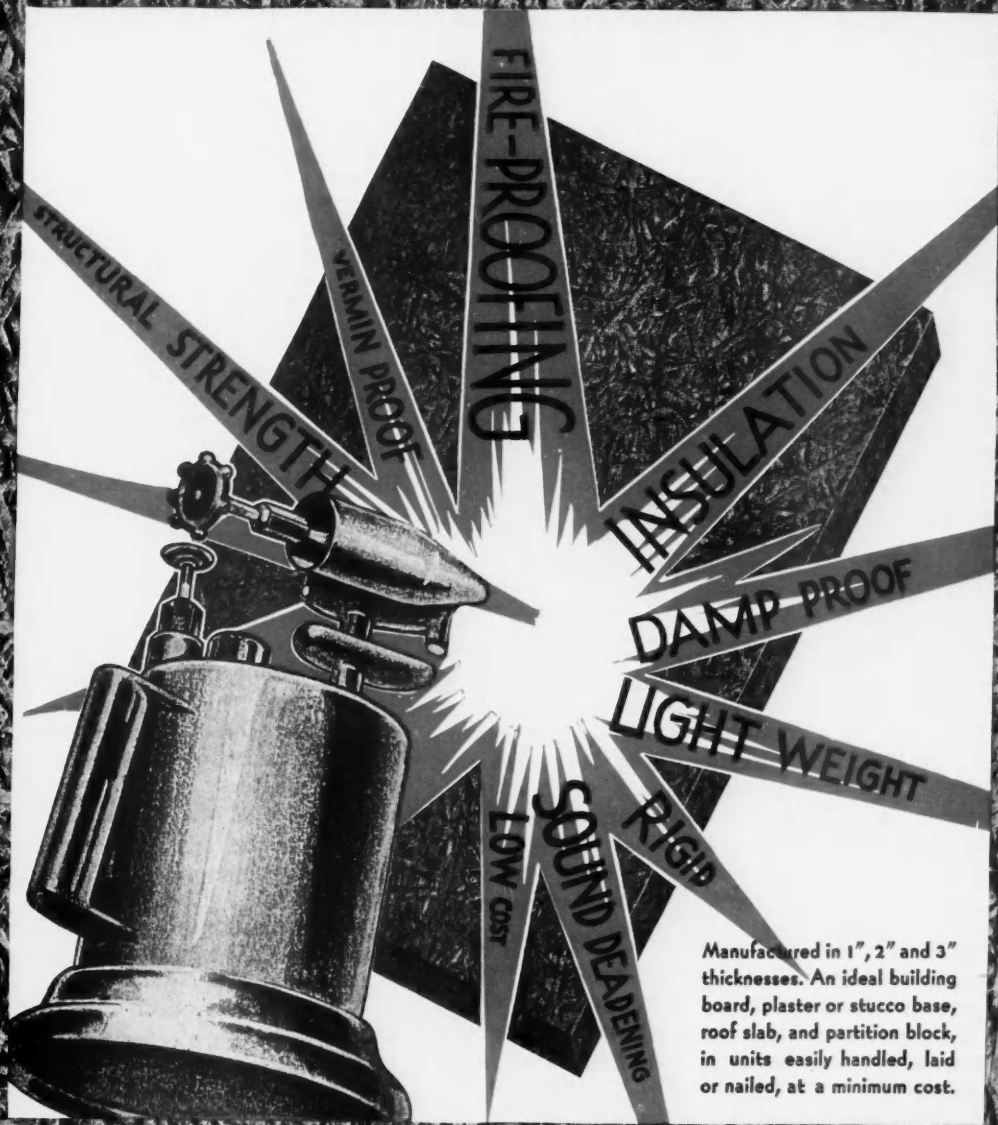
"The Motor Truck as an Engineering Job" is the title of a booklet published by the International Harvester Co., 606 S. Michigan Ave., Chicago, which contains a reprint of an interesting article on the Harvester truck factory.

Automobile Maintenance

"My Automobile; Its Operation Care and Repair," by Harold F. Blanchard, has been published by the Scientific Book Corporation, 15 E. 26th St., New York City. It is written in simple language and so arranged that the reader can get the answer to any question at a moment's notice. Price \$3.50.

THERMAX

the FIREPROOFING INSULATION.



Manufactured in 1", 2" and 3" thicknesses. An ideal building board, plaster or stucco base, roof slab, and partition block, in units easily handled, laid or nailed, at a minimum cost.

FIRST TIME IN AMERICA

Write for sample and literature

THERMAX CORPORATION

1411 FOURTH AVENUE

SEATTLE, WASH.

Aggressive Salesmanship Will Do It!

(Continued from page 62)

slowly through streets taking down as you go the numbers of houses that look as though they might need modernizing, repairing, or entire rebuilding. Names and telephone numbers may then be looked up at the tax assessor's office.

Numerous ways there are of building up lists. Follow newspapers and take down the names and addresses of newly-weds, new church members, new arrivals in town, any name that would seem to be a likely prospect. Ask the help of friends who are members of lodges, clubs and social organizations, etc., who could loan the membership lists, or give you names of members who might be prospects. The telephone book is an excellent source of names, and names collected from it can be checked with such persons as the mailman, delivery man, and others who have personal contacts with people in the community. The biggest local storekeeper probably has an extensive mailing list he would loan.

Aggressive selling is what is needed—getting men out in the field, ringing doorbells, selling from plan books, taking sales talks right into the customers' houses.

For organizations that can support it, a regular full time selling force is best. Others can make use of high school seniors, young men home from college, young women with a selling personality. These latter, because they are low cost help, very often uncover a surprising number of leads at low cost.

The value of being able to display photographs of work you have done, testimonial letters from men of prominence, and booklets and folders supplied by manufacturers and building supply dealers right in the homes of prospects, cannot be overstated.

A great many large manufacturers of building materials now maintain special departments whose business it is to aid contractors and builders in selling. When requested, they will supply a sales plan, direct by mail letters, booklets, folders, even names of prospects and will outline plans for financing. If you have not investigated some of the plans offered, get in touch with your building supply dealer at once and see what is available.

Now Is the Best Time

This is obviously the time of year to go after modernizing business with increased vigor. There is a real sales argument in pointing out that fall is a better time to have this work done than spring. An intensive advertising and merchandising campaign right now may do wonders for your business.

It is surprising how few contractors make any attempt to put the newspapers to work for them.

In the first place, paid advertising is probably the best means of getting your name before the people in your community who may be considering building. It carries your message directly into the home.

In the second place, a great many of the activities of a builder are news, and he should make it his duty to see that the newspapers are supplied with reports of his building activities. Make friendly contacts with the editorial staff, and do everything possible

to co-operate with them when they come after stories. Keep the paper informed, and the fact that any and all building activity is of interest will do the rest. Your name will be set before the townspeople as one of the men who is "up and coming."

Just another word about newspaper advertising. We once asked a well known newspaper advertising expert what he would do in that line if he were a builder. Here is what he said:

"First, I would make a survey or investigation. I would interview twenty, thirty or fifty people at random. I would ask them, 'Why have you never built a home? How would you go about selecting a builder? What price dwelling would you probably choose? What part of the city do you like?' I would get a first-hand accurate picture of the needs of the community.

"Then I would write down on paper a summary of my findings, and I would consult a good local advertising agent or one of the modern advertising men on the local newspaper.

"I would have this man prepare an advertising campaign, aimed directly to overcome the obstacles my survey showed.

"I would remember that a good advertisement, whether it be for cigarettes or homes, should do four things. It should attract attention, create desire, inspire confidence, and get action."

Do a Thorough Job!

The aggressive selling and merchandising campaign we recommend for builders could be carried out all along the line. Try direct-by-mail selling, making use of the vast amount of advertising literature available from manufacturers and building supply houses. Carry your building message into every corner of the community with colorful signs and posters that will keep the thought of your organization constantly before the minds of people in connection with home building. If you can cooperate with some newspaper or community organization in a model home campaign to advantage, go ahead.

One other thing the building industry needs. That is co-operation. Co-operation among builders. Co-operation with other men in the field, such as architects, realtors, building supply men, financing organizations, chambers of commerce.

One of the strong points of the new mail-order house competition is the efficiency of a large national organization. Local builders have got to organize to meet this competition. This can be done through a builder's club, a building congress, or some other organization that will get all the local men interested in home construction working together.

The local contractor has a distinct advantage over a national organization through his ability to "follow through" with personal attention on every job. He is there while the work is being done, and will be there after it is completed.

Instead of picking materials and equipment out of a catalog, he can take the home buyer and his wife down to the building supply dealer's office and help them make a selection which they can examine thoroughly.

If builders will forget that they are "lone wolfs" and pull together, will go after business with the best salesmanship and merchandising methods possible, the New Competition, and a lot of other problems with it, will just fade out of the picture.

NEW CREO-DIPTS

in dustproof cartons

less waste . .

more durable colors . .

longer life

BUILDERS EVERYWHERE are enthusiastic over the new Creo-Dipts, in the new dustproof package. These new Creo-Dipts are perfect shingles. They require no expensive trimming—no discarding of defective shingles—you can open a carton of the new Creo-Dipts and use every shingle in the package.

More—with the new dustproof package—an unbroken carton of any standard size and color can be returned to the dealer, with the shingles still in perfect condition.

And every color is uniform—even the lightest gray—which means even weathering after shingles are on the job. Pronounced variations in the shade of the timber cannot show through.

You should see these new Creo-Dipts today. Your dealer has them. Or, mail the coupon below and let a Creo-Dipt representative show you a full carton. They come at no increase in price. And let us tell you about the other Creo-Dipt products. Check the coupon for the ones you are interested in.

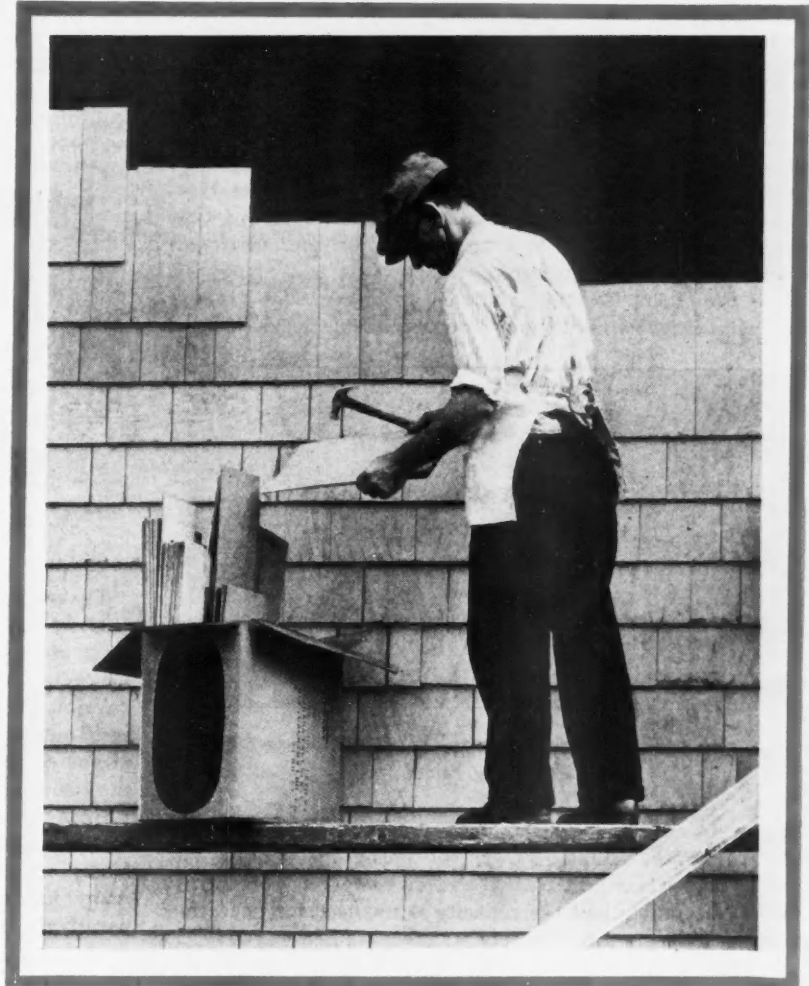
CREO-DIPT COMPANY, INC., 1598 Oliver Street,
North Tonawanda, New York.
In Canada: Creo-Dipt Company of Canada, Ltd.
1610 Royal Bank Building, Toronto, Ont.

(Factories, warehouses or sales offices in all principal cities)

I'd like to see a carton of the new Creo-Dipts. I am also interested in
 Handi-Ironing Cabinet Creo-Dipt Weatherproofed Building Paper
 Creo-Dipt Brushcoat Stains Handi-Wood

Name _____

Address _____



FACTS ABOUT NEW CREO-DIPTS

- UNIFORM COLORS . . . even in lightest shades of gray.
- NO COLOR VARIATION . . . shade of timber cannot show through.
- DOUBLED LIFE OF COLORS . . . cannot fade or blotch.
- PACKED IN DUSTPROOF CARTONS . . . protected in transit, in stock and on the job.
- NO WASTE . . . you can use every shingle.
- NO INCREASE IN PRICE . . . although the new Creo-Dipts cost more than the old to make, we have not increased prices.

CREO-DIPT

Stained Shingles

STAINED UNDER PRESSURE

GENUINE CREO-DIPT PRODUCTS ARE SOLD BY LEADING LUMBER DEALERS EVERYWHERE
 WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

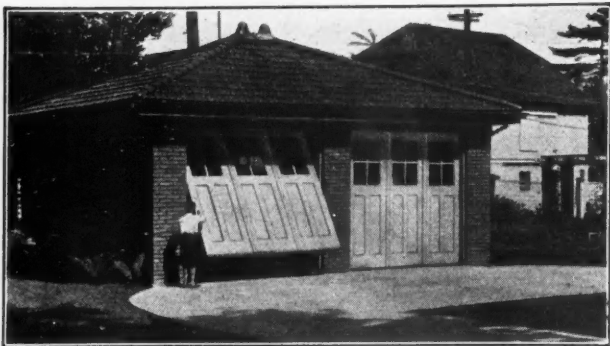
These Are New

For Further Information in Regard to Any Product Described in This Department, Write to the American Builder & Building Age, Information Exchange, 105 W. Adams St., Chicago.

Inexpensive Upward Sliding Doors

OVERHEAD opening garage doors are now available at a price which places them within the reach of any garage owner. The hardware for such doors has been perfected and placed on the market by one of the big manufacturers of builders hardware. The hardware only is furnished and can be applied to any garage door, old or new, of the swinging, sliding, sliding-folding, or around the corner type. This opens up the sale and installation business of this type of door to the owners of existing garages, private, apartment or public, as well as on new construction.

This equipment is simple and easy to install. The greatest simplicity consistent with long and dependable service makes



Upward Sliding Garage Doors Available at a Low Price.

the low price possible. All parts are of wrought steel for strength and durability. Power for lifting the door is supplied by two large, heat treated and oil tempered, coil springs of which less than half the capacity is required for operation, giving a wide margin of safety.

In operation, a slight pull on the handle on the outside of the door, or a push with the foot on the bottom of the door from inside, is all that is required. The door rises without effort and comes to a stop in the overhead position. To close, the operator applies an outward thrust while grasping the pull cord and the door comes down into the opening as easily as it went up. The operation both up and down is practically automatic, it is stated.

The operation is so controlled that ample clearance is provided both behind and above the automobile when opening and closing. The rear bumper of the car may be actually against the door when it is closed without the door striking the top of the car when it is operated up or down. Where necessary, this feature can be utilized to effect a considerable saving of space.

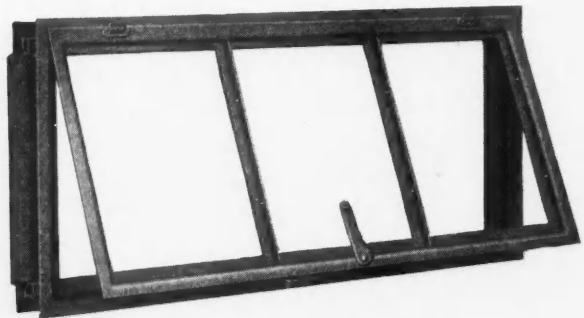
This equipment can be installed on any doors measuring from seven to eight feet high and up to 8½ feet wide. It requires only two inches of room above the head jamb. It is easily adjustable to varying heights of door. It does not require periodic servicing.

Steel Basement Windows

THIS basement window is a new, copper steel product for which a number of features of superiority are claimed. It is made with a rigid box frame of heavy copper steel, formed into a stiff channel section and electrically welded at the corners into a solid frame. It will stand alone while being

set and the edges of the frame serve as a masonry guide for the workman to build to, assuring ease of installation.

Either top or bottom hung sash are available to meet all requirements and in either case the sash is removable by swinging it into the horizontal position and lifting it off the hook hinges. The frame and sash are die-pressed to a perfect weathering contact.



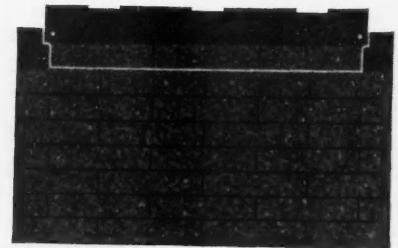
Copper Steel Basement Windows for Putty or Puttyless Glazing.

The sash may be glazed either with putty glazing or with puttyless glazing. For putty glazing a clip is sprung under a lug at the side of the sash to hold the glass in place while the putty is applied. For puttyless glazing, strips of composition cork are cemented to the bearing surfaces of the sash and the glass is pressed against this cork cushion by means of an adjustable retaining wedge which catches under the sash lug.

Both screens and storm sash are accommodated in a neat and efficient manner and guard bars may be welded to the frame where this protection is desired. In spite of these many improved features this window is offered at a comparatively low price.

Asphalt Siding Like Brick

MODERNIZING with a new type of siding, which gives an almost perfect reproduction of rough texture brick but is applied like roofing material, opens up an excellent money making opportunity for the contractor, and for the material dealer as well. This new material consists of a heavy felt base saturated with asphalt and surfaced with coarse slate granules. It is available in either red or buff, with the mortar joints marked so that when applied to the side wall, it is difficult to tell it from real tapestry brick, even at close range observation.



Asphalt Siding Reproduces Rough Texture Brick

This material comes in sheets measuring six by 36 inches, with a brick size of 8¾ inches by 2¾ inches. It can be applied to new walls over sheathing and building paper or to old walls over siding or shingles. Outside and inside corner strips are furnished to secure a perfect brick effect even at the corners of the building.

[This Department Continued on Page 130].

RE-ROOFING AND REPAIR SALES LEADERS THAT PROVIDE HANDSOME PROFITS

Miss no profits this fall. Keep your men busy with these re-roofing and repair sales leaders. They sell.

The public knows these sales leaders by name. It knows their quality. One job always sells another.

Completeness of line is your protection. Regardless of taste or pocketbook, you have shingles in a wide range of colors, styles, designs, weights, and thicknesses, for roofing, re-roofing, and re-siding work.

There are also roll roofings, smooth or mineralized, building papers, saturated or reenforced, as well as roof coatings in colors, and patching plastic of troweling consistency.

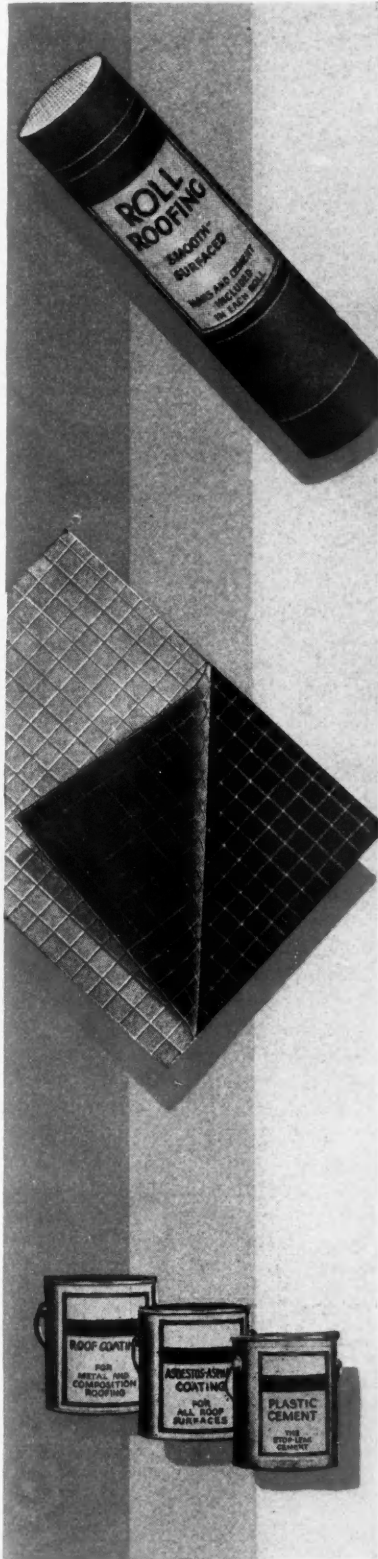
Each of these sales leaders sells well because it is made well. Each has outstanding sales features that appeal to buyers. All may be economically purchased from your local building supply dealer.

Have samples ready to show your prospects. They will be sent gladly upon request. Address the nearest office listed below.

CONTINENTAL ROOFING MILLS	RUBEROID MILLS
SAFEPACK MILLS	H. F. WATSON MILLS
→ Divisions of ←	

The RUBEROID Co.

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



Low Cost Wood Panelling

WOOD panelling in cabinet woods, for wall surfaces, until recently associated only with the most expensive offices and lavishly furnished homes, has now been made available at a cost which opens up an entirely new field in the treatment of office, apartment and house walls. This has come about through the introduction of a new wood product, real wood, which has been made flexible across the grain.

The cost of panelling with this product is only one-third to one-half that of the old fashioned wood panelling. Not only that but it can be applied to any interior wall construction, it is free from the effects of moisture and does not warp or crack, the cost of application is low as it is applied with ordinary paperhanger's equipment and is cut with a knife or shears instead of being sawed.



Matched Wood Panelling Applied Like Wall Paper

This new product is simply a very thin veneer of cabinet wood permanently cemented onto canvas. It is furnished in rolls, in either oak, black walnut or mahogany and can be finished in any of the usual finishes of these woods.

Being flexible it can be fitted over corners or to irregular surfaces and can be used to give a sheer expanse of wood surface wall as well as panelling. It is readily applied to plaster walls, wall boards and even to metal surface. Its wide range of application on both new construction and existing homes and buildings creates interesting opportunities for the builder in new work and on remodelling.

New Insulating Board

A NEW, rigid type, insulation board has recently been placed on the market. This board, made from the tough fibers of mature cornstalks is one of a number of products developed from cornstalks at the Iowa State University, under the direction of Dr. Orland Russell Sweeney.

The new product combines the desirable qualities of light weight, strength, high insulation efficiency and resistance to moisture absorption. It is used in building construction where a structural insulation is desired, as sheathing, plaster base, wall board, roof insulation, sound deadener and interior finish. A conspicuous example of its use for roof insulation is in the Administration Building of the Chicago



Applying Insulation to World's Fair Building

Century of Progress world's fair which is now under construction.

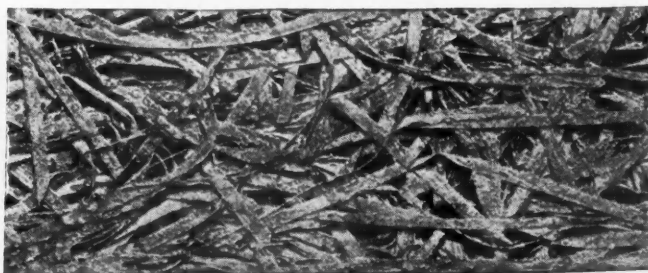
The board comes in standard sizes, four feet wide, eight to 12 feet long, and 1/2-inch thick. For insulating flat deck roofs, it is supplied in 1/2-inch and one-inch thicknesses and in smaller pieces two by three feet.

Fireproofing Insulation

A FIREPROOFING insulation board, which has been used successfully for the past 12 years throughout Europe, is now being produced in this country. While this material is made largely of wood, it is a truly fireproofing material because the wood is completely coated with the same refractory or non-burning material that is used for making fire brick and linings for high temperature furnaces. For the same reason it is vermin-proof.

This material is produced in one continuous operation that shreds waste lumber into long, tough fibers resembling narrow shavings, and passes these through a binding emulsion of high temperature cement, rolls, forms, dries and cuts the product into slab or board form. The slabs are produced in three thicknesses, one, two and three inches, all 20 inches wide and in 48 and 64-inch lengths.

The board produced is lighter than gypsum board, and



Coated Wood Fiber Insulation Withstands Fire

stronger than fiber board, the manufacturers state, and exhibits no perceptible warp, buckle, expansion or contraction in the presence of heat, cold, moisture or arid conditions. It combines in one product not only fireproofing and vermin-proofing, but also insulation against heat and cold, sound deadening and acoustical value, and is a permanent, odorless base for plaster, cement, stucco and plastic paint.

[This Department Continued on Page 134].

the 1½ ton DODGE TRUCK

ITS FULL-FLOATING REAR AXLE . . . INTERNAL HYDRAULIC 4-WHEEL
BRAKES . . . 48-HORSEPOWER TRUCK ENGINE . . . 4-SPEED TRANS-
MISSION . . . AND MANY OTHER MODERN FEATURES. BUY IT COM-
PLETE WITH STANDARD OR SPECIAL BODY TO FIT YOUR NEEDS.

\$595

F. O. B. DETROIT . . . DUAL REAR WHEELS AT SLIGHT EXTRA COST
CAPACITIES FROM 1000 POUNDS TO 11,800 POUNDS

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER AND BUILDING AGE

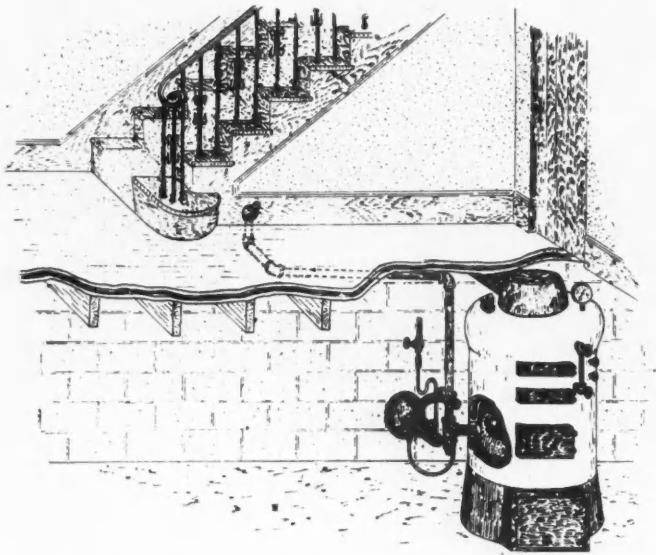
Positive Control of Humidity

THIS illustration shows the installation of a positive means of humidity control in homes heated with steam, vacuum, hot water, or warm air. It supplies the moisture necessary to replace the loss due to the operation of the heating plant.

The device is quite simple. A retort is inserted in the fire pot of the furnace and is connected with the water system. Entrance of water into the retort is controlled by a float valve, enclosed in a float chamber which is not exposed to the heat.

When the water is converted into steam in the retort, the water vapor rises to the top of the retort and is from there conveyed up to a floor or wall orifice located in or near the baseboard, adequately moistening the air content of the entire dwelling.

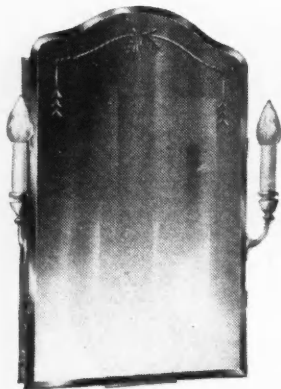
This device is fully automatic, simple in operation, silent and inexpensive. It can be installed by any plumber or heating engineer in a relatively short time.



Automatic Humidifying in Proportion to the Heat Which Causes Drying

A Cabinet with Light Fixtures

THE lighting of the bathroom is an important item in the modern home, apartment, and hotel. Correct lighting fixtures must be properly placed to give perfect vision in the mirror. There must be no dark spots or shadows. The new steel bathroom cabinet shown here has been designed to meet this requirement.



Fixtures for Correct Lighting.

This cabinet provides the necessary lights as fixtures built into the cabinet, one on each side. The chromium fixtures are so placed as to cast the best light reflection in the mirror. They are controlled by an individual switch. A convenience receptacle, for attaching a curling iron, heater, fan or other electrical appliance is also provided.

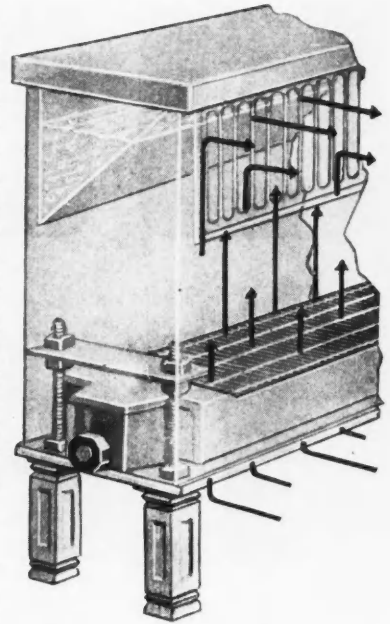
All outlets are serviced by a single electrical box. The cabinet, completely wired, eliminates the usual high cost of installing electrical fixtures. The finest

French plate glass, plain or polished bevel, is used for the door of the cabinet. The cabinet itself is of generous proportions and is electrically welded of 18 gauge steel.

Modern Radiation

ALONG with all the other improvements in home equipment which have made their appearance in recent years, modern radiation stands out as one of the most radical and important. Modern radiation is based on the greater radiating capacity of copper and the ever growing desire for more artistic appearance, along with a new understanding of the essential features of heating.

The accompanying illustration shows a phantom view of a modern radiator cabinet with its small but highly efficient heating unit. The heating unit consists of a series of copper tubes held in place by copper fins. The heat passing through the tubes is transmitted to the fins and "picked up" by the air passing through the unit. This heating unit is the basis of the cabinet radiator illustrated and also of various concealed radiators.



How the New Type Radiator Operates.

The concealed radiators are built into the wall, under a window usually, or wherever is the most suitable place, and may be either plastered over with only

two inconspicuous grilles, intake and outlet, visible or may be of the box type set into the wall and covered with a removable panel which harmonizes with the room decoration.

The cabinet radiator consists of the same heating unit covered by an unobtrusive but decorative steel cabinet. The cabinet is made of rust resisting, copper alloy steel. It is heavy and strong enough to sit on without damage but the entire unit is much lighter in weight than the old fashioned cast iron radiator. The cabinet can be painted or enameled any color, to harmonize with the room decoration, or finished to correspond with the woodwork.

The phantom view shows how the new type of heating unit operates. The cold air is drawn in at the bottom and passes through the heating unit and then out into the room in a horizontal direction. The heated air has sufficient velocity to carry clear across the room, into the farthest corners and keeps the air in circulation. It also delivers the heated air along the floor where it is needed instead of allowing it to accumulate at the ceiling where it is not needed.

There is a humidifying pan in the upper part of the cabinet. This is kept filled with water and as the heated air passes out into the room it picks up the moisture which heated air must have both for health and for comfort.

Heated air with the proper humidity does not need to be at such a high temperature for comfort as dry air. This combined with the fact that the heat is delivered along the floor instead of up to the ceiling makes for fuel economy. The fact that the heated air passes out horizontally into the room eliminates the smudging of walls and drapes which is characteristic of the old fashioned type of radiation.

[This Department Continued on Page 136]

Topping a Remarkable Record!



** In ten years International Truck production has increased 700 per cent, while the total truck production of the industry has increased only 100 per cent.*

CLIMAXING International Harvester's record* of extraordinary growth and progress, comes the introduction of four new 6-cylinder Speed Trucks . . . 1½, 2, and 3-ton capacities. All have the same slim, sleek, speedy appearance, which is so much in demand today. And beneath their handsome exteriors are features of design and construction which contribute to improved performance and operating economy.

In these new models, sound engineering, extensive manufacturing facilities, and highly skilled workmen combine to advance the high standards set by other International Trucks.

The requirements of various classes of service are taken care of with a wide choice of wheelbase lengths, providing for the use of van, stake, panel, bus, dump, and tank bodies.

International Harvester branches and dealers now have these new Speed Trucks on display. Visit the nearest showroom and see for yourself the features of each model. A convincing demonstration will be arranged on request.

INTERNATIONAL HARVESTER COMPANY
606 So. Michigan Ave. of America Chicago, Illinois
(Incorporated)

Model AL-3 —1½ tons

6 cylinders—4 speeds forward
—138", 152", and 164" wheelbases—Spiral bevel drive.

Model A-4—2 tons

6 cylinders—5 speeds forward
—145", 156", 170" and 185" wheelbases—Spiral bevel drive.

Model A-5—3 tons

6 cylinders—5 speeds forward
—140", 156", 170", 190", and 210" wheelbases—Spiral bevel drive.

Model A-6—3 tons

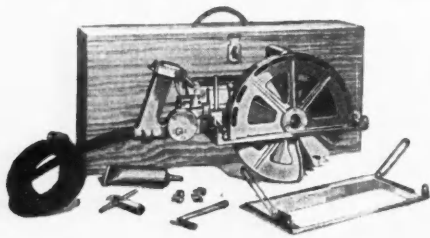
6 cylinders—5 speeds forward
—140", 156", 170", 190", and 210" wheelbases—Double reduction drive.

INTERNATIONAL TRUCKS

FOR ADVERTISERS' INDEX SEE NEXT TO LAST PAGE

Three Electric Hand Saws

THE illustration shows one of a line of three electric hand saws made by a well known manufacturer of electric tools and accessories. These three saws are similar except for size and capacity. They are suitable for cutting



One of Three New Electric Hand Saws

wood, fiber, lead, brass, plaster board, gypsum, slate, marble, asbestos cement, and porcelain.

The saws are powered with universal motors operating on a. c. or d. c. current up to 60 cycles, equipped with large precision ball bearings. A guard houses the saw blade when not in use and telescopes back into its upper half when cutting. The trigger switch automatically shuts off the current when released and a supplementary toggle switch, to cut out the motor by opening the opposite side of the power line, lessens the possibility of accident.

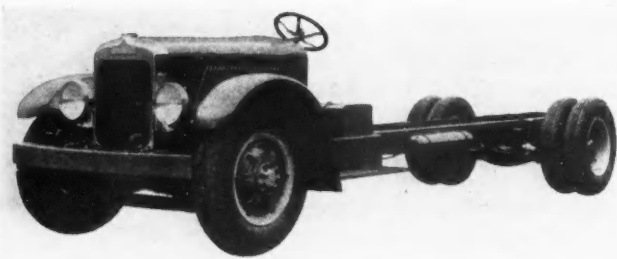
The depth of cut is regulated by vertical adjustment of the saw base. The width of cut, when ripping, is regulated by use of a rip sawing guide. A separate tilting base is furnished for making angle cuts. These saws are designed to keep their weight on the body of the work while the handles are located to insure ease and comfort in handling. The three sizes have capacities of two, three and four-inch straight cuts and $\frac{1}{2}$, $1\frac{1}{4}$ and $1\frac{3}{4}$ -inch cuts at a 45 degree angle. They weigh 20, 25, and 27 pounds, respectively.

The complete outfit consists of the saw, one combination saw blade for cross cutting or ripping in wood, a tilting saw base, saw wrench, rip sawing guide and carrying case. The saw has a 14-foot three wire cable. Other blades which may be obtained for use with these saws are a cross cut blade; metal cutting blade for cutting soft, light gauge metal; ripping blade; planer saw blade for very smooth ripping and cross cutting of interior finish; and abrasive discs for cutting slate, marble, tile, porcelain, and asbestos cement.

New Low Frame Truck

A NEW truck of unusually low straight frame construction, air brake equipped, has just been announced. This model sets a new "low" in heavy duty trucks. Only 28 $\frac{1}{2}$ inches from the top of the loaded frame to the ground, this truck offers new conveniences and savings to the operator.

The six cylinder motor with 4 $\frac{3}{8}$ inch bore and 4 $\frac{3}{4}$ inch



The New, Low Frame, Heavy Duty Truck Offers Savings in Operation.

stroke develops more than 100 horsepower and has an S. A. E. horsepower rating of 45.9. A seven bearing crankshaft, forced feed oiling system with pressure feed to crank shaft bearings, connecting rod bearings, cam shaft bearing, overhead valve mechanism, automatic float feed type carburetor are included in the specifications.

This truck is equipped with 24 inch base balloon tires, 9 inch size in front and 9.75 duals in the rear.

A New Improved Jointer

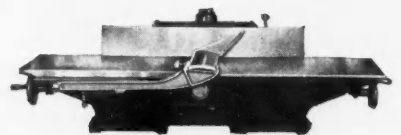
A WELL known manufacturer has announced a new 8-inch jointer that reveals a distinct improvement in the form of a skew knife cutterhead. This is of utmost importance to the woodworker since this type of construction produces a smoother and cleaner surface than is attainable on the ordinary type of straight knife head.

A jointer cutterhead with skew or spiral knives is not unknown to the woodworking industries, but has never been produced on a quantity basis by reason of the great difficulty in manufacturing such a head at a reasonable cost. In addition to the excessive cost, the extreme difficulty of sharpening and setting knives in such heads has precluded their use excepting in rare cases where the difficult nature of the work warranted the extra expense of maintenance.

The production of this skew knife cutterhead is an achievement attained only after long and costly experiment. It was necessary first to design a head in which a simple flat bit could be set and securely locked by an operator of average ability; then to secure the maximum skew angle for the knife in view of the limitations of diameter, and finally to obtain a material that admitted of production in quantities at a reasonable cost.

Another notable advantage of this jointer lies in the tables, which are cast semi-steel instead of the conventional cast iron. The use of this superior material makes it possible to omit expensive steel lips which are generally required to prevent nicking by knots and hard chips.

An improved safety guard is also provided, simple in construction and quick and positive in operation.

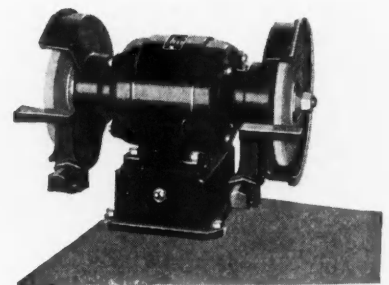


Jointer with a Skew Knife Cutterhead.

All-Purpose Bench Grinder

A NEW, all-purpose bench grinder has been placed on the market recently. This grinder has a fine and a coarse grinding wheel, with adjustable tool rests on each wheel so that practically all kinds of tools, knives, shears, etc., may be ground.

This grinder requires very little space and can be securely bolted to the end of a work bench. It is operated by a 110-volt, 60-cycle, a. c. motor. Direct current or special voltage motors can be furnished when desired.



Grinder Bolted Onto the Workbench.

[This Department Continued on Page 140]

Owned by the McGillivray Construction Co., Sacramento, Calif. This truck was changed-over from high pressures to 7.50/20 General Balloons. Operator reports a 25% increase in mileage to date (tires are only one-third worn after 18,000 miles). Also makes more speed on highways due to elimination of overheating; gets 5 trips per day instead of 4. Previous punctures and road delays stopped with "better traction at all times, particularly on steep, rough pulls."

This is just one typical example of the thousands of successful change-overs to General Balloons in all lines of business.



GENERAL TRUCK BALLOONS BRING ALMOST UNBELIEVABLE SAVINGS

A REVOLUTIONARY
NEW PRINCIPLE
OF TRUCK TIRE
CONSTRUCTION,
GUARANTEEING:

- 25% to 250% more mileage
- Years longer truck life
- Lower maintenance cost
- Greater load capacity
- Increased route coverage
- Lower gasoline consumption
- Less slippage—safety at higher speeds
- Cool running at speeds no other type of tire can stand
- More traction—pulls through when solids and high pressures can't
- 90% of all high-pressure pneumatic tire troubles eliminated

In every field of commercial transportation, single truck and fleet operators have proved beyond the shadow of a doubt that by equipping with General Balloons their costs can be sharply reduced and greater efficiency secured than with older types of tires.

So startling are the savings that literally by the hundreds—and scarcely without exception—owners who started with *one* initial Jumbo Balloon change-over are equipping their *entire fleets* as quickly as possible.

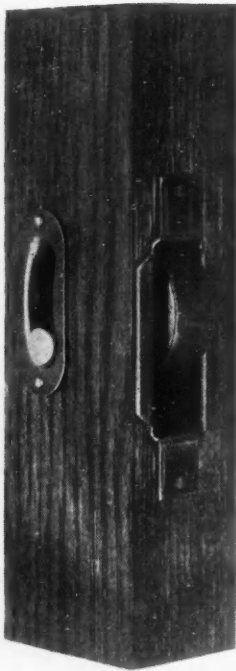
Behind these facts is the testimony of thousands of truck owners—in all lines of business. When the General Man calls on you with this evidence, give him a fair hearing . . . Let him show you how this new principle of truck tire construction can be applied economically to your own particular trucking problem. The General Tire and Rubber Company, Akron, Ohio.

Your **TIME**
is **MONEY**
when the . . .
GENERAL
tire man calls—

GENERAL JUMBO TRUCK-BALLOON

—goes a long way to make friends

Sash Sustainer and Window Lock



Burglar - proof
Sash Sustainer.

SOMETHING new in the way of window sash equipment is shown in the illustration. This sash holder is set into the right stile of the window sash, one to each sash. While the working parts are concealed the sustainer is operated by a small release on the face of the sash. The visible parts are finished in bronze, nickle, antique copper or brass.

The device by which the sash is supported is an eccentric which releases automatically when the sash is raised. A slight lift of the release allows the sash to be lowered. The shape of the working part grips the wood jambs and metal weatherstrip with equal firmness and without friction.

Windows already equipped with weights or other types of sash holder can be made burglar-proof by installing one of these sash sustainers on the left stile of the lower sash. Windows so equipped can be opened only by operating the release from the inside. This device will hold windows of any size. It has few parts and is easy to install.

Gun Applied Insulation

THE illustration shows the application of interesting and highly efficient insulating material. The process consists of forcing dry flakes of fibrous material, by air, through a specially constructed gun.



Applying Insulation
with a Gun.

As the flakes leave the gun they are coated with a spray of atomized, adhesive agent or binder and projected onto the surface to be insulated. The material forms a thick blanket of insulation covering the surface and sealing all cracks and crevices. It can be applied to practically any surface in any desired thickness.

The fibrous material is pre-treated with a chemical which, together with the sodium silicate binder, produces a highly fire resistant insulation. The alkali silicate or asphalt binder and alkaline sulphate impregnation render it repellent to vermin. Asphalt does not deteriorate with time so the insulation is permanent and it is sufficiently

flexible to allow for the expansion and contraction of structural members without affecting its efficiency. It is light in weight, weighing only 4.6 pounds per cubic foot, installed. It is cellular and therefore highly sound absorbent, making it an excellent sound insulation and acoustical material.

This insulation is supplied direct to the job through licensed operators, located in the principal building centers, who are insulation specialists and financially responsible and work on an exclusive franchise basis. Each installation is made by trained mechanics under careful supervision and prices are quoted on a per square foot basis including all materials and labor. Since the labor of cutting and fitting prepared material is eliminated the cost is surprisingly low.

Pre-Cast Walls for Buildings

PRE-CAST hollow concrete slabs are used in erecting houses and other small buildings an example being that of the filling station illustrated here. This filling station was cast at the factory, shipped by truck to the building site on the Boston Post Road at New Rochelle, N. Y., and erected with a small derrick.

The steel casement window and door frames were cast in place at the factory in one operation, each side wall being cast in one piece. The half timbered effect and what looks like wood trim is also of concrete and was obtained by casting properly colored concrete over rough grained boards. The effect is that of old weather-stained cypress. The roof, pre-cast chimney and pre-cast brick effect at the base of the building were cast in special moulds, transported by truck and placed complete.

The hollow walls of this construction have unusual strength, as proved in tests made by the Columbia University Testing Laboratories.



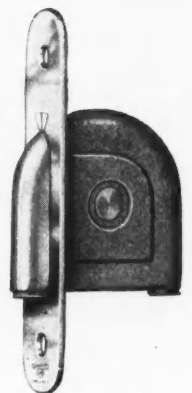
Pre-Cast Walls Hauled to the Site by Truck
and Erected with a Small Derrick.

Jam Proof Sash Pulley

A NEW size jam-proof sash pulley has been announced. The new pulley is designed for use on office buildings, schools, hospitals and apartment houses. It has all the features of the original jam-proof sash pulley—jam proof, rugged construction, fully enclosed, noiseless operation and finished appearance at no increase in cost over other pulleys of this size.

This steel pulley, which is equipped with ball bearings, is regularly given a standard finish over a cadmium base to prevent rusting or tarnishing. It may also be made in wrought bronze or brass.

The Flint Faience & Tile Co., Flint, Mich., has published "Architectural Faience, An Introduction," a very handsome booklet, illustrated in full colors.



Jam proof Steel
Pulley.