

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol 41.

CONTENTS FOR JUNE, 1926

No. 3.

COPYRIGHT, 1926, BY AMERICAN CARPENTER & BUILDER CO.

	Page		Page
Around the Family Table.....	131	The Uneeda	Colorplate VIII
What They Say About April Reference Number.....		A Five-Room Cottage.....	
Editorial Page	133	The Udell	Colorplate VIII
The Oldest Active Lumber Dealer.....	135	An Inexpensive Five-Room Cottage.....	
The New Hudson River Bridge.....	136	The Umatilla	Colorplate IX
The Fairmount Modern Apartment Hotel.....	139	A Four-Room Home of Stucco Construction.....	
Modern Gothic Structure Houses San Francisco Chronicle.....	140	The Upham	Colorplate IX
Small Store and Office Building Treated in Brick and Stone.....	142	A Small Colonial Home.....	
A Sheridan Road Filling Station.....	143	The Union City	Colorplate X
Structural Gypsum Floors and Roofs Over Metal Lath	144	A Colonial Home in Brick and Shingles.....	
ART SUPPLEMENT OF NOTABLE ARCHITECTURE 147-151			
Dade County Court House and Miami City Hall; A. Ten Eyck Brown, Architect.			
New Chicago Theological Seminary Building; Herbert H. Riddle, Architect.			
Hollywood Terminal Building, Hollywood, Calif.; Morgan, Walls and Clements, Los Angeles, Architects.			
Pittsburgh-Pennsylvania Hotel; Geo. B. Post & Sons and The Ballinger Company, Associated Architects.			
From Our Daily Foreign Mail.....	151	Our Front Cover Home.....	183 to 187
Details of Home Building.....	152	Photograph and Full Set of Building Plans Drawn to Eighth-Inch Scale of the Beautiful Home Pictured in Full Colors on Our Front Cover.	
Save the Surface Department.....	154	A Crystal Garden for the Home.....	188
What Is Colonial Decoration?		A Well Built, Low Cost Bungalow.....	192
An Important Item of Construction.		Beautiful Radiator Furniture.....	194
What Is Paint?		How Dan Does It.....	196-198
Landscape Architecture.....	157	More About Fitting Baseboards.	
Furnishing the Garden.....		Repairing Sagging Plastering.	
Furnace Heating.....	159	An Idea for the Painter.	
How Recirculation Is Accomplished.....		To Clean Mortar from Bricks.	
Electric Wiring and Equipment.....	162	Trimming Round Rafters.	
Lighting as a Potential Sales Agent for the Builder.....		A Simple Tightener for Woven Wire Gates.	
A Novel System of Construction.....	165	Authentic Lantern Designs for Period Architecture	202
Mr. Radford's Talk on Home Building.....	166	Motor Truck Department.....	206
BLUE RIBBON HOMES IN COLORS.. 167-182		Instructions in Roof Framing.....	208
The Underwood	Colorplate I	Cutting the Hip Rafter.....	
A Straight Gable Colonial of Six Rooms.....		What's New Department.....	220, 222, 226
The Usona	Colorplate II	The Modern Built-In Mail Box.	
A Colonial Shingled Cottage with Breakfast Porch and Sun Room.....		Unbreakable Windows.	
The Universal	Colorplate III	Provides Safe Footing.	
A Five-Room Bungalow of Masonry Construction.....		A Simple Spring Winder.	
Interior Photographs of Beautiful Beverly Hills, California, Home	Colorplates IV & V	Dumbwaiter Improved.	
The Ulster	Colorplate VI	Fireproof Shelter Booths.	
A City Home in Brick Containing Seven Rooms.....		Small Practical Woodworker.	
The Underhill	Colorplate VII	Radium Illuminated Switches.	
An English Cottage in Stucco and Shingles.....		New Stucco Paint Perfected.	
		Dependable Automotive Hoist.	
		Advertisers' Index.....	323, 325

Published on the first day of each month by American Builder and Carpenter Co.; Wm. A. Radford, *President, Treasurer and Editor-in-Chief*; Wm. A. Radford, Jr., *Vice-President*; E. L. Hatfield, *Vice-President and General Manager*; Bernard L. Johnson, *Vice-President and Editor*; Roland D. Radford, *Secretary*; S. C. Kellenberger, *Dealer Service*; Paul N. Rothe, *Circulation Manager*; Delbert W. Smith, E. B. Wolfrom, C. R. W. Edgcumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, H. P. Sessions, J. J. Dubro, *Advertising Staff*.

Publication Offices:

Radford Building, 1827 Prairie Ave., Chicago

Telephone: Calumet 4770

Eastern Office: 250 Park Ave., New York City

Telephone: Vanderbilt 3185

Entered as second-class matter July 1, 1905, at the post office at Chicago, Ill., under the Act of Congress on March 2, 1879.

SUBSCRIPTION RATES—One year, United States, Canada, Mexico, and U. S. Possessions, \$2.00; six months, \$1.00; single copies, 35 cents. Foreign countries, \$4.00.

PROTECTION FOR OUR READERS—The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interest of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools.

Be sure in writing to advertisers to say: "I saw your advertisement in the AMERICAN BUILDER."

ADVERTISING RATES—Furnished on application. Advertising forms close on the 10th of the month preceding date of publication.

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol 41.

CONTENTS FOR JUNE, 1926

No. 3.

COPYRIGHT, 1926, BY AMERICAN CARPENTER & BUILDER CO.

	Page		Page
Around the Family Table.....	131	The Uneeda	Colorplate VIII
What They Say About April Reference Number.....		A Five-Room Cottage.....	
Editorial Page	133	The Udell	Colorplate VIII
The Oldest Active Lumber Dealer.....	135	An Inexpensive Five-Room Cottage.....	
The New Hudson River Bridge.....	136	The Umatilla	Colorplate IX
The Fairmount Modern Apartment Hotel.....	139	A Four-Room Home of Stucco Construction.....	
Modern Gothic Structure Houses San Francisco Chronicle.....	140	The Upham	Colorplate IX
Small Store and Office Building Treated in Brick and Stone.....	142	A Small Colonial Home.....	
A Sheridan Road Filling Station.....	143	The Union City	Colorplate X
Structural Gypsum Floors and Roofs Over Metal Lath	144	A Colonial Home in Brick and Shingles.....	
ART SUPPLEMENT OF NOTABLE ARCHITECTURE	147-151	The Urbancrest	Colorplate XI
Dade County Court House and Miami City Hall; A. Ten Eyck Brown, Architect.....		A Delightful English Cottage of Seven Rooms.....	
New Chicago Theological Seminary Building; Herbert H. Riddle, Architect.....		Furnishings and Interior Decorations in the Early Spanish Style.....	Colorplates XII & XIII
Hollywood Terminal Building, Hollywood, Calif.; Morgan, Walls and Clements, Los Angeles, Architects.....		The Utopia	Colorplate XIV
Pittsburgh-Pennsylvania Hotel; Geo. B. Post & Sons and The Ballinger Company, Associated Architects.....		A Dutch Colonial Home in Brick and Stucco.....	
From Our Daily Foreign Mail.....	151	The Upland	Colorplate XV
Details of Home Building.....	152	A Popular English Design. Six Rooms and Two Baths.....	
Save the Surface Department.....	154	The Ulysses	Colorplate XVI
What Is Colonial Decoration?		A Popular Florida Bungalow of Spanish Style.....	
An Important Item of Construction.		Our Front Cover Home.....	183 to 187
What Is Paint?		Photograph and Full Set of Building Plans Drawn to Eighth-Inch Scale of the Beautiful Home Pictured in Full Colors on Our Front Cover.....	
Landscape Architecture.....	157	A Crystal Garden for the Home.....	188
Furnishing the Garden.....		A Well Built, Low Cost Bungalow.....	192
Furnace Heating.....	159	Beautiful Radiator Furniture.....	194
How Recirculation Is Accomplished.....		How Dan Does It.....	196-198
Electric Wiring and Equipment.....	162	More About Fitting Baseboards.....	
Lighting as a Potential Sales Agent for the Builder.....		Repairing Sagging Plastering.....	
A Novel System of Construction.....	165	An Idea for the Painter.....	
Mr. Radford's Talk on Home Building.....	166	To Clean Mortar from Bricks.....	
BLUE RIBBON HOMES IN COLORS.....	167-182	Trimming Round Rafters.....	
The Underwood	Colorplate I	A Simple Tightener for Woven Wire Gates.....	
A Straight Gable Colonial of Six Rooms.....		Authentic Lantern Designs for Period Architecture	202
The Usona	Colorplate II	Motor Truck Department.....	206
A Colonial Shingled Cottage with Breakfast Porch and Sun Room.....		Instructions in Roof Framing.....	208
The Universal	Colorplate III	Cutting the Hip Rafter.....	
A Five-Room Bungalow of Masonry Construction.....		What's New Department.....	220, 222, 226
Interior Photographs of Beautiful Beverly Hills, California, Home	Colorplates IV & V	The Modern Built-In Mail Box.....	
The Ulster	Colorplate VI	Unbreakable Windows.....	
A City Home in Brick Containing Seven Rooms.....		Provides Safe Footing.....	
The Underhill	Colorplate VII	A Simple Spring Winder.....	
An English Cottage in Stucco and Shingles.....		Dumbwaiter Improved.....	
		Fireproof Shelter Booths.....	
		Small Practical Woodworker.....	
		Radium Illuminated Switches.....	
		New Stucco Paint Perfected.....	
		Dependable Automotive Hoist.....	
		Advertisers' Index.....	323, 325

Published on the first day of each month by American Builder and Carpenter Co.; Wm. A. Radford, *President, Treasurer and Editor-in-Chief*; Wm. A. Radford, Jr., *Vice-President*; E. L. Hatfield, *Vice-President and General Manager*; Bernard L. Johnson, *Vice-President and Editor*; Roland D. Radford, *Secretary*; S. C. Kellenberger, *Dealer Service*; Paul N. Rothe, *Circulation Manager*; Delbert W. Smith, E. B. Wolfrom, C. R. W. Edgcumbe, L. H. Reich, O. H. Sutter, Cecil W. Blashill, H. P. Sessions, J. J. Dubro, *Advertising Staff*.

Publication Offices:

Radford Building, 1827 Prairie Ave., Chicago

Telephone: Calumet 4770

Eastern Office: 250 Park Ave., New York City

Telephone: Vanderbilt 3185

Entered as second-class matter July 1, 1905, at the post office at Chicago, Ill., under the Act of Congress on March 2, 1879.

SUBSCRIPTION RATES—One year, United States, Canada, Mexico, and U. S. Possessions, \$2.00; six months, \$1.00; single copies, 35 cents. Foreign countries, \$4.00.

PROTECTION FOR OUR READERS—The publishers of the AMERICAN BUILDER reserve the right to decline any advertising they believe is detrimental to the interest of its readers; to edit advertising copy and to change or eliminate any statements that reflect injuriously or cast discredit upon other building products, machinery, equipment, supplies or tools.

Be sure in writing to advertisers to say: "I saw your advertisement in the AMERICAN BUILDER."

ADVERTISING RATES—Furnished on application. Advertising forms close on the 10th of the month preceding date of publication.

MEMBER OF THE AUDIT BUREAU OF CIRCULATIONS

AMERICAN BUILDER



Formerly AMERICAN CARPENTER AND BUILDER

1827 Prairie Ave., Chicago — 250 Park Ave., New York City

For Better Plaster

IN 1922 there were erected at the Bureau of Standards 98 experimental panels of plaster in the finish coat of which were incorporated various materials of several sizes, as being likely to cause trouble if present. Now, after four years, the panels have been examined with the following results:

Core (ground limestone) and mica have no effect regardless of size. Magnesium sulphate and sodium chloride cause efflorescence. Iron carbonate, iron sulphide (pyrite), and lime burned during hydration tend to cause unsoundness but not seriously if fine. Overburned lime will always give trouble regardless of size. Tannic acid is deleterious because it discolors the plaster and causes "checking."

In view of this work the following is recommended as a basis for the specification for soundness of hydrated lime:

Examine microscopically to insure the absence of calcium oxide (index of refraction = 1.81). Wash the sample through a No. 50 sieve. Dry and weigh the residue and figure it as per cent of the sample. If the residue is more than 5 per cent, it should be analyzed. If this is found to contain less than 90 per cent calcium carbonate, the shipment represented by the sample should be rejected. Pyrite can hardly occur in hydrated lime, but may be a constituent of the sand. A specification for sand is required, which should also carry limits on the quantity of salt and organic matter permissible.



Conserving Our Buildings

THE valuable service which is being rendered by the Chicago Fire Insurance Patrol, maintained by the Chicago Board of Underwriters, is shown in a recent report by Frank C. McAuliffe, chief of patrols.

"Last year it cost the fire insurance business \$450,000 to maintain and operate the nine patrol companies, consisting of 160 men. Altogether 13,079 alarms were answered, 20,343 tarpaulins were spread over stocks of goods and 1,679 special covers on roofs that had been damaged by fire so that contents of the building needed protection against rain and snow. Without the assistance of the regular fire department, the various patrol companies themselves extinguished 303 fires. In addition to safeguarding property, the patrolmen frequently saved lives."

This patrol system, which is also operating in other cities, is not organized for profit. Its chief purposes are to conserve property and reduce fire hazards and waste. Its program is carried on impartially with benefit to all citizens. It is a work in which every citizen may co-operate by building his home for the greatest protection against fire and maintaining it in a fire safe condition.



Chesnut Must Be Used

ONE famous American tree was not placed under the mantle of conservation during American Forest Week because, after a lapse of many years no means has been

found of saving the native chestnut forest from extinction by the chestnut blight. Thirty-five million acres of chestnut trees, almost a tenth of the present forested area, are being irresistibly destroyed. In 10 years, according to the U. S. Forest Service, the infection will be practically complete and in 15 years there will be little or no sound chestnut left.

Instead of urging the conservation of chestnut, foresters are preaching its utilization with all possible speed, with no thought of replacement or reproduction. Speed is necessary because the wood of a blight killed tree begins to deteriorate about a year after death. If the tree is left longer than two years the sapwood begins to decay but the heartwood remains sound and suitable for sawed products. In the next stage the heartwood begins to dry out and check. If within six years the tree is not cut the heartwood becomes infected with decay and then the tree is useless for all practical purposes except wood extract and fuel.



Building Record for April

BUILDING permit figures for this April showed a slight recession from the 1925 figures and an even smaller drop for the first third of the year, according to monthly survey prepared by S. W. Straus & Company, as follows:

"A slight slowing down in building operations throughout the country is indicated in the reports of building permits issued in the 484 leading cities and towns which reported new building plans of \$440,376,537 compared with \$479,833,247 in April 1925, a loss of 8 per cent. There was a slight gain from March, however, when the volume of permits issued in these places was \$433,852,219.

"Since the first of January, permits for \$1,411,826,336 have been issued compared with \$1,432,126,681 last year. The first third of the year, therefore, wound up with activities slightly behind the record for the same period last year.

"In the group of 25 cities reporting the greatest volume of permits issued during the month there was a loss from both last April and from March of about 4 per cent. The figures, however, represented a substantial gain over April, 1923 and 1924, and were about 100 per cent ahead of 1922.

The 12 states which, based on April reports submitted to S. W. Straus & Company, are leading in building activities, are:

	No. of Places	Volume of Permits
1. New York	40	\$127,092,985
2. Illinois	23	50,268,946
3. California	57	34,781,095
4. Michigan	13	23,405,031
5. Pennsylvania	20	21,933,546
6. New Jersey	30	20,938,749
7. Florida	54	20,174,155
8. Ohio	28	17,564,149
9. Massachusetts	27	17,245,635
10. Texas	18	12,869,181
11. Indiana	16	9,439,921
12. Wisconsin	15	8,062,281

Saving Construction Time

The Mayflower crossed the ocean in 96 days. Today the Leviathan makes the trip in less than a week.

In construction work, as in travel, saving *time* often is important. Frequently, work must be rushed to completion in the quickest possible time.

On such jobs, you want to speed up work all along the line. You do not want to wait the weeks usually required for concrete to gain the desired strength. You do not need to.

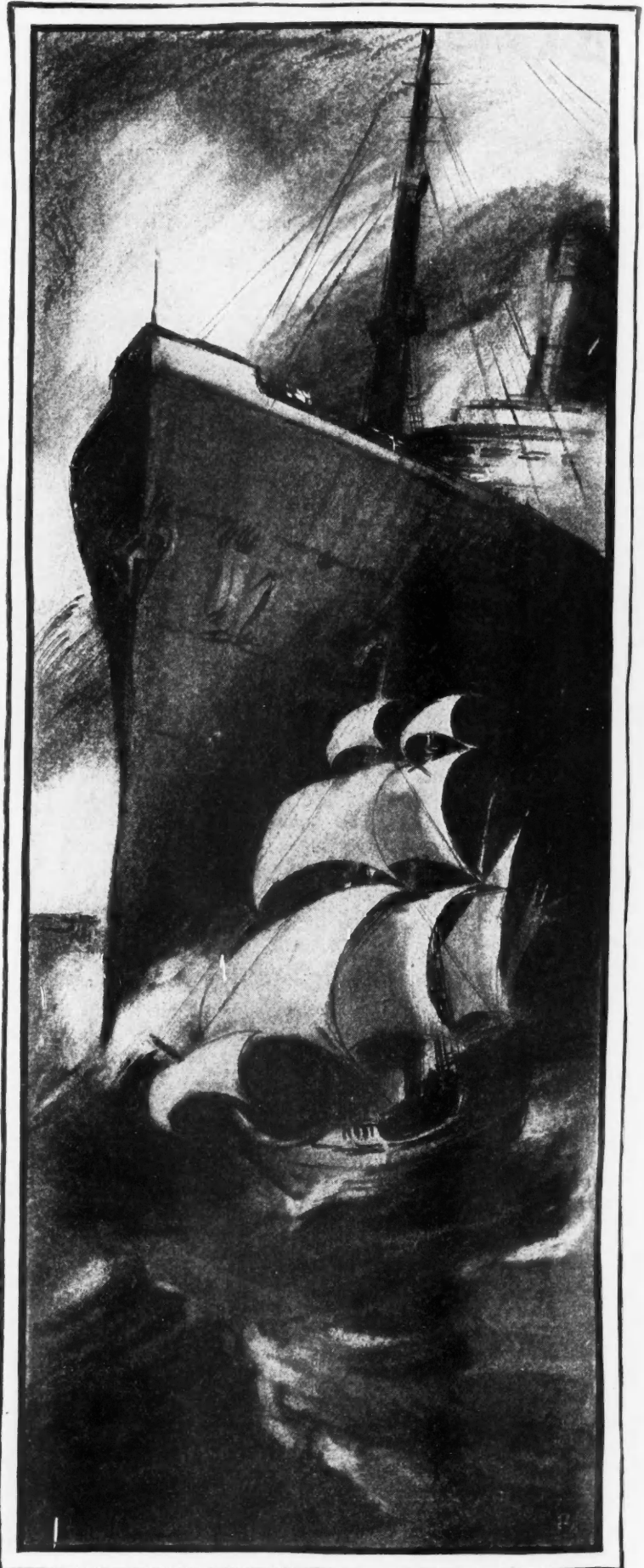
By using what an editorial in *Engineering News-Record* calls "well-authenticated" methods and standard *Universal* cement—the same quality *Universal* regularly used—you can secure *strong* concrete in *3 days* and at the same time get concrete that is much better and much stronger forever after than concrete as ordinarily placed.

Copies of the *Engineering News-Record* editorial on "High Early Strength Concrete" together with detailed information on methods of obtaining this *time-saving, strong* concrete in *3 days* furnished promptly on request to

Universal Portland Cement Co.

Chicago Pittsburgh Minneapolis Duluth Cleveland
Columbus New York

Concrete for Permanence



The Oldest Active Lumber Dealer

H. R. "Dad" Scovill, of Ypsilanti, Michigan, Has Managed His Business for 56 Years and is Still Right on the Job

WHO is the oldest active lumber dealer in the United States? There is no record at hand to answer that question but we do know that H. R. Scovill, of Ypsilanti, is the oldest in the state of Michigan, and the chances are that there is not another man in the country who has passed his eighty-third birthday and is still actively managing his own lumber business.

Yes, "Dad" Scovill, as he is affectionately called by everyone in Ypsilanti, is 83 years old but you would never guess it to see him stepping along on his way to the office every morning. He has the firm stride and clear eye of a mere stripling of forty or fifty and there is hardly a wrinkle in his face. At the same time that face is full of character, as might be expected after a man has managed his own lumber business for 56 years.

Mr. Scovill established his business in Ypsilanti in the winter of 1869-1870, and old timers can remember "way back when" as boys, one of their favorite sports was playing around "Dad" Scovill's lumber yard down on Frog Island in the Huron River. It was, for many years, one of the really historic institutions of Ypsilanti, but finally had to be moved to a better location.

Back in the days before the Ypsilanti lumber business, "Dad" joined the army, at the outbreak of the Civil War. He was just a youngster of 17 then, but he saw plenty of active service, including the first Battle of Bull Run, and he always enjoys telling how it took them three days to get to the battle ground and one night to get back. After leaving the army he went west.

Those were the days when the west was still untamed. The railroads had not yet gone through and "Dad" earned his passage by driving a six-mule team clear across the great plains. He spent three years in California and then came back east by way of Panama. There was no Panama Canal then, and the return trip was just as much of an adventure as the overland trip by prairie schooner. For a time he ran a planer for the Edwards & Cooper mill at Ypsilanti, and then decided to locate permanently in that town. So far he has never changed his mind.

When the decision to settle down in Ypsilanti had been made, Scovill formed a partnership with a man named Follmer, and together they leased a site on Frog Island and went into the lumber business for themselves. Later Scovill bought out his partner and in more recent years his son-in-law, H. A. Brisbee has joined the firm. Brisbee is Secretary and Treasurer and "Dad" Scovill, himself, serves as President. About 22 years ago the Frog Island yard was flooded out and the plant was moved to its present location.

As might be imagined from his long residence there,

"Dad" Scovill thinks a lot of his home town and Ypsilanti thinks a lot of "Dad." He is loved and respected by everyone, not only in Ypsilanti, but in the whole country round about. Five times his fellow townsmen elected him mayor and he could probably continue holding that office indefinitely, for they wanted to put him right back into it again, but "Dad" figured he ought to give someone else a chance, and refused to accept a sixth term.

The long record of his firm is not the only point of interest about H. R. Scovill's business, however. During all these years he has built up and operated a business which has been distinctly successful, not only when measured in dollar terms, but also measured in terms of service to the community. And year by year the business has shown that steady growth which is the mark of sound business policy and wide-awake business methods. Today the annual business of the H. R. Scovill Lumber Co. is of a volume which would do credit to a community boasting a far larger population than is to be found in Ypsilanti.

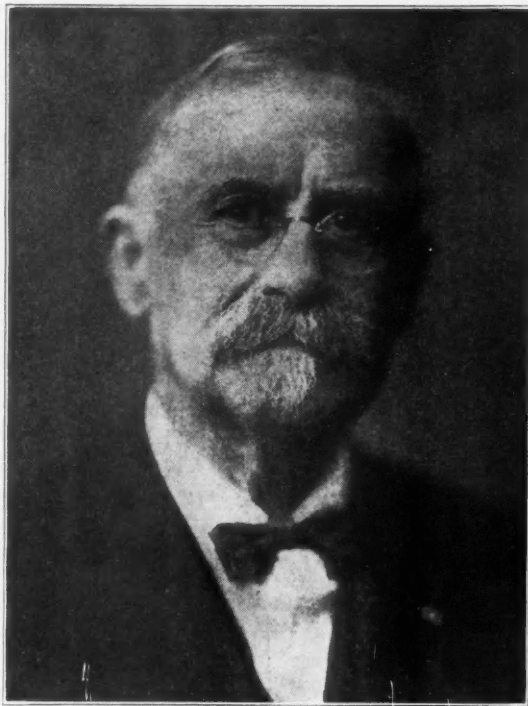
In spite of the long years he has been in business, "Dad" Scovill is no "old fogey," tied down to old-fashioned ideas which have outlived their day of usefulness. No, he is a live, up-to-date merchandiser, always on the lookout for good, new ideas which he can put into practice to render better service to his customers and increase

the volume of his business. His up-to-date ideas are evident in the service department which is devoted to aiding prospective home owners.

When the future home owner consults this department he is given assistance in every step of materializing his dream of a new home. He is aided in developing a plan which meets his ideas of style, his requirements and his financial capacity. Specifications and estimates are made and materials are furnished, and so on even to the financing of the whole operation. Mr. Scovill has established a financing system to aid that great majority of builders who must spread the payment for the new home over a period of years. It is this sort of service, extended in the true spirit of service, that has won "Dad" Scovill his place as one of the really big figures in the retail lumber business.



"THE builder of the small house should know that it is the permanence of the architectural design which in the end will determine whether he can resell to advantage if he must. Buyers are satisfied with paint and repairs if the house is attractive, but the ugly house of impractical design is a drug on the market, no matter what its construction."



H. R. "Dad" Scovill, of Ypsilanti, Michigan, a Real Old-Timer in the Lumber Business, Is Still Young in Appearance and Spirit and in Up-to-Date Business Methods.

The New Hudson River Bridge

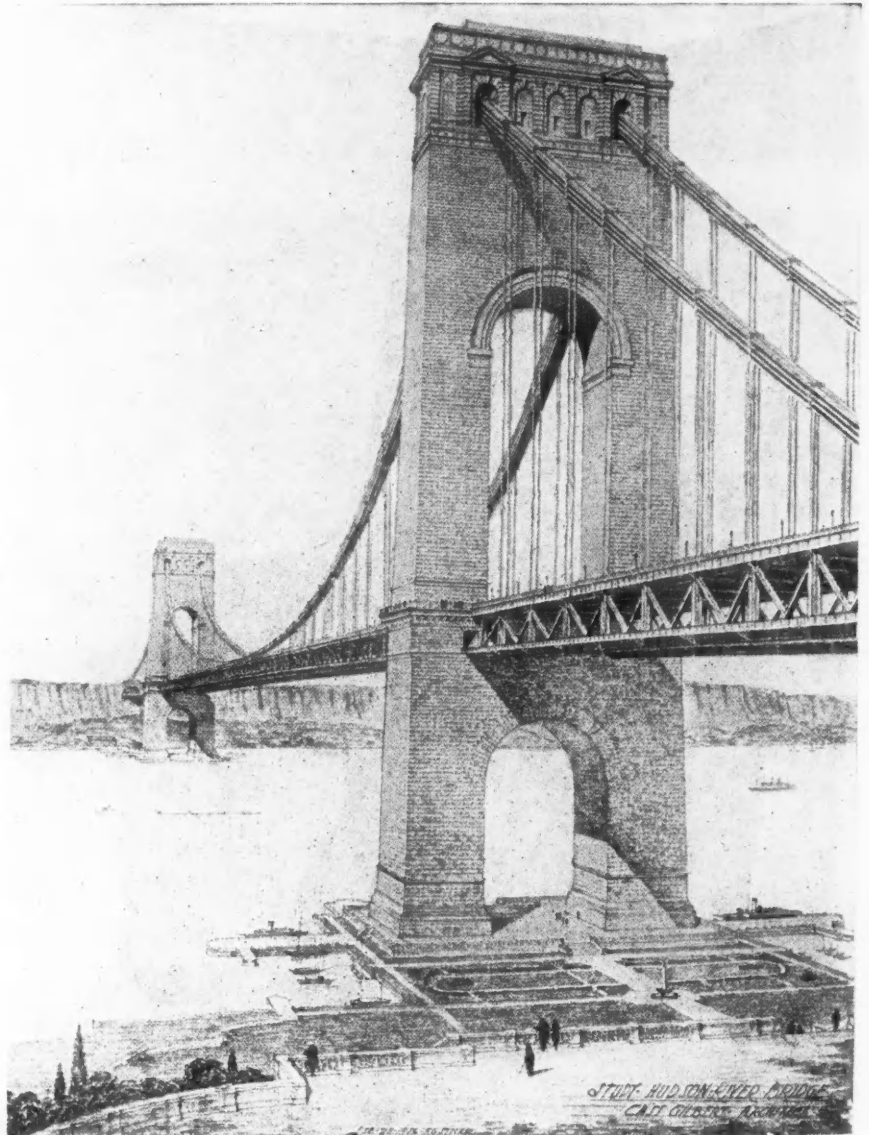
Planning the Largest Suspension Bridge in the World

By ROBERT F. SALADE

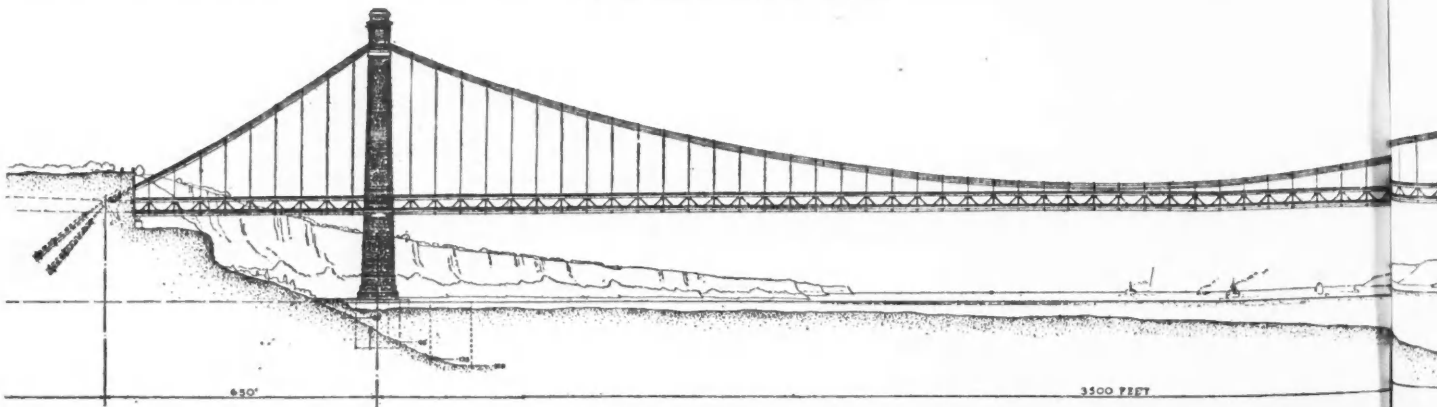
PLANS are now being perfected for the construction of the largest suspension bridge in the world, the total cost of which has been estimated at \$90,000,000. The preliminary work necessary for the planning and construction of the Hudson River Bridge between Fort Washington and Fort Lee, with which the Port of New York Authority has been charged by the legislatures of New York and New Jersey, has now advanced to a point where conclusions can be drawn regarding the physical and financial feasibility of this bridge; its necessity as a link in local and interstate transportation systems; its location, size, type, method of construction, approximate cost and aesthetic merits.

According to the tentative report of the bridge engineer, the Fort Washington-Fort Lee bridge, when completed, will have a single river span of at least 3,500 feet, and a clear height above water of about 200 feet. The location decided upon is a site near 179th Street, Manhattan, and a point approximately opposite thereto in the borough of Fort Lee, N. J.

The tremendous size of the proposed new bridge can well be imagined by two notable comparisons—one the recently completed Philadelphia-Camden bridge across the Delaware River, the other the Washington monument in the National capital. The Philadelphia-Camden bridge, which is of the two-cable suspension type, has a single span 1,750 feet between towers; it is 135 feet above mean high water, and, each of its two towers is 380 feet above water level. From these figures it will be seen that the Fort Washington-Fort Lee bridge will have a single span practically double that of the other

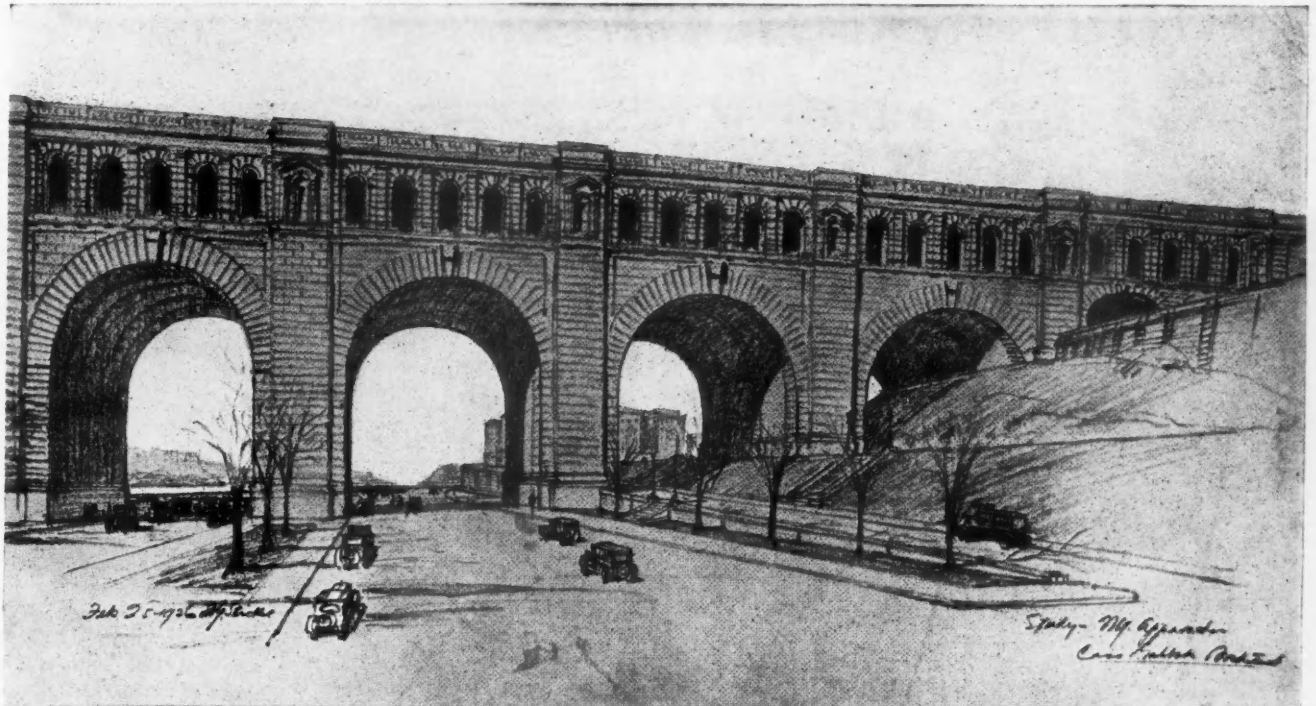


Perspective View of the Bridge Which Is Being Planned to Span the Hudson River Between Fort Washington (179th Street), on the New York City Side, and Fort Lee, on the New Jersey Side.



The Favored Site for the Fort Washington-Fort Lee Bridge, Which Will Be the World's Largest Suspension Bridge, require rise to a height of 650 feet above the water level which is 95 feet higher than the Washington Monument. The va

Largest Suspension Bridge



The New York Approach of the New Suspension Bridge Will Include a Series of Monumental Arches, 80 Feet High and 70 to 80 Feet Wide, One of Which Will Span Riverside Drive, and Which Will Enhance Rather Than Mar the Appearance of the Neighborhood.

bridge just mentioned. The Washington monument rises 555 feet above the ground and is 55 square feet at the base. The towers of the new Hudson River bridge will each rise to a height of 650 feet above the water level, and will measure 220 feet in the north and south dimensions by 75 feet in the east and west dimensions, exclusive of the projecting water table and base. It is proposed that these towers shall be a combination of steel and concrete with granite facing.

"The vast size of this bridge puts it in a class by itself," said Cass Gilbert, the architect, in his report. "The dimensions are such that it is very difficult to grasp the 'scale' and make the various features of the design in due proportion. In this structure the engineering elements are paramount and imperative. They must form the basis of any logical architectural design. Embellishments which would require additional construction, or which would not be in complete harmony with the intention of the structure, would be illogical and undesirable.

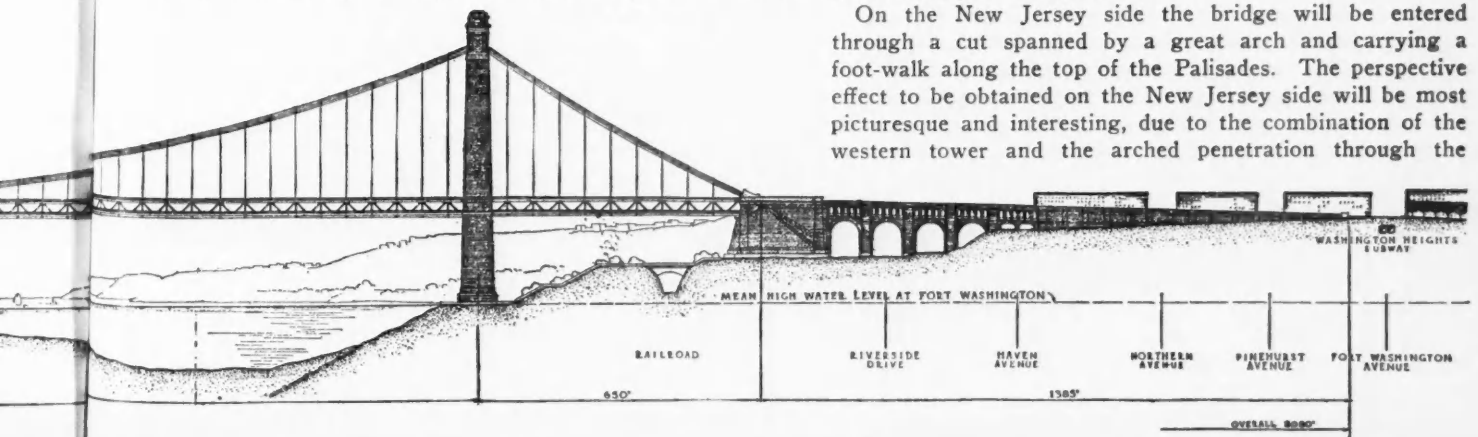
"The design therefore must be reduced to its simplest elements. It must rely upon its proportions with only such embellishments or ornamentation as necessary to accent it at important points. Therefore, ornamentation

must be used sparingly and with discretion. Skillfully handled, it will add beauty and dignity to the design but in the last analysis the design must rely upon its proportions and yet the proportions, especially of the great towers, are dictated by engineering considerations rather than by the conventional proportions to which we are accustomed.

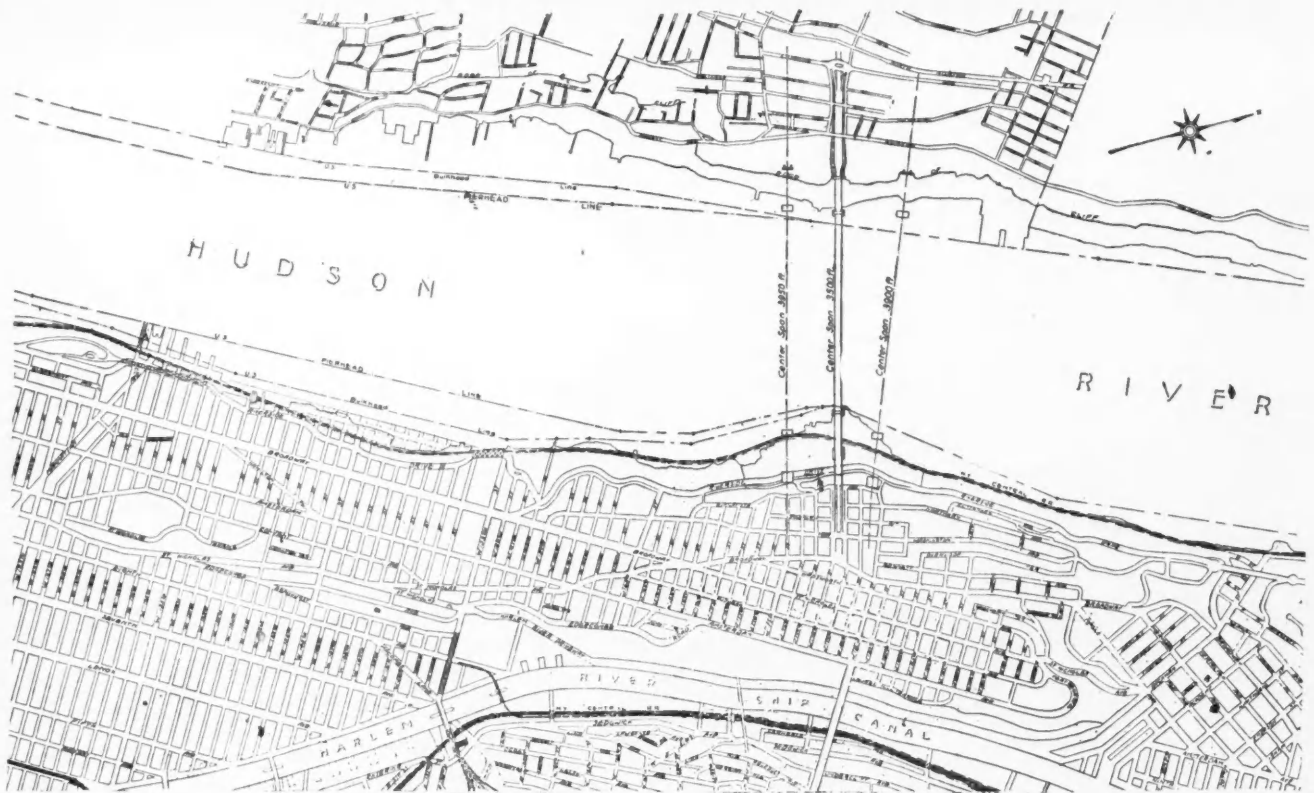
"The main elements of the bridge may be said to be: The span across the river of 3,500 feet; the towers rising 650 feet above mean high water mark for the support of the cables; the anchorage in which the cable terminals are embedded; and the approaches. The span across the river will be of the suspension type. The lines of a suspension bridge are in themselves graceful and beautiful, and the enormous scale of the cables and supporting members is such that the span cannot help but be impressive."

The roadway of the bridge will be located about 235 feet above mean high water, and will pass through each of the towers beneath a great arch 95 feet wide and about 230 feet high. The character of the masonry of the towers is at this time under consideration, but it is probable that granite will be found the most suitable material on account of its strength and durability.

On the New Jersey side the bridge will be entered through a cut spanned by a great arch and carrying a foot-walk along the top of the Palisades. The perspective effect to be obtained on the New Jersey side will be most picturesque and interesting, due to the combination of the western tower and the arched penetration through the



bridge, require a Center Span of 3,500 Feet and Will have a Clearance of 200 feet Above the Mean High Water Level. The towers of the vast size of this bridge puts it in a class by itself," says the report of the architect, Cass Gilbert.



Three Different Sites Have Been Studied by the Engineers But the Central One of the Three Shown, Which Is Near 179th Street, Manhattan, Is Considered Not Only the Most Economical But the Most Desirable with Respect to Approach Grades, Street Connections and Natural Setting.

Palisades. The anchorage on the New Jersey side will penetrate deep into the cliff.

On the New York side the anchorage will be 580 feet east of the center of the easterly tower, and will be about 230 feet in its east and west dimension. Extending from this anchorage to the rising ground east of Riverside Drive will be a series of great arches 80 feet high by 70 or 80 feet wide, through one of which will pass Riverside Drive.

The approach on the New York side will extend to Fort Washington Avenue from where roadways, or ramps, will descend on both sides of the bridge to Riverside Drive. The plans include a beautiful plaza, of spacious size, to be placed between Fort Washington Avenue and Broadway. While many studies for the design for the bridge have been made they cannot yet be considered other than preliminary, tentative and subject to modification.

From the engineering standpoint, the construction of this great bridge is in every respect feasible and, while of unusual magnitude, it will involve no extraordinary difficulties, nor hazardous or untried operations. The piers will be located within pier-head lines, as established by the War Department, and will therefore be no obstruction to navigation.

If funds for construction of the bridge become available in 1927 (and the outlook for this is excellent), it is expected that not later than 1933 the bridge would be open to four-lane vehicular and bus traffic, and also for pedestrians. It is estimated that this capacity will provide for the initial traffic and the expected increase until the year 1943, when it will probably become necessary to enlarge to an eight-lane vehicular capacity.

Although it is not possible, at the present time, to give definite cost and figures, it is estimated, upon the information so far available and upon such forecast of real-estate values as may be reasonably made, that the bridge can be opened for highway traffic at a cost of about \$50,000,000, inclusive of interest during construction. Depending upon the traffic capacity finally to be decided upon, it is estimated that the bridge can later be enlarged at an

additional cost of between \$15,000,000 and \$25,000,000, if, and when, the vehicular and passenger traffic will have grown in volume to pay for this additional cost.

On the basis of conservative traffic analysis, and without counting upon the vehicular traffic which will be generated by the construction of the bridge, nor upon possible income from other than vehicular traffic, it is estimated that during the first year after completion the revenue will more than cover the annual interest charge, administration, maintenance, and amortization. Therefore, the bridge will be self-sustaining in every respect from the first year without imposing unreasonable toll charges upon those who use it.

Allowing for the future growth of traffic, and counting upon revenue from vehicular traffic alone, it is estimated that within ten years after being opened to traffic the bridge may be enlarged to eight-lane capacity, and that within twenty years thereafter the entire bond issue raised to cover construction cost can be amortized.

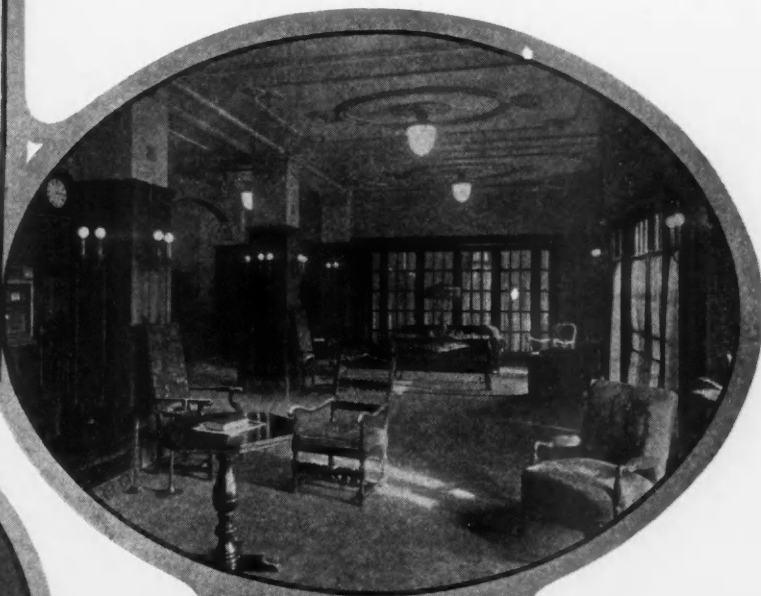
The legislative acts of New York and New Jersey provide that the bridge be located at a point between 170th and 185th Streets in Manhattan, New York City, and a point approximately opposite thereto in the borough of Fort Lee, New Jersey. The engineers have made a careful study of three sites in close vicinity of 181st Street, 179th Street, and 175th Street, Manhattan, respectively. These studies revealed the fact that the central location near 179th Street is not only the most economical but is also the most desirable with respect to approach grades, street connections and natural setting. In the selection of the location, due consideration was also given to the scenic effect of the bridge, more particularly to the effect upon Fort Washington Park. While, by locating the bridge at 181st or 175th Street, encroachment upon this park by bridge piers might be avoided, the much longer river span required at these locations, and the consequent greater proportions of the bridge, would not be as favorable, aesthetically, as a bridge at 179th Street.

(Continued to page 214)

The Fairmont

A Modern Apartment Hotel

NORMAN B. HOWARD,
Architect



A Glimpse of the Main Dining Room at the Fairmont, Exterior View of Which Is Shown Above, to the Left.

THE Fairmont, a ten-story hotel building, is one block from beautiful Forest Park, in a high class residential district of St. Louis, yet conveniently accessible to theaters and shopping centers. The building is set back one hundred feet from the sidewalk, which allows a fine lawn and lends exclusiveness. The windows of each of the 100 rooms command a wonderful view of the surrounding territory.

Its popularity with people of refinement who desire a permanent home without the every-day cares of house-keeping is attested by the ready response that followed its opening about two years ago.

Modern to the nth degree, the Fairmont units consist of spacious living rooms, dressing room, large clothes closet and private bath. Each room is equipped with disappearing bed, which adds greatly to the comfort of the guests. This disappearing bed feature greatly increases the capacity of the hotel but, at the same time, allows

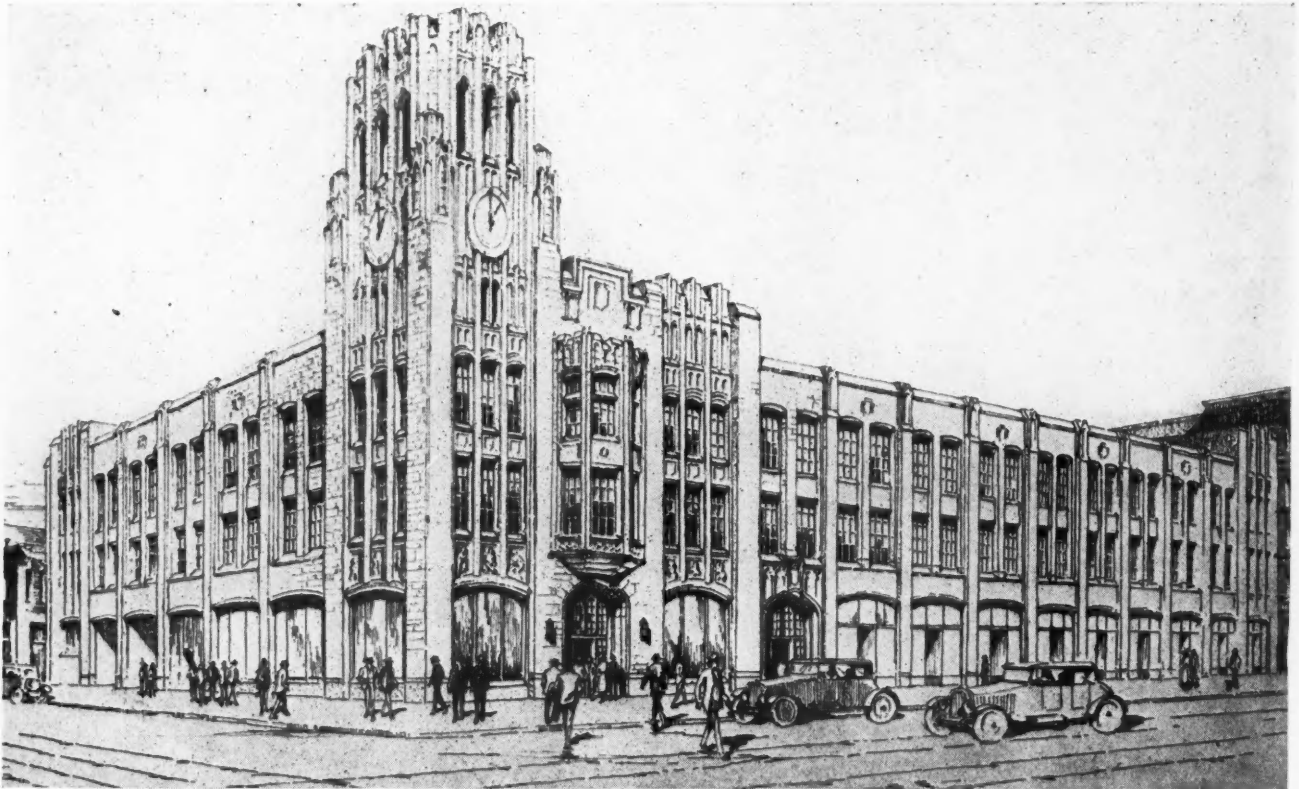


Views of Lounge and Reception Rooms in the Fairmont, Showing Fine Finish, Decorations and Furnishings.

guests added floor space almost equal to another room. An ordinary bed in a hotel room quite unfits it for the reception of business or personal friends. The disappearing bed solves this problem almost perfectly and makes available a living room which has none of the drawbacks of a bedroom.

As revealed by the illustrations, the furnishings of the Fairmont are luxurious but in excellent taste. While this hotel has a special appeal for guests who desire a permanent residence, these same features will also appeal to many transients.

Modern Gothic Structure Houses San Francisco Chronicle



This Architect's Perspective of the Newly Completed San Francisco Chronicle Building Gives Only a Suggestion of the Beauty of the Gothic Architecture Which Was Adopted. Weeks and Day, Architects.

THE new home of the San Francisco Chronicle at Mission and Fifth streets embodies the application of engineering efficiency to the making of a newspaper. This is the first great building west of Chicago designed for newspaper production on modern factory principles.

The Chronicle's new plant is the last word in newspaper factories in a newspaper factory building. The structure is planned so that all the operations of newspaper making go ahead on a straight line, the modern factory arrangement, and so that the products of the operation move by gravity to final delivery at the street level.

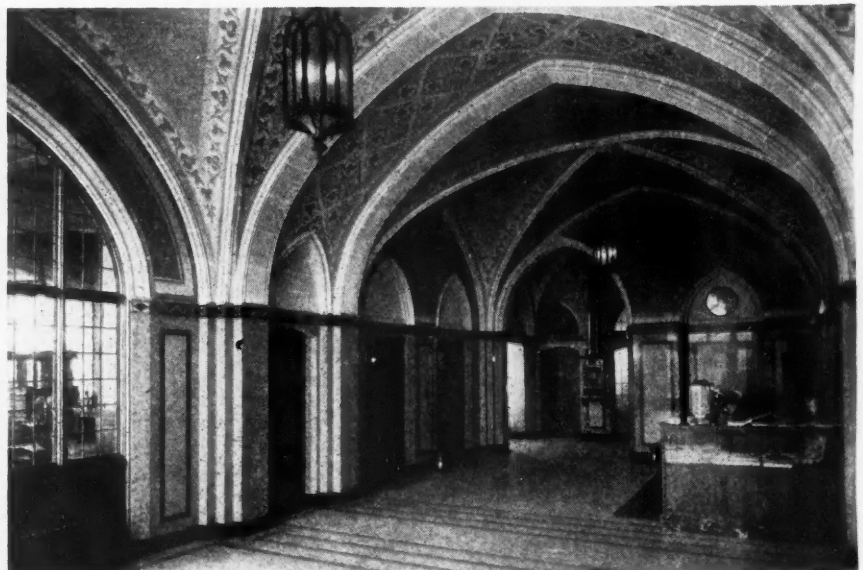
This reinforced concrete building has but three floors and a basement. Every recent plant built by great newspapers in America has, wherever possible, been designed to put all the processes on as few floors as possible. But the Chronicle's new home also embodies the principle that a structure thoroughly efficient for the purposes of a factory may be a beautiful building as well.

The architecture of the Chronicle building is Gothic, a Gothic modified to industrial uses and hence termed Industrial Gothic. We have here not only a beautiful building but one particularly appropriate to a newspaper plant. The rich associations of the old Gothic typify the romance the

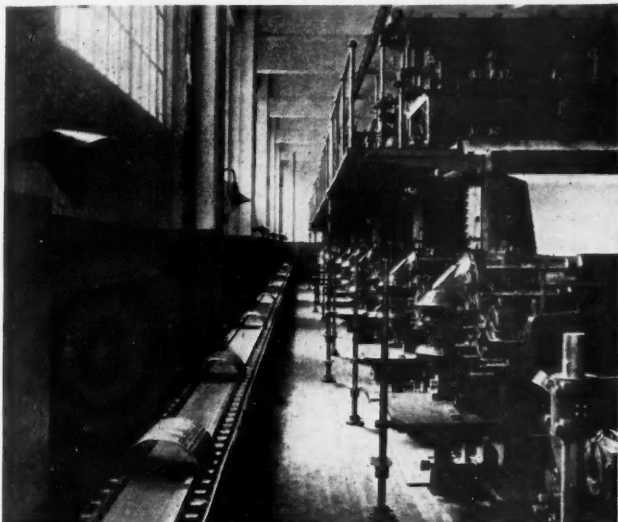
public mind sees in gathering news and creating a story.

Even the ornamental details are drawn from the tradition and legend of the printer's art. The plaques above the first-floor windows picture printing presses of the old time, the printer's devil, the making of type and other items of the "mystery" as a trade was once called.

In looking at this building one cannot fail to note the



Variegated Marble Walls and Floors of Marble Mosaic in Richly Beautiful Pattern Are a Part of the Gothic Design Carried Out in the Main Lobby.



The Semi-Cylindrical Stereotype Plates Are Carried by a Conveyor to the Presses on the First Floor.

warmth and color given to the design by the architect and engineer. This is no grim and gloomy factory of the old style, but a building alive, in pleasant mood, aspiring, and with strength and energy to realize its aspirations.

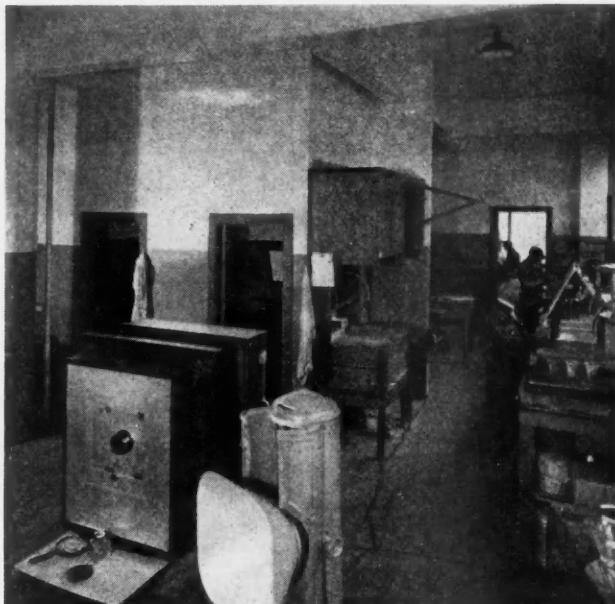
This Industrial Gothic style, at once graceful and strong, lends itself to the maximum in lighting efficiency. In this most important matter of light and air for an industrial plant the situation at the corner of Mission and Fifth streets gives it a great advantage. The building covers completely a separate block. On each of its four sides it looks out on a street, Mission on the north, Fifth on the east, Minna on the south, Mary on the west.

All the processes of producing *The Chronicle* as a newspaper each day are carried out on the third floor of the plant with the sole exception of the presswork. The final product of the third floor, the semi-cylindrical stereotype plates go down a conveyor to the press on the first floor. The finished papers are whirled from the press to the mailers' benches on the second floor, where begins the process of distribution to the carriers, to the mails and to trains and boats.

Nine stores have been included on the Mission Street side of the first floor and a portion of the second floor is used for offices.

The black press, with its 14 units, is a machine a little more than 150 feet long. When the four additional units, that are to be installed eventually, are in place the press will measure 202 feet 6 inches in length. The color press stands end to end with the black installation making the total press line of *The Chronicle* more than 207 feet in length, finally to be 260 feet when the four additional black units are installed.

There is a great slab of concrete 12 feet wide, 3 feet thick and 260 feet long which forms the ultimate foundation of the press line. This slab is below the floor level of the basement. From it rises, to the first floor level, the frame works of steel beams on which the black press stands as shown in the illustration. From it



The Engraving Room Is One of the Important Departments in the Production of a Daily Newspaper.

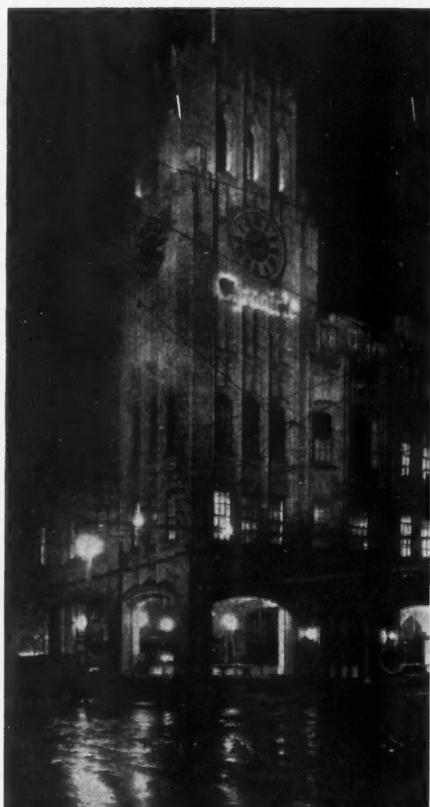
also rises the great concrete cell which is the foundation of the color press.

Resting on this slab under the black press is an installation that is the last word in the handling of the rolls of paper that feed the press. Under each of the 14 units is a triple roll, three giant steel spools disposed at equal distances about a huge axle. Each of these spools holds one of the mammoth rolls of paper. Each reel is equipped with a motor.

The uppermost spool feeds the paper to the press. Just before the moment when the paper on it reaches its end the motor turns the reel through one-third of a revolution. The empty spool turns down. A full spool rises to its place and the end of its ribbon of paper, already prepared with paste, falls automatically in position on the vanishing end of the ribbon before, and this is drawn into the press as though the strip of paper had been one, and not two wound on separate spools.

The third spool stands ready to take its place in turn while the empty spool at the bottom is replaced with a full roll of paper from the storage. All this is done without stopping the presses. Thus the paper is fed to the cylinders in a continuous ribbon. The value of this lies in the saving of time.

Atop the building is a roof garden. This is a floored space on the roof close under the southern side of the tower, left open to the sun and air, but protected from westerly and southerly winds by a wall with windows in it. *Chronicle* employees use it when they have a brief respite from work and want a bit of sunshine and fresh air in the open. It is easily accessible by a stairway from the lobby where the elevators stop at the third floor.—CHARLES W. GEIGER.



By Night the Impressive Beauty of the Gothic Tower Is Accentuated by Soft Projected Lights.

“THERE is no surer way to spreading an appreciation of good planning and designing than by practicing it.”

Small Store and Office Building Treated in Brick and Stone



The Construction of Small Store Buildings Which Will Be Both Practical and Attractive Is Not the Easiest Task to Be Undertaken but When the Subject Is Given the Careful Attention Which Is Evident in the Building Shown Here the Result Is Altogether Successful.

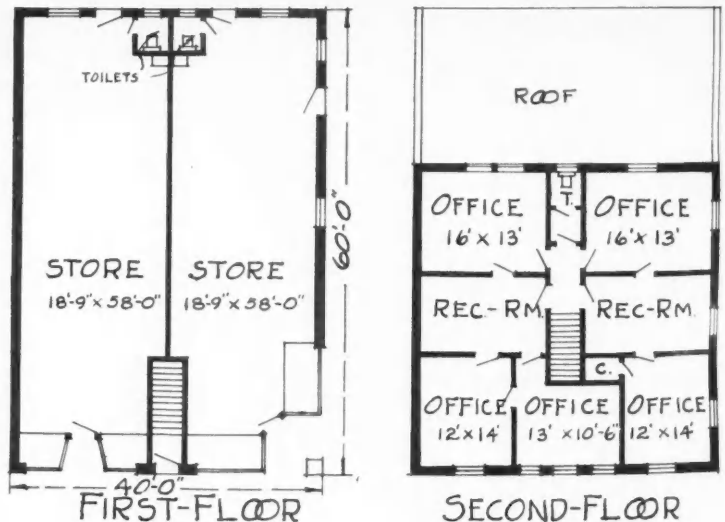
THE small store building, with offices on the one or more floors above the street level, is a problem entirely distinct from other types of commercial building. All too often such buildings are either drab and monotonous or are over decorated and inappropriate to the purpose for which they are intended. For the purely business street, in the smaller communities or outlying districts of the large city, where this type of building is usually erected, it is always safest to stick closely to the principle of simplicity in design.

A typical example of this good practice is illustrated here. This building is located on a business street on the northwest side of Chicago. While it is surrounded by a residence neighborhood, the street on which it is situated is entirely devoted to stores and offices and among these it stands out as neat, attractive and thoroughly practical.

The plan is the familiar one of a building with space for two small stores on the first floor and a second floor, over about two-thirds of the building, devoted to offices, occupied for the most part by doctors and dentists.

The walls are of a well selected brick with trim of limestone. Ornamentation is limited to a judicious use of the limestone trim in bottom course, belt courses and window framing, and also in five purely ornamental shields to break the expanse of brick above the windows. The arches over the three central windows at the front have been used with a commendable restraint which gives a most satisfactory front effect.

This corner location also involves additional window space. In the planning of window space there is much op-



A Typical Arrangement of Space Is Seen in the Floor Plan, Showing Two Stores on the Street Level with Offices Above.

portunity for adding to the attractiveness and value of the store building and an equal chance of spoiling an otherwise good design. Manufacturers have specialized in the study of display window requirements and design and offer a co-operation in this matter which is invaluable. By taking advantage of their service it is possible to obtain display windows which add much to the general effect of the building and add even more greatly to its rental value, for the advertising value of display windows properly designed and used is now recognized by every merchant.

A Sheridan Road Filling Station

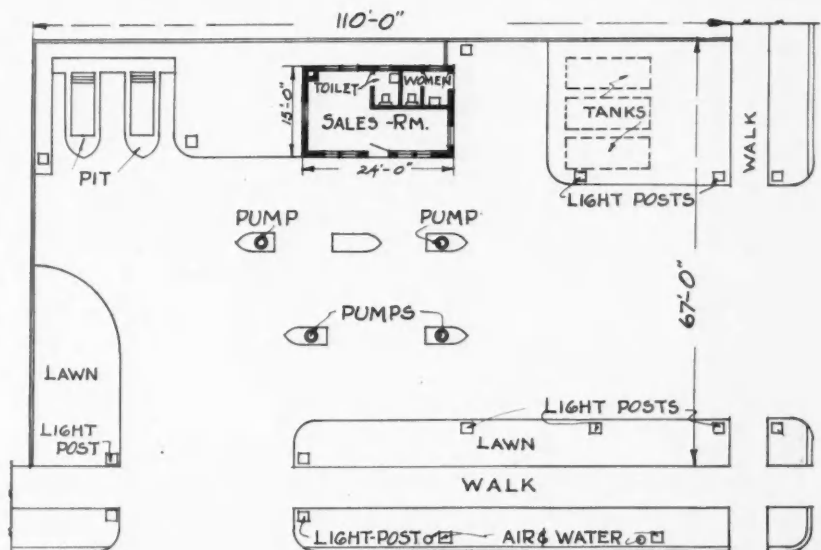
Motorists Are Instantly Attracted by this Station the Distinctive Charm of Which Is In Tune With the Beautiful Drive



Thoroughly in Harmony with the Tone of the Beautiful Highway on Which It Is Located This Attractive Filling Station Is So Individual that No one Who Has Seen It Will Forget It and Anyone in Need of Service Will Be Sure to Stop and Spend His Money Here.

MOTORING along beautiful Sheridan Road, the highway leading northward out of Chicago, along the shore of Lake Michigan, one cannot fail to be impressed by the many beautiful homes and other buildings in settings of natural beauty enhanced by the most perfect of landscaping and care. Just before passing from the village of Wilmette into the village of Kenilworth, the motorist comes upon a group of buildings which have been designed especially to cater to his needs.

Here are a restaurant, a smaller lunch room, a dancing cafe and a filling station. The latter, to be seen in the photograph reproduced above, immediately catches his eye as one of the most distinctive and attractive buildings of the many charming ones which he has passed. If there is any filling station service which he feels he may possibly require he is sure to stop here. Few can resist the appeal of this artistic and businesslike service station.



Full Equipment for Gas, Oil and Battery Service with Every Item of Equipment Arranged in the Most Convenient Manner, the Plan of This Station Is on a Par with Its Appearance.

Structural Gypsum Floors and Roofs Over Metal Lath

THE use of structural gypsum concrete over ribbed metal lath to form light weight, incombustible floors and ceilings is typically illustrated by two recent jobs, one at Waukegan and the other at Rockford, Ill. These are not unusual jobs, erected under special conditions, but are selected as representative of this type of construction.

The Waukegan job was a one-story store building erected for F. E. McGreal at Ridgeland and North Avenues by August Janhke, contractor. The steel joists were spaced 16 inches and to them was clipped $\frac{3}{8}$ -inch ribbed metal lath. The structural gypsum then was mixed in the proportions recommended by the manufacturer— $1\frac{1}{2}$ parts of structural gypsum, one part sand and three parts coarse aggregate—and poured to a depth of two inches on the floor and roof. Before the pouring progressed five feet the material nearest the point at which the pouring started had hardened sufficiently to be walked on without damage to either floor or roof.

The Rockford job was the three-story Johnson Beatrice apartments, Sidney Cain, general contractor. Here rivet-grip joists spaced 24 inches, were used. The second and third floors and the roof were formed of two inch slabs of structural gypsum concrete poured over $\frac{3}{8}$ -inch ribbed metal lath. The procedure followed was identical with that of the Waukegan job.

For the roofs of both jobs an approved waterproof roof covering was laid over the structural gypsum concrete slab,

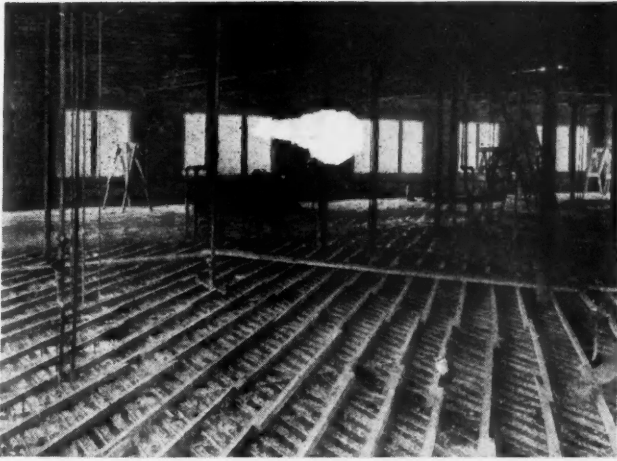
which completed the job. Before the floors were poured number one sleepers were clipped to the joists and the structural gypsum was poured between them. Finish flooring was applied over the sleepers. Metal lath was clipped to the underside of the steel joists and the ceilings were finished off with plaster. In factory buildings where this type of roof or floors is used the practice is to leave the ceiling unfinished or to back-plaster the ribbed metal lath between the joists, leaving the joists exposed.

Structural gypsum concrete, when mixed in the proportions recommended by the manufacturer and cured, develops a compressive strength of 900 to 1,500 pounds per square inch with a weight about 60 per cent of that of portland cement concrete. In addition to being used over ribbed metal lath for floors and roofs, it is used for bearing walls and interior partitions of residences, service stations, garages and factory buildings, where the load is not excessive, and for curtain walls where the principal loads are carried by structural steel. The time of set can be regulated to suit conditions. On roofs and floors, for example, structural gypsum concrete takes its initial set within 30 minutes after being poured. In walls and partitions the forms can be removed within an hour.

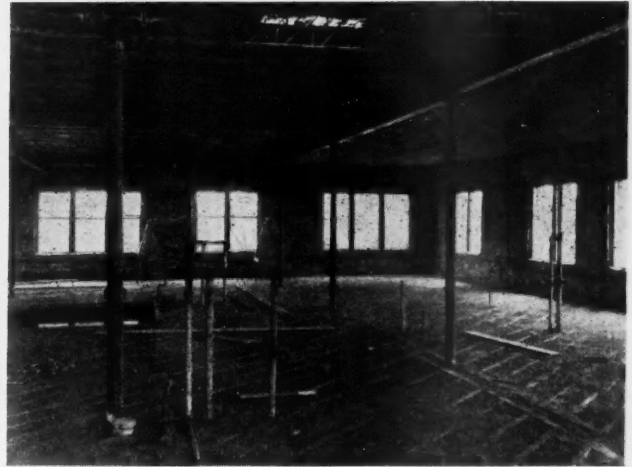
Being of gypsum, it is incombustible. A three-inch structural gypsum concrete wall was subjected, during a test at Columbia University, New York City, to a maximum temperature of 1,852 degrees Fahrenheit, and an



Pouring a Structural Gypsum Concrete Roof, Over Ribbed Metal Lath, at Waukegan, Illinois. Note the handling of electrical conduits and the fact that the roof will support the weight of a man almost immediately after it has been poured.



Poured and Unpoured Sections of a Structural Gypsum, Ribbed Metal Lath Floor at Rockford, Illinois, with Sleepers in Place.



Floor Shown at Left Completely Poured Between the Wood Sleepers on Which the Wood Flooring Was Laid in This Apartment.

average temperature of 1,707 degrees Fahrenheit for one hour. Water then was played on the super-heated surface from a 1½-inch nozzle at 30 pounds pressure for 2½ minutes. When the wall was examined the next day it was found that calcination from this intense heat had not entirely obliterated the form marks, that the structural strength of the wall was unimpaired and that a single coat of gypsum plaster would bring it back to its original condition.

The thermal insulating property of the material was shown by the same test, for at no time in the hour during which the heat was applied, even though a maximum temperature of 1,855 degrees Fahrenheit was reached, was the temperature on the outside of the walls over 210 degrees.

Load tests on a 2-inch structural gypsum concrete slab as used in roofs and floors over ribbed metal lath were conducted at Fort Dodge, Iowa. On joists spaced 12 inches apart, ¾-inch ribbed metal lath, weighing three pounds to the square foot, supported a load of 1,747 pounds to the square foot without breaking. On joists spaced 16 inches apart, the same construction supported a load of 2,012 pounds per square foot without breaking. Because of the sizes of the panels used and the height of the room, it was impossible to pile on enough material to break the slab, so the breaking point remains undetermined.

On the joists spaced 19 inches apart, using ¾-inch ribbed metal lath, weighing 3½ pounds per square foot, the breaking point was reached at a load of 1,728 pounds per square foot; and with joists spaced 24 inches apart, using ¾-inch ribbed metal lath, weighing four pounds per square foot, the breaking point was reached at 1,006 pounds.

Virtually coincident with these tests, formal approval of structural gypsum concrete for residence and other

construction in the city of Indianapolis was issued by the Commissioner of Buildings there. The approval followed the use of this material in the Indianapolis Little Theater.

In designing the Little Theater, Pierre and Wright, the architects, were confronted with two problems. The building had to be fire-safe because it was situated in the fire zone. Second, the budget was limited and the utmost economy had to be observed. A special permit to erect the building of structural gypsum concrete was obtained.

Following its completion, the theater was inspected and Commissioner of Buildings Bert J. Westover wrote as follows:

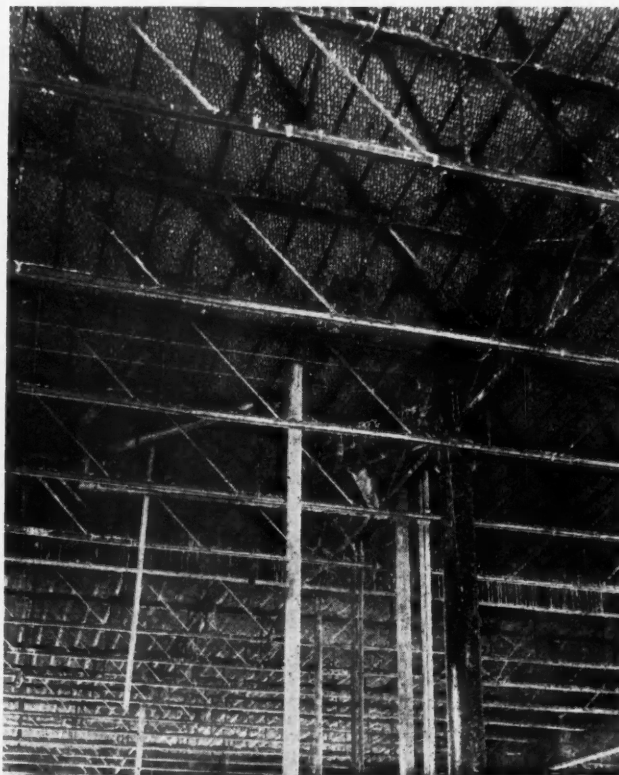
"The building for which we gave you permission to erect of structural gypsum concrete has been completed and our inspectors report that it is in very good condition. We are now in a position to grant you permission to continue this construction in the city of Indianapolis. We understand the wall is doing all you claimed for it as far as insulation and strength are concerned and feel there is a field for your product."

Previously structural gypsum had been approved by the building commissioners of all five boroughs of New York City; Elmira, N. Y.; Washington, D. C.; St. Paul, Minn.; Albany, N. Y.; Boston, Mass.; and Newark, N. J.



Forestry Education Needed

"REMARKABLE progress has been made in forestry in the South up to this time, but much remains to be accomplished. There must be better forest fire control, closer utilization of forest materials, extension of public forest, an increase of educational work and fair legislation to adjust the state's systems of taxation on forest property so as to permit timber growing without financial disaster to private owners."



The Underside of a Structural Gypsum and Ribbed Metal Lath Roof After the Roof Slab Has Been Poured.

Unique City Hall and Court House for Miami, Metropolis of the South

The Tower in This Beautiful Building Houses Two Jails with Law Courts and Offices Below

By **BERNARD L. JOHNSON**
Editor, American Builder

THE rapid growth and great building activity in Florida finds its culmination in Miami and the new Court House and City Hall Building in that city, for which contracts have recently been let, expresses in its magnitude and beauty the optimism which now prevails in that section of the South. We think our readers will agree that the design of this building has great architectural beauty.

An unusually good seminary building, in Chicago, a fine terminal warehouse in Los Angeles, and a great modern hotel in Pittsburgh comprise the other renderings in this month's Architectural Supplement.

Dade County Court House and Miami City Hall A. Ten Eyck Brown, Architect

Briefly, this building is 27 stories high with a pyramid surmounting it about 50 feet high, or a total measurement equal to about a thirty-story building.

It is to house all of the County and City departments having direct business with the public on the first floor, with the balance of the official departments of the two governments up to the ninth floor, including the County Courts and City Courts, and their necessary adjuncts.

There is allowed about three stories above the ninth floor for future expansion, and above this space is four floors for the City jail and above that five floors for the County jail, with allowances made for expansion of each of the latter institutions.

The contracts have already been let for the entire exterior, which consists of granite base and granite terra cotta above same to and including the pyramid, together with steel windows and mechanical equipment, such as plumbing, electrical work and elevators. The balance of the contracts will be let soon covering the interior work, such as mill work, painting, marble and tile, plastering, partitions, etc., together with the jail equipment, furniture and lighting fixtures.

New Chicago Theological Seminary Building Herbert H. Riddle, Architect

When entirely completed, this group of buildings will be one of the most attractive, architecturally, in the city of Chicago, which already has many fine educational groups. John R. Montgomery is chairman of the board of directors of Chicago Theological Seminary (Congregational) which has graduated more than 2,000 ministers since its establishment in 1855. The board has recently authorized the million dollar expenditure involved in these new buildings, which will be expended under the direction of Clarence S. Funk, of Oak Park, chairman of the building committee. The site is on the north side of 58th Street, between University and Woodlawn Avenues.

The opportunity for architectural effect is even greater in a group of buildings than with an individual building but requires architectural merit of a high order to achieve the most harmonious effect. The design of Mr. Herbert H. Riddle is an architectural achievement of great worth and beauty.

Hollywood Terminal Building, Hollywood, Calif. Morgan, Walls and Clements, Los Angeles, Architects

In designing the new Hollywood Terminal Building, the architects have demonstrated that it is just as possible to construct a warehouse along beautiful lines as a theater, residence or any other structure in which attractiveness is regarded as a desirable feature.

It was the idea of Charles E. Toberman, head of the company which erected the Hollywood Terminal Building, that it should not be just another tomblike storage plant consisting of four walls and a roof. As one of the builders of Hollywood, Mr. Toberman insisted on making this improvement an architectural asset to "Filmdom's capital city" as well as a commercial addition.

The building represents an investment of \$450,000. It stands on a plot of ground having 51 feet frontage on Highland Avenue and a depth of 217 feet, just south of Santa Monica Boulevard, where an industrial district is developing. Besides being one of the handsomest loft buildings to be found anywhere, it is the tallest building in Los Angeles, being fourteen stories high.

The cathedral-like front is of cast stone. The structure is not patterned after any particular style of architecture, but represents an adaptation of the Spanish. Huge plate glass windows extend up two stories. It provides accommodations for manufacturers' agents and distributors on the various floors. There are vaults, showrooms, office facilities and high speed freight and passenger elevators included in the equipment. A banquet hall to seat 700 is located on the top floor, while the tower has a radio broadcasting station 300 feet above the street level.

Pittsburgh-Pennsylvania Hotel Geo. B. Post & Sons and The Ballinger Company, Associated Architects

This important hotel enterprise, involving the investment of eighteen million dollars, will locate in downtown Pittsburgh the largest hotel in the state. The site is in the block bounded by Liberty Avenue, Grant Street, William Penn Place and Seventh Avenue, which was purchased early in the present year by Col. A. W. Wyckoff and his associates from the Pennsylvania Railroad Co. Col. A. W. Wyckoff is president of the Wyckoff Drawn Steel Company.

The original design showed a solid block, but the revised rendering reproduced in our Plate No. 92 shows a series of five light courts in the face of the building, which is to be 18 stories high and will contain some 1,250 rooms. In point of floor space, it will be the largest building in Pittsburgh. It is expected that the building will be connected by subway with the Pennsylvania Station, similar to the arrangement between the Pennsylvania Railroad Station and Hotel in New York City.

The revised design of the Ballinger Company and George B. Post and Sons, associated architects, shows a substantial and imposing edifice which will be an acquisition to the city of Pittsburgh. The hotel will have many features of entertainment, decoration and equipment which will attract travelers.

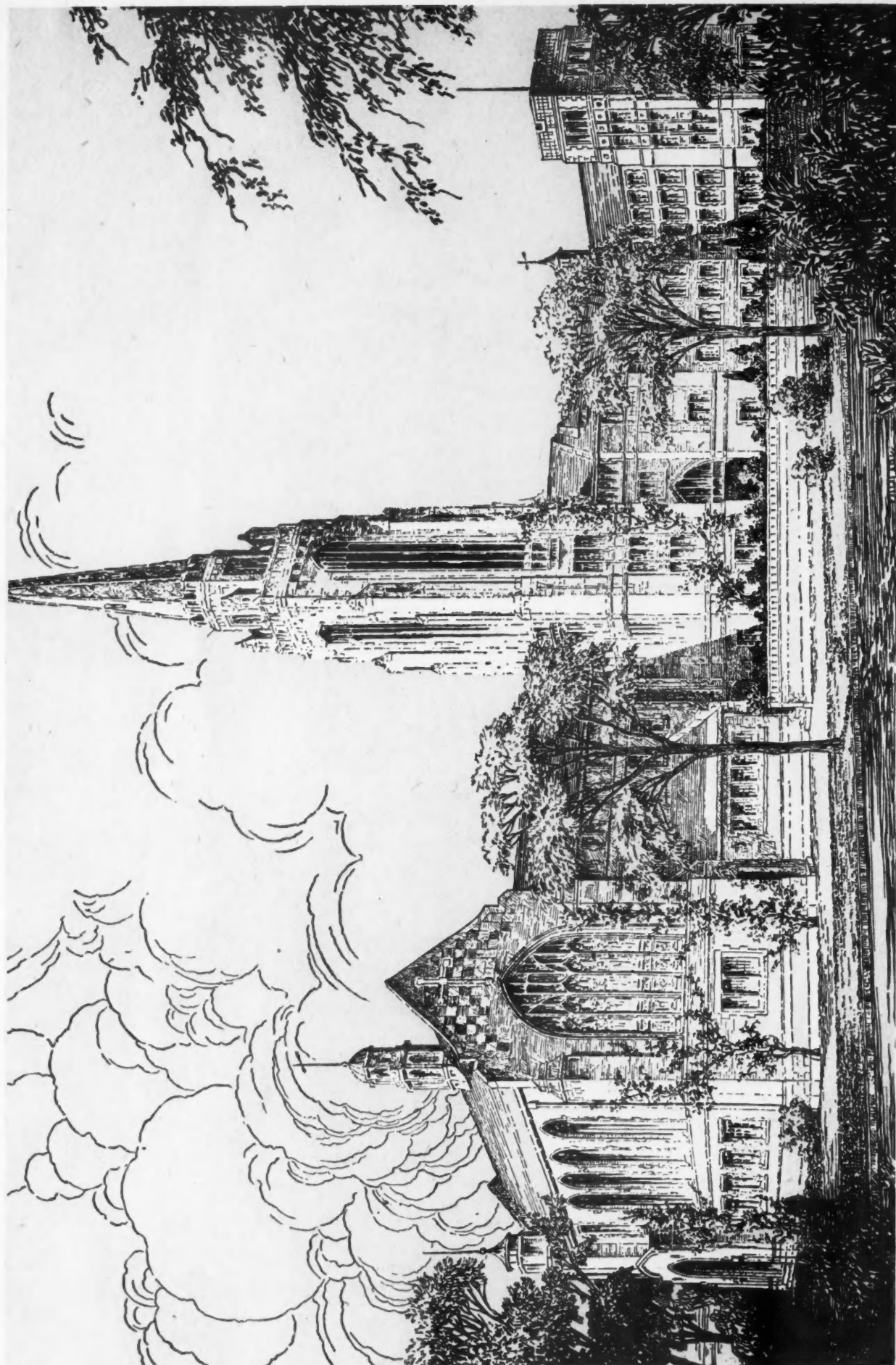
ART SUPPLEMENT *of* NOTABLE ARCHITECTURE



PLATE 89

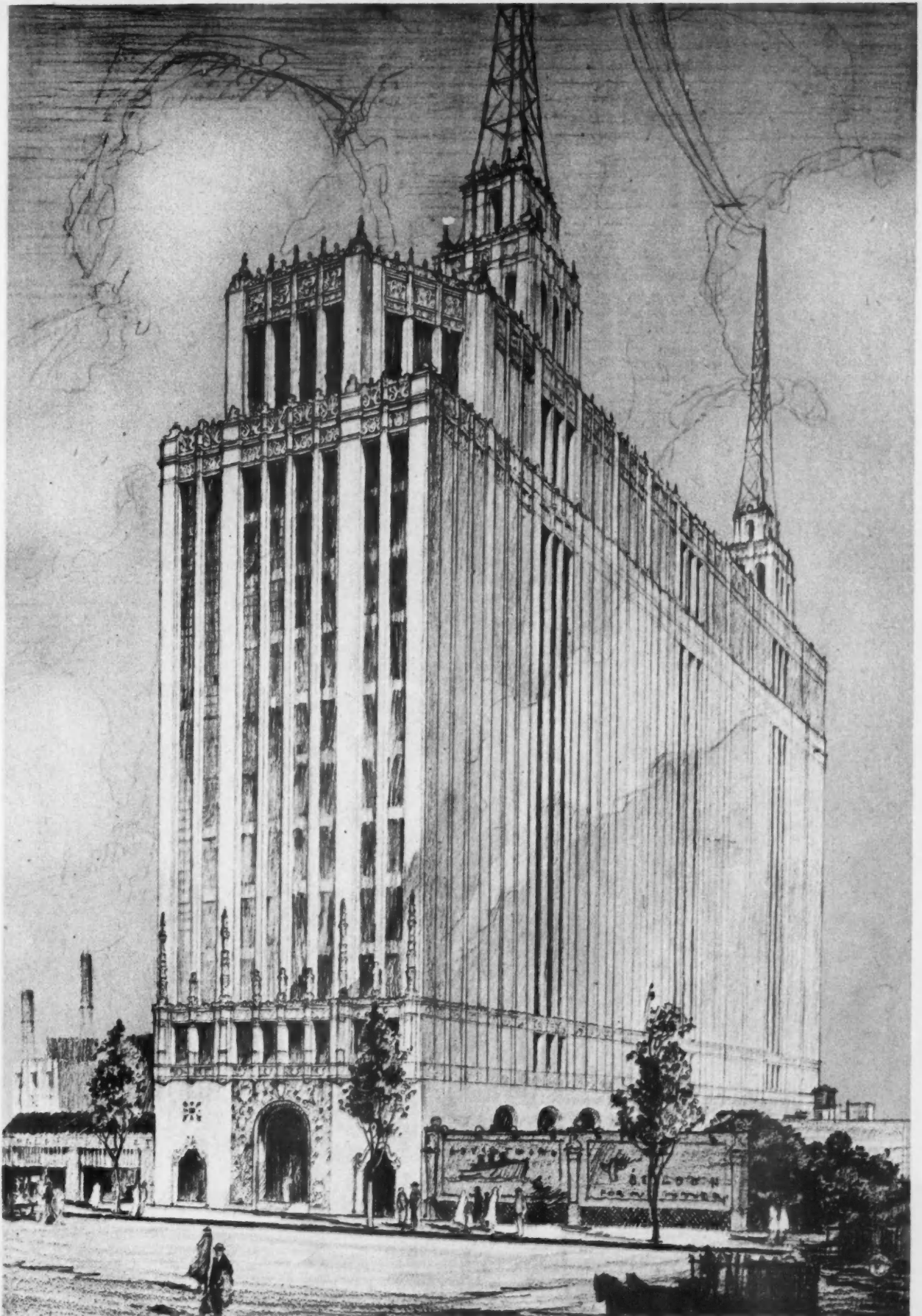
The DADE COUNTY COURT HOUSE AND MIAMI CITY HALL, Miami, Fla.;
A. Ten Eyck Brown of Atlanta, Ga., Architect;
August Geiger, Associate.

The AMERICAN BUILDER, June, 1926

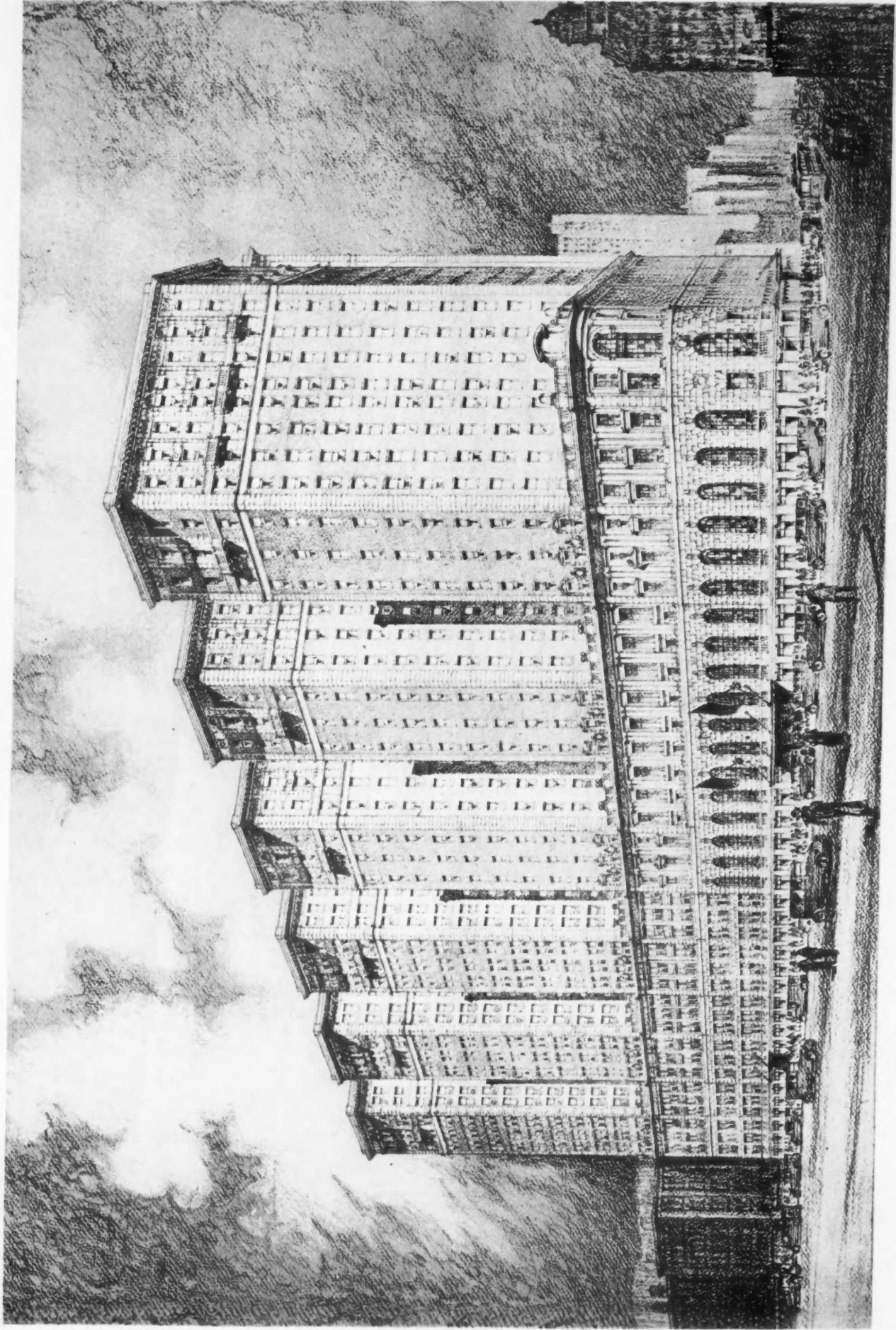


The CHICAGO THEOLOGICAL SEMINARY GROUP OF NEW BUILDINGS; 58th Street, between University and Woodlawn Aves., Chicago; Herbert H. Riddle, Architect.

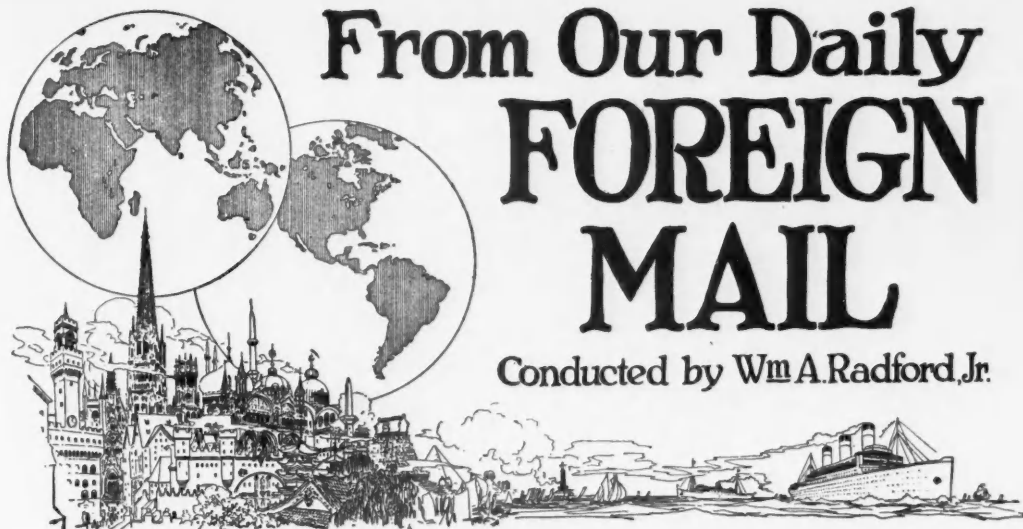
The CHICAGO THEOLOGICAL SEMINARY GROUP OF NEW BUILDINGS; 58th Street, between University and Woodlawn Aves., Chicago; Herbert H. Riddle, Architect.



The HOLLYWOOD TERMINAL BUILDING, Hollywood, Calif.;
Morgan, Walls & Clements, Architects.

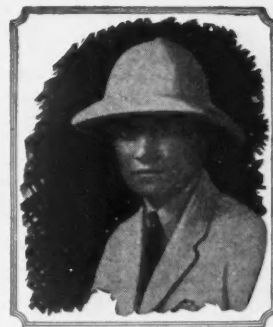


The PITTSBURGH-PENNSYLVANIA HOTEL, to be built near the Pennsylvania Station in Pittsburgh; The Ballinger Co. and Geo. B. Post of New York City, Associated Architects.



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.

FROM LONDON

London, England.

AMERICAN BUILDER:

I am directed by the Consul-General to acknowledge the receipt of your communication of September 2, 1925, referring to the proposed Mersey Tunnel, and informing me that if this office will give you the name and address of the proper party in connection with this construction work you will be pleased to mail on copies of the AMERICAN BUILDER direct.

In this reference I have to inform you that it is suggested that you address your communication together with a copy of the AMERICAN BUILDER to the Engineer of the Liverpool Corporation, Liverpool, England.

(Signed) JOHN A. GAMON,
American Consul.

FROM NEW ZEALAND

431 Georges Drive, Napier, New Zealand.

AMERICAN BUILDER:

I wish to congratulate you on your very fine publication and am indebted to it for many new ideas and practical advice, and I consider it the best paper of its kind I have yet seen. We have just farewelled your powerful navy, and must state that everywhere your sailors proved very popular. Am forwarding by same mail one of our pictorial papers, the "Auckland Weekly News"—the illustrations of which may interest you.

Wishing your paper every success in the future.

(Signed) A. B. SIMPSON.

FROM ENGLAND

"The Neb," Forest Road,
Nanpantan, Leics., England.

AMERICAN BUILDER:

I should be obliged if you would give me the names of three or four companies manufacturing locks and door furniture. I am particularly interested in mortise locks fitted with glass knobs for interior doors, and I believe there would be a good market for these in this country.

You might, if you care to do so, request the firms you mention to send me catalogs and price-lists, with export discounts.

(Signed) M. R. MELDRUM.

FROM JAPAN

Osaka City, Japan.

AMERICAN BUILDER:

We beg to inform you that a firm in Osaka City, Japan, requests us to write for names and addresses of building material manufacturers in the United States who may be willing to give the firm sole agency for Japan. We shall be much obliged if you would send us a list of manufacturers who may be open to appoint a good firm in Osaka their representative in Japan. This firm desires also the know the kinds of building material which the manufacturers produce.

Any attention that you may be able to give this matter will be highly appreciated.

(Signed) M. VASHIBA,

Director, The Osaka Municipal Office,
Department of Commerce and Industry.

FROM GREECE

(Translated from the French)

Saloniki, Greece.

AMERICAN BUILDER:

We have received your address from our sister firm, A. Nehama. Being established for the last twenty years in the representation business in our city, we should like to enlarge the scope of our business by including your country also.

We should therefore be very thankful if you would kindly furnish us with the addresses of the firms who should like to be represented in our city and also of the firms who wish to obtain any product whatsoever originating in this country or Serbia.

With our reiterated thanks, please accept the expression of our highest consideration.

(Signed) S. A. NEHAMA.

FROM CUBA

Habana, Cuba.

AMERICAN BUILDER:

I received a copy of your paper and have found it very interesting and useful; I have taken notice of your request and will mention with pleasure your publication to any manufacturer from whom we need information.

(Signed) M. A. COROALLES,
Chief Engineer of Public Works.

FROM RUSSIA

Samara, Russia.

AMERICAN BUILDER:

I read with pleasure your letter in the June, 1925, AMERICAN BUILDER.

I am making use of the American construction equipment (Ransome concrete equipment).

We are very much interested in the way you build your nice homes and I will use your invitation to write you.

1. Can I obtain the technical information, the prices and shipping information about the hardware (Chicago)?

2. Also woodworker machinery (like Master Woodworker Manufacturing Company)?

3. Machines—floor sander?

I am sure that in a very short time we will have the opportunity to buy the engines; now, it is not so difficult to get a licence from the SSSR.

(Signed) ENG. K. BOGOYAWLENSKY,
Tchepayewskaja 80.

FROM ENGLAND

"Berklea" Highbury Road,
St. Annes on the Sea,
Lancashire, England.

AMERICAN BUILDER:

As to your enjoying having me with you, I am glad to say so, but you haven't enjoyed half as much as I have being a subscriber. I consider it a privilege to be allowed to be one for only \$3.00.

As to your P. S., how do I like those 16 pages in colors? They are a treat, but any page, whether articles or advertising, is well worth reading, for your advertising are both so well written and displayed that they compel attention. I could almost repeat some of them. When the current issue arrives at this address, I have to be careful to plant it or else it is missing. I have some relations who, if they can only lay hands on it, carry it off to their home, and if I haven't finished with it I have sometimes to go

a few miles before I can find it. They say they are sorry they put me to any trouble, but as soon as the next comes I've to go to the same trouble to retrieve it, and the joke of the thing is that there are none of them in the building trade, so that if the AMERICAN BUILDER compels folks to pinch it, because it has such fine articles, displayed advertising and appealing pictures of home designs, I think you can feel pleased with yourself, for you've compelled attention and your advertisers can be contented that the money invested in advertising in the AMERICAN BUILDER is as good as any investment that they could have.

(Signed) ARTHUR NUTTALL.

HOLLAND OPPORTUNITY

AMERICAN BUILDER:

American Consul Edward A. Dow, who is stationed at Rotterdam, Netherlands, reports that a Dutch financier of building, industrial and municipal loans is anxious to enter into direct correspondence with American manufacturers of hardware and mechanical equipment required for the construction of a modern steel framed hotel to be built along American lines and to contain 540 rooms. Contracts will be placed early in 1926 and it is contemplated that the building will be completed in December, 1927. The inquirer desires to receive data on metal doors, automatic clocks, safes, locks, switchboards, changeable signs, pulleys, hoisting machinery, wire cloth and sanitary equipment. He also desires to receive copies of constructional engineering periodicals. The Consul reports that the purpose of direct correspondence with American manufacturers is to get full benefit of technical export advice from the main offices of manufacturing exporters in the United States, rather than from Dutch and other European agents for such manufacturers. The inquirer does not believe that European agents have the required experience to advise concerning the type of goods that should be supplied for a building of this nature. We believe your periodical might be of value in assisting the inquirer to arrive at a decision as to the equipment which he will use in the hotel.

The inquirer is Mr. Richard Kirchmann, whose address is 20A Hooze Neuiwstraat, The Hague. Quotations are desired c.i.f. Amsterdam and it is stated that payment will be made cash against documents. A financial reference given is the National City Company at New York and its branches at London and Amsterdam. We are informed that Mr. Kirchmann is the head of a private company established in 1905.

(Signed) F. L. ROBERTS,
District Manager (Chicago),
Department of Commerce,
Bureau of Foreign and Domestic
Commerce, Washington.

FROM SIAM

Technical Section of the
Dept. of Public Health,
Sapan Yotse Crossing,
Bangkok, Siam.

AMERICAN BUILDER:

As you know, I am a Siamese and the English language is not my own; however, I can get more or less information in your magazine every issue. Since I have been your subscriber from the year of 1923 until today, I feel myself improved on my construction work by your magazine.

(Signed) K. BURAKAM.

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

AMERICAN BUILDER.

Pittsburgh; The Ballinger Co. and Geo. B. Post of New York City, Associated Architects.

The PITTSBURGH-PENNSYLVANIA HOTEL, to be built near the Pennsylvania Station in



DETAILS OF HOME BUILDING

Stuccoed Walls

By V. L. SHERMAN,
Lewis Institute of Technology

CONCEIT may not commonly be called a virtue, yet there is that quality about conceit, or self-confidence if you would, which, when backed by study takes on something akin to virtue. It is the power to conceive. Now this is primary in my mind to the use of stucco. Stuccoed walls are unlimited in their possibilities for picture making, and their best use lies in presenting form and color. Therefore if your home is to display either or both, lay on the stucco with a strong hand and a strong opinion of the outcome. Do not compromise.

In Figs. 1 and 2 on the opposite page there is an attempt to show what this may mean. In Fig. 1 the flat angles and deep shadows are accentuated by the light blank walls. Colors will show brighter against these contrasts especially in the roof. While there is a great deal of contrast in the picture it may be noted that there are no sharp edges except the shadow lines which, being unreal, tend to soften the contours of the building. Stucco, of course, is the ideal medium for such a scheme.

In Fig. 2 there is what might jokingly be called geometry. Such arrangement of surface forms with resulting light and shadow brings out a design in the perspective rather new in this country. It is still in the experimental stage, and I sincerely hope that most of it stays there.

But without encroaching too much on the house as a home there are aims in the direction of form which are creditable. In this particular case the fairly blank wall with grouped windows, the upper story windows being a trifle high, the high pitched roof and the dark louver at the peak, one is surely pitched on the gable.

For those who have strong likes or dislikes, and who are opinionated enough to lay on with an unalterable hand, and who have something to show in the building line, I should say there is no better medium for their expression than stucco. Small or big, the house can have attraction, which is what conceit wants most.

In Fig. 3 there is an attempt to show a very pleasing phase in stucco. This rather solid half-timbered house with its moderate tones and sombre lines might be of any of a number of different constructions. The plain stucco wall is not meant to hide the construction in the least but the effect of solidity is there. Now note that the apparent heaviness of the whole outline, and especially the roof, is cheered up by the window groups. There is merely stuccoed surface between the units, hence they fall in with one another all the better. Could any wall oblige better than stucco?

Since I have only one page on which to focus the epitomized results of experience perhaps you can stand a few more views on the subject of stucco. Stucco in a sense is very modern, and the methods of building for stuccoed walls and the methods used in casting the walls are almost of this generation. With the present acceleration in im-

proving the handling of stucco the next generation will gain further improvements. There is no doubt that stucco will become increasingly popular. Totally unlike the past generation there can be no excuse for a future one to look back at a cracked edifice and remark: "See this our fathers did for us."

Stucco is going to be increasingly popular, and I could wish to return for a look 100 years hence at the monolithic walls. When these younger builders have adopted the ideas of plain walls, and recognize their freedom of hand with the other elements of their building what won't they do with form and color. Our ideas of approved types of architecture may be given an awful wrench. No doubt as before inferred there will be experiments but, thank heaven, no gingerbread.

Now suppose we consider stucco as one of a group of elements. There is no reason for supposing that stucco must be used alone. The sketch shown in Fig. 5 illustrates a case. The place is small, and shingled walls would likely make it appear a bit smaller. Stucco walls, with a bit of stiffness about the cornice, and a shingled gable make the place bulk larger and give it a little different aspect. There is some room for question in the use of such a combination in its attempt to achieve dignity.

In Fig. 6 stucco is shown used as part of a very solid structure. From either end of the scale in weight stucco will abide its position. Here the stone wall and rolled thatch require a bonding element other than stone which will not show incongruously. Stucco fits. The same might be said of the house in Fig. 4. We can conclude therefore, and with reasonable honesty, that stucco is not a make-shift expedient but rather a free element which can be used singly or which will lend itself in the most generous ways to unite with other walls.

The avoidance herein of structural details is not because "there is nothing more disenchanting to man than to be shown the springs and mechanisms of an art." It is, as Stevenson adds, that "those disclosures which seem fatal to the dignity of art seem so perhaps only in the proportion of our ignorance." If this one page only acts as an appetizer it will lead you to more structural information than I could furnish on 50 pages. The most interesting feature in stucco is the preparation of the base and the application.

Stucco well applied is much more substantial than generally believed. This may sound a trifle absurd but some tornado witnesses will swear by a stuccoed house. However, I have noted that with a reduced wind velocity and with a greatly decreased temperature the two air spaces formed in the walls of a house by stucco, sheathing, and insulated plaster will greatly reduce cold penetration.

As now used stucco should not stain from beneath or absorb stain from below.



FIG. 1.



FIG. 2.

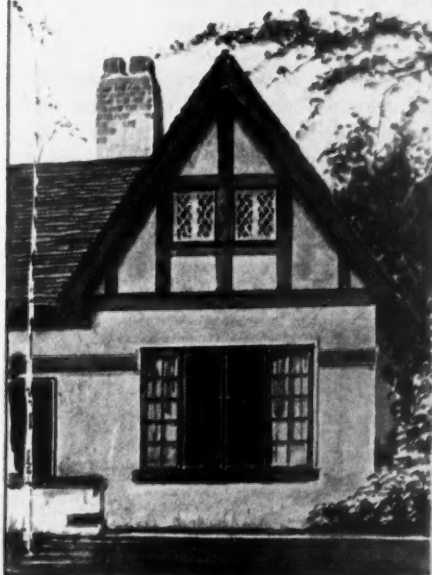


FIG. 3.

FIG. 1. PLAIN SURFACES, DEEP SHADOWS, BRIGHT COLOR.

FIG. 2. SAXON GEOMETRY, SPACES, & ANGLES.

FIG. 3. TEMPERATE TONES FOR TEMPERATE CLIMATES.

FIG. 4. AS A HEAVY MEDIUM BETWEEN THE BRICK AND THE HEAVY EAVES.

FIG. 5. ADAPTS ITSELF WELL TO LIGHTER STRUCTURE.

FIG. 6. IDEAL WALL UNDER A ROLL THATCH

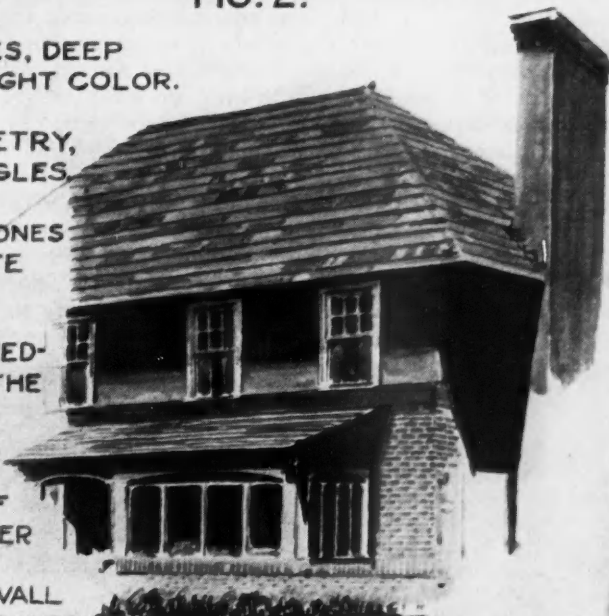


FIG. 4.



FIG. 5.



FIG. 6.

V. L. Sherman 5-2-26.

SAVE THE SURFACE DEPARTMENT

"Save the surface and
you save all" — *Paint & Varnish*

What Is Colonial Decoration?

THE popularity of the small house designed along Colonial lines brings up many questions about what is and what is not correct in Colonial decoration. While most people do not care to subject themselves to the inconveniences of a strictly Colonial house, without efficient heating plant, bathrooms and cupboard space, they are extremely fussy about the felicity of the decoration.

The exterior of the Colonial house is best painted ivory with trim of green, yellow with trim of white or gray with trim of darker gray. These are the conventional Colonial color schemes. The green and white combination is most popular and can be relieved of the stigma of sameness if the shade of green used for the trim is varied. Blue green, apple green, gray green and yellow green may all be used as well as their various shades and tones.

The decoration of the interior, however, is not a subject for argument. Woodwork, for example, is popularly sup-

posed to be correct only when painted ivory or dead white. Walls must be decorated with elaborate designs in the French or Chinese tradition.

As a matter of fact, Colonial woodwork was painted white only occasionally. Pearl gray and cream were far more popular colors, according to Professor Fiske Kimball, a recognized authority on American domestic architecture. Another popular shade was a light blue-gray, while gray-green held an equally enviable position.

Many Colonial rooms were wood paneled. Some were painted a flat color, others stained and varnished while still others were painted and decorated with armorial bearings or pictures. Sometimes a marbled or grained effect was used. Another popular treatment was to use variegated shades of white and black or white and red. In truth, the owner of a Colonial style house has considerable latitude in the selection of appropriate woodwork finishes.



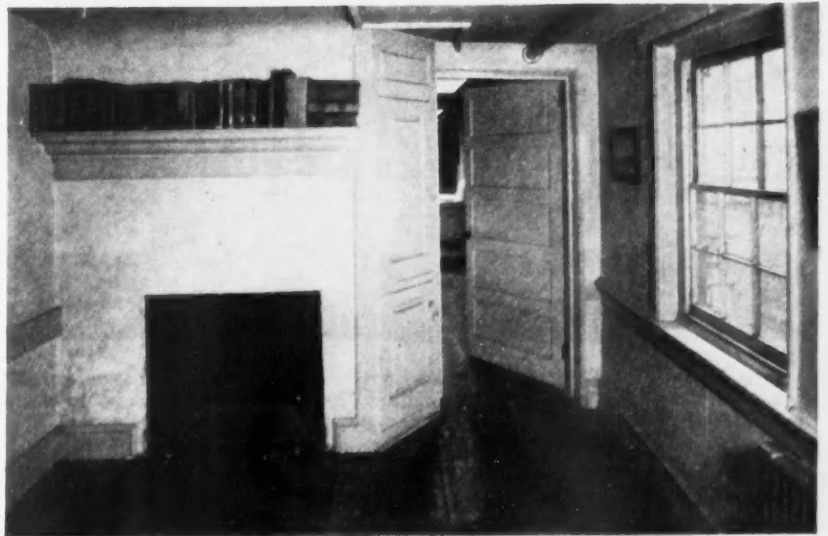
An Excellent Example of Wood Panelled Walls with Painted Designs. This room is from a house in Marmion, Va., and is now on view in the American Wing of the Metropolitan Museum, New York City.

In the matter of wall finishes there should be no argument, for, curiously enough, both sides are right. French or Chinese wallpapers were used in Colonial homes as early as 1740, but usually in the large homes of the wealthy. Interior decorations in these early American mansions was a matter of continual change. Just before the Revolution a period of enthusiasm for Greek architecture and decoration seized the more sophisticated. Immediately smooth plastered walls, undecorated, cornices, ceiling patterns and much plaster detail became popular.

In the smaller homes, however, a plain wall finish was popularly used. For this reason, the present day small Colonial type house may be decorated simply and still be in the tradition. The first type of Colonial wall finish, of course, was crude board paneling. Later lime became accessible and plaster was made. Because this was a coarse material it was applied with a wood float instead of a metal trowel. The finish was rough and slightly textured, much like a modern sand float plaster finish.

Some walls were white, but light gray, buff, cream, light green and gray blue were used as well. Modern painted walls have just as much place in the small Colonial house as those of more elaborate pattern. The cleanliness of painted walls and their basic economy make them truly up-to-date; their tradition adapts them for period use.

A too rigid conception of Colonial decoration has been responsible, no doubt, for the monotony of modern Colonial



A Room in an Old Philadelphia House, Now Put to Commercial Uses. Notice the plain wall finish and interesting woodwork.

houses. This type of architecture is so truly American and has such lasting appeal that it is wise to acquaint oneself with the latitude allowed within its boundaries in order that the modern use of this style shall not become lifeless and monotonous.

Chief among these are the chromates and their compounds and red lead, blue lead, zinc dust and zinc oxide.

The true test of paint value is service. Paints are designed to cover a wide range of conditions and they need these with remarkable success, but, in the end, the only way in which to judge a paint is on this basis.

An Important Item of Construction

THIS article will interest only the builder who wants to give an honest dollar's worth of house. Every successful builder knows that it pays to build for permanence. He realizes that he is building his reputation as well as houses. The collapse of a building may mean the collapse of this reputation which he has so long and so carefully built up for himself.

Only time will inevitably disclose the careful and the careless builder. In self-protection no builder dares knowingly to "skimp" on the job in the smallest detail. There is no profession in which a man's "sin" will more surely "find him out." Of course there is nothing to prevent a dishonest man from entering the building profession, but such a man will not last long enough to become successful. In a few years, his first building will "show him up."

There are few loopholes for sharp practices in building construction. A building is erected upon a solid foundation of science. Physical laws are neither arbitrary nor flexible. They operate with mathematical precision. A crafty builder may succeed in under-pinning with specious arguments the solid foundations of judgment and common sense upon which the decision of a prospective purchaser should rest. But if he attempts such methods in building construction he is due for a rude awakening.

Human nature is flexible and will stand considerable straining before it will break. But building is concerned only with cold, objective, dispassionate and unyielding laws of nature joined to physical materials. Torques, stresses, strains, wood, steel, stone, what builder can "undersell" these to nature? Unless the chain of construction is securely welded at all points, it will surely break at the weakest link.

The builder, therefore, should pay attention to all items

of construction and exercise care in the most trivial details. It will pay him to do his work thoroughly and honestly. For he is building as much for future reputation as for immediate salability. This fact he should never lose sight of.

Of all the materials which the builder has at his disposal, there are no products more useful and important to him than paint and varnish. They lend permanence to all construction and are the builders' principal insurance against



The John Paul Jones House at Portsmouth, N. H., Has Weathered the Storms of a Century and a Half.



How Long Will This New House Last? The answer depends as much upon the amount of paint that the builder has seen fit to invest in as upon the subsequent paint treatments that the owner subjects it to.

rust and decay. Without them the exposed surfaces of building materials would not long stand weathering or the oxidation of the air. The finest and firmest edifice could not long endure without the protection afforded by paint and varnish.

Delays are the chief bugbears of builders. It is curious to note, therefore, how many builders allow painting to delay the progress of construction. Some of the most

important "minor" items for painting considerations are such things as the unexposed surfaces of window and door frames as well as the under surfaces of such external construction material as roof shingles and the under sides of porches and of porch posts and like surfaces which are inaccessible after erection.

Obviously these are the places where, because of their inaccessibility and the presence of air or moisture, rust and decay are particularly apt to occur. Therefore, there are no places where a preservative coating of paint or varnish is more required.

As these things are usually among the first parts of a building to be put up, the painter's work should begin before the building is well started. He should work hand-in-hand with the carpenter and the riveter and see to it that where advisable no piece of steel or lumber, however small, is fastened in place without first receiving a protective coating of paint or varnish to preserve it from the disintegrating action of rust and decay. At the same time it will save a great deal of unnecessary delay in painting later on.

"What Is Paint?"

MOST of us are so familiar with paint and give it so little thought that, should someone ask the stark question, "What is paint?" we would probably fumble and stumble with vague definitions. Here is a brief catechism that may crystallize our knowledge of paint.

One authority says that paint is "any liquid or semi-liquid substance applied to any metallic, wooden or other surface to protect it from corrosion or decay, or to give color or gloss, or all of these qualities, to it." Another says: "Paint is a mixture of opaque or semi-opaque substances (pigment) with liquids, capable of application to surfaces . . . and of forming an adherent protective or decorative coating thereon."

The purpose of paint is to protect or to beautify surfaces or both. It is also valuable as a sanitary agent. Paints are classified according to the surfaces which they are to cover. House paint is paint designed to preserve and beautify the surfaces of materials used in the construction of buildings. The materials used in its manufacture are pigments, drying oils, volatile oils, or "thinners," driers or "japans" and varnishes.

The pigments may be divided into white bases, such as zinc oxide, basic carbonate white lead, basic sulphate, white lead, leaded zincs, lithopone, titanium oxide, inert reinforcing pigments, lamp black, for example; natural earth colors, such as the ochres, umbers and siennas; chemical colors, such as ultramarine and Prussian blue; and lake colors, which are produced by the combination of a dye with a mineral base.

Drying oils are used in paint manufacture to give the necessary fluidity to the paint, to insure uniform distribution of pigment on the surface, to form a firmly adherent and coherent film of the proper character and to produce the desired lustre in the paint. Linseed oil is usually pre-

ferred for this use but there are others such as poppy seed oil, tung oil, nut oil.

Driers are added to paint or to the linseed oil for convenience alone. It is usually desirable that paint shall dry within a reasonable time and it is to this end that driers are used.

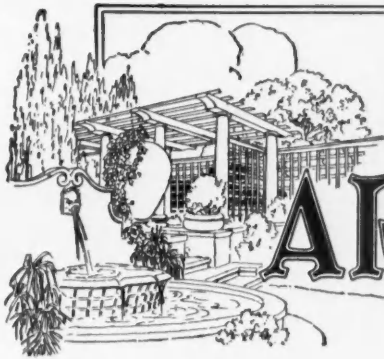
As it is possible with different formulas to produce practically the same results there can be no "standard" formulas for paints. Any attempt to establish standard formulas merely tends to limit investigation and improvement as well as to throw the industry into the hands of a few producers.

One question that should be of great interest to the builder is "What is a reasonable standard of quality for house paints?"

(Continued to page 158)



Protection, Elasticity, Hiding Power, Durability and Color Range Are Some of the Problems of Paint Making. Huge sums are spent in laboratory work that property may be better protected, at a lower cost, by paint.



LANDSCAPE ARCHITECTURE

By F.A. Cushing Smith Landscape Architect

Furnishing the Garden

A GARDEN is primarily a place for the growing of flowers, or flowering shrubs. If it be that alone then we will not learn to use the garden as a place of repose, or a retreat from the cares of business. Some of us may be content to view the garden from the depths of our easy chair, when with a sigh of content we say of the work in the garden, "Let George do it."

We might feel rather more interested if our garden be properly and simply furnished, with opportunities to sit down after the weeds have been conquered, and the entire little garden viewed in peaceful retrospect.

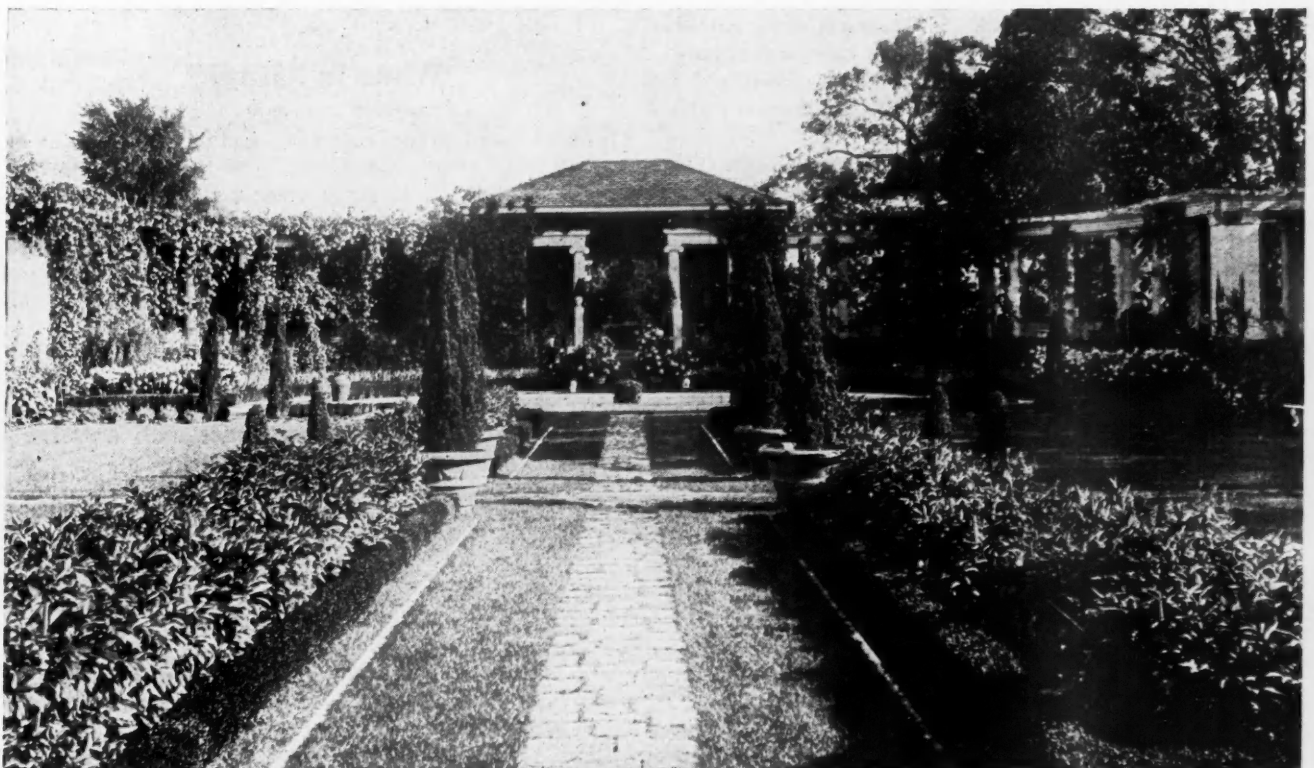
The same principles of good taste and of design which apply to the well proportioned and well designed interiors are applicable to the exterior of the house, in the small intimate gardens which have become the outdoor living rooms of our home grounds. Thus the furnishing of the garden with well studied groups, with features, architectural or otherwise, which in themselves invite repose, is an art which is just beginning to be recognized and appreciated.

Within the living room, in order to avoid the glare of the mid-day sun, we have softened its rays with window

shades, with curtains and with draperies of printed linen or of gay cretonne. Our problem out of doors is made more difficult in that no such opportunities present themselves, and the garden borders, the garden furniture, the garden walls, the garden flowers, the garden walks, are all exposed to the blinding light of the sun. Green tones absorb the sun's rays while the lighter tones, in concrete, or bright clean gravel, reflect and absorb the heat of the day. We must here in our garden have a retreat, a haven from the heat and glare of the garden's glories.

With the constantly changing lights and shadows, the brilliant colors, the growing plants and shrubs with their blue-green or yellow-green foliage, we have a problem in furnishing which is not paralleled by any interior treatment. In a garden with a turf-center panel, with the flowers about the border, just inside the enclosure of green hedge or brick wall, and with some central point of interest, or focal point, either at one end of the garden or at either side, the simplest form of garden furnishing and arrangement is achieved.

Whatever architectural style or character the house as-



While the Garden Is Primarily a Place for Growing Things Its Value Is Greatly Enhanced by Furnishings Which Make of It an Outdoor Living Room, a Restful Retreat from the Noise and Hurry of the Outside World.

sumes, the larger architectural features of the garden must follow that same style. Where possible, the same materials of construction should be carried out from the house to the feature or features in question. On the average small place such an architectural feature should be both a useful and an ornamental feature. It may take the form of a summer-house or gazebo, from which an attractive view or vista of the entire garden may be secured.

Another piece of furniture within an old New England garden comes to my mind, in which a honeysuckle-covered pergola beckoned me out of the heat of the sun. This pergola was at one end of the garden and served, with the lattice at the rear, as a terminus to the garden panel. Here my hostess served afternoon tea, to the accompaniment of the hum of the honey bees as they sipped the nectar of the nearby blossoms. The pergola may serve as a covered way between the residence and the garage, or may connect two small over-looks or summer-houses, one at either side of the garden.

There is danger in designing the summer-house or the pergola or arbor of a resulting

structure which is out of scale and these structures should be considered in relation to the house, and to the general size and proportions of the garden. If the architectural feature be too large it will dominate and overwhelm the otherwise simple and successful garden.

In an old garden in Brookline, Massachusetts, wicker seats, which can be moved at will about the garden, have been placed at intervals. From such a shady retreat books may be read at leisure, and the garden borders enjoyed protected from the glare of the sun.

In English towns there are many walled gardens into the boundaries of which have been built a lych gateway, through which a glimpse of the garden's beauties may be assured the chance passer-by. Seats of various kinds, rustic if in an informal garden, of stone, if the garden be in the Italian style, or of wood if in a Colonial garden, might be placed at frequent intervals about the garden borders, as inviting points from which the joys and beauties of the garden may be viewed.

A fountain or pool, with the water in motion, is also a never-ending source of pleasure to the children. Such a feature is best placed at some distance from the house, so that in the quiet waters we have the added enjoyment of the reflected flowers and sky. Where the garden is sunny enough the water-lilies may be introduced in the pool, or gold fish or rainbow trout added to give life to the same.

The enclosures of the garden, if they be of brick or of stone, lend themselves to many interesting decorative treatments, such as panels, wall fountains, a seat against the wall covered by a thatched roof, gargoyles and other sculptural features.

Fortunately for America the day of the iron seat, the iron dog, the iron deer, the iron urn is past. No more uncomfortable seat could be found than the early American iron seat which left its marks upon us when we rose from a none too comfortable rest.

If you would have a quiet restful garden, avoid white painted furniture, the glare of which is objectionable in summer and whatever architectural beauty the features may have, be they lattice fence or arbor, covered seat or gate, it is lost during the winter, when the snow swallows up most of the landscape. It is better to use for the color scheme, greens, or even some shades of brown, which better blend with the landscape. Warmth of color in the materials which we use, colors found in brick, well-tinted stuccos, terra cotta or tile and slate, will bring a far more pleasing effect to the resultant composition than a yellow

brick or a plain red brick. No amount of vine covering will quite make amends for the ugly colors hastily selected.

No discussion of garden furnishings would be complete without reference to the ancient sun dial which today, in many attractive forms, still provides an accurate time piece in sunny weather. The strange gazing-globe is also beloved by the children, for in its rounded mirrored sides they may look upon a pigmy world.

Where the inclinations and the purse permit, bronze or lead

figures embodying the life of the garden, its joy of mere being, its mystery and elusive charm, are to be encouraged. A sculptor can work miracles if he but receives the inspiration of the various garden moods and is given the opportunity of weaving for you his fancies in stone or in bronze.



"What Is Paint?"

(Continued from page 156)

A good paint, under average conditions should cover properly with two coats upwards of 300 square feet of surface per gallon. Under average conditions of surface, climate and exposure, repainting should not become necessary for surface protection more than once every three or four years. In exceptional cases paint may last ten or fifteen years. Single pigment white paints will usually not last over three years. Within the period fixed as the average durability of the paint there should be no marked change in the original color of the paint beneath any surface deposit of soot or dust.

Paints especially designed for interior walls are of different composition from house paints. They dry to a flat or lustreless finish and are capable of being washed without injury. These finishes are more sanitary than any other wall coatings, and, being more durable, are in the end, more economical. Their washability is one of their chief claims to superiority over other wall finishes, since this quality makes them sanitary.

There are a number of specialized paints such as fire-retardant shingle paints which latter usually contain large percentages of aluminum silicate and are, within reasonable limits, very effective.

There is, also, a type of paint especially designed for the preservation and embellishment of cement, concrete or plaster surfaces. It adheres permanently to the surface and retains its original color.



An Arbor, Seats and Tubbed Plants About This Garden Pool Afford an Opportunity to Gain the Greatest Pleasure from the Cool Beauty of the Surroundings.

FURNACE HEATING

How Recirculation Is Accomplished



Why It Is Desirable to Rotate the Air in a Warm-air System, with Directions on Installing the Piping

By R. C. NASON

THE modern tendency in the installation of warm-air heating systems calls for recirculation of all, or at least a part, of the interior air. The reason for this is two-fold: first, because it saves about 40 per cent of the fuel, and second, because it makes it easier to obtain even temperatures in the rooms being heated.

It is readily understood that when a supply of heated air is delivered to a closed area like the interior of a building an equal quantity of air must be forced out. If the entire supply comes from outside, the cool air within settles along the floor and is forced out through cracks about windows or doors on the sheltered side. In the case of upper floors the cool air often drops down stairways to the first floor, cooling the hall as a result, before it finally finds its way outdoors.

The need of returning the cool air to the furnace for reheating is felt most keenly in heating large, exposed rooms, those having bay windows or other large glass area. Although a separate cold-air register and return duct from every room is desirable, it is impractical in most buildings on account of the large number of pipes which would be required. The connection of these to the bottom of the

furnace casing would require head-room so great that there would be room for little else in the basement. Consequently, it is common to restrict return-air connections to one, two and sometimes three in number. If cold-air registers are placed at strategical points satisfactory heating results at a minimum of expense and inconvenience.

Preferred locations for cold air faces are beneath windows in large, exposed rooms, preferably dining or living rooms, beneath bay windows, at the foot or top of stairways in halls, for it is at these points that cold air is found in the largest quantity. Hence, if the cold air is picked up there it may be returned to the furnace at about 65 degrees Fahrenheit, warmed to about 175 degrees and returned to the building to complete the cycle of rotation.

The reason why fuel is saved is readily apparent when one realizes that less fuel is required to warm air from 65 degrees to 175 degrees than from zero to 175 degrees. In the ordinary building construction sufficient air leaks in about window cracks or doors and other openings to supply adequate ventilation.

To overcome doubt on this score many installers recom-

mend outdoor air supply during four months of the heating season and a mixture of inside and outside air, or all inside air, during the remainder of the season. This may be done easily by installing a return air grille, usually of quartered oak or metal, in the floor of the front hall, near the bottom of the stairs, from which a duct is dropped to the cold-air box in the manner indicated in Fig. 1.

In this type of installation the area of the combined air supply duct should equal the total area of all the warm-air leaders. It will be recalled from a previous article that it was advised, when outside air is used entirely, that the supply duct need be only 80 per cent of the combined areas of the leaders, due to the expansion of the air after heating.

Although no special pipe fitting is needed when the duct is 12 inches or less in diameter, it is better to install

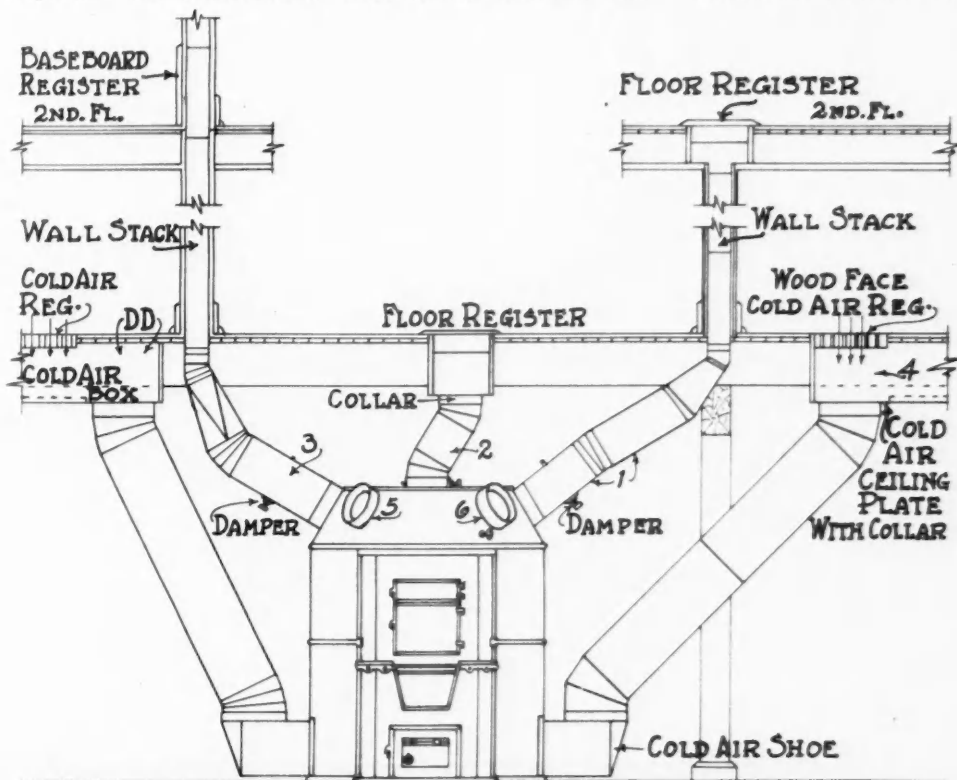


Fig. 1. A Correctly Installed, Piped, Furnace Plant with Two Combination Recirculation Ducts.

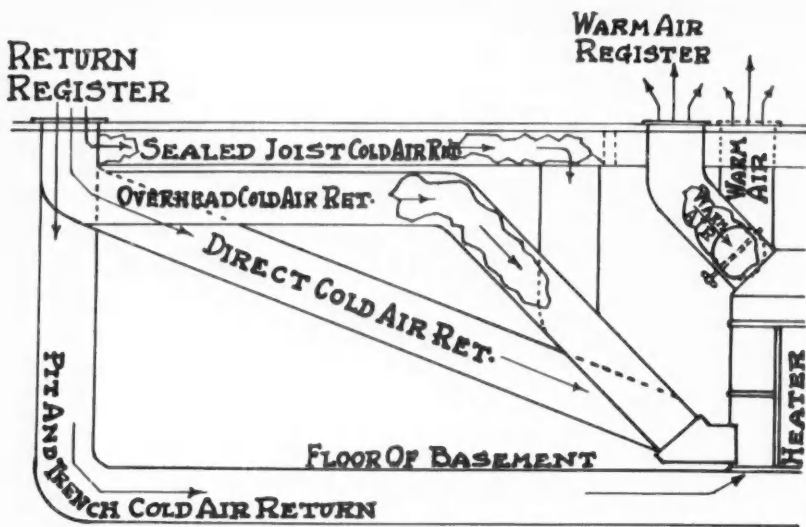


Fig. 2. Sketch Showing the Four Common Methods of Returning Air to the Furnace Casing.

special connections, like those shown in Fig. 1, when return air pipes are greater in size. The illustration shown in Fig. 1 represents a correctly installed system when two return air ducts are used, each being connected to a cold-air box. Each pipe joins a shoe, as the fitting is called, at the casing, the top being no higher than the grate.

Connections may be made at the sides of the casing, but when convenient it is preferable to make the connection at the back of the casing for the reason that pipes are out of the way here and it is at this point that the fire is usually the hottest.

Round Pipes Best

Occasionally one sees rectangular return air ducts installed, with 90-degree elbows, rather than round ones. While maximum headroom is provided with such ducts better results will be obtained by the use of round pipes with 45-degree elbows. A test made a few months ago at the University of Illinois Experiment Station substantiates this stand, for it was demonstrated that 15 per cent greater heating capacity is obtained with round ducts and 45-degree elbows. In this test there was no grille on the intake end of the square duct. As about 4 per cent of capacity is lost through grille resistance it will be seen that about 20 per cent greater heater capacity may be had when round, gradually sloping ducts are used rather than rectangular ones.

Reference to Fig. 1 reveals that the spaces between joists, in advance of the point where the return air duct joins, are boxed in. This economizes on head room and, if properly lined with metal, will prove a satisfactory arrangement, though not so good as round pipes.

All wooden surfaces should be lined with metal and a sheet metal pan, not lighter than 26-gage, constructed to extend not less than 6 inches below the joists. When joists are used in this manner the area of the return air ducts should be 110 per cent of the combined areas of the warm air leaders. If more than 12 feet of joist space is boxed the return air duct area would best be 120 per cent of the leader areas, due to increased friction.

Occasionally uninformed installers take the stand that as the capacity of the furnace is greater when the air is recirculated, a smaller heater and smaller distributing ducts may be used. This is not sound reasoning because the loss of heat from rooms, on account of infiltration, is greater

when air is rotated, as the outward air pressure is less.

The Result of the Mistake

The author recalls an instance of this in the case of a medium sized residence. The installer had erroneously installed a furnace with a 24-inch diameter firepot when one with a 28-inch pot should have been used. Pipe sizes were correspondingly reduced. By forcing the fire it was possible to heat the house, yet at the end of the second season the grates had burned out and had to be replaced. Moreover, temperature tests at the warm-air registers showed the air entering the rooms was 225 degrees rather than the 175 degrees which represents correct practice.

The grates were replaced, but inspection soon showed that more trouble was imminent. A change was made in the recirculating duct so that the heater drew air

from the basement rather than from the first floor rooms. Ashes and dank odors were the result and complaints made it necessary to return to the former arrangement.

At the end of the season the owner called in the author to install a 28-inch fire-pot furnace. Supplementary warm-air leaders and stacks were also installed to give better air balance. Whether cold or return air is used the sizes of the heater leaders and stacks would best be the same and basement air should never be used as supply on account of the likelihood of its being impure.

In connection with warm air heating it is important to bear in mind that it is better to deliver a larger supply of warm air, say at 175 degrees, than a small volume of hot air at say 225 degrees. When air is supplied at the higher temperature, uneven heating is certain to result. There may be, in fact even 6 or 7 degrees difference between the floor and breathing levels which, naturally, is undesirable.

Although recirculation of the interior air is good practice there are some cases when this cannot well be effected. In the case of schools, for example, ventilation is of prime importance and is usually covered by law. All outside supply provides ventilation without question.

Then, too, in the case of duplex houses, or those having stores on the first floor and living rooms above, outside air supply is better as this arrangement removes all doubt as to the purity of the air and its amount may be more carefully controlled.

As return air faces sometimes become blocked by placing furniture or other articles over them, it is suggested

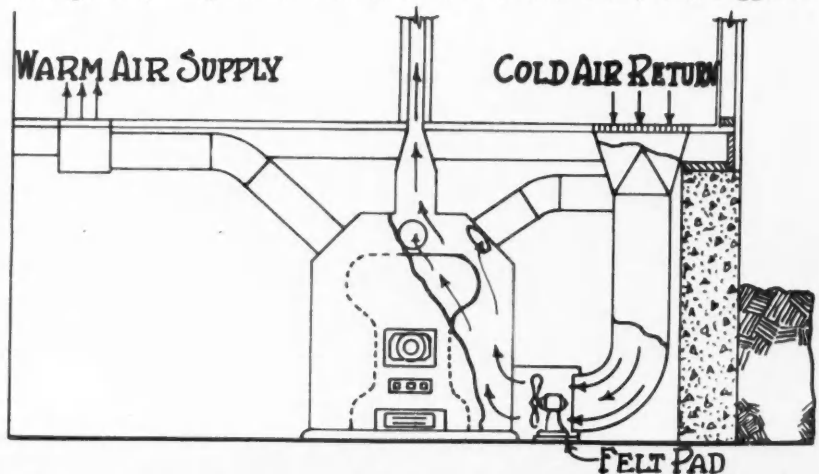


Fig. 3. How the Return Air Connection Is Handled When an Electric Fan Is Installed.

that there be no hand control on the register face and the louvers, if any, be removed. Should 100 per cent recirculation be employed and the return connection closed the heater might become overheated, grates and castings damaged and the air supplied to the rooms at a temperature too high for comfort and safety.

An Off-Room Remedy

It is sometimes expedient to provide a separate return air connection for kitchens or other remote rooms. One job in particular comes to mind where there was complaint that the kitchen was too cold for comfort. A 7-inch cold air connection was made from the kitchen to the chimney flue. The draft drew the cold air from the kitchen floor and more heat into the room through the warm air register at the same time. All complaint about lack of heat disappeared, and the chimney draft was not noticeably affected.

Caution should be exercised against running the return supply duct over the top of the furnace, as the heat from the furnace is likely to warm the supply and interfere with circulation. Cold air connections should, as their name suggests, be cold at all times to get sufficient head, for only cold air falls and only warm air rises.

There are four common methods of making the connections between the cold air registers and the furnace casing. These are shown in Fig. 2. At the top is the method of sealing in the joists, while below there appears the overhead return connection. This is the most common and sensible arrangement of the group and it is suggested that the duct, as it slants to the bottom of the casing, be not too close to the furnace. Three feet is about as near as is allowable because of the danger of warming the return air and interfering with circulation.

When basement space is of no special value the arrangement below, the direct cold air return, is the best arrangement, for frictional resistance is here reduced to a minimum. As most building owners, especially of residences, to which the recirculation idea is particularly adapted, have many uses for basement space, the direct arrangement has to give place to the overhead layout.

The method shown at the bottom, the pit and trench, is sometimes used. While this has the advantage of getting piping out of the way, loss of heat is likely from chilling of the pipe and should there be leakage or pollution, dis-

agreeable results follow. When pits are used these should not be less than 16 inches deep.

Increased furnace capacity as great as 50 per cent is claimed by adherents of the forced circulation plan shown in Fig. 3. This involves the installation of an electric fan in the return or cold air supply duct at the casing. Although the use of such fans is by no means new, the idea appears to be gaining in popularity on account of the positive action, which makes it easier to heat exposed rooms on severe days and provides more rapid circulation. This has the effect of increasing the capacity of the heater.

The chief objection to the use of electric fans comes from the fact that, like all mechanical things, constant care is necessary and there is likelihood of the apparatus getting out of order. Unless the fan is installed in such a manner that it does not interfere with the circulation of supply air in case of a breakdown, the supply might be blocked off and overheating result with damage to the heater.

One manufacturer now offers a fan similar to that shown but with adjustable dampers which are connected to room thermostats. When the maximum heat is demanded the fan operates at full speed and on warm days it may be run at slower speed, with decreased duct opening or, again, it may be shut off altogether.

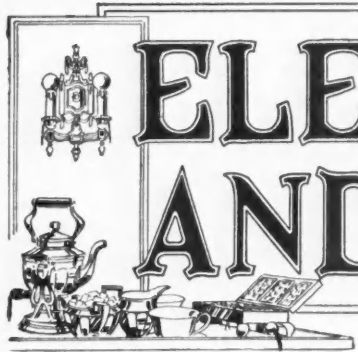


New Business Barometer Named

IN a recent address, broadcast over the radio, Arthur Williams, Vice-President of Commercial Relation of the New York Edison Company, called attention to the fact that economists, business executives, investors and others deeply concerned with the future trend of business have become impressed with the inability of any combinations of the old barometers to interpret accurately the immediate trend of business, let alone forecast the future trend. Pointing out that the electrical energy consumed in industry is directly in proportion to the amount of work being done, that 75 per cent of all the power used in industry is now supplied by the light and power companies, and that even in the home the consumption of electricity reflects variations in the prosperity of the home owner, Mr. Williams predicted that the kilowatt hour consumption would be accepted as one of the most reliable barometers of commercial and industrial activity.



Station No. 13, of the Memphis, Tenn., Fire Department. Is of the "Residential" Style Which the City of Memphis Will Use in All Suburban Stations in the Future. The dormitory is located on the left side of the one-story building while in the rear is the kitchen with complete cooking facilities.—Aubrey Betts.



ELECTRIC WIRING AND EQUIPMENT

Lighting is a Potential Sales Agent for the Builder

By WM. W. AYRE

Of the Staff of the Society for Electrical Development

FOR a long time the inadequacies of the average kind of home lighting have been felt. A common conception of home lighting was that a single overhead fixture or drop cord was adequate. More than this was superfluity and an attempt by those in charge of the construction of the home to force the householder to buy something that was not absolutely necessary. By the same reasoning, it is not necessary to buy porcelain baths, drain sinks, modern plumbing, hardwood interior finish, paneled walls, or quality hardware. A step further than this would show the logic of eliminating the sectionalized home and reducing it to a one-room or two-room affair such as is the vogue in semi-civilized countries today. Drawing further parallels, we might scrap the automobile and use the ox cart and the horse propelled buggy, or sails instead of steam. The question which the builder is confronted with is, "Does the public want adequate electric service, or does it prefer a standard which will provide just enough light to prevent the householder from breaking his or her neck after the sun has set?"

The facts clearly prove that during the last decade the housewife has taken up lighting as a most potent agent for beautifying the home. From bare lamps and ugly shades her tastes have been refined resulting in a demand for the products of the glassmaker, and colorful painted parchments and silken shades. From the experimental stage, when one or two portable lamps were all that were considered essential, the average family requirements now exceed five or six, and the limit is not yet

What Is the Red Seal Plan Mentioned in This Article?

PURPOSE: To establish a minimum adequate standard of wiring which will facilitate the convenient use of electric service. This plan will establish a reliable yardstick whereby the builder can assure the public that their houses are modern from the point of view of its electric service facilities.

HOW OPERATED? The Red Seal Plan is operated solely under license by properly constituted local electrical leagues or committees which contact directly with the building interests.

WHAT ORGANIZATION IS SPONSORING THE PLAN? The Society for Electrical Development, 522 Fifth Avenue, New York City, is the national organization which is sponsoring the Red Seal Plan. This organization has fully copyrighted the plan in the United States and is very rigorous in maintaining the conditions under which the plan is being operated. The local electrical organizations in the various cities throughout the country draw up wiring specifications applicable to the territory they cover which, after being approved by the Society for Electrical Development, represent the standard by which the adequacy of the wiring is judged.

INFORMING THE PUBLIC. Considerable public interest is aroused in Red Seal homes by the advertising done by the electrical bodies handling the local phase of the plan and by large attention-compelling Red Seal emblem cards which are affixed to the building during its construction. When the house is occupied a reduced transfer of the official Red Seal emblem is permanently affixed to a conspicuous part of the electric service lines. A Red Seal certificate is also issued to the Red Seal home buyer to be kept with the deeds of the house.

COST TO THE BUILDER. The builder is not taxed by the Red Seal Plan in any way. The Red Seal Plan merely establishes a minimum standard of house wiring which, while adding slightly to the cost of the building, is gladly paid by the public because of the increased service facilities afforded. Red Seal homes are quickly sold and builders in many cities where the plan is now operating state that in the future they will have none but Red Seal wiring installations in the house they build.

reached. Yet, despite the homemaker's interest in using plenty of portable lamps throughout the house, the builder has not profited by supplying adequate outlets.

A plan has recently been launched by The Society for Electrical Development, summarized in the boxed in notes appearing on the first page of this article, which has as its object increasing the electric service facilities of the home so that adequate lighting and convenience outlets will be provided.

Lighting the home in accordance with Red Seal specifications does not involve installations which might be called ideal. The standard created by the Red Seal Plan is rather one of minimum requirements which assure at least good lighting from the viewpoint of utility and art, nevertheless representing a step far beyond average usage.

For instance, the outside of the house is not neglected, lanterns being prescribed for the entrance and side doors. The porch likewise is provided with an overhead fixture outlet in addition to convenience outlets in the baseboard to accommodate colorful table and standing lamps so much in vogue in this delightful outdoor room at the present time.

The living room receives its meed of consideration in the form of artistic brackets above the mantel piece, standing lamps, and portable lamps, and the dining room likewise is provided with brackets to create a festive air for entertaining uses, and so on throughout the house. If we should step into the cellar of a Red Seal home, we should see that the lighting is not limited to

one bare drop cord in the center of the cellar, whose rays, strong as they may be, cannot penetrate iron and stone pillars which may stand between it and the laundry, coal bin, preserve closet, furnace, work bench, or other requisites found in homes today. On the other hand, there is no attempt to be lavish in lighting the basement, where practical iron or glass reflectors are used with 50 or 75-watt lamps to supply additional local illumination at the work units listed.

The kitchen, which is literally the work room of the house so far as the housewife is concerned, is practically lighted. The best fixture for this purpose is the daylight kitchen unit which consists of a white enameled metal fitted with an opalescent glass globe. A 75 or 100-watt lamp is generally used with this unit and produces a flood of clear, glareless light. In some cases where the kitchen is very large, a bracket lamp over the sink is found advantageous.

The hallways of the Red Seal home can never be gloomy or dangerous because they are well provided with lighting outlets.

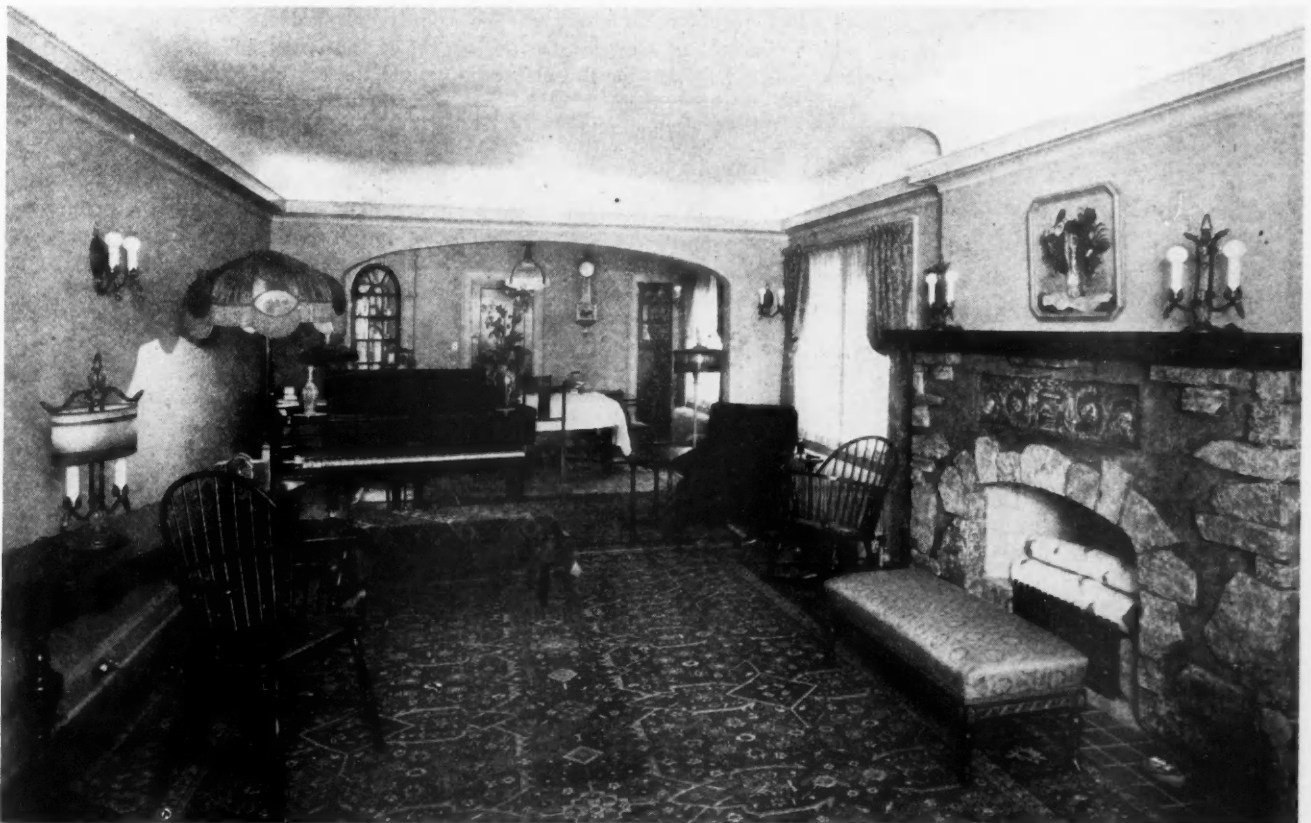
The bedrooms of the average home are very often lighted with an overhead fixture only. There is no reason why the beautifying effects of bracket lamps and portables should not be enlisted in rendering these rooms more attractive. The Red Seal Plan has taken care of this by specifying a minimum number of convenience outlets whereby other kinds of desirable auxiliary lighting can be introduced.

Throughout the entire Red Seal standard of wiring there runs a note of practicability and common sense. The sponsors of the plan feel secure in promoting the idea because of its wonderful service foundation and the keen demand which has existed ever since electric lighting became popular for a standard whereby the builder would know beyond a doubt that he was giving the home buyers the maximum in comfort, convenience, and beauty afforded by the electric service installed in his houses.



A Comfortable Fireside Scene. Note the novel method of plugging in lamps by having convenience outlets installed in the mantel piece above the fireplace.

The Red Seal Plan is thus a yardstick to guide the builder in wiring dwellings so that they will not only be modern in the same sense as the plumbing and heating, but



A Beautiful Living and Dining Room Interior. Note the numbers and unusual design of bracket lamps utilized throughout the living room. The dining room is lighted by a direct indirect fixture which throws a gentle flood of light over the table proper and diffuses a certain percentage over the walls and ceiling in such wise as to eliminate heavy shadows.

will greatly reduce sales resistance when it comes time to conduct the prospects through the house.

Undoubtedly many builders will be attracted by the potential publicity possibilities of the Red Seal Plan. Others will desire to analyze the intrinsic value of the plan and the additional benefits it confers as regards making a home more desirable for the better type of home buyer.

The seller will be able to draw a very pretty picture of the cosiness, comfort, and beauty of the Red Seal home because the story will already be prepared for him. He will be able to visualize the charm of the outside lanterns, the lighting of the sun porch which will create an air of charm to this part of the home, and the flexibility of the lighting scheme of the living room. These are made possible to the nth degree without the annoyance and disfigurement of trailing wires plugged into overhead lighting outlets. The latter is very important, as many women have come to grief when they attempt to vary the appearance of the living room by shifting the furniture from side to side.

Ofttimes the piano is moved from one side of the room to the other, necessitating moving the portable lamps with it. The reading table, the settee, or other favorite piece of furniture is also lighted by individual lamps, and where adequate convenience outlets are not provided, these lamps cannot be utilized.

The urgent necessity for good lighting in the home is another element which has never been emphasized enough. The Eyesight Conservation Council of New York recently made a very thorough study and survey of the eyesight of school children and reported that the astounding total of



An Up-to-Date Bedroom Should Be Lighted by Portable Lamps and Wall Brackets, in Addition to the Overhead Fixture. The interior shown is characteristic of modern tendencies in utilizing light, not only for its utility, but for the decorative effects which can be obtained from movable light sources.

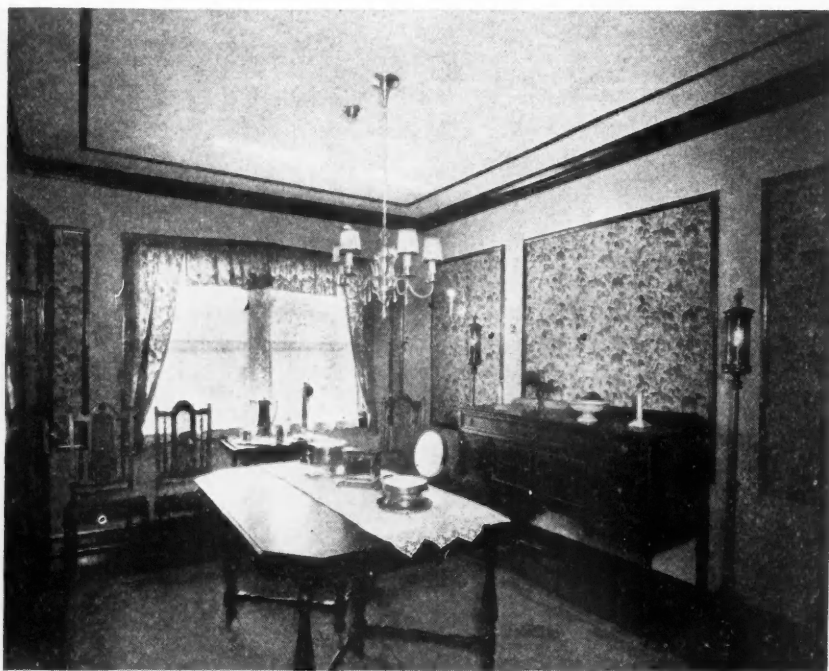
nearly 25 percent of the juvenile population of the country suffered from poor eyesight. The council also pointed out that the lighting of the average home was too inadequate or improperly planned, resulting in diseases of the optic nerve. This is another angle to the situation, and the public is being educated through various mediums to the advisability of securing not only the right kind of lighting in every part of the home, but plenty of it. It is up to the architects and builders of the country to indorse any plan which will emphasize the appeal of the home and to make it possible for the future occupants thereof to secure the utmost benefits conducive to good health.

The builder will undoubtedly like to know how the Red Seal Plan has progressed since its introduction and what the general reaction has been in the various cities in which it is already operative.

In answer to this question, we must report that wherever the Red Seal Plan has been introduced, both architects and builders have accepted it whole-heartedly and in many cases have taken more than one step forward in aligning themselves with the movement. In Pittsburgh, Pennsylvania, the local electrical league licensed to operate the plan has already inspected and certified to the wiring in over 100 Red Seal homes. This league is appealing to the architects and builders not only through newspaper advertising but by direct mail. In the following cities more than 500 Red Seal homes have been erected in the very short period of time the Red Seal Plan has been operative, and while this is not an inconsiderable figure it represents but a tithe of the possibilities which will be realizable during the current year, which will again witness a tremendous amount of home construction activity:

Syracuse; Rochester; Buffalo and the

(Continued to page 190)



A Close-Up of an Attractive Dining Room. Note that the candle lights of the center chandelier fixture are shaped so as to hide the brilliant lamp filaments which when viewed for any length of time affect the eyes. The pair of attractive torchieres next the buffet are shaded by tinted mica and produce a fascinating glow which contributes to the effectiveness of well furnished dining room.

A Novel System of Construction

A NEW and highly novel system of concrete construction has recently made its appearance and is said to be adapted to all kinds of construction work which does not require reinforcing, in localities where cord wood is abundant and inexpensive. This system eliminates all forms except corner boards by the use of cord wood cut in pieces from eight to eleven inches long and varying in diameter from $3\frac{1}{2}$ to $4\frac{1}{2}$ inches, depending on the thickness of the walls. These pieces are laid crosswise to the length of the wall. Any wood may be used provided it is green and fairly straight.

The method of laying is simple. On top of the footing a one or two-inch layer of cement mortar is laid and on top of this the pieces of wood are spaced from one to two inches apart. The interstices are then filled with mortar and another row of wood is laid. This operation is carried around the building, three or four rows being laid before moving along. Door and window frames are set and the walls built around them. This gives a wall of concrete with the wood projecting about half an inch from each face. The lines are kept straight by the use of two six by eight-inch corner boards nailed at right angles.

When the wall is completed a mixture of portland cement and sand is applied to the surface, the concrete affording a perfect bond, and this cement plaster is then finished off smooth for a stucco finish. The first and second coats of cement plaster may be applied at one time, the first filling the indentures and the second smoothing the wall. On the inside, furring strips are nailed and to these the lath is attached for plastering.

The amount of wood that can be used in the wall varies between 45 and 50 per cent of the volume of the other materials. The wood must be green, for if it is not it



One of the First Houses Built by the Formless Concrete Construction Company, of St. Paul, Minn., Which Is Developing This Novel System.

will swell with the moisture from the concrete and crack it. Green wood will not swell nor attain a volume greater than it originally had. The moisture from green wood will be absorbed by the concrete and assist in making a strong set.

After the wall has stood 15 to 20 days the wood will show a perceptible shrinkage. This shrinkage gives an air space in the wall which, the holders of the patent on this system claim, acts as an insulation in the same manner as the air spaces in hollow tile and concrete blocks. They also believe that the wood itself affords an additional insulation. Should moisture creep into the wall it is absorbed by the wood.

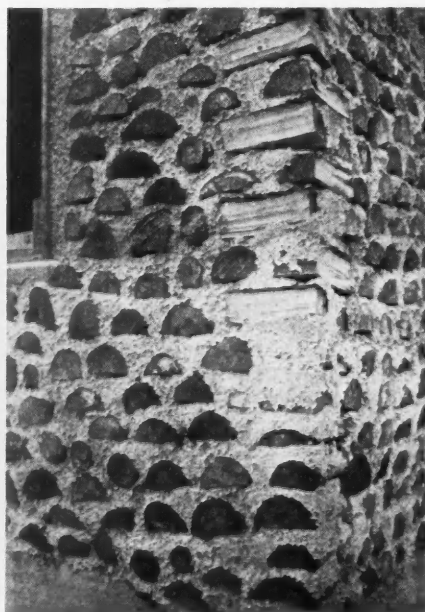
The materials used in the concrete vary in proportion, but coarse sand and gravel about $\frac{1}{4}$ -inch in diameter, mixed with portland cement, seem to be the most satisfactory. This makes the concrete easy to manipulate with a trowel. It is advisable to reinforce over arches and other openings where there is much weight above. Where there is little weight above no reinforcement is required. It is stated that the wood does not rot but that in case it did that would have no effect on the strength of the wall as the wood bears none of the weight and has nothing to do with the wall strength.

The company suggests that this system of construction is particularly adapted to structures containing many curves and odd shapes. It has been used in silos, gasoline filling stations, barns and conventional dwelling houses. It gives a wall of massive appearance and permits of recessing doors and windows in the popular Spanish style of house. Where the materials are readily available the cost of this construction is very low as the work can be done by unskilled labor.

—STANLEY McCOMB.



The Wood Blocks Are Laid Up with Cement Mortar Much as Bricks Are.



A Corner Detail Showing How the Blocks are Laid Into the Wall.



Homes in **COLORS**

Regarding Those Merchant-Manufacturers Who Build to Sell

By **WILLIAM A. RADFORD**

President and Editor-in-Chief of the American Builder

IN editing the American Builder, and more particularly this department of 16 pages of Homes in Colors, we have in mind that vast army of enterprising men who build homes for sale.

It is difficult to name these men correctly. Most of the phrases applied to them are incomplete or misleading; and we have often searched for a new name that would adequately cover their case.

In a recent issue of the bright little news letter which The Donley Brothers Company distribute among architects, some very engaging ideas on this subject were expressed which we would like to pass along to our readers.

The dictionary needs a new word to designate those who build houses for sale. Sometimes they are called speculative builders. But this is neither accurate nor complimentary. There is no more reason for calling house building speculative than there is to speak of speculative manufacturers of clothing.

Speculation carries with it the prospect of large returns as well as the risk of heavy loss. The builder serves a definite demand, pretty well standardized in respect to price. His risks are no greater than those of other business men and his prices rarely carry an exorbitant profit.

You might call such a man a home maker but the women spoke for that title long ago.

Names That Don't Fit

Some people speak of investment builders but this term does not cover the case. Investment implies holding—possibly the long realization of rentals—but rapid turnover is the object of the man who builds for the market.

Development builder is a term that fits many real estate enterprises. But it applies strictly only in the case where it is sought to popularize a locality and sell vacant lots on the strength of attractive new construction in the neighborhood.

The builder who buys lots here and there to build upon, without seeking a profit in

vacant property, is not a development builder in the strict sense.

Dignity of the "Hand-Me-Down"

Whatever term is used, it should be a phrase full of credit and wholly without the element of reproach.

The first use of the term "speculative" resulted from an attempt to draw a sharp distinction against the house that was not individually planned by an architect for some owner's needs.

In the same way we called a suit a "hand-me-down" if it was not specially made to individual measure by a tailor.

Now most of us wear hand-me-down clothing and live in speculative houses. We do it without any deep sense of shame. Improved design in both the suit and the home has made them acceptable. In one case they learned from the tailor; in the other from the architect.

Most people enjoy having fine things. A few take pleasure in keeping others from having things equally fine.

A House While You Wait

Cheapness has ceased to be the main argument in favor of ready made clothes and homes.

The real reason is impatience. The whole market for present day products is built on the idea of seizing the buying whim before it has time to cool.

The tailor who says "two weeks from next Saturday" may be a wonderful artist with the shears and needle, but he loses many a sale to the clothier who can let you walk out of his store ready to face a critical world.

The same sense of imminent possession gives the builder-for-sale a long advantage over the architect. The latter can lure with beautiful sketches, can stress individual design, but when he says "six months or a year" a percentage of his prospects will desert him for the new, inviting home that can be moved into at once, even if it has some shortcomings from the standpoint of individual preference.

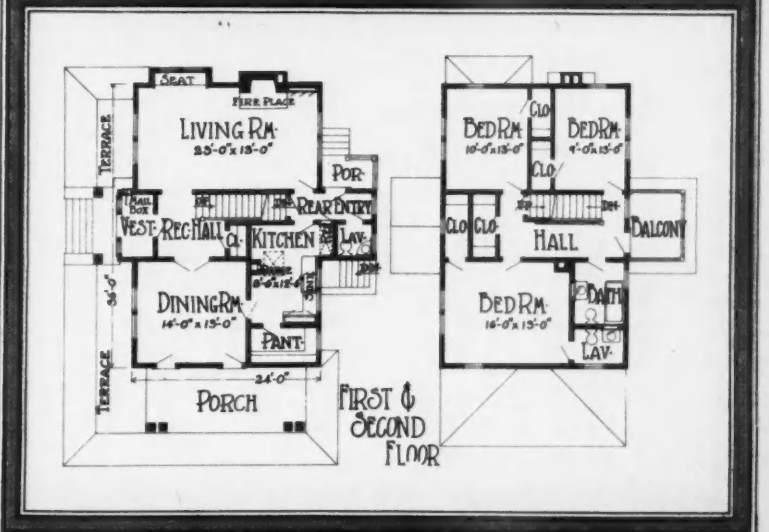


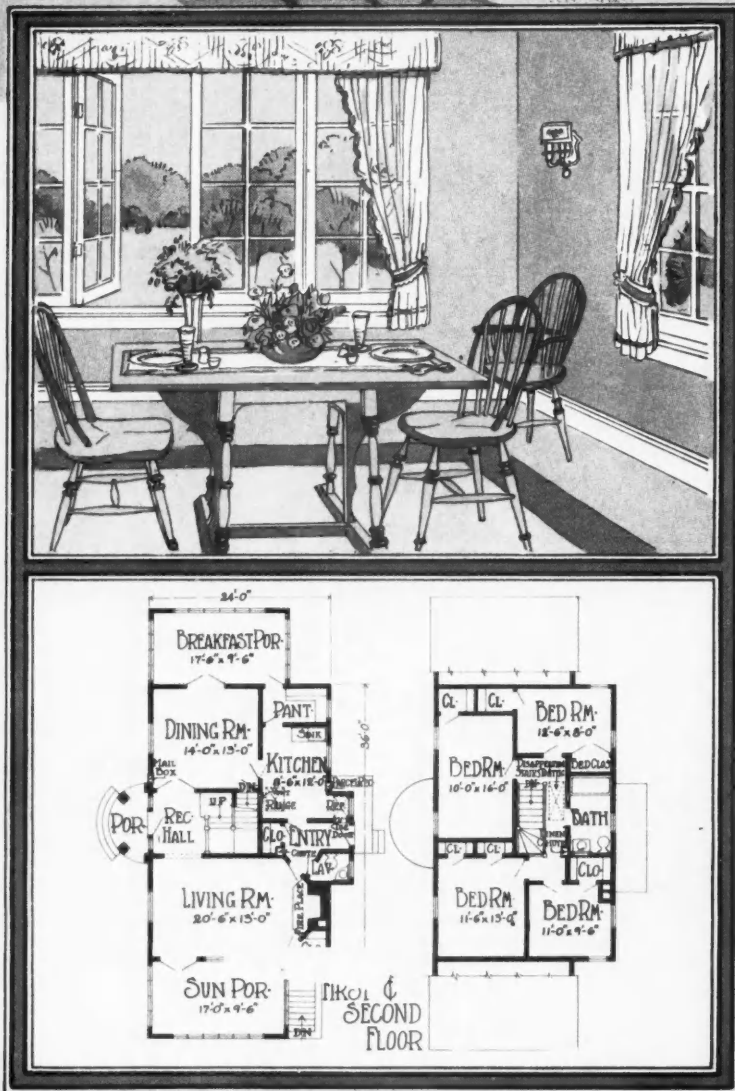
The UNDERWOOD

A STRAIGHT gable Colonial home of authentic details containing six rooms and bath. The size on the ground is 24x36 feet, not counting the open porch or the rear entry projection. You can't go wrong in selecting this old-time favorite. Color sketch to right shows the cheerful, well arranged kitchen.



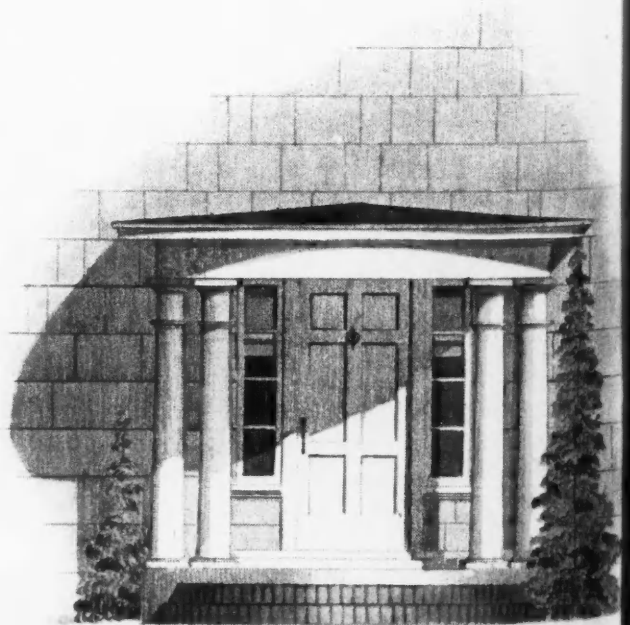
Detail of Front Porch





The USONA

A COLONIAL shingled cottage made very broad across the front by the two large glassed-in porches, one opening from the living room and designated sun porch, the other opening from the dining room to serve as a breakfast porch. In addition to these two large, well lighted rooms there are seven main rooms and a large bathroom besides the interesting space on the third floor which is reached in a very practical manner by a disappearing, folding stairway opening from the ceiling of the second floor hall. Color sketch to left gives a glimpse of the breakfast porch.

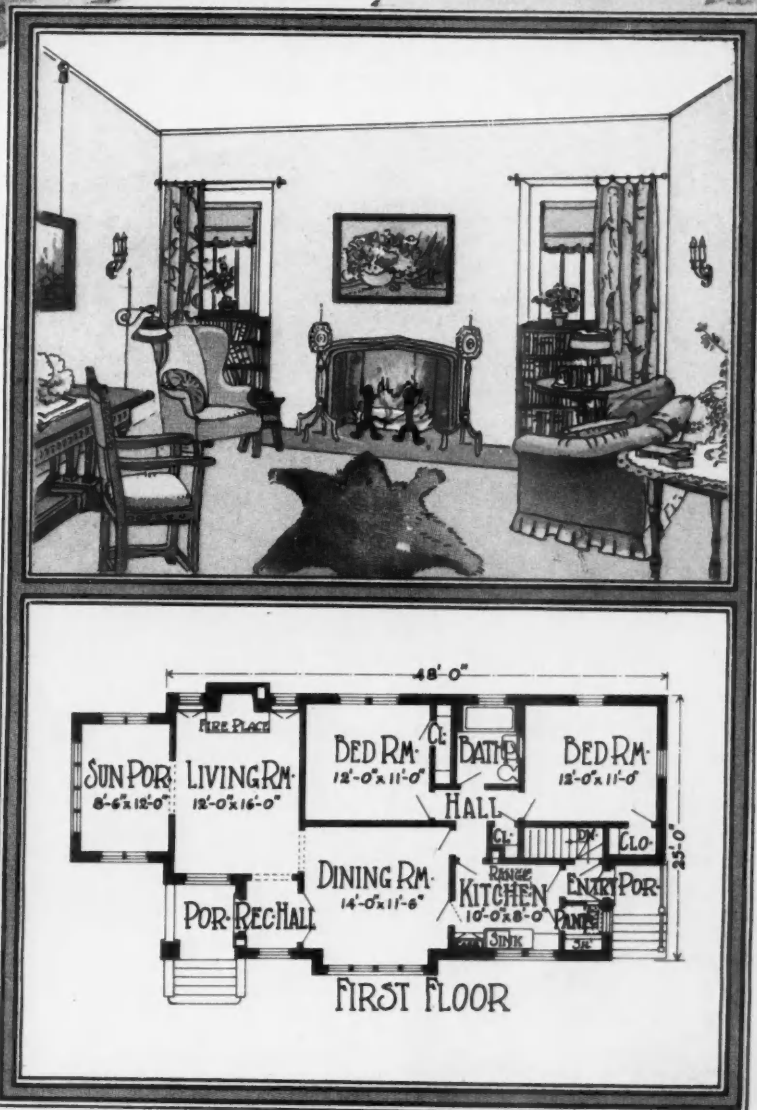


Detail of Front Porch

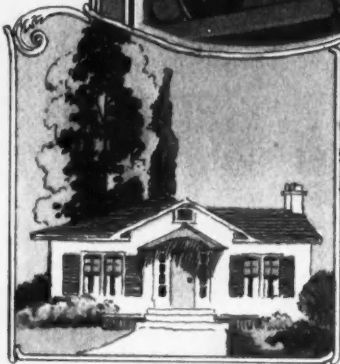


The UNIVERSAL

A WELL-BUILT bungalow home of five rooms, bath and large sun parlor. This house is of masonry construction, either clay tile or concrete units stuccoed, with foundation courses in face brick and roof of Spanish tile. Over all dimensions are 25x48 feet, not including the sun porch. Color sketch to right shows the fireplace-bookcase end of the living room with window curtains hung on wrought iron rods.



Detail of Front Window Group



EXTERIOR glimpse and three interiors on these two pages of the residence of F. H. Richmond, Beverly Hills, California. S. W. P. Strellinger, Architect.



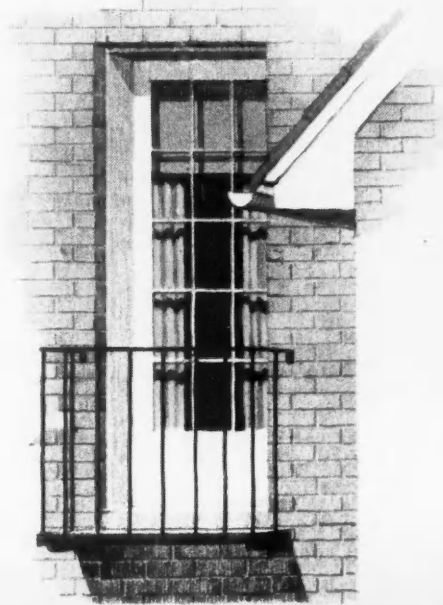
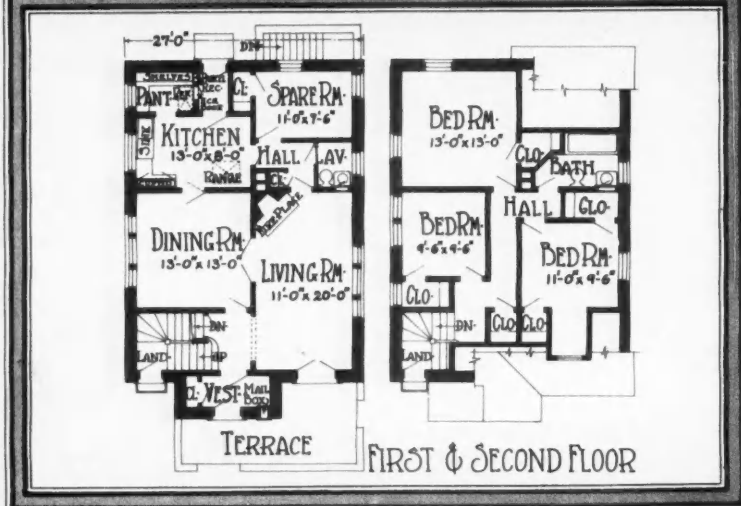
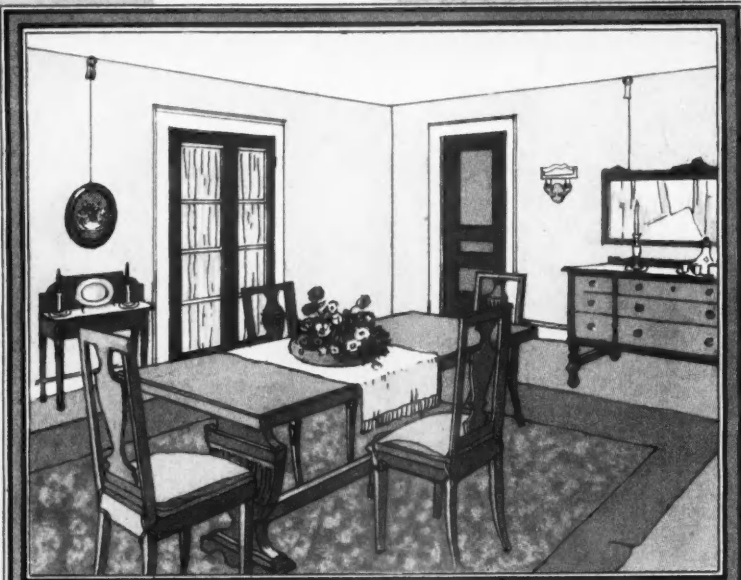
Many suggestions here for window and door curtaining and for the newer vogue in furniture.



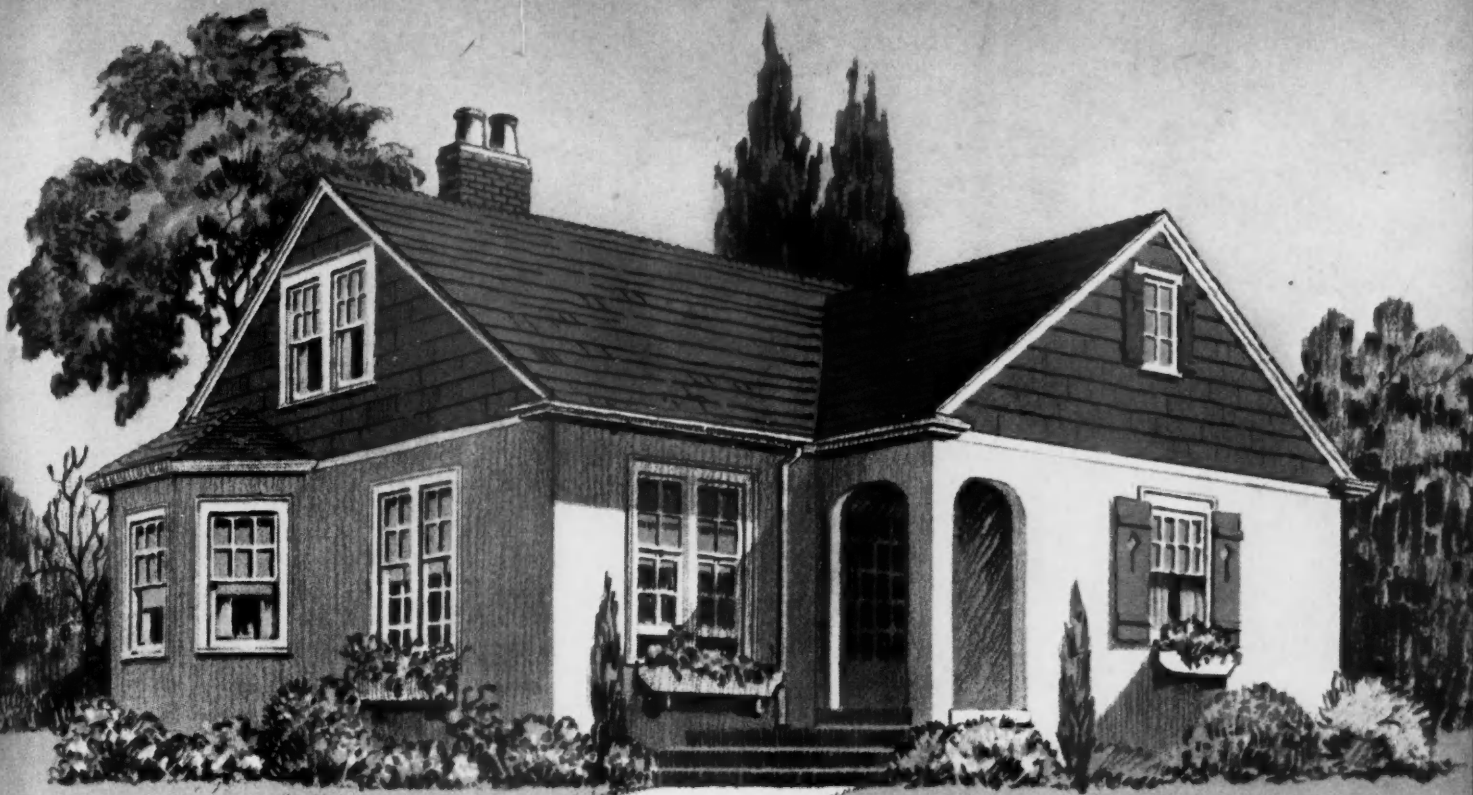


The ULSTER

A VERY practical, well-built city home of seven rooms. The width is only 27 feet. A feeling of security and privacy is secured by the use of the brick wall at the front surrounding the terrace. At the same time the floor line is kept low, practically at grade, which secures that low sitting, well-rooted effect which the best architects favor. Color sketch to left suggests appropriate furnishings for the dining room.

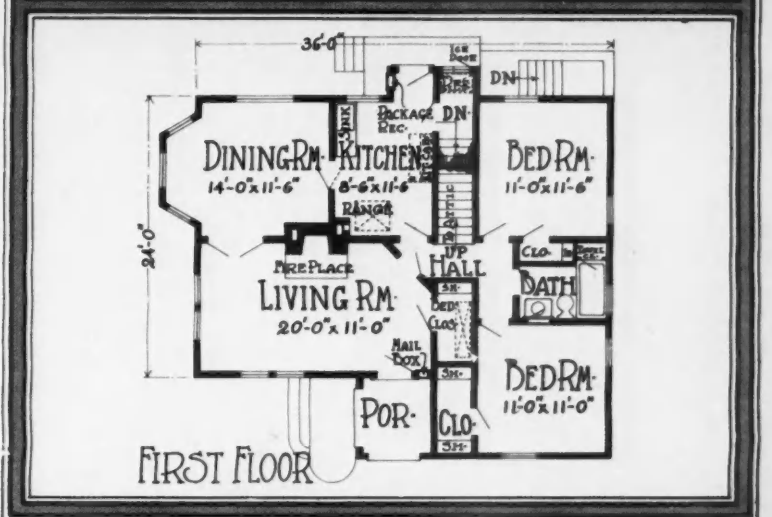
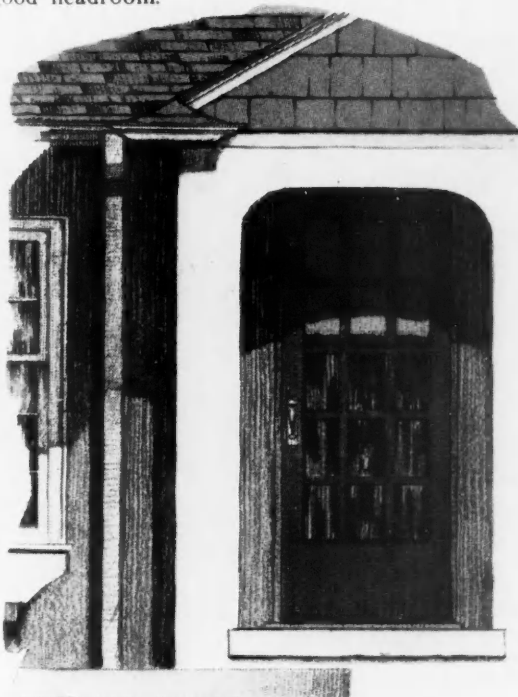


Detail of Iron Balcony for Stair Window



The UNDERHILL

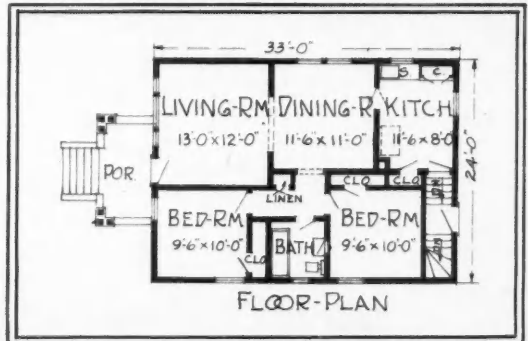
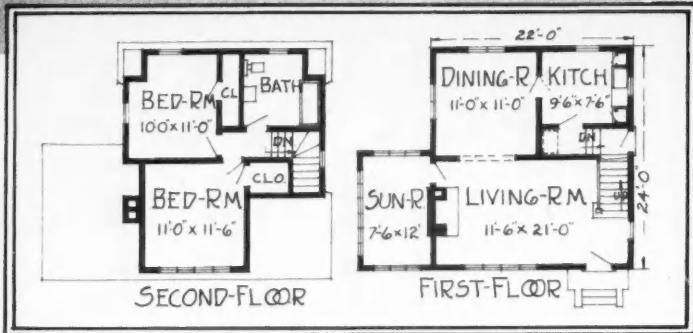
HERE we have an artistic English cottage in stucco with shingled gables. The main floor shows five rooms and bath with an extra bed of the disappearing variety in the closet off the living room. The second floor also presents interesting possibilities since the stairway goes up from the central hall and lands where there is good headroom.





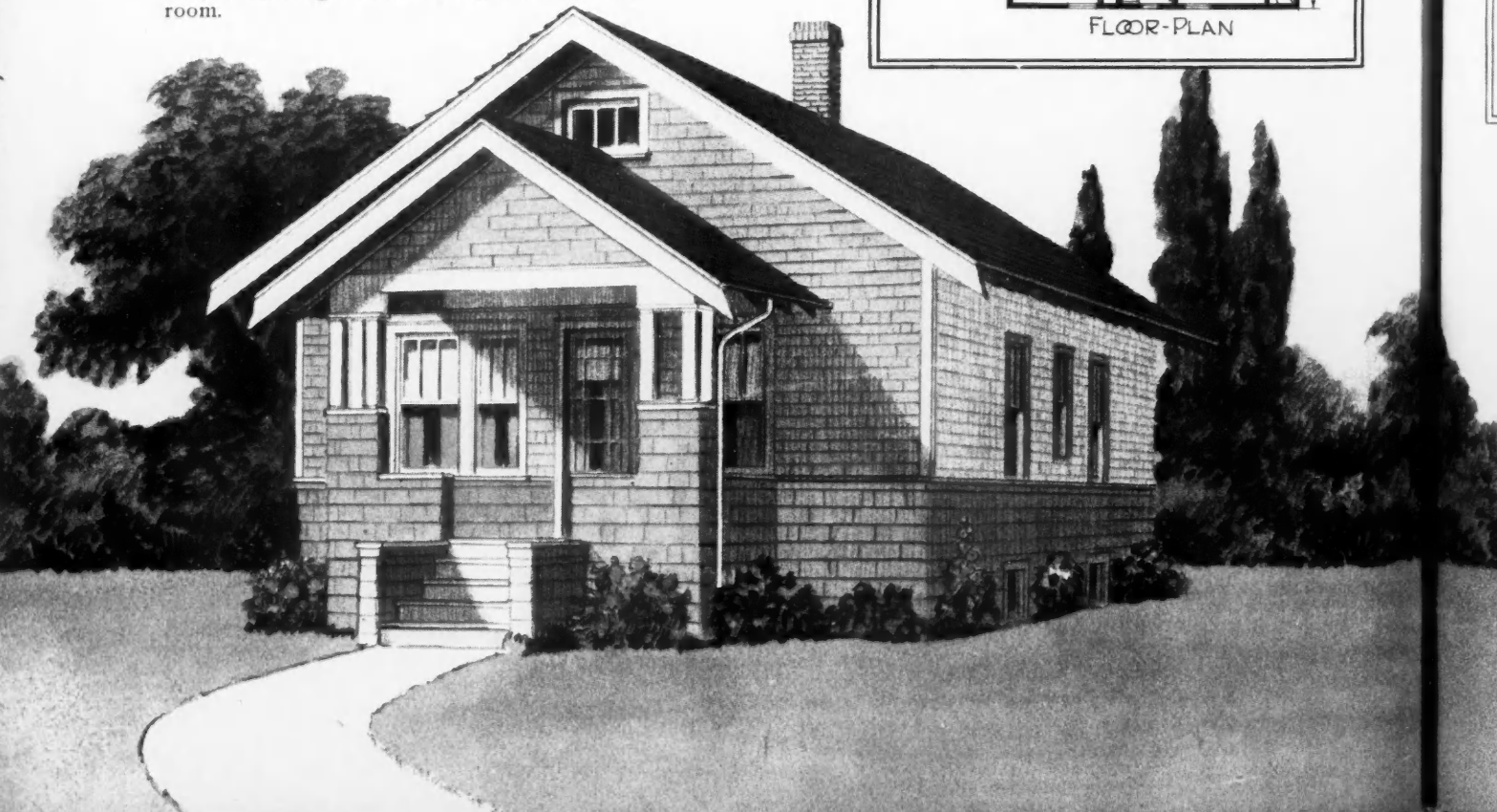
The UDELL

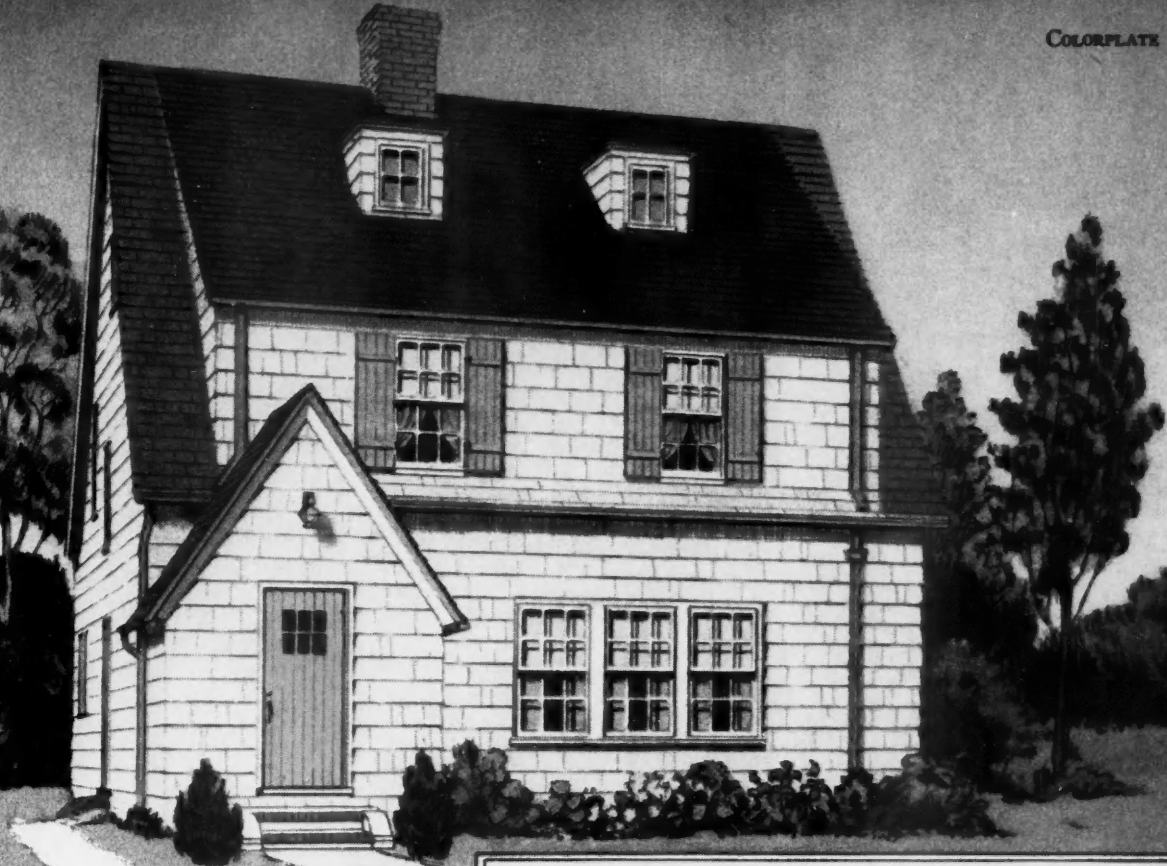
Below the floor plan and exterior design are presented of this pretty but inexpensive five-room cottage, 24x33 feet.



The UNEEDA

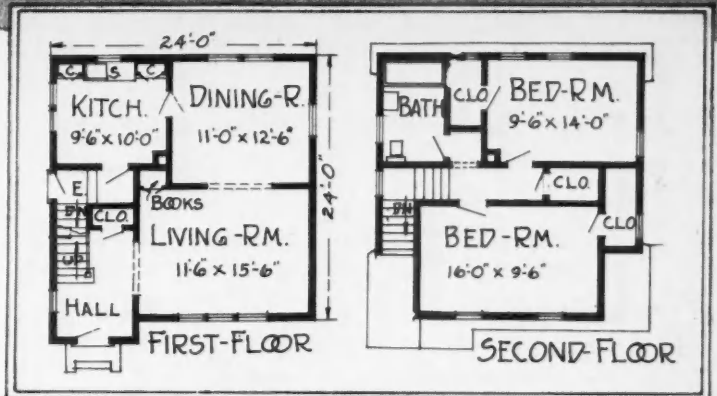
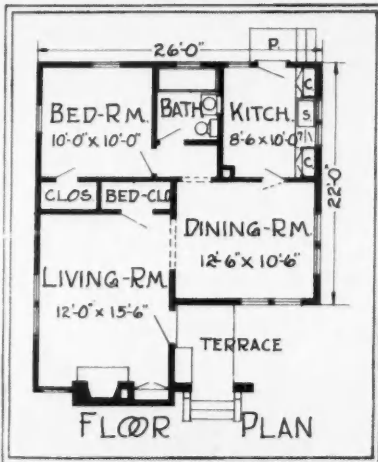
Above is an artistic stucco cottage, 22x24 feet, containing five rooms, bath and sun room.





The UMATILLA

Exterior sketch below and floor plan to left illustrate this unique little four-room home of stucco construction.



The UPHAM

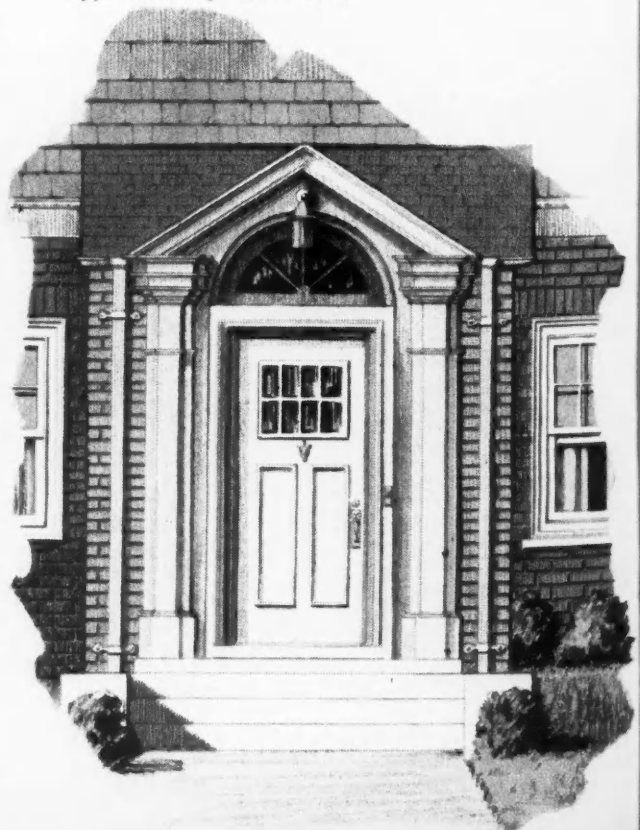
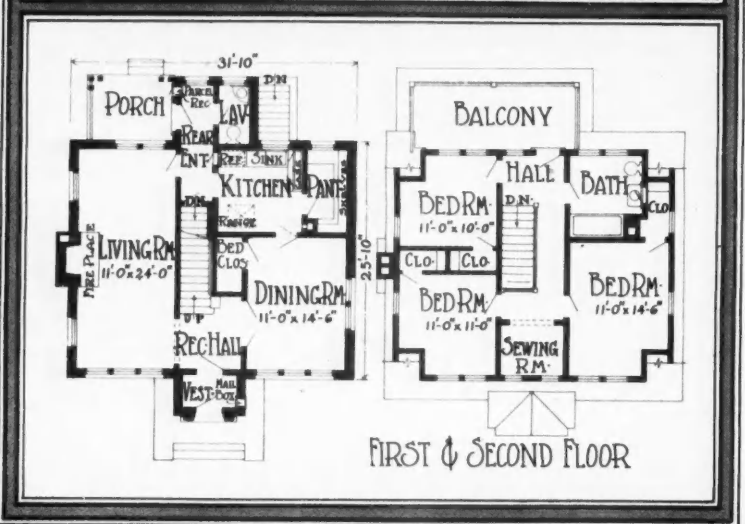
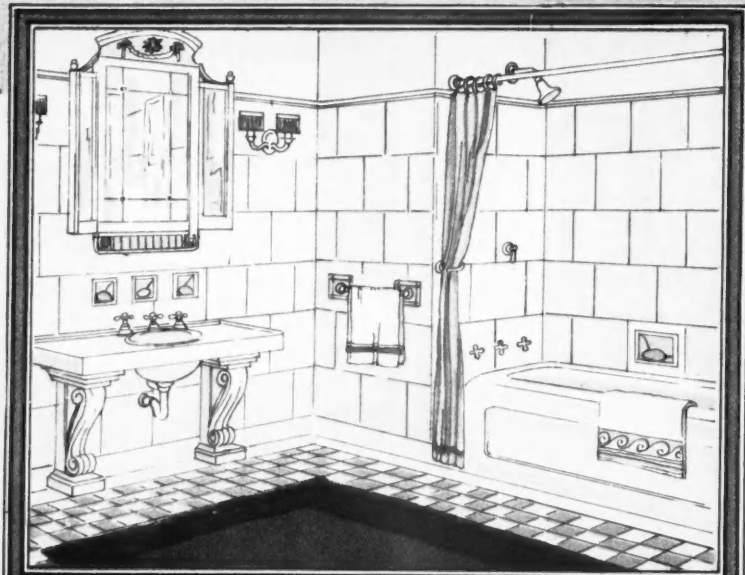
Above is a Colonial cottage 24x24 feet, containing five well arranged rooms and bath.





The UNION CITY

AN interesting example of Colonial in brick and shingles. Six rooms and bath are included in the plan besides the sewing room off the hall. The plan is of the economical, rectangular type, approximately 26x32 feet.

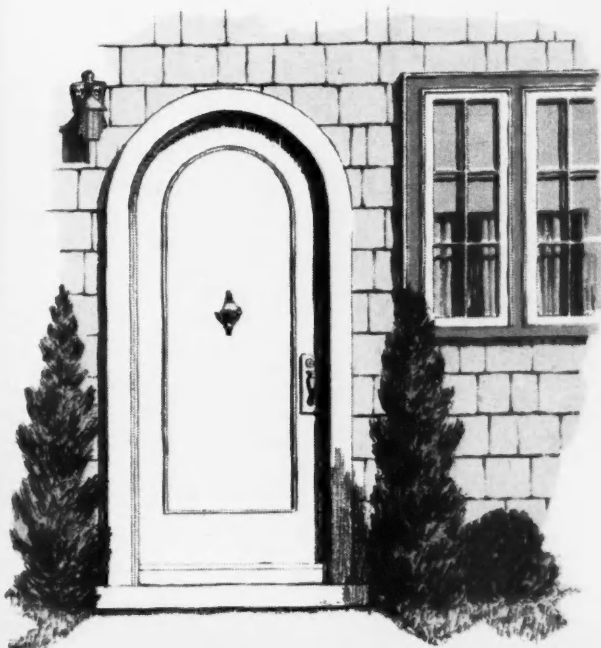


Detail of Colonial Entrance

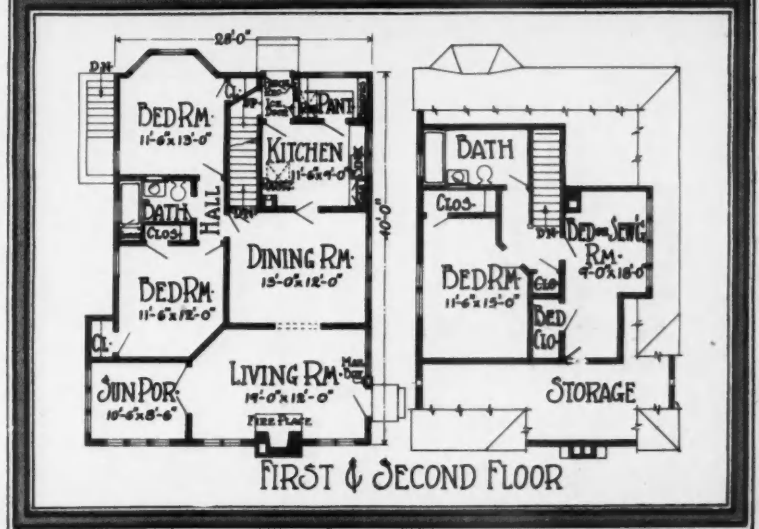


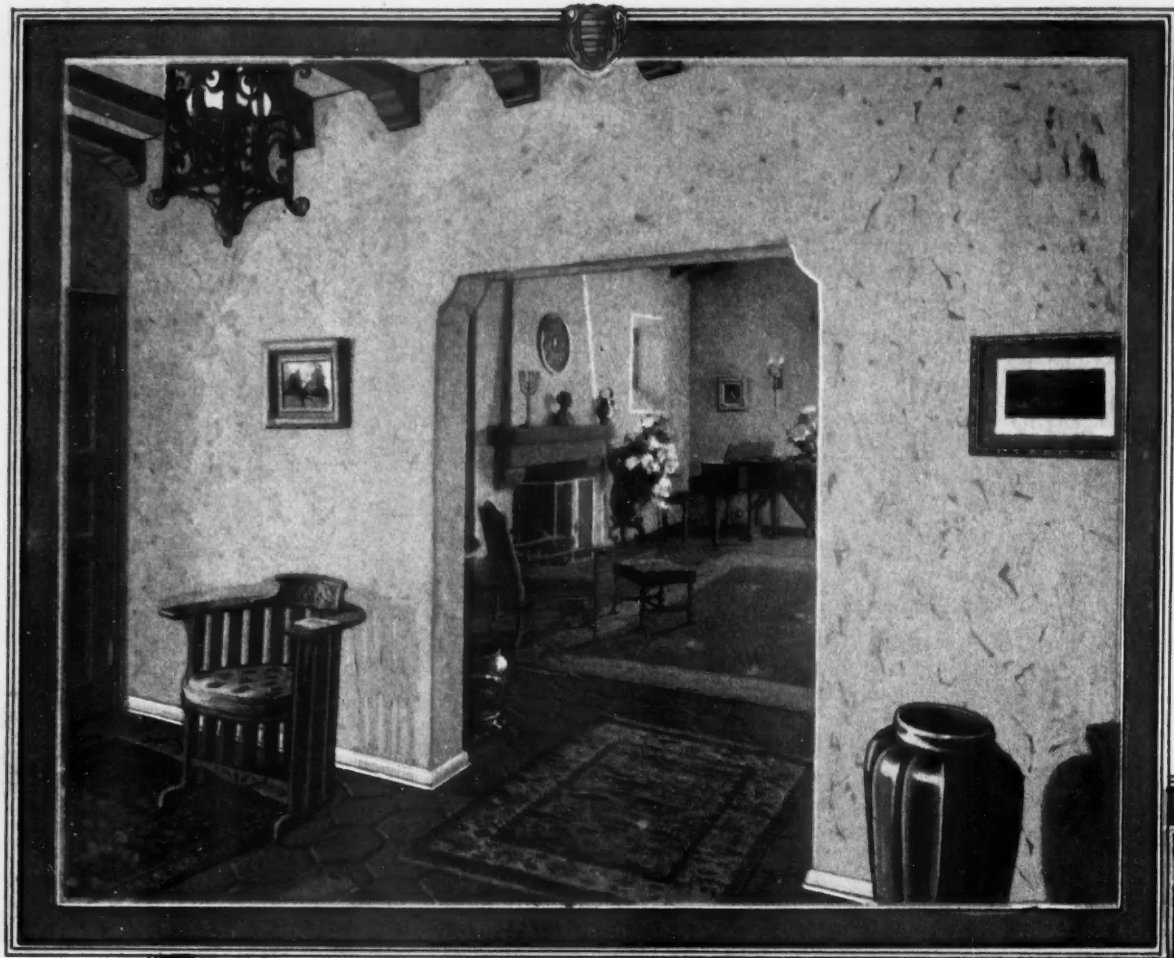
The URBANCREST

A DELIGHTFUL English cottage of seven rooms and two baths. Both exterior and floor plan are decidedly different, making of this a very interesting house. Color sketch to right shows a corner of the living room with a glimpse of the sun porch.



Detail of Entrance

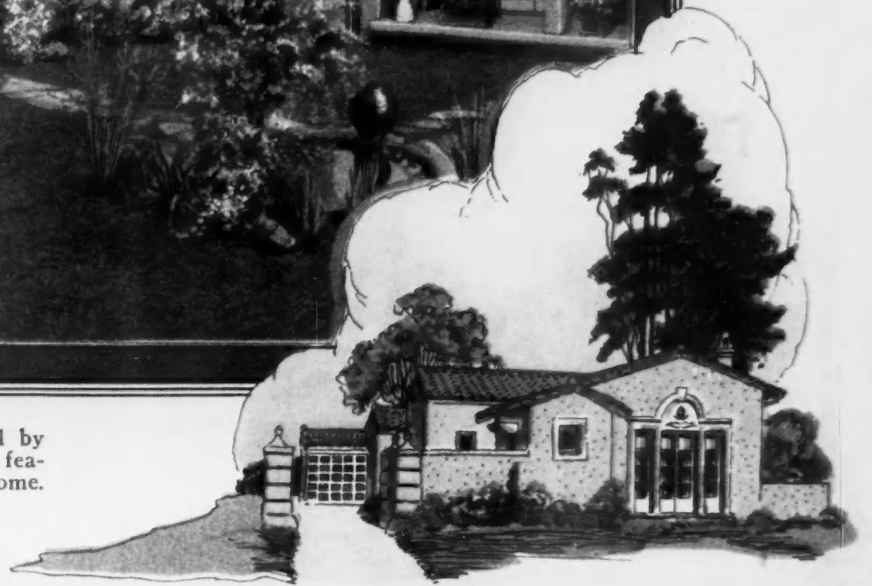


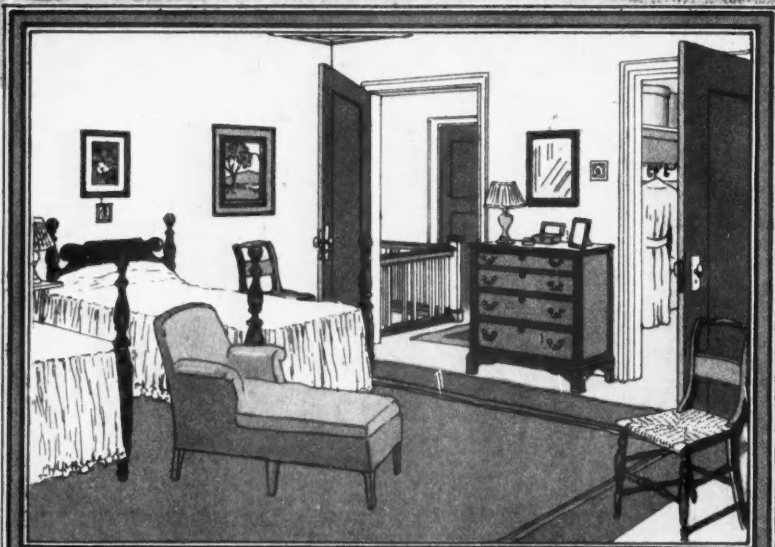


Suggestions for the early Spanish style of interior as exemplified in the home of O. J. Boswick of Los Angeles, Henry F. Withey, Architect.



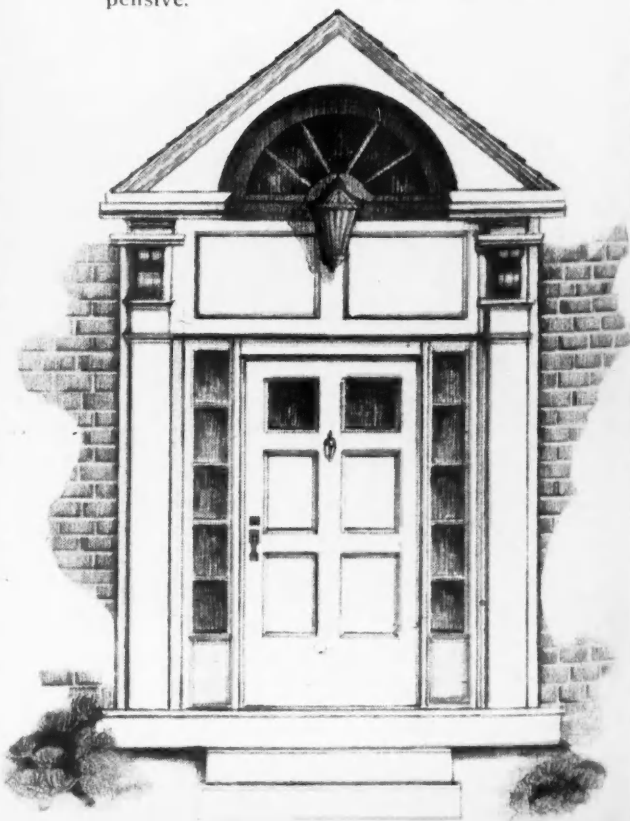
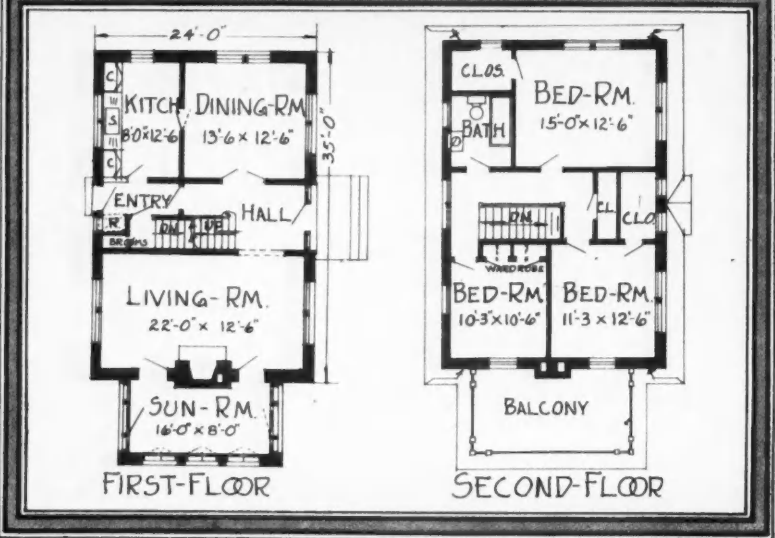
A delightful patio garden reached by an interesting outside stairway is a feature of the Boswick Los Angeles home.





The UTOPIA

A DUTCH COLONIAL home in brick and stucco. Six rooms, bath and sun room. Dimensions 24x35 feet, plus the eight-foot sun room extension. This makes a beautiful home yet inexpensive.

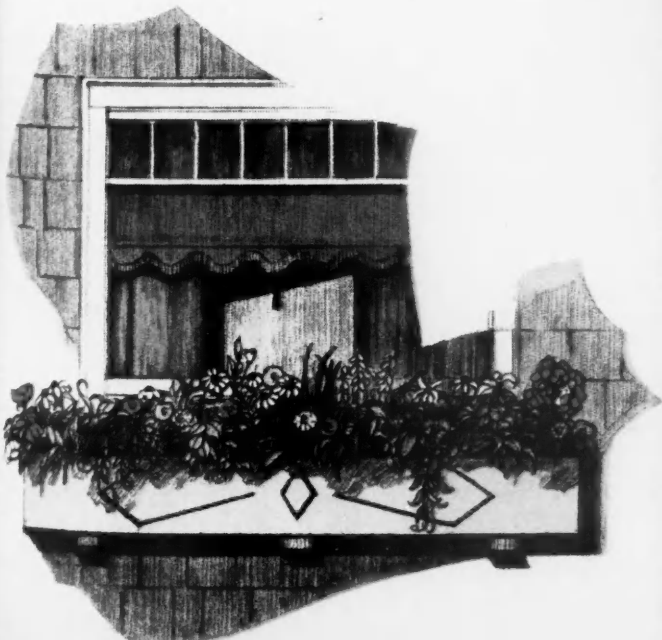
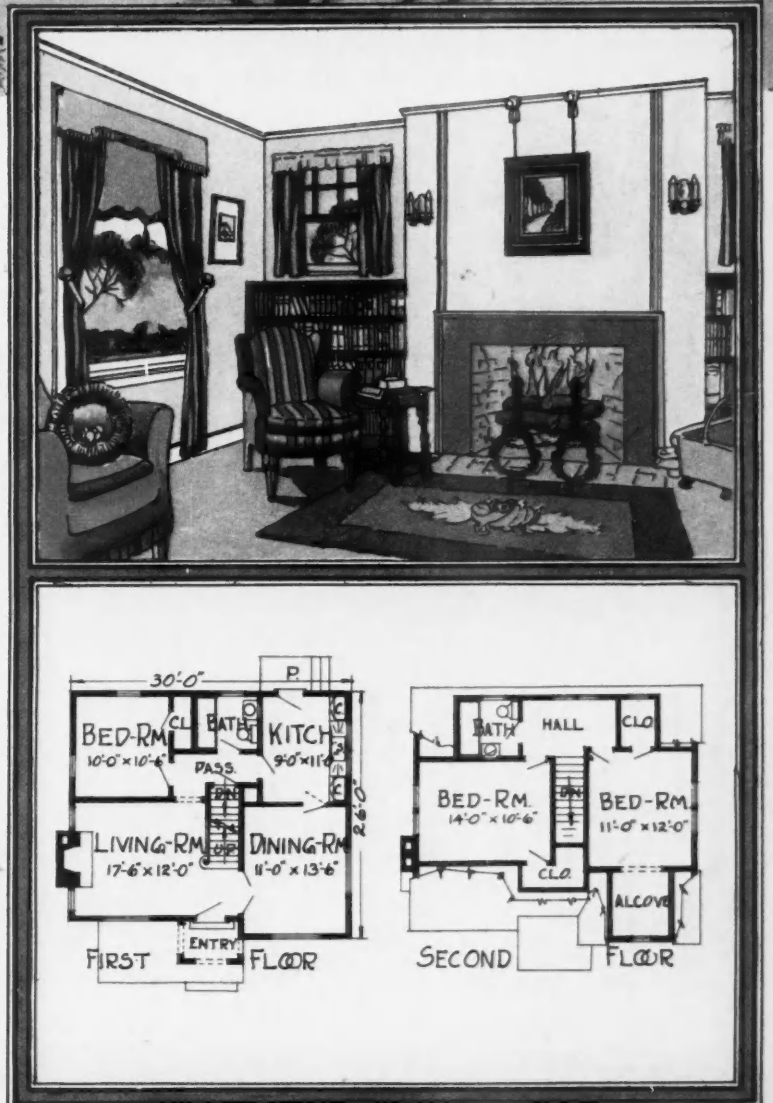


Detail of Side Lighted Front Door



The UPLAND

A POPULAR English design of six rooms and two baths. Size on the ground 30x26 feet. The downstairs bedroom with bath is an unusual feature in a house of this size. Color sketch to right shows a corner of the living room.

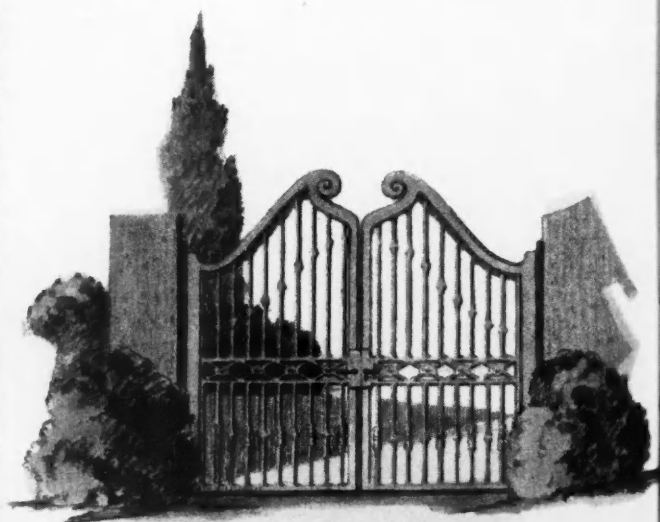
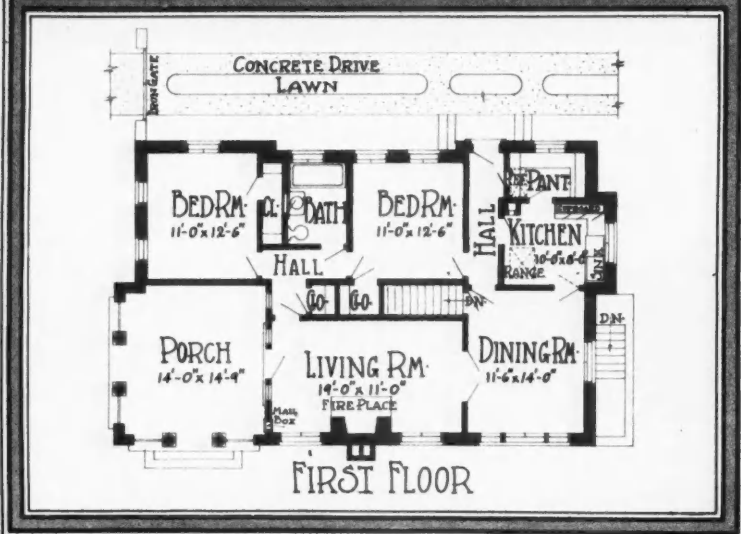
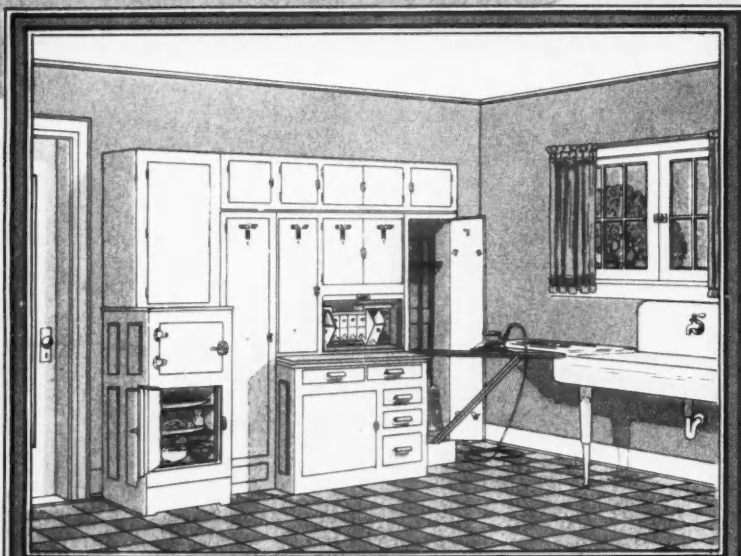


Detail of Window Boxes



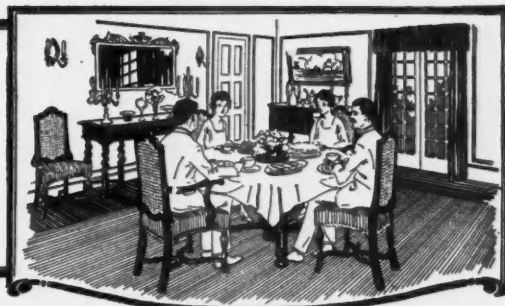
The ULYSSES

A POPULAR Florida style of Spanish inspiration containing five rooms and bath. The big corner porch with its awnings and inviting coolness gives this little home a strong appeal. A study of the floor plan will show how well arranged the rooms are. Color sketch to left shows the modern kitchen with its equipment of kitchen cabinet and associated cases.



Detail of Iron Gates to Drive

OUR FRONT COVER HOME



A Six Room Dutch Colonial Home, of Charming Simplicity, Compact Design and Maximum Convenience

HERE we offer an attractive Dutch Colonial house of the popular six-room size which offers many features recommending it to the family seeking a home of distinction and comfort. Both the photograph below and the full color design on the cover show beyond question the exterior attractiveness of this home and reference to the plans which will be found on the pages following this will demonstrate its interior excellence.

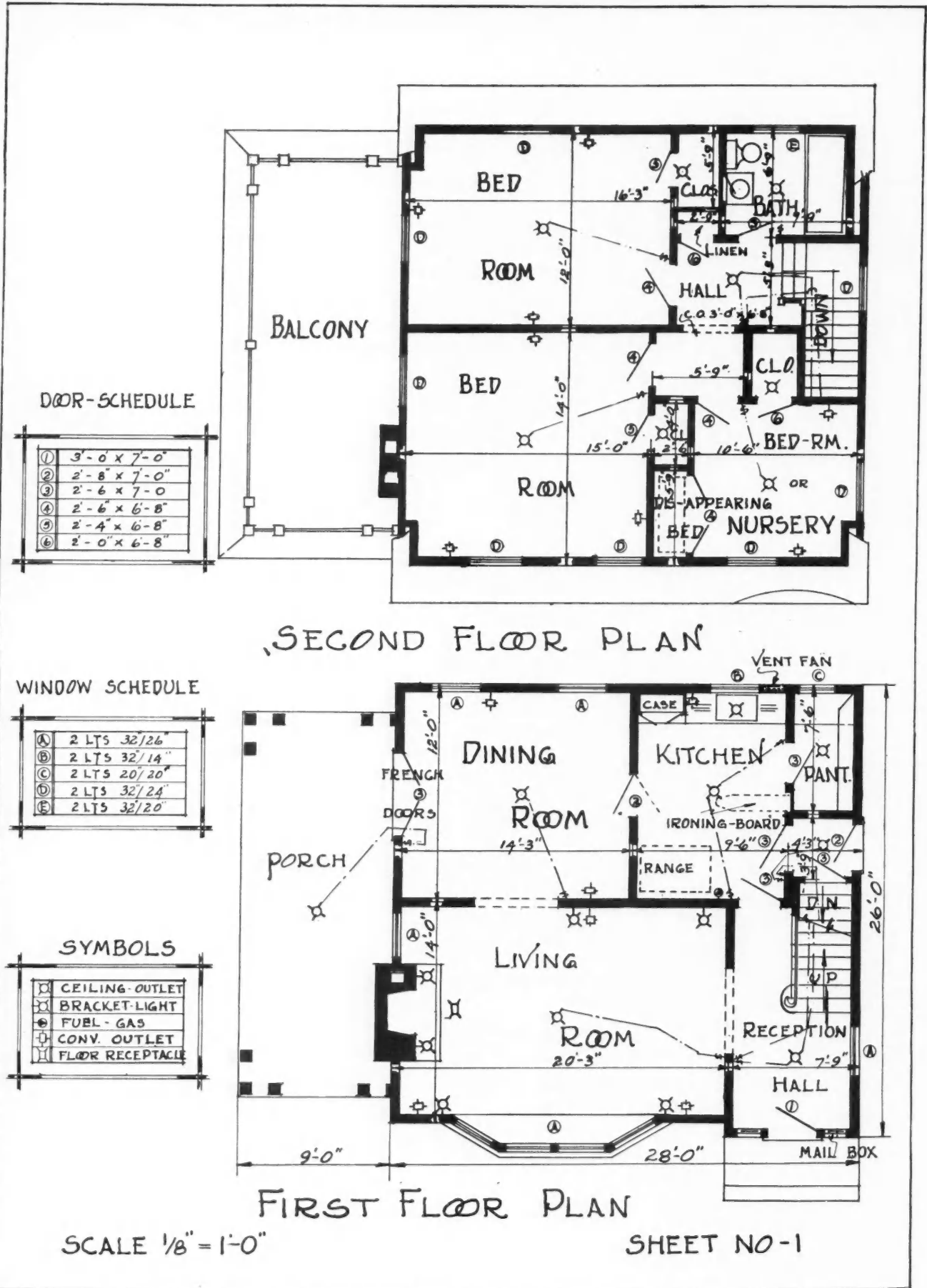
Being practically square, 28 by 26 feet exclusive of the porch, this plan affords the greatest possible utilization of space in relation to the cost of construction and the rooms are so proportioned as to give the maximum of convenience,

efficiency and comfort. In accordance with modern ideas the living room is large, the dining room of moderate size, and the kitchen small, compact and fully equipped with cupboards, cases and built-in features.

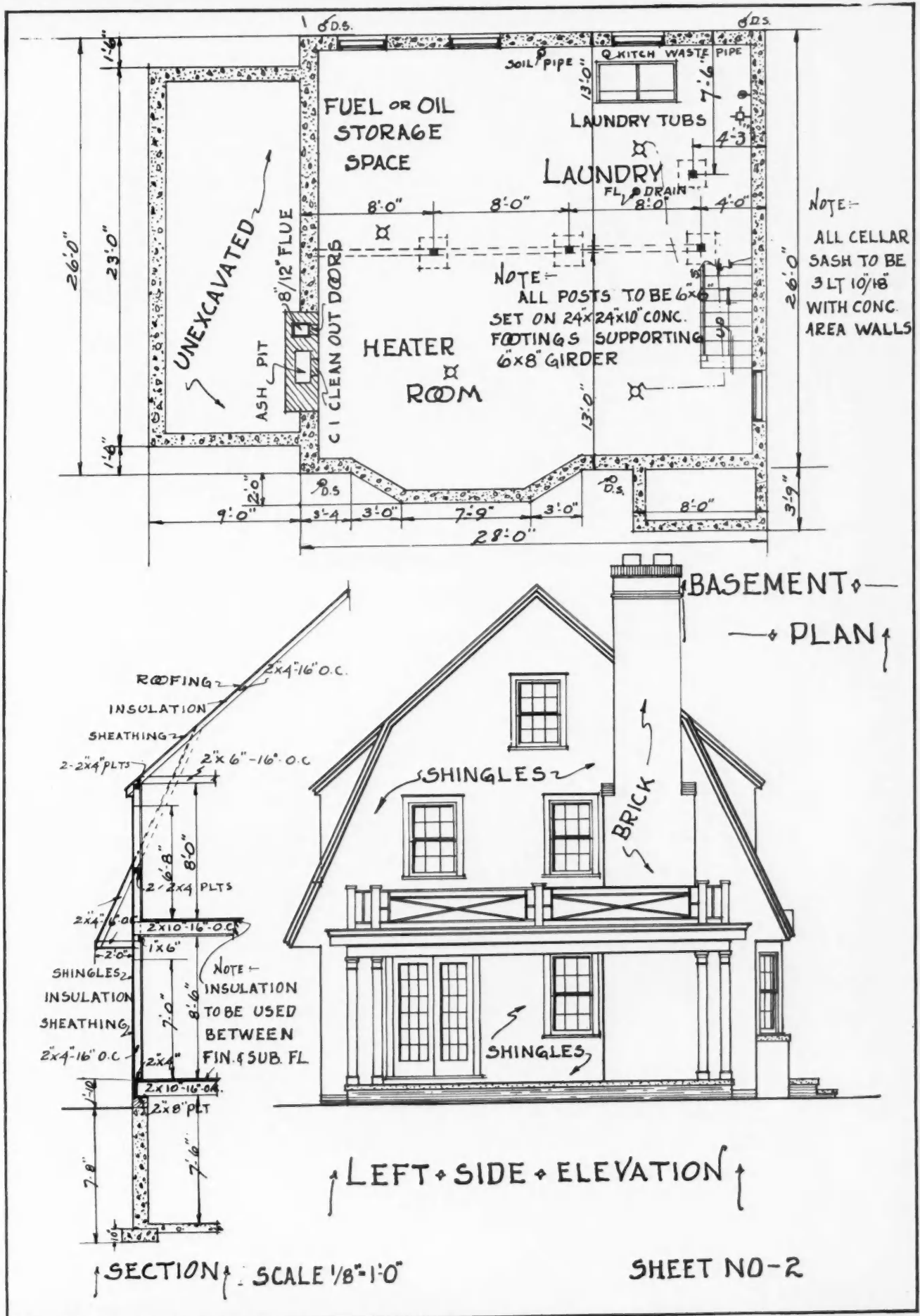
Above stairs there are two rather larger bedrooms and a third room named as a nursery but, equipped with a disappearing bed, it might well serve as an extra bedroom whenever the need arose. Such appointments as closets, entries, pantry have been carefully provided for, even a built-in mail box and a ventilating fan for the kitchen have not been overlooked in the endeavor of our architects to make this home modern and complete.



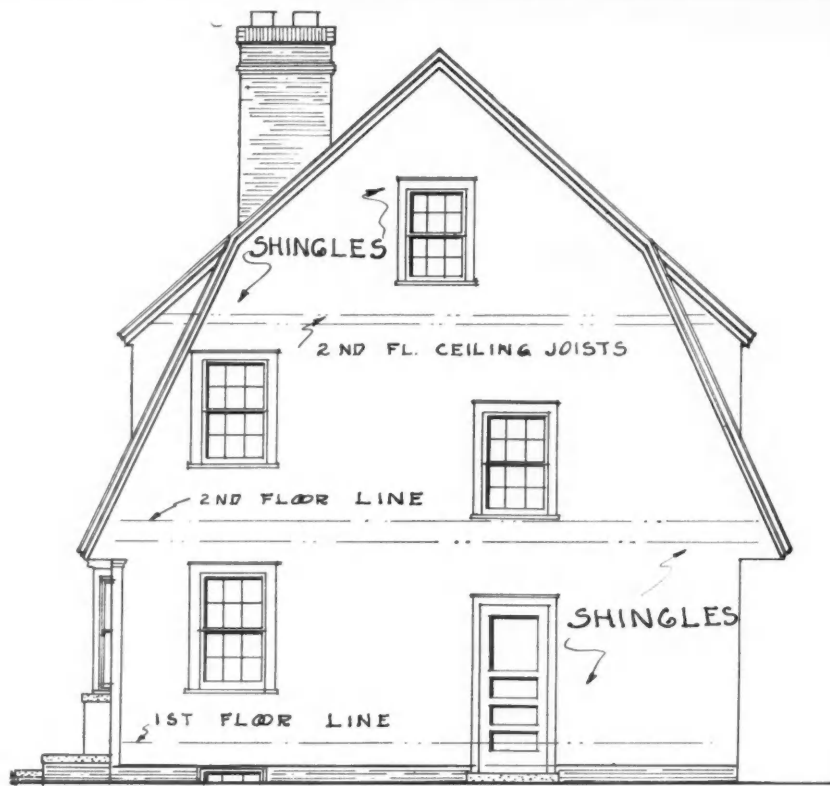
Both in Colors, on the Cover, and in Black and White Above, This House Impresses One with Its Homelike Character and a Charm Which Is Enhanced by Such Touches as Brick and Stone Base of the Front Bay. Still further advantages of design will be seen in the working plans on the next four pages.



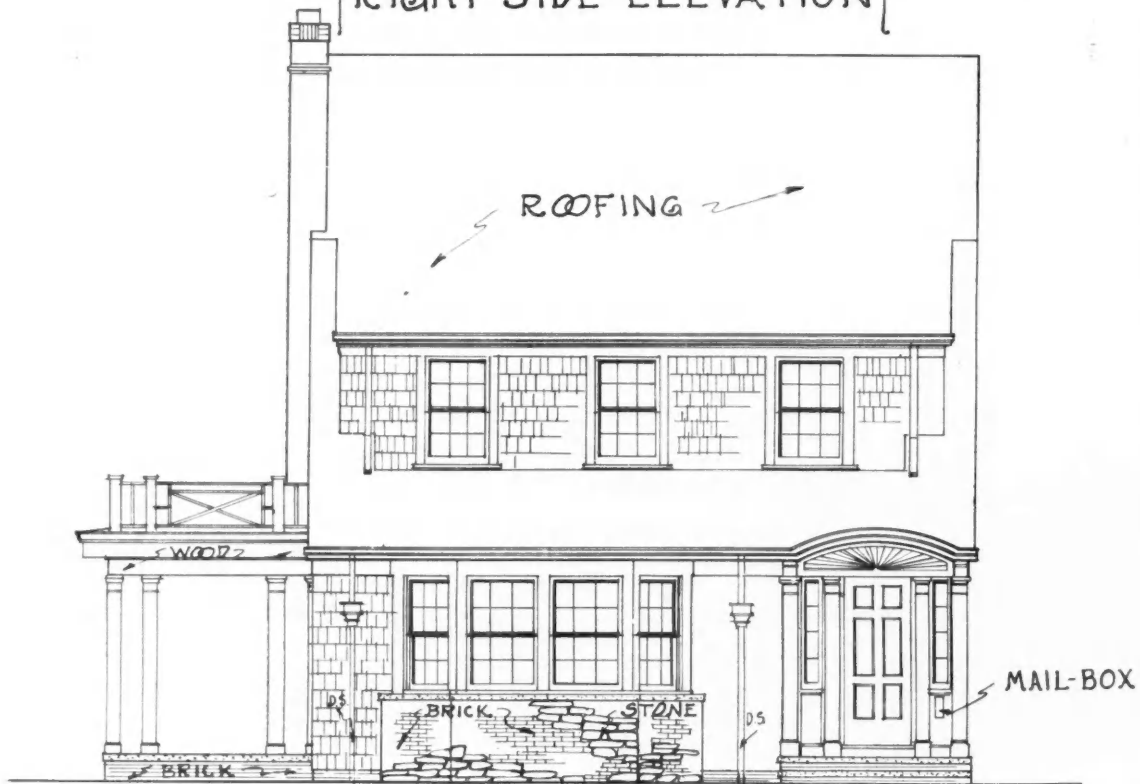
In the First and Second Floor Plans of Our Front Cover Home We Find an Interior Arrangement Which Makes Effective Use of Every Inch of Space and Provides All Those Little Extras Which Go Far to Make the Home Liveable.



The Laundry Is Separated from the Heater Room to Exclude the Dirt of the Heating Plant. Below a left side elevation and section show some construction details while others will be found on the pages which follow.



RIGHT-SIDE-ELEVATION

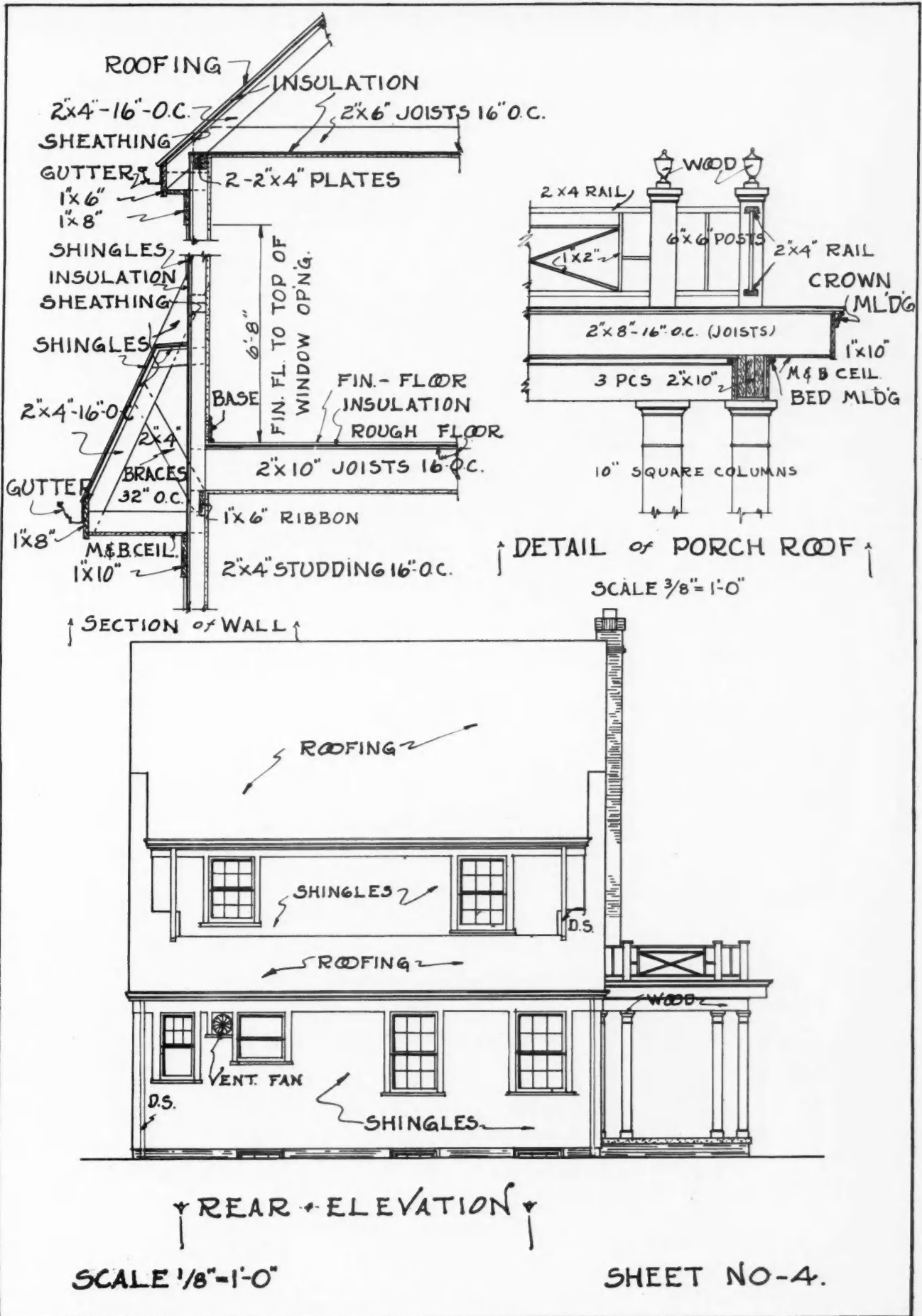


FRONT-ELEVATION

SCALE 1/8" = 1'-0"

SHEET NO-3

Front and Right Side Elevations of Our Front Cover Home Bring Out Further Construction Details Including the Placement of the Built-In Mail Box and the Down Spouts.



Above This Rear Elevation Are Shown Details of the Wall and Porch Roof Construction. The insulation of the roof is an item which is receiving much well deserved attention in present day home building.

A Crystal Garden for the Home

A Small Greenhouse Can Be Added to Any Home at a Moderate Cost and Will Not Only Bring Pleasure to the Owner But Increase the Value of the House

A LARGE portion of pleasure for every member of the family is to be attained through the addition of a small greenhouse to the home. At the same time, with a moderate expenditure of money, the value of the house is increased to a proportionately great degree. Almost every lover of home life is a lover of flowers and every lover of flowers has longed for a greenhouse which would make possible an abundance of fresh beauty in season and out.

But not everyone is aware of the fact that a greenhouse is not necessarily a highly expensive luxury, only within the reach of the wealthy, nor that it may be added as a part of a house which already has been built. Such, however, is the fact and expert advice on design and construction is readily available from the manufacturers of greenhouses. This advice includes a designing service to fit the greenhouse addition to the home most appropriately and the furnishing of the entire installation, to be set up by local contract.

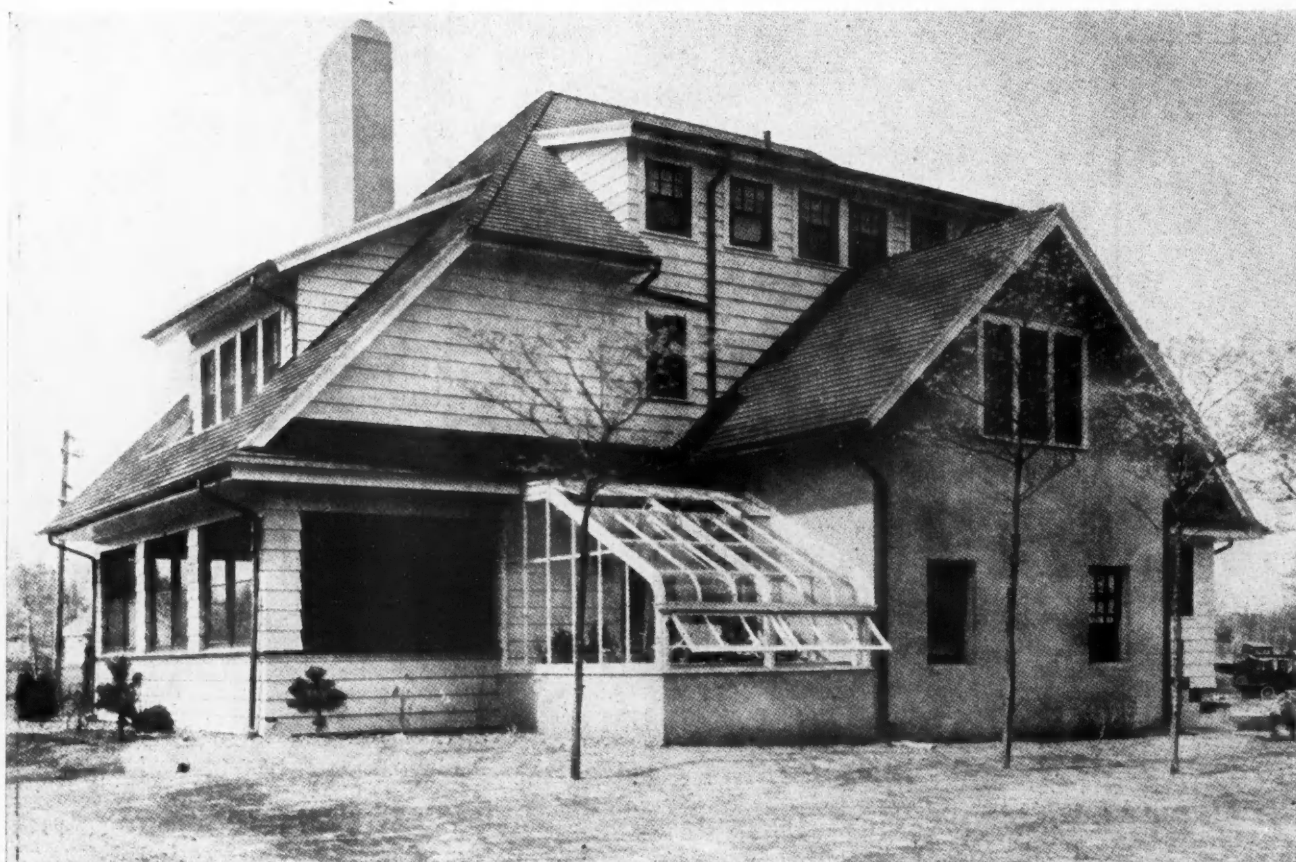
Probably the most popular and practical type for the average owner is the lean-to style shown in the illustrations. This style of greenhouse involves the least expense for both construction and heating and establishes the indoor garden as an integral part of the home. It may even be used, like the one pictured on page 190 as a sunroom dedicated to the better health of the family. This particular sunroom was built by a doctor, as an addition to his home, and serves the same purpose as the sunroom

of a sanitarium, except that it is the "ounce of prevention" which is better than the "pound of cure."

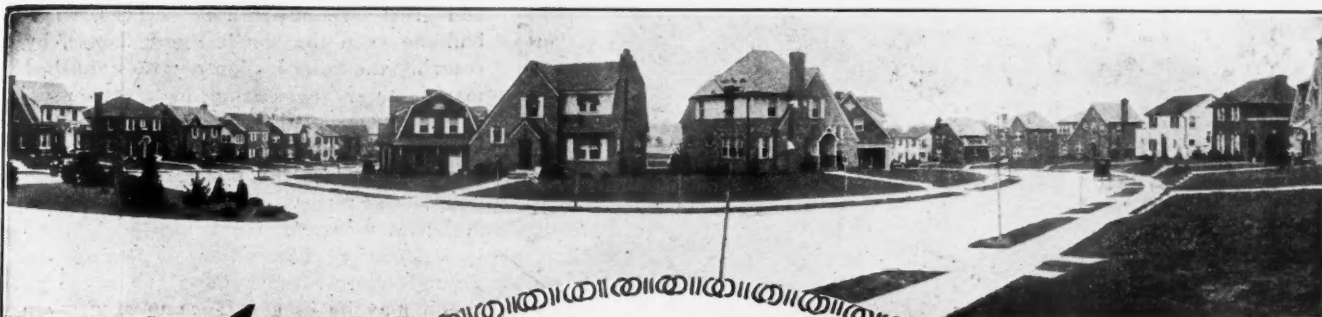
While the type of construction to be seen in both photographs and the drawing, known as the semi-curvilinear, is the preferred style, there are also other styles available from which to choose. The semi-curvilinear design, however, has the advantage of permitting a wider range of use because of the high side walls and more flexible ventilating system; and many think the gutter at the bottom of the eave curve gives a decidedly improved architectural emphasis.

Until ten years or so ago, greenhouses were largely constructed with straight roof lines, quite like other buildings, or with long sweeping curves, called curvilinear. The former were a bit severe while the latter tended rather to the other extreme. Later a roof was designed to come midway between the two, by curving the eave line and carrying the roof straight from there up. This was called the standard curved eave construction. The effect is highly pleasing to the eye and from a growing standpoint, the gardeners claim that it has a decided advantage over the older types.

With the ever increasing demands for greenhouses so constructed that any one compartment will grow violets or roses equally well, gardeners stated that the ventilation from the wall vents in the standard curved eave houses was not practical for some plants. They also complained that the sides were too low for the taller stemmed plants.



Any Home May Have Its "Crystal Garden" Since a Small Lean-to Type of Greenhouse, Such as This, Is Within the Means of Most Home Owners and Will Add Much Not Only to the Enjoyment of the Home But Also to Rental or Sales Value of the House.



The "FINAL TOUCH" on Majestic Homes

THE Majestic Homes Corporation of St. Louis offers a typical example of the finest development in Modern Building. They build in Quantity—here are portions of a 50-home job and a 200-home job with plans calling for 800. Yet each separate home is an Individual Masterpiece.

Scientific Buying by such builders considering Quality, Sales Value, and Cost, leads inevitably to Johnson Finishes. Majestic Homes use Johnson's Varnishes, Wood Dyes and Waxes in every house and Johnson's Fillers, Enamels and other materials in many of them. They say—

"It has constantly been our aim to build the very best homes which careful workmen and choice materials could produce. All materials used in Majestic Homes are subjected to exacting tests and requirements.

"In putting the final touch to a Majestic home, before delivering it to its owner, we know that we are maintaining our high standard of quality when we use 'JOHNSON'S' products."

MAJESTIC HOMES CORPORATION, V. H. Emmer, V. P. and Sec.

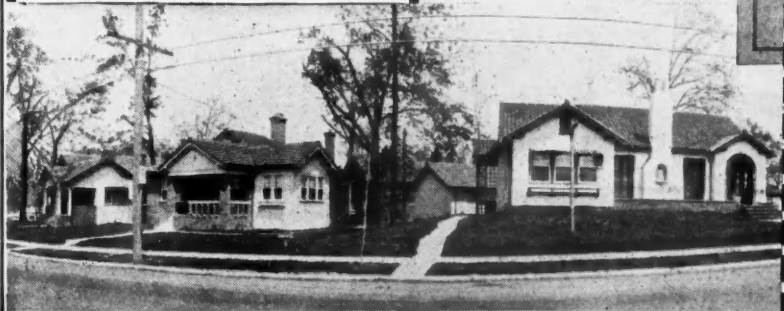
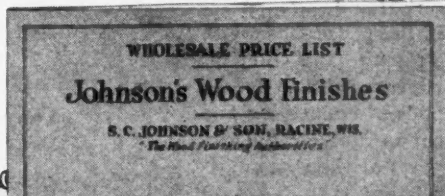
JOHNSON'S INTERIOR FINISHES

YOU can buy Johnson's Finishes at Wholesale Prices. Why pay more? Why use inferior materials?

To Contractors, Builders, Painters, Architects, Realtors—this Price List belongs in your office. Clip this coupon to your letter head or business card and mail it NOW.

- VARNISHES
- ENAMELS
- UNDERCOATS
- WOOD DYES
- FILLERS
- WALL FINISHES
- WAXES
- ELECTRIC FLOOR POLISHERS

Immediate Service From
15 Factory Branches All Over
the Country



S. C. JOHNSON & SON, Dept. AB6, Racine, Wis.
"The Wood Finishing Authorities"

Please send me Wholesale Price List on Johnson's Interior Finishes together with all descriptive information and address of nearest Factory Branch. Name and address are correctly given on attached letter head.

(Signed)



A Lean-to Greenhouse Added to the Home by a Doctor Who Saw in It an Aid to the Health of His Family Much as Sun Rooms Are Used in Modern Hospitals.

To overcome both of these objections the gutter was put back again at the eave, as in the straight roof houses, and broadening the sweep increased the height of the curved portion above it.

A continuous row of ventilating sash was hinged to the under part of the gutter, giving an abundance of air under perfect control. The resulting house, which is the semi-curve type, makes the ideal all around greenhouse.

All of the types of house, mentioned in the preceding paragraphs, may be obtained if desired and each will be found particularly suitable under special circumstances and for special purposes. In addition high sided curve type houses are often used, especially in combination with other units, in the large greenhouses. They are particularly adapted to serve as palm houses and are most often used for this purpose.

Where it is not desired to combine the small greenhouse with the residence, it is quite frequently built in combination with the garage. This is a very satisfactory arrangement. It forms a combined building which easily can be made a most attractive feature of the home grounds and also simplifies the heating problem of both garage and greenhouse.

Greenhouse heating is a special subject, so radically different from dwelling house heating that it requires special expert advice to be handled properly. In a residence the piping runs vertically, which gives all the advantage of gravity, to insure rapid circulation. This is not so in the greenhouse with its horizontal piping and difficult problems in proper grading, size of mains and methods of connecting and the proper layout to insure rapid circulation in all parts of the system.

Then, too, there is the matter of correct valving to control the temperatures in various compartments of the larger houses and the question of temperatures required for growing flowers, vegetables, or fruits of all kinds. In short, a thorough knowledge of greenhouse requirements and the ability to put that knowledge to practical use is essential in designing and building the greenhouse. For this reason greater satisfaction

and great economy can be secured, when building even the smallest greenhouse, by securing the co-operation of an established manufacturer specializing in greenhouses.

The proper method of securing the expert aid is to supply the manufacturer with a photograph of the house, if the greenhouse is to form an addition to the house, and with a plan of the house. If it is to be a detached house then a plan of the grounds should be supplied and a photograph may be of assistance in securing a balance and harmony of grouping. The manufacturer will then supply the design which is most suitable, the greenhouse complete with all parts ready to be set up and connect with the heating plant. The instructions and plans furnished will make it possible for the local contractor to handle the construction in a most satisfactory manner.

As has already been suggested, flowers are not the only thing which the greenhouse makes possible for the home owner.

With it, fresh vegetables of almost any kind can be had throughout the year and also fruits of a perfection not to be found in the ordinary garden product.

With the small lean-to greenhouse, suitable for the average home, there is of course a limit to the number and variety of plants, vegetables and vines which can be raised at one time but even so, to one not familiar with greenhouses, the capacity of even a small one will prove surprising. This capacity may be still further extended by well controlled rotation of plants and the use of cold frames and hot beds as adjuncts of the greenhouse and garden.



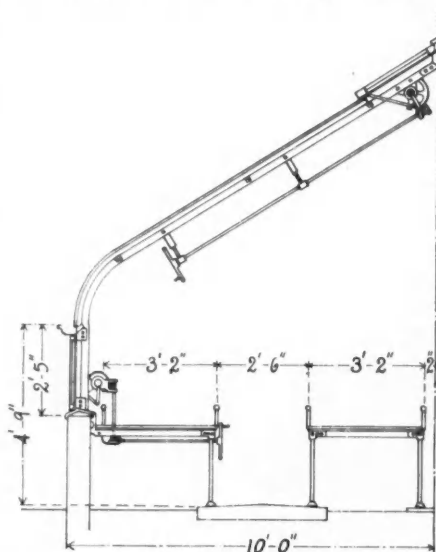
The Red Seal Plan

(Continued from page 164)

Niagara Frontier; Pittsburgh, Detroit; Louisville and the Hudson Valley; Grand Rapids, Minneapolis; St. Paul; Atlanta; Colorado; Tulsa; Memphis; Youngstown.

At the time of this writing steps are being taken in various sections of the country to adopt the Red Seal Plan, and in many cases builders are coming forward voluntarily to pledge that all future construction will be wired according to Red Seal specifications. Reports are coming in almost daily to The Society for Electrical Development showing that architects and builders want the Red Seal Plan and are willing to lend it their support. The Electrical League of Minneapolis reports a highly enthusiastic meeting on November 23 when the Red Seal Plan was explained to an audience of about 160, half of whom were architects and builders, and equally successful league meetings have been reported in Grand Rapids and other cities where the plan met with general acceptance.

The time to see that the house is properly wired to provide adequate lighting is during construction. As even the layman knows, it is expensive and inconvenient to attempt to change the scheme of wiring after the house is completed and offered for sale.



The Semi-Curve Type of Greenhouse Is Probably the Ideal All-Around Type for General Use.



This is the June advertisement of a series showing the every-day necessity of ample bathroom facilities.

Sell Them Homes to Relieve Bath Congestion

DOES your family's health wait on a morning shave?" There is a question for a man to ponder—if his home is, like most, a constant "hurry" in the bathroom every day.

"When we get a new house," many families promise themselves, "we're going to have ample bath facilities." That may mean more bathrooms, extra water closets on another floor, or extra lavatories.

Whatever the need, "Standard" advertising emphasizes the importance of meeting it, and shows how it can be done within the means of everyone.

You have something familiar to sell when you install "Standard" Enamelled Ware, Vitreous China and Brass Fittings, and you have one manufacturer to rely upon for responsibility on complete "Standard" installations.

Write for "Standard" Catalogue

Standard Sanitary Mfg. Co.

PITTSBURGH



"Standard"

PLUMBING FIXTURES

Specifications like this will be prepared for you at "Standard" Showrooms. Branches and Warehouses in principal cities from coast to coast.

A Bungalow of Vitrified Tile

The Built-in Garage is a Much Appreciated Feature of the Modern Small Home

IN a recent survey of farm residences it developed that the five-room house was the most popular size for the farm of today. Perhaps the five-room house would not prove to be the most popular in the cities and towns but it would be high on the list and is unquestionably an exceedingly popular size everywhere. There are good reasons for this, one of which is the ever increasing demand for houses which do not require an excessive amount of housework and the realization that much of the space in the old fashioned, big house was little if ever used.

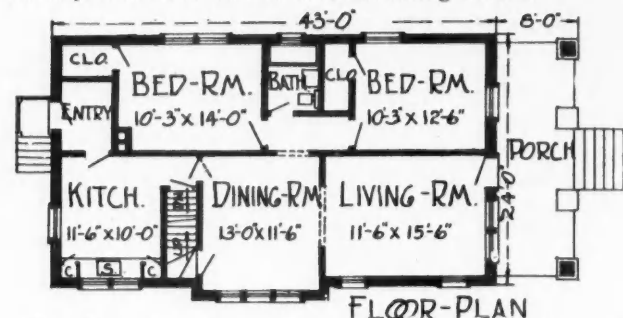
At any rate many people are interested in plans for five-room houses and here is one which should be very attractive to a large number of families. In the first place it can be built on a small lot, being only 24 feet wide. Then, too, it is compact in design, making good use of the space included without waste and so being economical of construction. On this point of economy another thing should be mentioned. Many people would like to have an all masonry house but feel that they cannot afford it. Here is an all masonry house that they can afford.

The walls are of a hollow, vitrified, glazed tile and the manufacturers say that the cost of construction with their tile is little if any greater than frame construction. It makes an attractive appearing house, too, as either matt-face or smooth face can be obtained and the appearance is very similar to a high grade of brick. In fact this tile is made from a high grade fire clay which produces a tile of superior appearance and quality.

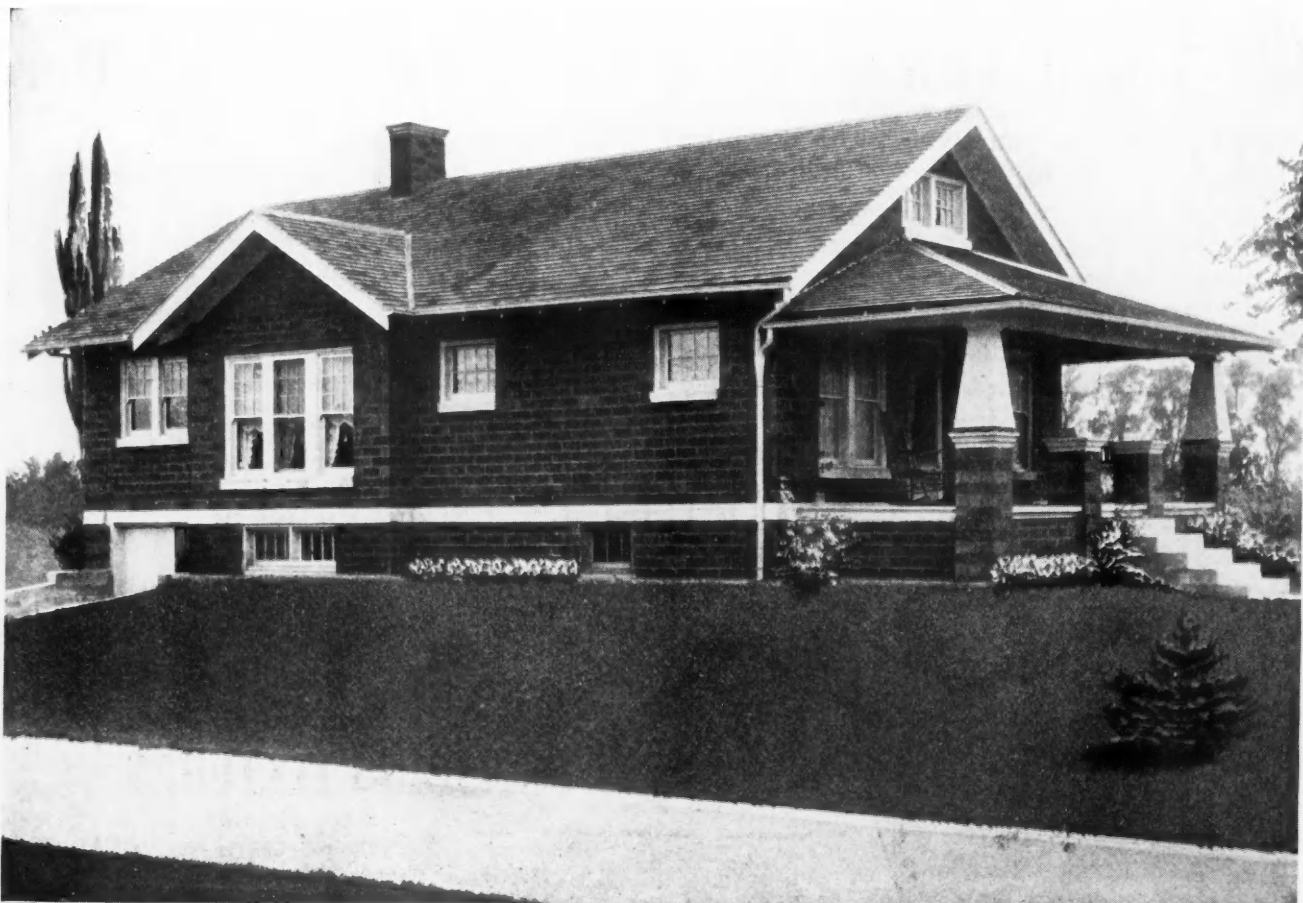
There is another point about this house which should recommend it to most people. This is the built-in garage.

With 20,000,000 automobiles in use, and the number constantly increasing, almost every family has some kind of a car. It is not always easy to make a small, detached garage attractive, it is difficult to heat and as a result often remains unheated, and then even the short trip from house to garage is not at all agreeable on a blustery winter day.

By building the garage under the house and as an integral part of it, all these difficulties are avoided. The entrance to the garage can be so placed that it is inconspicuous, if not entirely concealed, from the street, the heating is the same as for any other room in the house and the entrance is from within. In the coldest weather the radiator of the car won't freeze up and you won't have to go out in the cold to get the car or work in a cold garage when you want to do the usual tinkering around.



FLOOR-PLAN
The Floor Plan Shows No Waste Space in Its Compact Design Providing Five Rooms and Bath on a Single Floor.



Vitrified Tile Wall Construction and Built-In Garage Combine with Good Simple Lines to Make This a Particularly Attractive Small Home Offering Much Convenience and Comfort at a Comparatively Low Cost.



A. M. Sandberg, progressive St. Paul, Minnesota, Contractor and Builder

Ten-family apartment, 2061 Como Ave., St. Paul, designed, built and owned by Mr. Sandberg. Celotex Insulating Lumber used as sheathing under stucco, and on inside walls and ceilings under plaster, replacing lath.

“I would not think of building without this insulation”—

So says A. M. Sandberg, well-known St. Paul contractor. He finds in Celotex advantages offered by no other material

TWO years ago, Mr. Sandberg realized that houses built with only the usual materials leak heat. They fail to keep sun heat out and furnace heat in. Results: sweltering rooms in summer; cold rooms, and wasted fuel in winter.

He knew that his customers would not be satisfied with such houses, so he investigated insulation. He found that ordinary insulating materials were too expensive because they were extra items in the building.

Then he built with Celotex—the insulating lumber, made from tough cane fibre into broad strong boards that serve both as insulation and as lumber.

Now he says, “I would not think of building without Celotex.”

Little or no extra cost

Unlike ordinary insulation, Celotex replaces other materials—is not an extra item in the building. As sheathing, it

adds nothing to the cost of a house. Under plaster it costs a trifle more, but gives great advantages.

Smaller, less expensive heating plants and radiators are needed to keep a Celotex house comfortably warm.

- ① As sheathing, Celotex supplies the insulation needed back of stucco, brick or wood exteriors. Here it replaces the rough boards formerly used, giving greater strength to the house walls. Building paper is unnecessary.
- ② On inside walls and ceilings plaster is applied directly to the surface of Celotex. This eliminates the use of lath, and forms stronger, insulated walls, free from lath marks.
- ③ Celotex should always be used as roof insulation, either over or under the rafters. Both uses are recommended.
- ④ Celotex is used for interior finish. It may be left in its attractive natural tan color or stained, stenciled or painted.

- ⑤ It is also used as exterior finish in light construction. When painted, Celotex resists exposure as well as wood lumber.

Easy to Apply

Celotex is exceptionally economical to apply—it saves labor as well as material. It is sawed and nailed just like wood lumber and with less waste in trimming. Celotex comes in stock sizes: width 4', lengths 8' to 12', thickness 7-16", weight about 60 lbs. per 100 sq. ft. Heat-leaking houses are becoming harder to sell, harder to rent, harder to borrow money on.

Look ahead! Ask your architect or lumber dealer to tell you more about Celotex. All lumber dealers can supply it. Leaders in these lines advise its use. Send the coupon below for complete details.

THE CELOTEX COMPANY, CHICAGO, ILL.
Mills: New Orleans, La.

Branch Sales Offices in many principal cities
(See telephone books for addresses)

Canadian Representatives: Alexander Murray & Co., Ltd.
Montreal, Toronto, Halifax, Winnipeg, Vancouver

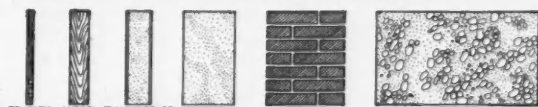
CELOTEX

INSULATING LUMBER

*Relative heat-stopping values

Cross-sections show why Celotex is needed as insulation back of wood, brick, plaster and concrete. . . As a heat-stop, Celotex is 3 times as effective as wood; 4 times, plasterboard; 8 times, plaster; 12 times, brick; 25 times, concrete.

(Data compiled from tests published by the American Society of Refrigerating Engineers and others.)



These sections are of equal insulating value

THE CELOTEX COMPANY, Dept. T-146
645 N. Michigan Ave., Chicago, Illinois
Send the Celotex Building Book and Specification Book, free.

Name _____
Street _____
City _____ State _____
American Builder, 6-7

Homes Made Complete with Metal Radiator Furniture

A NOTABLY beautiful solarium may be seen in the photograph reproduced on this page. This solarium, in the Forest Hills, Long Island, home of Mrs. Louis Galluci, is perfect in the artistic harmony of its design, furnishing and decoration, no jarring note is felt at any point as one glimpses the vista through the great arched doorway.

But can you imagine this same vista if the beautifully and harmoniously enameled radiator furniture were removed and in its place beneath the windows, ugly, gilded, iron radiators were in view? The whole effect would be spoiled. This photograph is a striking example of the artistic possibilities of modern radiator furniture and what it does for the final perfection of home decoration.

No matter how many hours of thoughtful planning, no matter how many days of careful selection are spent in providing furniture, draperies and other beautiful furnishings the effect is sharply broken by the contrast of unsightly, uncovered radiators. This, however, is no longer a necessity as in the days before radiator furniture was developed and perfected to fit every architectural requirement. Radiator furniture quickly and permanently transforms the radiators into beautiful and useful window seats and artistic consoles, finished in natural wood effects, ivory, white or antique or even in cloisonne.

When the transformation has been accomplished the decorations and draperies are protected from the disfiguring stains and streaking which always result, within a short time, with uncovered radiators. The heated air is thrown out into the room instead of upward to deposit soot and dirt upon walls and ceiling.

There are other advantages too that attend the use of radiator furniture. As suggested by the statement that the heated air is thrown out into the room instead of up as with the uncovered radiator, the heating qualities of the radiators are improved. A more even temperature is maintained without the great difference between floor and ceiling temperatures ordinarily found and less heat is required to keep the room at a comfortable temperature.

Again, a humidifier is an integral part of each model and this provides the humidity so essential to health and comfort. With the dry air that is usually found in hot water or steam heated homes a higher temperature is required for comfort and the combination of high temperature and dryness is responsible for many cases of colds and pneumonia the doctors tell us. With the provision for humidity we are more comfortable, more healthy and we save on the cost of fuel. Then, too, we protect our valuable furniture from the warping, cracking and loosening of joints which results from hot-dry air.

Because of the wide variety of finishes and designs which can be obtained in radiator furniture, the home designer has an almost unlimited latitude in each room. The construction is permanent in every sense for, made of steel throughout, each piece is strong enough to carry whatever



Beautifully Enameled Radiator Furniture Adds Just the Finishing Touch to the Beautiful Interior and Avoids the Inharmonious Tone of Uncovered Radiators.

weight may be placed upon it and the six or more coatings of baked enamel will endure for many years.



To Develop Apprentice Training

THE International Correspondence Schools of Scranton, Pa., announce that Horace A. Frommelt, formerly works manager of the Falk Corporation of Milwaukee, has joined their organization as Consultant of the Apprentice Training Division, to give his full time to the inauguration and development of apprentice training programs. This appointment is in line with the school's recognition of the fact that apprenticeships are reappearing in American industry and of the need for the training of skilled workers.



Paint can be used to sell a house!

You know the value of quality products in reselling the houses you build! And what's more, your customers know it!

The prospective home buyer quickly recognizes branded materials as evidence of quality. His estimate of your house rises if he recognizes familiar brands as part of its equipment. He likes to talk to his friends about his house and boast of its fine fittings.

And so it is with paints.

In the minds of the public "Sherwin-Williams" stands for "quality in paints." The Sherwin-Williams trade-mark is a sign of quality to every man or woman.

There is a cash value to this name on which you can capitalize in addition to securing the highest quality paint for your houses.

The S-W Architects' Painting Guide!

We have prepared the S-W Architects' Painting Guide which will assist you in selecting the right finish for every surface—varnish—enamel—wall paints—exterior paints. It recommends the most durable product for every type of surface. Our national advertising is telling the public about the Household Painting Guide (similar to the Architects' Guide), and you can cash in on this wide market with profit.

NOTE: Free Decorative Studio Service. Experienced decorators will recommend decorative schemes for interiors or exteriors of your buildings with sketches made from actual paint samples.

When offering houses for sale, make capital of the fact that the decorations were designed by experts.

There is no red tape attached to this offer.

The Sherwin-Williams Company, 407 Canal Road, Cleveland, Ohio





HOW DAN DOES IT

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

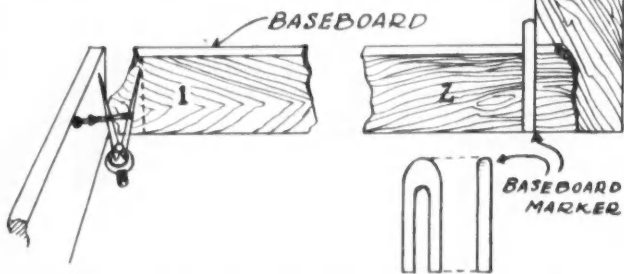
\$2 for an Idea

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 the editor of this Department and will pay \$2.00 each for every good idea he can use here to show and tell other builders "how to do it." Send him a rough sketch and a short description of what the tough job was and how you handled it.

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

More About Fitting Baseboards

I SAW, in the February issue, a method of fitting baseboards and made up my mind to send you the method which I use and find most satisfactory. I first make a baseboard marker of a piece of hardwood, as shown in



This Seems to Be the Most Popular Method of Fitting Baseboards, Judging by the Large Number of Letters Which Have Suggested It.

the sketch. A board about 3 inches wide will answer the purpose and the slot should be just wide enough to slip over the baseboard. The baseboard is then placed against the door frame and the marker is placed over the baseboard, making it easy to mark along the line of the frame.

For marking baseboard at the corners, where the joint is not absolutely square, I use an ordinary pair of dividers with a pencil on one arm, such as may be bought for about 25 cents. Place the baseboard against the one already in place, in the corner, and then mark with the dividers as shown in the illustration. One point of the dividers is held snug to the baseboard which is in place and the pencil marks the correct contour on the other baseboard. This will always give a snug fit.—C. JOHNSON, 63 Grove Till, New Britain, Conn.

EDITOR'S NOTE—A large number of letters were received after the publication of Mr. Wilson's suggestion for fitting baseboard in the February issue. Most of these suggested the marker method described here and several suggested this use of a pair of dividers. Mr. Johnson's letter was selected for publication because of the fact that it was the first one received.



Repairing Sagging Plastering

THE plastering of a ceiling that has been wet soon begins to sag away from the lathing at the spot where

the water came through, and soon will fall. Having a ceiling in this condition, I made repairs in the following way:

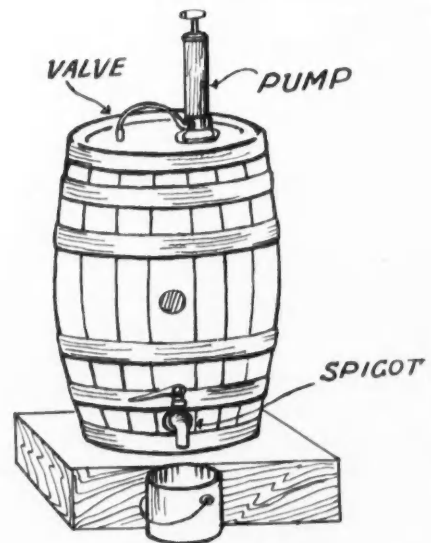
I make a four-ply paper bag by putting four large bags one inside the other. Into this bag I poured two quarts of pulp-plaster so mixed that it rounded up smoothly with the bottom of a spoon containing it. I then closed and tied the mouth of the bag firmly about a three-inch length of 7/8-inch tubing. This tube I forced up through the ceiling plaster where it hung lowest, and after winding rags around the tube close to the plastering, I squeezed the plaster from the bag through the tube into the space between the plastering and lathing. Then removing the tube, I quickly applied to the damaged area a board beneath which I wedged a prop. This forced the plastering up against the lathing. Upon removing the board and supporting prop a day later I found the ceiling to be as firm as when new.—DEXTER W. ALLIS, Everett, Mass.



An Idea for the Painter

HAVING occasion to use some heavy roof paint one cold winter day, I had trouble getting the paint to run

from the spigot of the barrel because of becoming too thick from the cold. I overcame this difficulty by the use of an ordinary bicycle pump. I bored a 5/16-inch hole in the top of the barrel and drove in a valve such as is used in the bicycle tire. I then attached the pump to the valve and was able to pump enough pressure into the barrel to force the heavy paint from the spigot.—CHAS. H. MILLER, 529 24th St., Cairo, Ill.



In Cold Weather Paint Won't Flow but Here Is How a Bicycle Pump Overcomes the Difficulty.



Ask Your Own Brick Foreman

PUT Carney mortar on your next job—then ask your brick foreman how it affected mixing costs. Ask him if it speeded up the masons.

Here's what you'll find. You'll find that Carney produces double the mortar with half the crew. You'll find that the number of bricks each mason lays will be increased decidedly. You'll find an operating cost far below any you've ever had.

There's a reason for these big Carney economies. Carney comes ready to use—no soaking, no slaking and no lime to be added by the mixer. That means a smaller pay roll at the mortar box. Besides, Carney mortar is so plastic that tamping and tempering on the boards, by the masons, is not necessary. Every minute of the mason's time is spent laying brick—there's no time wasted.

Besides, Carney will cut your cement bill 5%. Where other cements mix 3 to 1 with sand, you'll find Carney will mix 4 to 1 and work perfectly.

When you test out these Carney economies, right on the job—when you see the amount of money Carney puts back in your pocket, every time you use it, you'll never use anything else.

THE CARNEY COMPANY

District Sales Offices: Cleveland, Chicago,
Detroit, St. Louis and Minneapolis.

"Carney Cement was used on the Louderman Office Building, with excellent results. It proved to be very economical; in fact we were so well pleased with it as to secure the approval of the Architects and use it since on a building we are erecting for the International Shoe Company in St. Louis. We were more than pleased with the ease of mixing your product, and also with the increased speed in setting, and our brick foreman reported that the mortar worked very smoothly for the bricklayers. We expect to continue the use of Carney Cement on our work, which is the best of proof that we like it."

A. E. BLACK, President,
JAMES BLACK MASONRY & CON-
TRACTING CO. St. Louis, Mo.

Specifications:

1 part CARNEY
to 4 parts sand.

Cement Makers  *Since 1883*

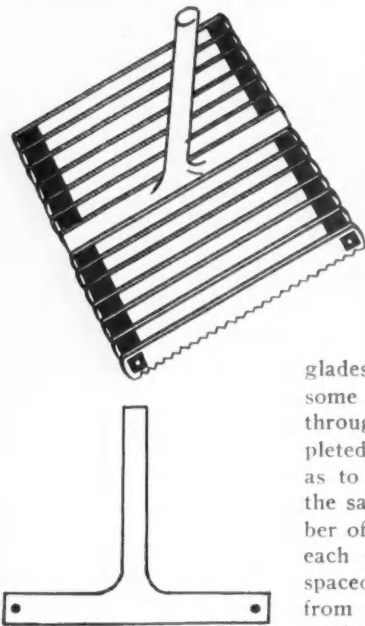
CARNEY

for Brick and Tile Mortar

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

To Clean Mortar from Bricks

WHERE bricks are to be used again after being taken from some old building, the most costly part of the work is in cleaning the old mortar from their surfaces so as not to interfere in proper spacing when placed in the new wall.



Old Hack Saw Blades Put Together in This Manner Make an Excellent Tool for Removing Old Mortar from Bricks.

Here is shown a tool which may be driven with any power available and which will remove the mortar and leave a true surface on the old brick.

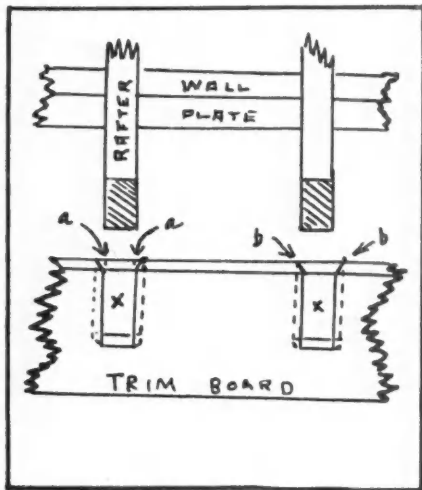
An iron bar 8 or 10 inches long has welded at its center a round shank some 6 or 8 inches long and 1/2 inch in diameter. Old hack saw blades are then gathered from some shop and a hole is drilled through each end of the completed T-piece as shown, so as to match with the holes in the saw blades. An even number of the blades are placed on each side of the T-shank and spaced from each other and from the shank by means of washers or 1/4-inch nuts. A 3/16 bolt then secures the blades to the shank. The tool is placed in hand drill, in a drill press or secured by a set screw into a 1/2-inch hole drilled into the end

of a small engine shaft.

By holding a brick against the revolving blades, or by setting brick on drill table and lowering the tool, it quickly produces a clean even surface on the brick.—GEORGE G. McVICKER, Norht Bend, Nebr.

Trimming Around Rafters

WHEN a frieze or "trim board" is used under eaves of a building where ends of rafters are exposed as in modern bungalow construction, it is often difficult to make



If Notches Are Sawed Out Like This the Trim Board Under Eaves Can Be Set in Place Without Being Disfigured by Hammering.

as at a, a, and square down to sufficient depth. Saw out the notches beveling from face to back of board as shown

a long board go into place without a good deal of hammering and disfiguring the piece.

The accompanying cut shows a method of sawing out the notches that will allow the board to slip into place easily and still fit neatly around rafters.

Select a straight board and tack it so that top edge lies up against the under side of rafter. Mark position of rafters

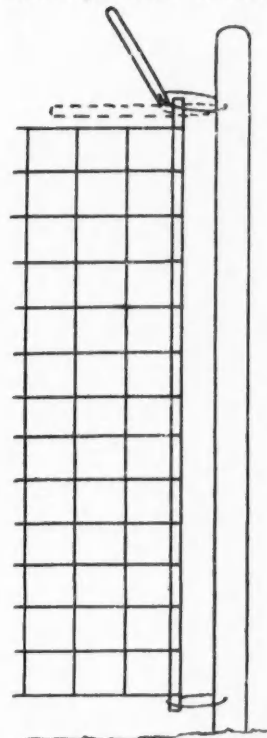
at b, b. The board will then go into place easily without disfiguring by hammering.

Much time can be saved and a better job done if frieze boards are put in place before the coal boards are laid.—E. J. WILSON, Gary, Ind.

A Simple Tightener for Woven Wire Gates

I HAVE found the tightener for woven wire gates, which is shown in the sketch, very simple and practical. Holes are bored through the gate post, level with the top and bottom of the gate, and a wire loop passed through each hole. The lower loop is hooked around the lower end of the end piece of the gate after the gate is tightened.

The upper loop also passes through a hole bored in a short rod. The shorter end is placed against the end piece of the gate and when the longer end is forced down the rod holds the gate stretched tightly in place. The length of this short rod can be easily adjusted to give the proper leverage.—OTTO O. KERCHNER, Walnut, Ill.



A Simple Means for Tightening a Woven Wire Gate Which Is Entirely Practical.

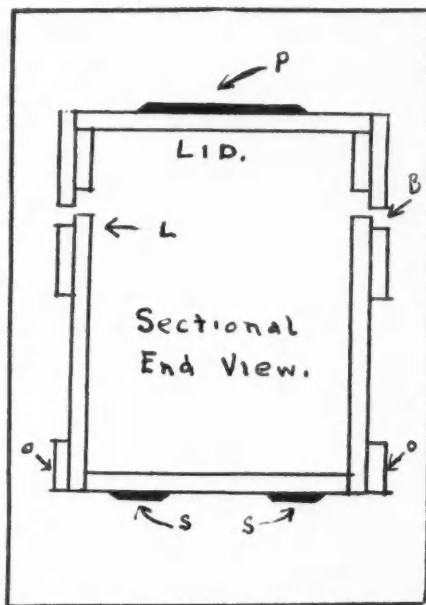
A Water-proof Tool Box

ACCOMPANYING diagram shows sectional construction of a water tight tool chest, and is self explanatory.

Top of lid can be panelled as at P, if desired. Butts are attached at B, and a chest lock mortised in at L. The box is made considerably stronger by trimming around bottom also as per O, O. Two or three hardwood slats, similar to those on a trunk, can be fastened on bottom as at S, S.

All joints should be well grooved before nailing. Much more strength and durability will be had if screws are used for assembling in place of nails.

The box should be painted with three or four coats of lead and oil. If kept well painted, this tool chest can be left out of doors in the most severe weather without leaking.—E. J. WILSON, Gary, Ind.



Here Is a Diagram for Constructing a Water-Tight Tool Box Which Can Be Left Outdoors in the Worst Weather.

protected!



Reg. U. S. Pat. Off.

Genasco Roll Roofing

High-quality, medium-priced. Extensively used on farm buildings, factories, warehouses, lumber sheds, etc. Two styles—smooth surface and slate surface. Kant-Leak Kleets packed in each roll—an excellent roof-fastening device.

Genasco Slate-Surface Roll Roofing is highly fire-resisting. Supplied in three natural, unfading colors—red, green, blue-black.



Treasure dug from a lake!

Asphalt—nature's own superior waterproofer—dug right from the surface with mattocks. Used for a half-century as a street-paving material—its weather and wear resisting properties have also given supremacy to the great line of Genasco Roll Roofings and Shingles.

The Genasco Line includes in addition these other desirable products, about which we will gladly send you complete information:

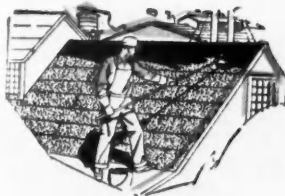


Genasco Asphalt Putty
(Roofing Cement)
Genasco Deadening Felt

Genasco Insulating Paper
Genasco Red Sheathing Paper
Genasco Wall Lining

The Barber Asphalt Company Philadelphia

New York Chicago Pittsburgh St. Louis Kansas City San Francisco



Genasco Roof Coatings

All smooth-surface roll roofings should be given an application of roof coating every two years to preserve their waterproofing quality and insure maximum life.

Genasco Roof Coating is a heavy black liquid asphalt which dries to a tough elastic coating. Shipped ready for use—1 and 5-gallon pails, and 50-gallon drums.

Genasco Asphalt Fibre Coating contains asbestos fibre, which permits a much heavier application without danger of flowing in hot weather. Furnished in 1 and 5-gallon pails, and 30 and 50-gallon drums.



Genasco Sealbac Shingles

For use where the straight conventional type of shingle is preferred. Made of the same high-quality materials as Genasco Latite Shingles—including the famous "Sealbac" feature. Individual shingles in three colors—red, green, blue-black. Strip shingles in same three colors, and multicolor.



Genasco Stucco Base

A successful and economical base for the application of Portland Cement and Magnesite Stucco. It is windproof, waterproof, rustproof and vermin-proof. It requires a minimum of stucco and saves time and labor in applying. Made of high-grade felt thoroughly saturated and coated with asphalt into which granules of calcite are imbedded which act as the "key" or "anchor" for the stucco. Rolls 36 inches wide—sufficient to cover 100 square feet.

The Barber Asphalt Co.
Philadelphia

Please send me full information regarding the products I have checked:

- Genasco Latite Shingles...
- Genasco Roll Roofing....
- Genasco Sealbac Shingles..
- Genasco Stucco Base.....
- Genasco Roof Coatings....

Name

Address

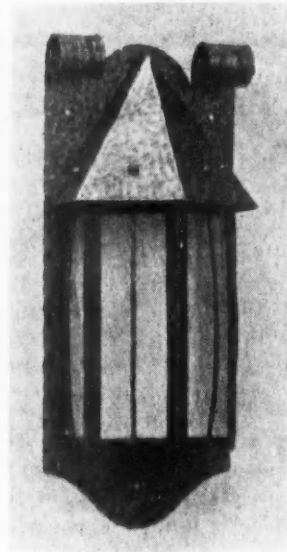
Genasco Protective Products

Reg. U. S. Pat. Off.

Authentic Lantern Designs for Period Architecture

LANTERNS are the only form of lighting fixture that is appropriate for the exterior of a house and when so used their design is of considerable importance because of the fact that it is one of the first things to catch the eye of anyone approaching. Frequently also lanterns are used on the interior, particularly in hallways, for which purpose they are entirely suitable. With certain styles of architecture, some of which have gained a remarkable popularity of recent years, the lantern fixture is an essential part of the design.

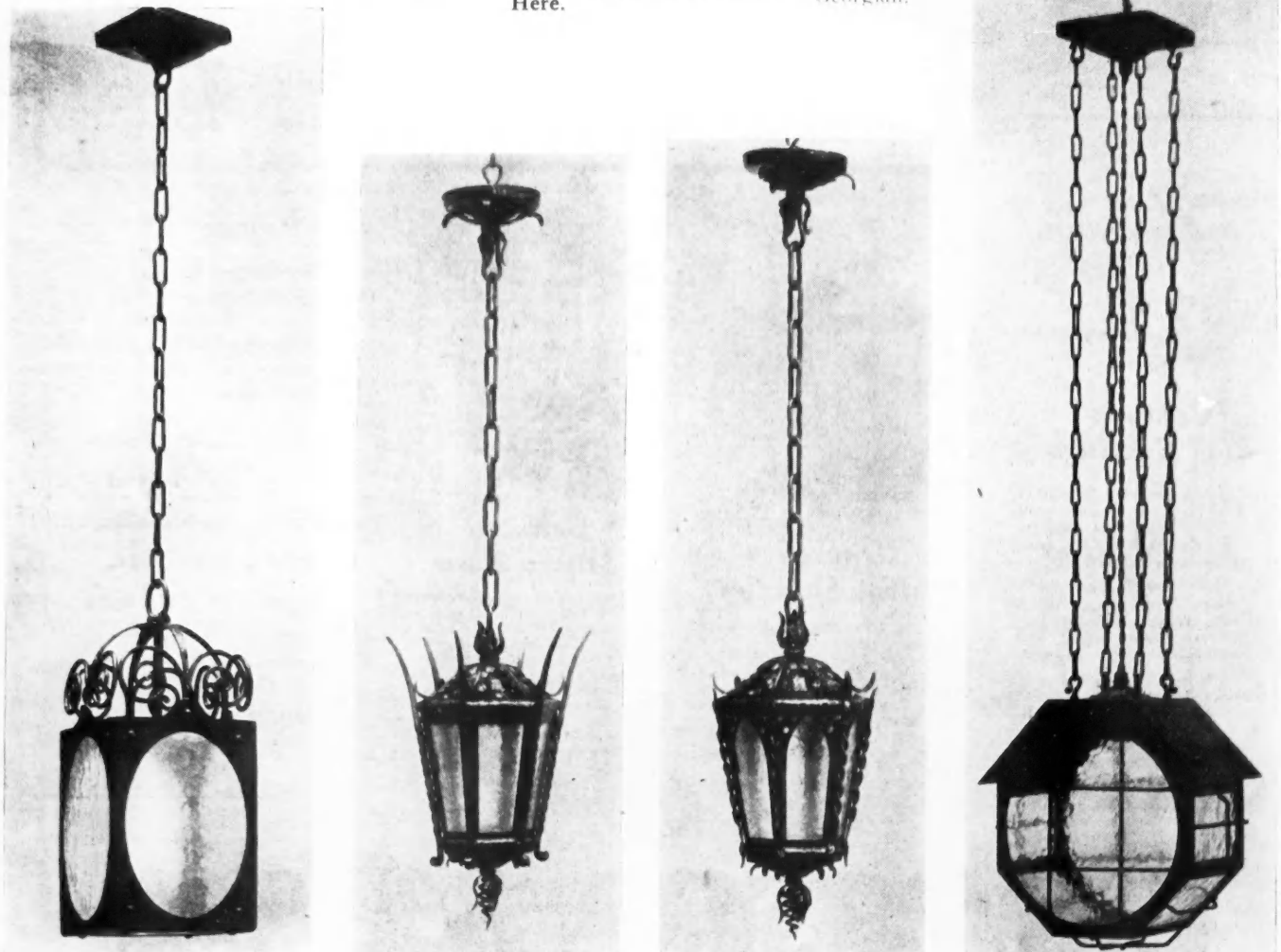
In the Spanish, Italian and English style of house the lantern fixture is almost a necessity, but in selecting the lanterns to be used care should be taken to see that the proper style is chosen to fit the architectural style. Not anyone, however, is sufficiently familiar with these styles to make a good selection and it is frequently difficult for the layman to distinguish between the Italian and Spanish, which are closely related, or between the different English periods.



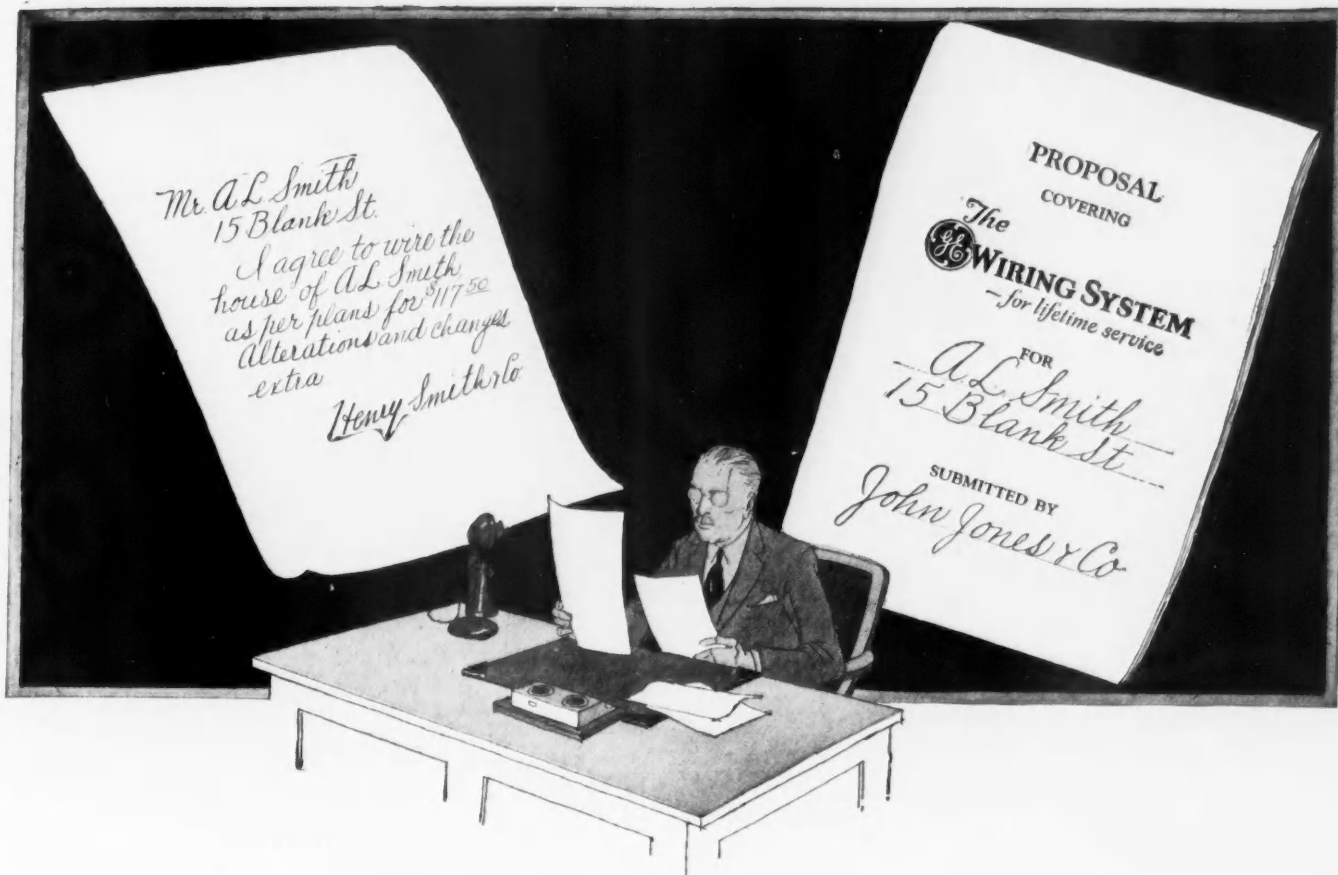
A Spanish Style Wall Lantern Characteristic of the Designs Described Here.

Each of the periods in the development of the English lantern possesses individual characteristics which distinguish it in the eyes of the expert and then, too, there are the Colonial designs which occupy a position by themselves. With the modern adaptation of leading architectural styles and the aid of the expert in lighting fixtures the lighting of homes is rapidly becoming a true art.

For this reason it is always well to obtain the fixtures from the manufacturer who specializes in period designs and is thoroughly capable of advising. Such manufacturers have made exhaustive studies of the historic designs and apply the skill of the especially trained craftsmen in reproducing them accurately in fixtures adapted to modern construction and electric lighting. The finest of these fixtures are entirely hand wrought and many are exceedingly charming examples of modern craftsmanship at its best. Most of these are of iron, though brass and bronze are used for certain periods of English architecture, such as Elizabethan, Jacobean and Georgian.



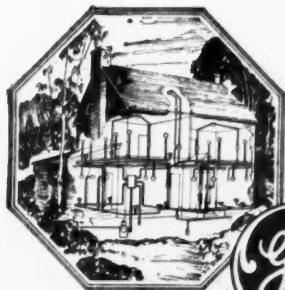
From Left to Right These Lanterns Represent the Venetian Style, the Italian Renaissance Style, the Italian Gothic Style, and the Italian Lombard Style. They are authentic reproductions of the originals adapted to use with modern electric lighting.



Which bid will you take?

The G-E Wiring System is a system of housewiring embodying adequate outlets, conveniently controlled, and using G-E materials throughout. If interested, address: Sec. AB-6

Merchandise Department
General Electric Company
Bridgeport, Conn.



In selecting a wiring bid, it will pay you to remember:

That the difference between an inadequate wiring job and a G-E Wiring System may mean hundreds of dollars additional profit to you when the house is sold.

That the G-E Wiring System is a talking point in the sale of a house.

That the house equipped with the G-E Wiring System sells faster.

After all, these are the things which make your business a successful business.



WIRING SYSTEM

- for lifetime service

GENERAL ELECTRIC

Big Money From Little Jobs

An Authorized Interview With Jack the Builder

"TURNOVER is what counts," said Jack the Builder. "The average woman knows only about 400 words. But look at the turnover.

"The jobs I get are often small. But they are non-competitive and they go on month after month, even when new building is slow. And piled together, they mean real money. For instance—

New work from old homes

"Nearly every house has a lot of waste space. The owner knows dozens of things he wants—an extra room in the attic, two to three extra rooms in the cellar.

"That's where I come in. It takes me about five minutes to prove to him with pencil and pad that Upson Board will build those three to seven rooms he needs—that it won't cost much—that it won't mean a lot of dust and dirt and delay. So I land a job.

Heat-leaking houses, big field

"Take this problem of insulating drafty, heat-leaking homes. You hear a lot about it. It's a good idea, too. Saves 20% to 30% of the fuel bill in winter—makes the house summer-cool, winter-warm.

"Now look around this town. What do you find? A lot of unlined attics. Heat going out the roof. A lot of cellars with no lining on the floor boards. Line only 1 out of every 10 of these with Upson Board, and you'll have enough work to keep you busy for months.

"Upson Board is a great insulator, too, I want to tell you! Why a single thickness is as good as ten sheets of building paper. I put Upson Board in that drafty 7th Street school house last fall, and this year it sure is snug.

Upson Board is different

"You know about Upson Board, of course. It is



For attics, Jack the Builder uses big panels of Upson Board to build in three to four useful rooms, and at the same time lines the house against winter-cold or summer-heat.

harder, stiffer, stronger, than any other wallboard. Tests by engineers prove it will stand from 40% to 150% harder blows than the other fibre and plaster boards they tested. The same tests prove that it stands up under moisture, steam—even ordinary leaks.

"And I am convinced Upson Board is a real fire-retardant. It seems to char, rather than burn.

"There's another thing that I like mighty well, and that is the patented Upson Fastener. That's a wonderful little invention. You know how ugly nail holes generally show up along the middle of wallboard panels. Well, the fasteners do away with these nail holes altogether.

"You nail the fasteners to the studs and press the panels onto them. They clinch from the back and not the trace of a nail mark shows.

"Upson Board is a 'one man' board—another good feature. The panels are light to handle and they won't break. That helps, particularly on ceilings.

"I find this, too. When I apply Upson Board the right way, it never warps or buckles. I've had jobs that have been up

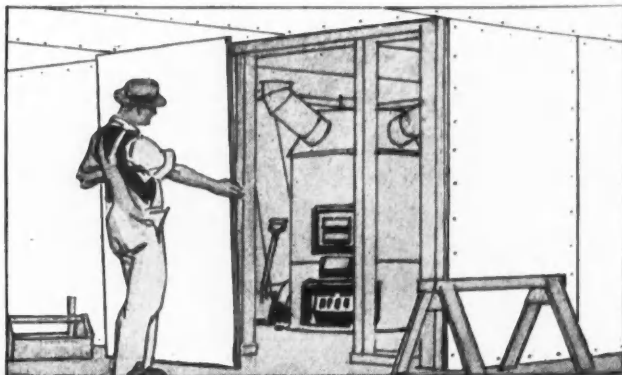
for years, and they ought to last as long as the building stands."

Sure-Fire Plan sure gets business

"How do you get the orders?" I asked.

"With the Upson Sure-Fire plan," Jack replied. "That's the biggest help of all. I simply keep in touch with the Upson advertising experts and have them help me sell the people whose homes need repairs or remodeling. Simple enough, but man, it works!

"How do you get in touch with Upson? Just mail a card, 'Send me details of your Sure-Fire Selling Plan for Contractors.' Address The Upson Company, 605 Upson Point, Lockport, N. Y. They'll do the rest. But do it now—get in on this plan this summer—today.



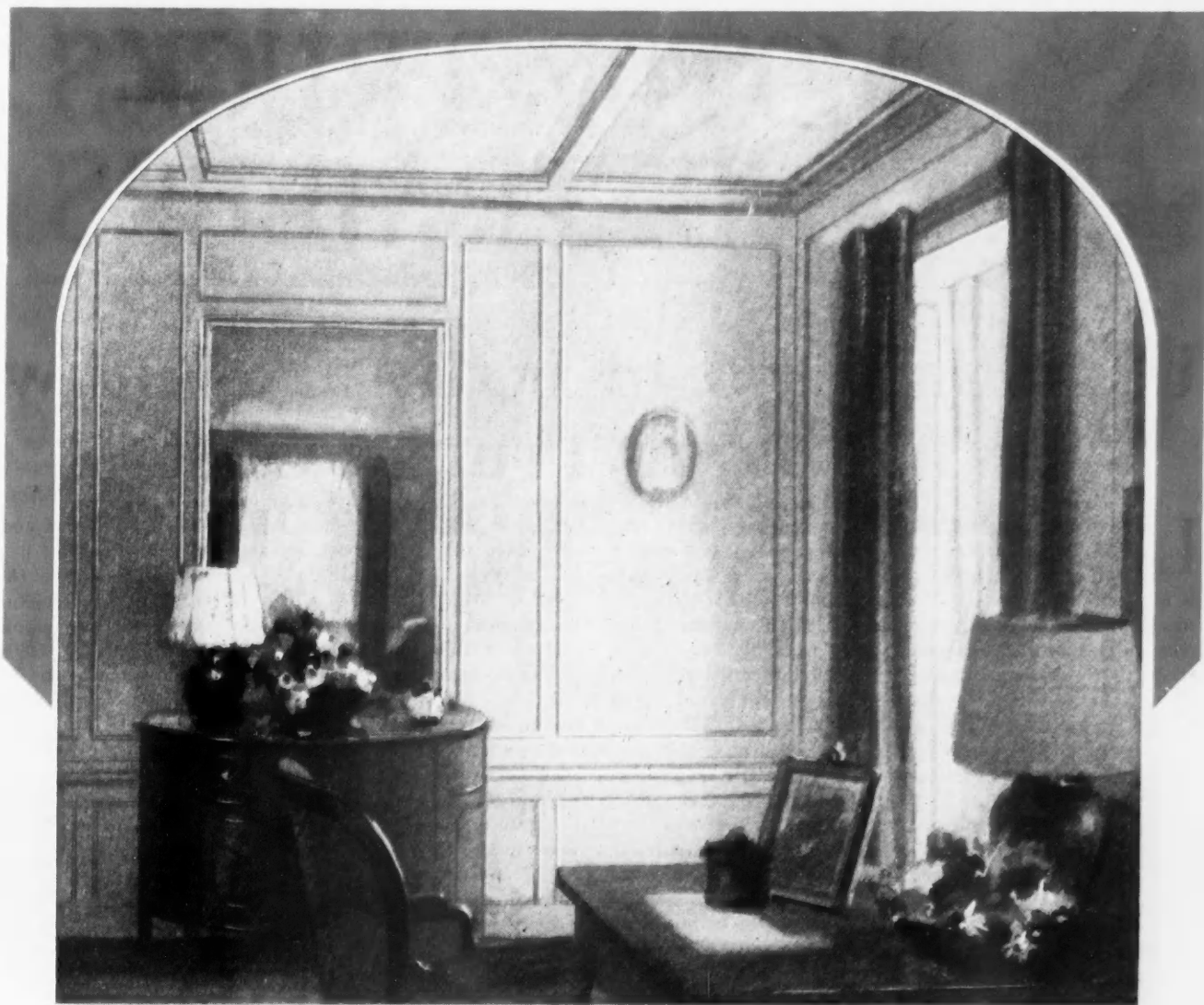
Cellars furnish another big field for Jack, too. He builds in cool and dustless fruit closets—bright, clean laundries—attractive work rooms—furnace rooms to keep dust from seeping through the house.

3 PRODUCTS IN 1

1. For Ceilings. Nothing better than Upson Board at any price. Light in weight, one man can apply it. Can never crack or fall—and so saves repairs.

2. For Walls and Partitions. Upson Board is quickly, easily, economically installed with a permanently beautiful result. Properly applied, should never warp or buckle and should last as long as the building stands.

3. For Insulating. Upson Board protects your home against summer-heat or winter-cold and at the same time adds valuable living space. Heat-conductivity tests by nationally known laboratories prove a single panel of Upson Board a better non-conductor than ten thicknesses of ordinary building paper.



IN the old days, people lighted their way to bed with a lamp; rode to town behind a horse. Nowadays, they snap on an electric light; put their foot on the gas!

The same progress has been made in building materials. Modern architects and builders are now recommending Upson Board for the

FOR BLUE PRINT, ADDRESS THE UPSON COMPANY, 605 UPSON PT., LOCKPORT, N. Y.

finest interiors. Why don't you try Upson Board—if not all through the house, perhaps for just one fine *ceiling*?

With the Upson Blue Print Service anyone can do jobs like the one shown above. Ask your dealer, or write us for samples and full-size blue print, **FREE**. Describe work you plan.

UPSON PROCESSED BOARD

For Walls . . Ceilings . . Partitions . . Insulation



Use a Daily Cost Record and Know What Your Trucks Cost

LAST month the practical usefulness of inspection records was pointed out in this department. This month another kind of record will be considered, one which is of equal importance and which should be used by every truck owner. One of the biggest truck manufacturing companies makes the statement that "a complete truck cost record is the best complement to good inspection that you can employ." This company is so thoroughly convinced of the importance of keeping such a record that it has prepared a special record form for the purpose and furnishes this form free to all owners of its trucks.

There is no question but that the final test of efficiency of any truck and its suitability to the work being done is the cost of operation per ton-mile. In the records by which this cost is determined the owner may read the complete history of his truck, its reliability, gas and oil economy, ruggedness of construction, economy of maintenance and repair, and the efficiency of the driver. Nor is the keeping of such a record a complicated or burdensome duty.

The main thing is to have a supply of suitable forms and then keep the record posted from day to day.

The form already mentioned, which is sent out in the form of a small booklet with a capacity of one complete year's record, is illustrated on this page. It is so simple and clear that it hardly requires explanation and could hardly be improved upon. At the left is a column carrying the date. After each date are spaces for filling in the day's record of mileage covered, total load carried, number of trips and number of stops, gas and oil consumption with their cost, tire expenses and cost of repairs.

At the right a space is provided for recording the fixed monthly expenses including wages, garage, interest on the investment, depreciation, insurance, license and taxes. Below, the totals of the running expenses for the month are entered and a recapitulation is made.

Only a few minutes is required at the end of the day to make the necessary entries and at the end of the month the whole may be totaled and recapitulated very quickly.

It is the regular daily attention to this record which keeps it from becoming a burden and makes it really useful. Unless the record is kept up-to-date it is practically useless.

It is important to notice the number of miles covered each day, the number of stops made as compared with the number of miles, indicating idle time spent in loading and unloading, the total loads carried compared with the number of trips showing whether full capacity is being used and, of course, the economy of oil, gasoline and tires and the cost of repairs and maintenance in proportion to mileage.

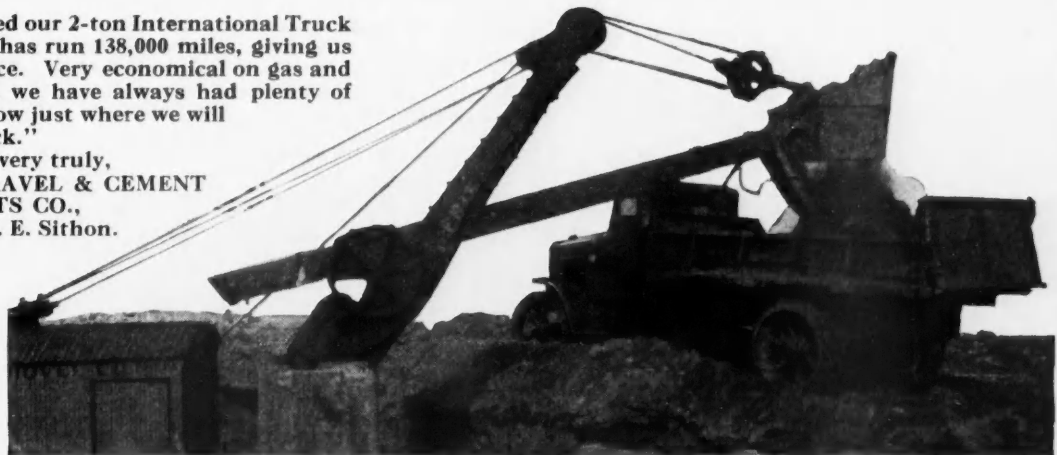
The last page of this booklet is devoted to a summary of the year's record and when completed and filled out from year to year it should prove a valuable aid in the selection of any truck purchased in the future. This is particularly true in comparing two or more kinds of trucks.

DAILY TRUCK COST RECORD												FORM A '26					
Truck No.		License No.			Make		Driver			Month							
Day	Mileage	(1) WORK DONE			(2) DIRECT OPERATING COSTS						(3) FIXED EXPENSES PER MONTH						
		Total Load Carried	Number of Trips	Total No. of Stops	Remarks	Gasoline		Oil		Tire Expenses	Repairs		Remarks	Items	Remarks	Cost	
						Gal.	Cost	Pints	Cost		Material	Labor					
1						\$		\$		\$				Wages, Driver		\$	
2														Wages, Helper			
3																	
4																	
5														Garage			
6														Interest			
7														Depreciation			
8														Insurance			
9														License			
10														Taxes (Property)			
11																	
12																	
13																	
14														Total Fixed Expenses		\$	
15														Total Cost of Gasoline			
16														Total Cost of Oil			
17														Total Tire Expense			
18														Repairs - Material			
19														Repairs - Labor			
20														Miscellaneous			
21																	
22																	
23																	
24														(4) RECAPITULATION			
25																	
26														Total Cost Per Month		\$	
27														Days Operating			
28														Average Cost Per Day		\$	
29														Cost Per Mile		\$	
30														Cost per		\$	
31														Cost per Ton per Mile		\$	
Total						\$		\$		\$				Miles per Gal. of Gasoline			
Avg						\$		\$		\$							

A Simple but Complete Form for Keeping a Record of the Daily Cost of One Truck for One Month is of Great Value When Kept Up-to-Date.

"We have owned our 2-ton International Truck for six years. It has run 138,000 miles, giving us the best of service. Very economical on gas and oil. Most of all, we have always had plenty of power. So we know just where we will buy the next truck."

Yours very truly,
**GARRETT GRAVEL & CEMENT
 PRODUCTS CO.,**
 By W. E. Sithon.



International Harvester *Builds the Builder's Popular Truck*

**THESE LETTERS ARE TYPICAL
 OF HUNDREDS WE HAVE**

Our line includes ¾-ton Special Delivery, 1-ton Speed Truck, 1½-ton SL (long, low, underslung; fine for lumber hauls, easy loading, etc.), 1½-ton SD (for light fast dump and trailer work), and Heavy-Duty Trucks up to 5-ton. Also McCormick-Deering Industrial Tractors. Sold and serviced through 120 U. S. branches; largest company-owned truck service organization in the world. Write us for catalog and address of nearest showroom.

FORT WAYNE BUILDERS' SUPPLY CO.
 Fort Wayne, Indiana

International Harvester Company
 Fort Wayne, Indiana
 Gentlemen:

December 5th, 1925

"We are pleased to be able to reply to your recent letter by stating that the International Trucks are standing up exceptionally well under the very hard service to which they are put in our business.

"We purchased our first International, a 3-ton truck, three years ago, and it is still giving excellent service. It was the satisfactory experience with this first truck that caused us to purchase further Internationals until today we have five 3-ton trucks and one of your Speed Trucks.

"We will be glad to recommend your trucks to anyone as being economical of operation, sturdy and efficient in every way. We can especially recommend to others your ability and willingness to render service, which to our mind should be a determining factor in the selection of Motor Trucks."

Very truly yours,
FORT WAYNE BUILDERS' SUPPLY CO.,
 By John Suelzer, Jr.

INTERNATIONAL HARVESTER COMPANY
OF AMERICA
 (Incorporated)
 606 S. Michigan Ave. Chicago, Illinois



The six Internationals of the Fort Wayne Builders' Supply Co.

Carries concrete pipe "Anywhere" on Kelly Kats

"Concrete Pipe 'Anywhere'" advertises F. J. Moran, Ontario, Cal., and he means it because his Kelly Kat tires literally will carry his truck anywhere.

The side vents, originated and perfected by Kelly, grip any kind of road surface. Mud, soft sand, rutted by-ways or torn-up new roads won't stop Kelly Kats. No matter what the conditions, Kelly-equipped trucks will push forward to their destination without losing time through slipping and sliding.

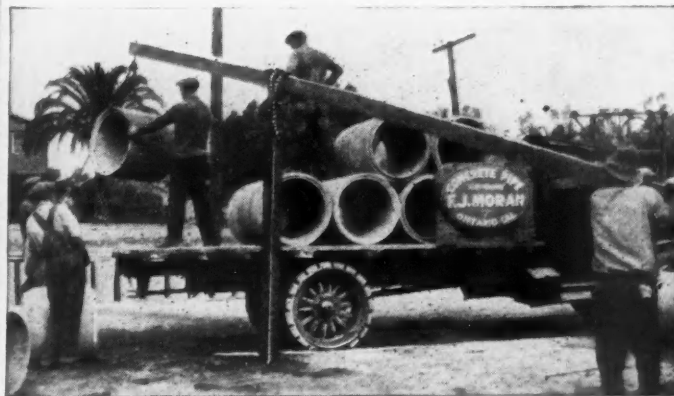
Tires that go anywhere must be rugged to stand the wear and tear of poor roads. Kelly Kats are made of tough, wear-resisting rubber that stands abuse and lasts so long that mileage costs are cut to the bone.

Wherever your trucks must go, regardless of road conditions, they will get there quickly, promptly and safely equipped with Kelly Kats.

KELLY-SPRINGFIELD TIRE CO.

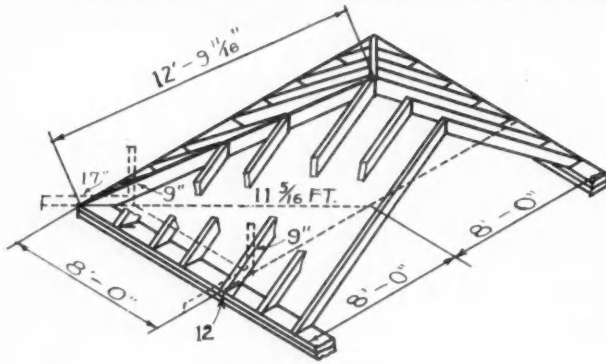
250 West 57th St.

New York, N. Y.

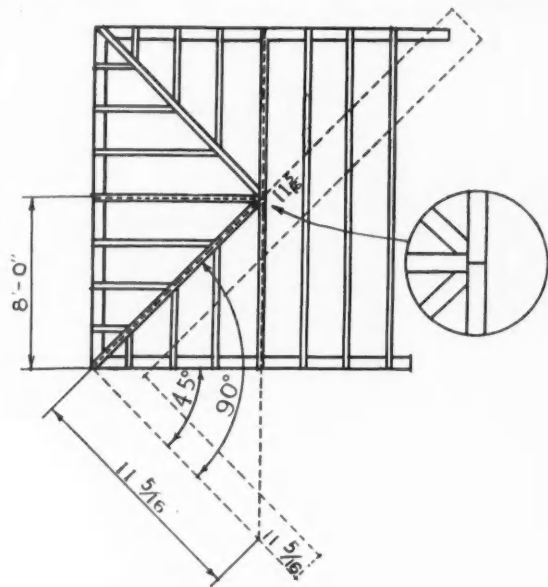


When the speedy completion of a job depends on prompt delivery of materials or equipment, cautious truck operators play safe and use trucks equipped with Kelly Kats.

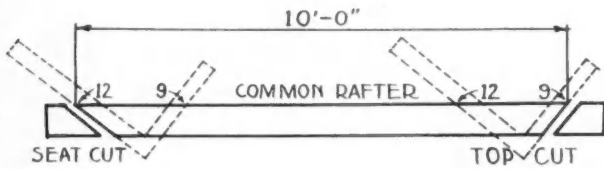




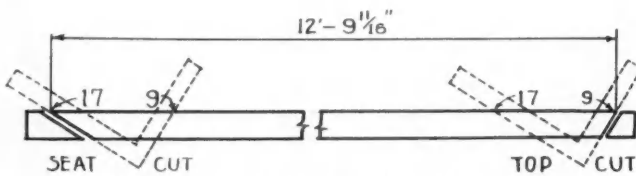
A HIP ROOF. THE RISE PER FOOT RUN IS 9".
 THE RUN IS 8'-0". THE TOTAL RISE IS $8 \times 9 = 72 = 6'-0"$.
 THE "LENGTH PER FOOT RUN" OF COMMON RAFTER
 $= \sqrt{12^2 + 9^2} = 15.00"$
 THE "LENGTH OF HIP" PER FOOT RUN OF COMMON"
 $= \sqrt{17^2 + 9^2} = 19.21"$.



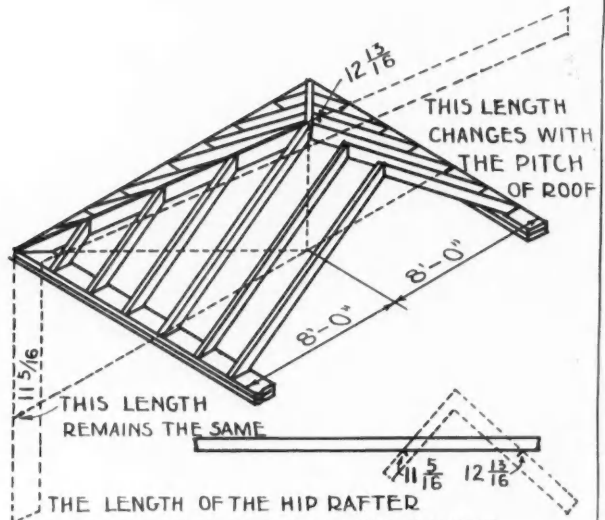
THE HIP RAFTER ALSO REQUIRES A SIDE CUT. THE ABOVE SHOWS THE SQUARE APPLIED ON A FLAT ROOF IN THE POSITION THAT WOULD GIVE THE NUMBERS FOR THE SIDE CUT.



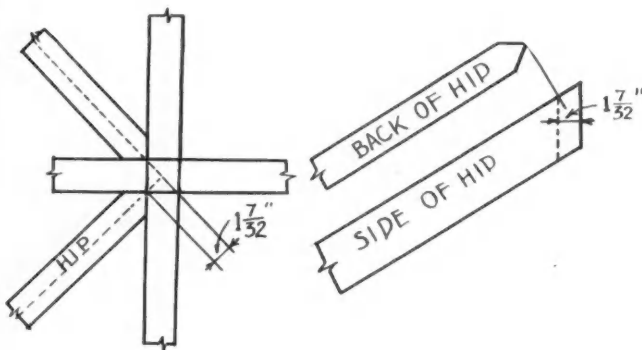
THE TOTAL LENGTH OF THE COMMON RAFTER
 $= 8 \times 15 = 120 = 10'-0"$.
 THE "RISE PER FOOT RUN" TAKEN ON THE TONGUE
 AND 12" ON THE BLADE, WILL GIVE THE "SEAT"
 AND "TOP" CUT FOR THE COMMON RAFTER.



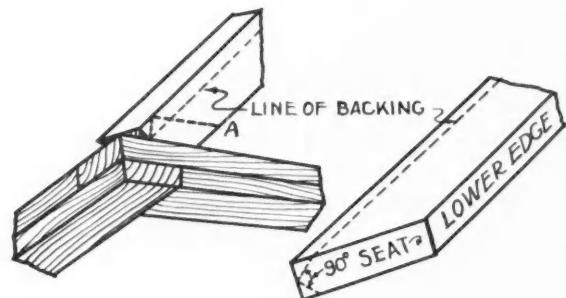
THE TOTAL LENGTH OF THE HIP RAFTER
 $= 8 \times 19.21 = 153.68 = 12'-9 \frac{11}{16}"$.
 THE "RISE PER FOOT RUN" TAKEN ON THE TONGUE
 AND 17" ON THE BLADE, WILL GIVE THE "SEAT"
 AND "TOP" CUT FOR THE HIP RAFTER.



THIS LENGTH CHANGES WITH THE PITCH OF ROOF.
 THIS LENGTH REMAINS THE SAME.
 THE LENGTH OF THE HIP RAFTER TAKEN ON THE BLADE OF THE SQUARE AND THE RUN OF THE HIP RAFTER TAKEN ON THE TONGUE GIVE THE SIDE CUT.



FROM THE LENGTH OF THE HIP RAFTER, $\frac{1}{2}$ THE THICKNESS OF THE COMMON RAFTER MUST BE DEDUCTED. THE PROPER WAY TO DEDUCT THIS IS SHOWN ABOVE.



THIS SHOWS HOW THE BACKING OF THE HIP IS OBTAINED



PATENTED
 March 1920
 October 1925
 April 1926

Tenants to-day are buying conveniences

HOME buyers and prospective tenants are not interested in blank walls and bare floors. And details of construction, as a selling argument, leave them absolutely cold.

But watch the spark of interest fan into the flame of enthusiasm and desire at the sight of an electric refrigerator, a modern gas range, a kitchen sink with gleaming faucets or a beautifully appointed bathroom.

Home buyers and tenants today are buying conveniences—conveniences that make work lighter—and life brighter and happier.

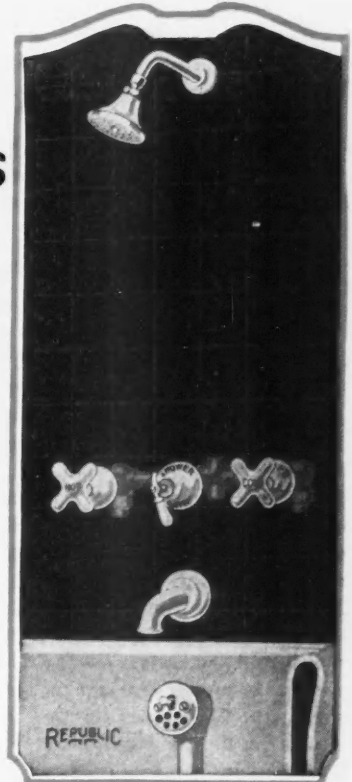
The plumbing installation in a home or apartment is a powerful force in persuading home buyers or prospective tenants. Modern sanitary plumbing is an active force in selling homes and renting apartments, and the extra cost for quality plumbing shades into insignificance compared with the selling value it adds to the home or apartment.

And quality brass goods—Republic Brass Goods—are the “servants of supply” that insure trouble-free performance and permanent satisfaction in the plumbing installation. The plumbing contractor who installs them is a quality craftsman. Consult him on your next job.

The REPUBLIC BRASS CO. · Cleveland, Ohio
 Good Plumbing · Good Business · Republic Brass Goods



This tag appears on every piece of Republic Brass Goods. It is the identifying mark of a modern plumber—a plumber who performs high class work and uses quality materials.



The No. 1230-C Republic Two-Way Bath Fixture

combines bath and shower into one unit with positive control of water temperature.

The desired temperature of the water may be obtained through the spout of the tub and immediately turned into the shower. No icy cold shock. No steaming spray of scalding water—positive assurance of comfort when taking a shower.

REPUBLIC BRASS GOODS

THE REPUBLIC BRASS COMPANY
 Cleveland, Ohio

Please send me a copy of your new book “Modern Conveniences.”

Name

Address

City State

A copy of a new book we have just published “Modern Conveniences” explains definitely how modern plumbing fixtures and quality brass goods help to insure a steady income from your building investment.

Cutting the Hip Rafter

(Continued from page 208)

the edges of the plate. We must therefore, after finding the length of the rafter in the ordinary way, cut off as shown at A, this gives us the amount that the hip rafter is to be lowered.

Questions

1. What is the total rise of a hip rafter for a building 24 feet wide with a pitch equal to an 8-inch rise per foot run?
2. What is the length of a hip rafter per foot run of common rafter for this building?
3. What is the length of the hip rafter?
4. What numbers taken on the square will give the seat and top cut?
5. What numbers will give the side cut of the hip rafter?

Answers

1. The total rise of a hip rafter for a building 24 feet wide, with an 8-inch rise per foot run is $12 \times 8 = 96$ inches = 8 feet.
2. The length of hip per foot run of common rafter = $\sqrt{17^2 + 8^2} = 18.76$ inches.
3. The length of the hip rafter is 12×18.76 inches = 225.12 inches = 18 feet 9 inches.
4. The numbers 17 and 8 taken on the square will give the seat and top cut for the hip rafter.
5. The numbers $18\frac{3}{4}$ and 17 taken on the square will give the side cut of the hip rafter.



The New Hudson River Bridge

(Continued from page 138)

The general proportions of the bridge, as to length of spans and height above water, were sharply defined by the topographical and geographical conditions of the site. As a result of the borings taken, the main pier on the New Jersey side was located well within the pierhead line at a point where rock can be reached at a depth of about 100 feet, which is the approximate limit for the pneumatic process, the safest and most reliable foundation method. On the New York side the logical and natural place for the pier is the rocky point of Fort Washington Park close to the pierhead line.

The rocky cliffs of the Palisades form the natural abutment and anchorage on the New Jersey side, and for the sake of symmetry, which is the essential aesthetic requirement, the side span on the New York side is made the same, or approximately 700 feet. The clear height of the bridge floor above water will be about 200 feet, this height resulting from the elevations of the connecting streets on both sides of the river and the limiting grades of the approaches. Incidentally, this height is ample to permit passage of the largest vessels which are likely to go up the Hudson River beyond this point.

The general form and arrangement of the structure are of extreme simplicity. Essentially the floor deck is to be suspended throughout its length from simple cables or chains. The cables, or chains, will pass over the two towers and are to be firmly anchored in rock, or in massive concrete blocks at their ends. To enhance the gracefulness of the bridge, the cables are to have a comparatively small sag or flat catenary. Structurally, the cables are to be built either of steel wires or of high grade steel eyebars, both types of construction having reached a high degree of perfection in American bridge building and a degree of safety superior to that of any other type of structural members.

As now outlined, the plan provides for an initial capacity of two 24-foot roadways which will conveniently accommodate four lanes of vehicular traffic, two in each

direction. Two footwalks for pedestrians are also provided for. It is estimated that these two roadways will be sufficient to meet the demand for highway traffic for about ten years after the opening of the bridge. When justified by increased volume of vehicular traffic, another four-lane roadway can be added, and used for truck traffic, while the two initial roadways may be reserved for faster passenger automobiles. It is believed that the eight lanes will be ample to care for all vehicular traffic which may be concentrated at this crossing. All of this highway traffic is to be accommodated on an upper deck of the structure. If and when accommodation for rail passenger traffic, or for additional bus passenger traffic, across the bridge becomes necessary, two or four lanes, or tracks, for such traffic can be added to the lower deck.

The New York approach is designed as a short viaduct of monumental appearance, which will enhance rather than mar the good appearance of the neighborhood. The New Jersey approach is designed as a cut through the top of the Palisades so marked at the face of the cliffs as not to destroy the appearance of the latter, or to break their natural silhouette. Railroad tracks, if provided, will be hidden from view of the approaches.

The present traffic volume is of more than sufficient magnitude to make it financially feasible to construct, operate and maintain, from tolls, this great bridge, not considering the broader profits to the people of the States of New York and New Jersey.



New Cement Association Building

GENERAL offices of the Portland Cement Association, which for the past ten years have been located in the Conway Building, 111 W. Washington Street, Chicago, have been moved to the association's new building 33 W. Grand Avenue, at the corner of Dearborn Street. The entire building is occupied by the Portland Cement Association and its Research Laboratory. For ten years the laboratory has been located in the Lewis Institute and conducted co-operatively by the association and the Lewis Institute.



Build Save the Surface Home

THE Save the Surface Home, at the Sesqui-Centennial Exposition which will open in Philadelphia in June, will be a joint educational exhibit erected by the paint and varnish industry of the country. The planting of a tree on the site of the Save the Surface Home is shown in the photograph below.



Tree Planting with Elephants Is a Novelty in This Country but a Very Good Method if You Happen to Have an Elephant.

The **G-BOY**

Scores a Genuine Triumph

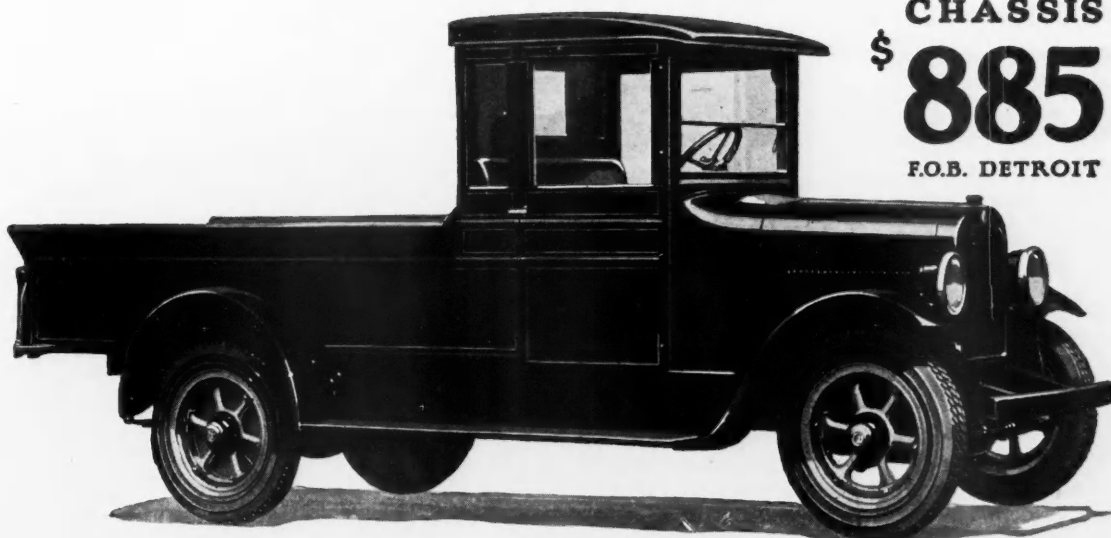
The enthusiastic welcome given the G-BOY, Graham Brothers new one-ton truck, has established this fact:

It is recognized at once as a real—a major—contribution to commercial haulage.

Revolutionary improvement in balance effected by a new system of weight distribution, compact wheel base, ease of handling, generous body capacity, advantages of the ever dependable and always economical Dodge Brothers engine—all these important factors enter into the G-BOY'S marked success.

And then the price! So low that only Graham Brothers, the largest exclusive truck makers, with huge buying and building capacity, could possibly achieve it.

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

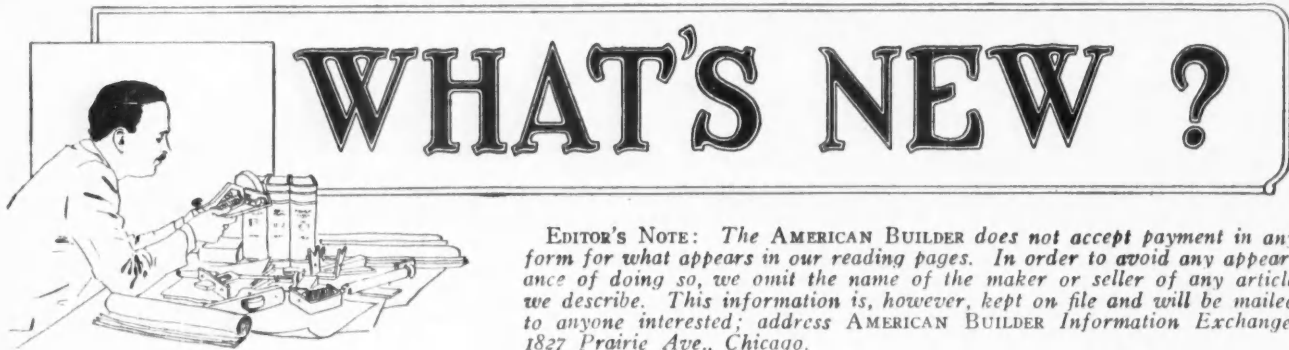


CHASSIS
\$ 885
 F.O.B. DETROIT

GRAHAM BROTHERS

TRUCKS

**SOLD BY DODGE BROTHERS
 DEALERS EVERYWHERE**



EDITOR'S NOTE: *The AMERICAN BUILDER does not accept payment in any form for what appears in our reading pages. In order to avoid any appearance of doing so, we omit the name of the maker or seller of any article we describe. This information is, however, kept on file and will be mailed to anyone interested; address AMERICAN BUILDER Information Exchange, 1827 Prairie Ave., Chicago.*

The Modern Built-In Mail Box

A SKETCH is reproduced herewith which shows, in X-ray style, the application of the truly modern type of mail box and illustrates quite effectively its decided advantages over the old type of box with which people have been forced to put up for so many years. Such a mail box



The Dotted Lines Show the Position of the Galvanized Box Within the Wall.

is a built-in part of the house itself instead of a flimsy tin affair which is tacked up beside the door. Its advantages are apparent in every consideration.

In the first place, the mail man needs only to drop the mail into the outside opening and he is then sure that it is properly and safely deposited without having to try to cram a large bundle of mail into a box that is too small to hold it. When the housekeeper hears the mail man ring the bell she does not have to go outside, possibly in the rain, snow or cold, to get the mail. She merely opens the small inside door and removes the mail from the box. In the meantime, if the mail is not taken in immediately, it is entirely safe from thieves or meddlers.

These boxes are made to fit any type of wall, whether of masonry or frame construction, and in two styles, to fit narrow and wider spaces. The outer plate, where mail is inserted, is of iron with gun metal finish, which can also be painted, or of brass in polished or dull finish. Some models are furnished with name plate or bell button or both. The box is of galvanized iron with electro welded joints. The inner door is of dull or polished brass or of oak, fir or birch to suit the individual taste and the style of interior trim.

Unbreakable Windows

CONTRACTORS and builders will be particularly interested in a flexible, translucent material which can be used as a substitute for glass in temporary structures such as tool houses used on the construction job. The advantages of this material lie in the fact that it is easily and quickly installed being applied with staples just as ordinary screen wire is applied, for it is, in fact, a high quality galvanized screening with a clear translucent substance coated over the meshes, that it is flexible and tough so that it may be handled in a roll, bent double and straightened, and that it is light weighing only $\frac{1}{4}$ of a pound to the square foot.

In the planning of offices and industrial buildings this material has also been found very satisfactory for use in partitions between offices, departments and shops. The coating will not rub off, dry up or become brittle, and while it may be punctured, it is easily repaired by applying a special mending compound.

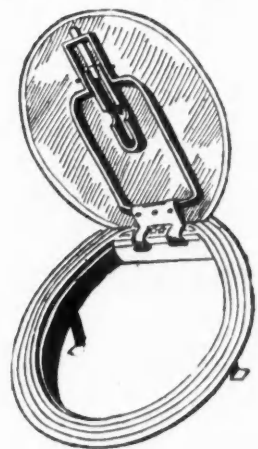
One of the most interesting facts about this material is that it does not absorb the ultra violet rays of the sun and is therefore especially adapted to use on the farm for cold frames, brooders and similar purposes. Tests have been made at the State University of New Jersey which show that it transmits farther into the ultra-violet than ordinary glass by at least 200 angstrom units and only 20 angstrom units less than quartz which does not appreciably absorb these rays.



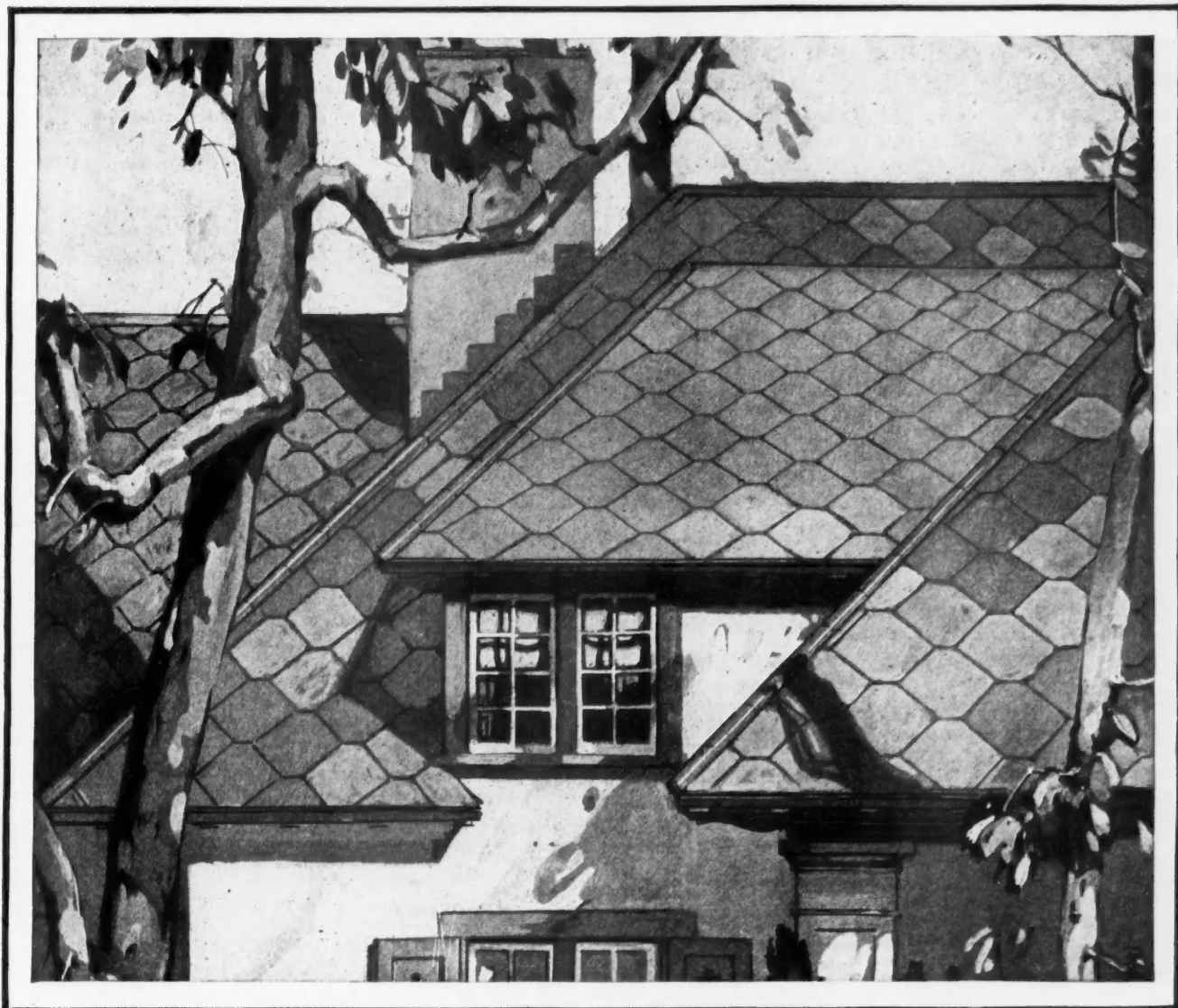
Provide Safe Footing

TWO specialties designed for greater safety are being manufactured by a well-known company, a coal hole cover and a stair plate. The installation of these means reduced insurance rates and the avoidance of costly litigation. The stair tread is made of cast iron, 24 inches long and 7 inches wide and has a nosing large enough to overlap the side of the step. It makes a good appearance and its rough surface prevents slipping at all times. When once installed, it is stated, these treads will give from 15 to 20 years' service without replacement.

The coal hole cover is of the best quality gray cast iron and does away with all chains. It locks automatically. Rod, hinges and lock are made of solid brass so that they are rustproof and easy to operate. The rough surface insures safety in bad weather and the construction is such that the cover cannot be kicked out of place or tilted.



This Coal Hole Cover Has a Rough Surface to Prevent Accidents.



FULL DETAILS regarding the application of ETERNIT Asbestos Shingles, together with prices and dealers' terms, supplied promptly upon request. Write!

AMERICAN INSULATION COMPANY

Roberts Ave. & Stokley St.
Philadelphia, Penna.

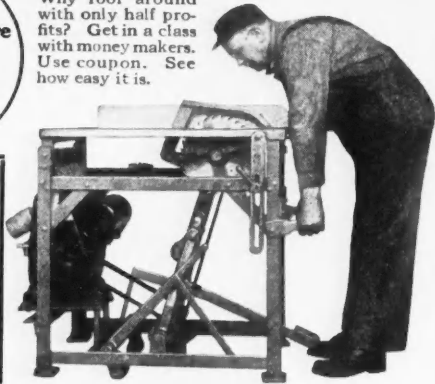
Hibernia Bank Building
New Orleans, La.

Eternit
ASBESTOS SHINGLES

BUILDERS- STOP WASTING WAGES WITH OLD COSTLY HAND SAWING METHODS



Why fool around with only half profits? Get in a class with money makers. Use coupon. See how easy it is.



USERS SAY—
 "Best I ever saw. No job too hard for it."
 "The 'Wonder Saw' I bought from you has already paid for itself."
 "I take it out on every job."

Pull the lever—wheels appear—roll it anywhere

The New "WONDER SAW" Portable

SAVES MONEY, TIME AND LABOR

Carpenters, contractor and builders everywhere say this is the best portable saw table ever made for general construction work. Light enough to move from place to place, yet heavy enough to handle up to 3" lumber. Direct from factory prices and low extended payment plan make it easy for any one to own. Free trial offered. Mail coupon for detailed proposition. Get facts which may mean much to you.

Pays for Itself

If you use hand sawing methods now, you pay for the "Wonder Saw" whether you get it or not. Hand sawing at day labor prices is expensive. The time saved with a "Wonder Saw" is enough to make it pay for itself on one or two fair sized jobs. You pay for it out of savings and make bigger profits besides. So you really don't put out a cent. And in addition, you increase your prestige and reputation as a builder using latest improved, modern equipment. You can figure lower prices than your competitor and still make big profits. Or you can keep your competitor from taking jobs from you at lower prices.

Saw Runs Through Lumber

Operates on improved forward swing principle—step on pedal and saw moves easily through up to 3 inch lumber. Both hands are

free. Binding or jamming impossible because of wood spreading device. Supplied with 2 12 inch saws that cross-cut, rip or miter with amazing ease. Stand of heavy steel angle iron with large 24x36 inch machine finished permanently level cast iron top—superior to all others. A wonderful saw with remarkable improvements found in no other machine, regardless of price. Nothing like it ever seen.

Amazing Economy As Test Will Show

A gallon of gasoline plus a few cents worth of oil runs powerful, air-cooled full 1 H. P. gasoline motor for hours. Compare low cost of operation with cost of high-priced hand labor. Turns out as much work in one hour as man with hand saw will in ten. No back breaking drudgery, no grumbling or kicking at toughest jobs. Cuts building costs 10 to 12 per cent. Think what this means to you.

INVESTIGATE THIS

Get our low direct from factory prices—liberal divided payment plan—generous free trial offer. Don't delay. Big builders everywhere will tell you that it costs you money every day you are without a "Wonder Saw." They will tell you that the "Wonder Saw" is the best buy on the market.

FREE TRIAL

MAIL THIS NOW

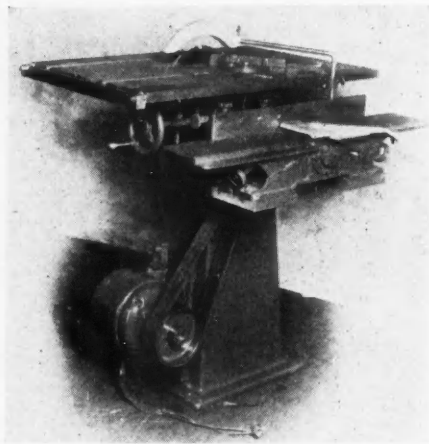
ST. LOUIS MACHINE TOOL CO.
 1431 Pine Street St. Louis, Mo.

Without obligation to me, please send me complete information price and terms on the NEW PORTABLE "WONDER SAW."

Name _____
 Street _____
 Town _____ State _____

Small Practical Woodworker

AFTER a long series of private tests during which the machine has proved very satisfactory, a company manufacturing woodworking machinery, has brought out a



This Woodworker Is Specially Designed to Give Practical Service in a Small Machine.

woodworker particularly designed to meet the needs of small contractors, small carpenter shops, pattern makers, manual training classes and similar purposes. This machine cross-cuts and rips 3-inch material and is used for dadoing, mitering, grooving, rabbetting, beveling and joining.

The 21 by 31-inch cast iron table top can be

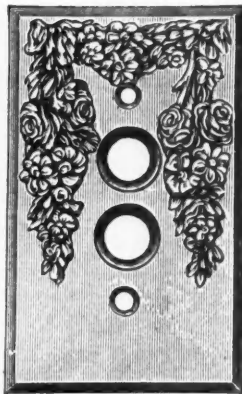
raised and lowered and has a height of 32½ inches. It is equipped with a ½ H. P. dust-proof motor which can be run from any electric light socket. A 2-inch belt is furnished and also a rip saw fence, cross-cut fence, 10-inch rip saw, 10-inch cross-cut saw, underslung rip saw guard, overhead rip saw guard and two wrenches.

The jointer is the same as the regular 4-inch jointer made by the company. This machine can also be supplied with a countershaft for a gasoline engine drive.



Radium Illuminated Switches

TWO distinctive features are seen in the electric switch plate illustrated. The first of these is the decorative design, getting away from the plain metal plate ordinarily



Radium Illumination Makes It Possible to Find These Switch Plates in a Dark, Unfamiliar Room.

seen, and the second is the radium illumination. The plates are made of cast metal with attractive, molded flower designs in styles to harmonize with different wall patterns and woodwork. These bright flower designs add a touch of color to the room and are especially effective in the boudoir.

Of a more practical nature is the radium illumination. This radium application is made to the switch button with the result that the light switch can be located in the darkest room without difficulty, even though the room may be entirely unfamiliar. These plates which come in standard sizes are quickly and easily attached without alterations.



"THE house plan should be adapted to the size and shape of the lot. Broad lots should have a type of plan in which the broad side of the house faces the street. When shallow lots force the placing of the house near the street, the use of hedges, gateways and enclosed porches will partially offset this disadvantage."

These Facts Will Sell Brick Homes as fast as you can build them

Ask yourself whether any other material offers you the combined selling advantages of Common Brick:

1—Burned-in Beauty

You can build houses of real beauty with Common Brick. Leading architects have shown how the natural shades and colors of this material, laid in a wide variety of bonds and patterns, give results second to none. Tens of thousands of new Common Brick houses prove it.

2—Permanence

Brick lasts forever. Painting and repair bills are largely eliminated. That fact helps you sell the home built of Common Brick.

3—Low Cost

Common Brick, made in your own locality, is the lowest cost building material. Build with Common Brick and you can sell at a price profitable to you and attractive to the buyer.

4—Wide Range of Adaptability

Common Brick has more uses than any other material. It will pay you to know all of them. The books listed below give these facts.

5—Highest Resale Value

Tell the buyer that he can re-sell his Common Brick home for more, in proportion to its cost, than a house built of less enduring material.

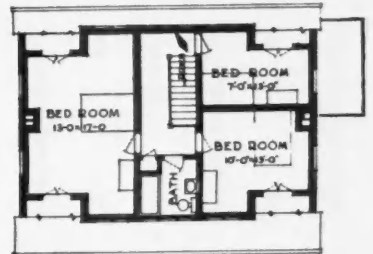
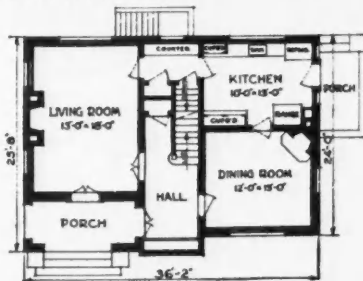
For the Common Brick house is low in first cost, in upkeep cost—yet is high in intrinsic value.

If these fundamental facts won't sell houses for you—nothing will. Only Common Brick Construction offers all these sales advantages.



THE MINEOLA

One of the houses in the book, "The Home You Can Afford." Designed by the same famous architect who designed the popular "Hiawatha"—of which hundreds have been built from plans furnished exclusively through the Common Brick Manufacturers' Association.



Send for the Books Listed Below

We will send you, at nominal cost, specifications and complete original working blueprints for any of the 136 houses shown in the plan books listed below. Homes suitable for every locality—single houses, two families, and double houses—each designed by a well-known architect—each has actually been built and lived in.

Also get the newest facts about the modern, money-saving ways to use Common Brick. Send for any or all of these books.



THE COMMON BRICK MANUFACTURERS' ASSOCIATION OF AMERICA

AT YOUR SERVICE

These District Association Offices and Brick Manufacturers Everywhere

Chicago	614 Chamber of Commerce Bldg.
Denver	1735 Stout St.
Detroit, Mich.	400 U. S. Mortgage Trust Bldg.
Hartford, Conn.	226 Pearl St.
Los Angeles	342 Douglas Bldg.
Newark, N. J.	1601 Firemen's Bldg.
New York City	1710 Gr'd Cen. Term'l Bldg.
Norfolk, Va.	112 West Plume St.
Philadelphia	303 City Centre Bldg.
Portland, Ore.	906 Lewis Bldg.
Salt Lake City	301 Atlas Block.
San Francisco	923 Monadnock Bldg.
Seattle, Wash.	913 Arctic Bldg.
Springfield, Mass.	301 Tarbell-Watters Bldg.

2131 Guarantee Title Building
Cleveland, Ohio

Ask us to put you on our "Builders' Register"—so that we can refer local brick house prospects to you. This Association refers thousands of such inquiries to builders each year.



SEND FOR THESE BRICK BOOKS

- "Your Next Home"—62 homes in picture and plan, (10c)
 - "The Home You Can Afford"—58 homes (10c)
 - "Brick, How to Build and Estimate"—(25c)
 - "Skintied Brickwork"—(15c)
 - "Farm Homes of Brick"—(5c)
 - "Brick Siles"—(10c)
 - "Multiple Dwellings of Brick"—(10c)
 - "Hollow Walls of Brick"—(Free)
- Check above and send for the books you need to use brick with economy.
Write plainly your name and address here.

NEWS of the FIELD

Companies Are Affiliated

AN announcement has been made that on May 15, 1926, The John Van Range Company, for over 50 years known as manufacturers of fine kitchen equipment, became affiliated with Albert Pick & Co., Chicago, and its associate company, L. Barth & Company, Inc., New York. The John Van Range Company will continue to operate as heretofore with no change in management.



Weisteel Factory Moved

ON May 20, 1926, the general offices and factory of the Henry Weis Manufacturing Company, Inc., were moved from Atchison, Kansas, to Elkhart, Indiana. Elkhart was selected because of its nearness to the source of raw materials, its excellent shipping facilities and living conditions. A complete new factory and office building, with new equipment designed for maximum efficiency and increased production was completely occupied without interruption in the delivery of the products manufactured by this company.

Detroit Steel Products Building

BECAUSE of the necessity for increased output in its Fenestra Window Division, the Detroit Steel Products Company, Detroit, Mich., is in the process of expanding its plant in Detroit. A new building, which will add 20,000 square feet of floor space to the factory, is now nearing completion. This structure will house the company's door and operator departments, and also, the experimental department.



Ryerson Takes Over Penn Metal

JOSEPH T. RYERSON & SON, 30 Church Street, New York City, have taken over the reinforcing bar division of the Penn Metal Company, of Boston. They will immediately add to the sizes and tonnage carried. Facilities will also be increased and many features added in accordance with the standards of Ryerson steel service. General offices have been opened at 677 Concord Avenue, Cambridge.



A Correction

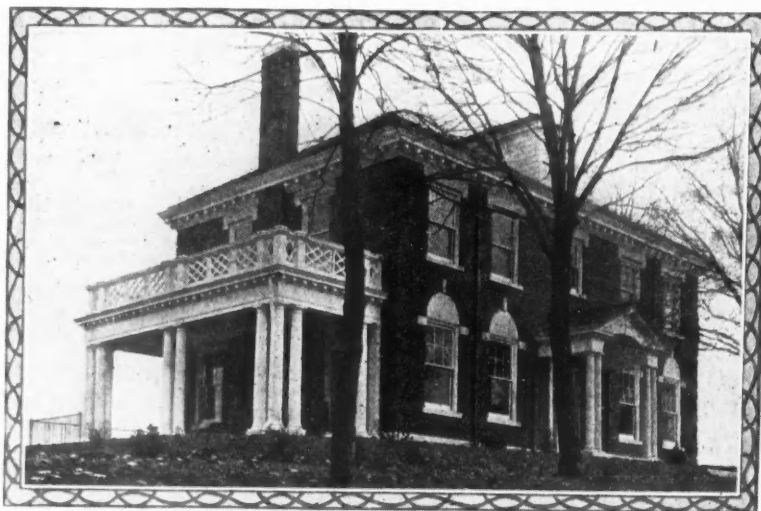
OUR attention has been called to typographical errors in one table printed in the Handy Reference Data, page 633 of our April issue, under the heading—"Decimal Equivalents of Common Fractions." It will be noticed, by reference to this table, that some of the fractions at the left, through transposition, are opposite the wrong decimal equivalents. The correction follows:

$\frac{1}{16} = .0625$	$\frac{7}{16} = .4375$	$\frac{1}{8} = .125$	$\frac{5}{8} = .625$
$\frac{3}{16} = .1875$	$\frac{9}{16} = .5625$	$\frac{1}{4} = .25$	$\frac{3}{4} = .75$
$\frac{5}{16} = .3125$	$\frac{11}{16} = .6875$	$\frac{3}{8} = .375$	$\frac{13}{16} = .8125$
$\frac{7}{8} = .875$	$\frac{15}{16} = .9375$	$\frac{1}{2} = .5$	

Paste this in your April magazine.

Beautifying the Old Battle Line

ATOP-MISSIONARY-RIDGE



COST IS SOON FORGOTTEN—QUALITY NEVER!

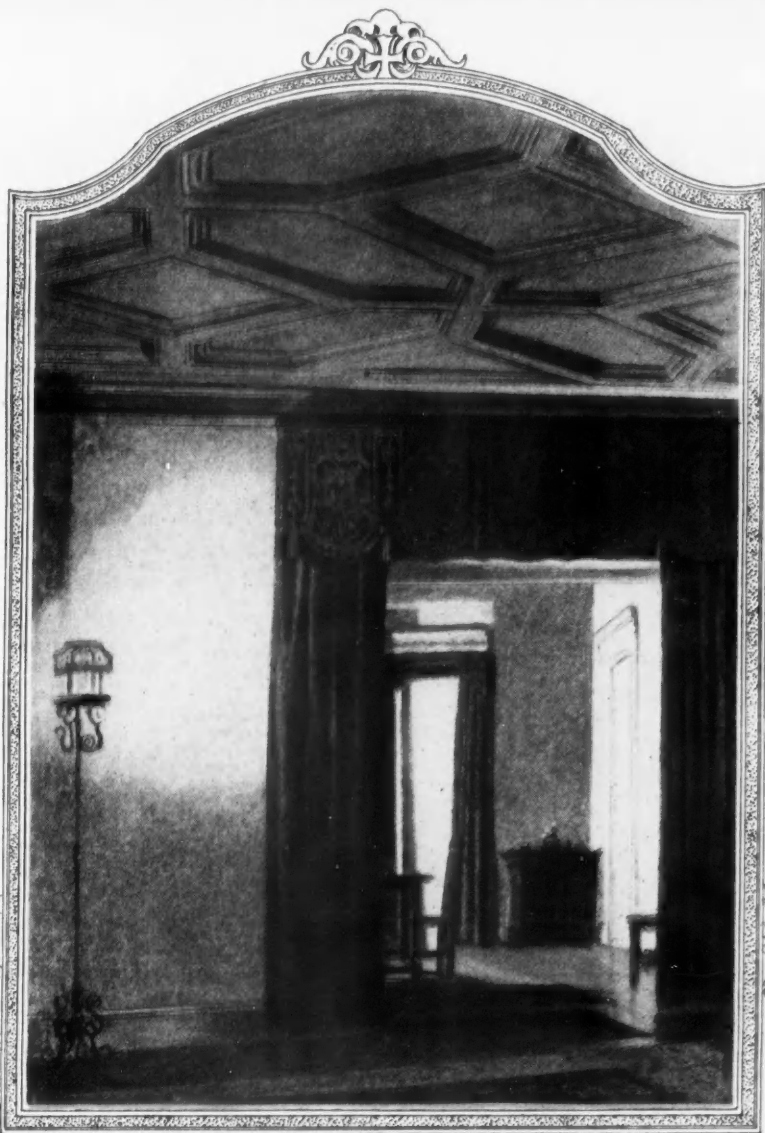
Architect—LOUIS BULL
Brick—CARLYSLE-LABOLD
DARK CHOCOLATE
Mortar Color—
PARAMOUNT CHOCOLATE 536

PARAMOUNT COLORS

in shades to harmonize with every make of brick.

Used by exclusive dealers thruout U. S. A.

THE LOOKOUT PAINT MFG. CO., Chattanooga, Tenn.



Spanish-American

The mission builders, following the Spanish explorers in their conquest of the new world, left in our Southwest and Southern California striking examples of the simple lime plaster wall as a background for rich and colorful hangings and furniture. With the materials at hand, and with Indian labor, they created the setting. Ships from the Seven Seas brought exquisite tapestries and oriental fabrics. Today ornate embroideries and colorful textiles contrast superbly with simple lime plaster surfaces designed in the Spanish Mission style.



LIME plaster spreads easily—its plasticity makes possible the antique textured surfaces so popular today.

Lime plaster absorbs more sound, and is more sanitary than any other plastering material.

These facts make genuine lime-plastered houses easier to sell. The builder is wasting an opportunity unless he uses walls, ceilings, panels, mouldings and cornices as selling arguments. Simple, inexpensive lime-plastered interiors lend dignity and elegance to any home.

Tiger Finish—the pure white lime which “spreads like warm butter”—is best liked by the trade. Its uniform high quality is assured by the world’s largest producer of lime.



The Kelley Island Lime & Transport Company

World's Largest Producer of Lime
including Tiger Finish, Tiger Mason's, Tiger Agricultural
and Lump Limes for All Purposes
Leader-News Building, Cleveland

TIGER FINISH
“SPREADS LIKE WARM BUTTER”

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Organize New Company

A NEW company, known as the Mohawk Plastic Magnesia Corporation, has recently been organized by W. S. Steele and C. A. LeVante, both formerly of the MacStone Stucco Company. Mr. Steele is president and Mr. LeVante, secretary-treasurer of the new firm which is incorporated under the laws of the state of New York, and which occupies a factory in the Bush Terminal, Warehouse 69, Brooklyn, N. Y. This factory, with trackage on both sides, is well equipped for the production of magnesia stucco, composition flooring, magnesia plaster, wall-bond, hydraulic cement colored coats, magnesia colored finishes.



To Open New York Office

IN order to better serve eastern users of its spray painting and finishing equipment, the Binks Spray Equipment Company of Chicago, will open an office in New York City within the next 30 days. Mr. M. Sullivan, who for years has held an executive position in the home office will take over the management of this new office.



Morton Company Expands

THE Morton Manufacturing Company, manufacturers of steel products, which has for a number of years been located at N. Leamington Ave. and Lake St., Chicago, is about to complete another addition to its plant providing 50,000 square feet additional floor space. When equipped as planned, it will cost in the neighborhood of \$150,000. New offices are also included. One reason for this addition is the very rapid growth of the item of Acme steel bathroom cabinets which this company recently started manufacturing.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of AMERICAN BUILDER, published monthly at Chicago, Ill., for April 1, 1926.
State of Illinois)
County of Cook {^{ss.}

Before me, a Notary Public in and for the state and county aforesaid, personally appeared E. L. Hatfield, who, having been duly sworn according to law, deposes and says that he is the general manager of the AMERICAN BUILDER and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher—American Builder Company, Chicago, Ill.

Editor—Wm. A. Radford, Chicago, Ill.

Managing Editor—Bernard L. Johnson, Chicago, Ill.

Business manager—E. L. Hatfield, Chicago, Ill.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) Wm. A. Radford, Chicago, Ill.; H. M. Radford, Chicago, Ill.; Roland D. Radford, Chicago, Ill.; Wm. A. Radford, Jr., Chicago, Ill.; E. L. Hatfield, Chicago, Ill.; B. L. Johnson, Chicago, Ill.; G. W. Ashby, Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding one per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

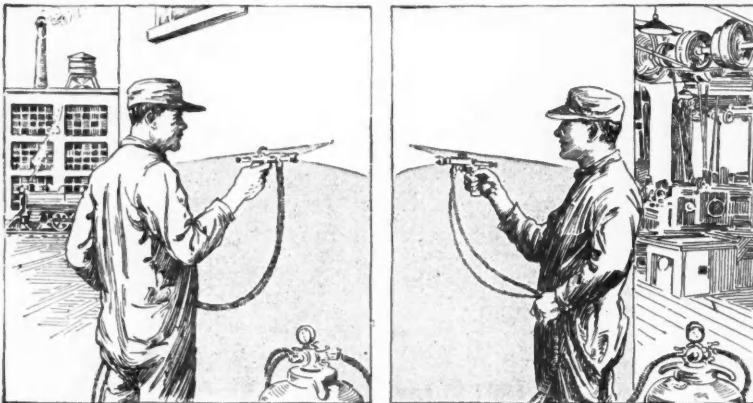
5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is. (This information is required from daily publications only.)

E. L. HATFIELD.

Sworn to and subscribed before me this 31st day of March, 1926.

ANDREW JOHN NAUMANN.

(My commission expires October 26, 1929.)



Outside or In—

You'll make more money painting the DeVilbiss way

No matter what nor when you paint, painting with the DeVilbiss Spray-painting System speeds up your work 3 to 5 times. Hours of time are saved and more dollars of profit made.

Besides, improved work is done on every sprayed job and you have a more satisfied crew of painters.

Investigate this well established, greater profit DeVilbiss way of painting. Interesting facts will be gladly mailed. Address—

THE DEVILBISS CO. 238 Phillips Ave. TOLEDO, OHIO

DeVilbiss
Spray-painting System

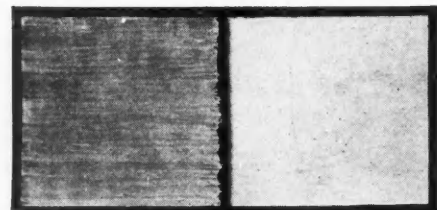
Illustrating the Comparative Hiding Power of Brushed and Sprayed Coats of Paint

The hand brush puts on an uneven coating and the thin paint in the grooves wears away quickly. . . The DeVilbiss Spray Gun applies a strong, even paint film that covers perfectly, that is durable and that wears down uniformly.

(Illustration shows same paint applied on identical surfaces — Photograph is unretouched and greatly reduced in size.)

One brushed coat

One sprayed coat





Sell *trademarked* houses (*This is a trademark age*)

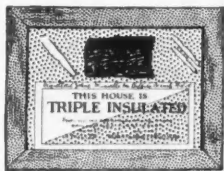
THE tremendous confidence-building power of the trademark has at last been put to work selling houses.

Take advantage of the trademark habit in public buying by selling Triple Insulated Homes, each one trademarked and formally registered by Johns-Manville.

This trademark assures the buyer of a better house with the comfort of its Housline building insula-

tion, the economy of an Improved Asbestocel insulated heating system, and beauty, permanence and fire-safety of an Asbestos Shingle roof.

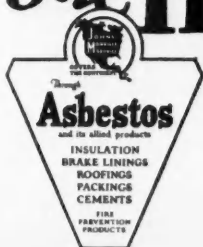
To the reputation of the builder it adds the reputation of Johns-Manville, an old acquaintance whose advertisements appear almost daily in the magazines and newspapers. These things build confidence and quick sales. Build Triple Insulated Homes and make use of these advantages.



This "trademark" built into the cellar wall identifies a Triple Insulated Home.

The Triple Insulated Home

A Johns-Manville idea



JOHNS-MANVILLE Inc., 292 Madison Ave., at 41st St., New York City
Branches in all large cities For Canada: CANADIAN JOHNS-MANVILLE CO., Ltd., Toronto

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Books, Bulletins and Catalogs for You

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

"The Universal Dealer," published monthly by the Universal Portland Cement Co., 210 S. La Salle St., Chicago, contains an interesting department under the head "How Dealers Create Business," which tells effective methods by which dealers have gained entirely new business.

"Reinforced Concrete Floors" is the title of a new booklet published by the National Steel Fabric Co., Pittsburgh, Pa., and written by a well-known authority. It contains valuable information on the use of National Steel Fabric in reinforcing concrete floor and roof slabs.

Toch Brothers, 110 E. 42nd St., New York City, offer two pamphlets on their elastic caulking compound and chewing gum remover, the latter having been developed especially for use in the theaters and similar public places.

The Garden City Sand Co., 133 W. Washington St., Chicago, has prepared a series of four plates illustrating types of cement stucco finishes by means of a combination of color and embossing which reproduces the texture.

"Architectural Iron Design and Detailing," by Daniel M. Driscoll, is a completely illustrated book covering this subject in accordance with the requirements of the laws of New York. It is published by D. Van Nostrand & Co., 8 Warren St., New York City. Price \$4.00.

"Beautifying the Home Grounds," published by the Southern Pine Association, New Orleans, La., is a most complete and interesting booklet of designs for pergolas, trellises, lattice fences, gates, entrance arches, summer houses and garden furniture.

The Detroit Steel Products Company, 2250 E. Grand

Blvd., Detroit, Mich., presents a completely illustrated detail and specification book of Fenestra casements for residence and apartments and accompanied by a group of separate detail drawings in full size.

"Better Homes Without Worry" is the title of a booklet published by the Chicago Real Estate Board covering the subject of co-operative apartments.

The Concrete Equipment Company, 500 Ottawa Street, Holland, Mich., has a very complete catalog of concrete block machinery which it is distributing under the title of "Win Manufacturing Leadership by the Success Route."

A. C. Horn Company, Long Island City, N. Y., offers an A. I. A. filing folder containing a number of booklets and circulars covering its complete line of waterproofing, hardening and preserving products.

The Stanley Works, New Britain, Conn., has a new catalog of its complete line of wrought hardware. It is a handsome book bound in cloth and fully illustrated. Single items in the line are described in individual booklets.

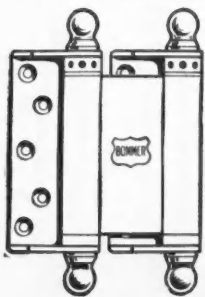
The Southern Pine Association, New Orleans, La., has completed its Technical Bulletin No. 2 on the subject of "Finish and Care of Southern Yellow Pine Floors."

Gorton & Lidgerwood Company, 96 Liberty Street, New York City, has published a new catalog, No. 92, covering its complete line of heating equipment and containing a heating handbook of real value.

The Rayfield Manufacturing Company, 21st and Rockwell streets, Chicago, offers a new pamphlet describing and illustrating its automatic fuel oil burner.

Weil-McLain Company, 641 W. Lake Street, Chicago, has issued a small catalog of its modern plumbing fixtures for the home and including its water heaters and boilers.

"Health Comfort and Humidity" is the title of an interesting booklet prepared for the Holland Furnace Company, Holland, Mich., by V. W. Cherven, heating engineer.



Buy the Best HARDWARE For Hard-wear

For more than 48 years Bommer Spring Hinges have maintained their leadership and proven their superiority over all others.

They have kept pace with the times, because they have been kept up with the times whenever improvement was possible.

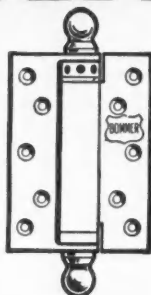
BOMMER SPRING HINGES ARE THE BEST

They are in universal demand—easiest to apply and the most satisfactory spring hinges made.

Your Dealer handles them.

Send for New Catalog 47. It is a big help in ordering.

Bommer Spring Hinge Company
MANUFACTURERS
BROOKLYN, N. Y.



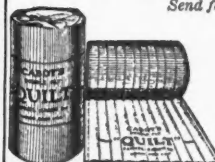
These *HEAT WAVES* show
how the heat *RISES* and *ESCAPES* through
the roof and walls of your house

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.

Send for Free Sample of Quilt and full information



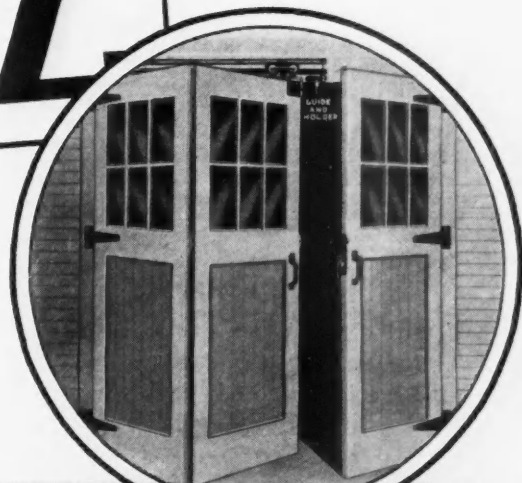
SAMUEL CABOT, Inc.
141 Milk Street Boston, Mass.
342 Madison Avenue, New York
5000 Bloomingdale Ave., Chicago
Los Angeles Portland

Cabot's Creosote Stains, Waterproof Collophanes,
Old Virginia White, Double-White, etc.

Frantz Quality
Proves Its Sterling Worth



Distinguish the hardware by the label



Don't let your customers skimp on garage hardware

Insist on using
Frantz E-Z Fixtures

The most important single thing about a garage is the doors. They are in constant use—and if they work well, they are an everlasting source of satisfaction. If they don't, you lose your reputation.

Insist on selling good garage hardware. Pick a line where you know the manufacturer will back you up, where design, appearance, and honest workmanship insure well hung, easy-working doors. Insist on FRANTZ E-Z Fixtures and you will never fail to satisfy your customers.

Head and Shoulders Above the Ordinary

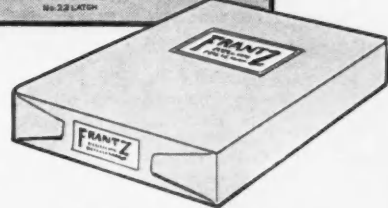
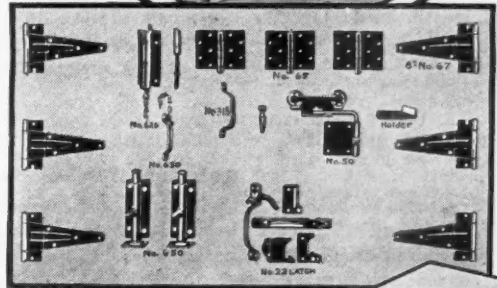
FRANTZ E-Z Fixtures are superior in design, in principle, and in practical utility. They are easy to install; accommodate any weight of doors, and may be applied inside

or outside of building. The original flat side track is easily put up, requires no track brackets, and permits doors to fold flat against front wall of garage if desired. Doors can be hung in 2, 3, 4, 5, or 6 door combinations. Japan finish.

Sold only by our authorized dealer in every city.

Architects & Builders, Our Catalog is a handy guide in choosing a line of reliable hardware. A copy for your files will be sent you FREE.

Have a reference of fine hardware of all kinds. Send us your letterhead.



Complete E-Z Set Packed in This Strong Fibre Box

3-door set includes hanger and bolts; 3 pairs 8 in. No. 67 hinges; 3 offset butt hinges chain bolt; 2 foot bolts; chain pull; latch; 2 padlock eyes; all necessary screws; socket wrench; end stops for track; directions.

The bright red FRANTZ label on the end of the box is your guarantee of satisfaction.

Frantz Manufacturing Company
Sterling, Illinois

