

# AMERICAN BUILDER

## THE WORLD'S GREATEST BUILDING PAPER

Vol. 39.

CONTENTS FOR AUGUST, 1925

No. 5.

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# AMERICAN BUILDER

Formerly AMERICAN CARPENTER AND BUILDER

## Propose Certification of Houses

**A** PROPOSAL that bureaus be established in cities throughout the country to check the evil of "jerry" construction through a plan of construction certification has been endorsed by the National Association of Real Estate Boards. Under the plan proposed bureaus would be organized to pass on the structural plans for dwellings and other buildings, to inspect the materials used in them and the quality of construction during the building period, and then to attest the quality of the structure. It would be of service primarily to insure to institutions and firms making loans on the property the soundness of the structure they are asked to finance. Families purchasing homes, particularly homes of small or moderate cost would, under the plan, be able to have the assurance of a disinterested architect or engineer that the house they are purchasing had met the standard of a "Class A" house, or a "Class B" house as to quality of materials and workmanship.

Such a bureau, it was suggested, might at first be financed by institutions and individuals engaged in making real estate loans, but should, eventually, be self-supporting.



## Growth in Real Estate Loans

**A** STEADY growth in the amount of money invested in real estate mortgage loans by large business institutions, thus making possible the accommodation of thousands of additional families who seek to establish themselves in their own homes, is reflected by a report just made by the Prudential Insurance Company through A. M. Woodruff, vice-president in charge of this phase of the company's activities.

During the first six months of this year, the Prudential alone invested \$45,788,650 in such mortgage loans, thereby providing homes for 13,331 families. In that same period of last year the investment was \$35,702,857 for like purposes, with 11,392 families accommodated.



## Predicts Universal Gas Heating

**U**NIVERSAL use of gas fuel in industry and the home is an inevitable development of the future and will result in a gas industry three times its present size, according to H. C. Abell, president of the American Gas Association, in an address before the convention of the Southwestern Public Service Association.

"America will be the first nation to have its homes heated by gas, thermostatically controlled," he said. "We will be the first nation to discard ice for gas-operated refrigerators; the first to universally adopt the temperature method of cooking food by gas, and the first to outlaw smoke, soot and ashes by using gas fuel instead of solid fuel for all heating processes in shops and factories.

"To another generation of fuel users, basements and cellars will be obsolete words. That part of the home once given over to coal, ashes and dirt will be transformed into a playroom for the children, a billiard room or a gymnasium. In fact, gas house heating will add an extra room to the home."

Mr. Abell said the progress of the gas industry during the last two decades has been a record of peak after peak, with three times as much gas consumed during the last ten years as during the preceding ten. Sales for 1924 were more than 400,000,000,000 cubic feet, he said, with 440,000 new customers added to the lines of gas companies.

"Unprecedented use of gas in industrial heating processes is one of the remarkable developments in recent years," he declared. "During the last ten years industrial use of gas has jumped 1,000 per cent and indications are that 1925 will establish a new high record in consumption."



## Exposition Plans Are Under Way

**B**UILDING plans for the Sesquicentennial International Exposition, to be held in Philadelphia in 1926, in celebration of the 150th anniversary of American Independence, shows a comprehensive exposition plant to be built expeditiously and with attention to ornate detail and minimum cost. Plans are rapidly nearing completion in the office of the exposition architect, John Molitor, who is also city architect of Philadelphia.

Contract drawings and specifications for the Administration Building have just been completed and ground will soon be broken. This building about which the grounds will center will be in a style of architecture of the Colonial period.



## June Another Big Month

**J**UNE was another month of enormous building volume, according to F. W. Dodge Corporation. Contracts awarded last month in thirty-six states (which include about seven-eighths of the total construction volume of the country) amounted to \$540,609,600. This was only seven million dollars less than the highest record figure, which was reached last April. The increase over May was 9 per cent and over June of last year nearly 40 per cent. It is rather unusual for the June building volume to exceed that of May.

Each month of the past quarter has had a larger building total than that of any month previous to April. The first quarter of 1925 increased \$44,000,000 over the first quarter of 1924; the second quarter of this year increased \$294,000,000 over the second quarter of last year. The total increase during the past six months has been over \$338,000,000, which is nearly 15 per cent. This increase has brought the total construction of the first half of 1925 up to \$2,660,173,700.

The June record included the following important items: \$208,582,500, or 39 per cent of all construction, for residential buildings; \$92,151,900, or 17 per cent, for commercial buildings; \$64,584,800, or 12 per cent, for educational buildings, and \$25,161,400, or 5 per cent, for industrial buildings.

Contemplated new work reported in June amounted to \$667,876,600. This was 6 per cent less than the amount reported in May, but 54 per cent greater than the amount reported in June last year.

# Saved! Two minutes here; three minutes there.

"It gives us pleasure to let you know that our fleet of Autocar trucks is giving us entire satisfaction.

"Although it has not been necessary for us to use your Direct Factory Branch very much, we wish to congratulate you upon the excellent service that you have rendered when called upon."

BROOKS-SKINNER CO., INC.,  
Quincy Point, Mass.



**W**HEN the cost figures for the year are made up, Autocars show a definite saving in dollars and cents because of their distinctive short wheel-base handiness.

Winding through traffic Autocars don't have to wait for big openings. When it comes to a delivery or pick-up in tight places or maneuvering around building operations Autocars save valuable time.

## The Autocar Company, Ardmore, Pa.

ESTABLISHED 1897

Direct Factory "Autocar Sales and Service" Branches or Affiliated Representatives in

|                |            |               |              |               |                |                 |
|----------------|------------|---------------|--------------|---------------|----------------|-----------------|
| *Albany        | *Buffalo   | *Detroit      | *Los Angeles | Orlando       | *San Diego     | Tampa           |
| *Allentown     | *Camden    | *Erie         | *Memphis     | *Paterson     | *San Francisco | Trenton         |
| *Altoona       | *Charlotte | *Fall River   | *Miami       | *Philadelphia | *San Jose      | *Washington     |
| *Atlanta       | *Chester   | *Fresno       | *Newark      | *Pittsburgh   | *Schenectady   | West Palm Beach |
| *Atlantic City | *Chicago   | Harrisburg    | *New Bedford | *Providence   | Scranton       | *Wheeling       |
| *Baltimore     | *Cleveland | *Indianapolis | *New Haven   | *Reading      | Shamokin       | Wilkes-Barre    |
| *Binghamton    | *Columbus  | *Jersey City  | *New York    | *Richmond     | *Springfield   | Williamsport    |
| *Boston        | *Dallas    | Lancaster     | *Norfolk     | *Rochester    | *St. Louis     | *Wilmington     |
| *Bronx         | Denver     | *Lawrence     | *Oakland     | *Sacramento   | *Stockton      | *Worcester      |
| *Brooklyn      |            |               |              |               | *Syracuse      | York            |

\* Indicates Direct Factory Branch

# Autocar

gas and electric trucks

EITHER OR BOTH - AS YOUR WORK REQUIRES

# Summer White House is Opened

White Court, President Coolidge's Summer Residence at Swampscott, Mass.

**W**HITE COURT, at Swampscott, Mass., was chosen to serve as a "Summer White House" for the temporary residence of President Coolidge and his family. Before being occupied, this beautiful New England mansion was given a complete renovation in honor of the impending presidential visit.

The photographs on this page, taken when every-



Looking Through the Main Hallway at White Court With a Glimpse of the Dining Room Through the Door in the Background.

thing was in readiness to receive the Coolidges, show the reception room, the main stairway and the main hallway with glimpses of the dining and reception rooms in the background.

The whole is a magnificent example of the finest in Colonial architecture, decoration and furnishing, and may well serve as a model for the designer of residences of this type.



Above at the Right is the Main Stairway, While Below May Be Seen the Reception Room of the "Summer White House."

# Something New in Subdivisions— Luck's Love Nest

By ALINE NORVELL HANDLEY

**A** MOST attractive and wholly different scheme for laying out and selling subdivisions adjacent to a municipality has been developed by Henry A. RoBards, of Tulsa, Okla., who says:

"In my study of modern-day divorce courts I discovered that in a majority of cases the principals were not home owners, and oftentimes had been living beyond their means, with the inevitable result that a divorce was the first thought following any quarrel or disagreement.

"Endeavoring to amend the divorce evil and thereby assist humanity, I conceived and developed the Luck's Love Nest idea.

"It is a plan to provide young couples who are in modest circumstances with a home they can own, thereby creating a material tie that will do much toward holding them together; a tangible something that they can both work for and in the possession of which each can enjoy that prideful feeling of ownership."

This Luck's Love Nest is located just outside the city limits of Tulsa, Okla., on a ten-acre tract entrance to which is gained through two huge horse shoes, one bearing the words, "Luck's Love Nest," and the other, "Divorceless Court."

Close enough to the city for the owners to have all the advantages of city life, they still do not have to pay the higher city taxes.

The ten acres is divided into fifty-two lots of approximately 50 by 125 feet. The house or "nest" is set to the rear and to one side of each lot,

so that the young owners may plan and build a larger home on the same lot at some future date, if desired.

The floor plan of each home is practically the same and is modeled after the popular five-room efficiency apartment.

Each "nest" contains a living room 12 by 14 feet, a "dinetette" with built-in buffet, small kitchen with built-in sink flanked by kitchen cabinets, bedroom 10 by 12 feet, bathroom with large closet, screened-in back porch of 6 by 8 feet, and garage for one car under the same roof of the house. Just enough room, and not too much, for the newlyweds.

Each home is modern, with electricity, water and gas.

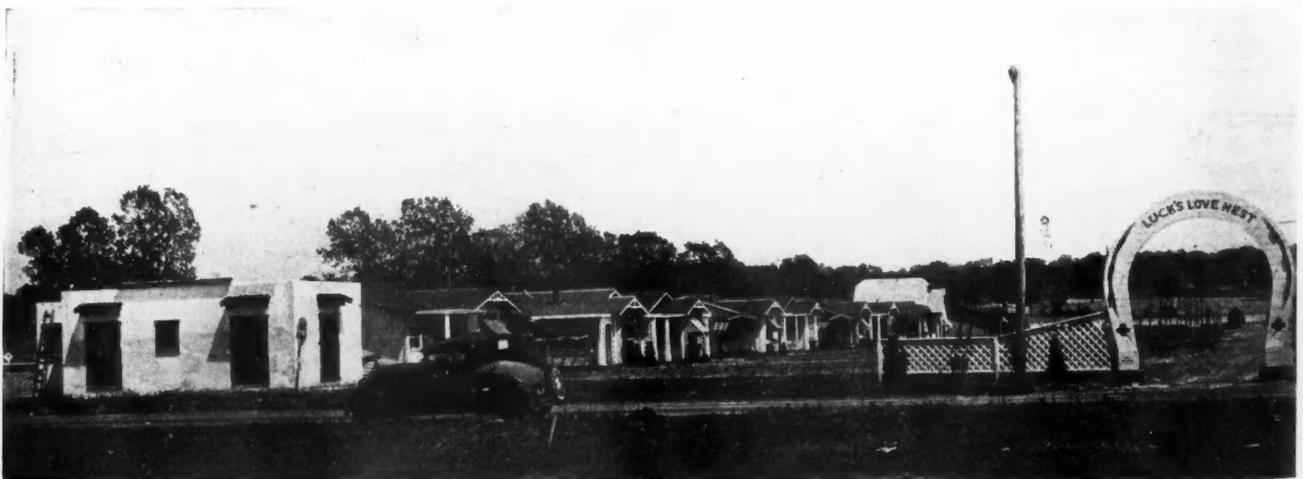
While the interior of the "nests" are much alike, the exteriors vary so that the Divorceless Court does not have that look of sameness so often found where a group of houses of the same plan are erected.

The houses are named in alphabetical order, after birds, carrying out the "nest" idea. Thus the first house is the "Albatross," the second the "Bluebird" and so on. Each house is painted, has awnings and flowers of a color to suggest the color of the bird for which it is named. By picturing the "Canary" in yellow, the "Bluebird" in blue, it can readily be seen how attractive the color schemes of the "nests" are made.

Some "Love Nests" are of stucco, some have the high English roof, others are of wood, but vary as to shape. All of the "nests," however, sell for the same price—\$3,500.



Henry A. RoBards, of Tulsa, Okla., Who Originated the Idea of "Luck's Love Nest" and Developed This Novel Subdivision.



Luck's Love Nest Is Truly Something New in Subdivisions. Here the young couple may secure a small, well-built amount. The lots are full size and the houses are set at the rear and to one side so that a larger house may be built later that monotonous sameness which is so often a fault of group buildings, though the floor plans are similar.

In carrying out the idea of making the homes Luck's Love Nests and the sections the Divorceless Court, various symbols of luck have been adopted. The four-leaf clovers are found on many of the awnings, painted on different signs and fences, and formed in flower beds. The wishbone has also been used, as has the horseshoe and the swastika.

Luck's Love Nest has attracted a great deal of attention. During the three weeks when the court was first opened to the public, over 50,000 people went through the grounds. Of the fifty-two houses which are to be built in the court, thirty have been built and sold, some of them being contracted for before being built. Mr. RoBards has received inquiries about his project from almost every large city in the United States.

The houses are sold on an initial payment of \$50 down and \$50 a month. As the subdivision is planned to be restricted, references must be furnished by the applicants for the homes.

Everything possible is done to keep the cost of the buildings as low as possible, consistent with good materials and good workmanship. Supply firms, glad to have their names linked with such a popular little project, have contracted to supply materials in quantities at a reduced figure.

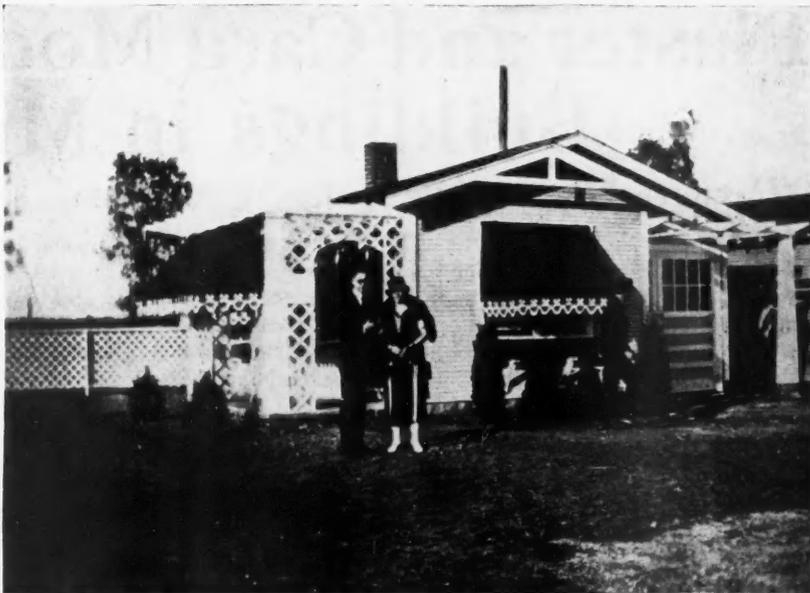
Although a great deal of highly successful advertising has been done, the cost of this publicity has been kept to the minimum. Again because of the popularity of the Luck's Love Nest idea, many local firms have been glad to do extensive advertising, listing their product as being selected as the official one for the Love Nest occupants.



### Safe Practice Pamphlet

**A**N illustrated safe practice pamphlet dealing with "Teaching Safety to New Employees," has just been published by the National Safety Council. The pamphlet is non-technical in reading matter and is the combined experience of the industrial members of the council. It is edited by 75 safety engineers who form a volunteer committee for such work.

"One of the most important considerations of industrial management is the introduction of the new employees into the plant," reads the introduction. Statistics show that the



A Typical Bungalow Is "Luck's Love Nest," which Especially Provides, for Young Couples in Modest Circumstances, the Opportunity to Own a Real Home and so Create a Material Bond of Mutual Interest.

new employe is more liable to injury than one who has seen long service.

"This makes it very important that special care be taken to teach the beginner. The experience of the National Safety Council shows that it is advisable to reach the new man just as soon after his employment as possible."



### Law to Aid City Planning

**C**REATION of metropolitan districts, one of whose purposes may be the acquisition of parks, would be made possible for the cities of Michigan by the provisions of an amendment to the state's constitution which the legislature has approved and which will be submitted to the voters of the state in November, 1926.

The creation of such districts is pointed out by the National Association of Real Estate Boards in a study recently made by its Home Builders and Subdividers Division, as one of the ways in which cities may make possible some form of control of the platting and growth of the suburban and semi-suburban areas outside their corporate limits.



home, which is ample for their present needs, by an initial payment of \$50 and the balance in monthly payments of like on the same lot, if desired and circumstances permit. The group, which will include fifty-two houses, does not present

# Plaster and Card Models Show Big Buildings in Miniature

Architects Have Plaster Models Made for Mass Study and Promotion Purposes

**A**N interesting phase of architectural work is the preparation of clay mass studies and plaster models of large buildings. Originally, these models were entirely for mass study. In other words, the architect has his flat elevations, his floor plans, details, and probably also a drawing in perspective showing how the building will look from the front. However, there is always the third

dimension which is difficult to visualize in any other way than by a miniature model. The architect can then study the appearance of the building from every angle as well as perceive the true relation of all three dimensions—which is not possible on paper. These mass studies are usually made to scale either by the architect himself or someone who has had a training in this style of clay modeling.

We are illustrating in this article only one rough mass study in clay, showing in true proportions but in rough detail a mass study of a cathedral design. This is the work of a brilliant student—now a drawing instructor in the Harvard University School of Architecture—Mr. K. J. Conant.

A future article will deal more extensively with modeling in clay as done in the architectural schools and commercial studios. We are here showing mainly plaster or cardboard models of big buildings.

The plaster model of a proposed important building is extremely useful in the promotion stage of the enterprise. First, it enables the architect to show the promoters exactly what the building will look like, free from any possible exaggerations of a perspective artist. Financiers who can visualize a fortune perfectly are not always able to gain more than a doubtful impression of what a finished building will look like from the architect's plans. Then, too, they want to see its comparison and relationship to surrounding structures. It may look very fine on paper, but will it be obscured by other buildings when it has been erected? On the other hand, cautious investors want to be sure that the new building may not infringe the rights of nearby owners and render them liable to a jury award for damages to buildings already erected.

These latter features have led to a novel and clever combination of modeling and photography as shown in our first illustration. So seemingly real is the illusion that most people would suppose this to be a photograph of a completed



Photography and Modeling Cleverly Combined. This halftone reproduction is from a composite photograph showing cardboard model of coast division building of Pacific Telephone and Telegraph Company stripped into position on photograph of actual site.

building showing—as from an airplane—the streets and surrounding buildings.

However, at the time this photograph was taken, the big building had advanced no farther than the model stage. This is the Pacific Telephone and Telegraph Building, San Francisco and the photographer has cleverly stripped in a photograph of the model of this building, taken from an upper angle, into a photograph of the site and surrounding buildings taken from the same angle—probably by airplane. This particular model is not of plaster, but has been built up of cardboard strips of wood, gum, isinglass, etc.

This stripping-in is an outgrowth of the use of films in photography which are easily pasted together by transparent cement. A photographic print through such a negative will not reveal the joint.

When moving pictures stop abruptly, due to the film breaking as it is wound over the reels, this is what the operators are doing while you sit and wait for the play of pictures to be resumed. They are cementing the ends together with transparent cement. The skill of the photographer in the present instance is principally in securing the proper size relationship between the two pictures.

One picture is taken with the camera probably 20 feet distant; the other with the camera at least 600 feet distant and yet the perspective lines run through the composite photograph in their true relationship. Thus, a building model which stands but a few feet in height is made to appear an actual 26-story building. The true relationship of the building to its surroundings when erected is clearly revealed. The value of this almost perfect visualization to an architect and his clients—the future owners of the building—is at once apparent.

The value of a plaster model—even without the aid of photography—is great. Let us imagine a conference—such a conference as often takes place between architect, engineer, representatives of a big bond and mortgage company or bankers, the owners of the site and probably the directing heads of the com-

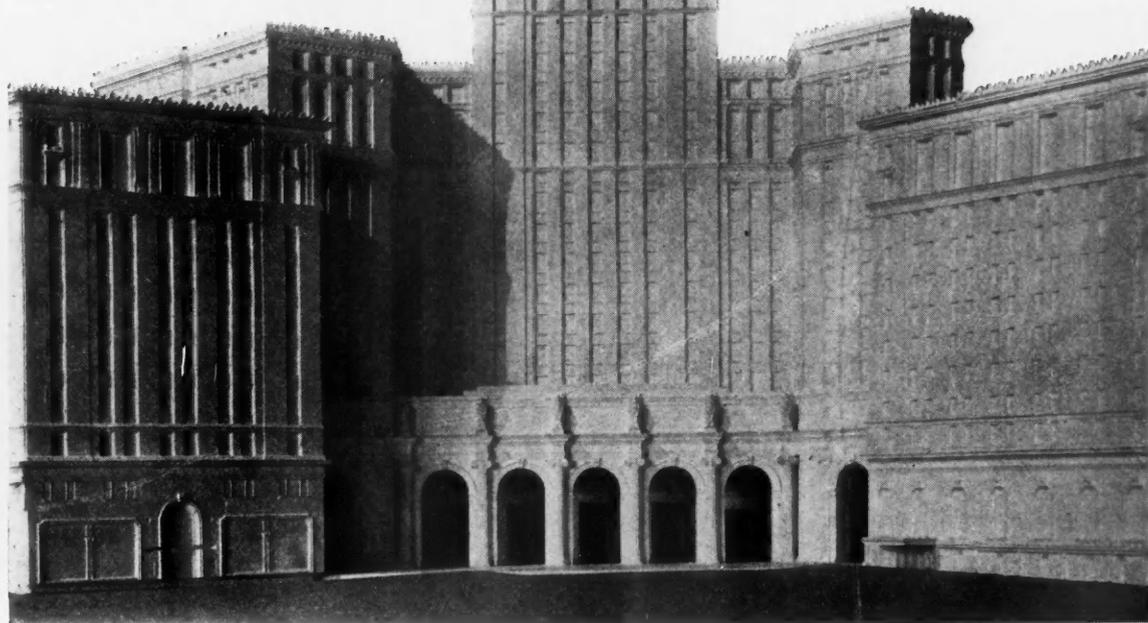
pany which will use the most important space in the building. Seated around a big table, these men will tackle the problem of selecting the most successful type of building for their enterprise. You may be sure that if a plaster model of the proposed building stands upon the table in the center of this group that it will be the cynosure of all eyes throughout the conference.

When the Van Sweringen Brothers were perfecting their plans for the immense new railroad terminal at Cleveland, the architects, Graham, Anderson, Probst and White, had a plaster model made at their request. The importance of this terminal building both to the city of Cleveland, the railroads and the general public which would use it was so great that the directors wanted to be sure the ensemble was perfect and naturally desired to forestall any future criticism which might arise. Therefore, they desired to study its appearance from all angles and in three dimensions. The existing Hotel Cleveland was to be a part of and harmonize with the rest of the group. Only a model would serve these purposes and show the appearance of the group from all angles of vision. This model was, therefore, made in the shop of McNulty Brothers, Chicago, plastering experts, on a scale probably larger than any previous building model. The tower was made as high as the shop ceiling would allow—about 10 feet high. This is on a scale of about an inch to every 6 feet.

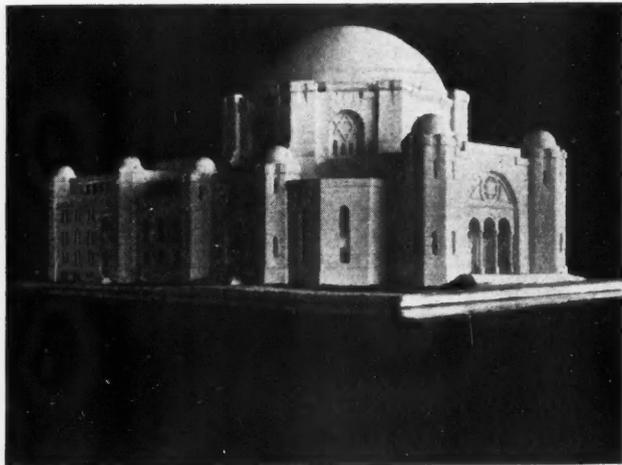
The modelers employed by McNulty Brothers are, to all intents and purposes, sculptors, and they work in the same way with modeling clay for reproduction in ornamental plaster.

The architects' detailed elevations of each side of the building are faithfully copied by carving the details in wet gypsum plaster which has set about fifteen or twenty minutes. Clay is only used for rough mass studies or for full size ornamental detail. For the final detail of a building model, the exact lines must be carved in wet plaster. Straight lines could not be reproduced with exactness in clay where the detail is so small.

Ornamental cornices, friezes, column cap-



Reproduced from Photograph of Large Plaster Model Showing New Cleveland Terminal Building as It Will Look Upon Completion. This model is built to exact scale and includes the existing Cleveland Hotel Building at right of picture. This model stands about 10 feet high. The detail in building models is so small that it must be carved in plaster.



**Model of B'nai B'rith Temple, Los Angeles, Calif., Edelman and Barnett, Architects.** This model was made by a studio at Glendale, Calif., who also made the model for the proposed Los Angeles Civic Center, designed by the Allied Architects' Association.

itals, and so forth, being full scale work, are first modeled in clay, then given a coat of shellac before being pressed into the gelatine mold. Once the reverse mold has been made, it is a simple matter to pour in the wet plaster and place the fiber reinforcement similar to rope fiber which adds so greatly to the finished strength. It will be rare indeed that you will ever see ornamental plaster work of this nature cracked or broken.

It is a feature of ornamental plaster work that the decorative motif is often repeated in the designs, so that a long cornice is usually a series of the same figures or groups repeated many times throughout its length. But one mold is necessary in this kind of work, as many casts being poured as are necessary to make up the length of the ornamentation. These are carefully matched and joined by an expert plasterer on the job so that the joints are not visible, the lines being made continuous with new wet plaster.

In the case of the building model, each elevation is made separately and then cemented together at the corners with fresh wet plaster and fiber reinforcement. The gypsum sets up hard and strong and the four walls of the model become a unit.

In addition to the one shown, two other large telephone buildings have recently been shown in models—the Barclay-Vesey Telephone Building, New York City, McKenzie, Voorhees and Gmelin, architects, and the Southwestern Bell Telephone Company Building, St. Louis, Mo., Mauran, Russell and Crowell, architects.

A plaster model of the Tribune Building, Chicago, was made for Raymond M. Hood, architect, by Rene P. Chambellan, New York City, and has been on display in the windows of the Chicago "Tribune," at Madison and Dearborn streets, and used elsewhere for promotion and publicity purposes.

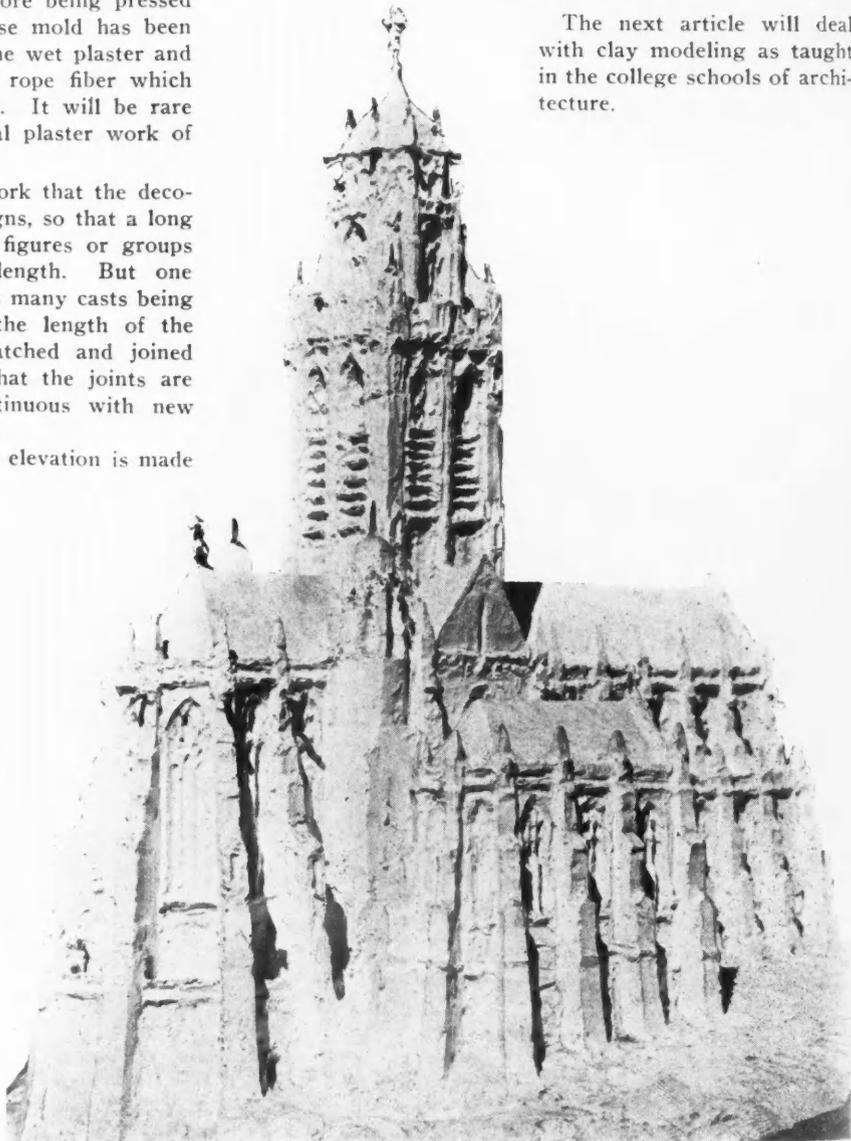
A great many other buildings in various cities of the United States have been modeled in advance and the practice is becoming more general each year. Even private houses, country clubs and similar buildings have been so shown, more usually with cleverly

painted cardboard models. An owner who cannot visualize his building from an architect's blue prints can see from these models exactly what the home or other building will look like.

While the building of cardboard models seems to resemble certain kinds of toymaking, it is no child's play and requires considerable technical skill. The men who do this work have usually had training as draftsmen, architects and artists. Considerable ingenuity is often shown in this work. For instance, in reproducing the effect of certain red roofing tile, one modeler made clever use of corrugated paper board painted to resemble the red tile.

One wealthy Chicago man recently had a cardboard model made of his proposed new home, including the landscaping which was to surround it. Terraces, trees and shrubbery were reproduced in miniature faithful to scale. For the benefit of his wife, the detail of every room in the house, garage and servants' quarters was reproduced to scale. The roof and second floor of the model were made removable, so that the rooms on each floor could be seen and were reproduced in their exact outlines and colors, even to the gas range and sink. Each tiny tile in bathrooms and kitchen showed plainly. This model, including the grounds and landscaping, occupied a base about five feet wide by ten feet long.

The next article will deal with clay modeling as taught in the college schools of architecture.



**A Rough Study in Mass of a Cathedral Design Modeled in Clay by Mr. K. J. Conant, Instructor in the Drawing Department of the Harvard University School of Architecture.**

Below: This Pure White Portal Is Extremely Graceful Against the Brick Background. Architect, Walter R. McCornack, Cleveland.



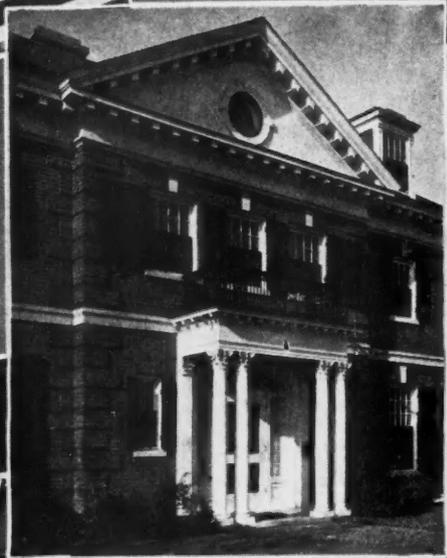
Below: This Inviting Portal Adds Beauty to the Winnetka, Ill., Home of Thomas S. Bulger. Architects, Lewis & Dougherty, Chicago.



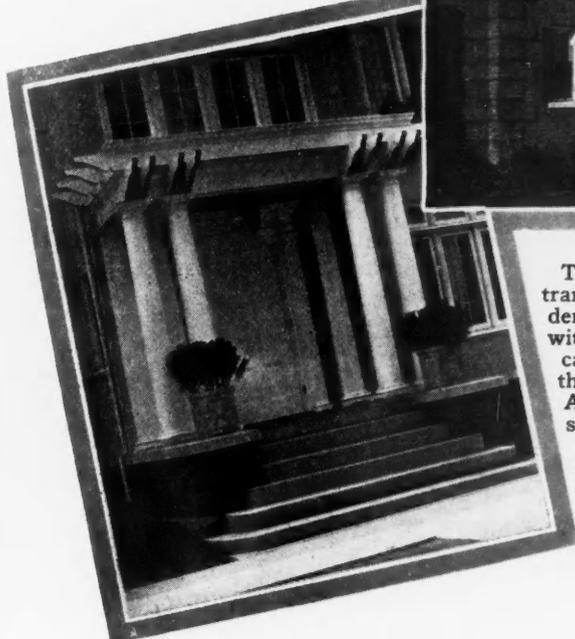
The Plain Cement Stucco of This Residence Is Relieved by the Architectural Treatment of the Portal. Architects, Helmle & Helmle, Springfield, Ill.



Below: The Double Columns and Exposed Rafter Ends of This Portico Add an Air of Distinction and Beauty. Architects, Chatten & Hammond, Chicago.



Below: This Entrance Is Designed with a Fine Sense of Line and Proportion. Note how well the wrought iron railings harmonize with the other details. Architects, Chatten & Hammond, Chicago.



The Graceful Entrance of This Residence Harmonizes with the Symmetrical Gable Above the Second Story. Architects, Russell, Mauran & Crowell, St. Louis.



# Grecian Columns Feature Entrances in Colonial Architecture

# Philadelphia Elks Plan Club

**New Elks Home Replete with Gymnastic and Recreational Features and Beautifully Designed Memorial Rotunda**

By **BERNARD L. JOHNSON**

*Editor, American Builder.*

**T**HE equipment and decorations of modern club, theater and hotel buildings have far outstripped the palaces of ancient Babylon, Greece and Rome. Even though modern architecture still borrows its outer designs from antiquity, modern interiors reach a degree of luxury unapproached by earlier civilizations. This conclusion will surely be reached by any one who reads the description of the new Philadelphia Elks Home, which follows:

**New Elks Home, Philadelphia, Pa., Andrew J. Sauer & Co., Architects and Engineers, Philadelphia, Pa.**

This is one of the finest Elks Club buildings in the United States, containing a ballroom which will accommodate 3,500 persons, a completely equipped stage and seating capacity on the floor for 2,500 when used as a theater or auditorium. The latter is sumptuously decorated in blue and gold. There is a spacious gymnasium with all the usual gymnastic apparatus and a gallery for spectators. The swimming pool is 75 by 40 feet and contains 176,000 gallons of pure filtered water. Here brilliant lights illuminate mosaic walls and floor. There are six bowling alleys, with permanent stand for spectators, private hand ball and squash courts with spectators gallery. There are also locker rooms, Turkish baths, rest rooms, a hydro therapeutic department and a barber and manicuring department.

In the basement is located machinery which washes and changes the air in the building completely every three minutes. There is a modern laundry, a refrigerating plant, a dual system of fire and vacuum pumps and filtration tanks.

On the restaurant and club floor is a fine restaurant and a large recreation room, lounge, roof garden and card rooms with billiard rooms adjacent which accommodate 20 tables. There is a men's grille room with variegated floor tile and woodwork of cypress which has been scorched, scraped with a wire brush and finished with lime rubbed off with an ordinary cloth. Grotesque wood carvings of animals add a spirit of playfulness to this room. There are six bedroom floors above, containing 210 bedrooms, each with bath and shower.

**Eureka Junior High School, Eureka, Calif.  
John J. Donovan, Architect**

A \$450,000.00 Junior High School is now being built at Eureka, Calif., to relieve overcrowding in the present high school and to carry out the plan of "six-three-three" education adopted.

Quite an ambitious program of school building is planned and a new Senior High School will be a future development.

The Junior High School now being built is located adjacent to the present Senior High School on a 30-acre tract which includes a ravine now being converted into a stadium with a quarter-mile track, athletic field, tennis courts, open air theater, bleachers, swimming pool and other facilities for athletics and physical education.

The Junior High School, now being built, contains 25 class rooms, general science and biological laboratories, home economics department, music and art departments,

commercial department, and two gymnasiums, one for boys and one for girls, each 45 feet by 75 feet, with vertically folding doors 16 feet by 75 feet separating the two gymnasiums and arranged so that they may be converted into one room for school games.

When completed and equipped, which will be some time in early part of 1926, the city of Eureka will have one of the most modern Junior High schools in the United States.

**Pennsylvania Building, New York City  
Schwartz & Gross, Architects**

The Pennsylvania Building is situated on the north side of 34th Street, 250 feet west of Seventh Avenue and directly opposite the Thirty-fourth Street entrance to the Pennsylvania Railroad Station. It will occupy a ground area of 23,000 square feet.

The structure will be 22 stories in height, the 34th Street frontage rising 16 stories without a set-back; and will contain approximately 5,850,000 cubic feet. The style of architecture will be Byzantine with characteristic elaborately carved stone panels and arches, its mixture of varied colors of face brick, its red Spanish tile mansard roofs, all harmoniously blended to achieve the beauty of this type of architecture.

Supporting the carved stone arched entrance to the building will be two imposing Levanto marble columns. The main corridor will be twenty feet wide and 115 feet long. The walls will be ornamented with marble and a marble mosaic frieze with inserts of different colored marbles. The ceiling will be formed in a series of stone arches.

The rentable floor space above the ground floor totals approximately 400,000 square feet. There will be 12 of the latest traction type elevators, with a carrying capacity of 3,000 pounds and equipped to make a speed of 650 feet per minute.

The building is of T-shape, and because of this, and because of the fact that the buildings thereabouts are low, windows have been installed on all sides so as to eliminate almost entirely the usual interior courts.

**The New Arlington Hotel, Hot Springs, Ark.  
Mann & Sterns of Little Rock, Architects**

The Arlington Hotel at Hot Springs, Ark., an all year round resort hotel, nestles between Hot Springs and North Mountains and faces West Mountain. It was planned so that each of its 501 guest rooms faces a mountain view, and that the main approach commands the main avenue of the city. This structure can truly be said to have been designed in harmony with the site it occupies and with its 400 feet of porches, set back and elevation above the street, solves the problem of locating a resort hotel on a city street. Of mat-faced brick, light buff in color, trimmed in stone and stucco and roofed in Mexican red tile, it forms an impressive and unusual architectural design. The style of architecture is a modified Spanish, showing very little elaborate detail. Such architectural effect as the building presents has been obtained almost entirely by the massing of the various stories and towers.

1925

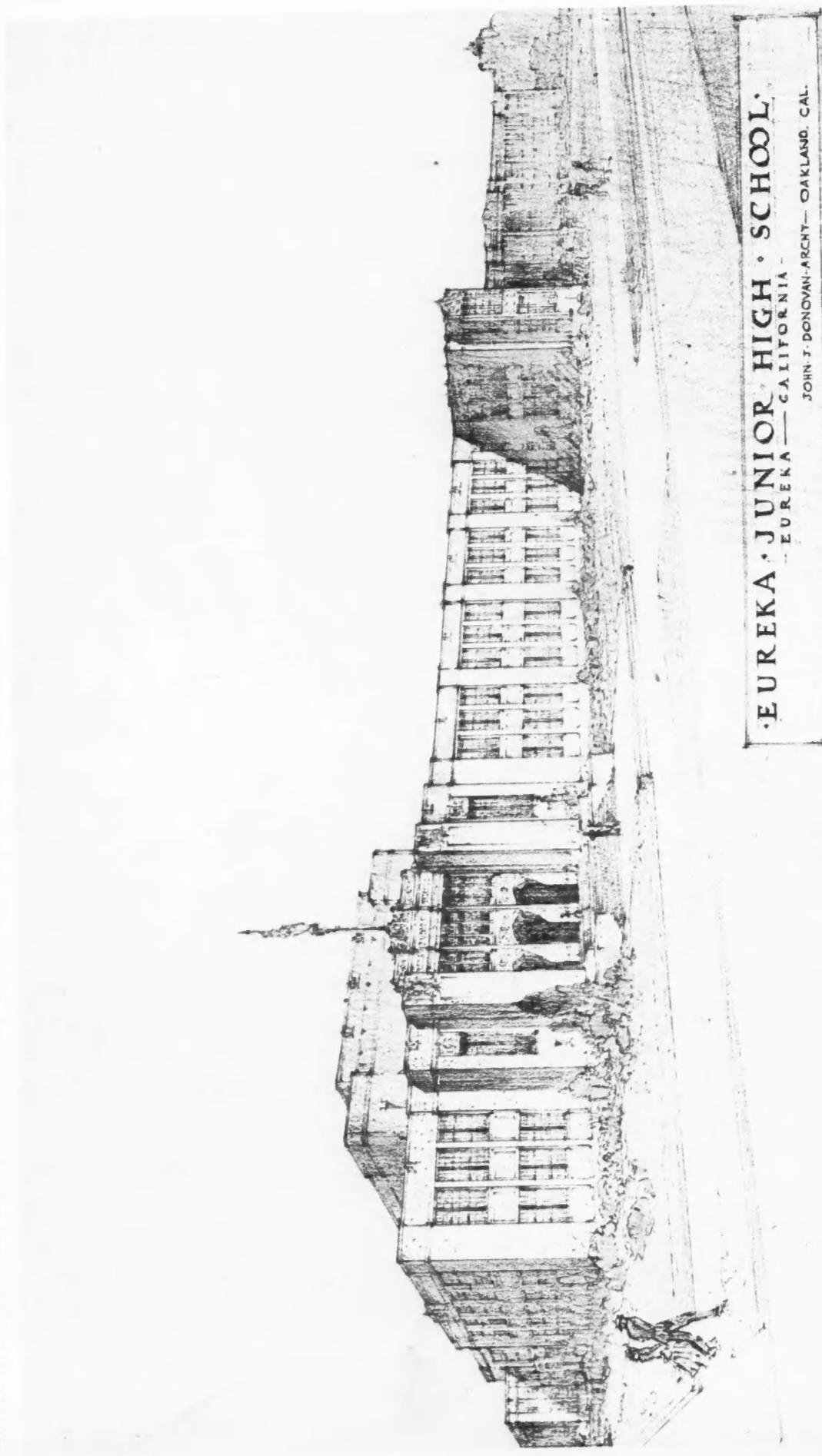
ART SUPPLEMENT *of*  
NOTABLE ARCHITECTURE



PLATE XXXV

*The ELKS CLUB, Philadelphia; Andrew J. Sauer & Co., of Philadelphia,  
Architects and Engineers.*

*The AMERICAN BUILDER, August, 1925*



EUREKA JUNIOR HIGH SCHOOL  
EUREKA — CALIFORNIA  
JOHN J. DONOVAN-ARCHT.— OAKLAND, CAL.

The EUREKA JUNIOR HIGH SCHOOL, Eureka, Calif.; John J. Donovan,  
of Oakland, Calif., Architect.



*The PENNSYLVANIA BUILDING, on 34th St., opposite the Pennsylvania Terminal,  
New York; Schwartz & Gross, of New York, Architects.*

PLATE XXXXVII

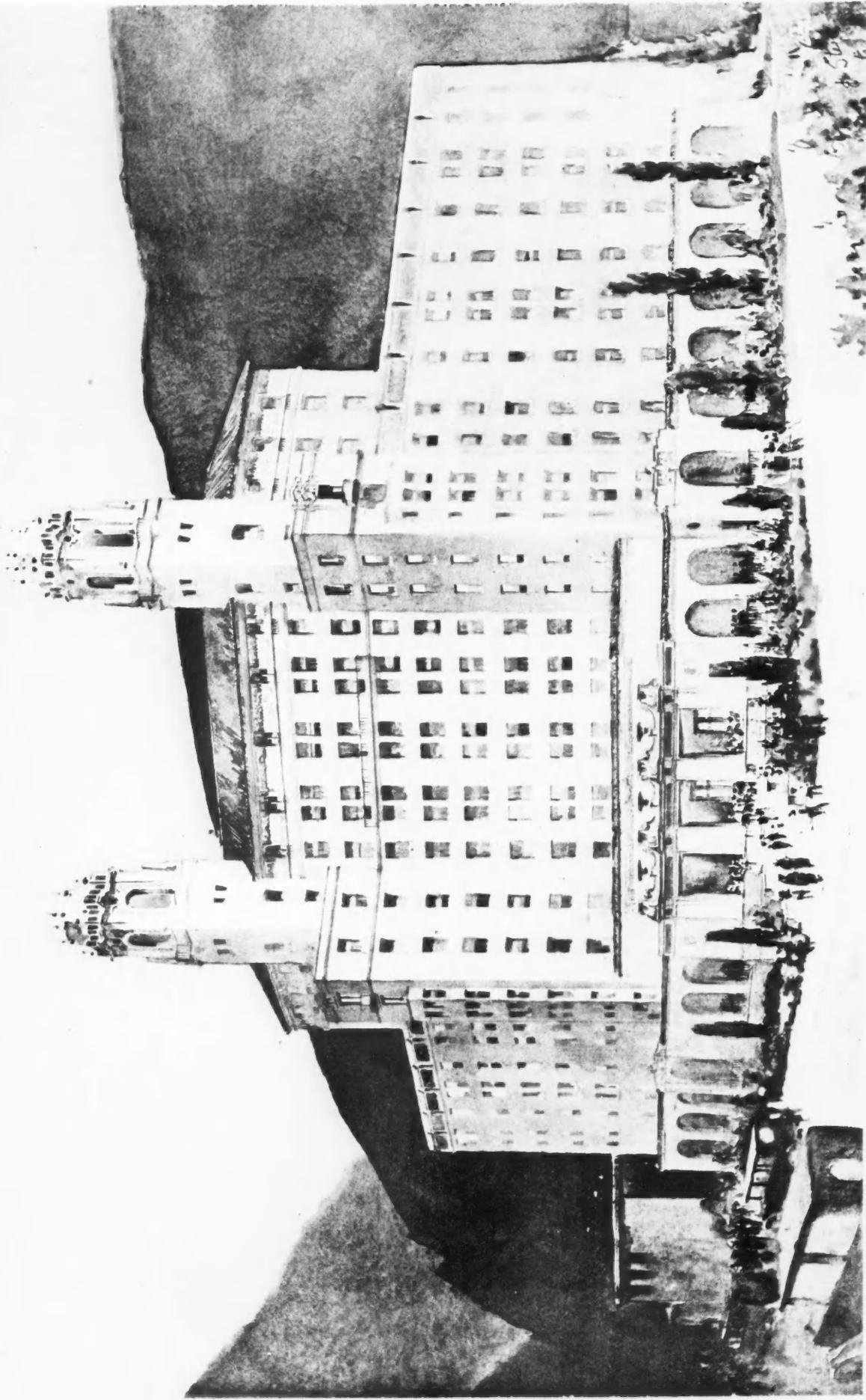


PLATE XXXXVIII

*The New ARLINGTON HOTEL, Hot Springs National Park, Ark.;  
Mann & Sterns, of Little Rock, Ark., Architects.*



# From Our Daily FOREIGN MAIL

Conducted by Wm A. Radford, Jr.



William A. Radford, Jr., Vice-President of the Radford Publications, in a two-year investigation, has personally visited forty-nine foreign countries in the interest of the American Builder and World Trade for our advertisers.

**T**HE United States, it goes without saying, is a business country," writes Jesse Rainsford Sprague in a recent article in "The Saturday Evening Post." "We have built up a business fabric without parallel in the world, and by it we have managed to bring about a general standard of living inconceivably higher than that of any other nation. But these things have brought about complications that must inevitably be faced. It is necessary that our factories shall run on full time in order that the work-

people shall earn enough to live at the luxurious American standard. But our factories are so marvelously equipped that if they run on full time they turn out more things than the American people can buy. This is what one eminent economist has recently called 'the vicious circle of mass production.' The only remedy for it is to sell a portion of our factories' products to people of other countries."

AMERICAN BUILDER advertisers are cultivating foreign markets.

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Shanghai, China.

AMERICAN BUILDER:

We thank you for your favor of the 11th May, advising us of the dispatch of a copy of the AMERICAN BUILDER for which we are obliged.

We are at the moment interested in the design of two apartment blocks—each block would consist of 12 apartments—each apartment consisting of living, dining, 2 bedrooms, bath, pantry, kitchen and storerooms, etc., etc., arranged on six floors with ground and mezzanine floors for garages, servants, etc., etc.

We enclose your information sheet with items checked on which we desire information as to the latest appliances in use in the U. S. A.

While we ourselves will not be in a position to place orders in this instance we are prepared to definitely specify manufacturers' equipment which appeals to us, in the specification for the above buildings.

We shall be obliged if you can assist in getting manufacturers to send illustrated and descriptive literature with prices and export discount, for those lines which we have indicated on the attached sheet.

(Signed) RIELLEY, SIMMONS & MILNE, Consulting and Contracting Engineers, Surveyors, Naval Architects.

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Moukden, Manchuria.

AMERICAN BUILDER:

Today we have received a copy of the AMERICAN BUILDER and Checking Sheet for which we thank you. The publication is very interesting and we hope to derive much benefit from its use.

(Signed) E. CARLETON BAKER.

## FROM CHINA

Shanghai, China.

AMERICAN BUILDER:

We are interested in metal lath, steel sash and structural steel, and will welcome information and quotations on these.

(Signed) STEPHEN J. MEADE, P. O. Box 1448, Shanghai, China.

## FROM THE ISLAND OF MALTA

Malta.

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We are in receipt of a copy of the AMERICAN BUILDER, together with a letter from you, for which we thank you. We find your magazine very interesting and useful.

(Signed) LUIGI BUGEJA & FIGLIJ, General Contractors and Manufacturers' Agents.

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(Signed) J. MEISTER SOHNE, Electrical Dealer.

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My subscription began with the April number, but so far I have failed to receive the June number. I am keeping these magazines on file and want to have my collection complete, so please send.

(Signed) LUIS URBINA, Ingeniero Civil.

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We are subscribers to your valuable paper and consequently ask you if you will be good enough to put us in touch with a few reliable manufacturers (not middlemen) either in New York or Boston, or in any other port convenient for shipping to Bermuda.

(Signed) THE MOTVER CONSTRUCTION Co., Per W. S. Hardy.

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We will welcome information and prices f.o.b. Montevideo on the contractors' equipment, home conveniences and hotel and restaurant equipment checked on your list.

(Signed) F. E. PRICE & CIA.

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(Signed) E. BEHRENSDORF & COMP.

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(Translated from the German.)

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You would place us under great obligation if you would name us the factory which produces the Electric Stucco Applying Machine.

(Signed) ZENTRALBLATT FÜR BAUKERAMIK UND GLASINDUSTRIE.

## FROM BRAZIL

Pernambuco, Brazil.

AMERICAN BUILDER:

I thank you for your kindness in sending me your excellent magazine which is of greatest interest to us. I have checked on your list the articles that interest us at this time. Also please enter a subscription for the AMERICAN BUILDER, drawing the cost through the City Bank of New York.

(Signed) I. NERY D. FONSECA.

## FROM ARGENTINA

Buenos Aires, Argentina.

AMERICAN BUILDER:

We thank you for your favor of April 16th and have pleasure in advising you that the copy of AMERICAN BUILDER reached us in due course and we have found the contents very interesting. We will have occasion to communicate with many of the advertisers in the magazine.

(Signed) CASSETS & Co., Importers and Agents for Manufacturers.

## SEEKING GOOD CONNECTIONS

Rio de Janeiro, Brazil.

AMERICAN BUILDER:

Beg to say that we are in a very good position to work as agents for everything connected with the building trade, but we only occupy ourselves with offers which are sent us spontaneously and which give us practicable terms. Otherwise we simply lose valuable time which means a heavy monetary loss.

(Signed) A. G. MARTINS ABELHEIRA, Commissioners and Manufacturers' Agents.

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AMERICAN BUILDER:

We are interested in full information and quotations on school seats, cafeteria and restaurant equipment, art glass and terra cotta. Also telephone sets. Can any of your advertisers serve us?

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Besides the construction materials checked on your list, we are also in the market for steel rails, locomotives, railway cars and steel bridges.

Please refer us only to first class manufacturers who understand business in Brazil.

(Signed) ADOLF PETERSEN & Co., Importers and Manufacturers' Agents.

**NOTE: For the benefit of our advertisers we will, without charge, translate any foreign language letters referred to us.**

# The Apartment Hotel Makes Its Appearance in Denver

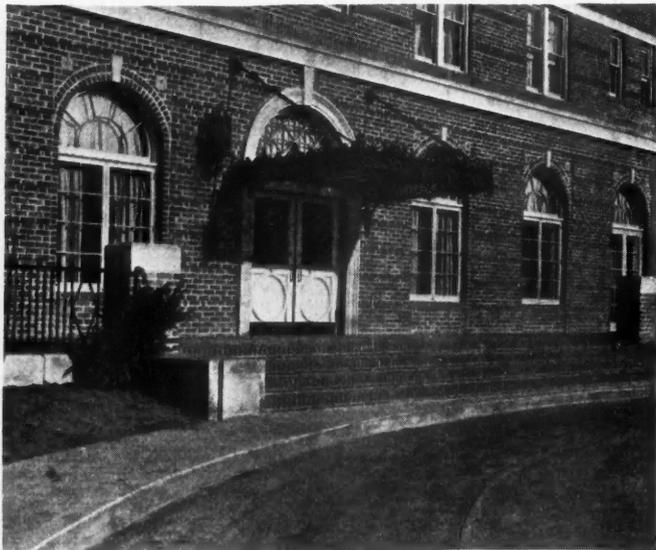
By THEODORE M. FISHER

**T**HE COLBURN, in Denver, Colo., is an excellent example of the apartment hotel which, although long well known in the larger eastern cities, is just being introduced in this section of the west. The plan is carried out on the basis of one and two-room suites, each with dressing room and private bath, but without housekeeping facilities. The management operates a first-class dining room, patronage of which, however, is optional on the part of guests.

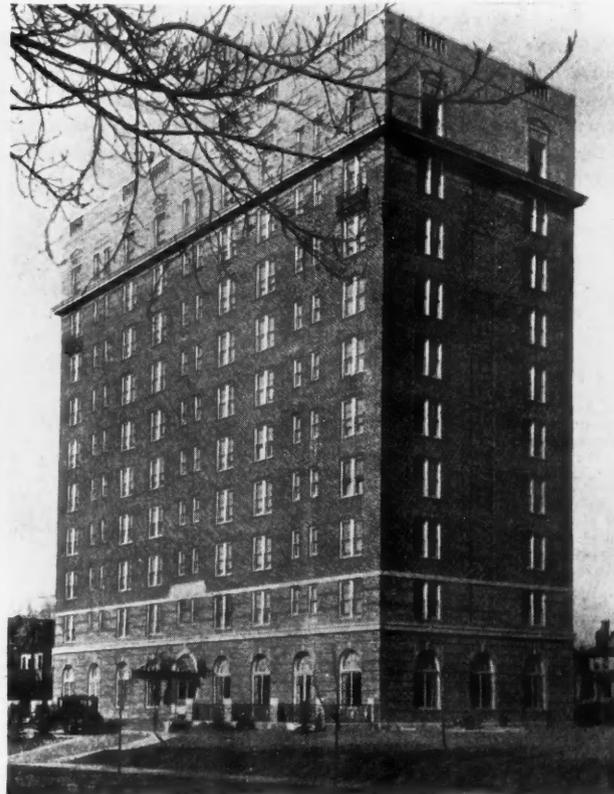
The structure is one covering a comparatively small ground area on a corner site, thus giving all rooms direct light and eliminating all courts. Construction is of rein-

forced concrete. This is faced with brick, the first two stories with a yellow and brown mottled tapestry, then seven stories of dark red brick. The top story and coping return to the material used for the first two. Colorado light gray limestone is employed for trim.

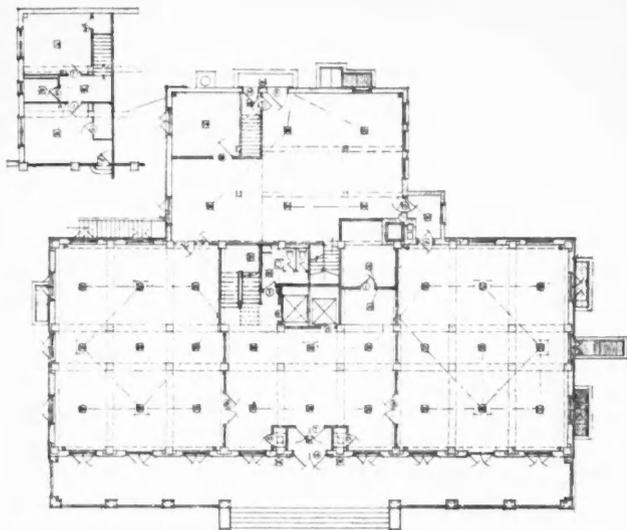
The plans show the usual service accommodations in the basement. The first floor has a cement paved, open terrace across the front with the entrance vestibule admitting to the lobby. The dining room immediately adjoins on the north and the solarium or public parlor on the south. These rooms are each 43 by 35 feet and have exposure on three sides which, combined with large, arched windows, affords



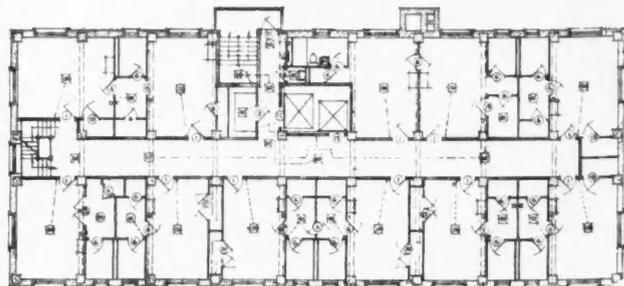
The Main Entrance with Its Broad Steps and Ornamental Iron Work Is Approached by a Circular Driveway and Walk and There Is a Broad Brick Terrace Across the Front of the Building.



The Apartment Hotel, so Well Known in Eastern Cities, Is Just Being Introduced in Denver, Colo. The Colburn, an excellent example of this type of building, is the work of the William N. Bowman Company, architects.



A Central Lobby with Living Room on the Left and Solarium on the Right. The kitchen, at the rear, is provided with living quarters on the mezzanine shown in the upper left corner.



A Typical Floor Plan of the Upper Floors Which Are Divided Into Single Bedrooms and Two-Room Apartments with Uniform Furnishings and Decoration.



Wide Arched Windows, Gray Wicker Furniture and Light Decorations with Red and Black Patterns Make the Solarium Delightfully Cheerful for the Many Persons Who Make the Colburn Their Permanent Home.



Another View of the Solarium Shows the Reproducing Grand Piano Which Is One of the Attractions of the Room Which Makes It Popular Among the Permanent Guests as a Place for Entertaining Their Friends.



The Lobby with Its Brown Tile Floor and Rough Plastered Wall Is Separated from the Solarium Beyond by Wood and Glass Partitions and French Doors.

unusual cheerfulness of natural lighting.

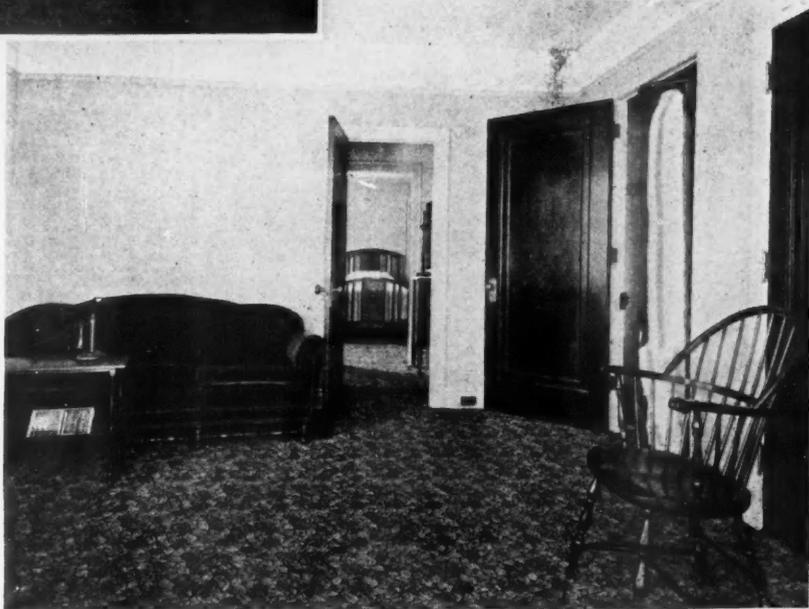
The color scheme and furnishings throughout this first floor fit its sunny character. The comfort, simplicity and good taste contrast most agreeably with the over-decoration and gaudy furnishing of many hotels. The trim throughout is finished in a dull, light gray-blue, combined in the solarium with medium brown terrazo floor and cream-colored caen stone pillars and walls.

The furnishings here are mainly gray wicker with red and black pattern, with the cushions of the same material as the window hangings. These are cretonne of Chinese design with red and black the dominant tones. The floor coverings are large American Oriental carpet rugs. A reproducing grand piano is one of the attractions

of the room. As the solarium is used by guests a great deal for entertaining, service of refreshments is facilitated by a passage connecting directly with the kitchen.

The lobby has brown tile flooring, walls of rough finished plaster painted in a light tone with a touch of green and blue worked in and a pattern of bright color on the capitals of the pillars and the ceiling beams. The wood and glass partitions between it and the solarium and the dining room are both a pleasing architectural detail and an assurance of ample lighting.

A bit more color is used in the dining room than elsewhere. The floor has an all-over carpet of conventional pattern with rose, blue and green the dominant colors. The walls are decorated with an all-over stenciled pattern in old blue. The

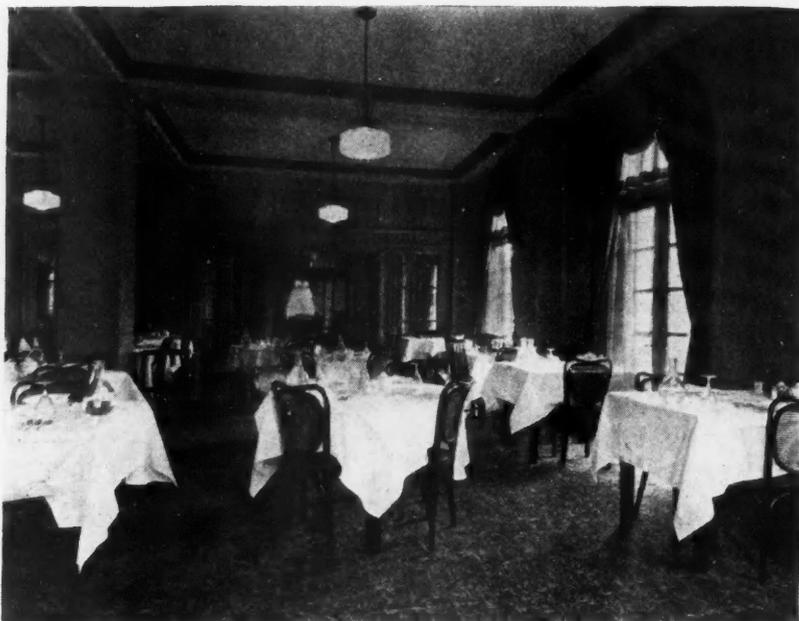


In the Two-Room Apartments There Is a Bedroom of the Usual Style and a Living Room with a Disappearing Bed Installed in a Special Closet.

window hangings are of damask with rose and blue the chief tones. The electric fixtures here, as in the lobby and solarium, are both suitable and in exceptionally good taste.

The floor plans of the nine stories above the ground floor are identical. The one-room suites are arranged with patent beds that pull out from the dressing room into the living room. The two-room apartments have one bedroom in the usual style and one of the disappearing type in a special closet off the living room. The furnishing and decoration are uniform throughout.

The general contractor for The Colburn was Mr. Gordon M. Tamblyn, who has recently taken an active hand in promoting the building of other high-class apartments and hotels in Denver. The Cosmopolitan Hotel, now in course of construction and which will be by far the largest and most elegant yet erected in that city, especially reflecting his enterprise and confidence in Denver's future.



A Dining Room Adjoins the Solarium in The Colburn, Where It Is Available for All Guests Who Wish to Take Advantage of Its Service.

## Harvard's New Business School to Be a \$5,000,000 Group

Winning Design, by McKim, Meade & White, Selected Out of Forty-nine Submitted

**H**ARVARD is to have a new Business School on the banks of the Charles River as a result of the generosity of George F. Baker, the wealthy New York financier. This school is expected to be the foremost institution of its kind in the world.

Two competitions were held to select an architect for this group of buildings. An invitation was extended to every member of the American Institute of Architects to compete in the preliminary competition. From these

designs six were selected to take part in the final competition, with six other invited firms. The final competition was won by Messrs. McKim, Mead & White of New York.

In all forty-nine architects submitted designs for the new group. They were given the problem of using to the best advantage an irregular site, the front of which curved for 700 feet along the Charles River, extending southward back from the river for 900 feet. The width of the site, along



The Library Building, at the Head of the Campus, Dominates the Group of Twelve Main Buildings. Its Architecture is typical New England Colonial. It is flanked by four dormitory buildings, with the Administration and Business Research halls far in the front and others arranged around the campus.

the southern boundary, is 850 feet. In the program were instructions that the entrance to the new Business School be accessible to the Charles River bridge, which leads across to the freshman dormitories, the boat house and the yard, and accessible also to the stadium, which stands some 600 yards to the west.

In the winning plan the bend of the Charles River itself was used as the "building line." This curve was effectively used for the entire group and even the buildings curve slightly to harmonize with it.

The entire group radiates away to the southward from the arc formed by the river bend.

The new Business School, as planned, is dominated by its library, the central edifice, which stands at the head of a formal campus, surrounded by elms. This building is in the purest style of New England colonial architecture. Its facade is elaborated with Ionic columns, and on its roof stands a cupola, of the type familiar to all New England travelers.

Facing the river and separated from its banks by the River Drive stand two similar buildings to be used for Administration and Business Research Halls. They are broad and shallow, three stories high, of more severe Colonial architecture than the library, and each surmounted by two small cupolas. The gate to the school lies between these two structures and a short drive leads to the campus vista, with the library at its head.

Behind the Administration and Business Research Halls, to right and left of the campus, are three-sided quadrangles formed by student club, auditorium and classroom buildings, and by two dining halls. It is an interesting feature that none of these quadrangles is precisely rectangular. They carry out a scheme of pleasant informality behind the main campus and all of their angles are slightly inexact.

The dining halls are in the same austere pattern as the two halls in the foreground, though slightly modified, and with a single cupola on top of each.

In the line of an arc, with the library at the center, are four dormitories—two on each side. They are in the shape

of three-sided squares, three-storied, and with informal gardens in their open spaces.

Along the southern boundary are homes for the use of professors, each with a garden on its southern side, and each affording quick access to library and class rooms.

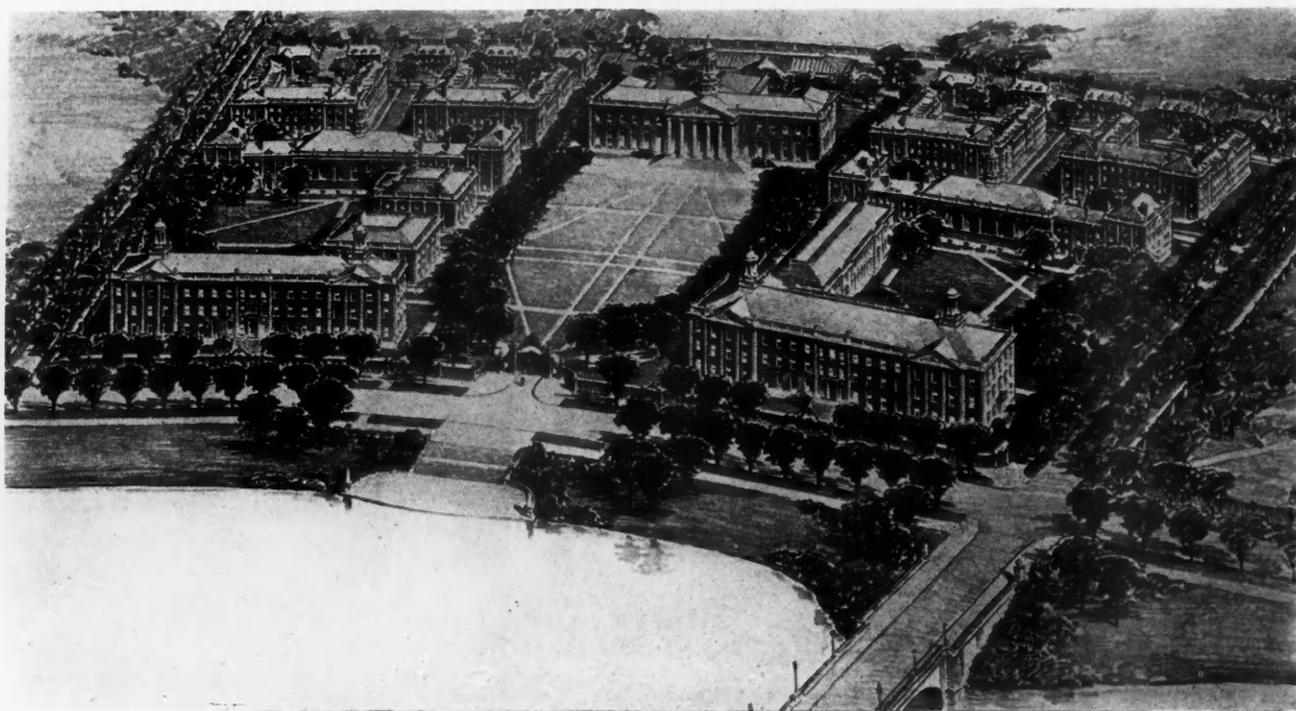
Despite the number of buildings within a relatively small space, the architects have avoided the appearance of crowding. Separated from the college proper by the river, yet facing on the river and on the wide drive, it will appear as a separate and distinct unit of the university yet will be intimately a part of the Harvard scene.

Construction will begin at once. At present the ground is barren and a considerable amount of landscape work will be necessary in order to bring the school into harmony with the fine, aging tradition of the Cambridge University. It is estimated that three years of building will be necessary before the group is completed in accordance with the architects' plans.

The Graduate School of Business, the extension of which is made possible by Mr. Baker's endowment, was founded in 1908. It is a school for graduates, and the possession of a bachelor of arts degree or its equivalent is a condition of admission. The following are the purposes of its foundation:

1. To give American business the educational advantages enjoyed by the other professions.
2. To elevate the methods, standards and ethics of business, not only by the training of students but by the gathering and dissemination of teaching material to other collegiate business schools.
3. To provide a broad training in business administration, as a supplement, not as a substitute, to a university education.

The firm of McKim, Mead & White have designed some of the most impressive buildings in the country, including the Municipal Building, the Pennsylvania Station, Madison Square Garden and many of the Columbia University buildings in New York and others in various cities throughout the nation.



The Architectural Problem Involved in Arranging This Group of Buildings at Harvard Is Clearly Revealed in These Prize Winning Plans. A site of irregular proportions and a curving river front, as well as the large number of buildings to be accommodated, made the solution difficult.

# Substantial Comfort the Keynote of this Fine Brick Residence

Beautiful Entrance Leads to Commodious and Well Planned Interior of Residence  
Designed by Architect Bert C. Hubbard

**S**ITUATED well above the flat level of the main section of Chicago, Beverly Hills is one of the city's most attractive suburban districts. It is, nevertheless, within the fire limits, which accounts, in large measure, for the prevalence of brick dwellings. Fortunately, there is now a great variety of color and texture effects to be had in brick, so that the houses need not, and do not, look monotonous. On the contrary, there are many fine contrasting tints and shades.

The house illustrated herewith is not an example of costliness and extreme luxury. It is, rather, typical of good design, fine appearance and solid comfort. The site, being a narrow corner lot, it was wisely decided to have the beautiful millwork entrance in the center of the longer street frontage. This led to the natural arrangement of a center hall, with the living room on one side and the dining room on the other. Note the well chosen location of the downstairs toilet room at the back of the house, yet reached from this hallway. The arrangement of the rear of hall is especially good, inasmuch as access can be gained to the basement, kitchen, toilet and rear entrance without going through



This "Close-Up" Reveals the Artistic Lines of a Well Designed Classic Entrance.

main rooms and is shut off from front portion of hall by one door. The hall itself is daylighted by the light from the cased opening into the living room and a window on the stair landing above.

The living room is large, well proportioned and cheerful, with daylight from three sides. In fact, it is 10 feet across the four windows of the bay to the west. This bay, by the way, enhances the design of the exterior west wall, which otherwise would be an uninteresting corner elevation in design. The length of the living room is 26 feet and its width 15 feet, exclusive of the bay. A brick fireplace at the north end of the room is flanked by built-in bookcases and, above them, two leaded glass windows.

The dining room is 13 by 15 feet, of ample size and suitable shape. The kitchen is so proportioned as to leave a central open space—after allowing for the range and the sink—9½ feet by 7 feet wide. The sink is under two large windows extending the full length of the porcelain drainboards.

The kitchen is especially convenient as to the arrangement of equipment. A refrigerator is recessed for outside



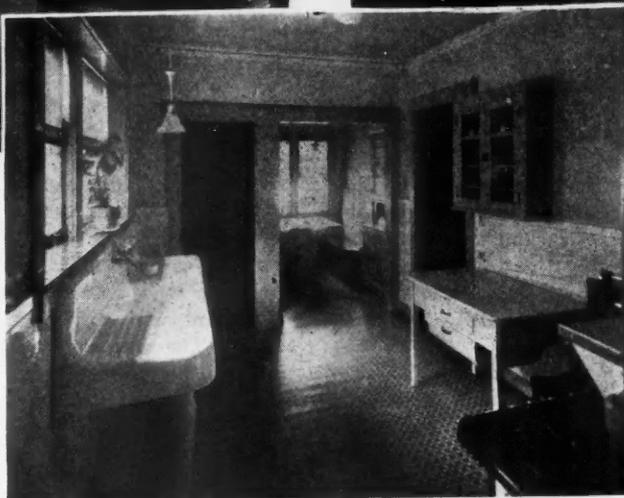
This Attractive Suburban House Is the Home of Mr. L. S. Grobe, Beverly Hills, Ill.; Mr. Bert C. Hubbard, Architect.



A Paneled Dining Room of Pleasing Proportions. The woodwork is of birch stained a rich walnut.



The Feature of This Large Living Room Is Its Exceptionally Wide Bay and Steel Sash Windows.



The Convenient Arrangement and Equipment of This Kitchen Would Delight Any Housekeeper.

icing from rear porch, with case above for canned goods. Opposite same is a small closet for brooms, table leaves, etc. Even the gas stove is so placed as to receive light from the side and there is table space adjoining, with a spice case over this table for added convenience. The breakfast nook and pantry are well placed in relation to the kitchen and space has been arranged for a convenient kitchen cabinet in this nook. The entire kitchen has a tile wainscot and is finished in enamel. The floor is covered with linoleum.

Contrary to the usual arrangement, the enclosed porch is off the dining room, rather than the living room. This is due to the corner site and the owner's desire to avoid the somewhat exposed location at the corner and take advantage of the more secluded location at the other end, off the dining room.

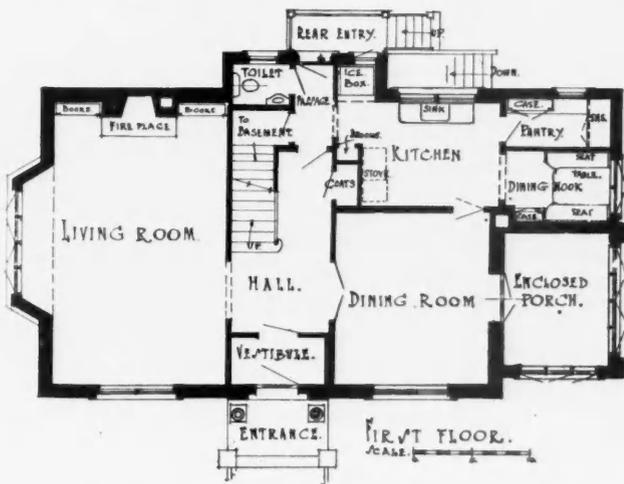
The three bedrooms on the second floor are large, the main chamber being especially commodious. In fact, it is the same size as the living room, exclusive of the bay. This room has two large clothes closets. The other front bedroom is 13½ by 11½ feet wide and the rear chamber is a

trifle smaller. Access to the attic is by means of a movable, or disappearing, stairway, which, when not in use, leaves the upper hall entirely clear.

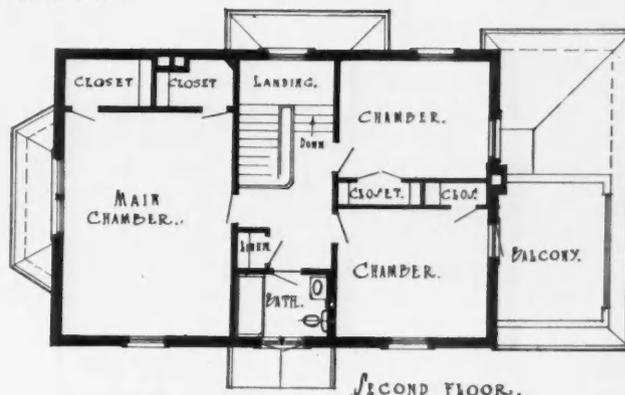
The bathroom is tiled and contains a shower over the tub; this bathroom has a rather unusual location at the front of the house, with a linen closet adjoining. The rooms on the first floor are finished in birch, stained a rich walnut, with wall decorations harmonizing. The dining room has been paneled in the same wood finish. The enclosed porch has outward opening casements, low radiators and is decorated and furnished.

An interesting feature in connection with the efficient vapor heating system installed in this house is the gas-fired heating boiler. There is, of course, no dust of coal or ashes in the basement and advantage has been taken of this to install a well lighted amusement room in the basement. A fall in grade of four feet toward the back of the lot has been utilized to place the basement windows on that side above grade, whereas, on the sides fronting the streets, terraces bring the grade to a level with the top of the basement windows.

The exterior of this fine house is of pinkish-tan brick, on concrete foundations, with steel windows. The architect, Mr. Bert C. Hubbard, has certainly provided in this house a convenient, commodious, comfortable home of attractive appearance.



This Ground Floor Plan Reveals an Unusually Well Balanced Arrangement.

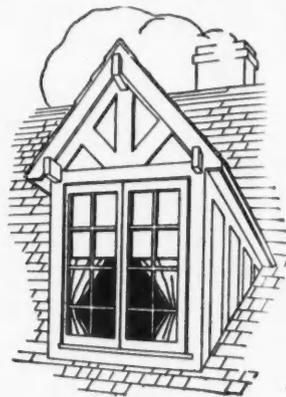


A Simple but Exceedingly Commodious Second Floor Plan.



# DETAILS of HOME BUILDING

by V. L. SHERMAN  
Lewis Institute of Technology



## Detail 5—The Living Porch

**A**LTHOUGH one may say that a rose by any other name will smell as sweet, there are reasons why the terms "sun-parlor," "solarium," and similar terms are not adequate. First, most parts of the north temperate zone are intemperate in weather, excepting, of course, the celestial climates of the coasts. Strictly, then, sun-parlors would be limited in use. The second term has an ending which suggests "aquarium," for the goldfish who do not live in small houses, and "sanitarium" which too truly follows intemperance.

Now this added, sheltered floor space should fill more than one requirement. It should be the buffer state between the extremes of weather and the well regulated home. As suggested above it is best suited for those who need such a buffer and not for those who can put faith in the weather. It is only related to the patio and the terrace. The living porch should be airy in the hot weather and free from excessive house heat in the cold weather. Better still, it should be so well built that it affords complete protection from the weather while having the greatest possibilities for taking advantage of the weather.

The living porch should be open to the sun, which means there is little advantage in using the north of the house for this addition unless it is for appearances from within or without. The south side of the house is generally to be preferred since any cutting off of the sun from that side affects the rest of the house least. A south porch should be open well up to the ceiling line for ventilation. A south porch should be open on three sides. There is no sufficient excuse for cutting into one side.

One of the very best of additions to a house is to have a south living porch with a children's bedroom or a nursery over it. No youngster ever got an over-dose of sunlight in the home. A south porch, open on three sides, will catch very nearly every breath of air that stirs. So in the summer when the breeze falls off at sunset you can generally depend on a south porch for that circulation you need so much on hot evenings.

A westerly porch has what you might call negative values. Its advantages accrue rather to the house than to the porch. Such a porch does not cut off the morning sunlight from the rest of the house, and morning sun is best for housekeeping purposes. During the winter a west porch will thoroughly insulate the west wall of the house. North winds are cold but the west winds are colder. Some of its positive values are its location in relation to the yard, and its location as regards outlook. For the first you will notice that a westerly porch does not interfere so much in planning the yard for flowers and shrubs.

Flowers, so I understand, do better when open to the east and south than when exposed only to the west. They

need the light and warmth but not the heat. Then as to the second. Most of us hardly have time to perch our feet on the railing and relax in an easy wicker before supper. And who cares to look toward the east after supper excepting those who dote on the moon. Such people wouldn't be content with any porch unless they had it to themselves. The western sky at sunset and the waxing moon are much better seen from this side. That is more than I intended to say for the west porch. Compared to the south and to the east it needs a lot of boosting.

The east porch is in many ways best of all. Mornings it has the sun, afternoons it escapes the heat. It is thus a great compliment to the dining room into which it may open. (I have known of cases in small homes wherein the dining room was to all appearances a living porch, wide open in the summer, and bright and fresh in the winter. An auxiliary heater was used for the cold days, and in one case an open fire made it especially attractive.) Compared to the other two sides an east porch is by far the cooler in hot weather, besides it escapes the strong winds and drenching rains that sometimes necessitate closing up the others.

At the top of the opposite page there are two figures, Figs. 1 and 2, which contain a point or two I wish to emphasize. Many living porches are built so as to throw the chimney between two French doors. Perhaps there is no happier arrangement. But in doing this faulty construction sometimes develops. A wall split by a chimney is not always of the strongest, and two large and additional openings do not serve to strengthen the wall. A lack of bound-up strength in the house wall next the porch may play havoc with the house part as well as the addition.

In the case shown, the floor levels of the living room and the porch are the same, but the porch ceiling is dropped to the level of the ribbon that supports the living room ceiling joists. This change makes the window height relatively greater and allows more run to the porch roof without interfering with the second floor window sills. The lintel of the French door is a pair of two by fours on edge and a truss effect gives the necessary stiffness to the floor above and upper wall.

In Fig. 2 it can be seen that the plate for the porch roof is a double two by four carried over the window span by a two by ten on edge. The contractor that is building this house has a cordial dislike for casement windows, but I know that his casement windows are as weatherproof as can be made. His idea is to protect the casing from any strain.

Fig. 3 is next in line and is used because it goes to show what can be done with proper additions. Of all the sterile combinations there is none more so than the box walls, hip roof, and chimney in one corner. But here we have a

(Continued to page 128.)

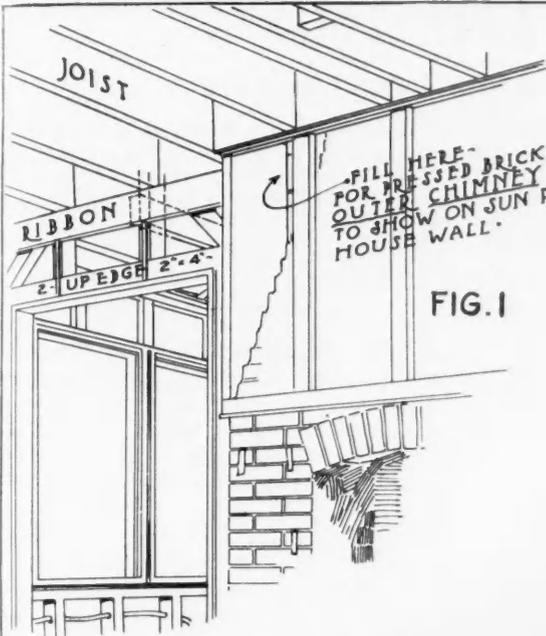


FIG. 1

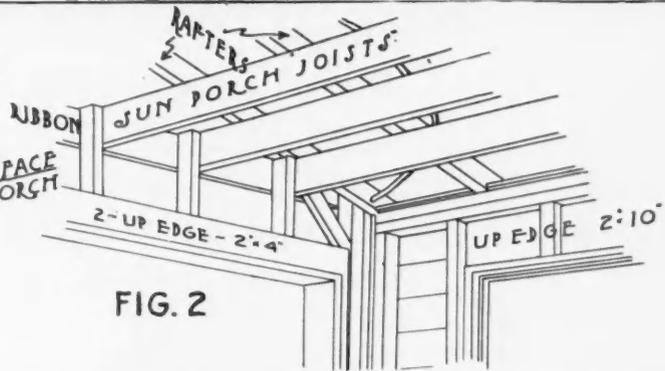


FIG. 2

FILL HERE -  
FOR PRESSED BRICK  
OUTER CHIMNEY FACE  
TO SHOW ON SUN PORCH  
HOUSE WALL.



FIG. 3

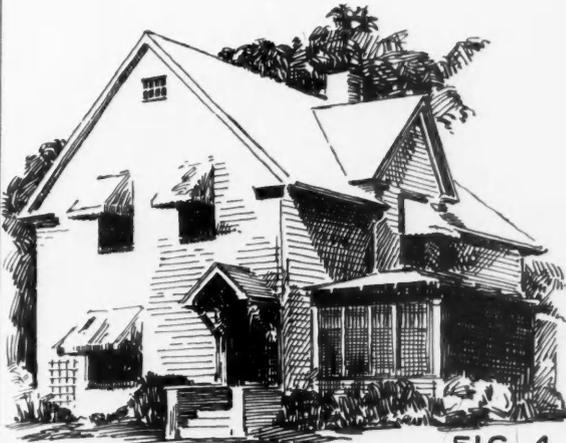


FIG. 4



FIG. 5



FIG. 6



FIG. 7

- FIG. 1 FRAMING PORCH CEILING, INSIDE.
- FIG. 2 FRAMING PORCH CEILING, OUTSIDE.
- FIG. 3 ATTRACTIVE INCREASE IN LIVING ROOM.
- FIG. 4 A GREAT ADDITION WITHOUT THE "MODERNIZING"
- FIG. 5 THE USUAL AND EFFECTIVE METHOD.
- FIG. 6 A BREEZY LIVING PORCH FACING EAST.
- FIG. 7 THE MORE PRIVATE LATIN PORCH INDICATED TO THE RIGHT AT THE REAR.

*U. L. Sherman 7-7-25*

# Sheet Metal Details

## Sheet 9—Gutters and Flashings Over Stone and Concrete

EDITOR'S NOTE: This is the ninth of a series of articles, presenting authentic details for flashing and metal work problems in building. The drawings, presented on the opposite page, were prepared by the Copper and Brass Research Association, and may be applied in the use of all roofing metals. The first of this series was published in the November issue

of the AMERICAN BUILDER. Readers will remember that the drawings are intended to show the details of construction for every trade involved and are suitable for use by the drafting room in designing details. The distortion of the drawings will be apparent at a glance, but this purposely has been done that the methods may be made more clear.

### NOTES FOR DRAWINGS ON OPPOSITE PAGE

**FIG. 53.** A method of forming a metal gutter in a stone cornice and providing an outlet to an inside leader connection is shown here. The cap flashing is built in with the brick work. It extends in one piece through the wall and is made wide enough to be turned down on the inside to lap the base flashing 4 inches, and on the outside far enough to connect with the gutter-lining by a soldered lock seam. This seam is shown in the middle of the gutter, but the exact location depends upon the design.

After the masonry is complete the gutter, if very long, is graded with a concrete fill and the metal lining placed. The metal is turned into a reglet cut in the top of the stone cornice and caulked, and then extended into the gutter, and secured to the cap flashing by a soldered lock seam. (For a complete description of reglet construction see Fig. 55.) To avoid staining the face of the stone work, the top of the cornice should always be cut with a wash away from the face.

It is also a wise precaution to make the top of the cap flashing at least 3 inches above the face of the stone cornice so, if the outlet is clogged, the water will not rise above the flashing but will flow over the cornice edge. The section showing the gutter outlet has been taken through a recess formed in the parapet wall. This desirable feature is used generally in this type of construction. The opening in every case should be protected by a screen (as indicated), a basket strainer, or a similar device.

The cast-iron drain, if used, should start as close as possible to the gutter bottom and be connected to the house drainage system by cast or wrought-iron pipe with all angles turned with fittings of an easy curve. The connection to the gutter-lining is made by a lead sleeve or gooseneck, flanged out at least 1 inch on top of the gutter-lining, well soldered and extended down into the iron pipe as far as possible, but not less than 8 inches.

Where it is impracticable to run the drainpipe as close to the gutter as shown, a long lead gooseneck is used, connected to the iron pipe by a brass ferrule or caulking ring. The construction in either case allows for settlement in the building. This detail may also be used for reinforced concrete cornices.

**Fig. 54.** This illustration shows another method of forming a gutter-lining in a stone cornice. In this case the cap flashing does not go through the wall but only to the back of the stone work of the parapet where it is turned up against the brick work. The outside, with the edge turned back on itself  $\frac{1}{2}$  inch for stiffness, is turned down over the base flashing to lap at least 4 inches. The cap flashing is built in with the masonry.

The outside edge of the flashing is secured in a reglet near the outer edge of the cornice (for a complete description of the reglet construction see Fig. 55), and brought around the stone work and up against the parapet masonry at least 4 inches above the stone work of the cornice, where it is held by the cap flashing turned down over it. About midway of the width of the gutter the two parts of the lining should be joined by a soldered flat lock seam. In wide gutters (over 2 feet) this is secured to the sheathing by cleats.

In exceptionally large gutters it is advisable to form a standing seam at the reglet for expansion as shown in detail "A." The grading of the gutter is done by sheathing laid over wood blocking. The gutter outlet described in Fig. 53 may be used with Fig. 55 as well. If the detail calls for straight sides as shown special care must be observed to avoid creasing the metal at the bends. The sides of the gutter should be sloped.

**Fig. 55.** Metal flashing laid over or against stone or concrete should be well secured to the masonry with a water-tight joint. To do this a reglet about 1 inch wide and 1 inch deep is cut in the stone or cast in the concrete. The surface edge should be true, but the interior sides and the bottom should be fairly rough as thereby a better bond for caulking is obtained. Some prefer also to flare the sides so the bottom of the reglet is wider than the top. This gives a better bond but costs more.

The metal is laid to the bottom of this cut with a  $\frac{3}{4}$ -inch turn and a  $\frac{1}{4}$ -inch turn at the edge and securely caulked in place. Molten lead is used for horizontal reglets and lead wool for vertical work. To obtain the best results from this very important means of securing metal, especial care must be taken to see that the metal goes well to the bottom of the reglet and that the caulking is thoroughly done.

Some roofers fold the edge of the sheet back on itself  $\frac{1}{2}$  inch and place it in the reglet inclining to the bottom at an angle of 60 degrees or so. The caulking pushes the metal back tight against the sides. After caulking the reglet is filled to the surface with elastic cement.

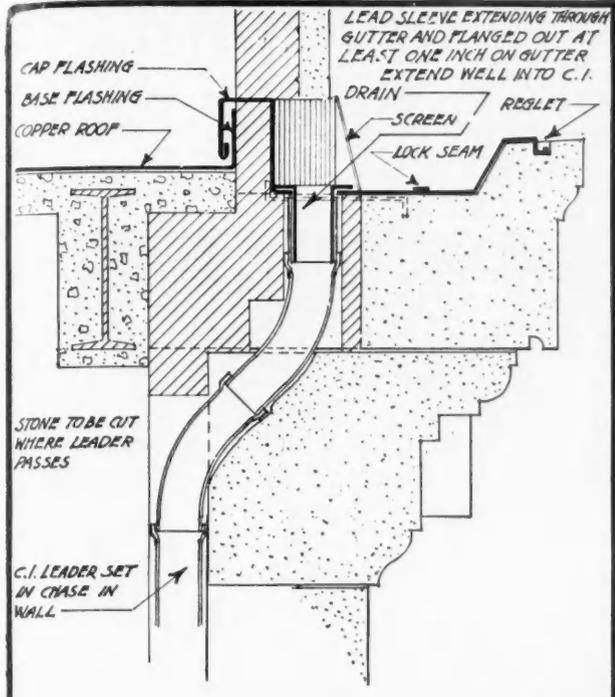
**Fig. 56.** When a stone balustrade is placed over a stone molded course forming the front of a metal-covered surface the metal is secured by a reglet. The metal is set as described in Fig. 55 and the reglet must be placed far enough back so that the bronze dowels holding the balustrades will not cut through the metal. The reglet is caulked as described in Fig. 55.

Sometimes the flashing must be run as a continuous piece through the base course of the balustrade. In this case holes are cut for the dowels. Thimbles or caps are placed over them and soldered to the flashing sheet. The stone is then set in place over the flashing.

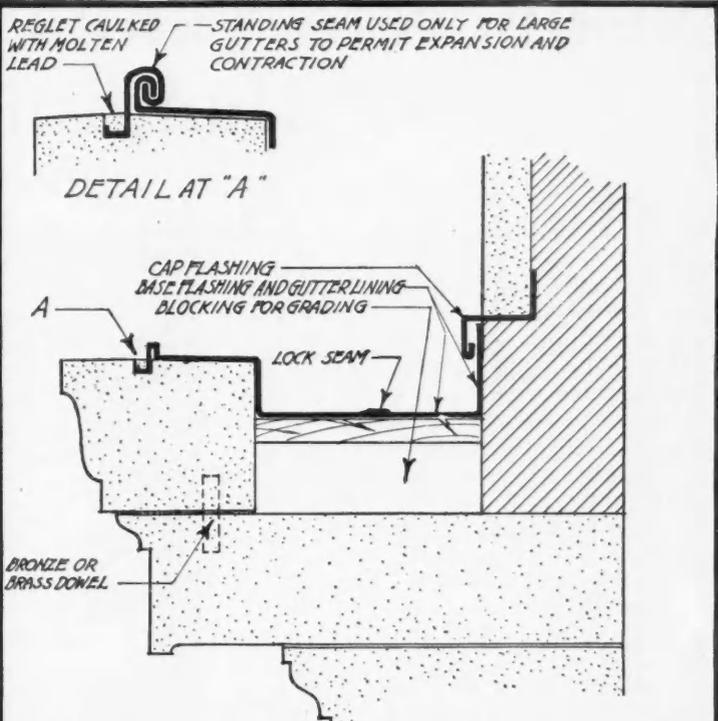
**Fig. 57.** Metal lining for a stone hand-course supported by steel construction is shown in Fig. 57. Such a course collects very little water so that the metal need not extend very far up on the slope of the stone to the line where it is secured by a caulked reglet, but the metal should be turned up against the wall high enough (about 4 inches above the top of the stone molding) so that the water cannot enter the building. The cap flashing is built into the masonry and turned down over the gutter-lining to lap 4 inches. One way of draining such a gutter is shown in Fig. 53.

**Fig. 58.** The base of a stone balustrade surrounding a balcony or similar projection should be flashed with copper as indicated in Fig. 58. The metal is secured on the outside of the balcony by a reglet cut in the base below the balusters. (For complete details of this reglet see Figs. 55 and 56.) On the inside it is placed up against

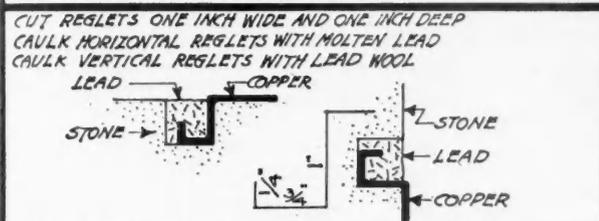
(Continued to page 128.)



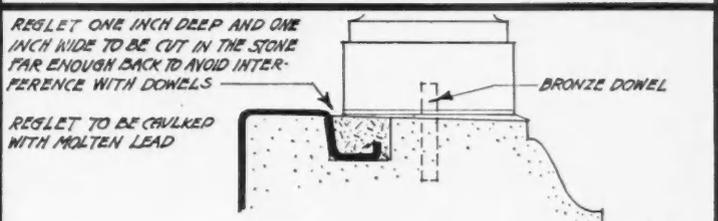
GUTTER AND OUTLET FOR STONE CORNICE WITH INSIDE DRAINAGE (53)



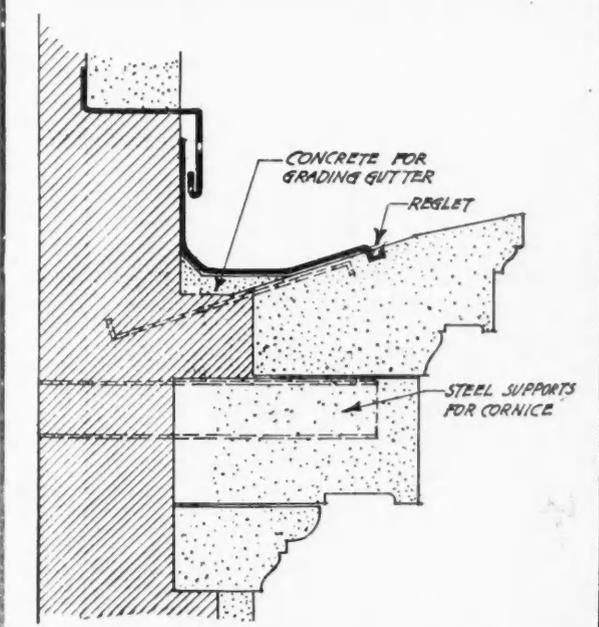
GUTTER LINING AND COUNTER FLASHING FOR STONE CORNICE (54)



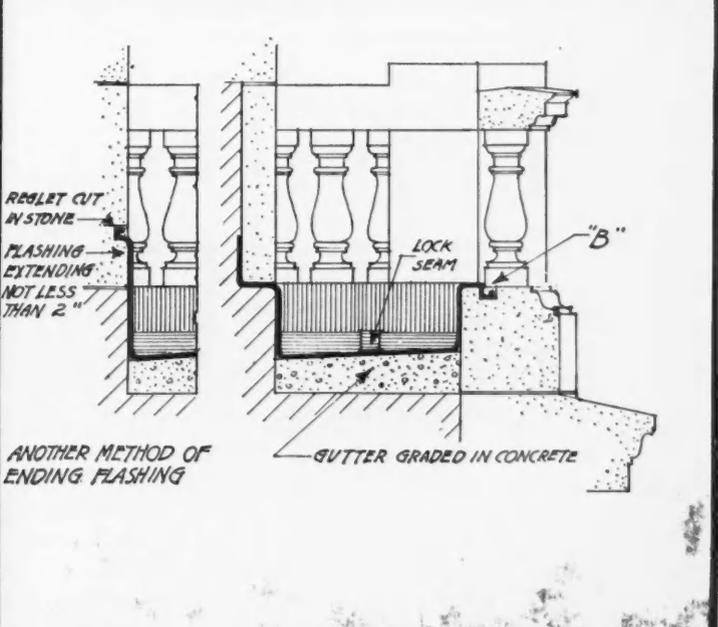
DETAILS OF HORIZONTAL AND VERTICAL REGLETS (55)



DETAIL AT "B" FIG. 58 (56)



GUTTER LINING FOR STONE BAND COURSE (57)



GUTTER LINING IN CONNECTION WITH STONE BALUSTRADE (58)

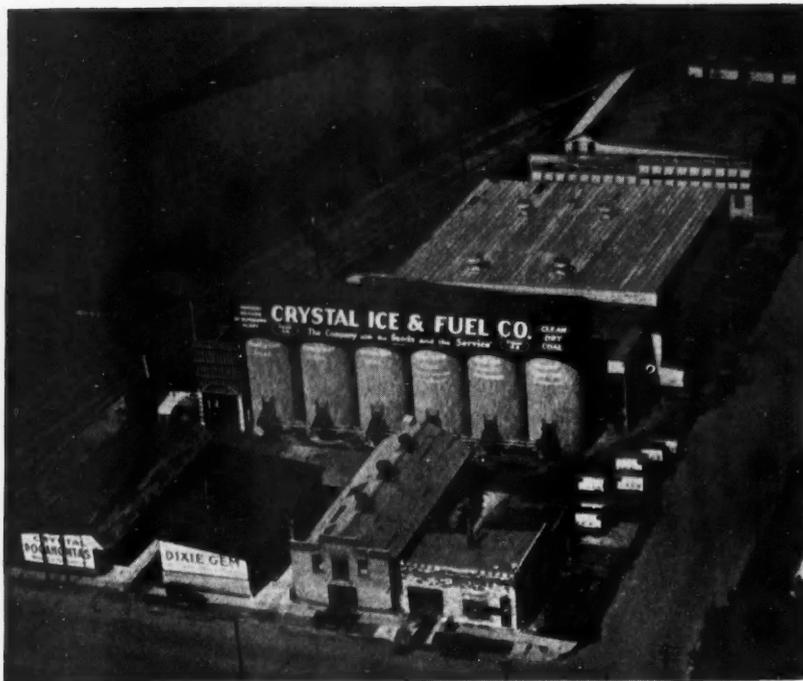
# Concrete Tanks Revolutionize Coal Handling Methods

By A. J. R. CURTIS

**F**EW commercial operations of comparable importance have changed more radically during the past few years than has the handling of coal by wholesale and retail dealers, bunkers for ship delivery, power station and industrial users. The situation of the retail coal dealer is typical of that in which the various classes mentioned above have recently found themselves. With the increasing cost of local labor for handling, the local dealer has recognized in improved handling equipment about the only opportunity to compensate. Every step in the moving of coal from the point of railway car delivery to the consumer's bin has come in for close study, with the result that hundreds of mechanically operated coal pockets and large capacity motor trucks have replaced ancient dilapidated sheds and horse-drawn vehicles.

The coal pocket consists of one or more large elevated concrete storage tanks (generally circular) providing one or more bins for the storage of coal, so arranged that the coal is taken out and delivered by gravity into trucks or wagons.

The circular form is popular because it is economical of material and convenient to build. The coal pocket looks much like a farmer's silo with the addition of a box-like structure on top to house the elevating machinery. Connected with it is a track hopper which receives the coal from the railway car and feeds it into a motor-driven conveyor which fills the silo. There is usually a spiral "ramp" down which the coal slides gently, to avoid excessive breakage. The tank floor is at a level corresponding



Airplane View of the Crystal Ice & Fuel Company's Plant, Waterloo, Iowa, Showing the Large Concrete Stave Coal Pockets Through Which Much of Waterloo's Fuel Supply Passes.

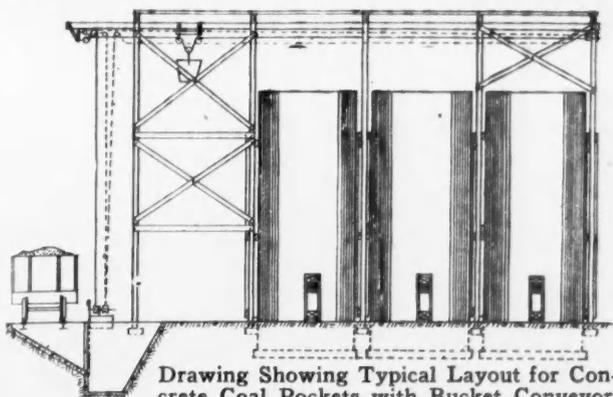
with gates near the bottom through which the coal passes out into the trucks. As the coal flows out it passes over a screen which removes the dust, furnishing the customer clean coal without an extra screening operation. Coal pockets are usually 30 feet to 70 feet in height, according to capacity desired and the amount of ground space available.

Modern pockets are equipped to unload and store the contents of a 50-ton car of coal in an hour, using the part time of one man and a 5 to 7 horsepower electric motor. The cost of power for lifting coal from the cars to the pocket was found by an Illinois coal dealer to be approximately one cent per ton. Unloading coal cars by hand is slow and irksome and often laborers cannot be readily found to do it. The average time required is one day or more per car. As a result, coal dealers frequently have to pay demurrage charges of cars not promptly unloaded. The minimum demurrage charge on a car of coal nearly equals the entire cost of handling a car of coal through a modern pocket.

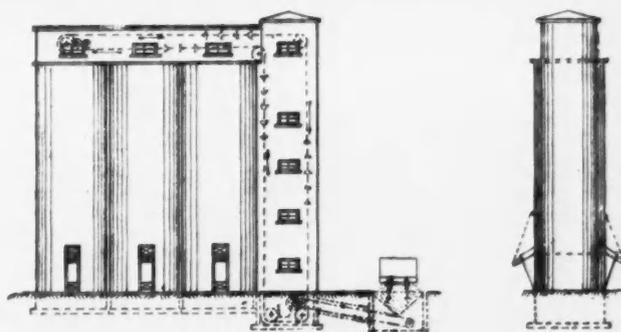
The coal dealer who has a concrete coal pocket usually receives his coal in hopper bottom cars which are dumped into the concrete pit or hopper located beneath the track. The coal is then elevated from the pit, machinery doing the work formerly performed by hand, at a fraction of the expense. Chutes through which the coal flows from the pockets into the trucks or wagons are



These Large Coal Pockets, in Cleveland, Contrast Strikingly with the Old Bins at the Left from Which the Coal Has to be Shoveled.



Drawing Showing Typical Layout for Concrete Coal Pockets with Bucket Conveyor.



Drawing Showing Typical Layout for Concrete Coal Pockets with Chain Belt Conveyor.

placed about 10 feet above the ground, convenient to access.

One of the chief advantages of this modern arrangement is that it does away with the high cost of waiting. Wagons or trucks are not delayed in loading. The coal flows out through each chute at the rate of a ton a minute. Where an hour is required to load a 3-ton wagon with coal off the ground, the coal pocket reduces the time required to three minutes. Fewer trucks or teams are thus enabled to make a given number of deliveries.

More cars of coal can be received at one time where there is a coal pocket equipment; in fact eight or ten cars can be unloaded as quickly in this way as one car can be unloaded by hand. Since the coal is fully protected from outside fires by reason of the concrete bins and can be easily protected against spontaneous combustion by running it out through the gates, in case of fire, insurance is greatly reduced. Accessible reserve capacity is provided which is likely to pay any coal dealer or coal consumer

well indeed by permitting purchases on low market.

New business is attracted to coal yards equipped with pockets, first because patrons loading and hauling their own coal avoid waiting their turn for a chance to load, as well as the long and tiresome task of hand loading. Farmers, for example, can drive many miles further to a coal pocket and still save time, not to mention labor.

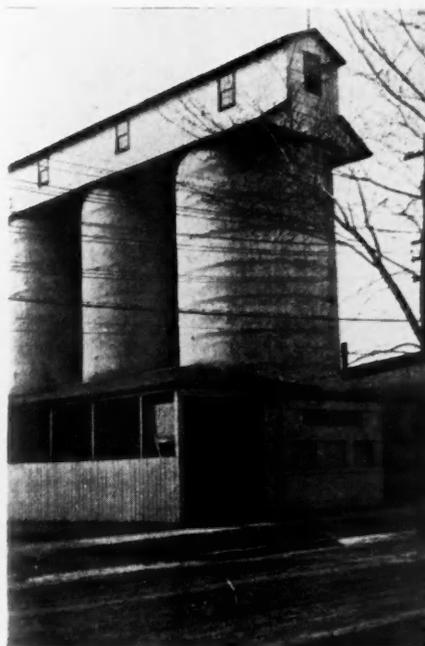


A Truck Can Be Loaded in a Small Fraction of the Time Required for Shoveling from the Old Style Bins.

### Concrete Stave Bins Most Popular

Because of the greater convenience in erection, concrete stave bins have become the most popular type. A large number of monolithic pockets, both circular and rectangular, are in operation and no doubt the demand for this type will continue for the larger installation to the exclusion of all other materials. But for the average coal dealer concrete stave construction has become and will continue the prevailing type.

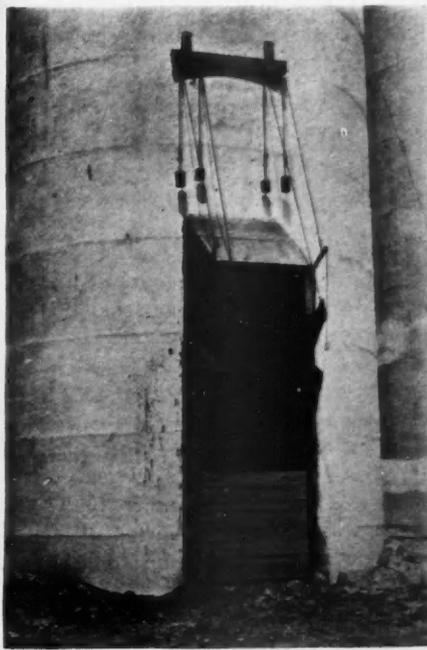
The staves used for coal pockets are usually 30 inches long, 12 inches wide



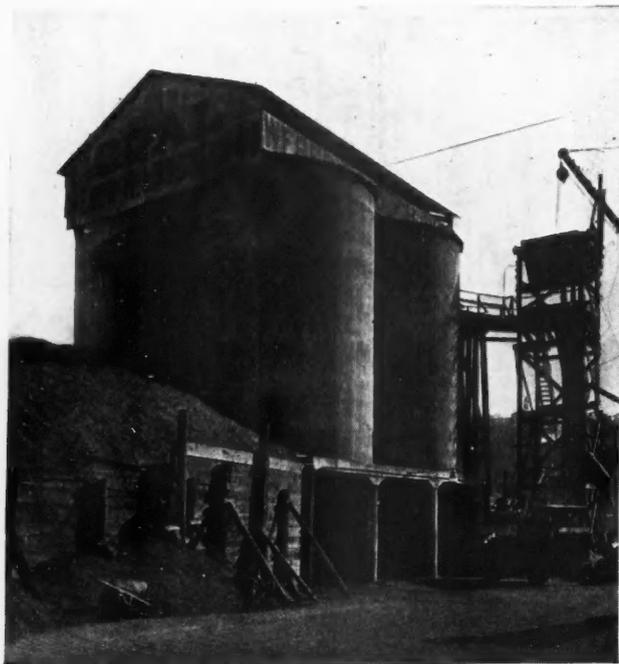
Coal Pockets with Covered Driveways for Loading the Trucks or Wagons Which Do the Hauling.



Concrete Pit for Loading the Coal Chute Bucket of the Conveyor.



Close-Up of Chute and Screen. When the spout is lowered for loading the gate opens.



A North River Coal Pocket in New York, Fitted with Special Equipment for Coaling Ocean Going Ships.

and approximately  $2\frac{1}{2}$  inches thick. The weight of each stave is about 70 pounds, containing about  $\frac{1}{2}$  cubic foot of concrete. Most of these staves are produced on heavy tamping machine, the average mixtures being about one part cement to four parts of gravel, ranging up to  $\frac{1}{2}$  inch in size.

A circular coal bin 16 feet in inside diameter requires 50 staves per course, or 100 staves for every 5 feet of height. Thus a bin of 16-foot diameter carried to a height of 50 feet requires 1,000 staves. Diameter of these bins usually varies from 14 to 20 feet.

Circular concrete stave coal bins are customarily erected in two days after completion of the foundations, which are of concrete deposited in forms, similar in practically all respects to those provided for wood stave tanks, provision being made to take care of the excess weight. The concrete "boot" for the track hopper and elevating machinery is placed at the same time as the foundation.



### Detail 5—The Living Porch

(Continued from page 122.)

house fronting east, with an oddly proportioned front. The living room is all windows and the owner having his appetite whetted for the out-of-doors gorges himself by extending the living room right out into the yard. The excess is remarkably fine from the inside and mitigates a box from the outside.

Fig. 4 is my idea of a house to live in. The place is much older than its present owners, and when some of the younger carpenters cut through the wall to make the addition they were rather surprised when they uncovered the heavy timbers and saw part of the anatomy of the old house. This porch is to the south and gives off the dining room with one door into the front hall.

Fig. 5 shows the generally accepted porch. With the broad side of the house west or east probably no better porch could be had for that type of house. The only fault might be on the finicky side that it seems too solid in its separation from the rest of the house.

Fig. 6 is an open porch of little detail. Regardless of flies and mosquitoes it is spoiled if glazed or screened. But

such a porch if placed on any side but the north is the focus of enough air current to drive away either of these pests. If it is on the north it is a cool delightful spot in the summer, and the fly and mosquito hang about the warmer sides of a house. Besides this you will find that this type of porch will fit almost any house and from almost any angle.

Fig. 7 is after the Spanish style in stucco and tile. True to type the living porch is secluded, but with a gate that seems bigger than the wall it occupies. This porch or pavement or patio is a little below the level of the living room floor. Two French doors open to the east from the living room onto the porch. The gate to the south admits plenty of air, and for a small house the open French doors at the end of the living room greatly increase the livability of the room. The porch is close enough to the kitchen to allow its use as a dining room whenever company makes the breakfast nook too small.

The living porch is the antithesis of the old "den." With the advent of the motor car and the radio and other rejuvenating elements the old man can't afford enough grouch to seek the seclusion of a "den."



### Sheet Metal Details

(Continued from page 124.)

the brick work and the stone work set over it. An alternate way of securing the metal on the inside is in a reglet as shown on the left of Fig. 58.

In this latter method a reglet is formed in the face of the stone work and the joint is caulked with lead wool. A soldered lock seam should be formed in the middle of the gutter if it is more than 2 feet wide.

Gutter connections in this type of construction should be made to the drainage system shown in Fig. 53. In the type of enclosed gutter shown in Fig. 58 it is essential that scuppers be built in the outside faces. They are not shown in the illustration because their size and location depend upon the design. They should, however, be so arranged that the bottom of the scupper will be not more than 2 inches above the lowest point of the gutter and be large enough so that the gutter will drain rapidly in case of stoppage of the outlet.



### Safe Chimneys and Flues

AT the annual meeting of the Building Officials' Conference, held in Madison, Wis., a paper by D. Knickerbacker Boyd, consulting architect, on chimneys and flues, was presented by A. Lynwood Ferguson, technical secretary of the Structural Service Bureau. This paper forcibly pointed out the serious need of better regulation of this phase of building construction, especially in regard to residences. The most common errors are making flues too small, chimneys too low as compared with roof height, making flues not sufficiently tight, improper placing of chimneys.

"The need of some positive means of controlling chimney and flue construction, especially in residences, is forcefully demonstrated by the latest report of the National Board of Fire Underwriters which shows that there is a home fire every four minutes," said Mr. Boyd. "The greatest hazard in the home lies in 'defective chimneys' and flues and the record of fires caused by such is appalling. During 1923 defective chimneys and flues was second on the list of major fire causes. The cause of fire defined as 'defective chimneys and flues' is one which is strictly preventable and one which could be completely eradicated if proper care was exercised in the construction of chimneys and flues."

# Paving Makes Beautiful "Lanes" of Oak Park Alleys

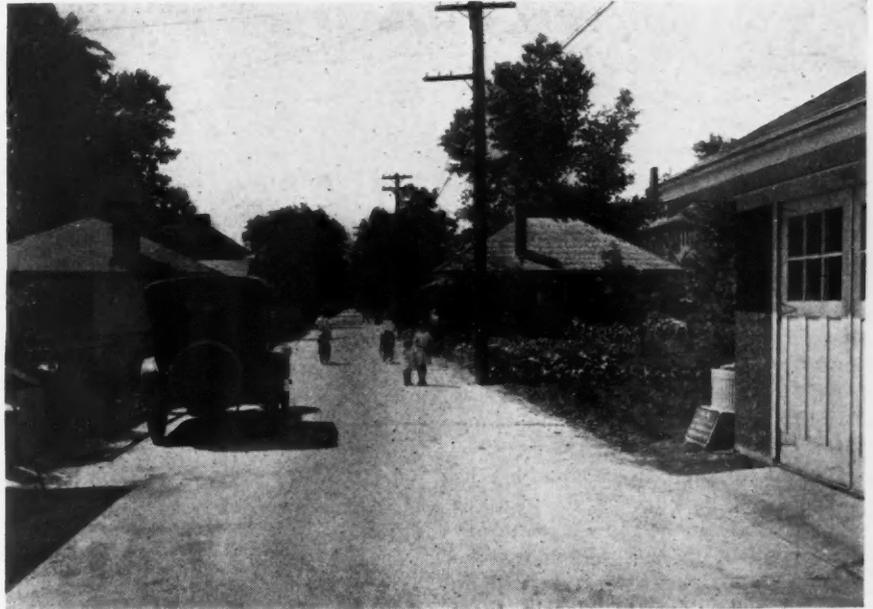
By ALLEN P. CHILD

**T**HE alleys of Oak Park, Ill., have beautified the village to such an extent through their concrete surfaces that they are no longer known as alleys, but have been officially named lanes.

It is said that the village has a larger percentage of its alleys paved than any town of its size in the country. Thirty-six per cent of the alleys are already paved and six miles under construction now will raise the total to 50 per cent.

Delivery wagons and trucks use the alleys constantly and thus relieve the streets of a great deal of heavy traffic. Automobile owners are furnished a paved driveway to garages on both sides. Many people have erected two or three garages on their lots so as to make their share of the alley pay for itself in a very short time.

Unightly back yards are a thing of the past where the alleys have been paved, as a spirit of tidiness has been engendered through the elimination of rubbish piles and mud puddles. Flower beds and hedges line many of the lots along the alleys now.



Wherever the Alleys Are Paved Unightly Rubbish Piles and Mud Puddles Disappear and the New "Lane" Becomes an Important Factor in Relieving the Streets of Traffic.



Improvement is Not Confined to the Mere Paving of the Alleys. The paving serves as an inspiration to property owners to beautify the rear of their property. Ornamental fences, hedges, trees and flower beds, as well as many new and attractive garages have improved the appearance of these alleys to the extent that their beauty truly justifies the new official name of "Lane."



# Homes in COLORS

## Building Homes in Quantities for Sale

By WILLIAM A. RADFORD,

President and Editor-in-Chief of American Builder

I HAVE the greatest respect for the man who is planning and building houses for sale; because he is rendering a real service to his community and at the same time is up against the hardest sort of a proposition to hold down the cost and also put in the modern features of design and equipment which the people want.

The trouble is that they want the latest features regardless of cost, yet if the cost runs up they can't pay, and the houses are hard to sell, because then the field is narrowed down to the very few—the great majority of homeseekers being eliminated by the high price.

Every community, of course, has its standards of income and its ideas as to what is about the right price to pay for a new house. And the builder who is putting up houses for sale will do well to follow pretty closely these established ideas. In the last few years standards of living have advanced and no doubt they will continue to advance; so don't cling too long to old conceptions of what your town wants and what your people will be willing and able to pay for. They have been making progress. On the other hand, don't go to the other extreme and build away out of their reach.

This is a nice problem of judgment and of merchandising; and as stated before, I have the greatest respect for the man or the organization that is able to tackle it and solve it successfully.

On a recent trip to New York and then to San Francisco and Los Angeles I have particularly observed what the

people are building, and I see a change in what the people want. They do not want the cottage as of five years ago. They want something more pretentious. If only one story the roof must be high and make more of a show. They prefer one and a half and two story, and will sacrifice on size of lot to get it. They do not wish to be classed in the workingman cottage class. They will in most places economize in size of house in width to get height; 26 by 28-foot houses are about the size, and if they can get some



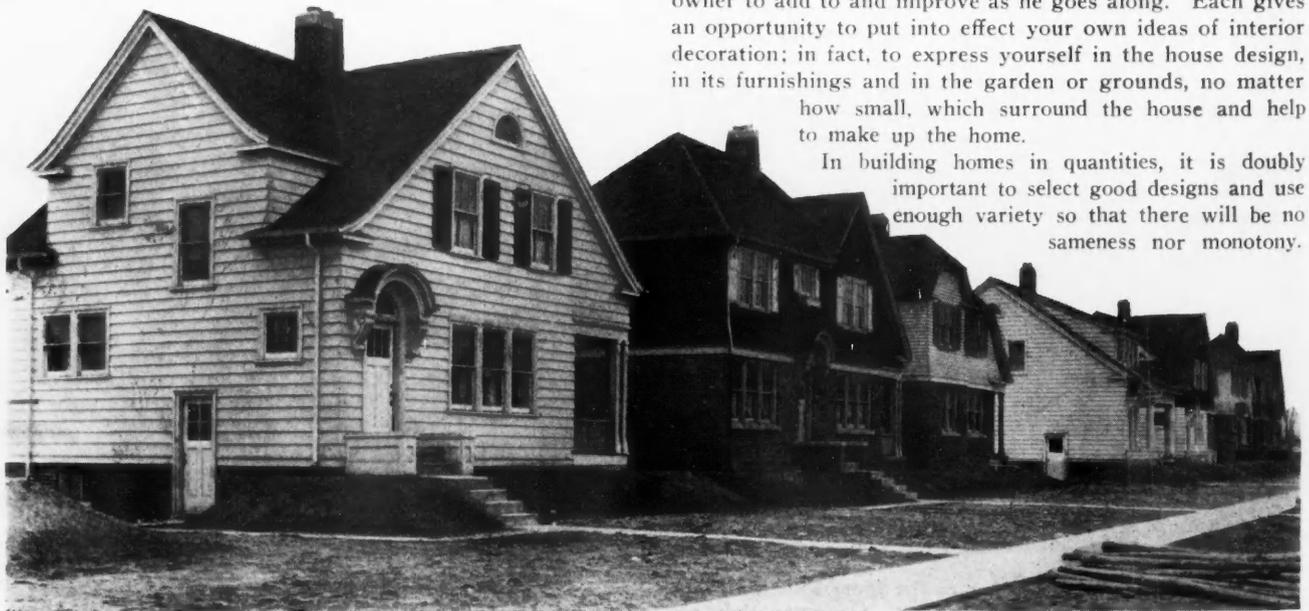
This is Good From a Production or Manufacturing Standpoint; But More Variety and Individuality Would Make a Greater Appeal to Home Buyers.

two or three bedrooms on the second floor it is what they want. From what I have seen this idea prevails all over.

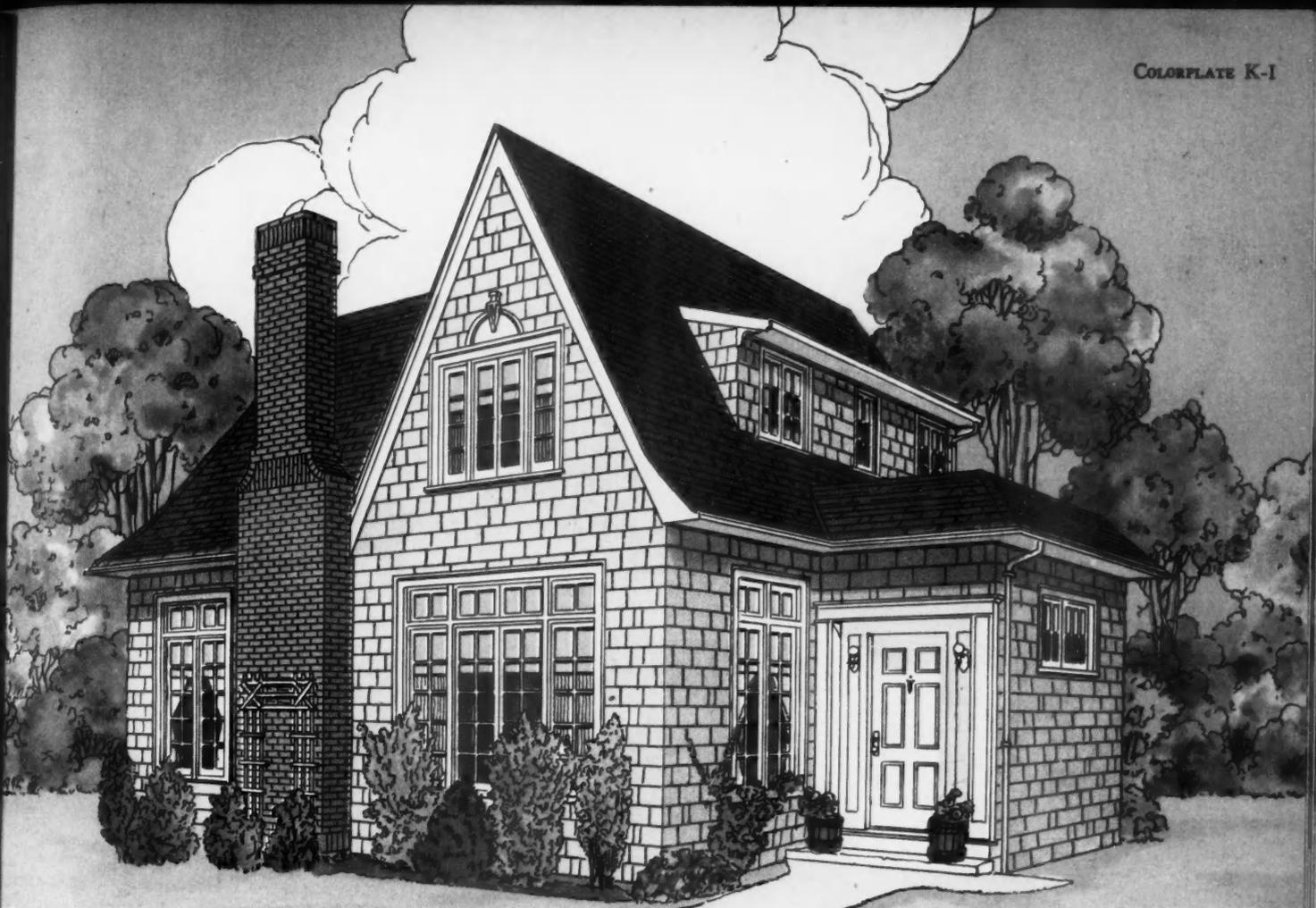
I will arrange for some photos at Los Angeles and will get the English type as I see that is what is in vogue. Flat, low, buildings are out for some reason.

So in selecting the home designs in these sixteen pages in colors, we have kept in mind the needs and requirements of the normal, active American family of today. These homes are real homes with all of the clever little space-saving arrangements, and many opportunities for the owner to add to and improve as he goes along. Each gives an opportunity to put into effect your own ideas of interior decoration; in fact, to express yourself in the house design, in its furnishings and in the garden or grounds, no matter how small, which surround the house and help to make up the home.

In building homes in quantities, it is doubly important to select good designs and use enough variety so that there will be no sameness nor monotony.

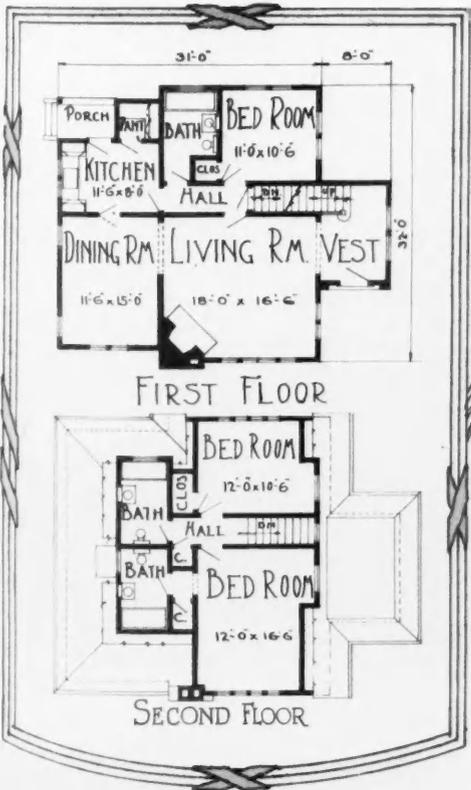
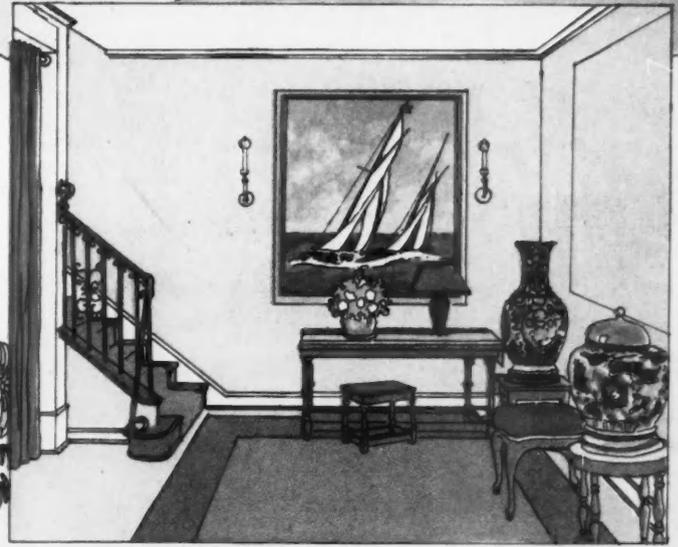


These Houses Erected at Dearborn, Mich., Have Good Architectural Lines and Are Well Built; a Pleasing Variety of Designs, Making Use of Different Materials, Has Been Used.



### The KILBOURNE

A HIGH gabled house presenting a convenient floor plan with an interesting corner fireplace in the living room. Each of the three bedrooms is provided with a separate bath and one is placed on the first floor where it is well situated to serve as a maid's room. At the right is a suggestion for the appropriate furnishing of the vestibule.

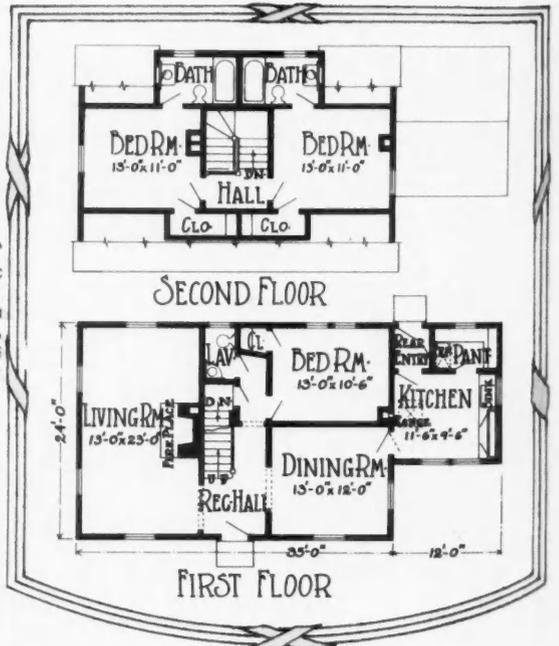


The Burning of Jamestown, 1676.



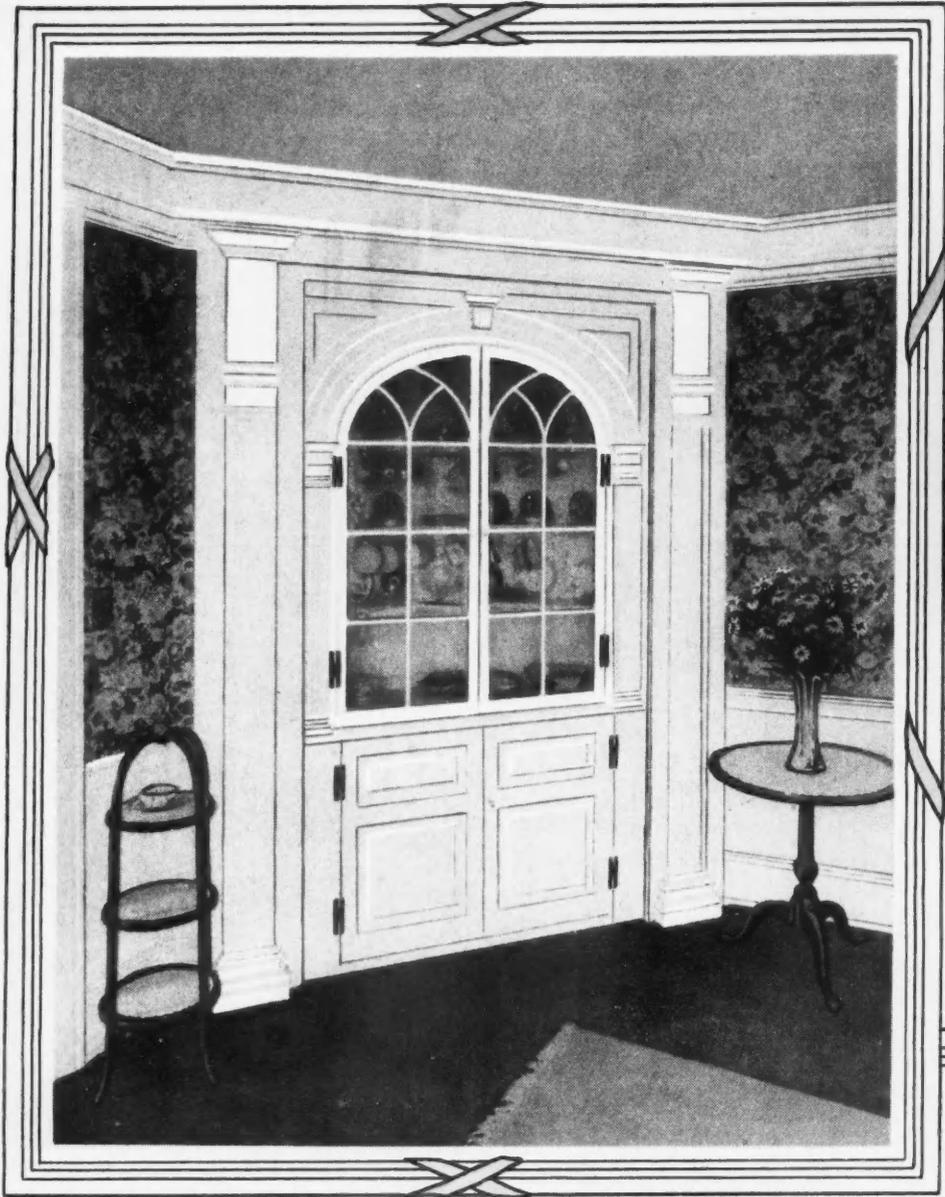
## The KARLIN

**S**IMPLE Colonial lines with no decorative features except shutters, which are applied both to windows and doors, are most effectively used in this frame house. The kitchen is provided for in a separate wing which adds considerably to the floor space. Suitable furnishings and decorations for the dining room are suggested in the colored sketch at the left.

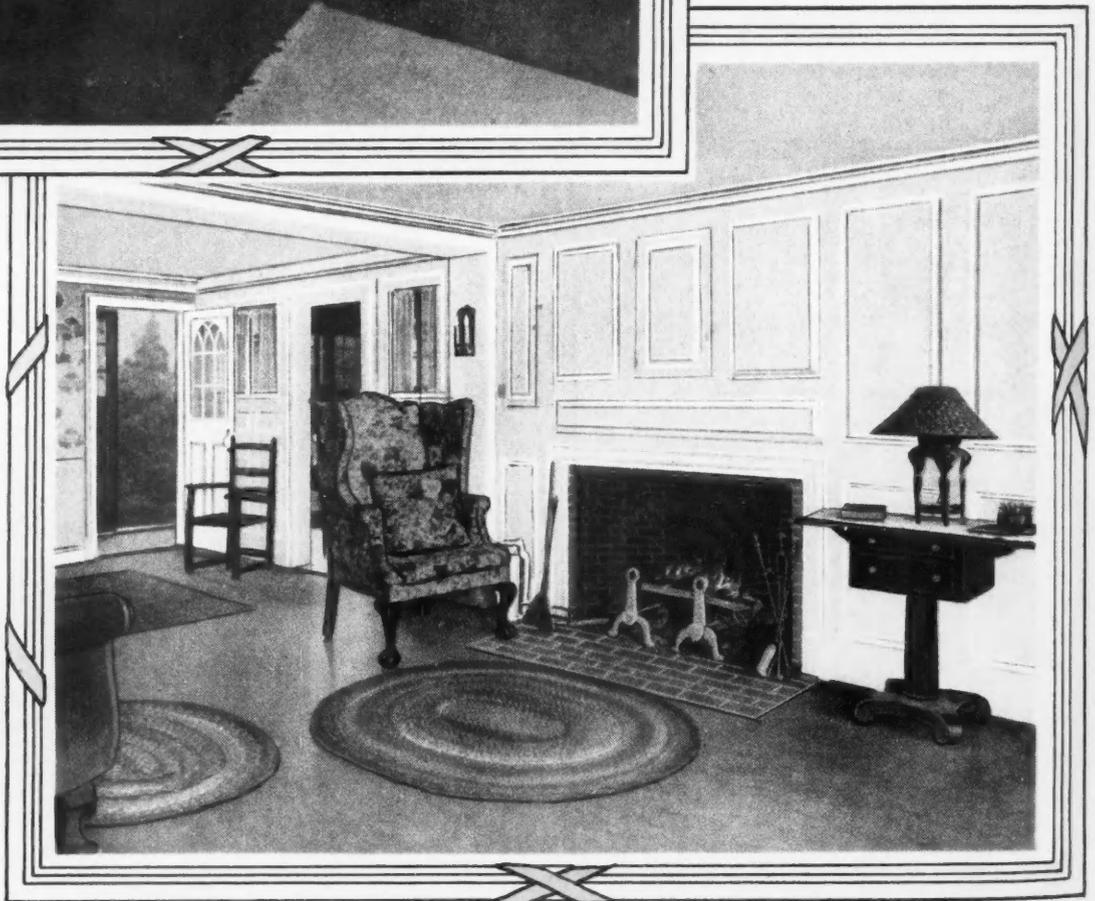


Chief Joseph Surrenders to Colonel Miles, October 4, 1877.



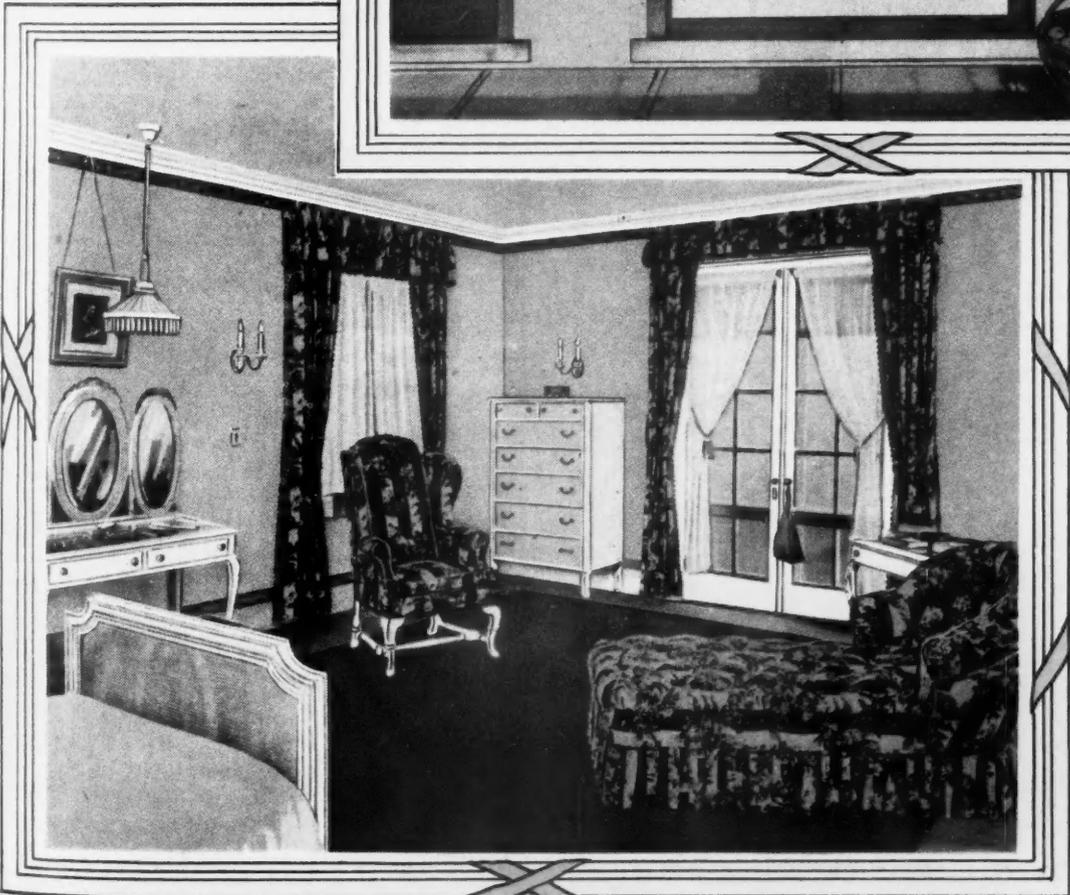
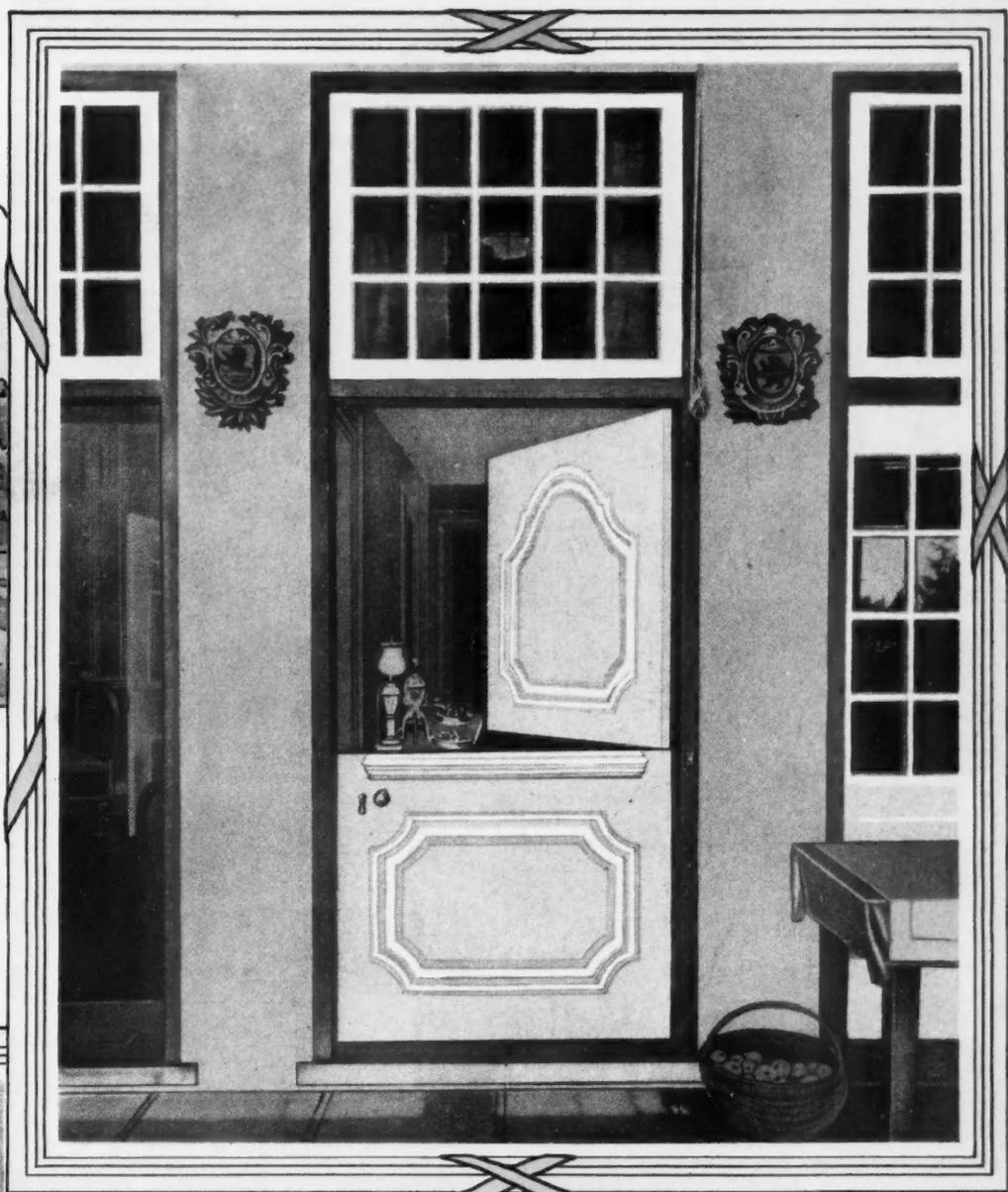


**M**ILLWORK, rightly handled, offers unlimited opportunity for beautifying the Dutch Colonial interior. Plain panelled walls for the living room are always effective.





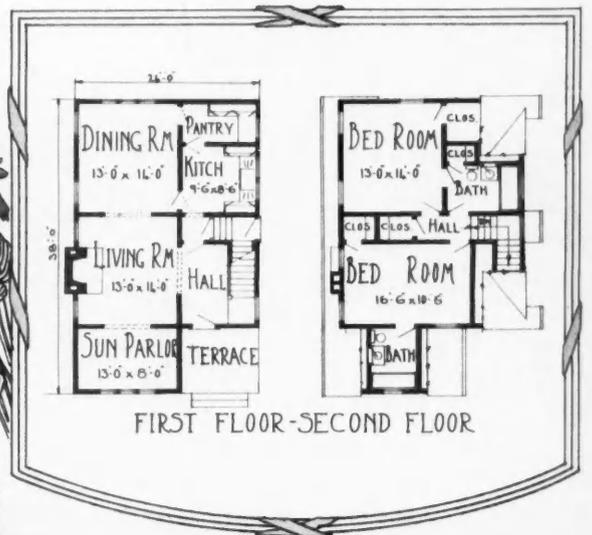
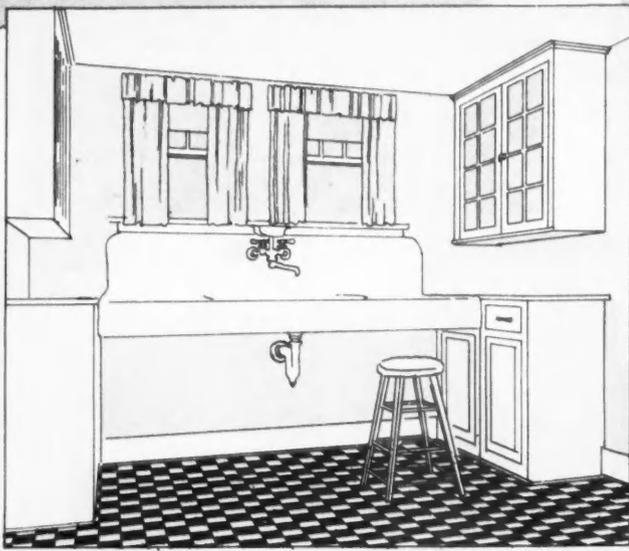
THE Dutch door in two sections, as well as French doors, are popular today, and these can often be used to achieve a most pleasing effect throughout the various rooms of the house.





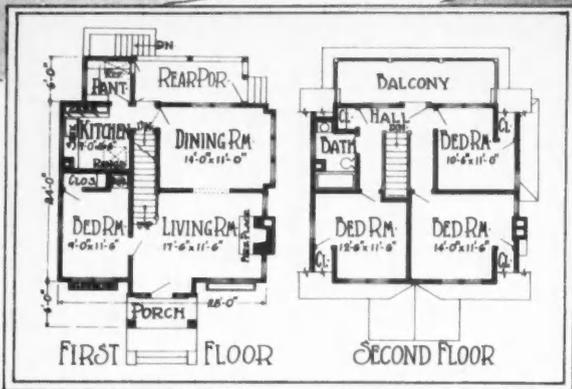
## The KEMPTON

TEXTURED stucco has won a well deserved popularity and is here used to good effect in an attractive small house with many gables. French windows with transom effect at the top add to the appearance. The color sketch illustrates the well planned convenience of the modern small kitchen with its numerous pieces of built-in equipment.



The Albany Congress, 1754.





Above—

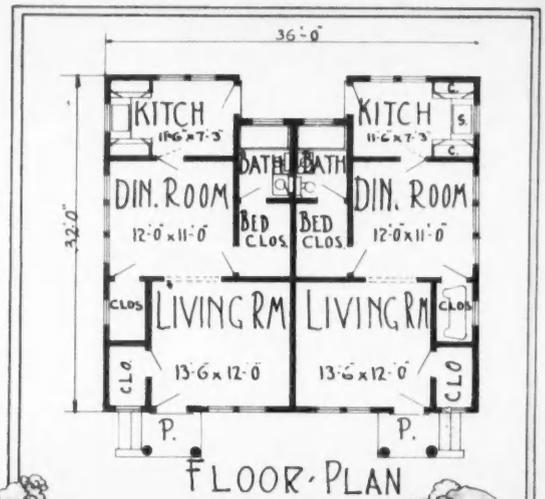
**The KELSEY**

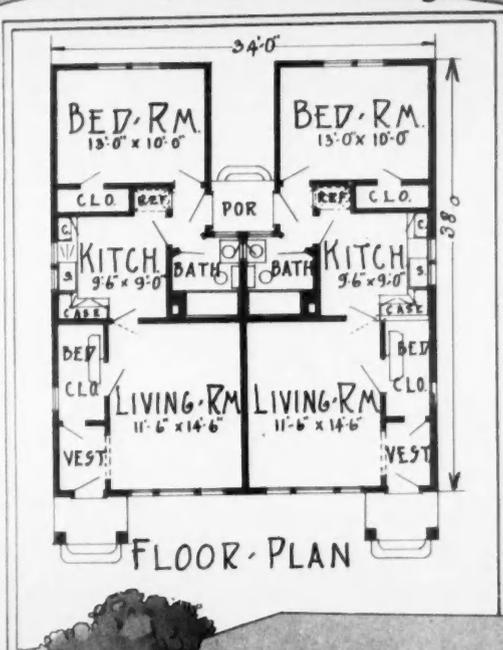
A delightful small Colonial, 24 by 28 feet, seven rooms.

Below—

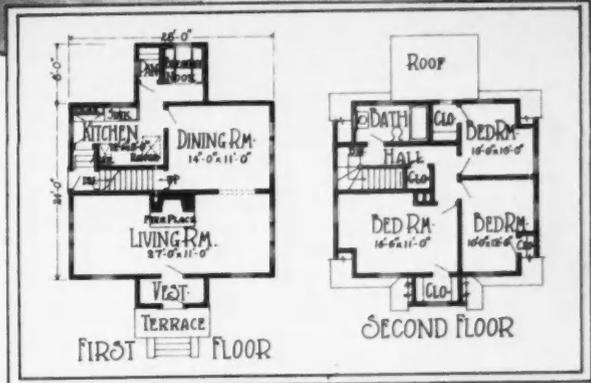
**The KEYSTONE**

A double bungalow. 32 by 36 feet, with four rooms each side.





Above—  
**The KINGSTON**  
 An English house.  
 24 by 28 feet.



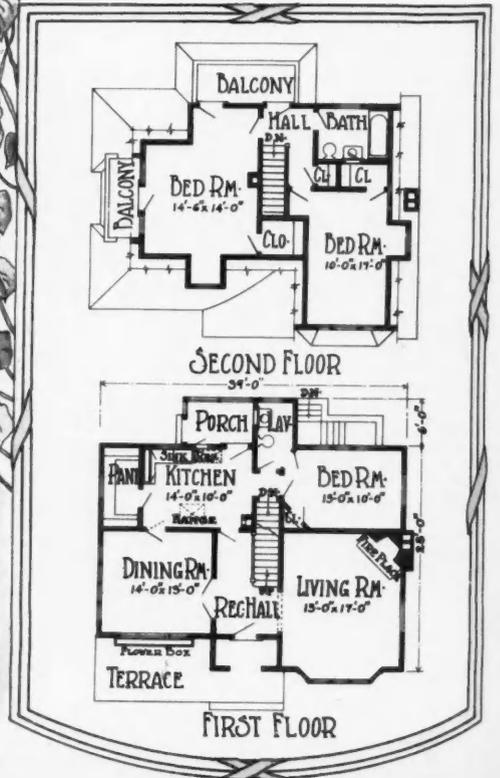
Below—  
**The KENMORE**  
 A double bungalow with 3-room efficiency apartment on each side.



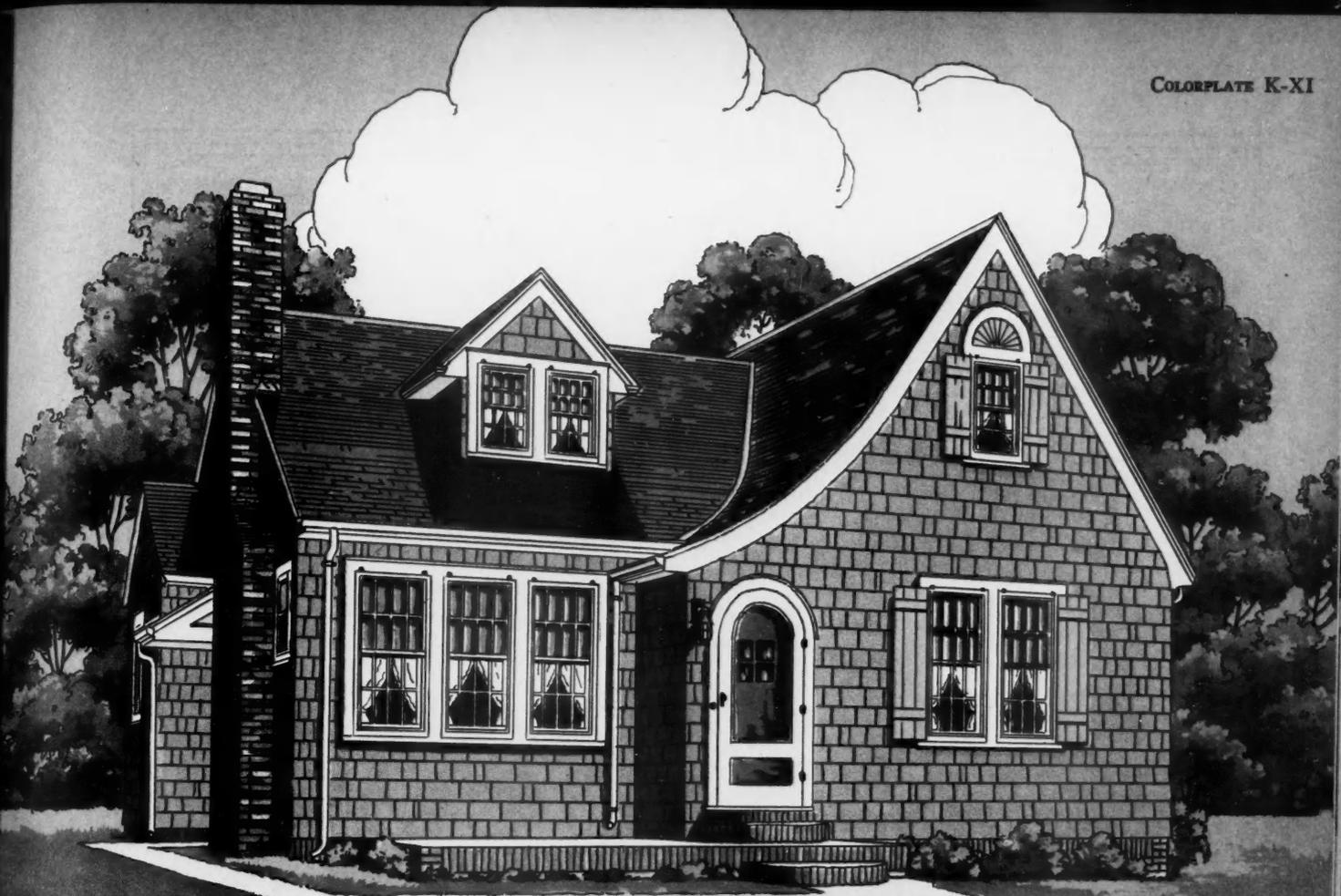


## The KENSINGTON

A COMPACTLY arranged six-room house with the added convenience of a first floor lavatory and a large pantry. The arrangement of the living room with its distinctive corner fireplace is illustrated in the color sketch at the left.

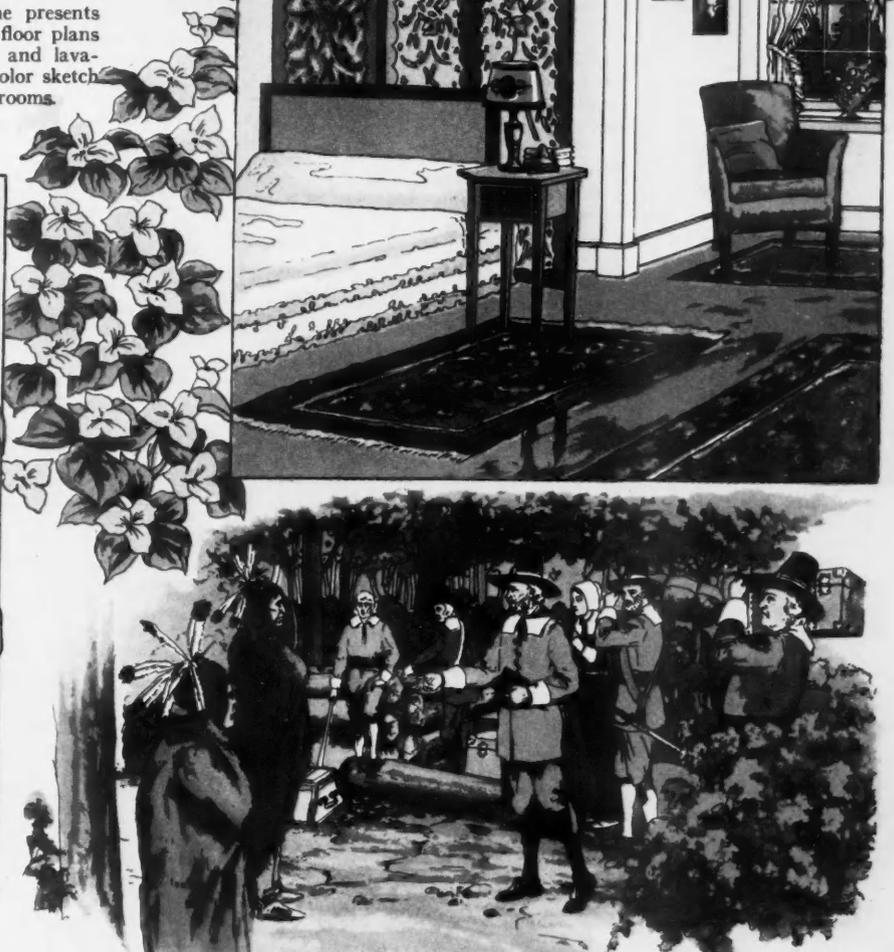
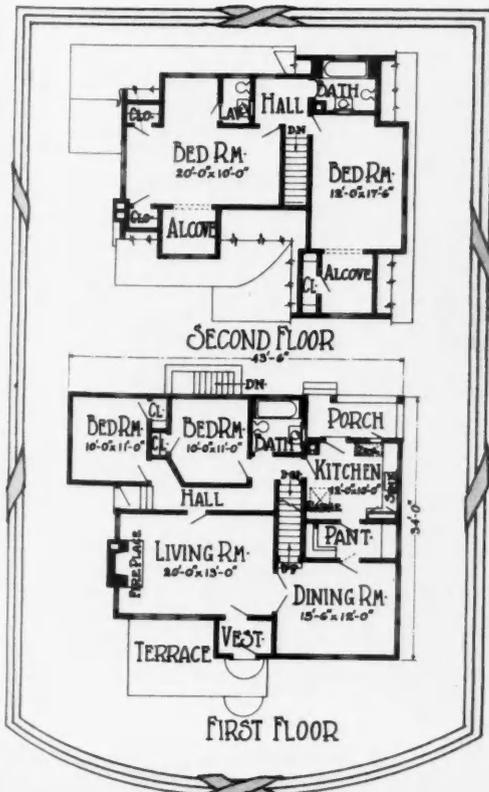


The Purchase of Manhattan Island, 1626.



## The KENILWORTH

WITH its charmingly shingled walls this home presents an inviting exterior to the passer-by while the floor plans display seven well arranged rooms with extra bath and lavatory, two large alcoves and numerous closets. The color sketch shows the placing of the bed in the alcove of the bedrooms.

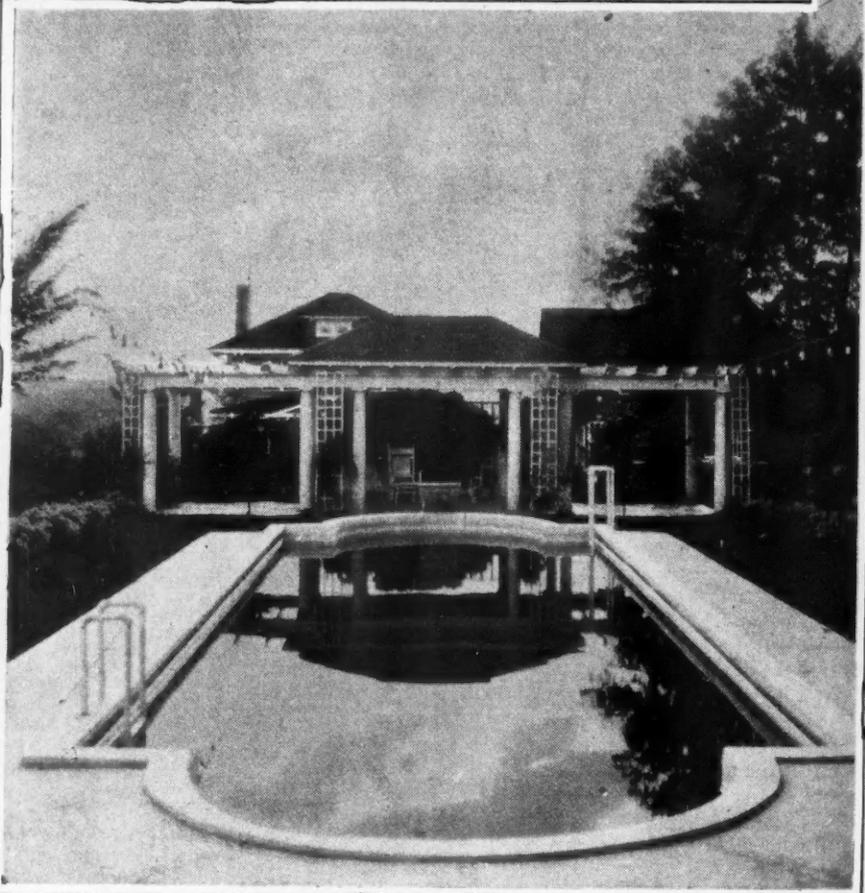


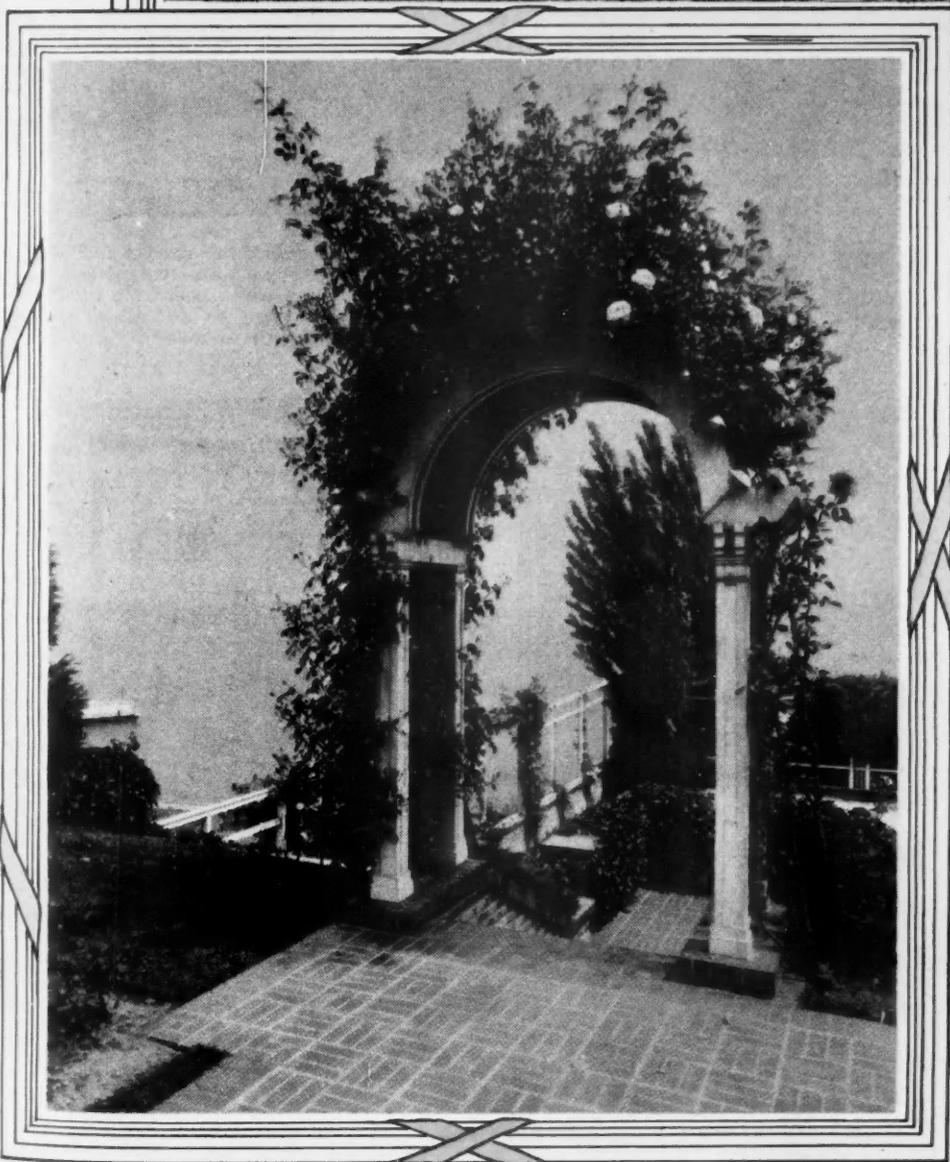
Roger Williams' First Settlement at Providence, Rhode Island, 1754.



**T**HE garden may be made an outdoor living room which offers a charming retreat during the hot days of midsummer and a pleasing view from the windows of the living room.

A swimming pool is an addition which makes its strongest appeal in summer time but which may add greatly to the beauty of the home garden at all seasons of the year.

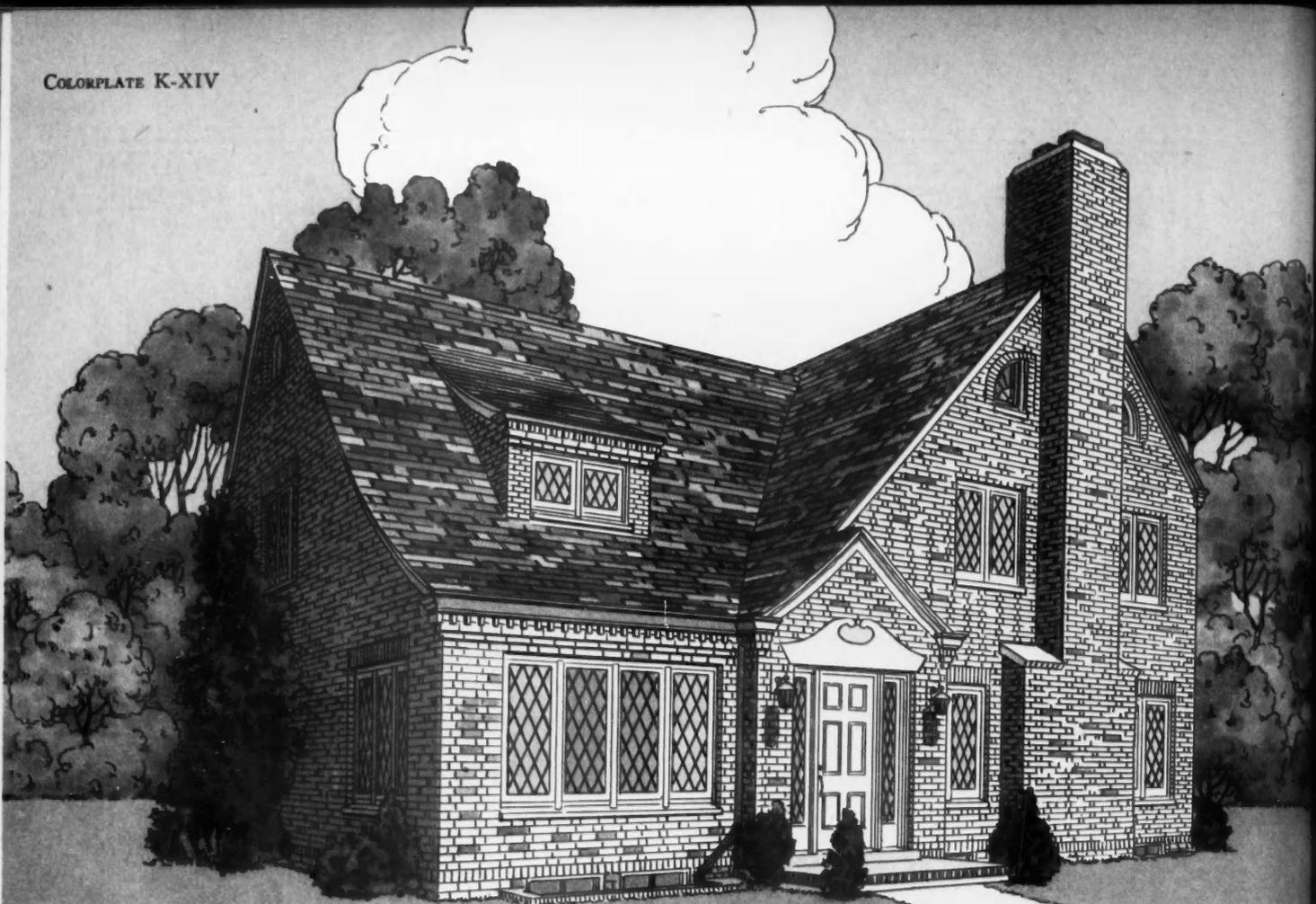




**T**REES, shrubbery, flowers and vines well grouped by the skillful gardener or landscape architect give a finish to the grounds which completes our satisfaction with the new home.

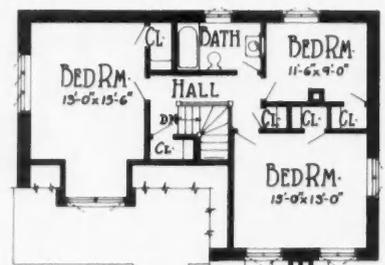
An arbor, over which roses or other flowering vines are trained, is always effective when well placed in relation to the other features of the home garden.



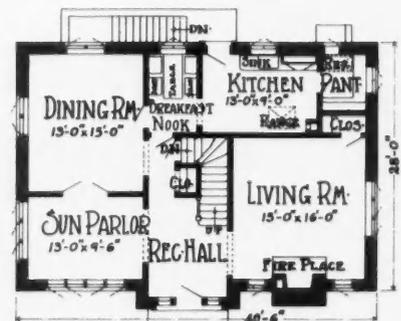


## The KIMBERLY

A SUBSTANTIAL brick home, the six rooms and sun parlor of which make effective use of space, carries an air of permanency and solid comfort. The color sketch shows how the sun parlor may be treated with well chosen furniture and bright drapes to make it a cheerful and ever inviting spot.



SECOND FLOOR



FIRST FLOOR

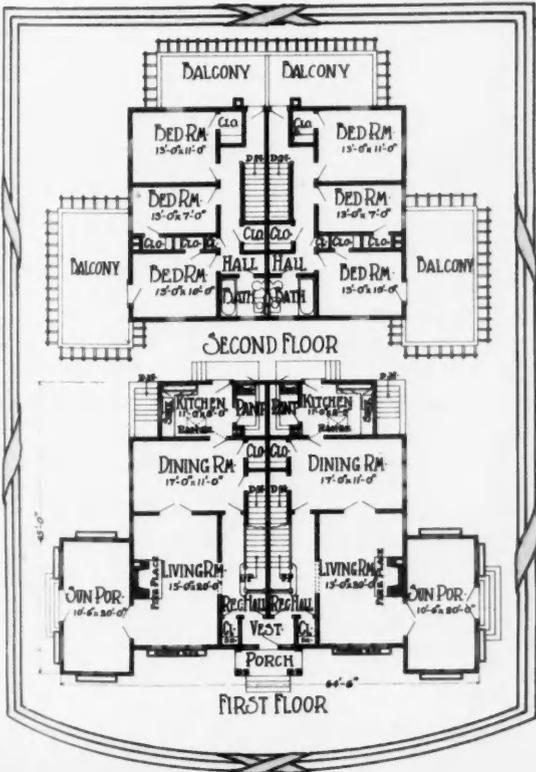


The Cabots Explore New England's Coast,  
1497 and 1498.

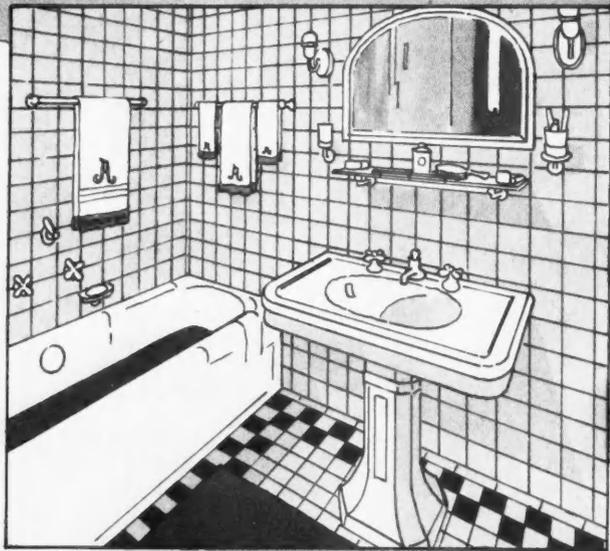


## The KNOXVILLE

A DOUBLE house, with none of the defects of the ordinary duplex, offers two neatly arranged six-room dwellings, each boasting an additional sun porch and balcony. The color sketch suggests how the hall and stairway may be made to add to the attractiveness of the interior and kept in harmony with the tone of this design.

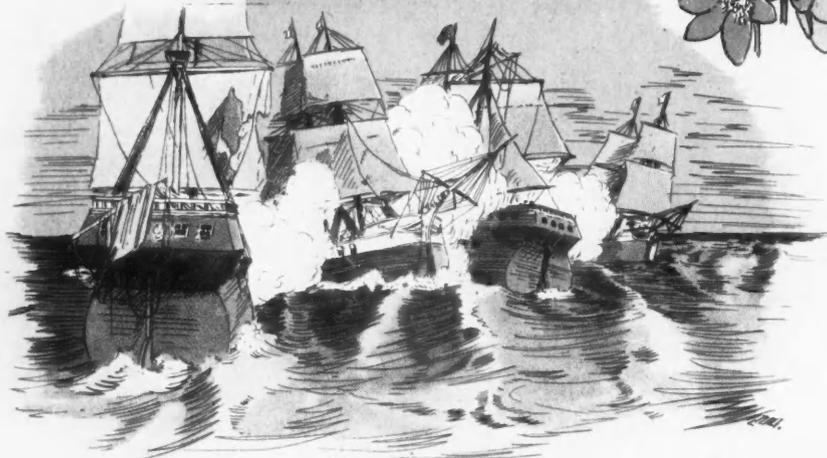
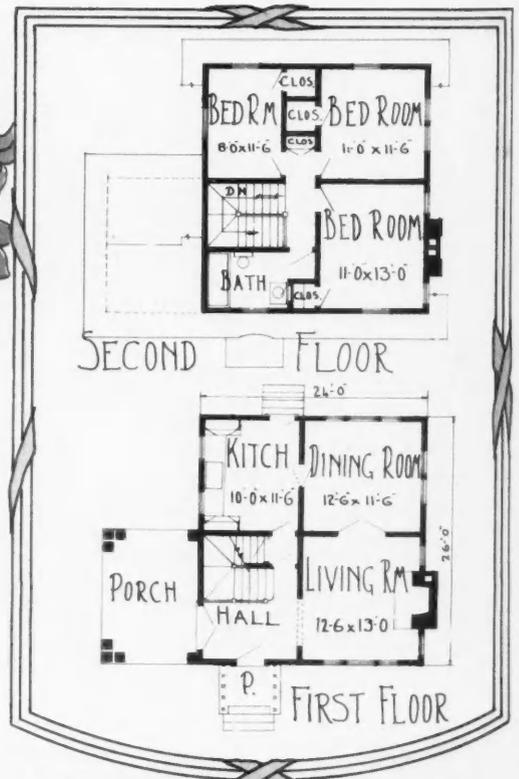


Fremont's Expedition in the Rocky Mountains, Fall of 1848.



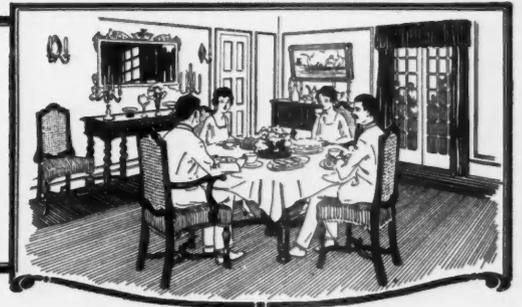
## The KNOLLWOOD

A SIX-ROOM house in which the dormer design gives floor space on the second story and the sameness of the shingle finish is relieved by well designed entrance, windows and porch pillars. Here the color sketch shows the possibilities in beauty in the choice of bathroom fixtures and accessories.



The First Naval Battle, April 6, 1776.

# OUR FRONT COVER HOME



## *Interesting Combination of Shingles and Stucco Feature This Seven Room Cottage*

**A**N interesting combination of shingles and stucco is seen in Our Front Cover Home this month, with brick used also, to add an ornamental touch to the steps, entrance and chimney. This house is placed upon a low terrace and the front wall is carried clear to the ground level. There is a recessed entry through an attractive arch above which is placed a lamp serving the double purpose of utility and ornament.

A charming feature is the arched doorway, at the right of the entrance, the low wooden gate of which opens onto the porch. At the opposite side of the house, opening off of the living room, is a larger terrace, raised slightly above

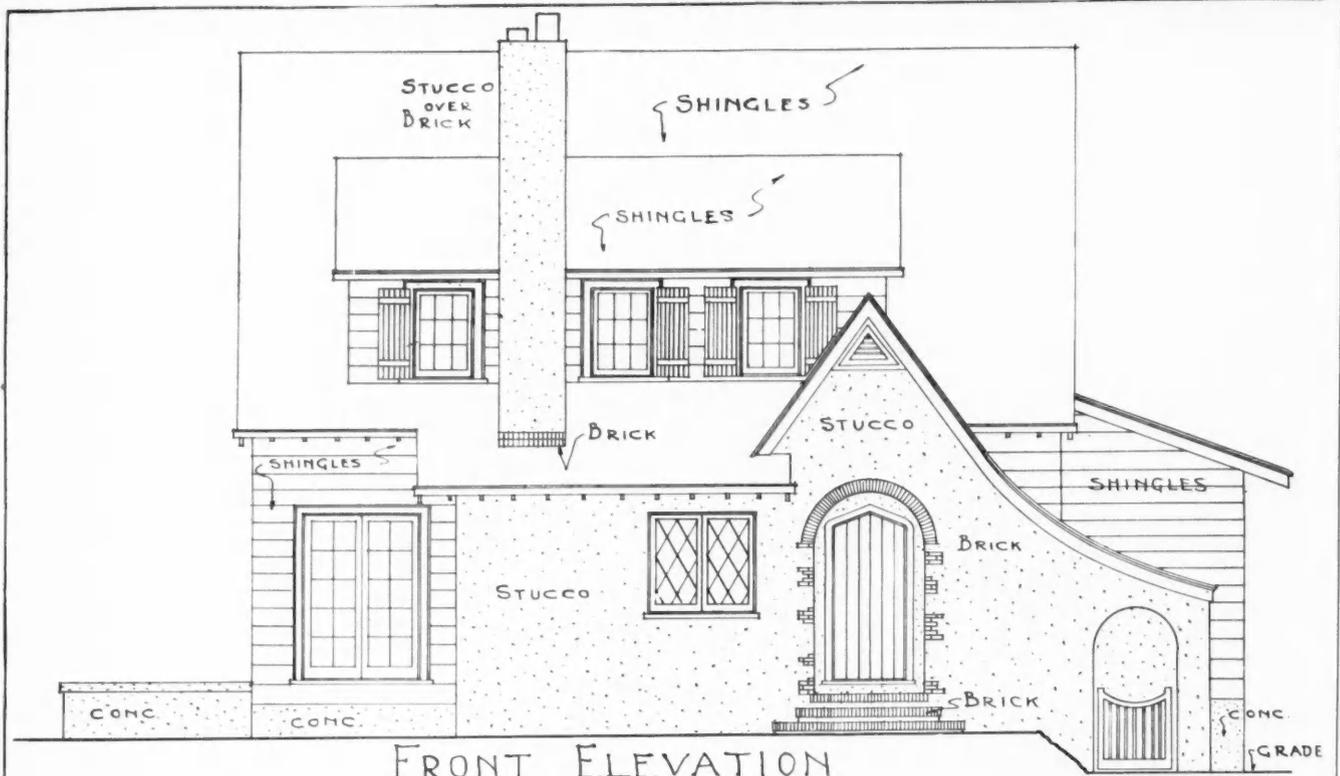
the ground level and making no pretense at roof or pergola.

The floor plans show a well thought-out arrangement of rooms with one bedroom and a bath on the first floor. Three other bedrooms and a second bath are found on the second floor which is reached by a stair leading from the reception hall. Each bedroom is supplied with an ample closet and on the upper floor there is an additional closet of unusual size in the hallway.

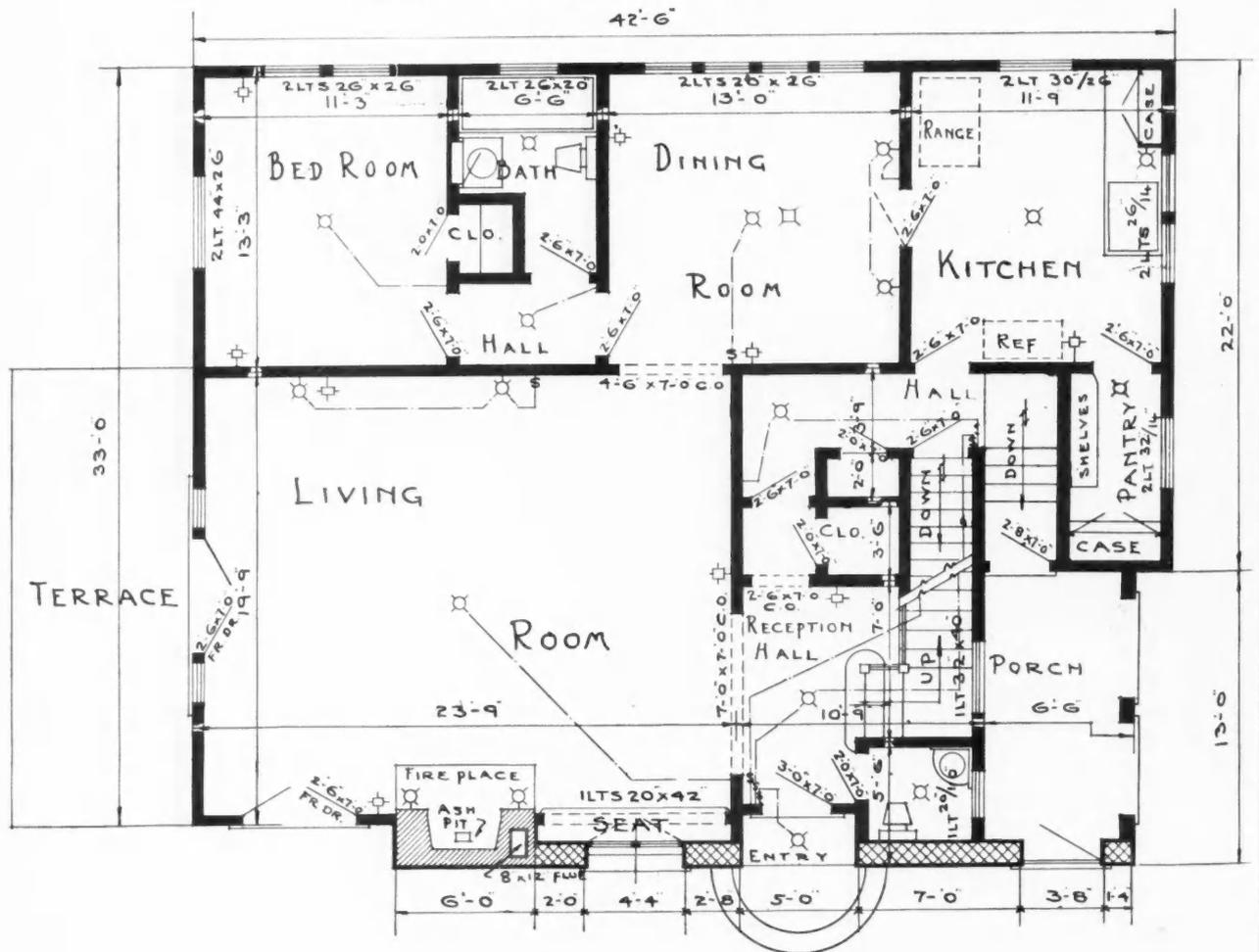
Floor plans, elevation drawings and sectional views of this Front Cover Home will be found on the four pages following.



Rough Textured Stucco and Shingles With an Ornamental Touch of Brick About the Entrance Are the Materials of Our Front Cover Home. On the four pages which follow will be seen the working drawings for this attractive cottage home.



FRONT ELEVATION



SHEET N<sup>o</sup> 1

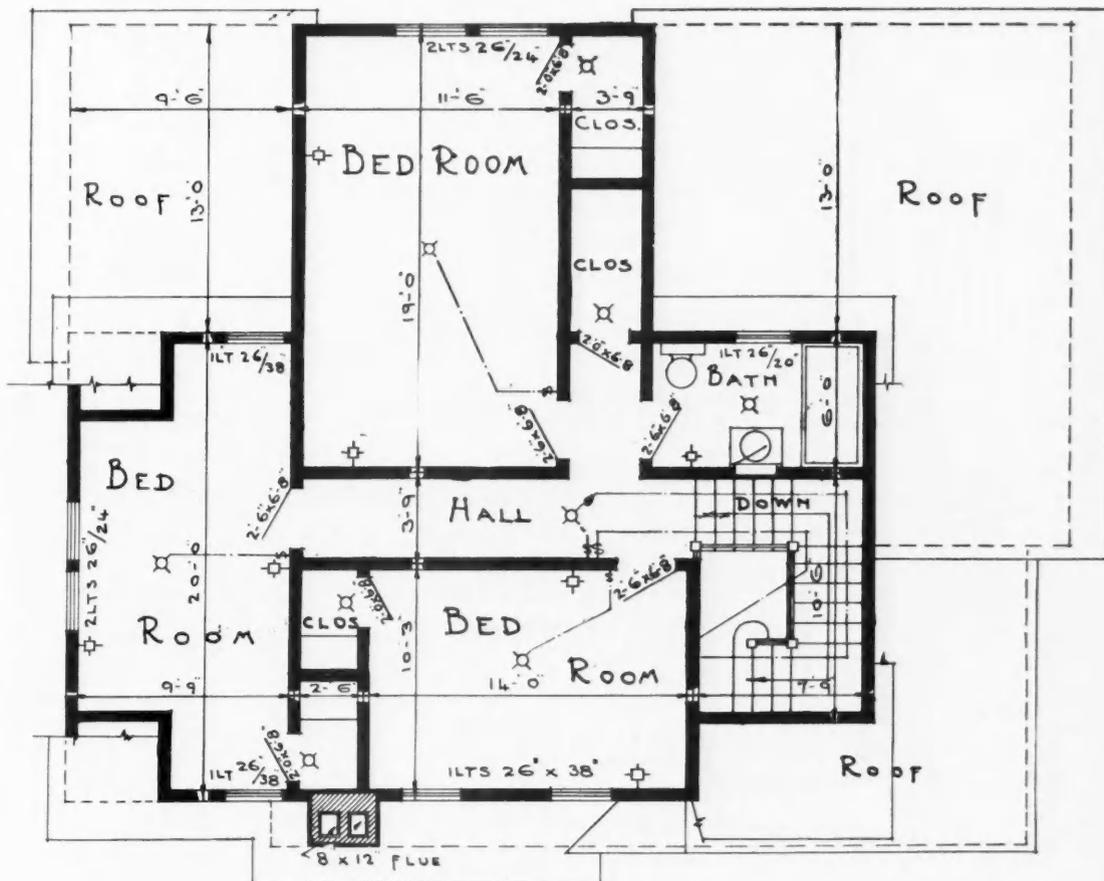
FIRST \* FLOOR \* PLAN

SCALE 1/8" = 1'-0"

Here Are the Front Elevation and First Floor Plan of Our Front Cover Home. The plan shows a most convenient arrangement which will save many steps for the housekeeper who must do her own work. On the next page the arrangement of the second floor will be seen,



LEFT SIDE ELEVATION

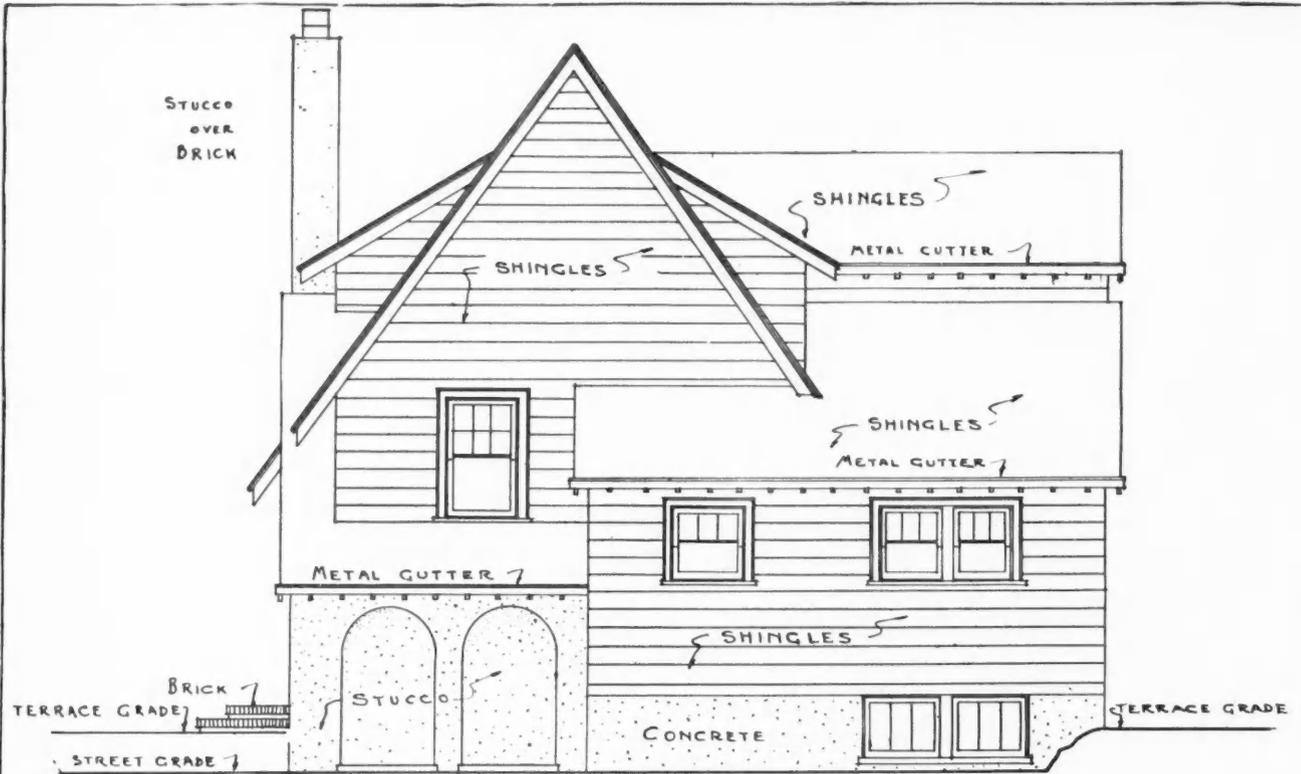


SECOND FLOOR PLAN

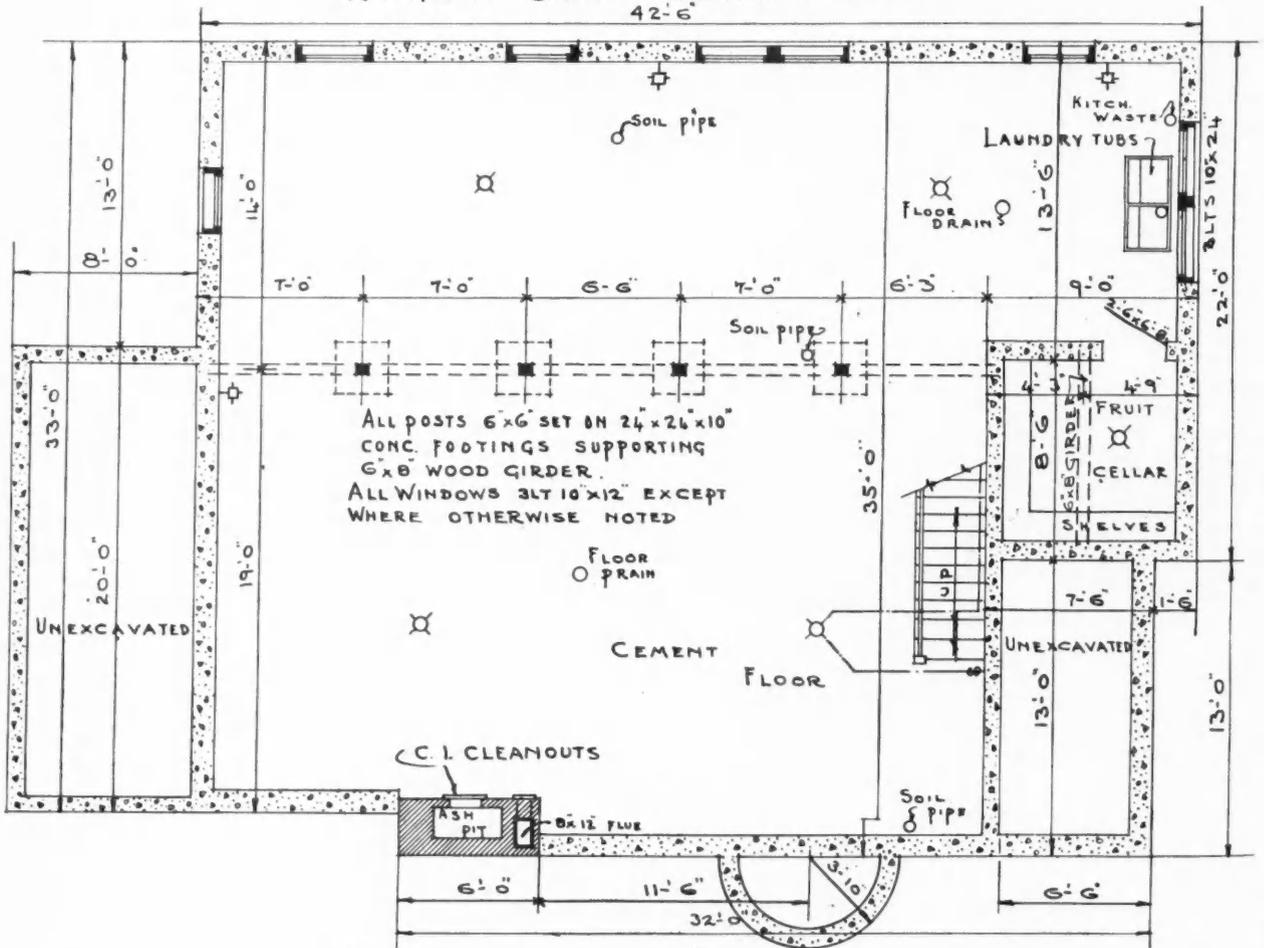
SHEET N° 2

SCALE 1/8" = 1'-0"

Left Side Elevation Shows the Handling of the Terrace Which Opens Off the Living Room, While the Second Floor Plan Displays an Effective Utilization of the Space Available Above Stairs. Turning to the next two pages further details will be found.



\* RIGHT \* SIDE \* ELEVATION \*



\* BASEMENT \* PLAN \*

SHEET N° 3

SCALE 1/8" = 1'-0"

Handling of the Porch and Grading Are Shown in the Right Elevation. The basement plan shows the provisions for a clean laundry space and convenient placing of heating plant and fuel supply.



|   |   |   |
|---|---|---|
|  | <p style="text-align: center;"><b>LANDSCAPE ARCHITECTURE</b><br/>AND<br/><b>THE HOME</b></p> <p>A DEPARTMENT<br/>CONDUCTED BY</p> <p style="text-align: right;">F.A.CUSHING SMITH<br/>LANDSCAPE ARCHITECT<br/>CHICAGO</p> |  |
|---|---|---|

## Perennials for Our Garden

This is NUMBER SIX of a Series of Articles

By F. A. CUSHING SMITH, Landscape Architect

**T**O the lover of the old-fashioned gardens of by-gone days, with their nodding crimson hollyhocks, their masses of pink phlox, of the blue lupines and the varicolored chrysanthemums and the asters in their fall finery, or the tall spikes of delphiniums and the bell-shaped blossoms of the foxgloves, our garden would be incomplete and gardening a lost art without the cheerful presence of the perennials.

There is a carefully cherished garden in old Salem, which is entered through an arched passageway from the kitchen. Outside the door at either side of the gravel path stretch the cultivated and weeded flower beds. Near the kitchen is an herb garden, where is grown mint for seasoning, and many other herbs for other secret or medicinal purposes.

Beyond the herb garden we wander down the box-edged steps and gravel path beneath an ancient apple tree to the lower garden of flowers which, so runs the tale, used to overlook the banks of a spring-fed brook tumbling over the rocks at the foot of the property. In the center of

this lower garden stood, in early days, an inviting sun-dial, which was almost lost amidst the clinging roses at its base. Here, though the garden dates from Colonial times, are found our favorite perennials, descendants, no doubt, of grandmother's lovingly tended plants.

The permanency and hardiness of perennials should appeal to all garden makers. With a deeply-prepared, well-fertilized planting area and proper exposure, these plants fill a niche in the heart and home of each garden enthusiast. Are you in search of flowers for your breakfast table—let us pick some dew-bedecked golden coreopsis, whose sunny smile starts the day happily. Is there a tall basket difficult to fill—try in August the hardy asters, or the graceful blooms of the Japanese lilies, or the slender spikes of the giant Shirley foxgloves.

Do not be discouraged if your fall planting of perennials does not provide blossoms the following spring. They may have been carelessly planted in poor soil, or perhaps not protected by a mulch from the freezing and thawing of early spring. Too shallow planting means freezing or



Perennials in a Garden Which Nestles Among the Trees. Note the spikes of foxglove against the evergreens.

burning of the plant, while too deep planting smothers the crown, retards growth, and may in time kill the plant. Do not uncover the plants too early, for spring frosts work havoc with the tops, and at times destroy the buds.

Not all perennials thrive in the shade, nor all in full sunlight. Most of the so-called wild flowers, such as anemone or wind-flower, spring beauty, shooting star, hepatica, and the bluebells, will bloom profusely if grown in partial shade. The poppy, phlox, hollyhock, larkspur, and many others bloom best in a rich soil, with plenty of sunlight and water. All of the varieties of perennials need water and cultivation if the finest blooms are to be assured.

It is well to prepare the planting areas somewhat in advance of the arrival of the plants, so that the soil may be loose, and friable, and the water kept near the surface, by this dust mulch.

The grouping and arrangement of the plants, while a matter of personal taste, requires much experience to be assured of a successful result. As to height in our garden try to keep the taller varieties in the background, tapering down to the dwarfed or edging plants in the foreground. Vary this enough to avoid stiffness and sameness in appearance.

Where perennials are planted at the front of the shrub border to add a bit of color, care should be taken not to have the plants too close to the shrubs. The larger shrubs will soon over-shadow the weaker perennials, and dwarf and destroy them by over-crowding, and by taking most of the moisture, light and nourishment.

In the purchase of perennials, buy only from a reliable dealer, or through a landscape architect who knows the firms whose stock is the cleanest and the strongest. It is not the first cost of the plant that is important, but rather their root system, and their condition at the time of planting. Plants purchased at a bargain counter will never prove to be satisfactory, and naturally are never guaranteed.

Combinations of perennials in groups are legion, and many volumes have been written on these plants. Color effects, in a wide range of values, are easily secured, so that whether it be a succession of bloom which we are seeking, or striking color combinations to brighten our vistas, delightful results can be secured without much effort. The following combinations have been found by the writer to be especially attractive:

Late flowering lilies among Oriental poppies.

Pink and white peonies as a background for white phlox.

Yellow day-lilies or golden coreopsis with blue delphinium.

Pink phlox with white lilies.

In any garden which you are planning, do not seek a large selection of varieties, but rather have enough of one kind of plant, or one color of bloom to make a real impression of mass in the border. Some people take great delight in growing many varieties of the same plant, specializing on phlox, or iris, or peony, or larkspur, or foxglove. If space permits this is an excellent practice, for they can be grown in rows, and cultivated to bring out the largest possible blooms, and the healthiest plants. If, however, the garden border is limited in size, which is usually the case on the average small lot, and if your enthusiasm may not last through the season, select plants which will give you a succession of bloom, from the early spring through the frost of October.

The following perennials are among the hardiest for the



Phlox and Larkspur Combine Well With Roses Along This Grass Path Just Off the Terrace.

northern states, and will, if properly cared for, survive well the cold winters. But five of the best varieties for each month are given, and many of the excellent old-fashioned varieties may thus be omitted.

#### April Bloom

1. **Daisy, *Bellis perennis*.** This plant carries a profusion of white, pink, or red blooms, the double ones being the best.

2. **Spring Beauty, *Claytonia*.** A wild-flower, well known for its pink clustered flowers, which will grow in partial shade. Plant fifteen to twenty plants together for the best effect.

3. **Liver-leaf, *Hepatica*.** Flowers are small but numerous, and vary from pink to white.

4. **Hardy Candytuft, *Iberis sempervirens*.** Small, white flowers, very numerous, in clusters, in large spreading tufts.

5. **Rock-cress, *Arabis albida*.** This plant, with its pure white flowers, will thrive in a dry sunny situation on a rockery.

#### May Bloom

1. **Madwort, *Alyssum saxatile*.** Fragrant flowers, of a clear golden yellow, will grow in a well-drained soil.

2. **Columbine, *Aquilegia*.** Through May and June the many varieties of Columbine are very effective.

3. **Lily of the Valley, *Convallaria*.** Small white blooms, fragrantly reminiscent of old-fashioned gardens, and will bloom best in partial shade.

4. **Iris, in variety.** The sword-shaped leaves, and the clean habit of the Iris, with its vari-colored blooms, borne erectly on the stems, makes it an excellent edging plant.

5. **Peony, *Paeonia officinalis*.** This, the well-known peony, has many varieties and hybrids, and the flowers in white, pink, crimson and yellowish make an attractive decoration for the home.

#### June Bloom

1. **Astilbe.** Small white flowers in a feathery head, are attractive in the taller varieties of the border.

2. **Canterbury Bell.** This plant is readily a biennial, and should be planted out each year for a continued bloom.

3. **Pinks, *Dianthus*.** Densely tufted pink and white or lavender blooms, fragrant and old-fashioned.

4. **Oriental Poppies.** Deep scarlet blooms, with a purple spot at the base of each petal.

5. **Phlox, *Phlox paniculata*.** The large flat or tallish spikes of vari-colored blooms makes this a most popular perennial.

#### July and August Bloom

1. **Hollyhock, *Althea rosea*.** Stately plants, useful in the background or at either side of a covered seat.

(Continued to page 160.)

# Better Plastering

## Gypsum Plasters and Their Application on Various Types of Bases

*This Is the Fourth of a Series of Authoritative Articles on This Subject*

**I**N previous articles we have considered in a general way the basic structural requirements needed to insure that plaster will have an opportunity to give satisfactory and lasting service. The necessity of anchoring the wood framing to the foundation and the need for proper bracing in places where wind and load stresses are likely to cause deflections, which bring about plaster cracks, have been considered, as have the several types of plaster bases. Now, the subject of the plastering materials claims our attention.

Throughout the ages, many types of plastering materials have been used, but at the present lime and gypsum plasters are the ones in almost universal use, with Keene's cement plaster utilized for interior purposes and portland cement plaster for special uses, which will be considered later. In this article we will deal with gypsum plasters, reserving the other types for future discussion.

In general, gypsum plasters are divided into the neat plaster, that is the material as it comes from the mill, the wood fibred plaster, ready sanded plaster and special finish plasters. The first named is the material ordinarily used, where a dependable grade of sand is available. The ready sanded gypsum needs only the addition of water and mixing to the proper consistency to be applied to the plaster base. This material is used to advantage where the local supply of sand is not of a proper nature, but of course the added cost of the freight should be considered.

Wood fibred gypsum, which product contains, intimately mixed, a suitable amount of non-staining wood fibre made by the grinding or shredding of wood, also contains no sand and is intended to be used without the addition of sand when it is applied. This type of plaster is highly regarded by builders and architects as having exceptional endurance and fire resistance.

The gypsum finishing plasters, for trowel and sand float finishes, are chosen with the shade of the finish desired in mind, also for the proper working qualities and for strength and hardness. These prepared plasters need only the addition of water and the proper mixing to be ready for application.

The following grounds are usually specified for the types of bases most often encountered: Metal lath, three-quarter inch; wood lath, three-quarter inch; gypsum plaster board, one-quarter inch thick, three-quarter inch grounds; gypsum plaster board, three-eighths inch, seven-eighths inch ground; gypsum tile, one-half inch grounds, brick and clay tile, five-eighths inch grounds. In usual practice, the grounds are of a thickness which includes the thickness of the lath, but not the

thickness of any furring or the rib, in the case of ribbed metal lath.

The makers of gypsum plaster advocate the following mixtures for the neat product for the first or scratch coat: For wood lath: To one part of the plaster (fibred) add not more than two parts by weight of dry sand.

Metal lath: To one part of the plaster (fibred or double fibred) add not more than two parts by weight of dry sand.

Gypsum plaster board: To one part of the plaster (fibred or unfibred) add not more than two parts by weight of dry sand.

Brick, gypsum and clay tile: To one part of the plaster (unfibred) add not more than three parts by weight of dry sand.

For the second or browning coat, on all bases, it is recommended by some authorities that to one part of the unfibred plaster be added two parts of sand. Others state that the best work is insured by using the fibred material in the browning coat as well as the scratch coat.

In the mixing of the neat gypsum, one end of the mortar box is raised about four inches. In the upper end of the box are placed a layer of sand and a layer of plaster. The materials are hoed dry from the upper end of the box to the lower end and back again, until the dry mixture is an even color. Water is placed in the lower end of the box and the sand and plaster hoed into the water, mixing the batch thoroughly to the proper consistency for application. No more material should be mixed than will be used in an hour as the mortar cannot be retempered after it has started to set.

A note of warning concerning the condition of wood lath when this base is used is proper here. It is considered the best practice to sprinkle wood lath thoroughly twenty-four hours before the plastering is applied and again dampen them about an hour before the plastering starts. The lath should be damp, but there should not be surface water on them or any water collected along the bottom of the lath in drops or globules. The idea is to have the lath expand before the plaster is applied.

While the method of applying two coat work to wood lath and on gypsum plaster board is given here, it is not the best grade of work, and its use cannot be recommended where the best construction is wanted. According to the advice of the National Council for Better Plastering, which is conducting a campaign to raise plastering standards, the reputation of plasterers and builders in general is suffering through



**A Plaster Column with Three-Coat Gypsum Plaster Finished Above and the Brown Coat Gypsum Plaster, to Be Finished with Keene's Cement, Below.**

the use of work of this inferior type in plastering.

But if two-coat work is to be used on wood lath, the first coat should be applied with sufficient force to fill all of the spaces between the lath and to obtain a firm and full key. It should be straightened back from the grounds to allow for the finishing coat. The surface of the base coat should be broomed or roughened to receive the finishing coat. When thoroughly set and nearly dry, the finishing coat may be applied. This finishing coat and that for the other operations to be given here will be considered later.

For three-coat work on wood lath, the process with the first or scratch coat is the same as on two-coat work, care being taken to scratch this coat to provide a good bond for the second or browning coat. This is applied when the first coat has set good and hard but before it is dry. This coat is straightened and kept back from the grounds to allow for the finishing coat. The surface of this coat is roughened or broomed for the finishing coat which is applied when the second coat is nearly dry.

On metal lath, where three-coat work is used, the first coat is applied with sufficient pressure to fill in all the meshes, so that it covers and stiffens the fabric. Because of the nature of the material, a full key and very satisfactory bond for the plaster always results. This key is insurance to the owner that plaster will not fall off ceilings and in other places where the plaster is subjected to vibration.

In applying the scratch coat on metal lath, the trowel should not scrape the lath and the plaster should extend at least a quarter of an inch beyond the face of the lath. It is then scratched to insure a bond for the second or browning coat, which is applied and prepared for the finishing coat in the manner described for wood lath.

Two- and three-coat work on plaster board is done in the manner indicated for similar work on wood lath, care being taken to work the first coat well into all spaces between the boards. The plaster board should not be dampened before plastering.

On brick, gypsum and clay tile, when necessary to kill excessive suction, the surface is wet before the plastering is done. A thin coat of plaster is applied, then doubling back over the area covered, the second or browning coat is applied and straightened for the finishing coat. This second coat is broomed and when thoroughly set and nearly dry, the finishing coat is applied.

The directions given before apply equally to the wood-fibred gypsum plaster and to ready-sanded gypsum plaster with the exception of the mixing.

With the wood-fibred plaster, the gypsum material is placed in the raised end of the box, the water in the lower, and the plaster hoed into the water, where it should be allowed to soak for a few minutes. After mixing to a proper consistency, it is ready for application. With the ready-sanded gypsum the material is placed in one end of the box, the water in the other, and when mixed to the proper consistency is ready for application.

Gypsum finishing plasters, used for the finishing coat,

are prepared materials which require only the addition of water and proper mixing to make them ready for application.

It is usual to place the plaster in the upper end of the mortar box, the water in the lower, using approximately one part of water to two parts of plaster, by volume. The plaster is allowed to soak in the water, without hoeing, for at least ten minutes. After all the material has soaked and there are no further signs of bubbles, it should be mixed thoroughly and with particular care to break the mortar down to a smooth, even consistency. When properly mixed it is too thin to carry in a hod but can be handled in a bucket.

The base coat should be set and practically dry before this finish is applied. If the suction is too great, the surface of the wall should be sprinkled slightly with clear water, using a clean brush.

The plaster trowel finish is applied in three operations. First, a coat as thin as possible is applied, pressing it firmly into the base coat and covering the surface completely. A second coat is doubled back over the first, leveled out and allowed to draw. The surface is then troweled even, filling in the imperfections. This is allowed to draw for a few moments and is again troweled smooth. The top and bottom of the wall should be worked at the same time to avoid joinings.

For sand float finishes, the m-trowel is laid on with a trowel and then a cork, carpet or felt float is used, the cork float being considered the best. The float is used to work the finish to a true surface, free from float marks or other imperfections. It is advisable to use as little water as possible while float-

ing; the finish cannot be floated after it has begun to set.

Gypsum finishing plaster, often termed gauging gypsum plaster, often is used with lime for a finishing coat. It is used in the proportions of one part of the gypsum material to two parts of thoroughly slacked quick lime or hydrated lime putty. This is equal to about one part of the gypsum finish to two parts of dry hydrated lime, by weight.

These materials are mixed by making a ring of thoroughly hydrated lime putty on the mixing board, putting clean water in the center of the ring and sifting the gypsum powder into the water, allowing it to soak for a few moments. This is mixed to a uniform consistency, then the lime putty is cut and all mixed to a uniform paste consistency. It is applied as is the trowel finish before described.

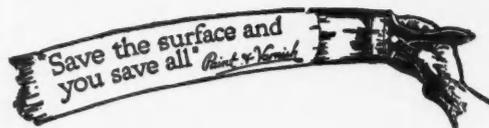
Certain general precautions should be observed in working with gypsum plasters. Nearly half of the water used in mixing the plasters is necessary to the chemical change which takes place when the plaster hardens. This process is interfered with if the plaster dries out before the set takes place. All plaster should be protected against uneven or too rapid drying. In cold, damp or rainy weather it is necessary to see that artificial means for drying are provided. Precautions should be taken, however, against drying the plaster out too rapidly or in spots. Plaster must not freeze. After it has set and become hard, free air circulation should be provided.

(Continued to page 160.)



**In Order to Make a First Class Job of Plastering the Studding Must Be Absolutely Upright.**

# SAVE THE SURFACE DEPARTMENT



Written, Illustrated and Edited by the Headquarters  
Staff, SAVE THE SURFACE CAMPAIGN

## Rot and Rust Destroy Property

By GEORGE B. HECKEL

**T**HE capital investment of the people of the United States in standing property alone—that is, buildings and structures—at the present date is estimated at about \$83,900,000,000. Of this grand total, about one-sixth is in farm buildings, about one-third in urban (town and city) buildings and one-half in other structures, public buildings, institutions, railway structures, schools, hospitals and so on.

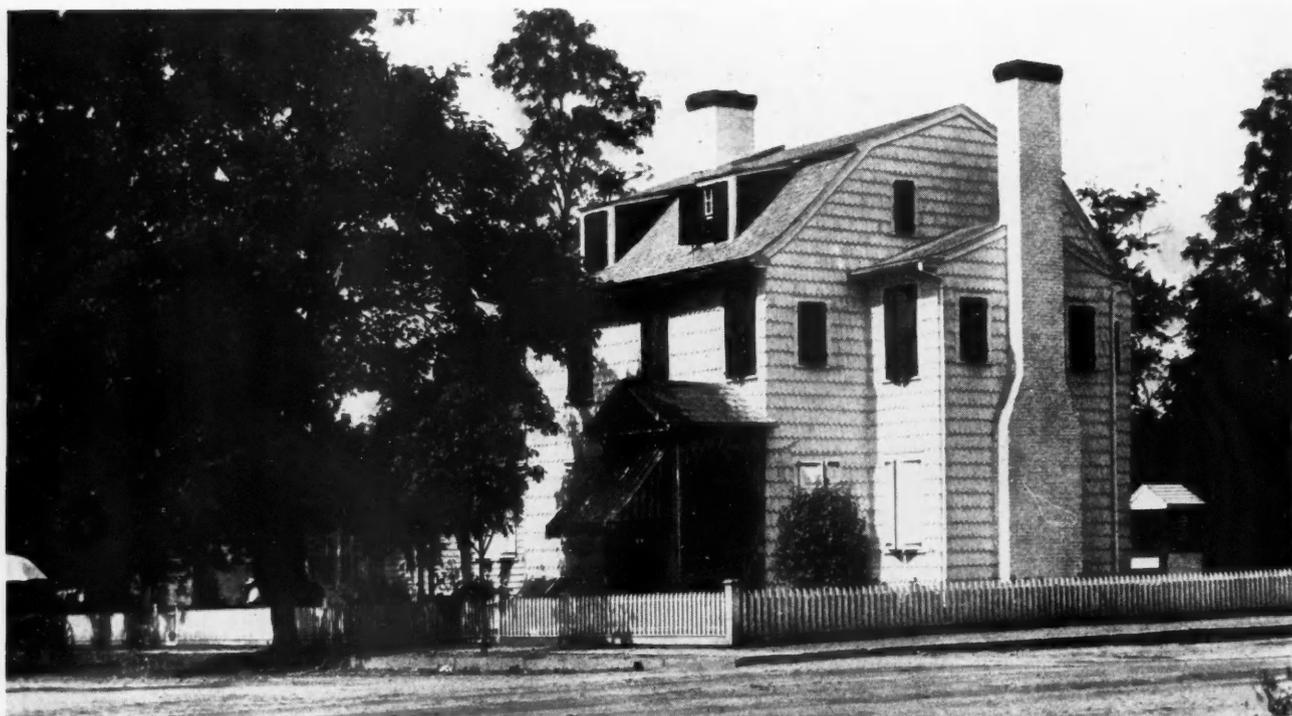
In just what proportion wood and iron figure in these structures we do not know, but a moment's thought will convince anyone that the figures for both must be enormous. All this investment in iron is menaced with destruction by rust and all this wood is subject to both fire and decay.

Fire is the most spectacular of these agencies of destruction and consequently has always received the most attention. Vast agencies for fire prevention have been built up to control and to distribute the annual loss which last year was \$500,000,000.

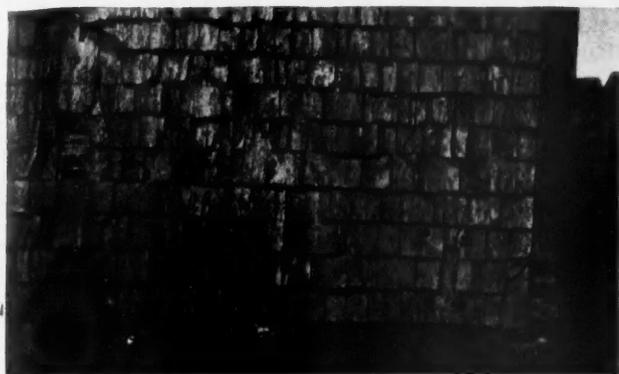
Rust and rot, as agencies of destruction, differ from fire in two important respects: first, they are inevitable unless proper preventive measures are taken; and secondly, the available preventive measures are absolutely efficacious.

Most of the iron stored up by nature in the earth is in the form of the oxide, that being the compound which all iron, left to itself, is destined eventually to assume. Iron may be said, figuratively, to love oxygen, and at every opportunity, unless there be something present to "show good cause," a wedding will occur.

Our annual loss of iron from rusting is estimated at \$600,000,000 and in this case it is "dust to dust" indeed—the iron thus lost will nevermore be available for the use of man. Where iron has changed to its oxide, no further change will, in ordinary circumstances, occur; hence, iron oxides are among the most durable of paint pigments. The unhydrated and hydrated oxides of iron are the coloring matter in all our long list of iron oxide, paints, including



There Is No Reason Why Wood Should Be Allowed to Rot. Here is a wonderfully preserved Colonial home, built in 1767, by Jacob Corlies, of Shrewsbury, N. J. Today it is in better condition than many houses built within the last two decades. Systematic painting will preserve wood indefinitely.



Nails Have Rusted, Shingles Are Pulling Away, Gradually Rot and Rust Are Destroying the Entire Structure.



Rot Is Caused by Fungi Which Exist in All Moist Earth. These boards laid directly on the ground, with no paint protection, decayed in a short time.

Indian red, Venetian red, amber, sienna, ochre, and mineral brown, and the reds and yellows which we see in soils and rocks are also due to them.

But while iron oxides make very good paint, it is a costly negligence which permits the elements to transform our bridges, our machinery, our roofs and all our hundred and one iron fabrications into red and yellow paint, and be assured that this is what happens to all of them if we neglect the precaution of adequately and periodically protecting them with paint or varnish.

Rusting is caused by oxygen, and especially ozone in the presence of moisture. Water without air will not cause rust. Dry air will not produce rust. Ideal rust conditions are present in a thunderstorm, when electricity generates ozone. Paint prevents rust by keeping air and water away

from the iron, therefore steel or iron surfaces properly painted and kept painted will not rust.

Decay or rot in wood is also oxidation, but the effect is not a simple chemical action as is rusting. Rot requires the help of microscopic fungi and bacilli which grow at the expense of the cellulose of which wood is chiefly composed. Their ravages in railway ties and piling are prevented by saturating the wood with materials such as zinc chloride and creosote, which are poisonous to them. This treatment is impracticable for most lumber used in structures, since lumber so treated cannot be painted, varnished or otherwise decorated.

The proper preservative is paint or varnish, which kills such organisms as may already be in the wood, prevents the invasion of others, and excludes the air and moisture.

## Use the Scientific Method of Selecting Color Schemes

**Y**OU may not covet your neighbor's house, but there is no commandment against casting your gaze occasionally in his direction. If you do not do this you may find yourself in the position of the contractor who built a house in a delightful suburb of a big western city for Mr. Smith.

Mr. Smith was a man who always knew exactly what he wanted. He bought a plot and had complete plans drawn for his house. While he was holding the land a prosperous Italian contractor erected a handsome pink Italian villa on one side and on the other a man realized his dreams of a southern plantation house painted Colonial yellow.

When Smith was ready to build, his plans were handed over to the best building contractor in town with instructions to carry them out to the letter. Mr. Smith's house was to be a charming rustic English cottage, painted pea green with a simulated thatched roof and approach banked high with English laurel.

Between the pink villa and the vivid yellow house the pea green cottage, when finished, loomed up a sickly green. The determined Mr. Smith had not only made his own house appear ridiculous, but had accentuated the high colorings of the nearby houses.

The builder, too, suffered—both learned a lesson. It is wise to consider your neigh-

bor's houses before painting your own. One discordant color in a row of houses will often spoil the dignity of the entire street. This does not mean that you should copy your neighbor's color schemes, as there is nothing more monotonous than a row of houses all painted alike.

Choose a distinctive and individual color scheme by all means, but choose one that will harmonize with that of its neighbors.

This is often easier said than done. Many difficult painting problems confront house owners, such as the pink villa and yellow Colonial house. But the science of color har-



Houses in the Same Neighborhood Owe Each Other Some Color Allegiance. Don't deliberately ruin the appearance of a street by allowing a house to be painted a color that is decidedly out of harmony with its next door neighbor.

mony is no longer intangible for its laws are known and, if followed, provide a solution for every problem.

About eight years ago a group of prominent artists devoted months to the study of the laws underlying color harmony. It was their firm conviction that the great masterpieces in art and architecture are based on fundamental color laws. The results of the research led to the preparation, by Henry Fitch Taylor, ex-president of the American Painters' and Sculptors' Association, of a new and comprehensive color harmony system based on scientific laws.

This system is known as the Taylor Color Harmony Keyboard. It demonstrates and applies principles which are deep-rooted in a mass of scientific fact, and its operation is as simple as the opening of a window.

Upon a large sheet of paper are printed bands of colors arranged so as to form a chromatic scale. When black cardboard masks with small openings are laid upon the scale, a series of scientifically harmonized colors appear, all discordant colors being hidden by the solid portions of the mask.

If one has a room, let us say, in which there is a blue rug or mulberry davenport, the additional colors to employ may be instantly discovered by placing one opening of

the mask over the blue or the mulberry, and noting the related colors appearing through the other openings.

Had Smith considered the colors of his neighbors' houses and then consulted the color harmony keyboard, he would have used a soft shade of blue green. His house would then have harmonized with its brilliant neighbors, improving the general appearance of the entire block.

He would have used a soft yellow for trim, blending with the yellow house at the right. The pink of the other house he could have introduced with flowering shrubbery or in window hangings. Between red and green houses a good harmonizing color will be found in greenish yellow.

If a house on one side is very dull, and one on the other very bright, the center house should combine both extremes.

Thousands of families are asking daily, "What color shall we paint the house?" When it is not a question of harmonizing with neighboring houses, it is a question of the colors best suited to the architecture, or the color combination for body trim and roof. Which combination will best meet the requirements and make the house fresh, attractive and distinctive? The color harmony keyboard will show exactly how to harmonize the surfaces. Scientific selection of color schemes will prevent disappointment.

## Aesthetic Values of Paint

**A**MERICA'S awakening to an appreciation of things beautiful has been heralded by a prominent architect who has been watching this development with keen interest. He believes that this appreciation was stimulated by the Centennial Exhibition and has been gathering momentum ever since.

Before the exhibition a callousness and lack of appreciation had been growing.

Today a small, inexpensive home need not be unattractive. The little house is well planned, well built and well decorated. People are taking as great an interest in their little houses as the wealthy take in their vast estates. This is obvious to every one even remotely interested in construction.

According to the aforesaid architect the use of paint has been one of the effective means in helping towards better things. Paint, he asserts, is easy to apply; it gives latitude for the imagination, and it is sanitary. These three aspects of it alone have attracted the average man.

Color is the chief aspect of paint with which this architect concerns himself, and it is well that he does, for too often we find the utilitarian qualities of paint emphasized at the expense of the aesthetic.

He goes to great lengths in discussing appropriate color schemes, all of which are as interesting to the builder as to the home owner, for frequently the former is asked for suggestions on decorative matters.

"Upon entering a house," he says, "one should give a great deal of thought to the effect of the house as a whole, but nothing so helps as the proper color scheme when rightfully thought out. I recall clearly a prominent authority on color in New York who was called upon to apply a scheme for a client's dining room. The client did not seem to be able to give him any particular keynote on which to work. He thought if he could only know a little more of the home life of his client it would help him,

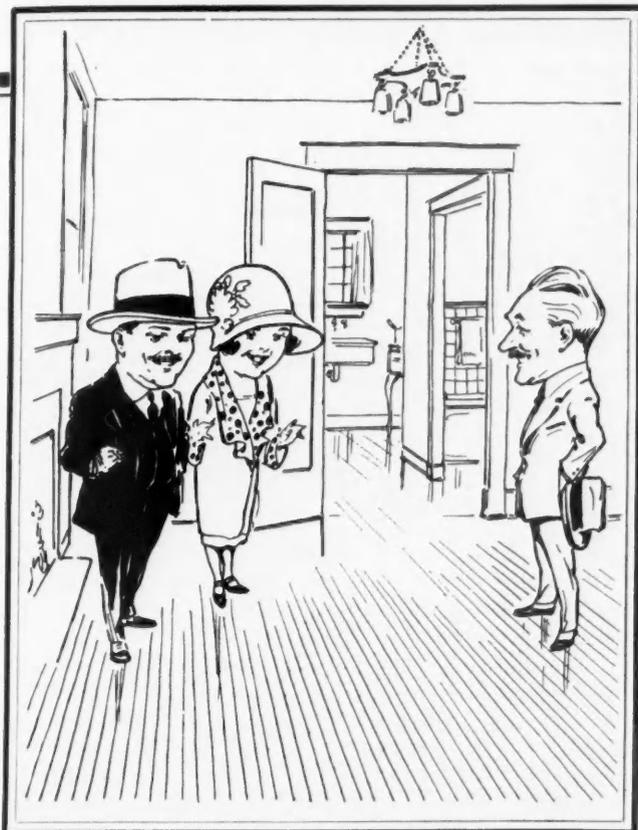


**Much of the Charm of This Breezy Seaside Porch is Due to the Fact that Everything, Furniture Included, Is Kept in Good Paint Condition. This porch is part of the oldest hotel at a famous Atlantic resort.**

and in one way or the other it was arranged that he should dine at this home and discuss the question.

"Upon the night arranged at the head of the table sat his hostess. He surveyed her for a moment, and in a flash he had the keynote for his color scheme. Her beautiful red hair immediately suggested a background of greens. With this to work upon his ideas crystallized and he produced what he afterwards considered one of his most successful rooms.

"Color should be chosen with reference to the quantity and quality of light which enters the room. A north room, as it has little sunshine, needs bright, warm treatment—yellows, reds, and golden browns—while a room with a southern exposure requires cool, light colors—blues, greens, and cool gray tones. Some shades of green can be used with good results in a southern room, but olive greens are best suited to northern exposures. These colors are



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Much Depends Upon the Decorations of a Hotel Room. Plain painted walls, panelled with moulding are beautiful and have all the other requirements for such chambers being sanitary, easily cleaned and highly durable.

apt to be brownish at night, and so must be considered both by daylight and artificial light."

The amount of daylight that enters a room will have an effect on the depth of color to be used is one of the precepts that he sets forth. "It will be necessary to consider all colors, both in a strong light and in shadow. I need hardly add that by artificial light a room will usually be darker than one expects. Since masses of color deepen with shadow, it is well not to have the walls too strong, but to leave the strongest tone for floor coverings and furniture. The ceiling in all cases must be lighter in tone than the walls. When the tones are well balanced in this way, the room is usually successful."

According to this we need not be so hampered in our selection of colors for rooms that face east and west, as practically any color can be used in them. We must realize how all important it is to have the wall treatment satisfactory.

"The first impression of a room depends upon the walls," he continues, "for they are the atmosphere, as it were, and make the room pleasant or otherwise.

"People seldom think of the size of the room or the exposure, and often choose a great number of violent contrasts when trying to make their house attractive. How much better it would be to get tones of some colors that are harmonious—brown and yellow in a northern room, with brown and green in an adjoining room, and so on. I have seen a pink parlor leading out of a red hall, and a blue living room leading out of a pink parlor. Each room was beautiful in itself, suitably furnished in every way, and no expense spared, yet this glaring mistake proclaimed itself the moment the threshold was crossed.

"One will soon learn that it is more restful and refreshing to go into a room with cool green walls, wrought-iron hardware, a carefully chosen rug than into one with 'loud' walls, gold furniture, brass fixtures, onyx tables and large patterned carpet.

"Few of us realize how color affects the spirits. Dark and gloomy colors cause depression, while bright, sunshiny colors bring cheerfulness into the home.

"In selecting colors, or any form of decoration for rooms, care should be given to see that there is not too much stress put upon the idea of what is commonly known as decoration, for while complexity is associated with richness, it must not be supposed that simplicity is synonymous with poorness and poverty of design. Such is not the case; it is rather the outcome of directness of purpose and the desire for purity and refinement.

"True simplicity in the design is often more difficult of attainment than complexity, for the fewer colors the more

thought and care will be required in their arrangement. These two principles, when rightly understood, can be legitimately employed in the same scheme of decoration, each setting off the other."



## Perennials for Our Garden

(Continued from page 153.)

2. **Delphinium, Larkspur.** Blue or white spikes of graceful nodding blooms.
3. **Digitalis, Foxglove.** No garden should be without the fine foxgloves.
4. **Balloon flower, Platycodon.** Bell-shaped flowers, puffing up like a balloon before opening.
5. **Giant Daisy, Pryethrum uliginosum.** This white daisy is excellent for cutting.

### September and October

1. **Japanese wind-flower, Anemone.** Flowers are large bright red, about 2 feet in height.

2. **Hardy Chrysanthemums.** These plants, providing such a mass of blooms, are best grown in a rich soil.

We cannot spend too much time and thoughtful care in the plans for perennial groupings. The plan should be so prepared that upon the arrival of the plants they will not be subjected to the drying of the roots while the slow process of deciding their relation one to the other is undertaken at the last moment. The real joy of gardening comes in actually carrying out a pre-conceived vision, which in its maturity will give you a quiet, restful haven of retreat.



## Better Plastering

(Continued from page 155.)

Some of the more common difficulties encountered in plastering, with possible remedies, are worthy of consideration.

Plaster which sets too slowly may be speeded up by using a prepared accelerator, which is made by almost every manufacturer of plaster. When this material cannot be had the required result may be accomplished by scraping the sides of the mixing box and using the material scraped off in the plaster mixture. Another method of speeding up the setting of the wall is to soak and set up plaster in a barrel for several hours and use the water for mixing. Another method used when the foregoing fail is to mix from four to six pounds of alum or zinc sulphate in a barrel of water. From two to twelve quarts of this solution are mixed in the amount of water used for each bag of plaster. Slow setting is usually caused by impurities in the water used or in the sand.

Plaster which sets too quickly usually is the result of a dirty mortar box or tools, or to the use of plaster which has been wet or exposed to dampness. It may be remedied by using a prepared retarder or through the use of the following formula:

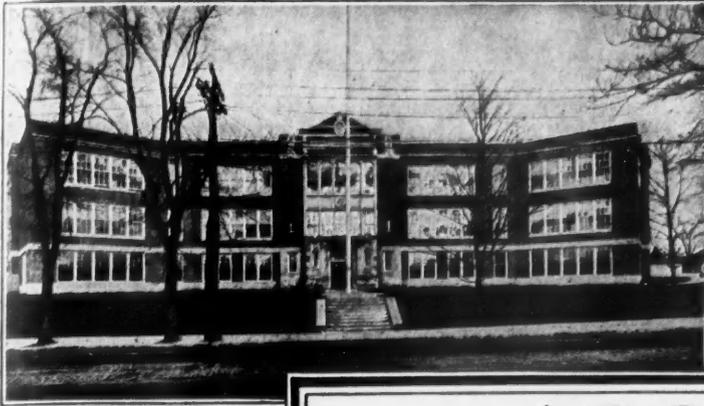
Dissolve one pound of pulverized glue in one gallon of hot water; mix about one pint of this into the mixing water for each bag of plaster.

Lime plasters will be considered in the next article.



## Alabama Mill Managers Organize

AT a meeting of the board of directors of the Alabama Mill Managers' Association held in Birmingham, June 30, final organization of the association was completed with the adoption of a constitution and by-laws. The session was presided over by Basil E. Kennedy, vice-president, who was later elected president to succeed F. E. Tuxworth, who resigned.



Frank Ashley Day Junior High School,  
Newton, Mass. Brainerd & Leeds,  
Architects, Boston, Mass.

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# ARCHITECTS' PAINTING GUIDE

FOR PAINTING · VARNISHING · STAINING AND ENAMELING

IMPORTANT: Each of the products specified below bears our name and trade mark

| SURFACE                                      | TO PAINT<br><i>Use product named below</i>                               | TO ENAMEL<br><i>Use product named below</i>             | TO STAIN<br><i>Use product named below</i>              | TO VARNISH<br><i>Use product named below</i>                            |
|--|--|---|---|---|
| BRICK WALLS (ext).....                       | S-W Concrete Wall Finish   | Old Dutch Enamel, Gloss                                 |   |   |
| CONCRETE WALLS....                           | S-W Concrete Wall Finish   | Old Dutch Enamel, Gloss                                 |   |   |
| CEMENT FLOORS.....                           | S-W Concrete Floor Paint   | S-W Concrete Floor Paint                                |   |   |
| EXTERIOR WOOD SURFACES.....                  | SWP (Sherwin-Williams Prepared Paint)                                    | Old Dutch Enamel, Gloss                                 | S-W Preservative Shingle Stain<br>S-W Acid or Oil Stain | Respar Varnish  |
| EXTERIOR METAL SURFACES.....                 | Kromik Structural Steel Primer<br>Metalastic (for finishing coats)       | Old Dutch Enamel, Gloss                                 |   |   |
| FACTORY WALLS (Interior).....                | S-W Eg-Shel Mill White<br>S-W Fume Resisting White                       | Old Dutch Enamel or Enameloid                           |   |   |
| FLOORS (Interior Wood)...                    | S-W Inside Floor Paint (the enamel-like finish)                          | S-W Inside Floor Paint (the enamel-like finish)         | Oil Stain or Floorlac Varnish Stain                     | Mar-Not Floor Varnish   |
| GALVANIZED IRON SURFACES.....                | S-W Galvanized Iron Primer (Finish with any Paint)                       | S-W Galvanized Iron Primer and Old Dutch Enamel         |   |   |
| INTERIOR WALLS AND CEILINGS.....             | Flat-Tone Wall Finish<br>S-W Eg-Shel Mill White                          | Old Dutch Enamel or Enameloid                           |   |   |
| INTERIOR WOOD TRIM.....                      | SWP (Sherwin-Williams Prepared Paint)                                    | Old Dutch Enamel or Enameloid                           | S-W Acid Stain<br>S-W Handcraft Stain<br>S-W Oil Stain  | Scar-Not Varnish<br>Velvet Finish Varnish (for imitation rubbed effect) |
| PORCH FLOORS AND DECKS.....                  | S-W Porch and Deck Paints  |   |   |   |
| RADIATORS AND PIPES.....                     | Flat-Tone Wall Finish or S-W Gold Paint<br>S-W Aluminum Paints           | For White—S-W Snow White Enamel<br>For colors—Enameloid |   |   |
| ROOFS—Metal.....                             | SWP or Metalastic (if Galvanized, prime with S-W Galvanized Iron Primer) |   |   |   |
| ROOFS—Wood Shingle...                        | SWP  |   | S-W Preservative Shingle Stain                          |   |
| STACKS AND HOT SURFACES.....                 | Salamander Smoke-Stack Black   |   |   |   |
| STRUCTURAL STEEL...                          | Kromik Structural Steel Primer<br>Metalastic (for finishing coats)       |   |   |   |
| TO DAMP-PROOF FOUNDATIONS....                | S-W Antydamp   |   |   |   |
| TO DAMP-PROOF INTERIOR WALLS ABOVE GRADE.... | S-W Plaster Bond   |   |   |   |
| WOOD PRESERVATIVE                            |  |   | S-W Carbolic-ol   |   |

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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Variety and Beauty in Brickwork

ONE of the most effective examples of the new "skintled brickwork" which has lately become so popular in Chicago, is shown in the illustrations on this page. This is also one of the boldest applications of the new style which has been attempted and its success is a forward step. The architect was James Ray Jones, of Chicago.

This house was built in the pretentious North Shore residence district where cost is a secondary consideration and beauty of primary importance. Because of the artistic effects which can be produced with this work, Chicago common brick, which until recently was considered a purely utilitarian and unbeautiful material, was selected for this fine home.

As pictured here, the house is in the final stages of construction. With the lawn graded and sodded, shrubbery planted about the house, rough stone steps and walk leading from the door in the angle of the building and attractive awnings at the arched windows and over the balcony, the effect was both unusual and beautiful.

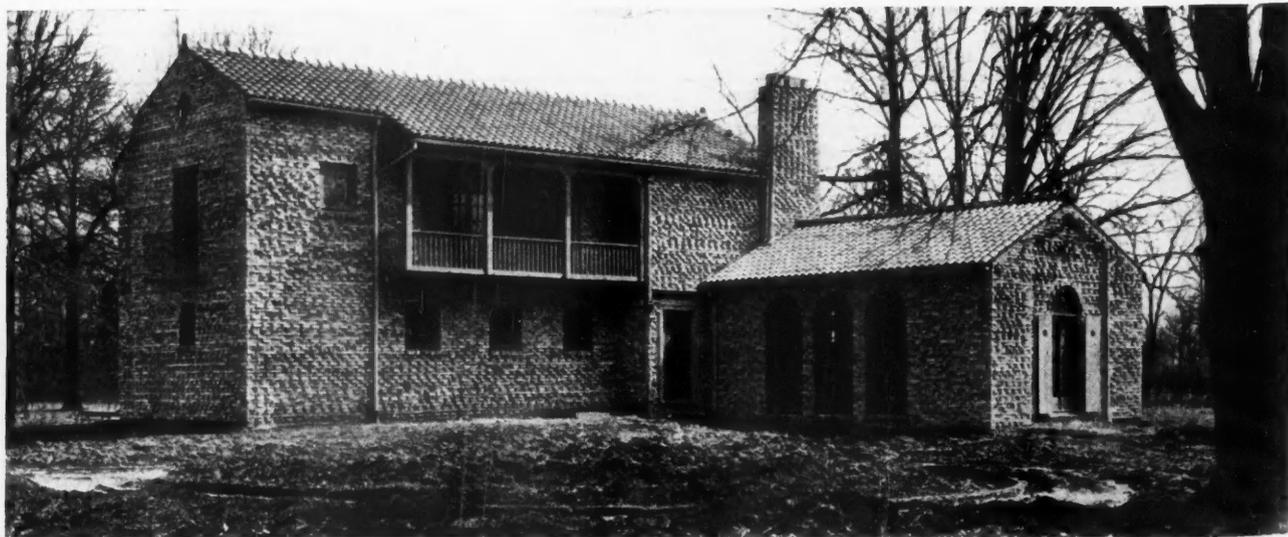
Because of the simplicity of this method of brickwork it can be adopted anywhere and brings a new and beautiful type of brick house within the range of people of limited means. There are infinite possibilities for variation in the manner of handling this staggered effect which will suggest themselves to the builder and enable him to offer the prospective home owner something individual.

This element of individuality is one worthy of real consideration. It has been said that the conditions of modern life are gradually exterminating the variety of life. There is, in every person, a natural desire for variety and the expression of individuality and this

desire is strikingly manifested in the present vogue for brightly enameled furniture. "Skintled brickwork" offers both variety and individuality in the building of the home.



A Closer View Shows the Bold Treatment of the Staggered Brick in the Outer Walls. This is one of the numerous successful types which are now attracting wide attention.



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The Common Brick Manufacturers' Association of America  
2131 Guarantee Title Building, Cleveland, Ohio

Please put my name on your list of mason contractors so that you  
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# INSTRUCTIONS IN ROOF FRAMING

*This Department Appears Every Month in American Builder*

## Cutting the Hip Rafter

By JOHN T. NEUFELD

**I**N order to get a clear understanding of the difference between the common rafter and the hip rafter we will figure the lengths and cuts for the common rafter and also for the hip rafter of the roof shown in Fig. 26.

### Laying Out the Common Rafter

This roof is 16 feet wide and the rise is 6 feet. The pitch is  $\frac{6}{16} = \frac{3}{8}$ . To find the rise per foot run we proceed as follows: The roof rises 6 feet or 72 inches in 8 feet of run. In one foot of run the roof rises  $72 \div 8 = 9$  inches. This may be also found by multiplying the pitch by 24.  $\frac{3}{8} \times 24 = 9$  inches.

In the table such as we have illustrated in the January number we may find the length per foot run. For a  $\frac{3}{8}$  pitch this is given as 15 inches. The tables on the steel square also give the length per foot run of rafters, but they only give a few pitches and this one is not given.

The common rafter has an 8-foot run. The length is the length per foot run times the run in feet. Therefore, the length of the common rafter is  $15 \text{ in.} \times 8 = 120 \text{ inches} = 10 \text{ ft. } 0 \text{ in.}$  As the rise per foot run is 9 inches, we may use the 9 on the tongue and 12 on the blade to lay out the top and seat cuts for this rafter. Fig. 27 shows how the length and the cuts are laid out on the rafter.

### Laying Out the Hip Rafter

As explained in our last discussion we may also find the length of the hip rafter by the length per foot run method. The run of the hip is 16.97 inches, usually stated 17 inches, for every foot run of the common rafter. This is also shown in Fig. 26 by the two steel squares. On one 12 inches are taken on the blade and on the other 17 inches.

The length of hip for each foot run of common rafter is also given in tables. A hip rafter table was given in the lesson in the March number of this paper. The length of hip rafter per foot run of common rafter is given as 19.21

inches. To find the total length of the hip rafter we multiply the length per foot run by the total run of the common rafter. Therefore, the length of the hip rafter is  $19.21 \times 8 = 153.68 \text{ inches}$ , or 12 feet  $9 \frac{11}{16}$  inches.

The square at the lower end of the hip rafter in Fig. 26 shows how the seat cut is obtained. The number taken on the tongue is the same as is used for obtaining the cuts for the common rafter. That is, take the rise per foot run, which is 9 inches in this case, on the tongue. On the

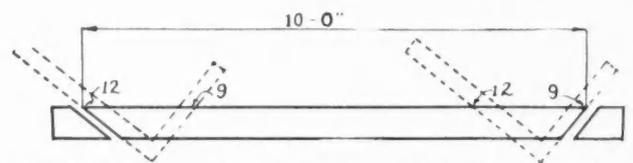


Fig. 27. Laying Out the Common Rafter for the Roof Shown in Figure 26.

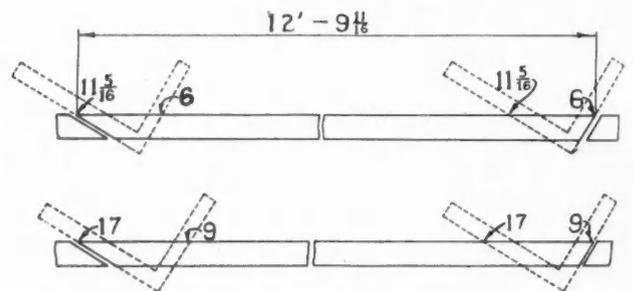


Fig. 28. Laying Out the Hip Rafter for the Roof Shown in Figure 26.

blade we take 17 inches instead of 12 inches as for the common rafter, because the run of the hip rafter is 17 inches for every 12-inch run of the common rafter. The numbers 17 and 12 will, therefore, give the bottom or seat cut for the hip. These same numbers also give the top cut. Fig. 28 shows how the length and also the cuts for the hip rafter are laid out.

In the upper part of Fig. 28 we have shown how the cuts of the hip rafter may be laid out by using the total run of the hip on the blade and the total rise on the tongue. The total run of the hip rafter is 11.31 feet or  $11 \frac{5}{16}$  feet, therefore we take  $11 \frac{5}{16}$  inches on the blade. The total rise is 6 feet, therefore we take 6 inches on the tongue. These numbers taken on the square of course lay out the same angle as the ones below it in the same figure.

### Side Cut of Hip

The detail in the circle of Fig. 29 shows the meeting point of the hip rafter and the common rafter. This detail shows us that the hip rafter requires a side cut at the upper end.

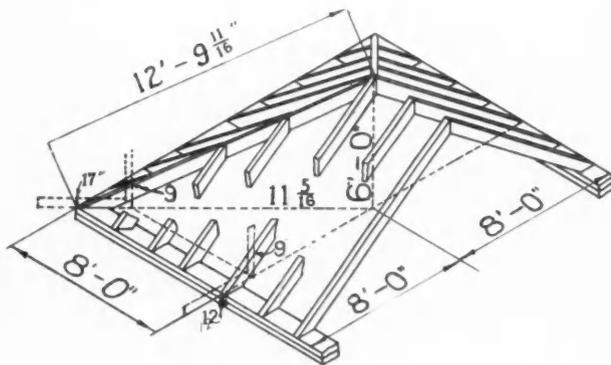


Fig. 26. Illustrating the Hip Roof Used in a Problem in This Lesson.



... and naturally they favor Barrett Giants  
*(which reduce laying costs—increase profits)*

**T**RUE enough—the old timers didn't pay much attention to figuring costs. Often it was largely a matter of luck whether they made a profit on a roofing job or not.

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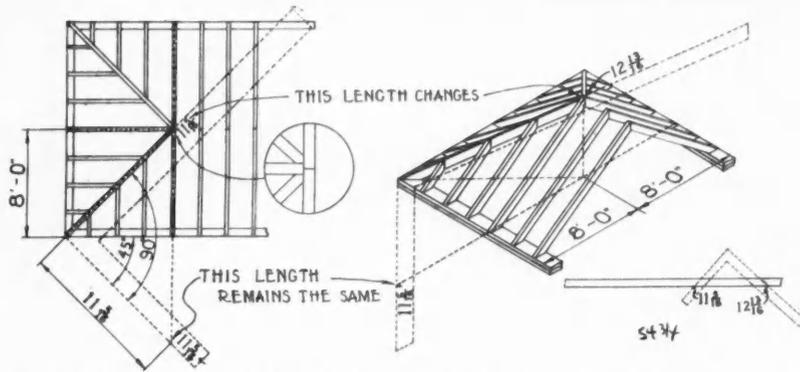


Fig. 29 (Left). Fig. 30 (Right). Illustrating the Principles on Which the Rule for Obtaining the Side Cut of the Hip Rafter is Based.

In order to learn how to lay out this side cut it is best to see first what this side cut would be if the roof was flat as shown in Fig. 29. Then this side cut would be a 45-degree cut because the hip rafter runs at an angle of 45 degrees with the common rafter. If we lay a square along the hip rafter so that the blade coincides with the hip then the tongue takes the position as shown in Fig. 29. A line is drawn along the common rafter and continued until it meets the tongue of the square. Up to this point the distance along the tongue of the square is the same as the distance along the run of the hip rafter.

If the roof takes on a rise or pitch as shown in Fig. 30, then the distance along the blade changes with the length of the hip rafter. The distance along the tongue of the square, however, remains the same. The square in this position describes the side cut of the hip rafter, as is required to fit against the common rafter. The side cut against the hip, of course, is the same on both sides. From this application of the square we may assume that if we take the length of the hip on the blade and the distance shown on the tongue, we will have the angle for the side cut of the hip. As stated before the distance on the tongue is the same as the run of the hip.

For laying out the side cut, therefore, we take the length of the hip on the blade and the run of the hip on the tongue and apply this to the back of the rafter as shown in Fig. 30.

In the case of the rafter in our problem, the length of the hip is  $12\frac{13}{16}$  feet and the run is  $11\frac{5}{16}$  feet, therefore we take  $12\frac{13}{16}$  inches on the blade and  $11\frac{5}{16}$  inches on the tongue.

In place of the total length and the total run we may also take the length per foot run (19.21 inches) and the run corresponding to one foot of run of common rafter (17). Thus,  $19\frac{1}{4}$  and 17 would give the same angle for the side cut. The side cut is laid out on the back of the rafter.

### Backing the Hip

In Fig. 31 we show the lower end of the hip rafter as it fits on the plate. It will be noticed that the edges extend beyond the plate. They are, therefore, also higher than the other rafters. The corners or edges of the hip must be cut off or the hip must be set lower so that the edges coincide with the dotted line as shown at B. Cutting off the corners or edges of the hip is called Backing the Hip.

There are various ways by which the amount of backing is found. Sometimes the edges are merely cut off with the hatchet after the hip is placed. If it is desired to do the backing before the hip is placed then the line of backing may be found as illustrated in Fig. 31.

First make the horizontal cut for the seat. Next draw two lines as shown at C. These lines make an angle of 90 degrees with each other; and indicate the lines of the corner of the building or of the plate on which the rafter

will sit. The point at which these lines meet the side of the rafter is the point through which the line of backing must be drawn. The line of backing, as shown by the dotted line, indicates how far the corners of the hip must be planed off.

### PROBLEMS

1. What is the run of the hip rafter for one foot of run of common rafter?
2. What numbers on the square will give the plumb and also the seat cut of a hip rafter for a roof with a 6-inch rise per foot run?
3. The length of hip per foot run of common rafter for a  $\frac{1}{4}$  pitch roof is given on tables as 18 inches. What is the length of hip rafter for a building 30 feet wide?
4. What numbers on the square will be used to lay out the side cut of the hip rafter of the previous problem?

### ANSWERS

1. The run of the hip rafter corresponding to one foot run of common rafter is 16.97 inches, usually stated as 17 inches.
2. The numbers 17 and 6 taken on the square will give the plumb and seat cut of a hip rafter for a roof with a 6-inch rise per foot run.
3. On a building 30 feet wide the run of common rafter will be 15 feet. If the length of hip per foot run of common rafter is 18 inches, then the total length is  $18 \times 15 = 270$  inches = 22 feet 6 inches.

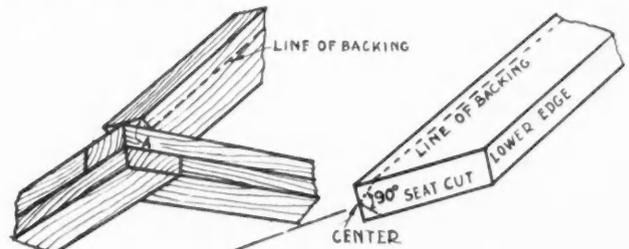


Fig. 31 (Left). Close View of a Corner of a Roof Showing the Backing Line of the Hip Rafter. Fig. 32 (Right). An Easy Way to Determine the Amount of Backing for the Hip Rafter.

4. For laying out the side cut of this hip rafter we may use the length of hip per foot run of common rafter (18 inches) on the blade and the run of hip per foot run of common rafter (17 inches) on the tongue. We may also use the numbers representing the total length and the total run.



### Southern Pine Prize Offer

**A**NNOUNCEMENT has just been made by Secretary-Manager H. C. Berckes of the Southern Pine Association's offer of \$1,000 in cash prizes for the best suggestions of the most practical and economical methods and devices for handling and grade-marking Southern pine lumber and timber.

The contest for improved means of grade-marking is open to anyone who desires to enter. Contestants are requested to send in their suggestions before October 1, 1925, when they will be presented to a committee appointed to make the awards. The \$1,000 will be divided into six prizes. All suggestions should be sent to the Southern Pine Association, contest department, at New Orleans.

At present the association mills that are grade-marking are using a rubber stamp with pink pad and the grade is marked on the end of each piece of lumber. This method of grade-marking can be improved, as the rubber stamp does not make an indentation on the end of the boards which will insure permanency and legibility.

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Genasco Roll Roofing is especially suited for farm buildings, factories, train sheds, round-houses, warehouses, lumber sheds and all places of storage. Made in two styles—smooth-surface and slate-surface.

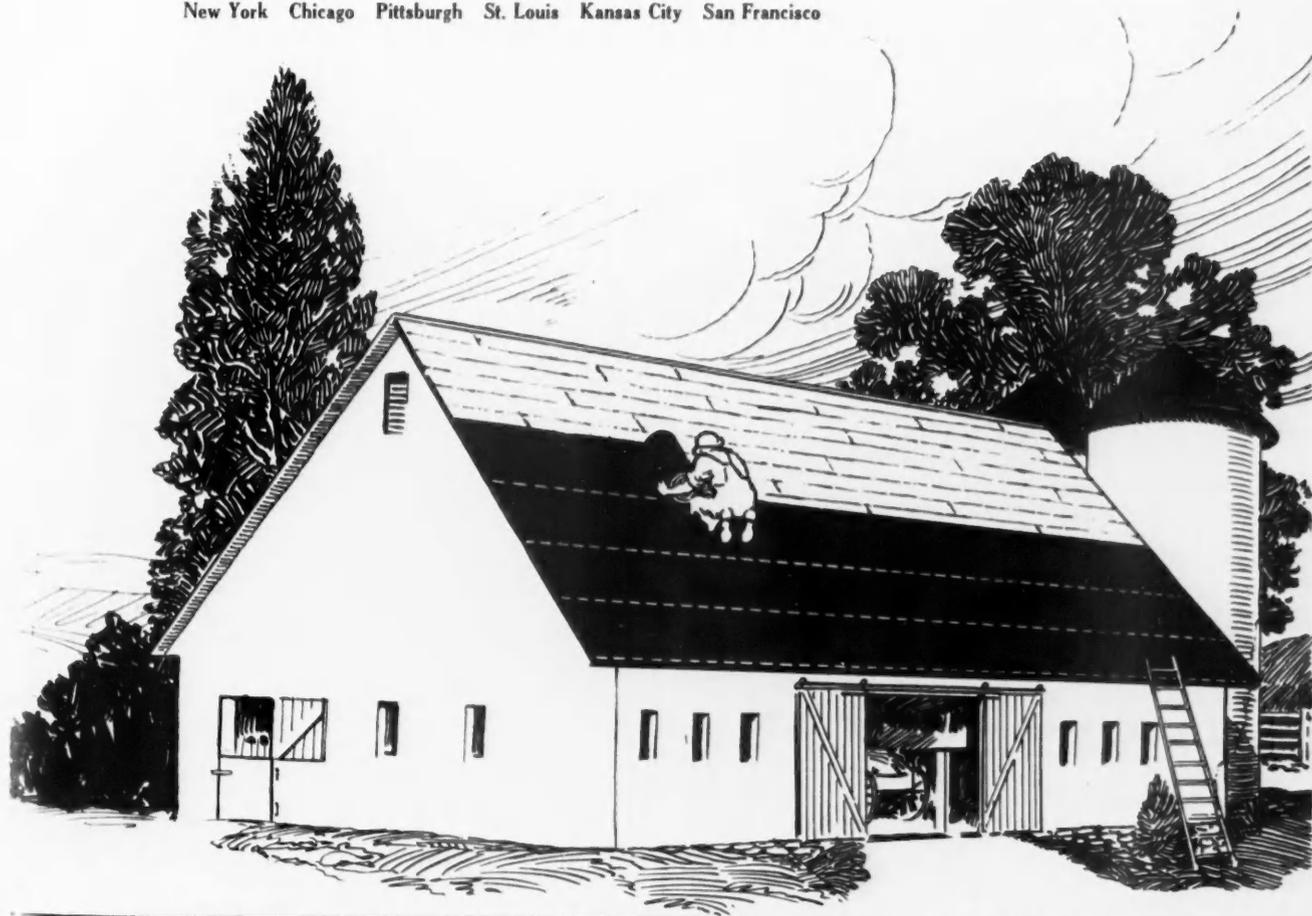
For homes and other buildings where you want a more ornamental covering than roll roofing, use Genasco Latite Shingles. They can be laid right over old wood shingles. Write for illustrated folders.



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WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

# Special Concrete Construction Resists Earthquake



Though the Surrounding Buildings Were, for the Most Part, Either Completely Demolished, as Seen at the Left of This Photograph, or so Badly Damaged as to Be Condemned, the Carrillo Building, of Special Concrete Construction, Survived the Recent Santa Barbara Earthquake Without Damage and Was Approved as Safe Without Repair by the Inspecting Engineers.

**A**FTER the earthquake of June 29, Santa Barbara, Calif., emerged as a city of ruins. The destruction was general throughout the city, but the quake was most severely felt and the greatest damage done in the vicinity of State Street, the principal business thoroughfare. Here practically every building was demolished or so severely damaged that it was beyond hope of reconstruction and must be torn down and replaced by a new structure, better fitted to resist any future earthquake which may occur.

In the midst of the ruins the few buildings which remained intact and undamaged were conspicuous, and it is notable that one type of special concrete construction came through, in every instance, without serious injury of any kind. The Carrillo Building, illustrated above, is a conspicuous example of this type of construction. While buildings of supposedly substantial construction were tumbling all about it, it stood unharmed, and, when inspected by E. L. Mayberry, structural engineer, was reported as having stood the quake in an exceptional manner and as being entirely safe for occupancy.

Immediately after the quake a committee of engineers was appointed to determine the damage done and whether each individual building should be saved or condemned. One of the members of this committee, W. A. Dunton, Jr., makes the following report on this special type of concrete construction, as a result of his work on the committee.

"The following report is given on the effect of the earthquake of June 29, 1925, in Santa Barbara, Calif., on buildings constructed in the area under the Van Guilder System of Concrete Building.

"After a careful inspection of the different buildings, covered specifically in

detail, my general impression of this method of construction is, in every detail, very favorable. I found a marked absence in some cases of even slight feather cracks, which would be expected normally from settlement.

"The fact that these buildings stood so well and came through in practically perfect condition, when in most cases all the buildings surrounding them were either in terrible condition or totally condemned, seems to point without doubt to the fact that this method of construction is sound not only in theory, but in one of the worst stressing conditions ever experienced.

"It was my privilege to be appointed on the first committee of engineers, for the purpose of determining the damage done, so I was given the opportunity to study the effect on the different materials in use.

"Notable among those materials and methods showing superior qualities, I mention this system of construction, which proved its merits beyond a doubt.

(Signed) W. A. DUNTON, JR."

A typical example of Mr. Dunton's reports on individual buildings is the following upon the Johnson garage, on Halley Street, east of State Street:

"This building is designed and used for the commercial garage business. The roof span is supported by a truss 92 feet from wall to wall, without central posts. I find the walls to be 10½ inches in thickness, constructed with 4-inch exterior wall, 2½-inch air chamber and 4-inch interior wall. At points of bearing for the trusses the walls are reinforced with an additional four inches of pilaster form of bearing. The walls of this building are 12 feet in height.

"On inspection for cracks or failure, I made a very careful survey of this struc-

(Continued to page 196.)



A Typical Example of the Effect of the Earthquake on Most of the Business Section of Santa Barbara Is Seen in the Wreckage of This Hotel Building with Its Walls Completely Destroyed.



# Blue Print Plans and 24 Page Book "How to Read Blue Prints" Sent FREE

Our gift to every man in the building game. Sent absolutely free. For we want you to see for yourself... at our expense how easily and quickly you learn to read blue prints... and can get the knowledge that will make you more money. Don't send a penny. Just mail the coupon.

### The Book Tells How

"How to Read Blue Prints" is written in plain, every day English. It is easy to understand... and will prove to you immediately how quickly you can get the training that has given other men the chance to work with their heads... and to make more money than just the wage scale.

We know this is true. For 22 years we have been training men... in their spare time, at home... to advance and succeed in the building field. Many have now got good contracting or building businesses of their own. Many are salaried men, foremen or superintendents.

This book is really a Free Trial Lesson in Plan Reading... written by a practical building expert. It costs you nothing... will teach you how to read Blue Prints... and may point the way for you to big money. It will show you how easy our instruction is... how quickly you can become an expert... can get the practical knowledge that you must have to get ahead quick.

### Another Book FREE

We will send you also a book about the Chicago Technical School for Builders. It is free, too. It tells you all about our method of training by correspondence. It shows you how you can make your spare time pay you a handsome profit in a very short while. It tells all about our practical instructors... shows every branch and department of our Builder's Courses... gives you photographs of our men and departments... tells what others have done and what you can expect to do.

Chicago Technical School for Builders is one of the oldest and best equipped schools of its kind in America. Many big builders owe their first step to success to our training. Hundreds of practical men from the building trades attend our day and evening classes at our school for builders here in Chicago. You get this same training... from the same practical instructors... in your own home by mail.

### Train by Mail

Go right on with your work. Your spare time... as little or as much as you wish... is all you need. Our practical lessons and actual blue print building plans come to you by mail. And the cost is little.

### Send the coupon... today.

It will bring you with the free Blue Print Plans and the two books, full information about the Chicago Technical School for Builders. Shows what we have done for hundreds of other men, gives the facts about their success. Tells how some became superintendents in a few months. How others established contracting businesses of their own. Gives all details of this practical builder's course with descriptions, photographs and illustrations.

Start now. It costs you nothing to find out what this practical builder's course is... and what it can do for you. If you want to make more money in the building game... get the facts about the Chicago Technical School for Builders.

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**Plan Reading.** Every man who has got very far ahead in any building trade can read blue prints. No man can expect to be a first rate foreman or superintendent until he knows what every line on a plan means and how to lay out and direct work from the architect's plans. By the Chicago Tech. Method you quickly learn to read any plan as easily as you read these words.

**Estimating.** Of course a man who wants to be a contractor or to hold a big job in a contracting organization must know how to figure costs of labor, material, and everything else that goes into any kind of building. The Chicago Tech. Course covers every detail of this important branch—shows you just how it is done from actual blue print plans.

**Superintending.** How to hire and direct men, how to keep track of every detail of construction as it goes on, how to get the work done in the least time at the lowest cost is also fully covered in the Chicago Tech. Builders' Course.

Also special courses in Architectural Drafting for builders, taught by practical men. These explained in Special Catalog "D" sent on request.

## CHICAGO TECHNICAL SCHOOL FOR BUILDERS

Dept. 836, Chicago Tech. Building, 118 E. 26th St., Chicago, Ill.

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Please send me without obligation your Free Books and Blue Prints for men in the Building Trades. Send post-paid to my address below.

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Name.....

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

# MOTOR TRUCKS *and* TRAILERS



## The Truck to Fit the Job

### Maintenance Facilities May Be the Deciding Factor in Selecting Transportation Equipment for Construction Work

**N**O development of the past 20 or 25 years, a period of remarkable scientific and industrial developments, has been more remarkable than that of motor transportation. The automobile industry, which is today one of the most important in the country, was in its infancy in 1900 and the development of the motor truck has been still more recent than that of the passenger car. Even ten years ago the motor truck was in little more than an experimental stage of its development. At that time manufacturers lacked experience to enable them to produce efficient and economical trucks nor had they gained that knowledge of the adaptation of trucks to particular needs and the co-ordination of truck equipment which is another essential of economical operation.

The development of the truck, which has been so phenomenal, has occurred at such an even steady rate that

it is hard to realize its rapidity. Today the truck is an essential factor in the transportation facilities of the country and month by month its place is becoming more firmly established and more broadly extended.

There are still some places in which it is claimed that horses are more economical than trucks but these are rapidly becoming fewer. They are confined chiefly to conditions where short hauls and idle time for loading and unloading make the more costly investment too dear. It is, however, not improbably that a thorough study of the situation would show how the motor vehicle could be used to advantage. In many of these cases trucks could be supplemented by the installation of tractors and trailers in such a manner as to do away with idle equipment and completely motorize the transportation at a saving of both time and actual cash expense.



Equipment Like This Will Replace Four Teams of Horses and Do the Work More Quickly and More Cheaply. Recently the use of tractors has displaced horses not only for heavy hauling of this type but also for the short haul where time is consumed in loading and unloading. The tractor can be kept in constant operation while its trailers are taking on their loads or dropping them at the destination.

Fleet of Model 33 Internationals owned by Chatman & Adams



# Could Evidence of Satisfaction Be More Complete and Convincing?

**CHATMAN & ADAMS**  
General Contractors

Clearwater, Fla.,  
April 18, 1925.

Orange State Motor Co.,  
Tampa, Fla.  
Gentlemen:

**INTERNATIONAL TRUCKS**  
I are made in sizes ranging from the popular 2,000-lb. Speed Truck up to the heavy-duty 10,000-lb. truck (max. cap.). Sold through 111 branch houses—largest Company-owned truck service organization in the world. Write us for special folders and for address of our nearest salesroom.

We are today handing your Mr. Simms an order for another Model "33" Dump. This makes the eleventh International Truck added to our fleet.

In giving you this order we are prompted by two things. First, in our seven years of experience we have found International Trucks will stand up under hard usage longer than any other of the numerous makes we have used. Second, your service is unequalled.

Hoping that our business will demand a fleet of double the number we now have, and assuring you that they will be Internationals, we are

Very truly yours,  
**CHATMAN & ADAMS,**  
By J. P. Chatman.

## INTERNATIONAL HARVESTER COMPANY

606 So. Michigan Ave. of America Chicago, Ill.  
(Incorporated)



# INTERNATIONAL HARVESTER TRUCKS

In no field is the importance of the truck more surely proven than in the building industry. If motor transportation were suddenly withdrawn from our building activities it would be utterly impossible to continue with the tremendous program of building in which the country has become involved since the war period with its resultant building shortage. Without the assistance of trucks building would be forced to proceed at a greatly decreased rate and the hope of catching up with the ever-increasing requirements of the country would be small indeed.

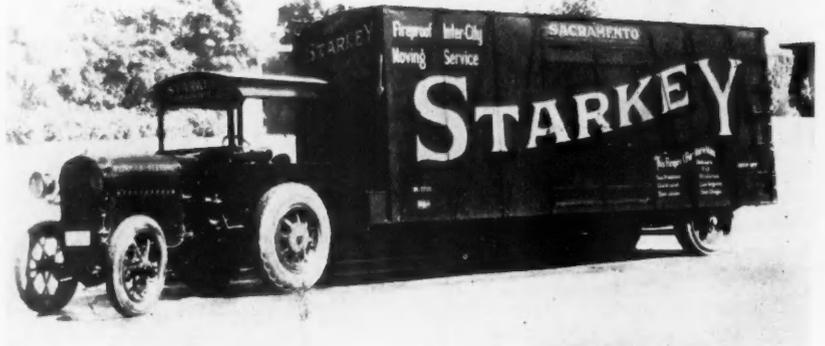
But the inexperience of ten years ago has disappeared and today we find the truck industry moving forward with an intelligent guidance based on its newly gained experience. Where manufacturers formerly did not know how to build an efficient and economical truck nor how to assist the prospective purchaser in the selection and adaptation of motor transportation to his business, today they have brought the mechanical development to a high point and are applying truly scientific method to the study of adaptation. This is constantly proving its value in the experience of truck users everywhere.

It is because of this fact that the builder of today can feel assured of buying the right equipment for his needs regardless of how little he may be prepared to solve the problem himself, because of lack of truck knowledge. The trained truck salesman of today will study the requirements of the individual purchaser and offer him skilled assistance in planning his transportation. He will not attempt to merely sell trucks. He will sell transportation.

In other words he will first learn what equipment is already on hand. Next he will study the kind and amount of work which is to be done, the average daily requirement, the low points and the peaks. He will investigate the type of roads or streets over which trucks must operate and the maintenance service available. He will form a complete plan for the operation of the old equipment and a suggestion for additions or changes in equipment that will give the greatest efficiency of service and the lowest cost of operation.

It is this method that is the mark of the high class truck salesman and when the prospective purchaser meets with one of this type he will do well to take advantage of the service which is being offered him and co-operate in the task of studying his own requirements.

On the other hand there are men selling trucks who think only of getting the order. They make no attempt



Such a Truck as This Would Hardly Serve Any Good Purpose for the Contractor But It Is Shown as an Example of the Advertising Possibilities That Go with Truck Equipment. Trucks offer a means of keeping your business constantly before the eyes of the public.

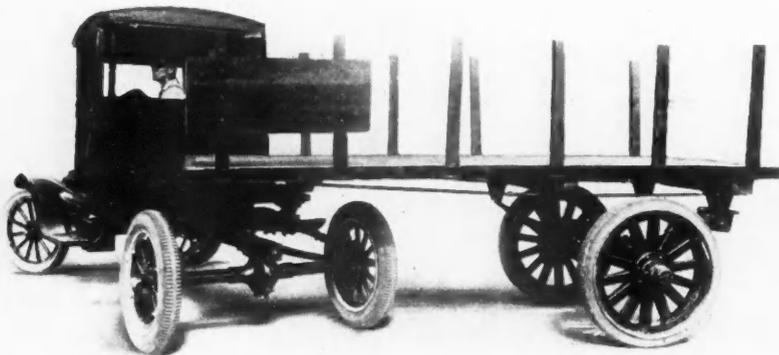
to determine the exact requirements of the prospective purchaser, they do not attempt to show him how he may operate his transportation at a smaller cost and at the same time obtain quick, surer and better service. They use the tricks of selling to get the name on the dotted line and leave the problem of utilization to the purchaser. It is a waste of time to deal with these. It may be worse than a waste of time, for if the salesman be possessed of a faculty of persuasion he may talk the prospect into buying equipment which will fail to fit into his work and will be a source of increased expense.

Fortunately salesmen of the latter type are becoming constantly more rare. Manufacturers select their representatives with care and these in turn choose and train their salesmen not merely to sell a truck today but to secure a permanent connection for supplying truck equipment to satisfied users.

But even when dealing with the best of salesmen the prospective buyer will find a disagreement for not yet is every feature of truck construction standardized. There are perfectly honest differences of opinion on what is best. Often it is a fact that two quite different trucks may be equally desirable for the purpose and here the purchaser must depend upon his own judgment. The only way he can form a judgment is by making some study of the questions involved or by depending upon personal considerations. One safe guide in such a situation is the facilities for service which will be available on any particular truck.

Only the largest businesses are able to maintain their own service departments. By far the greater number must depend upon the service facilities of the local dealer. All other things being equal the best truck which can be bought is the truck on which the best service is available and which is so designed that service can be quickly and economically performed.

There is nothing that is so destructive to trucks as neglect. A good truck which is not abused and which is given regular service will last many years and cause few heavy repair bills. The most successful large fleet owners give their trucks daily inspections. No slight adjustment is neglected. Every adjustment is made immediately. In addition to this every truck is given a complete overhaul at regular intervals. The result is that trucks are seldom if ever out of service, operation costs kept at a minimum and the life of the truck is prolonged for what might seem an unbelievable number of years.



One light Truck and Two or More Trailers Like This Spell Efficiency in the Handling of Lumber. While one trailer is being loaded the other is in transit, attached to the truck, which means no idle time for the motor unit.

# Ford

## STANDARD TRUCK BODIES



Ford One Ton Truck Chassis with Standard Ford Stake Body and all steel closed cab. Substantial construction, ample loading space. Racks may be removed to provide a flat platform.

**\$515** Price Complete f.o.b. Detroit

Quality, volume, and standardization — fundamentals which have brought success in Ford manufacture — are carried out in the production of Ford truck bodies.

These bodies are scientifically designed and well constructed. They offer the maximum carrying space consistent with one ton trucks. The trucks, equipped with standard bodies, may be purchased as complete units, or the bodies may be bought separately to replace other bodies in service that are inadequate.

*Sold by Authorized Ford Dealers*  
All prices f. o. b. Detroit

*Ford Motor Company*  
Detroit

### Transportation and Service Combined

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER



# HOW DAN DOES IT.

*A Department for Passing "Life Savers" along to other Builders.*

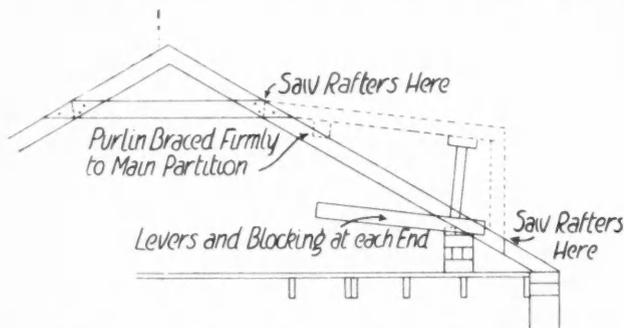
## \$2 for an Idea

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

Address Dan-Do-It, care of American Builder, 1827 Prairie Avenue, Chicago, Ill.

### Adding Dormer Windows

WE recently remodeled a large barn into a six tenement house. During the process of reconstruction it was necessary to construct two large dormers, one on



**Ingenuity Found This Way to Add Dormer Windows with the Least Exposure in Cold and Stormy Weather.**

each side of the roof. As the weather was extremely cold and stormy we wished to do as much of the work as possible under cover. Here is the way we did it.

First we spiked short collar beams three inches down from the ridge where the dormer would intersect the main roof. These spikes were so driven as to form a hinge. Next we sawed through each rafter between the spikes and also at the plate. We then sawed down the rake and by means of levers raised the complete section at the plate the height of our studding. Less than three squares of shingles were disturbed in the whole process.—Leland L. Bigelow, Oxford, Mass.



### Tunnel and Subway Waterproofing

WHERE water seeps through the walls and ceilings of tunnels, subways, etc., in sufficient quantities to wash off the waterproof mortar a special procedure is required.

Select the point where the most water seems to come through and drill a hole deep enough to get behind the points of flow. Insert a piece of gas pipe of sufficient length to extend out about eight inches from the wall and ram the pipe into place with lead wool. This pipe will draw most, if not all, of the water from the surrounding surface. Similar "bleeders" may have to be inserted, some-

times 18 to 24 inches apart, depending upon the conditions.

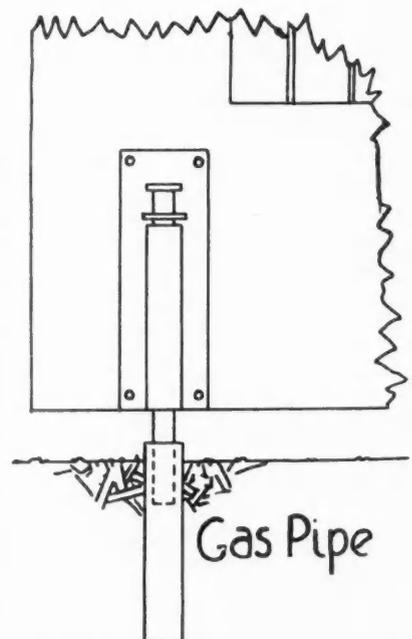
Waterproof mortar may then be applied to the surface surrounding the pipes, but leaving off the second coat for a radius of about three feet around them. In about 24 hours the pipes may be removed and the holes caulked with lead wool and filled in with waterproof mortar to the level of the first coat. Then place a piece of cardboard over the hole, backed with a piece of wood and braced with a stick, until the cement has set. Sufficient mortar may be applied then to bring it flush with the surrounding surface and troweled to correspond.

From Practical Cement Waterproofing,  
The Bitu-Mortar Waterproofing Co.,  
280 Madison Ave., New York City.



### Garage Door Foot Latch

GARAGE doors have a habit of blowing shut at just the wrong moment and I have found that a foot latch is handy to prevent this. The latch is of the type used on inside doors and a recess to receive the bolt is provided by driving a small piece of gas pipe into the ground at the right spot to meet the latch. With this arrangement a pressure of the foot fastens the doors securely open and a similar pressure is all that is required to release them.—



**To Cure the Slamming Garage Door an Ordinary Foot Latch and Piece of Gas Pipe Are Used in This Way.**

EDGAR A. ANDERSON, Mankato, Minn.



**A**LWAYS, the efficiency of motor truck transportation must be measured in ton miles per dollar. So measured, the constant advancements and improvements in the structure of General Motors Trucks show clearly their immense value to the haulage buyers of America. From the beginning of the truck industry, General Motors Truck Company has required GMC Trucks to show a consistent increase in the value of the service they perform, and a steady decrease in the cost of performing it.

General Motors Truck Company, Pontiac, Mich.  
*Division of General Motors Corporation*

# General Motors Trucks

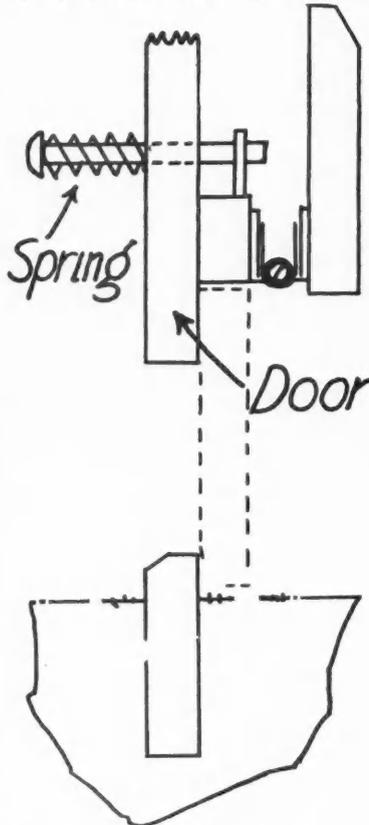
WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**Opens Frozen Garage Door**

MANY garages are built in low spots and, in case of a thaw, water backs up against the door, freezes and the door cannot be opened. A simple device will overcome this difficulty. Cut the door off about 4 or 5 inches from the ground. Attach a strip to the inside of the door, hinged as shown in the illustration, long enough to just clear the floor and fit against the sill.

A 3/8-inch carriage bolt is passed through a hole in the middle of the door that closes last with the head and spring on the outside. This is for closing the bottom strip from the outside. A kick pushes the bolt against the strip and drops it.

The springs with which the strip are attached are ordinary screen door springs which stay open when turned fully back. With this device the garage door can be easily opened even when frozen.

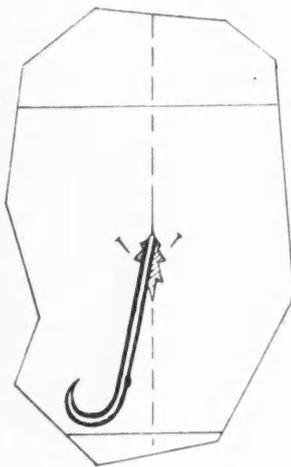


The Hinged Strip Is Shown Turned but in This Drawing the Dotted Lines Show It in Position Closing the Entrance.



**To Cut a Tin Wall**

I REMODELED an old store building which was covered with tin into a stucco dwelling house, leaving the tin on instead of paper and putting the wood lath right over it.



This Method of Cutting an Opening in a Tin Wall Works Just Like an Ordinary Can Opener.

I found sawing out window openings a pretty difficult and slow job with the tin shears, as I could not get under far enough without tearing the sheets loose. I overcame this difficulty by driving a nail on each side of the mark where it was supposed to be cut, as shown by the dotted line, close to where the tin was lapped, pried up the tin a little between the nails and cut it open about half an inch with the tin snips. I then inverted the wrecking bar and, operating the same as a can opener, the job was done quickly and accurately.—JOE. C. BOYER, Park Falls, Wis.



**Reinforcing for Soffits**

IN making elliptical or circular porch soffits, or curved top window jambs, or in any place where the kerf cuts will be on the exposed side there is always a danger of the

boards breaking. This can easily be guarded against. Kerf the boards, then turn them over and tack two strips of sheet iron on the back side of the portion that is kerfed. The ends of these strips should extend well beyond the kerfing.

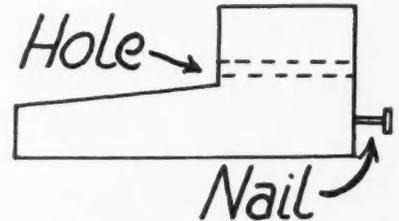
The boards can then be sprung into place with little danger of breaking.—WILLIAM B. STAPP, Norton, Kan.



**To Avoid Nail Holes**

I HAVE noticed a lot of nail holes left on a finished brick job. Such holes can be avoided and here is the way in which I do it. I find that this device is a time-saver as well as a means of avoiding unsightly holes left by bricklayers.

Make two small blocks like the one shown in the illustration, make a piece of wood two by two and about 3 1/2 or 4 inches long. Insert the line through the hole in one of the blocks and fasten it to the nail. Then pass the line through the hole in the other block, pull it taut and wrap it around the nail. Slack can easily be taken up whenever necessary. There are some places in which this device cannot be used, but it is very seldom that it cannot be used for at least one end of the line.—L. H. KUCK, Wapakoneta, Ohio.

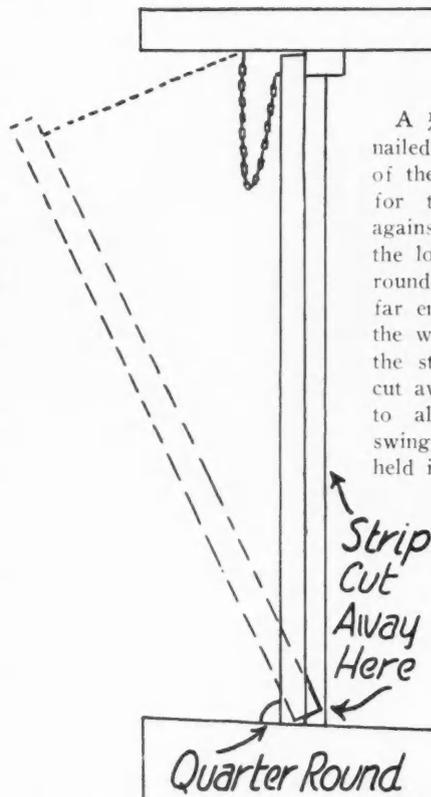


A Little Device Which Will Eliminate Most of the Unsightly Nail Holes so Often Left in Brick Work.



**Removable Windows**

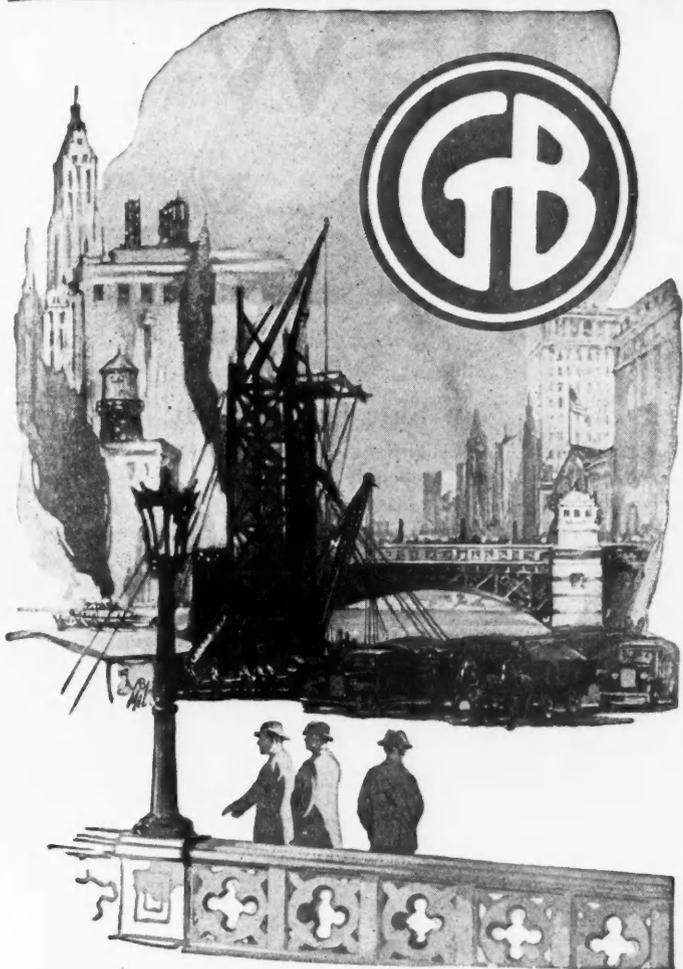
I HAVE a method of placing small windows in attics, barns and buildings which is quick and economical and which allows the window to be taken out or left partially open and at the same time makes it tight against rain when closed.



A 1/2 by 1/2-inch strip is nailed in place at each side of the frame on the inside, for the window to bear against. Inside of this, on the lower casing, a quarter round is nailed. This is just far enough inside to admit the window between it and the strips. The strips are cut away at the lower ends to allow the window to swing in. The window is held in place at the top by spring lock and is hooked to the casing with a chain.

When the spring lock is unfastened the window can be swung in and is held by the chain. If the chain is unhooked the window can be lifted entirely out.—J. J. KUIPERS, Kankakee, Ill.

Here Is a Method of Placing Windows Which Makes It Convenient Either to Open the Window or Completely Remove It.



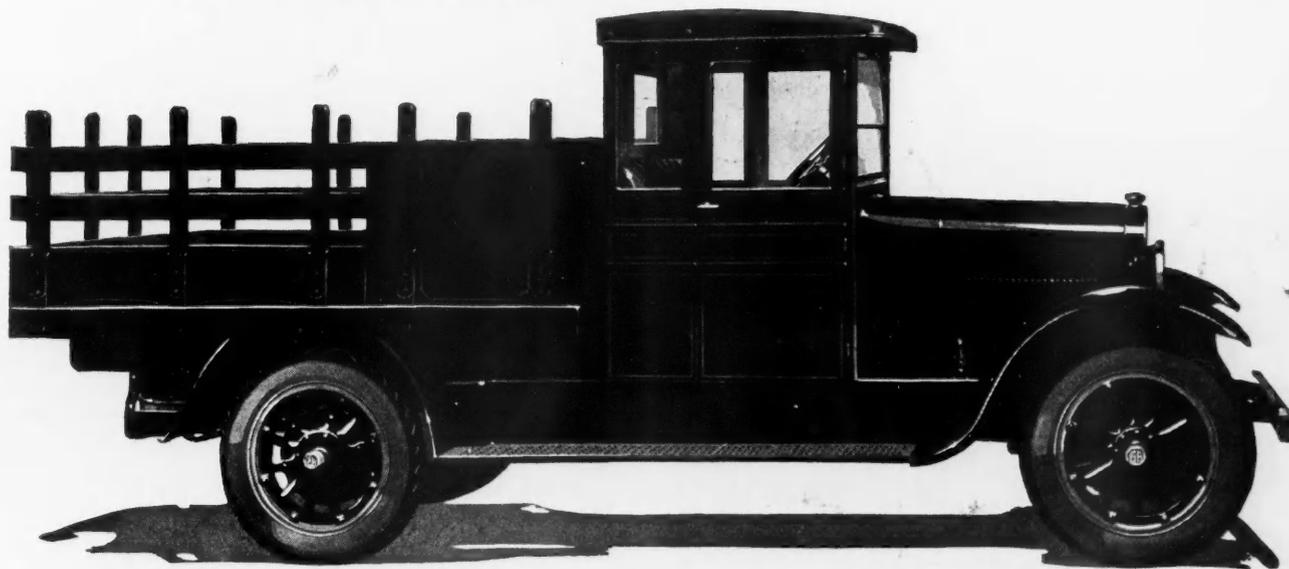
## Character

To be eligible for sale by a Dodge Brothers Dealer, a product must first prove its competency for exceptional service.

Graham Brothers Trucks proved this competency years ago and are proving it more emphatically than ever today. First in the world in the 1½ ton field, and among the leaders in the 1 ton, these sturdy trucks are capably supporting the priceless reputation of Dodge Brothers Dealers—for selling ONLY products of indisputable merit.

*1 Ton Chassis, \$1095; 1½ Ton, \$1280; f. o. b. Detroit*

**GRAHAM BROTHERS**  
Detroit — Evansville — Stockton  
A DIVISION OF DODGE BROTHERS, INC.  
GRAHAM BROTHERS (CANADA) LIMITED — TORONTO, ONTARIO



# GRAHAM BROTHERS TRUCKS

*SOLD BY DODGE BROTHERS  
DEALERS EVERYWHERE*



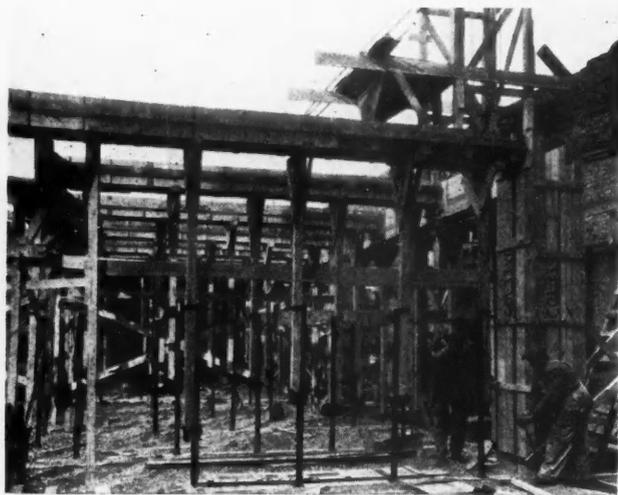
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### Adjustable Shore Is Economical

**A** LEADING manufacturer of clamps has recently introduced an adjustable shore which is attracting much attention. While the usual fundamental principles have been used, this shore is said to cut the cost of shoring to a considerable extent. The price is low and the shore may also be obtained on a rental basis with permission to apply rent upon the purchase price within a 90-day option.

The locking device does not depend upon a clamping or gripping action and is entirely independent of the load on the shore. It is securely locked before any load comes on and cannot settle or creep as cams engage because there are no cams.

This shore has an adjustment of 5 feet 1 inch at centers with  $2\frac{1}{2}$ -inch secondary or final screw adjustment. It can be adjusted upward under full load and no jack is required in making either the first or secondary adjustment. It will carry a safe load of 10,000 pounds and has been tested to 18,000 pounds. The supporting members are of high carbon



**This New Adjustable Shore Can Be Set Up by One Man and It Is Impossible for It to Settle or Creep. It is securely locked before any load comes onto it.**

steel and malleable iron. When protected with a coat of paint at regular intervals there is no depreciation and the shore should last a lifetime. There are no loose or detachable parts to become lost.

The shore complete, without four by fours, weighs 34 pounds. It is easily set up by one man and its light weight is a big advantage in hauling and freighting.

### New Side Dump Body

**C**ONTRACTORS will be interested to know of a new body which is especially made for Ford trucks. This body, which is easily installed and operated, is of all-steel construction of 10 and 12-gauge blue annealed sheets, hot riveted and welded, with all seams eliminated and all rivets sunk to form a perfectly smooth bed which dumps clean. This is a side-dumping body which is a great convenience in handling jobs in cities where parking space is limited. It also affords a saving of time in pulling up to the side of the road or dumping directly into the mixing batch.



**A Side Dumping Body Which Is Easily Operated by Hand and Offers a Perfectly Smooth Bed with  $1\frac{1}{4}$ -Yard Capacity Can Be Installed on a Ford Chassis in Half an Hour.**

The dumping mechanism is easily operated by hand on the worm-gear principle and the body glides smoothly into position. The load is deposited clear of the truck without obstructing traffic.

The capacity of this body is  $1\frac{1}{4}$  cubic yards and it measures 52 inches wide, 74 inches long and 12 inches deep. The loading height is 51 inches from ground to top of body and the total weight 800 pounds. It is furnished complete with everything necessary for fastening the body to a chassis frame, with no holes to drill and mounting requires less than half an hour of time.



### Colored Slate

**F**OR many years structural slate has occupied a prominent position in the field of interior trim and for sanitary fixtures. It has given entirely satisfactory service and is becoming increasingly popular for such purposes. But there are times when the architect and builder requires a material that not only has the excellent qualities of slate,

but also lends itself to the expression of artistic ideas. To meet these requirements a new material has recently been placed on the market.

This is a natural slate to which a beautiful, hard and permanent colored finish has been applied. It is the result of years of careful experimentation, during which time many finishes were tested. These experiments lead to the discovery of a finish that fulfilled every requirement. This finish is now being applied to structural slate and is being produced on a commercial basis.

The color is applied by means of air pressure, which molds the finish over the slate. Although the slate is given three or four coats, in reality it is only one coat, as each successive application penetrates and becomes a part of its predecessor. The final result is a single, hard, permanent coat which is so tenacious that it cannot be removed without taking part of the slate with it.

This product has been put to numerous and various tests to determine its ability to stand up under the most rigorous conditions. The results have been entirely satisfactory in every way, and the manufacturer guarantees every installation that is properly made. It will not crack, chip or peel, and will everlastingly resist the action of the elements.

This product was developed simply to meet the needs of architects and builders who desire a colored material containing the excellent characteristics of natural slate. It adds beauty to a material, which, in its natural state, has long been recognized as one of the most sanitary, durable and economical stones available. It is not necessary to the life of the material; it merely widens the scope of its usefulness.

Colored slate can be obtained in white, French gray, olive green, and "spattered" finishes. These "spattered" finishes resemble granite and make a very attractive and distinctive effect. In addition to these standard colors, special finishes can be obtained when desired.

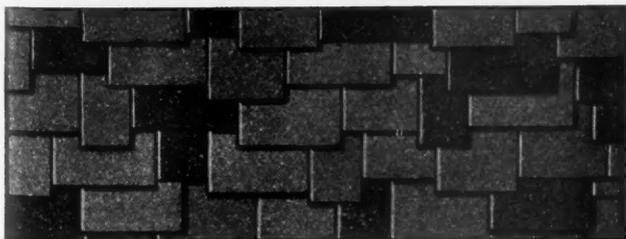


### Two Novel Composition Shingles

TWO types of roof which have been developed by a well-known roofing company are primarily designed to appeal to the architect on account of their interesting irregularity. One of these is a thatch shingle. The individual shingle is 8 by 12¾ inches with curved upper and lower edges, the upper and lower lines being parallel, making the shingle reversible and thus easily and quickly handled by the roofer. The lower edge is concave, the upper edge



A Most Attractive Imitation of a Thatched Roof Can Be Obtained by the Use of This New Asphalt Shingle with Curved Edges.



An Interesting Irregularity Is Obtained with These Shingles Which Are Made in Different Widths and Can Be Laid Without Reference to the Chalk Line.

convex, so by reversing it gives the exposed edge a line resembling very closely the lines formed by thatch straw where edges are cut and trimmed on the roof, as in the rural parts of Europe. These roofs are most beautiful and their color is permanent.

The second type of shingle is rectangular but of varying widths and can be laid irrespective of the horizontal chalk line across the roof, thus getting away from the monotony of the ordinary style of shingle and resembling very much in effect what is known as the staggered wooden shingle roof. It has all the long wearing quality of the asphalt shingle and the permanency of natural rock colored surfacing.



### Power Take-Off for Ford Truck

A NEW power take-off unit for Ford trucks has just made its debut. This new unit in combination with a new 6-speed auxiliary transmission, manufactured by the same company, places the Ford on a par so far as utility goes, with the more expensive trucks, it is claimed.



This Power Take-Off Can Be Used Effectively in Combination with a Six-Speed Auxiliary Transmission.

The new unit is bolted to the transmission case and is operated by the large countershaft gear. This assembly allows power take-off operation at the Ford speeds—two forward and reverse. An exclusive feature of the new unit is the fact that the transmission may be engaged and the truck driven with the power take-off in operation. The device is furnished with the sprocket shaft extending either forward or back of the unit, as may best suit the requirements of the customer.

To permit the device to sustain heavy loads over long periods of time with varying speeds and to provide silent, frictionless operation, the new unit is equipped with Gilliam tapered roller bearings throughout.

There are many uses of the power take-off at the present time.

The number has been considerably restricted, however, because such equipment has heretofore been limited to the high-priced trucks. A practically unlimited field of utility is now opened up through the availability of this new power take-off. Already the unit is successfully operating such equipment as concrete mixers, pumps, dump bodies (mechanical or hydraulic hoists), spraying outfits, electric generators, electric welders, winches (such as used by telephone companies for pulling cables), sand blasts, air compressors, drilling rigs for water wells, post holes and light ditching. Without doubt the new unit will be found available for many other uses.



### New Electric Dumb Waiter

A NEW electric dumb waiter is now being manufactured the winding engine of which is simply a small edition of those produced by the same company for the operation of passenger and freight elevators, and incorporates the same careful design and rugged construction. The capacity of this equipment is 200 pounds live load and the speed is 100 feet per minute. The motor is wound for operation on direct or alternating, single, two or three phase current, 110 or 220 volts. The additional cost of the single phase motor, however, usually justifies the running of additional lines for two or three phase current.

Various types of control are available. Full automatic

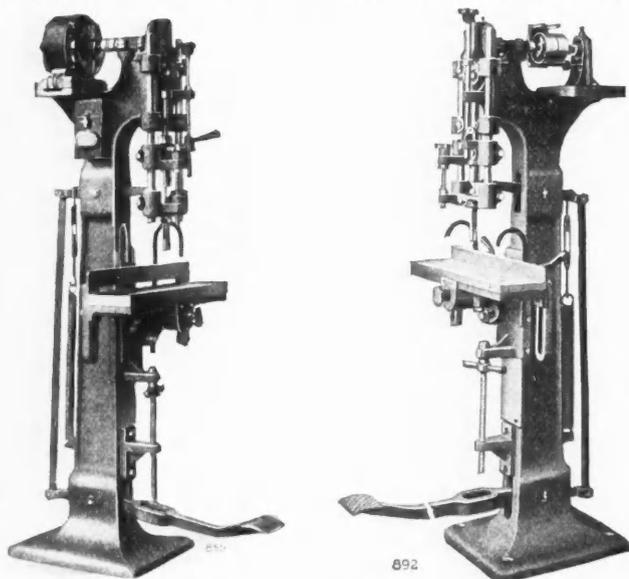
control requires the use of floor selector mechanism and, by means of a dial and push button, the car can be started and stopped at any desired landing. Continuous pressure control uses "up" and "down" push buttons at each landing, the car traveling in either direction until the push button is released. A limit switch stops the car automatically when the limit of travel is reached.

The car is of heavy sheet steel construction, 30 inches wide, 24 inches deep and 30 inches high. Efficient operation is obtained by means of a counterbalance weight. Door switches at each entrance prevent the operation of the car when any door is open and, if desired, to conform with the building code, door locks are applied so that no door can be opened unless the car is at the floor landing.



### Vertical Hollow Chisel Mortiser

**T**HE vertical hollow chisel mortiser illustrated here is a compact, rigid machine designed to operate easily and to give maximum production with  $\frac{1}{2}$ -inch or smaller chisels



At the Left Is Shown the Vertical Hollow Chisel Mortiser Equipped with Motor While at the Right Is the Same Machine Equipped for Belt Drive.

and  $\frac{3}{4}$ -inch or smaller boring bits and will perform these operations in hard dry wood. The spindle is driven by a  $\frac{1}{2}$ -horsepower electric motor. For belt drive a pulley is furnished instead of the motor.

The frame is cast in one piece and is provided with a base of ample dimensions to insure a firm support. All necessary adjustments are provided for. The height is 70 inches and a floor space of 24 by 40 inches is required. The table measures 24 by 6 inches and has a vertical adjustment of 11 inches and a horizontal adjustment of 4 inches. It will tilt to either side to 45 degrees.

The motor operates at 1,750 r.p.m. and the spindle at 2,400 r.p.m. When ordering this machine it is necessary to specify the kind of current with which it is to be used. The shipping weight with motor is 500 pounds. One  $\frac{3}{8}$ -inch chisel and bit, two bit bushings and two chisel bushings are furnished with each machine.



### New Electrical Floor Wax Polisher

**A** SMALL, easily used, efficient machine for waxing floors that is available to any user of wax at a merely nominal charge, is the latest service offered by a well known manufacturer of floor wax.

Floor waxing has been, especially on large jobs, a problem. Waxing by hand takes time and hard work. The only alternative has been using big cumbersome sand-

ing or scrubbing machines which are not made for waxing and moreover can not profitably be used except on the largest jobs.

With the new machine polishing is done by two cylindrical brushes mounted horizontally and revolving in opposite directions 2,000 times per minute. The machine rides on a stationary spring-mounted brush to take care of inequalities in the floor. The effect is a perfectly burnished, hard, wax finish impossible to obtain by hand and without the "swipes" and swirls noticeable with rotary brush machines.

An additional feature of the machine is that its revolving brushes also act as a sweeper, depositing dust and dirt in a removable dust pan in the center much as a carpet-sweeper acts. Operation is easier than the ordinary vacuum-cleaner. It requires no effort and can be run by a child. Weight is 26 pounds and dimensions 8 by 14 inches. It can be used profitably on any job from the smallest room to large halls.

This machine is purely a service proposition. It is available at all the company's branch service departments and retail stores to users of this wax. Contractors, builders and finishers can obtain it at a small charge for an hour or several days for small or large jobs. It takes care of all waxing requirements for the average contractor without large investments in bulky machinery that is often idle.



### Revolving Eraser Is Handy

**F**OR draftsmen, architects, builders, typists and others who have occasion to make erasures, sometimes of a delicate nature, a new type of revolving erasure has been invented and placed on the market. It is an ingeniously designed device that has several other services. With one operation the rubber revolves by pressure of the thumb on a plunger, and produces an erasing surface of more than four inches.

An attachment is included that performs any service required of a penknife, sharpening pencils, opening envelopes, cutting paper and erasing ink. The erasure also serves as a paper weight and is inexpensive to use, because the rubber dies can be replaced when worn out.—R. G. THACKWELL.



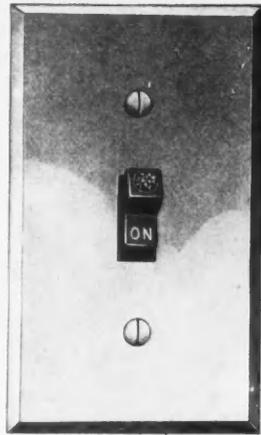
In Work Where Much Erasing Is Necessary, This Little Device Will Be Found a Great Convenience.



This Floor Wax Polisher Is a Labor Saving Device and Has the Additional Feature of Acting as a Sweeper.



No. 8601 SQUARE



H & H

Square Handle Tumbler  
*gives you a*

Style Feature *and* "Works" Feature

STYLE in the popular Square Handle; Style in the particular design of the H & H Square Handle.

It's shaped so the plate will always fit trimly, even when the switch is not mounted "just so." Workman-like neatness, without slowing up the work.

Indicating handle; white lettering for ON and OFF. And not the least thing of value in the lettering is the H & H mark—for what *that* indicates in the wiring job.

BACK of the H & H Square Handle—the *balanced movement* of "8601 Tumbler," smoothest and quietest of lever-actions.

Most durable mechanically, most positive electrically of any "works" in a shallow tumbler. Puts the owner in touch with Quality he can feel.

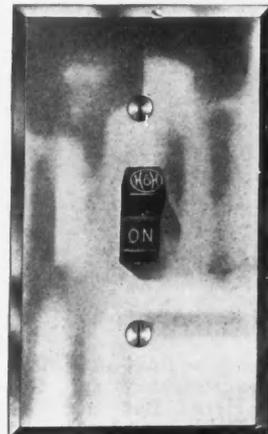
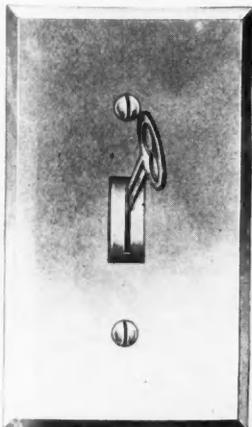
Costs you no more than switches with no feature *but* handle. Competitive price, with something extra to take your equipment out of the price class.



The two big features—"Looks" and "Works"—you cover when you order 8601 SQUARE. Further to specify different styles (lock type, luminous or with combination plates) write for folder with full-line catalogue data.

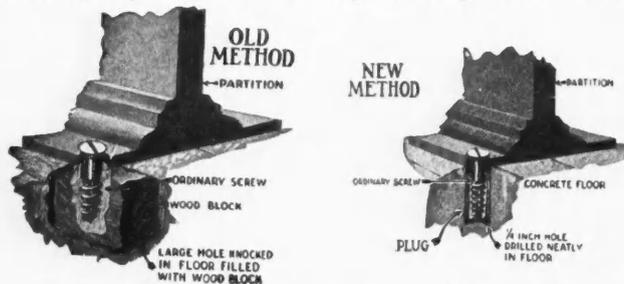
**THE HART & HEGEMAN MFG. CO.**  
HARTFORD, CONN.

"THE SWITCH WITH THE  
BALANCED-MOVEMENT"



**Jute Fibre Screw Anchor**

A TYPE of screw anchor which is suitable for firmly holding screws in any kind of material is a most interesting new development. This anchor is a hollow tube of stiffened longitudinal strands of jute fibre, so cemented that once in place it will not crumple or pulp and is unaffected by moisture or change in temperature. It is



The Illustration Shows the Contrast of Setting Screws with the Use of Wooden Plugs and with the Improved Jute Plug Described Here.

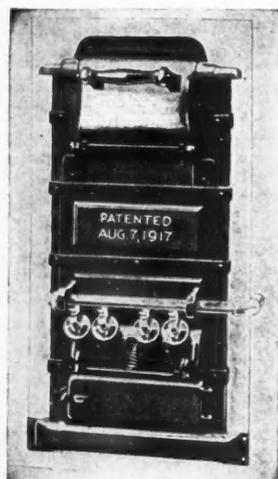
placed in a previously drilled hole, smaller than the head of the screw, and, therefore, invisible when in position. As the screw is turned home in this plug, the jute fibre strands expand and enter the interstices of the material, obtaining a strong and permanent grip. The screw cuts a perfect thread in the jute plug which permits withdrawing and reinserting the screws at any time in the ordinary manner.

These plugs are made in 50 different sizes to take screws from the smallest size up to a 3/4-inch lag. The friction is continuous and uniform between the entire surface of the plug and the sides of the hole in which it is inserted. There is no tendency to fracture material as the grip is obtained by uniform pressure and not by forcing plugs or corrugations into the material. The plug resists and absorbs vibrations and shocks because of its composition. The pressure exerted upon the insertion of the screw forces the minute fibres into all pores and interstices of the surrounding material, becoming an integral part of the material and, therefore, affords a tremendously strong grip.



**An Incinerator for the Home**

AN incinerator which will reduce a bushel of garbage to a pint of sterile ash in an average time of thirty minutes, at the cost of a few cents, is the description of one refuse-burning appliance for household use. Its manufacturers



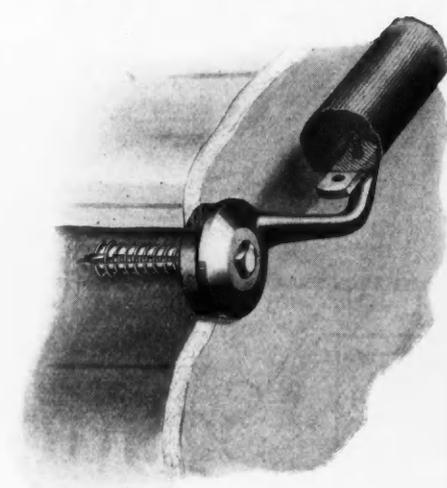
The Built-in Wall Type Incinerator Is Shown Here But the Same Equipment Is Also Available in Portable Form.

describe it as having no grates to burn out, burners that cannot clog, a flame that cannot be smothered and parts that are easily accessible.

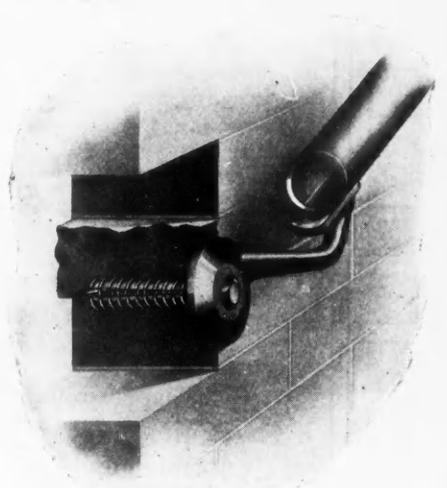
This incinerator is designed to enable any house to be equipped to do away with an unsightly garbage receptacle, thereby eliminating flies and other vermin, disagreeable odors and the annoyance of the garbage collection wagon. It is built in four types. Two of these are portable, resting on legs and having the appearance of a small stove. One has a capacity of 1/2 bushel, the other a bushel. The other two types are also 1/2 and 1-bushel capacity, but are designed to be built into the wall, where they are entirely out of the way.

**Two New Hand Rail Brackets**

TWO new styles of hand rail brackets are now being produced by a manufacturer of hardware specialties. One of these is a bracket for a metal pipe railing similar otherwise to this company's bracket for wood railing. It has a three-inch base and is securely held by a 1/2 by 4-inch expansion bolt. It is furnished in either malleable iron black enameled or plated with bronze, copper or brass. Other finishes and solid metal are made to special order.



The second style of bracket is made in the same finishes and is designed to extend through plaster and rest on masonry or concrete walls. The size is the same as that of the other style as well as the projection, of three inches, from the wall. The illustrations show the application of both these brackets.



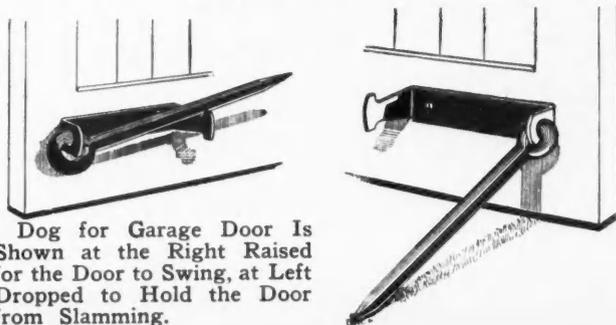
The Upper Bracket Is Designed to Support a Metal Pipe Railing While the One Below Is Intended to Extend Through Plaster and Rest on Concrete or Masonry Walls.



**Door Dogs for the Garage**

SLAMMING garage doors are a nuisance and besides they are likely to blow shut just as one is driving into the garage and dent up the fenders of the car. A simple door dog can be used as assurance against such an occurrence. It is easily attached to the door and is inexpensive.

This dog consists of a metal bracket which is screwed to the door horizontally. At one end a pin is attached. When this pin is dropped it will hold the door securely.

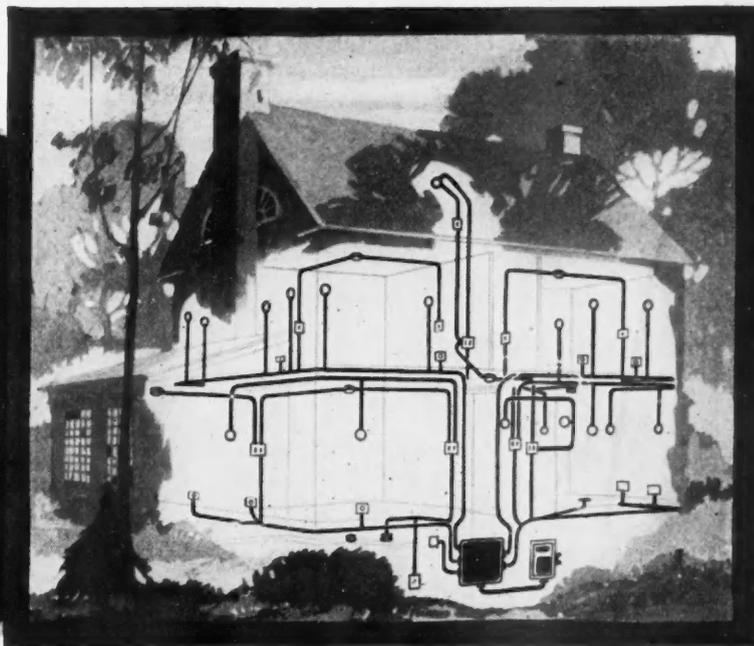


Dog for Garage Door Is Shown at the Right Raised for the Door to Swing, at Left Dropped to Hold the Door from Slamming.

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# Put *quality wiring* inside the walls

Build quality inside the walls of every house. It pays! When you put a network of wiring under lath and plaster, be sure you are putting it there to stay. A General Electric wiring system built into a home not only adds to the builder's reputation for quality work—but adds greatly to the selling value of a house.

A short while ago, a wiring system meant nothing to the average house buyer. Now—due to the continued campaigning in the Saturday Evening Post—a G-E wiring system means *quality* to him, and the few dollars of possible extra cost involved in installing a G-E system throughout gives the builder a most valuable selling point.

Have you received our helpful booklet on complete wiring, "The Home of a Hundred Comforts"? Send for a copy.

Section *AB-8*  
Merchandise Division  
General Electric Company  
Bridgeport, Connecticut



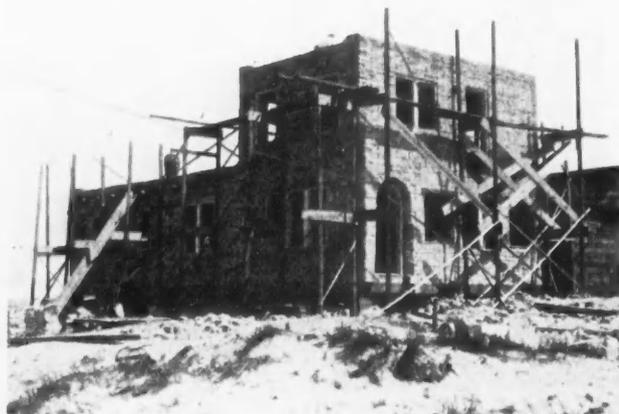
## WIRING SYSTEM

*—for lifetime service*

# GENERAL ELECTRIC

### New System Wall Construction

**A** LIGHT weight block of insulating material, which serves as a base for exterior and interior stucco and plaster without furring strips, and reinforced concrete, which

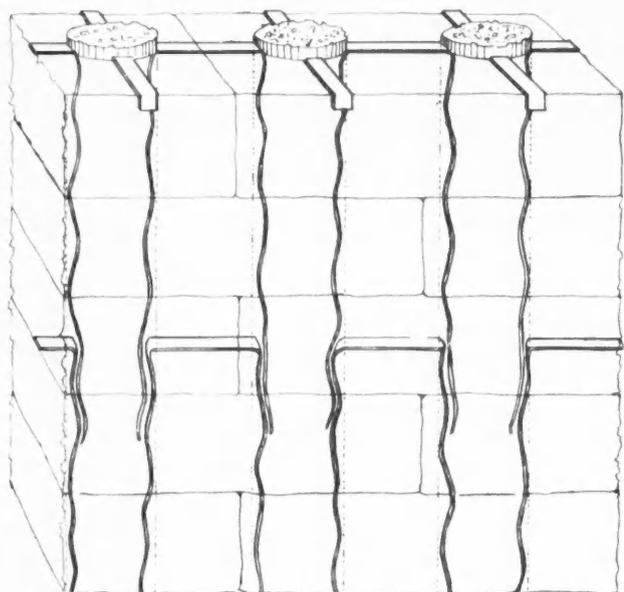


**A House Being Built by the Combination Block and Reinforced Concrete Method Which Permits of Exceptionally Rapid Construction Among Its Other Features.**

is poured without the use of temporary molds, are the constituent parts of a new and interesting system of wall construction. The blocks are composed of an exceedingly light, fibrous material with biscuit-like texture. This material has no capillarity and is therefore moistureproof. Because of its chemical content it is verminproof and it is also an excellent insulation against heat, cold, and sound and highly fire resistant.

The blocks are made in the proportions of the common brick as this is accepted module for achieving a pleasing effect in wall construction. Each block is pierced by two round holes and weighs only 4 pounds, the equivalent of eight bricks in volume but weighing less than one brick. This point is important when it comes to the cost of transportation and of delivering to the scaffoldings.

The blocks are laid like brick but without mortar, care being taken that the holes are in exact alignment. Three



**Diagram Showing the Method of Laying Walls with This Block System and the Placing of Reinforcing Strips in the Concrete Pillars.**

courses are laid up and then concrete is poured and tamped into the holes thus forming continuous columns of concrete throughout the wall. These columns are reinforced by means of steel strips applied as shown in the accompanying diagram. Each strip extends the height of four courses with an overlap of one course. These strips are also used for tying on brick or clapboard facing.

Special courses are laid at the level of joist support and about wall openings.



### A Kitchen and Dining Table

**C**OMBINING a small porcelain topped table for kitchen use and a dining table around which eight persons may sit in comfort, a new kitchen convenience of particular value in apartments or homes where space is limited, has been placed on the market recently. Viewed as a kitchen table, it looks not unlike any other, but the top opens like a book and, turning it half way around on the table frame, the



**It Serves Equally Well as an Enamelled Top Kitchen Work Table or, by Turning and Opening the Top, as a Dining Table Seating Eight Persons.**

top may be spread out double the size used for kitchen work. About the two-piece wooden surfaced table two chairs may be placed on each side, thus providing accommodations for eight persons.

There is nothing complicated about changing the table top, as it has no hooks to unlatch, no extra leaves to handle, and the table merely operates on a hinge and swivel principle. As a convenience in the home, it is designed to be of service in saving space and cost of furniture. The porcelain top is made not to sag and the base is done in golden oak or white enamel, in accordance with the choice of the user.

Two sizes are now on the market. One is 25 by 41½ inches when closed and 50 by 41½ inches when opened for use as a dining room table. The junior type is 18 by 36 inches closed and is 3 feet square when opened.—  
R. C. THACKWELL.



## Why Pay Six Men for One Man's Job?

An American Universal Floor Surfacing Machine actually does the work of six men and does it better. Just stop to think what it would add to your income over a period of a year if you took six men off your pay roll who are now earning good wages on their hands and knees scraping floors.

It may be hard to realize that the "American Universal" machine has actually cut the cost of floor scraping eighty per cent, but hundreds of users are proving it by actual tests every day.

Builders and contractors who are now using American Universals are not only surfacing floors for about one-fifth the cost of hand scraping, but are turning out better work.

One unskilled man with an

### **American Universal** FLOOR SURFACING MACHINE

can positively do as much work as five or six fast hand scrapers and he can produce a beautiful, smooth, clear, perfect surface which is impossible to produce by the slow and costly hand scraping method.

### Add \$5,000 to \$10,000 More to Your Profits

Scores of builders and contractors have added from \$5,000 to \$10,000 to their yearly profits by using an American Universal Floor Surfacing

Machine not only during the busy season but in off months when business is slack. A number of them keep from five to ten American Universals busy every day in the year on jobs for other contractors and their own work.

### Write Us for Free Details

and full particulars regarding the wonderful, money-saving, profit-building possibilities "American Universal" machines offer to the live contractor and builder. Have us send you descriptive literature and letters from dozens of enthusiastic users.

### The American Floor Surfacing Machine Co.

515 So. St. Clair Street, Toledo, Ohio

#### CUT OUT AND MAIL THIS COUPON TODAY

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

Please send me without any obligation on my part full information about the "American Universal" Floor Surfacing Machine.

- I am a building contractor.
- I am interested in becoming a floor surfacing contractor.

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

### Books, Bulletins and Catalogs for You

**T**HE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The Fuller & Johnson Mfg. Co., Madison, Wis., describes its new multiple cylinder engines in an illustrated bulletin giving complete details and specifications.

"The Moving Finger Writes" is the title of a new booklet published by the National Lime Association, 44 Rush Street, Chicago, which illustrates the use of lime products in all types of buildings throughout the country.

"Town Forests—Their recreational and economic value and how to establish and maintain them" is the title of a booklet by Harris A. Reynold, published by The American Tree Association, Washington, D. C.

The American Architect, 243 W. 39th Street, New York City, is distributing reprints of an article by F. R. Still which points out the need for elimination of the "Or Equal" clause in specifications.

"The Genasco Time Payment Plan" is the title of a pamphlet issued by The Barber Asphalt Company, Philadelphia, Pa., describing this new aid offered to dealers.

The National Terra Cotta Society, 19 W. 44th Street, New York City, has recently published two books, "Terra Cotta of the Italian Renaissance," price \$3.00, and "Color in Architecture" which is offered free to architects, designers and draftsmen.

Asbestos Slate & Sheating Company, Ambler, Pa., offers two booklets. "Ambler Asbestos Shingles" describes this product and presents architects specifications. "Types of Roofs" pictures the use of this artificial roofing slate.

"Ash and Soot Disposal—at the Milwaukee sewerage plant" is the title of a descriptive booklet published by the

Conveyors Corporation of America, 326 W. Madison Street, Chicago, which installed this system.

The Electric Rotary Machine Co., 3825-31 W. Lake Street, Chicago, offers an attractive description of its floor surfacing machine in a booklet under title of "A Day's Work."

"Practical Steam Hot Water Heating and Ventilation" is published by the Norman W. Henley Publishing Co., 2 W. 45th Street, New York City. By error the price of this book was given as \$2.00 in the June issue; it should have been given as \$4.00.

The Barber Asphalt Company, Philadelphia, Pa., offers a new booklet, "They Weather All Weather," which describes its Genasco Latite Shingles and Genasco Sealbac shingles.

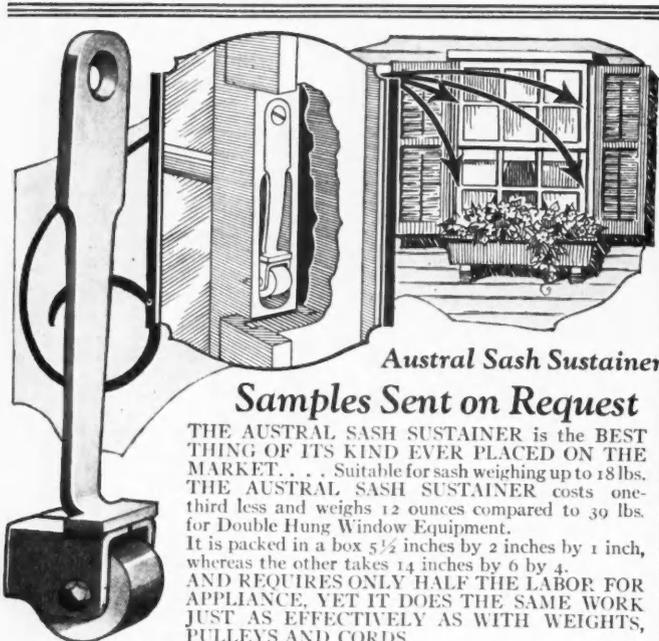
"Austral Window Hardware" is fully described and illustrated and specification offered in a booklet under that title issued by the Austral Window Company, 101 Park Ave., New York City.

"Details of Heavy Timber Mill Construction" is the title of the latest chapter of the "Lumber and Its Utilization" series which is being published by the National Lumber Manufacturers' Association, 402 Transportation Bldg., Washington, D. C.

The Portland Cement Association, 111 W. Washington Street, Chicago, has published an "Editor's Reference Book on Cement and Concrete," which contains facts and figures about streets, roads, public improvements, construction and the cement industry.

Thatched Roofing Instructions Free. The increasing vogue of thatched roofing effects has led to the publication of an illustrated booklet of instructions on the subject. The title of this booklet is "Instructions for Designing and Constructing a Thatch Roof with Creo-Dipt Stained Shingles," and it is fully illustrated with halftones from both photographs and drawings.

A copy of this attractive booklet may be secured free of charge by writing to Mr. George Monroe, Jr., North Tona-wanda, N. Y., and mentioning AMERICAN BUILDER.



### Samples Sent on Request

THE AUSTRAL SASH SUSTAINER is the BEST THING OF ITS KIND EVER PLACED ON THE MARKET. . . Suitable for sash weighing up to 18 lbs. THE AUSTRAL SASH SUSTAINER costs one-third less and weighs 12 ounces compared to 30 lbs. for Double Hung Window Equipment.

It is packed in a box 5½ inches by 2 inches by 1 inch, whereas the other takes 14 inches by 6 by 4. AND REQUIRES ONLY HALF THE LABOR FOR APPLIANCE, YET IT DOES THE SAME WORK JUST AS EFFECTIVELY AS WITH WEIGHTS, PULLEYS AND CORDS.

We are making you a sample offer so that you can become acquainted with the best thing that has come your way for many a moon. The small charge of 50 cents is asked to cover handling and postage.

Send back this coupon

AUSTRAL WINDOW CO.  
101 PARK AVENUE,  
Architects' Bldg.  
NEW YORK CITY.

Gentlemen: Please send me a pair of AUSTRAL SASH SUSTAINERS for which I am enclosing 50 cents.

Name .....

Concern .....

Address .....

### For Permanence Use Non-rot



Tide Water  
**Cypress**  
"The Wood Eternal"



for foundation sills, siding, shingles, porches (floors, steps, rails and columns), sashes, frames, cornices, exterior trim and all purposes exposed to decay influences. Its beautiful grain also commends it for fine interiors.

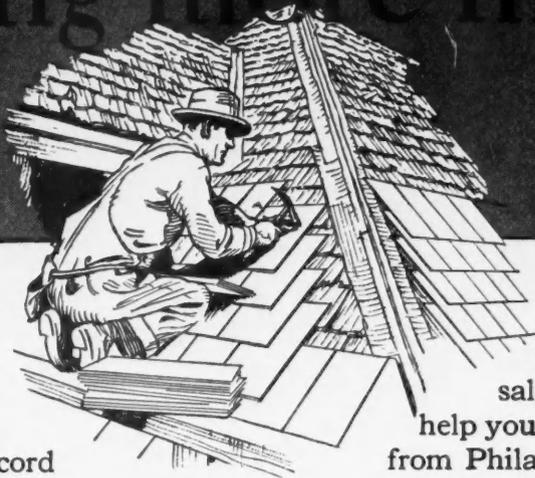
Identify "Tidewater" Cypress by the arrow trade-mark.

**SOUTHERN CYPRESS MANUFACTURERS' ASSN.**  
1216 Poydras Building, New Orleans, La., or  
1216 Graham Bldg., Jacksonville, Fla.

**I**F interested in any goods not mentioned here write us and we will be glad to put you in communication with the manufacturers best fitted to supply your needs.

**AMERICAN BUILDER**  
1827 Prairie Avenue, Chicago, Ill.

# Mail the coupon and learn why Eternit dealers are making more money



THIS coupon will bring you full details of the livest roofing proposition of the day. It's a proposition that, in territory after territory, is bringing Eternit dealers record business.

In the first place, it gives you a shingle that sells on sight. Eternit Rigid Asbestos Shingles have construction features that make them preferable over any other shingle. They build permanent roofs that never need repair—that are fire-proof and everlasting. For new buildings or for replacing worn-out roofs, they are the finest business-getters you ever handled.

The price is right. *It is so moderate that you can land profitable contracts in the face of substitute roofing competition.* Where the customer has not the ready cash, you can sell on our easy-payment plan. You get the business without carrying the account on your books.

Eternit Shingles are nationally advertised too. Full pages in colors in big national magazines that reach your prospects. All the business in your territory goes to you, because our exclusive dealer policy makes you the Eternit Shin-

gle Man in your community. We give you the closest cooperation in building up your sales. We show you how and help you do it. And rapid-fire service from Philadelphia and New Orleans assures you of stock when you need it—a big point to consider when taking on any roofing line.

Eternit Asbestos Shingles are bringing increased profits and ever-growing business to dealers all over the country. There is an equal opportunity in your territory. Send in the coupon today and learn for yourself.

AMERICAN INSULATION COMPANY  
Roberts Ave. and Stokley St., Philadelphia, Pa.  
or Hibernia Bank Building, New Orleans, La.

Send me the details of your exclusive sales plan on Eternit Asbestos Shingles.

Name.....

Address.....

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



ASBESTOS SHINGLES

Make your first roof last

### Books, Bulletins and Catalogs for You

**T**HE literature and publications listed here are available to readers of the American Builder. They may be obtained from the firms mentioned and will be forwarded without cost except where a price is noted.

The American Institute of Architects has published a beautifully prepared book under the title of "Bertram Grosvenor Goodhue—Architect and Master of Many Arts," which is a fine presentation of the work of this artist. Price in burkram \$30.00, in morocco \$50.00.

The Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa., offers a pamphlet describing its new dead front fire-damp controllers.

"Code of Ethical Practice" is a small booklet published by the Associated General Contractors of America, Inc., 1038 Munsey Bldg., Washington, D. C., and contains the code which has recently been approved and adopted.

The National Lumber Manufacturers' Association, 844 Rush Street, Chicago, is distributing "Will the Lumber Industry Settle Down or Settle Up?" the annual report of the secretary and manager.

"Finer and Better Coal Handling Equipment" is the title of a new booklet just issued by the Conveyors Corporation of America, 326 W. Madison Street, Chicago.

Allith-Prouty Co., Danville, Ill., has just issued its new catalog No. 91, listing its complete line of door hardware and containing detail drawings of installation.

The Truscon Laboratories, Detroit, Mich., has just published Book "A" of a series of six books. This contains, in filing form, specifications for Truscon waterproofings, dampproofings and oilproofings.

The American Engineering Standards Committee year book for 1925 is now being distributed from the association headquarters at 29 W. 39th Street, New York City.

The American Radiator Company, 1807 Elmwood Avenue, Buffalo, N. Y., describes its Ideal Type "A" Heat Machine in a booklet beautifully illustrated in colors.

"Budgeting for the Contracting and Construction Company" is a comprehensive budget plan, prepared as report number 54 by the Metropolitan Life Insurance Company, 1 Madison Ave., New York City. It should prove valuable to many contractors, who may have not developed budget plans of their own.

"Stainless in the Home" is the title of a booklet just published by the American Stainless Steel Company, Commonwealth Bldg., Pittsburgh, Pa. It describes the many purposes to which this metal is adapted in connection with the home.

The C. J. Tagliabue Mfg. Co., 18-88 Thirty-third Street, Brooklyn, N. Y., has issued a new and revised edition of its catalog of automatic controllers for temperature, pressure, humidity, liquid level, condensation and other factors, which includes several new instruments.

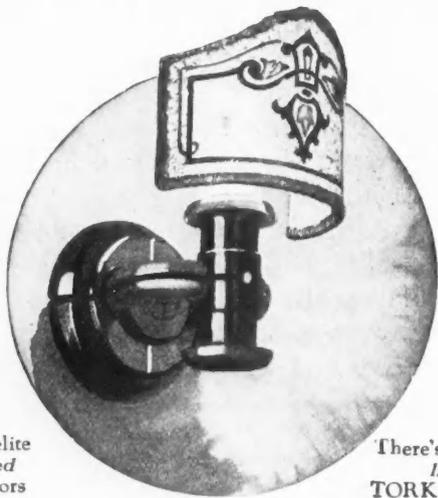
"Everyman's Home," by Caroline Bartlett Crane, published by Doubleday, Page & Co., is the story of the Kalamazoo, Mich., model house which won the national Better Homes in America competition. This book, which will prove of great interest and practical value to every person interested in the subject of home building, is more than a mere description of a model house and its construction. It is a human interest story of the planning of a real home designed to meet the every need of the average American in a way that will make life most full.



### Association Office Moved

**T**HE Northwestern Lumbermen's Association announces the removal of its offices June 1 from the McKnight Building to 301-6 Hennepin Avenue, Minneapolis, Minn.

## Untarnishable



All Bakelite  
moulded  
in 6 colors

There's nothing  
like  
TORK LIGHTS

A Finer Electric Bracket and a  
Better Service Outlet in one.

TORK LIGHTS are not only a *new economy* but  
the finest finishing touch for any wired home.

## TORK LIGHTS

*Ebony—Flame Orange—Pottery Green—Old Mahogany—Fine Bronze—Ambergold*

TORK COMPANY, 8 West 40th St., New York

TORK CLOCKS TORK TIMERS TORK LIGHTS WIRE-NUTS



A New York Herald-Tribune Model Home  
Paltades Park, N. J.



### MODEL HOMES

everywhere are equipped with

### KENNEY NEEDLE SHOWERS

Curtainless

#### Because

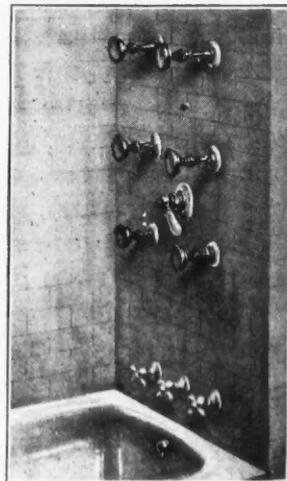
They are body needle showers—no overhead deluge—a preferred type shower every time.

They successfully eliminate curtains by the exclusive converging stream principle.

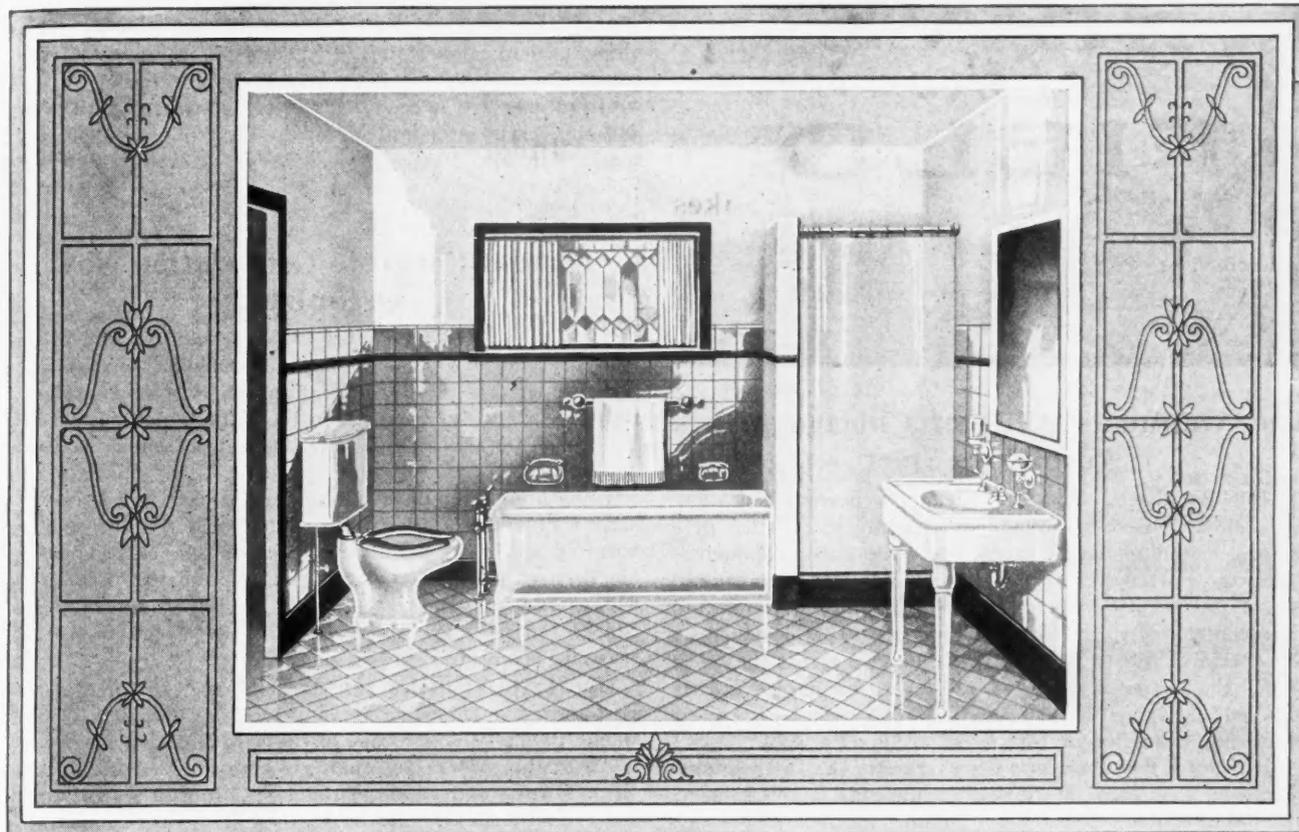
They influence rentals and selling prices.

Their moderate initial cost and elimination of all up-keep makes them the most economical shower to install.

Write for Booklet B



**The Kenney-Cutting Products Corp.**  
507 Fifth Ave. Dept. AM New York



## Makes Good Buildings Better

Builders everywhere are realizing the importance of the kitchen and bath room and the desirable effects that Sani Onyx alone can give. ☞ Not only does the use of Sani Onyx in these rooms ensure permanent beauty and lasting service, but it also enhances the desirability in the eyes of prospective purchasers and therefore increases salability. ☞ Women today are insistent that these two rooms be modernized. Sani Onyx for walls, ceilings and wainscoting in these important places will do this as no other material can.

Whether you specialize in Commercial, Residential, Club, Church or Public Work, you will find many places where the building can be improved, both in service rendered and

in decoration, by the use of Sani Onyx. The Marietta Engineering Department is ready to co-operate with you to this desirable end freely and without obligation on your part.

Get this valuable assistance on

**SANI ONYX**  
**A VITREOUS MARBLE**  
 A PRODUCT OF THE MARIETTA MANUFACTURING COMPANY

**MARIETTA MANUFACTURING Co.**

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Distributors and Construction Houses throughout the United States and Canada

### Physical Characteristics

Sani Onyx is a dense, uniform, vitreous material, wear resisting, non-porous, and non-absorbent; that is acid, alkali, stain and weather-proof. It combines every advantage of quarried marble, tile, slate and granite with other desirable features all its own.

### Five Colors Supplied

Sani Onyx is supplied in white, ivory, black, blue and gray. Coloring is uniform throughout the entire thickness of the material. Surface wear does not result in any change of tint.

### Plain or Tile Pattern

To provide still greater range in decoration, Sani Onyx is supplied in both plain and tile pattern sheets. Tile pattern is in six-inch squares.

### Permanent Decoration

By special process, stock or special designs may be etched into the surface of Sani Onyx, giving two and three tone effects. In addition, ceramic coloring can be fused into the surface so that the decoration becomes an integral part of the material. Both methods are equally lasting.



### The Architects' Club of Chicago Makes Auspicious Start

THE Architects' Club of Chicago, a new organization, is now housed in permanent quarters of its own in a historic section of the city near where the statue commemorating the Fort Dearborn massacre stands. It has acquired one of the beautiful old residences at Prairie Avenue and Eighteenth Street, formerly the Kimball home, designed by a master architect of former days. Directly across the street stands the Glessner residence, a Richardson design greatly honored and valued by Chicago architects as one of the few remaining examples of this great architect's work.

Mr. John J. Glessner, who is treasurer of the International Harvester Company, is still occupying this latter property but has executed a deed of gift under the terms of which the Chicago Chapter of the American Institute of Architects will secure title to the property, subject to Mr. Glessner's use of it during his lifetime. In the meantime, the Architects' Club of Chicago has been organized and with it has been merged the former Chicago Architectural Club. This new organization has raised the necessary funds and purchased the old Kimball residence at 1801 Prairie Avenue, which has been remodeled for club use and tastefully decorated. A well equipped grill room has been installed in the basement and there are comfortably furnished lounge, reading and assembly rooms and a limited number of guest and sleeping rooms. A well stocked library is planned. The former garage and servants' quarters have been remodeled and connected by a bridge so as to provide a spacious atelier for the Sketch Club, where night classes are held.

The Illinois Society of Architects and the Local Chapter of the A. I. A. are sharing the club quarters and contributing financially. Thus, the club building is headquarters for all the architectural interests of both city and state. When the Glessner residence is available, the A. I. A. and the Illinois Association will make their headquarters here and there is some possibility of a tunnel being constructed under the



Home of Mr. John J. Glessner, Which Stands at Prairie Avenue and 18th Street, Chicago, Across the Street from the Architects' Club of Chicago, and Has Been Conveyed by Deed of Gift to the Chicago Chapter of the A. I. A.

street to connect the two buildings. Mr. Charles E. Fox is president of the new club, Mr. Alfred Granger, first vice-president, and Mr. F. E. Davidson, treasurer, is also editing its monthly "Bulletin." Additional membership and contributions are needed for the maintenance of the club and those who are desirous of co-operating should get in touch with Mr. Davidson at 53 West Jackson Boulevard, Chicago.



### Cinder Concrete Corporation Now Organized

THE Cinder Concrete Corporation, organized under New York state laws, has obtained from Crozier-Straub, Inc., and Cinder Products Corporation the sole and exclusive right to grant licenses under the Straub patent and the Bo patent for the manufacture and sale of cinder concrete products.

There are now in operation in various parts of the country sixty-six plants manufacturing cinder building units, and the industry is rapidly expanding. Some of the existing plants are licensed under United States Letters Patent No. 1,212,840, granted to Francis J. Straub and others under United States Letters Patent No. 1,466,083, of which Sigurd Bo was the inventor.

One of the purposes for the organization of the new corporation is to make practicable the licensing of new plants under either or both of these well-known patents.

All of the officers and men associated with both Crozier-Straub, Inc., and Cinder Products Corporation will retain their relationship with the industry in the new corporation and thereby there will be made possible united effort for the development of the cinder concrete industry and the betterment of existing processes and methods of manufacture and the extension of the use and distribution of cinder block, brick and tile.

Mr. Straub and Mr. Bo, as president and vice-president, will be in general charge of the business of the new company and Mr. G. Edgar Allen will be manager of the company and in charge of its principal office in New York.

Mr. Raymond Wilson will be in charge of the field work of the company and will extend his efforts toward effecting economies in production and checking up the operations of licensees to the end that only quality cinder products may be put upon the market.

Mr. Einar Christensen will be manager of the engineering service department of the new company and will devote a large part of his energies to scientific research and educa-



One of the Fine Old Mansions of Former Days Now Remodeled and Occupied as Club Quarters by the Architects' Club of Chicago. It was originally designed by S. S. Beman, Senior.

# zinc

A roof is exposed to the same conditions as eaves-troughs, gutters and conductor pipes. It, too, must carry off the beating rain, resist the scorching sun and bear up under heavy snow.

It is logical to conclude that Horse Head Zinc—the unexcelled material for eaves-troughs, gutters and conductor pipes—is also unexcelled for standing seam roofing. Standing Seam Horse Head Zinc Roofing will not leak, it cannot rust. It will last a lifetime—and it grows more beautiful with age.

Standing Seam Horse Head Zinc Roofing is easy to lay. It is shipped in casks complete with nails, Zinc for clips and full instructions.

## The New Jersey Zinc Company

*Established 1848*

*Products Distributed by*

## The New Jersey Zinc Sales Company

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tional work to raise and maintain the high standards of cinder concrete products.

Both Mr. Bo and Mr. Straub started as bricklayers and still carry their union cards. Their inventions and the development of the cinder products industry which has followed have attracted the attention and interests of all concrete block and brick makers and of architects and construction engineers throughout the country.

The new corporation is officered as follows: President, Francis J. Straub; first vice-president, Sigurd Bo; second vice-president, Joseph A. Beck; treasurer, E. B. Cadwell; assistant treasurer, George W. Farron; secretary, Charles L. Pierce.

The main office of the Cinder Concrete Corporation will be at 120 West Forty-second Street, New York City, N. Y., and branch offices in Union Trust Building, Rochester, N. Y., and in Park Building, Pittsburgh, Pa.



### The Ideal Cellar Competition

A COMPETITION which is open to all architects and draftsmen and offers prizes totaling \$3,100.00 is being conducted for the American Radiator Company by The Architectural Forum. The purpose of this competition is to forward the evolution of the modern residential cellar that it may become a clean, useful and liveable part of the house, adding its share to the property valuation. The plans, which are divided into two classes, are to be drawn for the utilization of the Ideal Type "A" heat machine, which is a clean, efficient and beautiful piece of household equipment.

One class calls for designs of cellars for level grade houses and the other for houses on a sloping grade sufficiently slope to place one complete end or side of the cellar entirely exposed to the outside. Several prizes are offered in each class and a grand prize of \$1,000.00 for the individual whose entry in both classes is judged best.

After the competition is completed the best of the entries will be selected for publication and are expected to add a definite, permanent contribution to this phase of architectural design. The competition closes at 12 o'clock noon, August 25, 1925, and entries received after that time will not be considered. Entries will be passed on by a group of five judges, on or about September 1, and the prize winners will be immediately notified by checks.



### Genasco Time Payment Plan

THE Genasco Time-Payment Plan has just been instituted by the Barber Asphalt Company, Philadelphia, as an aid to its dealers in the selling of this company's products, shingles, roofings and stucco base. This plan is simple and quick in its operation and makes it possible for the dealer to sell work on a basis of ten months to pay and receive his own entire compensation when the work is completed. In this way he does not need to have capital tied up in credit accounts nor to be troubled with the matter of collection.

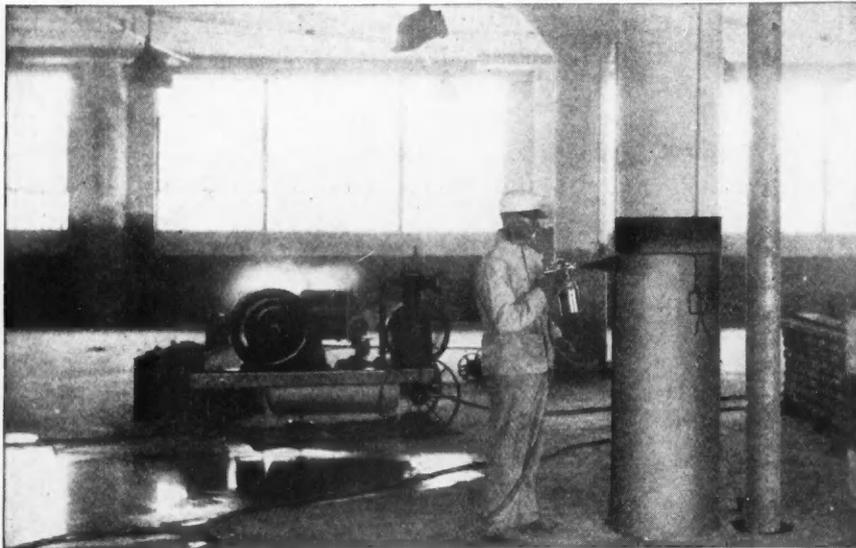
The credit arrangements are handled entirely through the Commercial Credit Company, which maintains branches in a large number of cities throughout the country. The additional cost to the customer of taking advantage of this plan is small and it should be a valuable aid in obtaining business which could not be secured on a cash basis.



### White Company Re-Incorporated

THE L. & I. J. White Company, manufacturer of edge tools and machine knives, has recently re-incorporated under the laws of the State of New York, it having formerly been a New Jersey corporation. No changes have been made in the officers or directors and the company is still manufacturing the same line of products as before the change in incorporation.

## You Paint to Make Money— Painting the DeVilbiss Way Will Increase Your Earnings



[Painting the dado—here the operator is using the DeVilbiss spray gun with Type K N Pressure Feed Cup attached, which is advantageous on many kinds of work]

# DeVilbiss Spray-painting System

Doing at least two painting jobs in the present working time of one; doubling your profits, or better; improving your service; taking prompter and better care of your customers—these are some of the greater money-making advantages of painting with the DeVilbiss Spray-painting System.

In addition, painting the DeVilbiss way gives to your work the stamp of progressiveness and makes for a more satisfied crew of painters.

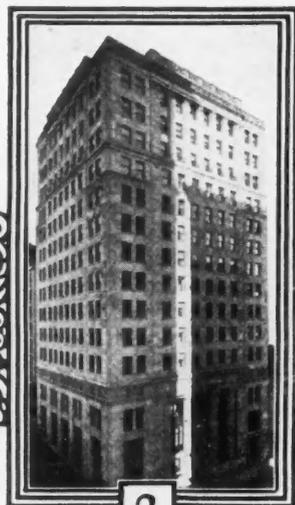
The speed of DeVilbiss spray-painting averages 4 to 5 times faster than hand-brushing. The spray-applied coating completely covers the surface, and is even and uniform regardless of character of surface painted and kind of paint used. The best possible results are produced with the DeVilbiss spray gun at the lowest practicable air pressure and without drips and spatters.

Here is opportunity for making a worthwhile increase in your earnings. Additional operation and equipment details of the DeVilbiss System will be promptly mailed to you. Address—

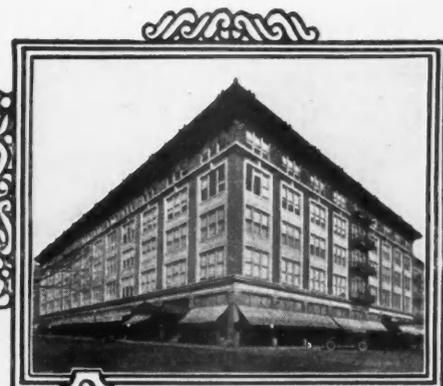
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1



2



3



4

## FOUR OF A KIND

THESE four buildings at Richmond, Va., were all built last year—all by the same contractor, and Carney was used for all the brick and tile mortar. A mute testimonial to Carney satisfaction.

Contractors can't say enough for Carney. Its uniform fineness permits a one to four sand mixture with perfect results. It comes ready to use—no lime has to be added (a time saver at the mortar box). Its smooth working qualities enable the men to lay more brick per hour, and it works equally well winter or summer.

The architect who specifies Carney invariably repeats. He knows that Carney forms a bond harder than the brick it holds. Besides, Carney removes the worry of improper mixing. It won't work under the trowel with too much sand.

*Carney is the perfected cement for brick and tile mortar.*

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# CARNEY

for Brick and Tile Mortar

Specifications: 1 part Carney to 4 parts sand.

- 1 STATE OFFICE BUILDING, Richmond, Va. Architect, Carneal & Johnston, Richmond, Va.
- 2 STATE & CITY BANK BUILDING, Richmond, Va. Architects, Clinton & Russell and Wells, Holton & George, New York City.
- 3 MILLER & RHOADES DEPARTMENT STORE, Richmond, Va. Architect, Starrett & Van Vleck, New York City.
- 4 LIFE INSURANCE BUILDING OF VIRGINIA, Richmond, Va. Architect, Clinton & Russell, New York City.

JOHN T. WILSON CO.,  
Richmond, Va.  
Contractor for all  
four buildings

### Mule Hide Airplane Publicity

THE Lehon Company, Chicago, is offering an aerial publicity service to aid Mule Hide dealers all over



Two of the Mule Hide Airplanes Have Made a Landing in This Dealer's Yard and Are Preparing to Take the Air in a Local Publicity Stunt.

the country. This company has contracted with a prominent Dayton airplane manufacturer for 1,000 hours of flying time, done by licensed pilots whose services are placed at the disposal of dealers who purchase quantities of not less than 500 E. Z. Fly Monoplane Gliders.

This glider is an advertising novelty supplied bearing the dealer's name and is most effective when properly distributed among the children of the town. One suggestion for this distribution is that coupons be dropped from the airplane entitling any child to a glider when he submits a list of the name of five home owners whose present roofs leak or are in poor condition and therefore prospects for re-roofing work.

Any dealer taking advantage of the service of the airplanes is notified a week in advance of the day when the

plane will arrive. On its arrival the plane lands at a point as close as possible to the dealer's yard and picks up literature to be scattered over the town from the air. The dealer may also make the flight himself if he cares to do so. There is an excellent opportunity for special advance advertising and editorial publicity in the local newspaper.



### T. L. Smith Representative

THE I. E. Shilling Company, Miami, Fla., has been appointed by the T. L. Smith Company of Milwaukee, Wis., as its representative for the state of Florida. The Shilling Company will carry a full line of Smith tilting and non-tilting and paving mixers and will also carry in stock a full line of repair parts.



### Special Concrete Construction Resists Earthquake

(Continued from page 168.)

ture. I did not find any cracks or fissures in any part of the building; in fact, there was no showing of any stress of any of the members.

"Immediately adjacent to this building is a four-story hotel building with walls 16 inches thick; walls are totally condemned.

(Signed) W. A. DUNTON, Jr."

The system of construction here referred to is one which employs a patented machine producing a double monolithic concrete wall with a continuous, 2-inch air space between the two walls. It is rapidly becoming recognized for its superior qualities in regard to rapidity and low cost of construction, high degree of insulation against dampness, noise, heat and cold, and its highly fire resistive qualities. The test to which it was subjected, and through which it passed so successfully in the recent earthquake, still further strengthens its claim to superiority.

*These HEAT WAVES show how the heat RISES and ESCAPES through the roof and walls of your house*

That's what makes the snow melt so fast on your roof. Do you like to buy coal to melt snow? This is sheer waste, and you can stop it by insulating the roof and walls of your house with

## CABOT'S Heat ~ "QUILT"

You can lay Quilt under your shingles, siding, tiles or boarding, or between your studs or rafters or under your attic floor. It will save enough coal to pay for itself in two or three Winters, and keep on saving heat and doctor's bills and making you comfortable as long as the house stands.

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At practically the same price you pay for wood windows you can get the beautiful new Fenestra Steel Casements—the latest improvement that is captivating home builders and home buyers.

Women are particularly interested in the artistic, cozy appearance of these new windows; men are impressed by their many practical advantages; and contractors find they get their money quicker because the houses are

enclosed almost as soon as the roofs are on.

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DETROIT STEEL PRODUCTS COMPANY, A-2260 E. Grand Boulevard, Detroit, Mich.  
Factories in Detroit, Mich., Oakland, Calif., and Toronto, Ont., Canada.  
For Canada: Canadian Metal Window & Steel Products Ltd., 160 River Street, Toronto, Ont.

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for homes, large and small  
shops and small factories  
garages and service stations  
stores and other buildings

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

**Free Letterheads for Dealers**

**T**HE Oak Flooring Bureau, 838 Hearst Building, Chicago, is having printed for the free use of retail lumber dealers and floor layers throughout the country, an attractive four-page letterhead in colors. On the top of the front page there is an illustration of a living room in beautiful colors with space for the printing of the dealer's name and address, with plenty of room below for the writing of a letter of ordinary length. The center pages show in colored illustrations and wording how oak floors can be laid over old worn floors in library, bedroom, etc., and the attic made a place of joy for the children—all a strong plea for interior remodeling and repair jobs—while on the back page there is space for continuation of letters of long length. These will be furnished without cost, including printing of name and business address, to dealers applying for them, in quantities of 200 each as long as the supply lasts.



**To Market Colored Slate**

**L**ATE in May the Structural Slate Co., Pen Argyl, Pa., held a three-day sales conference, attended by the managers of its branch offices from all over the country. Questions dealing with contact with architects, workmanship and the marketing of the company's new product, known as Struco Slate, were discussed at length. The new factory, which has just been completed, for manufacturing this product, was inspected. The product is a natural slate that is given a beautiful, hard permanent finish in any color by means of molding the color over the slate under air pressure. Demonstrations were given showing how the finishes were applied.

Technical information concerning this new finish and methods for placing it on the market were discussed. One

of the main points was the emphasis laid on the fact that this product has been developed merely to enable architects to use slate in carrying out color schemes and in rooms that are too lark to permit the use of natural slate. The finish merely lends a new beauty and utility to a product which naturally meets the architects' requirements for sanitation and durability.

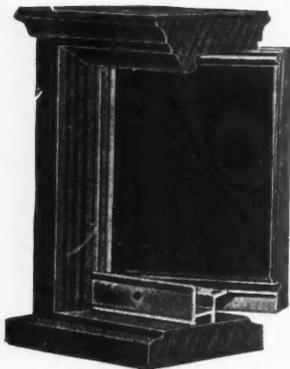
New methods of constructing toilet enclosures and shower stalls were also discussed. It has been found that by making a few minor alterations in certain standard fixtures it will be possible to furnish the trade with installations that are sanitary and durable in every respect at a considerably lower price. The necessary information to make an addition to the standard specifications on slate which are issued by this company was secured. These additional specifications will be available for distribution in the near future.



**New U. S. Gypsum Plant**

**O**N August 1 a new specialty plant will go into operation at the mill of the United States Gypsum Company at Gypsum, Ohio. The building is of permanent fireproof construction. The latest improved crushing, grinding, mixing and packing machinery has been installed for the manufacture of four of the company's specialties—patching plaster, Sheetrock finisher, Oriental stucco and Textone. Previous to this the colored stucco has been produced exclusively at Staten Island, N. Y. The new construction will permit of more capacity as well as more economical distribution throughout the West.

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Illustrating Waterproof Casement Strip

**A START IN THIS WORK WILL CONVINCEN YOU CONTRACTORS!**

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as the busy season will soon be on.

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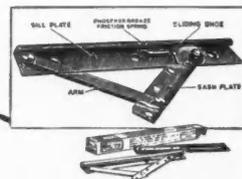
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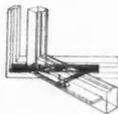


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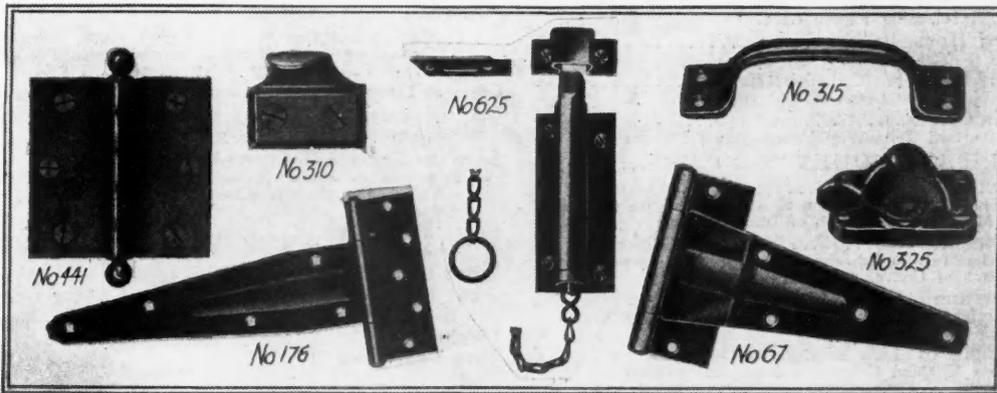
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Builders, contractors and carpenters often are called upon to purchase or specify the hardware for new buildings, and a great deal of the satisfaction to be gained from the use of the building depends upon their judgment.

It behooves everyone who has made selecting hardware his task, to find a line of goods that will give perfect satisfaction. Frantz products are packed in boxes bearing bright red labels,

on which the trade mark appears as it does above. There is no better guide to good builders' hardware, for every Frantz item is guaranteed.

One inspection will convince you that Frantz goods excel in quality, originality, dependability and workmanship. We will be glad to tell you who the authorized dealer is in your city. Use the coupon below.

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