

YEAR 1924

4

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol. 38. CONTENTS FOR OCTOBER, 1924 No. 1.
COPYRIGHT, 1924, BY AMERICAN CARPENTER & BUILDER CO.

	Page		Page
Around the Family Table.....	83	A Colonial Entrance.....	Colorplate VIII
Editorial Page.....	85	A Page of Pergolas.....	Colorplate IX
\$24,000,000 for Skyscraper Sites.....	87	The Arcadia.....	Colorplate X
Chicago's South Water Street Project.		A Colonial Bungalow of Two Bedroom Size—Sketch in Color Details, Efficient Kitchen Cabinet and Auxiliary Cupboards.	
ART SUPPLEMENT OF NOTABLE ARCHITECTURE	91-94	The Aurora.....	Colorplate XI
The Hotel Roosevelt, New York City; Geo. B. Post & Sons, Architects.		The Popular Chicago Brick Bungalow of Five Rooms—Detail Sketch in Colors Shows Attractive Living Room with Fireplace and Bookcases.	
South Shore Villa Apartment Building, Chicago; Alfred S. Alschuler, Architect.		The Alden.....	Colorplate XII
Tribune Tower, Chicago; John M. Howells & Raymond M. Hood, Architects.		Beautiful Colonial Home of Six Rooms, Three Baths and Large Sun Parlor—Interior Detail in Colors of Colonial Stair Hall.	
Boone County National Bank, Columbia, Mo.; Weary & Alford, Architects.		The Alameda.....	Colorplate XIII
Omaha Architect-Builder Wins Success.....	95	A Popular California Spanish Design with High Ceilings—Interior Sketch Presents Authentic Spanish Details.	
Who's Who in the Building Field.....	97	The Austin.....	Colorplate XIV
Mother's Comfort Is Home Plan Aim.....	98	Popular Square Type Residence with Wide Extending Eaves; Floor Plans Show Six Large Rooms, Two Baths—Interior Sketch in Colors Suggests a Clever Arrangement of Bedroom Wardrobes with Mirror Doors and Telescope Garment Hangers.	
Architectural Excellence Applied to a Home.....	100	The Amherst.....	Colorplate XV
Plans by Hentz, Reid and Adler, Architects.		Modern Colonial Design of Seven Rooms with Garage Under the Big Sun Porch—Interior Sketch Details Modern Bathroom Equipment.	
East Meets West in Kansas City.....	102	The Appleton.....	Colorplate XVI
Oriental Rug Store of Turkish Design.		Well Liked Square Hip Roof Home of Six Rooms—Interior Sketch Presents a Beautiful Stair Hall Treatment.	
A Dutch Colonial of Rare Comfort.....	104	Our Front Cover Home.....	127
R. C. Hunter and Brother, Architects.		Working Drawings of New England Farm House Design.	
Skintled Brickwork—A New Idea.....	105	Color for the Stucco Home.....	132
Chicago Builders Develop a Novel Method of Utilizing Common Brick.		Warm Homes Sell Best.....	135
Good Plumbing Increases the Value of the Building.....	108	Suggestions for Remodeling.....	138
Practical Information on the Value of Plumbing.		Project No. 5, the Mid-Victorian House.	
BLUE RIBBON HOMES IN COLORS	111-126	Instructions in Roof Framing.....	140
The Alhambra.....	Colorplate I	Lesson Nine—The Gambrel Roof.	
A Six-Room Design—Sketch in Colors of High Ceiling Living Room.		A Novel Housing Proposal.....	142
The Arlington.....	Colorplate II	Success with Concrete Brick.....	145
A Six-Room Brick Colonial—Interior Sketch in Colors Shows Modern Efficient Kitchen.		How Dan Does It.....	149
The Amsterdam.....	Colorplate III	Correspondence Department.....	152
Six-Room Dutch Colonial Home—Colored Sketch Presents Dining Room Suggestions.		Electrify All Buildings.....	154
The Avalon.....	Colorplate IV	What's New.....	160
A Very Graceful Shingled Cottage of Five Rooms—Sketch in Colors Suggests Modern Bedroom Furnishings.		Motor Trucks and Trailers.....	172
The Andover.....	Colorplate V	News of the Field.....	176
Distinctive Architecture in This Brick Bungalow of Five Rooms—Interior Sketch in Colors Shows Stately Dining Room.		Books, Bulletins and Catalogs for You.....	184-186-188
The Ashland.....	Colorplate VI	Advertisers' Index.....	253
Seven-Room, Story-and-a-Half Bungalow for Narrow Lot—Colored Sketch Suggests Modern Sun Parlor Treatment.			
The Albany.....	Colorplate VII		
A Balanced Colonial with Attached Garage—Sketch in Colors Portrays Comfortable Living Room.			

Published on the first day of each month by American Carpenter and Builder 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*; Delbert W. Smith, E. B. Wolfrom, C. R. W. Edgumbe, L. H. Reich, O. H. Sutter, Howard W. Dexter, *Advertising Staff*.

Publication Offices:
Radford Building, 1827 Prairie Ave., Chicago
 Telephone: Calumet 4770
Eastern Office: 261 Broadway, New York City
 Telephone: Barclay 5265

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, \$2.00; six months, \$1.00; single copies, 35 cents. Extra postage to Canada, 50 cents; to foreign countries, \$1.00.

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 15th of the month preceding date of publication.

Member of the Audit Bureau of Circulations—Circulation Audited and Verified March, 1924

YEARLY CLASSIFIED

4

AMERICAN BUILDER

THE WORLD'S GREATEST BUILDING PAPER

Vol. 38. CONTENTS FOR OCTOBER, 1924 No. 1.
 COPYRIGHT, 1924, BY AMERICAN CARPENTER & BUILDER CO.

	Page		Page
Around the Family Table.....	83	A Colonial Entrance.....	Colorplate VIII
Editorial Page.....	85	A Page of Pergolas.....	Colorplate IX
\$24,000,000 for Skyscraper Sites.....	87	The Arcadia.....	Colorplate X
Chicago's South Water Street Project.		A Colonial Bungalow of Two Bedroom Size—Sketch in Color Details, Efficient Kitchen Cabinet and Auxiliary Cupboards.	
ART SUPPLEMENT OF NOTABLE ARCHITECTURE	91-94	The Aurora.....	Colorplate XI
The Hotel Roosevelt, New York City; Geo. B. Post & Sons, Architects.		The Popular Chicago Brick Bungalow of Five Rooms—Detail Sketch in Colors Shows Attractive Living Room with Fireplace and Bookcases.	
South Shore Villa Apartment Building, Chicago; Alfred S. Alschuler, Architect.		The Alden.....	Colorplate XII
Tribune Tower, Chicago; John M. Howells & Raymond M. Hood, Architects.		Beautiful Colonial Home of Six Rooms, Three Baths and Large Sun Parlor—Interior Detail in Colors of Colonial Stair Hall.	
Boone County National Bank, Columbia, Mo.; Weary & Alford, Architects.		The Alameda.....	Colorplate XIII
Omaha Architect-Builder Wins Success.....	95	A Popular California Spanish Design with High Ceilings—Interior Sketch Presents Authentic Spanish Details.	
Who's Who in the Building Field.....	97	The Austin.....	Colorplate XIV
Mother's Comfort Is Home Plan Aim.....	98	Popular Square Type Residence with Wide Extending Eaves; Floor Plans Show Six Large Rooms, Two Baths—Interior Sketch in Colors Suggests a Clever Arrangement of Bedroom Wardrobes with Mirror Doors and Telescope Garment Hangers.	
Architectural Excellence Applied to a Home.....	100	The Amherst.....	Colorplate XV
Plans by Hentz, Reid and Adler, Architects.		Modern Colonial Design of Seven Rooms with Garage Under the Big Sun Porch—Interior Sketch Details Modern Bathroom Equipment.	
East Meets West in Kansas City.....	102	The Appleton.....	Colorplate XVI
Oriental Rug Store of Turkish Design.		Well Liked Square Hip Roof Home of Six Rooms—Interior Sketch Presents a Beautiful Stair Hall Treatment.	
A Dutch Colonial of Rare Comfort.....	104	Our Front Cover Home.....	127
R. C. Hunter and Brother, Architects.		Working Drawings of New England Farm House Design.	
Skintled Brickwork—A New Idea.....	105	Color for the Stucco Home.....	132
Chicago Builders Develop a Novel Method of Utilizing Common Brick.		Warm Homes Sell Best.....	135
Good Plumbing Increases the Value of the Building.....	108	Suggestions for Remodeling.....	138
Practical Information on the Value of Plumbing.		Project No. 5, the Mid-Victorian House.	
BLUE RIBBON HOMES IN COLORS	111-126	Instructions in Roof Framing.....	140
The Alhambra.....	Colorplate I	Lesson Nine—The Gambrel Roof.	
A Six-Room Design—Sketch in Colors of High Ceiling Living Room.		A Novel Housing Proposal.....	142
The Arlington.....	Colorplate II	Success with Concrete Brick.....	145
A Six-Room Brick Colonial—Interior Sketch in Colors Shows Modern Efficient Kitchen.		How Dan Does It.....	149
The Amsterdam.....	Colorplate III	Correspondence Department.....	152
Six-Room Dutch Colonial Home—Colored Sketch Presents Dining Room Suggestions.		Electrify All Buildings.....	154
The Avalon.....	Colorplate IV	What's New.....	160
A Very Graceful Shingled Cottage of Five Rooms—Sketch in Colors Suggests Modern Bedroom Furnishings.		Motor Trucks and Trailers.....	172
The Andover.....	Colorplate V	News of the Field.....	176
Distinctive Architecture in This Brick Bungalow of Five Rooms—Interior Sketch in Colors Shows Stately Dining Room.		Books, Bulletins and Catalogs for You.....	184-186-188
The Ashland.....	Colorplate VI	Advertisers' Index.....	253
Seven-Room, Story-and-a-Half Bungalow for Narrow Lot—Colored Sketch Suggests Modern Sun Parlor Treatment.			
The Albany.....	Colorplate VII		
A Balanced Colonial with Attached Garage—Sketch in Colors Portrays Comfortable Living Room.			

Published on the first day of each month by American Carpenter and Builder 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*; Delbert W. Smith, E. B. Wolfrom, C. R. W. Edgumbe, L. H. Reich, O. H. Sutter, Howard W. Dexter, *Advertising Staff*.

Publication Offices:
Radford Building, 1827 Prairie Ave., Chicago
 Telephone: Calumet 4770
Eastern Office: 261 Broadway, New York City
 Telephone: Barclay 5265

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, \$2.00; six months, \$1.00; single copies, 35 cents. Extra postage to Canada, 50 cents; to foreign countries, \$1.00.

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 15th of the month preceding date of publication.

Member of the Audit Bureau of Circulations—Circulation Audited and Verified March, 1924

AROUND THE FAMILY TABLE



Still Bigger and Better

American Builder Presents Two New Features, Unique Not Only Among Architectural and Building Journals, But, Also Among Popular Magazines

THE subscribers who dropped into our editorial office this past week had the chance of seeing advance proofs of the home design pages in colors which we were getting ready for use in this issue of the AMERICAN BUILDER.

They were one and all delighted with these beautiful home designs, and at the same time astonished that we could undertake such a costly feature and offer it to our readers free of charge—not increasing the subscription price.

Blue Ribbon Homes in Colors

Our Blue Ribbon Homes have long been a very popular feature of the AMERICAN BUILDER. Many thought we had just about reached perfection in our method of illustrating these popular and attractive home designs.

But here they are now, **illustrated in many colors**, with flowers and shrubs around them just as these homes will look when built and the landscaping and the gardening fully developed. Also with every exterior our artists have worked out an interior view so as to suggest the latest ideas in furnishing and decorating these homes. Each home design is given a name so that it can be easily referred to and remembered.

Mr. Radford has personally selected these Blue Ribbon Home designs from the work of the best architects and home builders in every quarter of the continent. Almost every locality has its popular type of house; and around these designs, as they have developed, cluster much of romance and history. In our illustrations we have endeavored to suggest, by appropriate sketch something of this historical background.

Sixteen pages of home designs in colors every month in the AMERICAN BUILDER!—192 designs a year in colors! How is that for value? Worth the price of admission, isn't it? Illustrations like these, at only a penny apiece!

Go out with these home designs in colors, and show them to those who ought to build. Make these designs work for you. They may cost you a penny apiece or less, but if properly used they will lead to a new home and a home building contract ranging all the way from five thousand to thirty thousand dollars.

For Specifications See the Advertising Pages

A home design even in colors is only a picture, a dream, until it is brought to life through the labor of skilled mechanics, and the use of solid building materials, and all the equipment and specialties that go to make complete the modern home structure.

Consult AMERICAN BUILDER advertising pages for the latest and best ideas on what these Blue Ribbon Homes should be built of and what should go into them to complete them. Also what labor-saving equipment builders and contractors should employ to facilitate the work.

AMERICAN BUILDER is the reliable specification guide and buyers' guide for the building industry. Every advertising page presents facts which you should have, catalogs and samples are offered which you will find extremely interesting and valuable. Service and co-operation are freely extended to our readers by these high-grade reputable manufacturing and selling organizations whose names are signed to the advertisements in the AMERICAN BUILDER. Our readers want the latest ideas and the best service—consult our advertising pages and write to our advertisers.

Portfolio of Notable Buildings

The other new feature presented this month to help make a bigger and better AMERICAN BUILDER is the four duo-tone plates illustrating notable buildings that are now in the public eye. These are the work of well-known architects such as we are proud to number among AMERICAN BUILDER subscribers. We feel rather proud of these art plates; they set a new standard of quality, we believe, among publications serving the architectural and building fields. They are worthy of cutting out and framing—except that we know that the majority of our readers do not like to mutilate their copies of the AMERICAN BUILDER. They prefer to keep them intact and carefully filed for future reference and use.

One Hundred Thousand Club

The AMERICAN BUILDER now enjoys a circulation of 75,000 copies monthly, which is by far the largest in the building field. With these new features and with the loyal body of readers which we have, doesn't it seem as though the number of readers ought soon to grow to the one hundred thousand mark?

I propose we form an AMERICAN BUILDER ONE HUNDRED THOUSAND CLUB with the idea of building a still bigger and better AMERICAN BUILDER. If every one of our subscribers would show this issue and recommend it to his friends and associates in the building industry the One Hundred Thousand Club would soon be a reality.

Will you do it?

EDITOR AMERICAN BUILDER.

Residence of Chas. W. Kouns,
McVicker Street, Topeka, Kansas
Architects: Chandler & Emshwiller
Bishopric Stucco over Bishopric
Base on all exteriors



Apartment Building, George W. Ballou,
Owner
West 72nd Street, New York City
Architect: F. L. Shea
Bishopric Base and Stucco on all exteriors

Bishopric Base Is to the Stucco, What the Foundation Is to the Structure

Bishopric Base an Enduring Foundation

Everything that endures must have a permanent foundation. Fifty feet underground is the foundation of Bunker Hill Monument. Unseen and unappreciated by the casual passerby year after year, it supports, intact, the enormous mass of masonry rising above it.

Such is the performance of Bishopric Base in providing a foundation for enduring stucco. Its dovetailed construction locks the stucco in an inverted wedge grip. Proof against moisture, heat and cold, Bishopric Base under stucco weathers the elements for generations unaffected by time and exposure.

Saves Labor and Materials

BISHOPRIC BASE under stucco saves the homebuilder 30%—it does not take highly skilled labor to put on Bishopric Base, which comes in rolls, is quickly cut to size and can be nailed on by practically anyone. There is no waste, every foot being utilized.

Besides this, Bishopric Base saves 25% or more on stucco or plaster materials—First, the dovetail key construction requires less stucco or plaster: Second, the heavy fibre board backing prevents stucco or plaster from going through and dropping down the spacing between the inner and outer walls.

A Permanent Construction

BISHOPRIC BASE locks stucco or plaster in AN INVERTED WEDGE CLASP with a grip that holds for generations—is a non-conductor of heat and cold, insuring a more uniform temperature and greater living comfort—dampness cannot penetrate the ASPHALT MASTIC behind the treated wood strips.

These and many other reasons why Bishopric will serve you best are contained in an attractive illustrated booklet, "Bishopric for All Time and Clime." Send for it today. No obligation.

The BISHOPRIC MANUFACTURING CO.
5 ESTE AVE. CINCINNATI, OHIO.
NEW YORK CITY CINCINNATI OTTAWA, CANADA

The BISHOPRIC MFG. CO. OF CALIFORNIA
LOS ANGELES



BISHOPRIC

"A Complete Wall Unit for all Time and Clime"

AMERICAN BUILDER

Formerly AMERICAN CARPENTER AND BUILDER

Building Material Simplified

NEWS of real importance to the builder is contained in the announcement of the progress made by the Division of Simplified Practice of the United States Department of Commerce. It has been announced that among the items already standardized are the following:

Item	Reduction in Varieties
Metal Lath	125 to 24
Hollow Building Tile	36 to 19
Face Brick	39 to 1
Blackboard Slate	90 to 3
Hot water Tanks.....	120 to 14

Beside the obvious advantages resulting in the greater convenience and the lessened chance for confusion, there is an advantage in such reduction of varieties which is even more important, and that is an economy in building.

This is especially welcome since it is achieved without cutting into the legitimate profits of any of the groups affected. The manufacturing costs certainly should be lessened and to the dealer the elimination of a number of items from the stock necessary to carry will be welcome. The builder will be able to plan his work with assurance that some peculiar variations in size and type will not interrupt and disrupt his work.



Safe and Sane

THE amount of money engaged in financing real estate development in the United States—that is, the total amount of money loaned upon farms, homes and business property—is greater than the total amount

of money in circulation in the United States plus all the gold and silver reserve in the United States Treasury, according to an investigation of the role of credit in real estate development which has just been made by the National Association of Real Estate Boards.

The safety of this vast investment is attested by its magnitude, which in turn is the best possible proof of the essentially sane and sound attitude of the great body of the American people. Such a statement is refreshing after the imposing statistics of the annual expenditures for chewing gum, cosmetics and other such items, which are the delight of the alarmists.



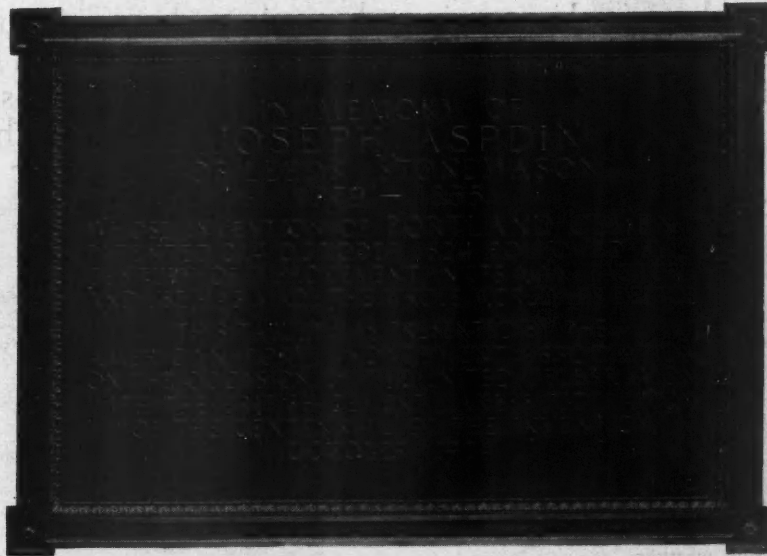
Fire and the Builder

FIRES kill 15,000 Americans each year and injure thousands more. The national fire loss in 1923 was more than \$500,000,000, an amount equal to the cost of the Panama Canal, while the total loss from this cause including fire waste, cost of fire protection, loss to business due to fire and other items is estimated at \$1,000,000,000 annually.

This is the reason for Fire Prevention Week, from Oct. 5 to 11, of this year. And the subject of fires and their prevention is worthy of the serious thought of those in the building industry.

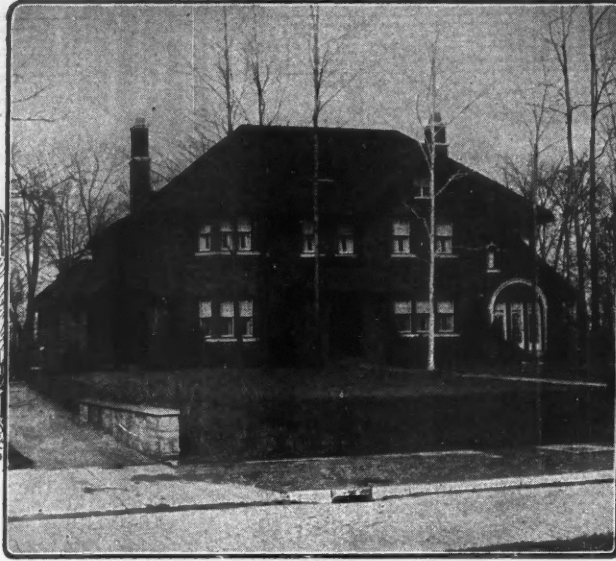
The responsibility of the builder for the safety of the buildings he erects cannot be questioned. But if Fire Prevention

Week would teach persons to employ competent builders, those who devote their lives to the work and give hours and days of study to the problems of building, it would accomplish much toward the reduction of fires which now are charged against faulty construction.



In Tribute to Joseph Aspdin, the English Stone Mason Who Patented Portland Cement October 21st, 100 Years Ago, the American Portland Cement Association Presented the Bronze Tablet Shown in the Accompanying Illustration. The presentation was made in the city hall at Leeds, England, by F. W. Kelley, president of the American Portland Cement Association, during the centennial celebration conducted by the British cement manufacturers. It was received on behalf of the British Cement Makers' Federation by the Lord Mayor of Leeds and Sir Edwin Airy. Several American manufacturers attended the celebration and presentation ceremonies.

We have interesting booklets for
Architects, Contractors and Dealers.
Please tell which booklet you want.



Home at Shaker Heights, Cleveland, Ohio.
Builder—W. E. Strietzel, 1611 Lake Front Ave., East Cleveland, Ohio.
Lumber Dealer—Standard Building Materials Co., Cleveland, Ohio.

Andersen Frames in Thousands of Homes

DURING the twenty years Andersen Frames have been on the market more than 4,000,000 have been used in American homes. In mansions, bungalows, barns or garages—brick, tile or concrete buildings—you'll find Andersen Frames are giving comfort by keeping out the winds and rains.

One reason Andersen Frames are so popular is that any dealer can deliver immediately 121 different sizes for almost every purpose.

Reasons Why Andersen Frames Are Preferred:

1. Immediate delivery—no expensive delays waiting for special frames.
2. 121 sizes ready for every purpose.
3. Delivered in two compact bundles plainly marked for size and easily handled.
4. 7 units instead of 57. No small parts to become lost or broken.
5. No sorting, measuring or refitting. The complete frame nailed up with pockets and pulleys in place in ten minutes.
6. Accuracy gives smooth running windows, yet excludes weather.
7. Double shoulders on the sills, against which the sash and storm windows or screens rest, make Andersen Frames much warmer and proof against wind and rain.
8. Better results in frame, brick or stucco buildings.
9. White Pine preserves original accuracy and gives continuous service.
10. Made by largest exclusive standard frame manufacturer. The trade-mark is absolute protection.

Andersen Lumber Company

Dept. A-10

Bayport, Minnesota

Andersen
FRAMES

\$24,000,000 for Skyscraper Sites

Buildings Now Being Torn Down to Prepare for Chicago's Second Double Decked Street, Nearly a Mile in Length

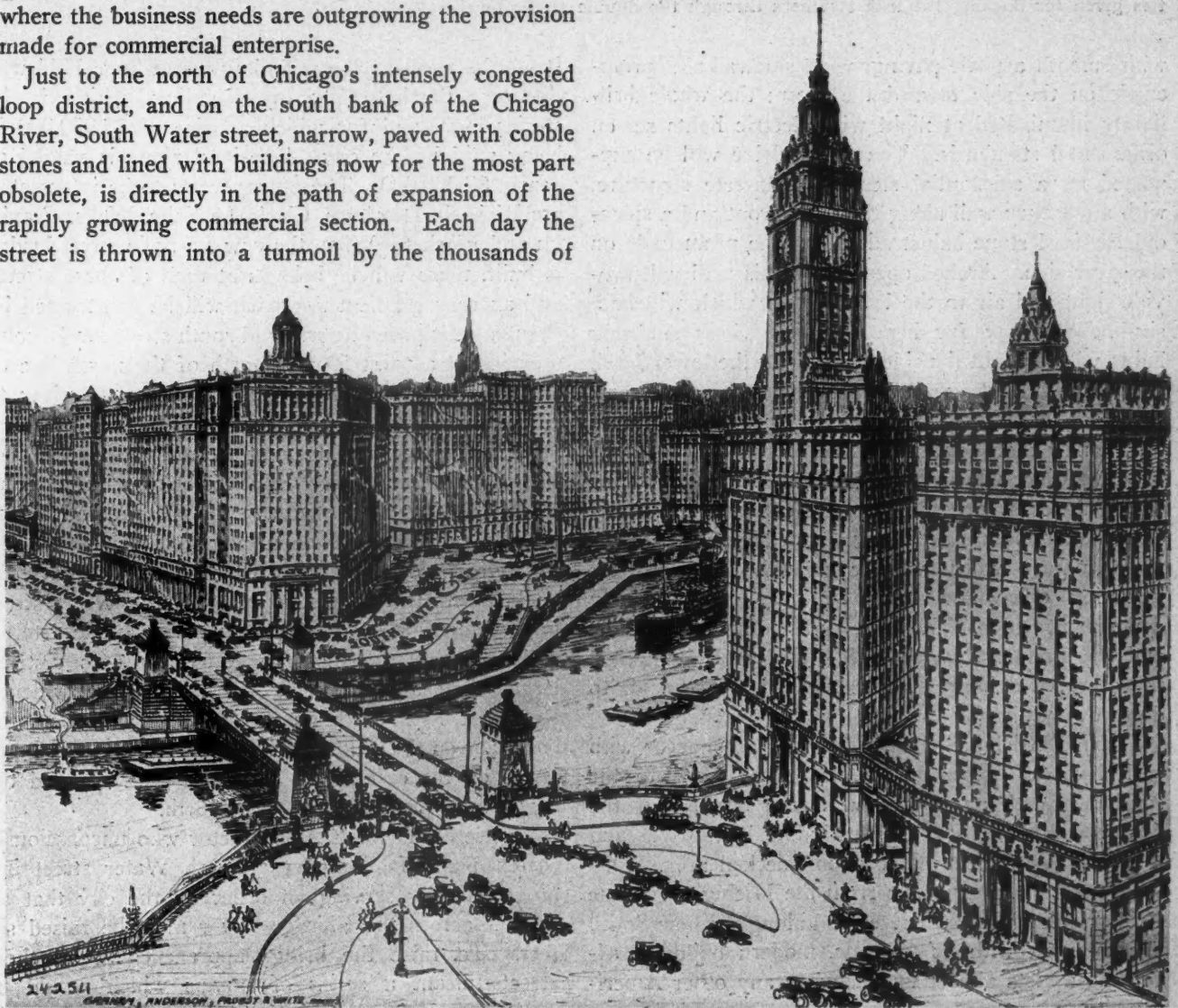
TWENTY-FOUR millions of dollars to be expended for the preparation of a mile long site for skyscrapers and modern department stores: the moving of one of the most important wholesale and retail fruit and produce markets in the world and providing under the business street which will be lined with skyscrapers, a mile of attractive docks; these are a part of the program Chicago has set itself to accomplish in the next two years in the remaking of South Water street to conform with the Greater Chicago plan.

And this project, involving as it does, \$24,000,000 for construction activities, merely paves the way for many more millions to be expended for buildings which will line this new thoroughfare. The entire undertaking, although it is in one of the largest cities in the United States, is typical of what must be done, on a greater or smaller scale, in many cities in the country where the business needs are outgrowing the provision made for commercial enterprise.

Just to the north of Chicago's intensely congested loop district, and on the south bank of the Chicago River, South Water street, narrow, paved with cobble stones and lined with buildings now for the most part obsolete, is directly in the path of expansion of the rapidly growing commercial section. Each day the street is thrown into a turmoil by the thousands of

trucks and horse-drawn vehicles which must bring the fruit and produce to the central distributing point for the whole Central West and again must carry it away, since this district, though it is served by docks on the river for the lake boats, has no railway sidings. Much of this traffic must be routed through the loop, adding greatly to the turmoil and congestion already existing there. Under the new plan, the entire district will be moved several miles, out of the center of the city where better trackage and distribution facilities are available and there will be no necessity for pouring this immense stream of traffic into the already jammed streets. It is estimated that this will relieve street congestion in the loop from 16 to 25 per cent.

And this market, swarming with trucks and crowds of produce buyers, will be transformed into an ultra-modern thoroughfare 110 feet wide at the upper level,



A Sketch Showing the Proposed Junction of Two Doubledecked Boulevards in Chicago, Michigan Avenue and South Water Street. To the right is the Wrigley building and annex; to the left is the London Guarantee and Accident building. Work on the South Water street project is now under way.



View of South Water Street as It Will Appear When Completed. This perspective is taken from the northwest and shows the street where it turns to the south, following the course of the Chicago River. Notice the facilities given for docking the lake steamers through the double street level.

with smooth asphalt paving, wide sidewalks, a promenade on the side toward the river; the whole brilliantly illuminated at night with electric lights set on ornamental standards. The upper drive will be supported on a substantial steel and concrete structure, with a masonry wall along the river front and a splendid Bedford stone balustrade along the promenade on the river side. Arched openings in this wall will provide light and air to the lower street which will be a six-line roadway for heavy traffic. Glass sidewalk lights will daylight the sidewalks along the lower level, and artificial lighting will be provided where necessary.

One of the "sky-scrapers" already projected to front on the new thoroughfare will be known as the Jewelers' Building, which will rise 42 stories to the dome of the tower, if present plans are carried out. Many other new buildings are being planned for the valuable new frontage which will be created, these projects including office and bank buildings and probably department stores. The Wrigley Building, on one side, and the London Guarantee & Accident Building, on the other, will impressively mark this new portal to downtown Chicago.

Leaving Michigan avenue, where it connects with each level at present grade, it curves away to the southwest with an impressive sweep because of the double width occasioned by including both River and South Water streets in the double-decked area. This will open up a perspective from the Michigan Avenue Bridge looking over the river and along the new South Water street with its majestic, modern buildings affording a vista almost unequalled in any other American city.

The new street will extend about a mile along the river front, crossing State street at the bridge approach.

It will be necessary to raze the present huge Hibbard-Spencer, Bartlett Company Building, which is 10 stories high, and for which a price of \$3,950,000 is being paid by the city. The land alone is valued at nearly \$2,000,000. The other streets to be intersected are Wabash, Dearborn, Clark, La Salle, Wells, Franklin and Market. When the new La Salle street bridge is built, there will be bridges at each of these streets and an easy gradient approach will be constructed by changing the present north and south street levels, commencing at a point 50 feet north of the north line of Lake street. The improvement follows the river to where it turns south at Market street. On the west bank of the river at this point are railroad tracks, and, just beyond, Canal street, which is being widened from 80 to 100 feet at the expense of the railroad in the new Union Station development.

The scope of the Greater Chicago Plan will become evident with the completion of the South Water street improvement. It can be seen that wide traffic arteries will surround the most congested business district, larger than and including the loop. The widened Roosevelt Road with its new viaduct will form the boundary on the south, Michigan avenue and the Outer Drive on the east, Canal street on the west and the new South Water street on the north.

"Uncle Sam" was the benefactor who unconsciously hastened and facilitated the South Water street improvement, by serving an order on the city that all bridges across the Chicago River must be raised six feet. To raise the bridge approaches at all these streets meant a series of humps which would be grotesque, seriously cripple traffic and render still worse the congestion which now exists. Another alternative was to put a retaining wall and fill to a new

grade 6 feet higher. In either case, it was estimated that the work would cost at least \$3,000,000 with accompanying damage suits from property owners which would amount to another \$6,000,000. Faced with a \$9,000,000 expenditure either way, the city voters readily voted the \$24,000,000 bond issue necessary for the South Water street double decking which will do away with a dirty, insanitary, congested district directly blocking the city's progress. It is estimated that the new plan will save \$12,000,000 annually by eliminating the present waste and unnecessary cost of handling foodstuffs and by removing loop traffic congestion through the removal of the market.

The increase in land values along the new street and in that general vicinity will be enormous, so that a very heavy percentage of the cost will be assessed against the property owners thus benefited. In this connection, it is interesting to note that values of property on Michigan avenue near the river were increased by the double-decking from 100 per cent to 1,600 per cent; even greater values will be created by the new South Water street improvement.

Artistic stairways will connect the two levels at every north and south street intersection. The space devoted to dockage at the water's edge will be 25 feet wide and will be connected with the lower levels through the arched wall openings. The upper level will be 20 feet above city datum, the lower level 5 feet above city datum and the clearance between upper and lower levels, 12 feet 4 inches. Traffic seeking the lower level will find a descending approach at Market street between the driveways on either side which rise to the upper level. Four new 48-foot streets will be opened, connecting the lower level with Lake street between Franklin and Wells, between Clark and Dearborn, between State and Wabash and between Wabash and

Michigan. In addition to flush connections with both upper and lower levels of Michigan avenue, a ramp will rise from the lower to the upper level in River street.

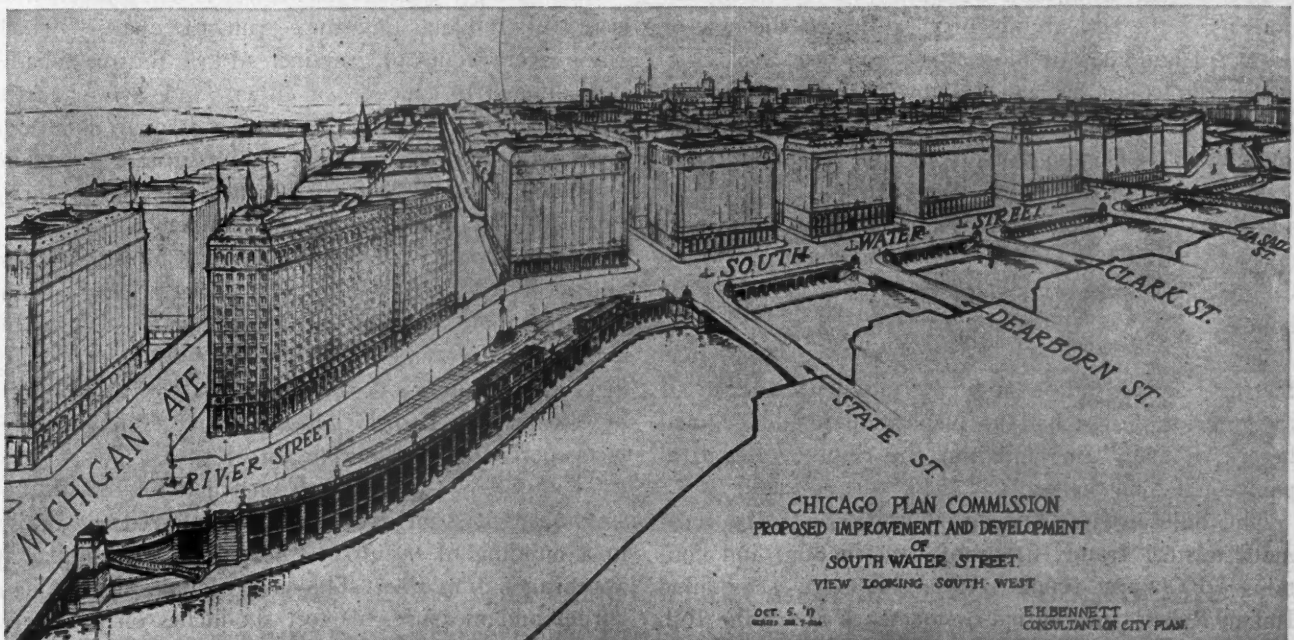
Steamer lines using the docks along the river west of Michigan avenue will be greatly benefited and secure increased traffic due to the pleasanter surroundings which passengers will find both for embarkation and landing. Chicago people who use the steamers will appreciate this feature as well as the fine new boulevard and approach to the loop for both heavy and light traffic.

This lower street level will also have the advantage of allowing the freight from the lake steamers to be removed from the waterfront without interfering with the other vehicular traffic and allowing merchandise to be delivered to the skyscrapers towering about without conflicting with the through traffic.

The work has been divided into 12 sections and will be completed in about two years—much of it in less than that. Wrecking and excavation work has already started. Charles H. Wacker, is chairman of the Chicago Plan Commission, who prepared the plans, and the name of the street may be changed to Wacker Drive in his honor.

The executive committee of the Chicago Plan Commission includes many prominent citizens, including Edward B. Butler, Clyde M. Carr, John V. Farwell, Joy Morton, Julius Rosenwald, James Simpson and Charles H. Thorne. Mr. E. S. Taylor is manager. John J. Sloan is president of the Board of Local Improvements, in charge of the work. Mr. E. H. Bennett is consulting architect.

No single improvement yet made in Chicago's marvelous progress will contribute more to the appearance of the city or bring so many practical benefits.



This Sketch Gives a Comprehensive View of the South Water Street Improvement from End to End. Many beautiful new buildings will vary the skyline of the new street. Among these is the new Jewelers' Building.

Presenting a Portfolio of the Best in Current Architecture

By **BERNARD L. JOHNSON**

Editor American Builder

BEGINNING with this issue, AMERICAN BUILDER presents each month four full page plates in duo-tone lithography illustrating current examples of notable architecture. I think you will agree that this style of pictorial presentation ranks well with anything in the entire architectural field. AMERICAN BUILDER is setting a new standard for quality work in this method of illustrating the best examples of current architecture.

Everyone in the building industry is interested in the outstanding jobs—some of our readers as architects who plan such work, others as builders who undertake such projects, and still others because of furnishing some material or detail of equipment that goes to make each one of these notable projects the perfect structure that it is.

Then, too, we are all proud of such work—proud to be connected with an industry that can visualize and create useful monuments to itself that are so fine and so enduring.

As editor of the AMERICAN BUILDER, I want the help of every reader, especially our architect readers, in selecting the Notable Buildings to be illustrated in this Art Supplement. Won't you write me today—nominating two or three new or projected buildings of special merit and interest which you feel should be presented in this Department? We want to be guided by the critical judgment and the desires of our 75,000 readers. You cover the *entire building field*, from Maine to California, and we want your recommendations as to the best architectural work and the new or projected buildings of most timely interest.

We can count on you I know. Write me today. A good photograph of the architect's perspective drawing is what we need to work from.

Roosevelt Hotel, New York City.—This latest addition to New York's many fine hotels was formally opened, September 22nd, by a banquet at which Colonel Theodore Roosevelt, Junior, was the guest of honor.

The Roosevelt is notable both for size and novel features of decoration and entertainment. Much of the interior design had its inspiration in old colonial homes of New England and the South. Beautiful paintings adorn the walls.

The building is 22 stories high, and of the most modern steel frame, fireproof construction, and contains 1,100 guest rooms. Its architecture is modified Italian Renaissance varied by a setback above the 16th floor and two large light courts facing Madison Avenue, between 45th and 46th Streets. The walls

are faced with Indiana limestone and terra cotta.

South Shore Villa Apartments, Chicago.—Orientation and ornamentation might be said to feature this fine apartment building, designed by Alfred S. Alschuler, for Jacob Kulp. It is after the Italian villa style of architecture and the semi-circular treatment of the front is both novel and pleasing.

The building is erected on a site 250 by 179 feet overlooking the grounds of the South Shore Country Club and the lake at Sixty-Ninth Street and the South Shore Drive, Chicago. Site and building cost a million dollars. The plans provide for 39 apartments of five, six, seven and eight room suites. The building is of special cream-grey pressed brick with terra cotta ornamentation and tile roofing. It is luxuriously equipped and contains a gymnasium and a children's play room on the basement floor.

Tribune Tower, Chicago.—Tribune Tower, the latest acquisition to Chicago's skyline, is rapidly assuming final form. It ranks as one of the most graceful examples of modern metropolitan architecture.

This design, as our readers will remember, won first prize in the \$100,000 architectural competition.

First prize was awarded to John Mead Howells and Raymond M. Hood, associate architects, of New York City. Since we first illustrated this rendering, it has been altered by the addition of a number of stories, giving the tower a final height of 456 feet—36 stories above the Michigan Avenue level.

This strongly framed steel tower is being faced with beautiful Indiana limestone—run of quarry—which gives several tones of grey instead of a uniform shade. It is difficult to conceive of either wind, fire or earthquake injuring this building, with caisson foundations resting on bedrock 110 feet below ground level and its floors of reinforced concrete. Hegeman-Harris Company, Incorporated, are the builders.

Boone County National Bank, Columbia, Missouri.—A graceful example of Roman Doric architecture, the Boone County National Bank, Columbia, Missouri, is included in this month's art supplement of architectural renderings in duo-tone. It is by Weary and Alford, the well known Chicago architects specializing in bank design.

The builder is the Simon Construction Company, of Columbia, Missouri, who have reproduced the design in a building of beautiful Carthage stone—similar in appearance to marble. The bank occupies a prominent corner and measures 99 feet six inches on one street and 48 feet on the other. The cost, including the vault, is \$110,000.

ART SUPPLEMENT *of* NOTABLE ARCHITECTURE



PLATE I

The HOTEL ROOSEVELT, New York City; Geo. B. Post & Sons, New York, Architects;
Thompson-Starrett Co., Builders; Opened Sept. 22, 1924

The AMERICAN BUILDER, Oct. 1924

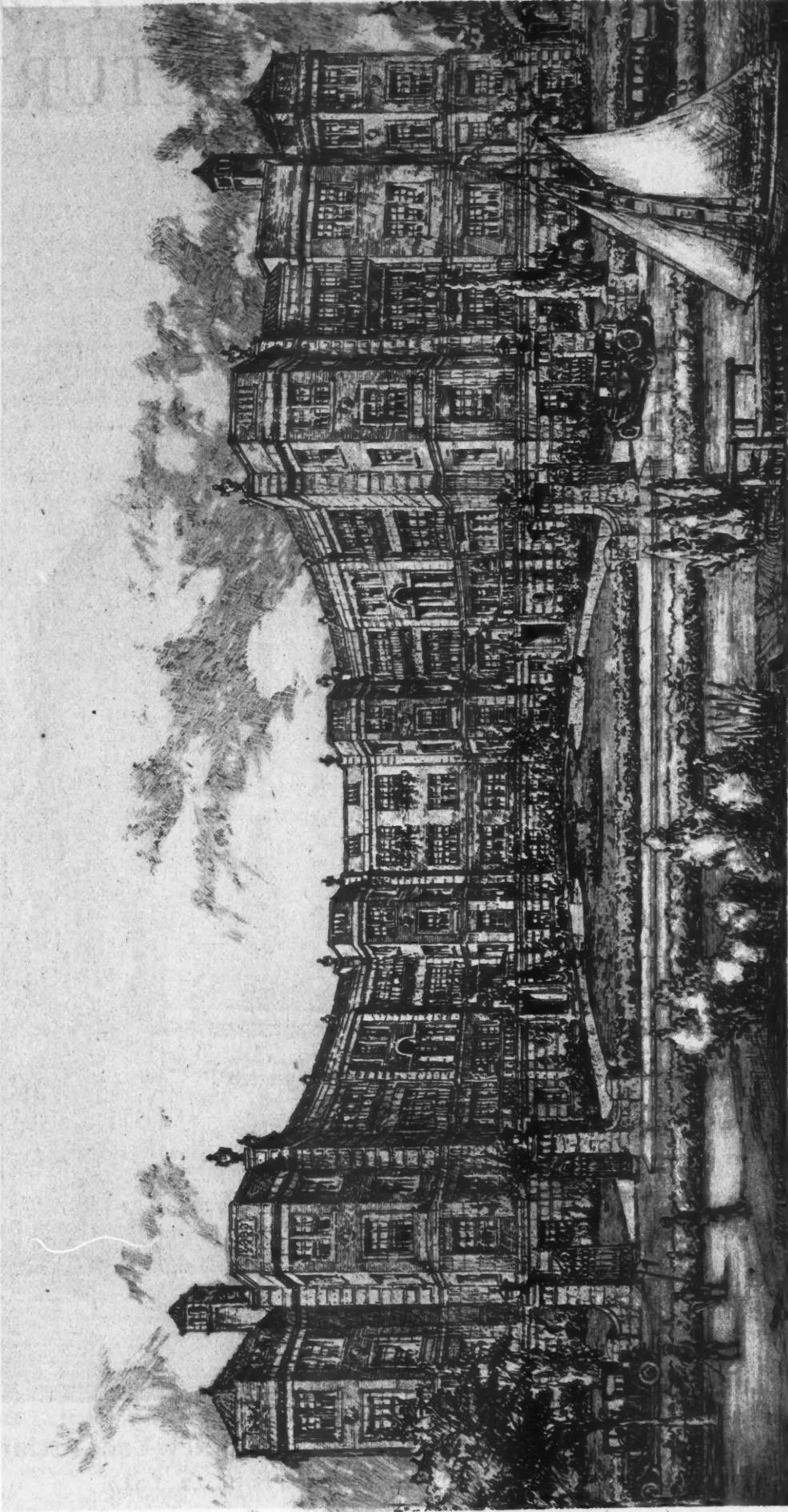


PLATE II

The SOUTH SHORE VILLA, at 69th St. and Lake Shore Drive, Chicago; Alfred S. Alschuler, Chicago, Architect; Park View Manor Building Corp., Builders and Owners. This building, containing 39 apartments of five to eight rooms, is a recent example of the best in 3-story apartment house work.



PLATE III

The TRIBUNE TOWER, Chicago; John M. Howells and Raymond M. Hood, New York, Associated Architects; Hegeman-Harris Co., Builders. This world famous prize winning design is rapidly nearing completion

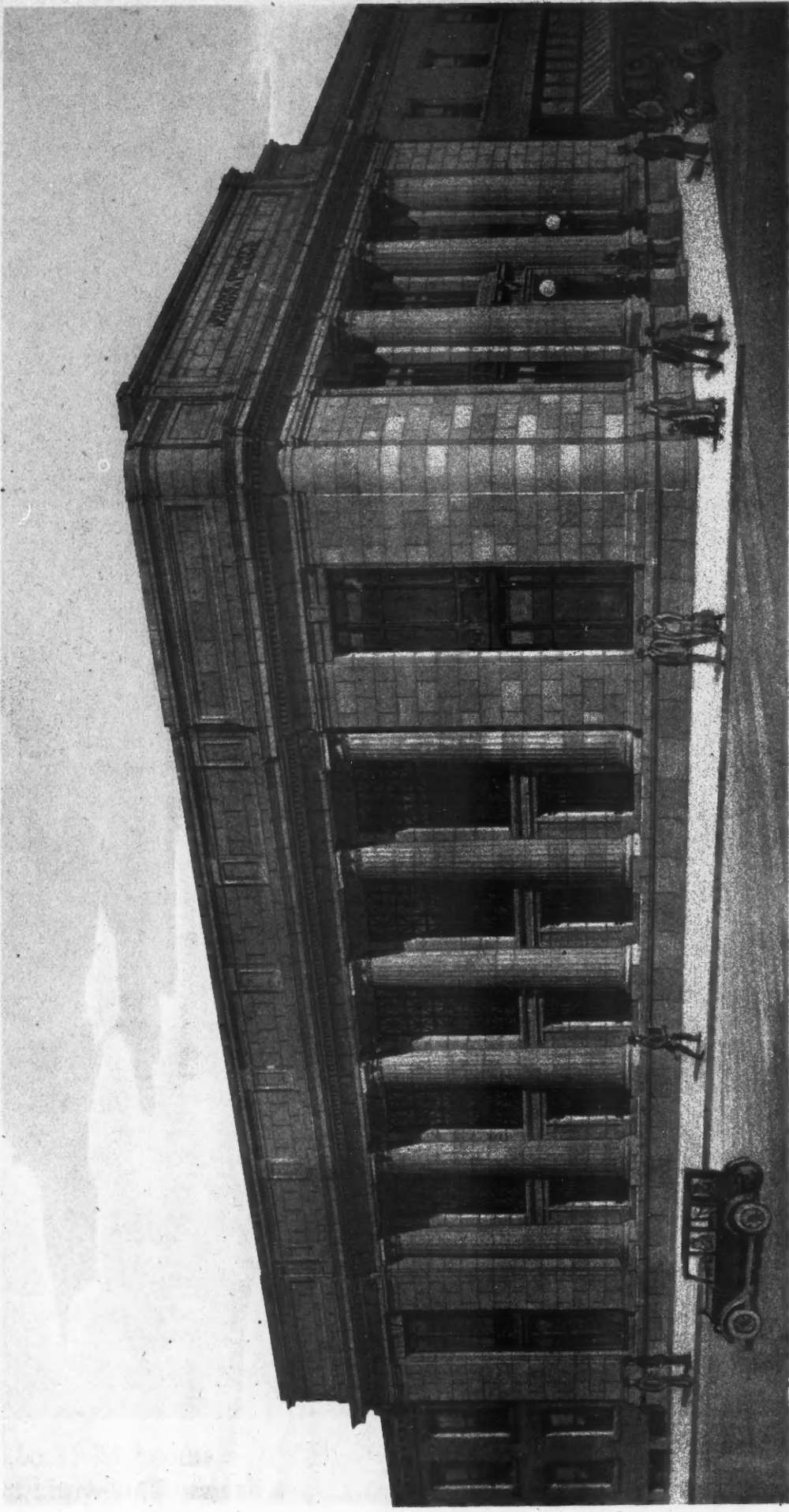


PLATE IV

The BOONE COUNTY NATIONAL BANK, Columbia, Mo.; Weary & Alford, Chicago, Architects
A very pleasing example of present-day Bank Design

Omaha Architect-Builder Wins Success with Homes

T. H. Maenner, Now Has Big Building and Real Estate Company Which Gives Home Owners Complete Service

IT is often said that adversity has had much to do with the success of men who have climbed the heights and "made good." Without doubt, adversity had much to do with the success of T. H. Maenner, president of T. H. Maenner Company, of Omaha, Neb.

Early in life, Mr. Maenner desired a college education. Lacking the necessary funds, he worked his way through college—tended furnaces, cut grass, waited on table and did the hundred and one things necessary to pay for his tuition and living. In spite of the handicap of having to earn his way, he ranked second in his graduating class, was a member of every athletic team and captain of his basketball team. He graduated from Washington University in 1914 and his first job as an architect or draughtsman was to design saloons for the Anheuser-Busch people.

Branching out for himself, at the age of 24, he entered every competition he could find and submitted plans on every kind of a job. The first competition he ever won was for a school in Kansas and he was walking around with his head in the clouds when he learned that the building was not to be built. He kept plugging along and finally got a lot of school buildings which gave him his start.

"Most young architects sit at their boards and dream," says Maenner, "and expect business to come to them. They simply must go out after it and meet the political pull of some architects with sheer aggressiveness and quick thinking. It is all very well to live up to the rules and regulations of the profession—but it never pays to cut your own throat in competition

with the other fellow. Meet him on his own ground and then go him one better."

Prior to America's entry into the World War, Mr. Maenner had opened an office in St. Louis, specializing on house design. He served in the army until after the armistice, and, upon his discharge, located in Omaha, taking up the work of building from his own plans. With \$750 saved, he got credit to build 10 houses. High prices and other things caused a loss of \$13,000. Maenner dug in, turned salesman and found that the houses had given him a fine standing among the real estate men of the city. These men came to him with "prospects" and the houses were finally sold, although at a loss. His reputation for square dealing had circulated around and dealers in lumber and building material aided him in building 39 houses the next year. Maenner drew plans at night, got a job for \$12 a day on a new store building and at noon went out selling.

"It was work all night at my house plans, all day for \$12 and all noon for a sale," said Maenner. About this time, Mr. Maenner entered into partnership with Lloyd S. Smith, of Omaha, and the T. H. Maenner

Company was incorporated as architect-builders. In order to promote home building, Mr. Maenner found it necessary to organize a syndicate which would loan money on second mortgages. He also found it advisable to do his own building because of lack of sympathy and co-operation on the part of local contractors. The T. H. Maenner Company now handle plans, financing, building, real estate, and sales.

The results of Mr. Maenner's foresight were at once apparent. From a modest beginning of eight homes constructed in 1920, at a cost of \$60,000, their business has increased until in 1923 they built over 100 homes involving the ex-



T. H. Maenner, an Architect Who Has Made Good as a Builder in Omaha.

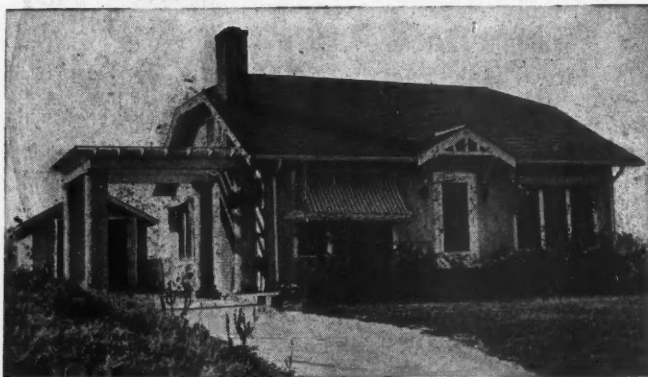


This Handsome Residence Is Maenner Planned and Built. It has a setting of lawn, shrubbery and flowers worthy of its fine design.

penditure of over three quarters of a million dollars. Expansion of the business has led to the establishment of a real estate and insurance department, also an alteration and repair department.

"Do the local architects find fault with your method of acting as both architect and contractor?" Mr. Maenner was asked. "Of course the small ones do," he replied, "but the larger ones don't care to do small house work, for it is out of their line, and they realize that we are offering the owner something that they could not afford to offer him, and are saving him considerable money."

"But when you combine the services of architect and contractor, what assurance has the owner that he is getting a fair price, and that you are not overcharging him? When he employs separate architect and contractor, he can check one against the other, but with your method what chance does he have?"



A Good Example of an Inexpensive Maenner Designed Bungalow.

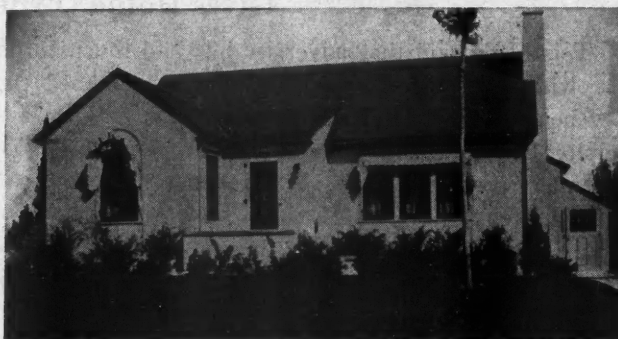
"He must have faith in us and our integrity," replied Mr. Maenner, "The average man who builds a home is at the mercy of his contractor and architect, regardless of whether they are one or two people. If they are going to take advantage of his ignorance they will do so in spite of all he may do. But fortunately most builders and architects, just like most other people, are inherently honest, and can in most cases be trusted to carry out their obligations."

Maenner has made a study of the small house, ranging from \$8,000 to \$15,000 and today his plans are extremely popular in Omaha. Contractors and others interested in Omaha state that some of the competitive plans offered in Omaha were over the heads of the buying public while Maenner's plans were not only artistic, practical and comfortable but within the comprehension of the home buyers.

No home has ever been built by Maenner that he wouldn't just as soon live in himself. Mr. Maenner,

like all home builders, has a dream city in his mind, an air castle.

"It sounds a bit foolish, possibly," said Mr. Maenner, "but my dream is to some day take a great tract of land outside of Omaha and there erect a 'White City' of moderately priced homes, each with its garage.

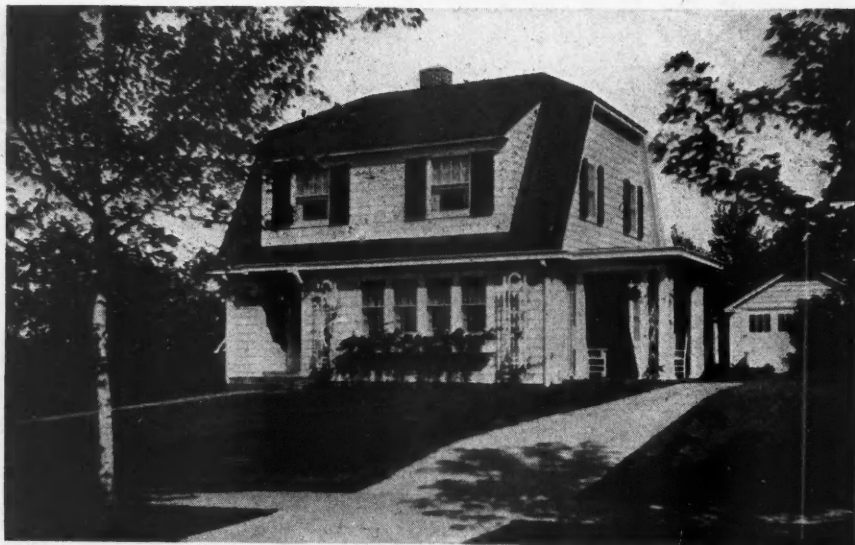


The Entrance of This Bungalow Easily Might Be Mistaken for a French Window. Note the gain in effect by using the arched window in the ell.

Each house with a good sized lawn, well landscaped and well planned. Every house will be white, either white wood, stucco or white brick. They will be individual, cheerful, attractive. That little city will just radiate happiness. It will be a pleasure to drive by that city. Home owners there will look forward to going home each evening and the wives and kiddies in that 'White City' are going to be the jolliest, happiest mortals on earth.

"I believe that the houses designed will be a little smaller in size so as to allow a larger lot rather than to have them larger in size on a tiny lot. I think that a man's home should be surrounded with enough lawn to make his home an estate. I do not like a house 'slam-bang' up against its neighbor."

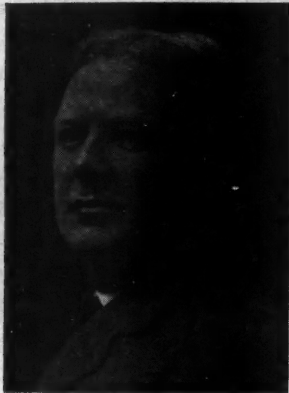
A worthy dream, surely, this of T. H. Maenner's and one which is directly in line with the policy of AMERICAN BUILDER—"More buildings, better buildings and better environment."



While This Fine Dutch Colonial Is Quite Typical, Nevertheless It Has Been Given a Treatment Which Lifts It Above the Common.

WHO'S WHO IN THE BUILDING INDUSTRY

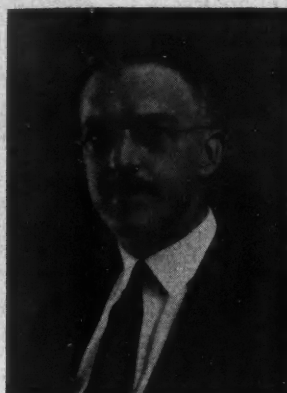
A Department of Late New Photographs of Men Who are Right Now in the Public Eye



CHARLES REEDY
Pres., The H. J. Reedy Co., pioneer elevator manufacturers of Cincinnati, O., who has helped to make the elevator the safest known method of travel.



W. E. O'NEILL
Recently appointed General Sales Manager Ford Roofing Products Co., Chicago.



C. C. MERCER
Recently appointed Advertising Manager, The Berger Mfg. Co., Canton, O.



M. C. BROWN
Recently promoted to be Manager Building Materials Division, The Berger Mfg. Co., Canton, O.



HARRY WARDMAN
Perhaps the largest and most influential builder and real estate operator of Washington, D. C., is now at work on "The Annapolis Building," to be eleven stories high and contain 370 apartments.
Harris & Ewing Photo



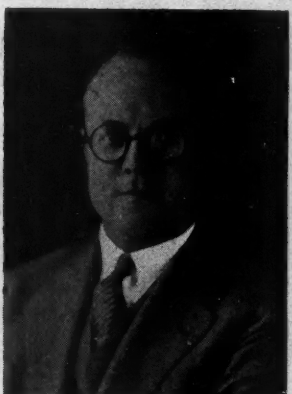
PRESTON A. ROBERTS
Pres., Washington, D. C., Garage Builders Assn, has perfected the steel garage and made it a popular adjunct to many of the best Washington homes.
Harris & Ewing Photo



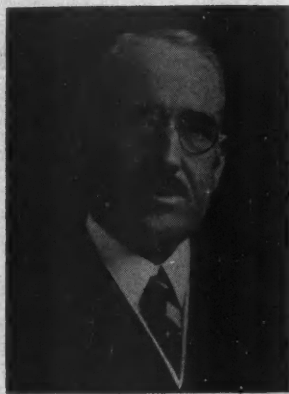
CHARLES W. CARLE
Vice-Pres., Gunn, Carle & Co., structural and reinforcing steel merchants of San Francisco, is handling the \$725,000 High School of Commerce job.



EARL R. PORTER
Boonville, Mo., Mgr., Dascomb-Daniels Lumber Co., entered the prize-winning float in the fourth of July ceremonies at opening of First Free Bridge across the Missouri River.



R. W. LINDSAY
Gen. Sales Mgr., Pratt & Lambert, Inc., Buffalo, N. Y., is now Chairman Executive Committee, Paint & Varnish Sales Managers' Council of the National Save the Surface Campaign.
The Drake Studio Photo



CHARLES W. BROWN
Pres., Pittsburgh Plate Glass Co., which has recently perfected a new type of ornamental and building glass known as "Tapestry Glass."



CHARLES PIEZ
Resigns as President to become Chairman of the Board, and Chairman of the Executive Committee of the Link-Belt Co., Chicago.
Moffett Photo



ALFRED KAUFFMANN
Newly elected President of the Link-Belt Co., Chicago, will have general supervision of operations and sales.
Moffett Photo

Mother's Comfort is Plan Aim

Kalamazoo's "Better Home" National Contest Prize Winner, Designed by Dr. Caroline Bartlett Crane for Family with Children

DESIGNED to meet the requirements of the average family, with the price such a family could afford to pay for a home in mind, this model home, erected in Kalamazoo, Michigan, this year was awarded the first prize in the national home-building contest sponsored by "Better Homes in America," an organization of which Herbert Hoover, Secretary of Commerce, is the president.

The Kalamazoo home, which has a number of unusual features, was designed by Dr. Caroline Bartlett Crane, and the plans show that the convenience of the housewife and mother have been the first consideration in the arrangement of the rooms, as it is well agreed should be the case. Mrs. Crane as chairman of the committee in charge of building the Kalamazoo home, with the aid of the committee serving with her, personally directed the construction and the furnishings of the home.

This home, which well may be classified as a modified colonial cottage, has an attractive exterior which

will be much more pleasing in a setting of flowers and the lawn one would expect to be developed. But it is in the interior of the home that the careful planning is most apparent.

As will be noticed from the plans, the living room runs the full depth of the house, with windows on three sides and a fireplace in the center of the fourth side. But where this is unusual is that it also is used for a dining room through the efficient arrangement of one end. Here, underneath a group of casement windows, is a window seat, eighteen inches wide and the height of an ordinary chair. In front of this seat stands a two leaf table, which at meal times becomes a dining room table, large enough for the usual family. When setting the table a screen, shown in the first floor plan, can be extended to cut off the view from the front part of the home.

On both sides of the window seats are tall cupboards, reaching to the ceiling. These cupboards, giving the effect of a bay to the casement windows,



The End of the Living Room Shown Above, of the Kalamazoo Better Home, Is Utilized as a Dining Room at Meal Times.



The Exterior of the First Prize "Better Home" as Built at Kalamazoo Shows an Adaptation of the Colonial.

below and above the counters, from floor to ceiling.

"Coming now to consideration of the mother's little suite on the ground floor—the nursery and bathroom.

"The downstairs bath, small but complete, enables the mother to bathe her little children and supervise the baths of the somewhat older ones without climbing stairs. At the same time she is in a position to watch the cooking and baking and conveniently answer door or telephone.

"The mother always has her baby and children of pre-school age near her without keeping them in the hot and steamy kitchen, where most accidents, as scalding and burning, happen to children, and without dis-

are designed for china, table linen, vases and the innumerable articles which the housewife needs a place to keep.

In describing the kitchen and other units of the home, Mrs. Crane, the designer, says:

"The door to the kitchen is so hung that when open it screens the sink and stove from observation on the living room side. The door is equipped with an inexpensive automatic device for closing it.

"The kitchen is so planned that stove, sink and work table are grouped closely together. The sink is 33 inches high, instead of the usual 30 inches. The drain counters extending across the room are waterproofed with paraffin dissolved in hot alcohol to prevent the absorption of moisture and grease. A shelf and various hooks supply place for supplies and utensils needed in dish washing and cleaning.

"Main lighting of the kitchen is from the double sash window over the sink and extending nearly to the ceiling. This window is flanked by cupboards

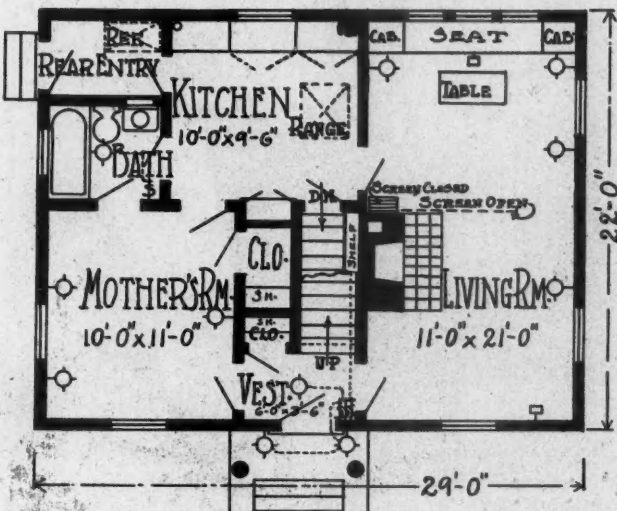
ordering any room that is used by the family as a whole. A feature of this room is the child's bed, taking no floor space, but supported over the foot of the mother's bed, where she can most conveniently care for her baby at night.

"The mother has to go upstairs only once a day, to care for the upper rooms. Climbing stairs becomes at times a great burden and a danger to a mother. To greatly minimize this may mean the difference to her between health and a breakdown.

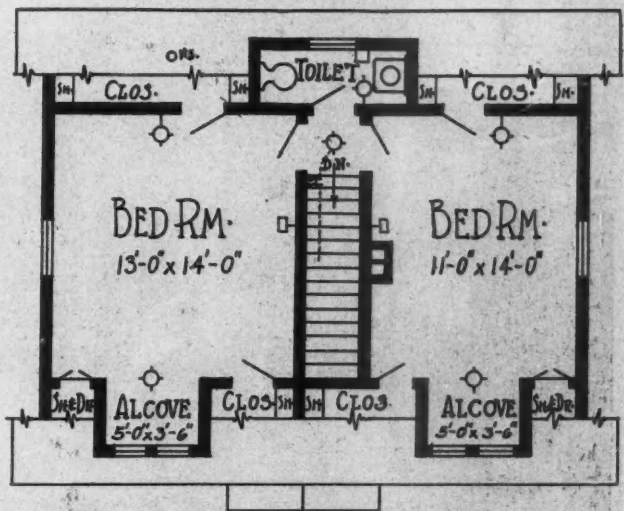
"In case of sickness of any member of the family, the downstairs bedroom, bath and toilet are of the greatest possible convenience to both the patient and the one who acts as nurse.

"The larger of the upper chambers is ample for three boys or three girls; the smaller, for two other children.

"In case the family is small and there are no little children, the downstairs bedroom can be used as a dining room without any change."



The First Floor, Showing the Mother's Room, an Important Feature of the Home.



Two Large Bedrooms Are Provided on the Second Floor of the Kalamazoo Home.

Architectural Excellence Applied to a Home of Moderate Size

THE advantages of excellent architecture as applied to the smaller home are demonstrated forcefully in the home of Mr. Jesse Draper, Atlanta, Ga., designed by Hentz, Reid and Adler, architects of Atlanta.

The dignity and careful restraint of the exterior make it especially attractive, with the ideal well carried out in the wide, white painted clapboards and the graceful balustrade utilized to finish the roof. The recessed entrance, with its pilasters and columns is particularly interesting. The door, with its sidelights, is true to the Colonial sources from which the architects have drawn for the entire home.

The floor plan, although containing many features which might not be practicable for the purse of the builder of the usual five-room home, has a number of unusual and attractive features. To the right of the entrance hall is the living room, of unusually large size and with the fireplace placed between the two outside windows. To the left is the dining room, with a bay for a buffet and with shell closets in two of the corners. The kitchen is reached through an exceptionally



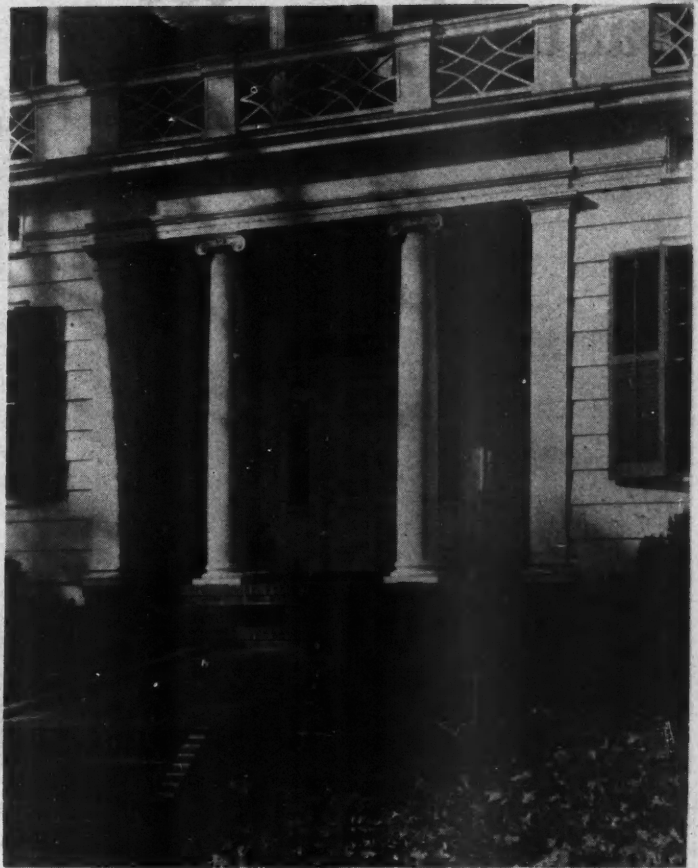
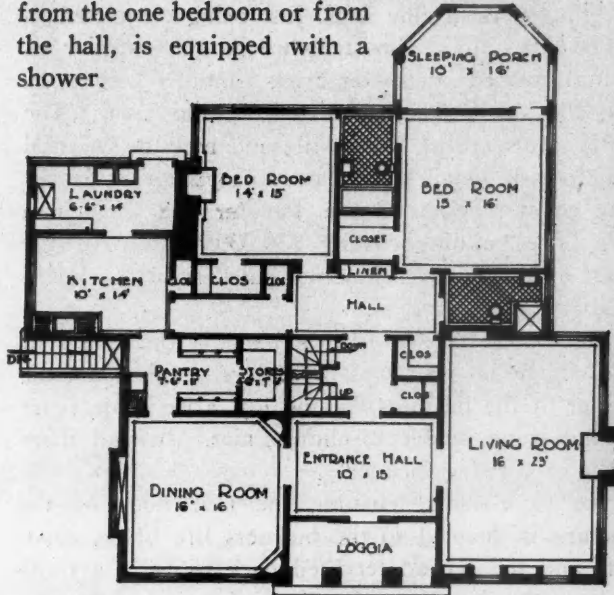
The Sunny Dining Room of the Draper Home.



The Details of the Mantle and the Fireplace in the Home of Mr. Jesse Draper, Atlanta, Ga., Are in Keeping with the Colonial Exterior.

roomy closet and to the rear of the kitchen is a ground floor laundry.

The two bedrooms open off a second hall. It will be noted that one is supplied with a fireplace, while the other has a sleeping porch which varies from the usual square or rectangular shape. One bath, directly between the two bedrooms, can be reached from either, while a second, accessible from the one bedroom or from the hall, is equipped with a shower.



The Floor Plan of the Draper Home Shows an Interesting Room Grouping.

Pilasters and Columns Add Interest to the Entrance.

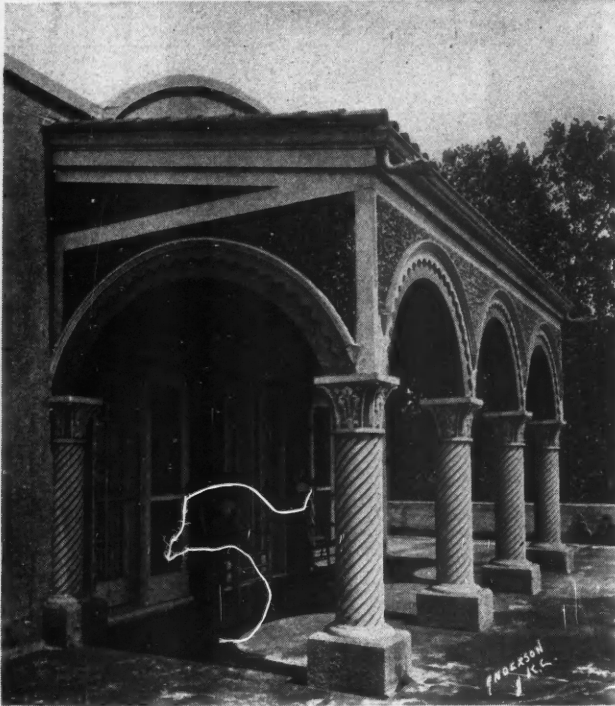


The Colonial Type Home of Mr. Jesse Draper, Atlanta, Ga., Hentz, Reid and Adler, Architects.

East Meets West in Kansas City

Owners of Kansas City Establishment for Sale and Care of Oriental Rugs
Build Home on Top of Unique Business Building

By JUANITA WITTICH PORTER



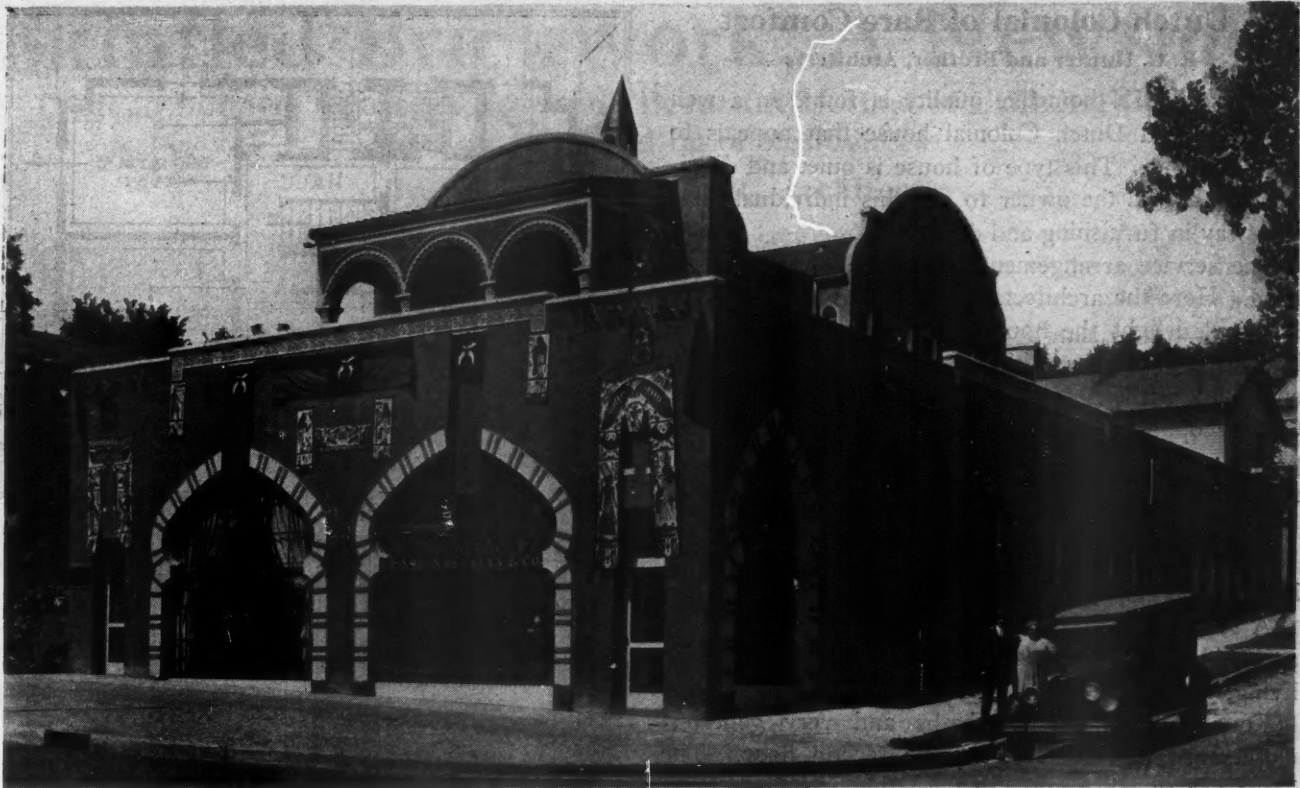
THE atmosphere of the Orient pervades the beautiful new home of Rose Killian & Co., importers of fine rugs, just being completed in Kansas City, Mo. The structure has an exterior of Oriental colored stucco on brick trimmed with terracotta, the shade frequently used in the East. The interior walls are of hollow tile and built in Oriental and Moorish detail of ornamental plaster with the exact color scheme of the Persian and Armenian style. The building costing \$30,000 possibly is the largest of this type in America built strictly to house an Oriental rug business.

A unique feature of the building is the fact that there will be no stairways in it, Mrs. Yeghishian, the founder of the business, having lost a leg some years ago and being unable to climb stairs. Instead there will be easy rising inclines.

True to Oriental custom, the first floor of the structure is devoted to the business life of its occupants and the second terraced back to form a roof-porch, to the domestic. On the architrave of the second floor, wrought in exterior ornamental plaster, is



Rose Killian & Co., Kansas City Dealers in Oriental Rugs, Have Chosen a Type of Building Especially Suited to Their Business. Above is shown the "porch" of the roof home, housing the living quarters of the owners, in accordance with Eastern custom.



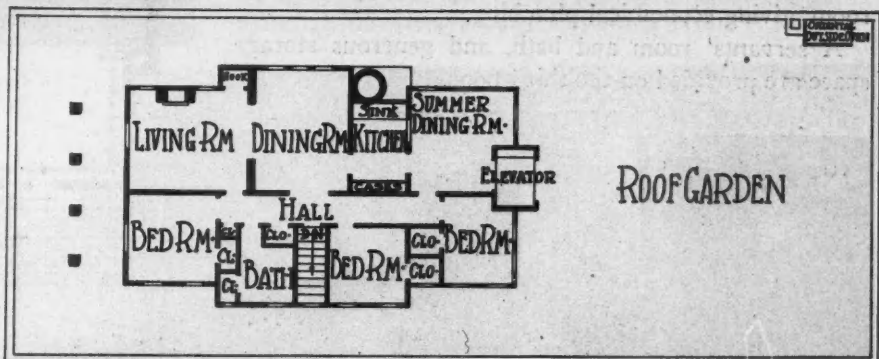
Extremely Picturesque and Fitting to the Merchandise Handled Is the Eastern Architecture of This Rug Sale and Cleaning Establishment, Which Gives a Setting from Arabia to the Oriental Rugs Offered for Sale.

the history in Arabic of the owners of the property and that of the building itself.

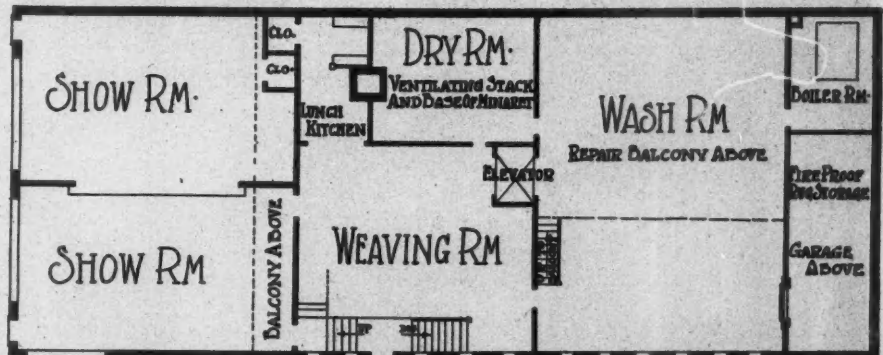
The second floor is well set back from the walls of the first, giving a broad border like a yard around the "home." The roof margin bears about the same relation to the second floor living quarters as a yard to a bungalow. In front is a covered space like a porch supported by arches. The home includes living room, dining room, three bedrooms, a kitchen, a bath and a room not unlike a sunroom, one side of which is lined with Oriental windows. At a remote corner of the roof in the rear is the out-of-door oven with which Eastern homes are equipped.

The minaret tower, while not a Turkish prayer tower, carries out the details of the architecture and serves as a chimney for dry-room, kitchen and heating plant. Here are the rugs placed after they are washed.

The coloring of the decoration, exterior and interior, is the most bizarre feature. The walls, in imitation of sandstone, are nearly a rose shade. The decorations are scarlet, blue and ivory as is the oriental



The "Home Upon a Roof" Gives the Owners of the Rug Store Many of the Features to Which They Were Accustomed in Their Native Land. The roof gives the effect of a yard.



The Floor Plan of the First Floor Shows How the Space Has Been Utilized to Suit the Particular Needs of the Rug Sale and Cleaning Establishment.

fashion, scarlet representing love, blue truth and ivory purity.

Twenty-five years ago Rose Killian was a refugee from Armenian massacres by Turks; today she is the joint owner with her husband, George Yeghishian, also a refugee from a later massacre, of one of the finest importing establishments in America, housed in one of the most beautiful structures.

A Dutch Colonial of Rare Comfort

R. C. Hunter and Brother, Architects

A CERTAIN homelike quality is found in a well designed Dutch Colonial house that appeals to many persons. This type of house is quiet and dignified. It allows the owner to give his individual taste full sway in furnishing and decorating.

The service arrangement of the first floor is very good. Here the architects have worked out a scheme that will delight the housewife. At one side of the kitchen is the entry with refrigerator iced from the entry, but with its front in the kitchen, to save steps. On the opposite side of the kitchen is arranged the pantry and the breakfast alcove. Steps to and from the dining room have been reduced to a minimum.

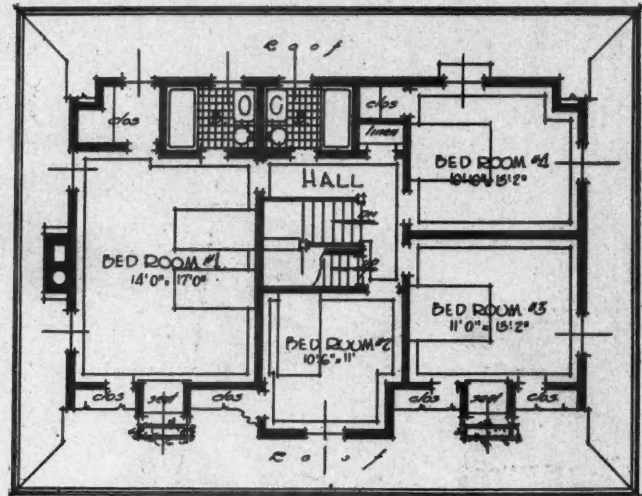
A built-in ironing board is provided in the kitchen.

Plenty of cupboard space is provided in both the kitchen and pantry.

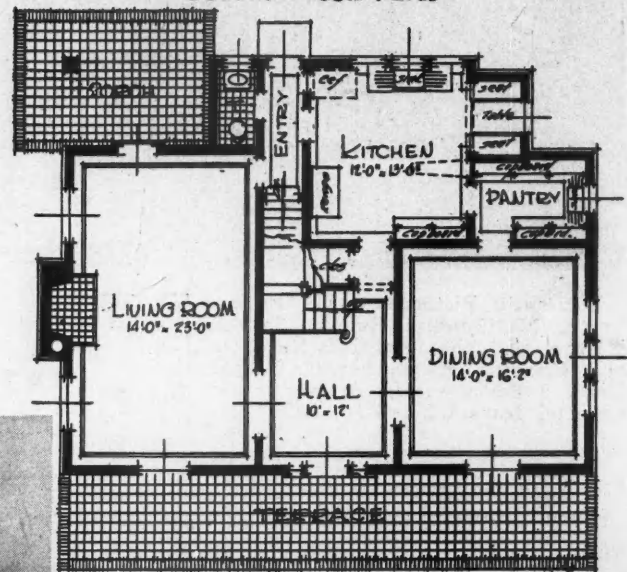
A toilet room connects with the rear entry, so it is accessible from the service portion and from the living room.

Four bed rooms, two baths and very generous closets are well laid out on the second floor. The baths are together and are over the first floor toilet room, giving economical plumbing.

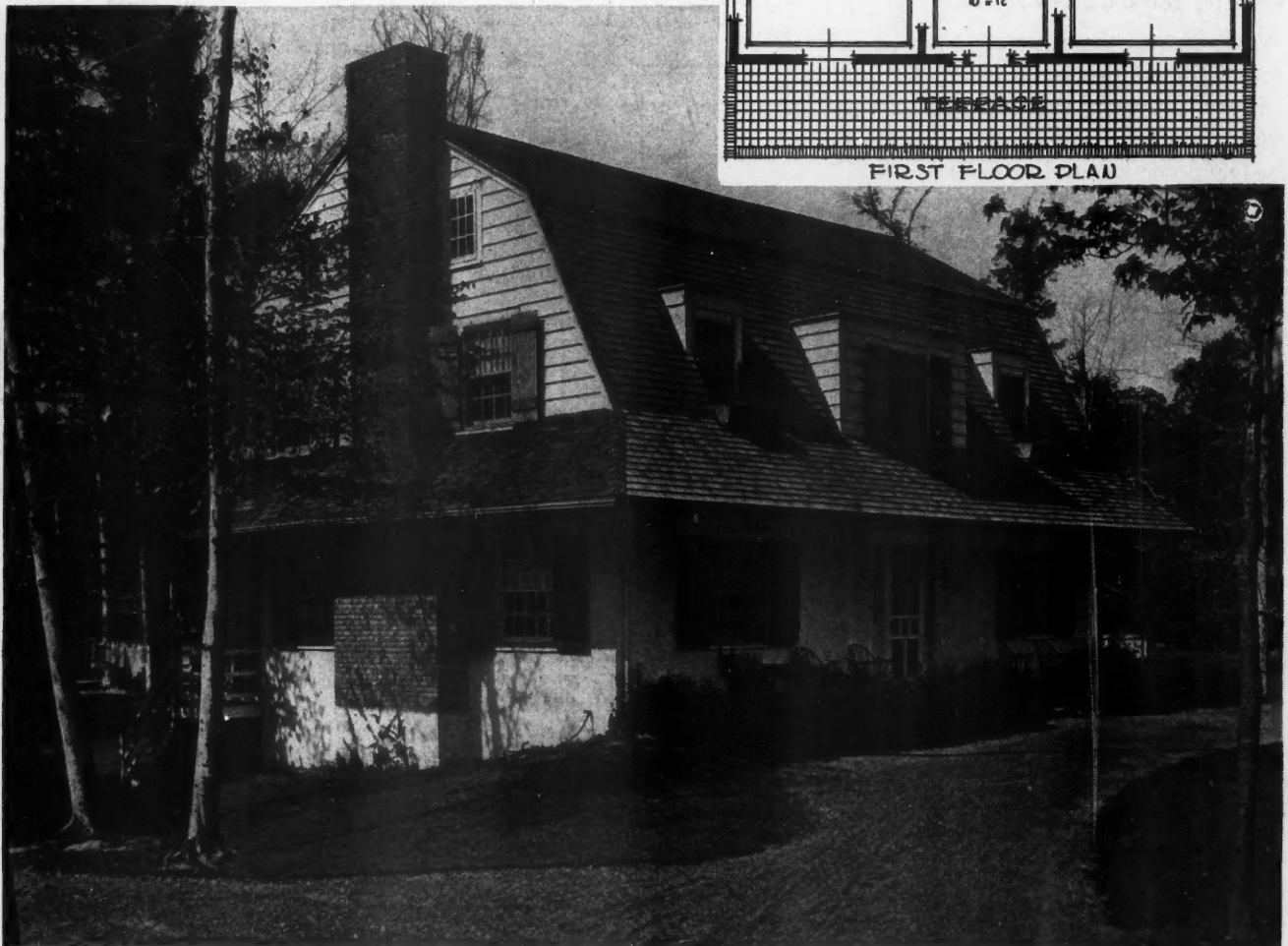
A servants' room and bath, and generous storage space are provided on the third floor.



SECOND FLOOR PLAN



FIRST FLOOR PLAN



A Terrace Under the Overhanging Second Story Is a Pleasant Feature of This Home Designed by R. C. Hunter and Brothers, Architects.

Skintled Brickwork, A New Idea

Chicago Builders Develop a Novel and Beautiful Method of Utilizing Common Brick in the Building of Residences

By WILLIAM CARVER, Architect

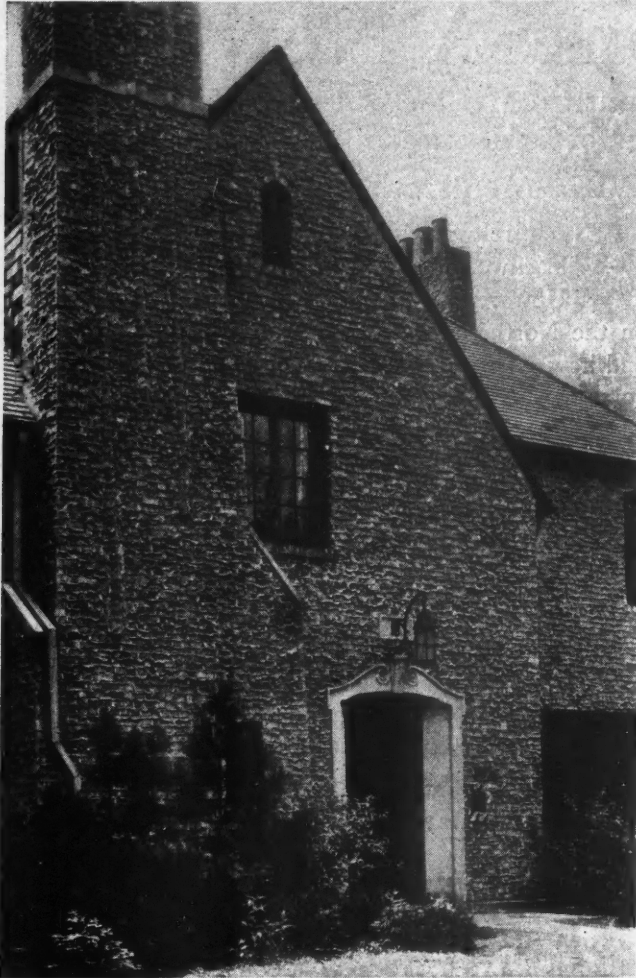


AN entirely new and recently developed style in brickwork has become all the rage in Chicago. Upwards of 200 of the most pretentious houses on the North Shore have been built in the new style and its use is spreading rapidly in other sections of the country. This new effect is termed "skintled brickwork," the term being derived from a method of piling unburned brick in the kilns. It vastly increases the range of effects that can be obtained in a brick wall.

"Skintled brickwork" had its origin in an attempt to bring out the artistic properties of Chicago common brick. Here was a material that had been used by the billion for many years in all kinds of structures in and about Chicago but which was considered as being suitable only where permanence but no particular beauty was desired. For sewer work, foundation walls and the sides and rears of office buildings and small bungalows that are now the style in Chicago, this material has always been without a rival.



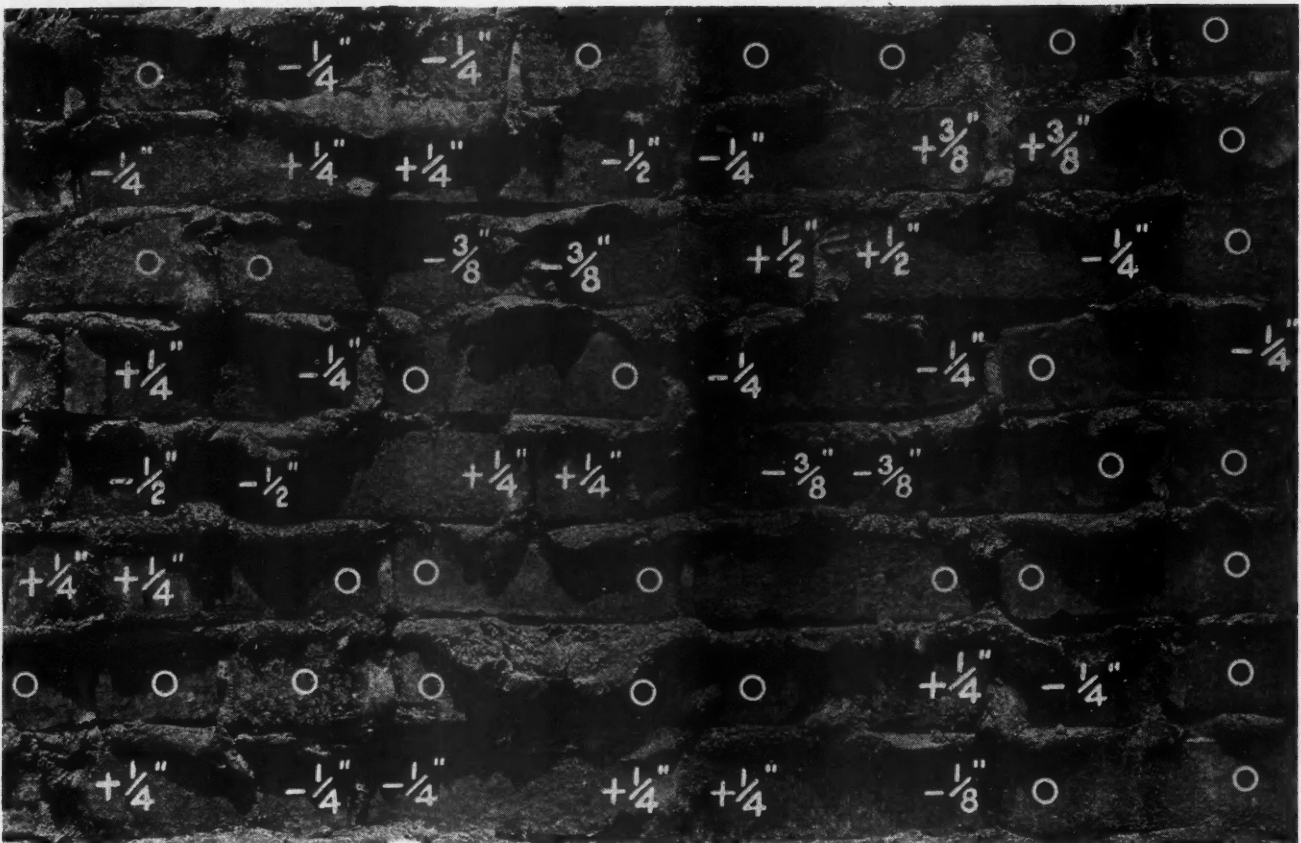
Effect No. 5, Described in this Article, Illustrates the Attractive Residence Walls Which Are Constructed Through the Irregular Placing of Common Brick. The panel above shows the details of the manner in which the brick are laid.



It is a remarkable thing that such people including the best architects had no idea of the wonderfully effective appearance of which this material is capable. This new manner of using Chicago common brick illustrated and described here should be an inspiration to architects and builders in other sections of the country, for what has been done in Chicago can be done in any other common brick producing center. The prevailing tone of Chicago common brick is a sort of buff with a tendency toward deeper browns the more the brick are fired.

When studying any brick with reference to its most effective appearance several things must be considered; first, the color of the brick itself; secondly, the bond in which it is laid; thirdly, the color of the mortar; fourthly, the cross section of the mortar joint, and fifthly, its texture. It requires a proper combination of all these factors to bring out the best that is in any type of brick. Generally speaking, the mortar joint must be of such a character that its appearance will show a decided contrast to the brick itself. Inasmuch as Chicago brick is of a light tone this necessitates the use of a heavily colored mortar or of a raked joint when the brick is laid in the traditional way.

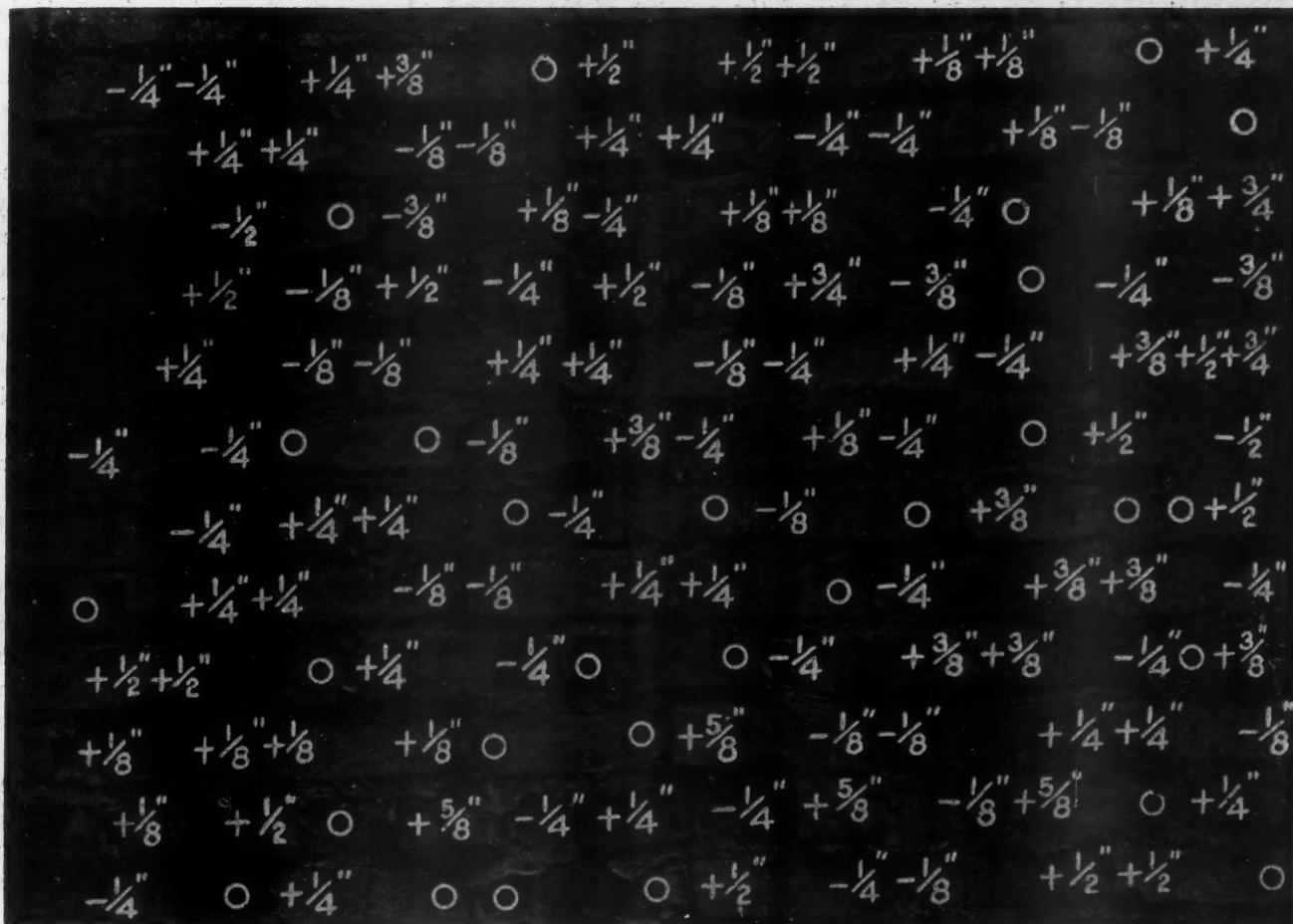
While there are several successful buildings in which the brickwork is treated in this way, some architects were not satisfied that this exhausted its possibilities. Accordingly the daring expedient was adopted of obtaining a rougher general appearance by staggering the brick in and out in an irregular way. This at once



Allowing the Mortar to Remain in Place Which Is Squeezed from Between the Brick Produces the Interesting Wall Shown Above. Details of the brickwork are shown below, with the projections of the bricks from the plumb line of the wall shown by the plus figures and the recessions by the minus figures. Effect No. 1.

developed a very interesting series of shadows. So successful was this treatment that it is now the prevailing mode in buildings constructed of this brick, probably the boldest example being illustrated as effect No. 5 (page 105).

Photographs here shown are representative styles out of a large number of buildings. One of the most interesting types of effect is that shown as effect No. 1, in which not only are the brick staggered in and out but the mortar squeezed from the joint is allowed to remain in place. Occasionally an architect prefers to whitewash the surface of the brickwork. The pictures are shown in such a way that these effects may be reproduced by any one, dimensions preceded by the "plus" sign indicating the projection of each brick from the normal plane of the wall and dimensions preceded by the "minus" sign indicating the extent of the recession from the wall line.



Skintled Brick Walls Are Sometimes Finished in White, as Shown in the House Above. The method of obtaining this rough effect is shown below, with the projecting bricks marked with a plus figure and the receding ones with a minus sign before the distance of the deviation from the plane of the wall.

Good Plumbing Increases the Value of the Building

By KARL WILLIAM ZOELLER

Author of "Merchandising and the Plumbing Business"

BUILDING contractors know the necessity of good plumbing supplies and fixtures in the buildings they erect; but how many realize what effect the plumbing has on the valuation of the buildings?

As the arteries of the human body distribute health and energy and carry away its refuse, just so the plumbing of a building functions; it delivers sanitation and health to every part of the building and carries off its waste and dirt.

And as has been said, "a man is just as old as his arteries," so a building is as ancient as its plumbing.

Two elements enter into the plumbing material a builder buys—the visible and the invisible.

The visible plumbing or fixtures, as they are designated in the trade, are most easily appreciated by the builder and his clients.

It is important that builders should know all about plumbing fixtures for, as you will presently see, they have a tremendous bearing on the value of a building.

In building homes or apartments it is necessary to select plumbing fixtures from the viewpoint of the prospective occupants.

For instance, a few years back, one bathroom in a ten-room house was considered adequate; kitchen sinks were about 30 inches long and the contractor built a wooden drain board that seemed to meet every requirement.

But, as in every trade, improvements are crowding out the old; modern efficiency rules today. Yesterday's luxury is today's necessity.

While all plumbing fixtures have been wonderfully improved within the past ten years, the bathroom stands out foremost in its achievements.

Bath tubs, lavatories, closets, kitchen sinks, laundry

tubs are the most common of these fixtures; to these may be added the many new and necessary items for sanitary use, such as shower baths, dental lavatories, bidets, dressing tables, built-in vacuum cleaning systems and, of course, the countless accessories that are of valuable convenience; medicine cabinets, towel bars, soap dishes, paper holders, tumbler holders, shelves, hooks and so on.

These, briefly, are the visible evidences of the kind of plumbing; and by the quality, usefulness and even luxury is your judgment passed on by prospective users.

Students of health and hygiene have been preaching the value of cleanliness and the public are realizing more and more the truth of their sermons. The plumbing associations recognizing the demand for better bathing equipment have capitalized the idea into a slogan that has focused nationwide attention on the daily bath.

In every city, town and hamlet the slogan "a bath a day keeps you fit every way," drives home the most interesting and practical campaign ever undertaken by an association; it not only means more business and profits to all concerned, but it also insures better health and prosperity for those who practice it.

Therefore you now find all the family demanding a morning tub or shower and the one bathroom of a generation ago is not sufficient; two or three bathrooms are needed for the same family that were formerly satisfied with one.

With all this attention directed to bathrooms, it is only natural

that we Americans after first discovering the practicability of a thing to want to make it attractive, even luxurious, and that is what is happening to bathrooms.

Bathrooms may now be had that compare favorably with the old Roman baths only they are more

EDITOR'S NOTE—*No single detail of building and equipment of American homes is more important in determining the quality of the home than the plumbing. And, although organized effort is being made to educate builders and householders as to the importance of electrical equipment and other factors which are essential in making the American home standard the highest the world ever has known, little effort has been made to inform the builders of the country of the conveniences at their command for the service of their patrons.*

But the demand for better plumbing facilities has been growing rapidly and contractors who pride themselves on keeping abreast of the demands of the day must build the most modern plumbing in their buildings. This calls for careful planning and a knowledge of the developments of plumbing practice and plumbing fittings and equipment.

It was with this need for information in mind that the AMERICAN BUILDER arranged for this article by Mr. Zoeller, an authority on modern plumbing. And to enable the readers to obtain thorough and practical information, a number of other articles dealing with the plumbing and plumbing equipment field are planned, which will enable the builder to plan his buildings with a definite knowledge of what his patrons should have and how to give them the needed and desired equipment.

complete and much less costly. Legs are disappearing from tubs; they are now built with aprons down to the floor or of solid vitreous china. Cabinets are built into the wall, colored tiles come in artistic designs and make appropriate backgrounds.

Manufacturers have added new fixtures, such as sitz baths or bidets, oval lavatories, enclosed closets, enclosed shower stalls, sunken bath tubs, and big substantial lavatories; there are specially designed dressing or beauty tables, all these helping to make the bath room more desirable and therefore more in demand.

Of course, in the less costly homes a full equipment of the articles itemized does not appear but even in the cheaper grades of plumbing the fixtures are beautifully made so that even the workingman's cottage or flat has a luxurious bathroom.

As in the bathroom, so in the kitchen and laundry has the plumbing manufacturer improved his merchandise. The modern kitchen sink is a monument to art as well as an article of efficiency. And correctly so. Does not the man of the house have the very best of efficiency office equipment? Then why shall not Madam have efficiency in her workshop?

Laundry tubs can be had that are attractive as well as practical and who will gainsay that best workmanship is not stimulated with the best equipment?

We've described briefly what is going on in the field of visible plumbing, something that our eyesight approves of. But, after all, the plumbing supplies (the invisible) must not be overlooked.

While we advocate the finest and most luxurious

fixtures the building budget will stand, we wish to go on record as saying, no matter what kind of fixtures are used, the supplies must be of the best.

The reasons are obvious. Ninety per cent of the supplies are hidden beneath walls and floors. This valuable equipment that delivers hot and cold water, that carries off the waste matter, must be of such character that replacements should be unnecessary during the life of the building.

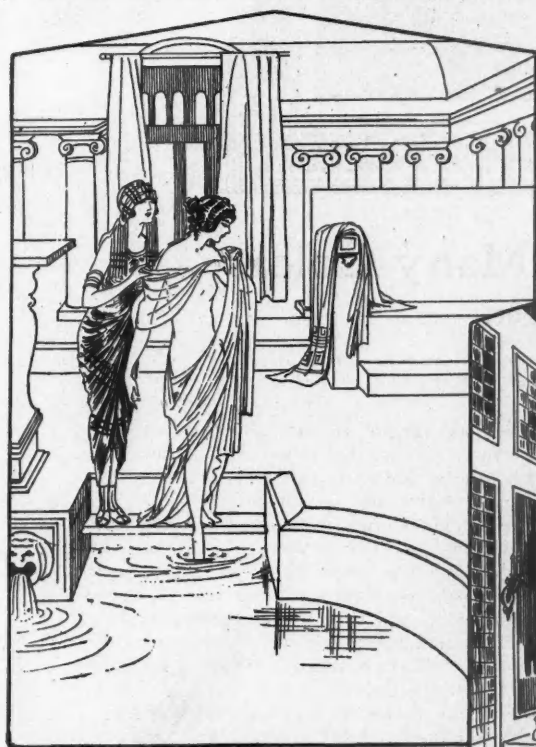
It is necessary to employ responsible plumbing contractors, firms who have a standing in the community. It is dangerous to call in a plumber whose only equipment is a plumbers' license and a kit of tools. A damaged supply pipe will cause more expense than an entire original plumbing installation. Therefore look up a plumbing contractor who has a shop with merchandise on display, one who will exhibit samples of the supplies he proposes to install in your building. Be sure to study the relative merits of the various grades and while it is always necessary to keep costs down, invisible plumbing supplies should be purchased on the basis that you want the kind that will not need further attention after the job is completed.

And this is also true of fixtures; let us offer the practical suggestion that only advertised plumbing goods be used.

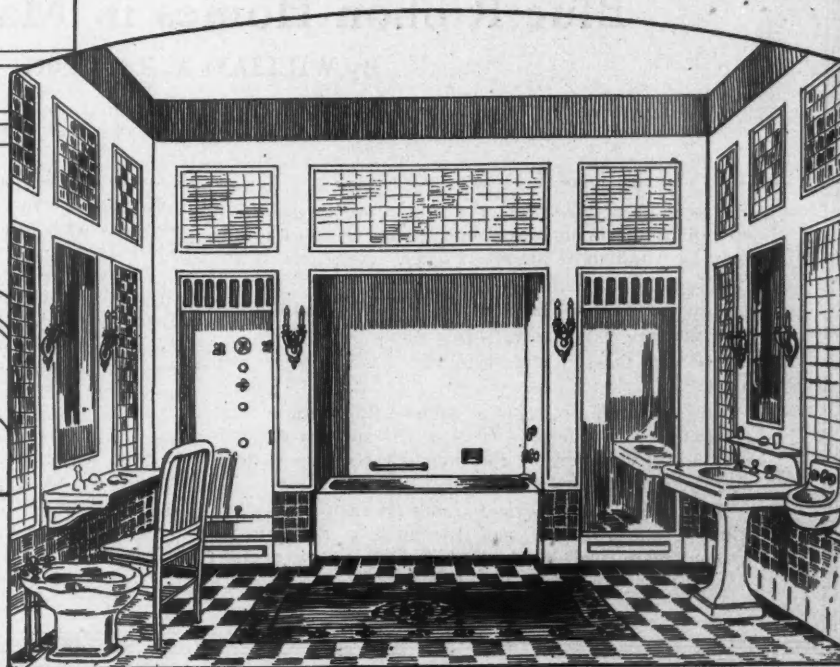
Those who understand the basic value of advertising will readily agree that this is a sound recommendation and an insurance that the best will always be had.

And for fear some may misunderstand and still believe that advertised goods cost more, let us assure them that advertising's chief function is to increase sales and thus cut down the selling costs.

If you will give due consideration to the facts as set forth here and apply them on your next job, you'll have an entirely new selling angle and you will have increased the value of your building by many per cent.



Bathrooms Are Available to American Builders Which Are Much More Complete and Less Expensive than Those Which Were the Pride of Ancient Rome.





Blue Ribbon Homes in Many Colors

By WILLIAM A. RADFORD

President and Editor-in-Chief American Builder, Farm Mechanics, the Radford Architectural Co., and the Radford Cyclopaedia and Other Building Books

Do you like colors? I do.

I have been working for a long time to perfect a method of showing our Blue Ribbon Homes in the very best and most attractive way. And here is the result.

How do you like these home designs? And how do you like this way of illustrating them?

Are they the size and style homes that interest you most?

Notice that these pages in colors present many suggestions for *Interiors of Homes*, for modern furnishings and decoration, in addition to the exterior views and the dimensioned floor plans.

And notice the historical scenes on each page—they glimpse the romance and the history that cluster around many well-liked home designs in the regions

that first developed them. We are all proud of our local architecture, yet at the same time willing to share it with others, and in return to adopt the best ideas from other states and sections.

These Blue Ribbon Homes in many colors are full of good suggestions; and I hope that every AMERICAN BUILDER reader will use these pages in *selling the home-building idea*. Show them to your friends, your customers and clients, and your prospective customers and clients. They will catch the building fever.

Next month I will have ready for you another 16 pages of Homes in Colors.

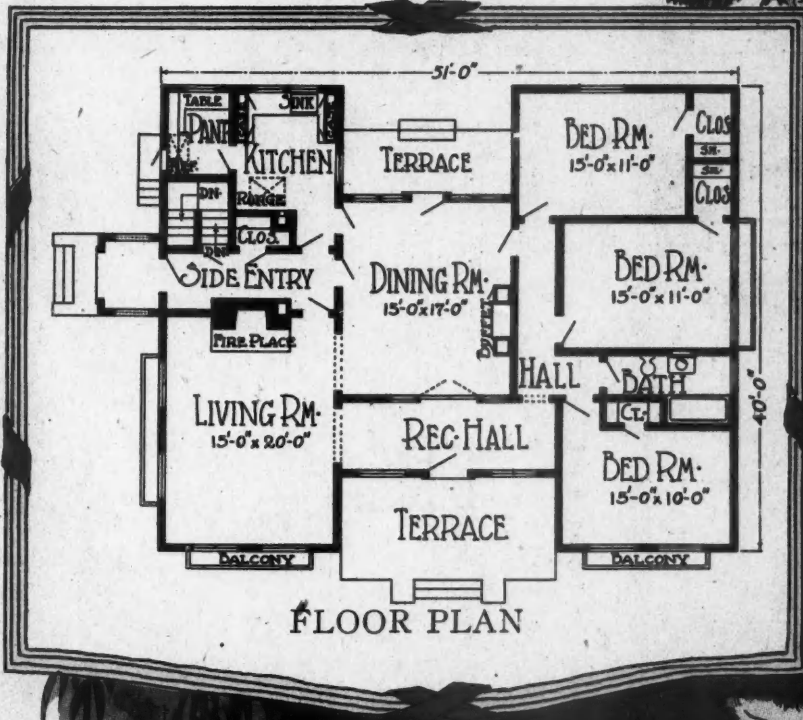
They will be like this—but *different*, another new idea—even more effective, I think, than these October designs. But judge for yourselves when you see next month's AMERICAN BUILDER!

Have you any suggestions to offer?—Write me.



The ALHAMBRA

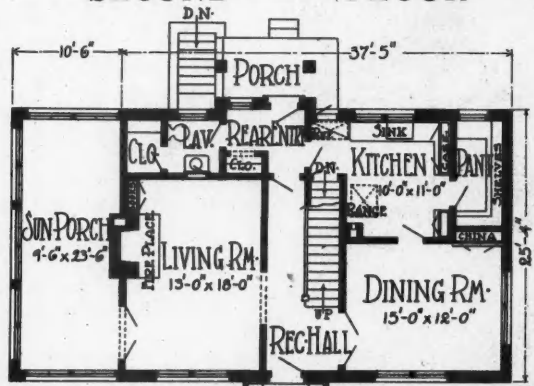
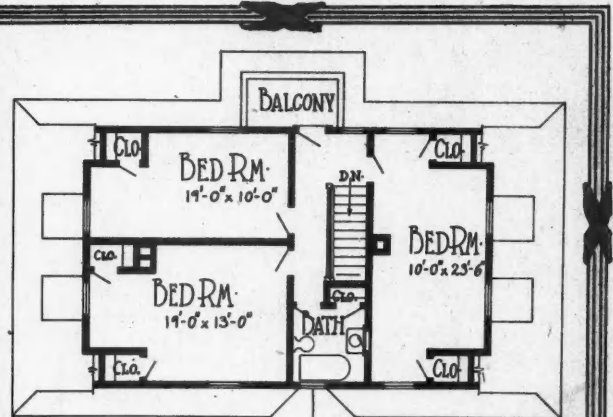
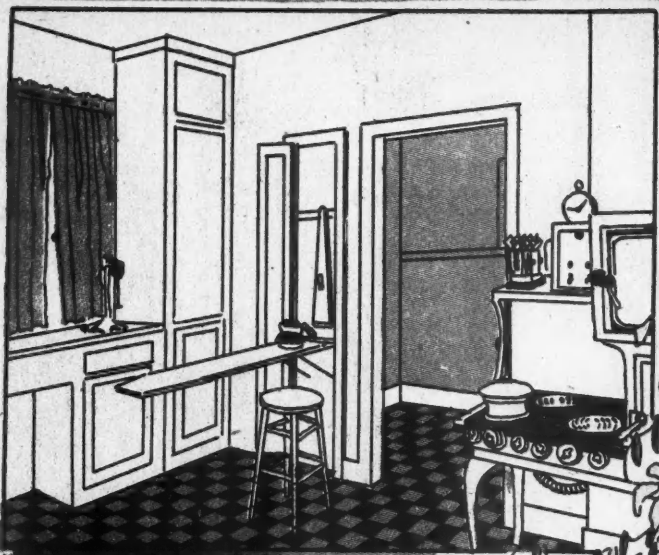
DWELLERS in Florida have found homes of this attractive Spanish type most comfortable and convenient and their unusual and pleasing appearance is leading to their adaptation to all parts of the United States. The plan is excellent, with the three bed rooms grouped on one side of the central dining room and the living room and kitchen, well separated from each other, on the other side.





The ARLINGTON

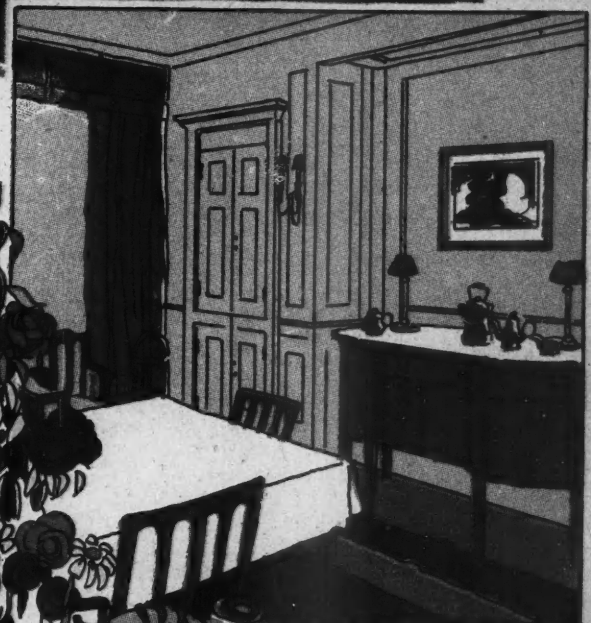
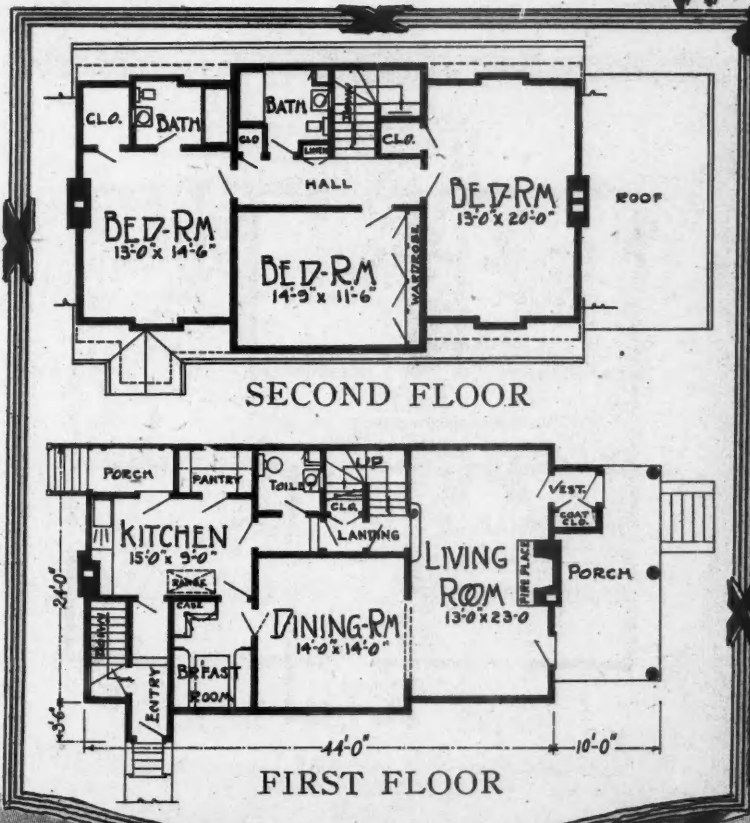
THE exceptionally large sun porch and the spacious bed rooms of this home insure an unusual degree of comfort to its occupants. The first floor, with its large living room and the efficient arrangement of the dining room, kitchen and pantry, is very well planned.





The AMSTERDAM

BY placing the entrance of this handsome Dutch Colonial home in the end, with a porch toward the street, it is made suitable for the lot of average width. The six main rooms are unusually large. The built-in conveniences of the kitchen and breakfast room are worth study.

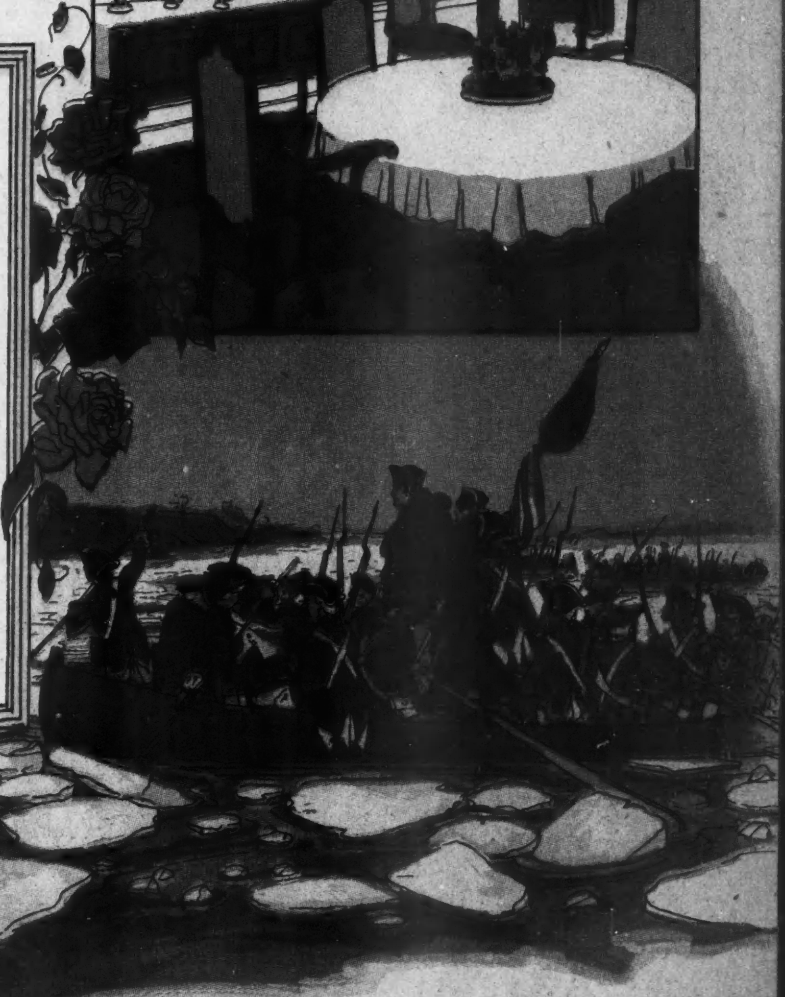
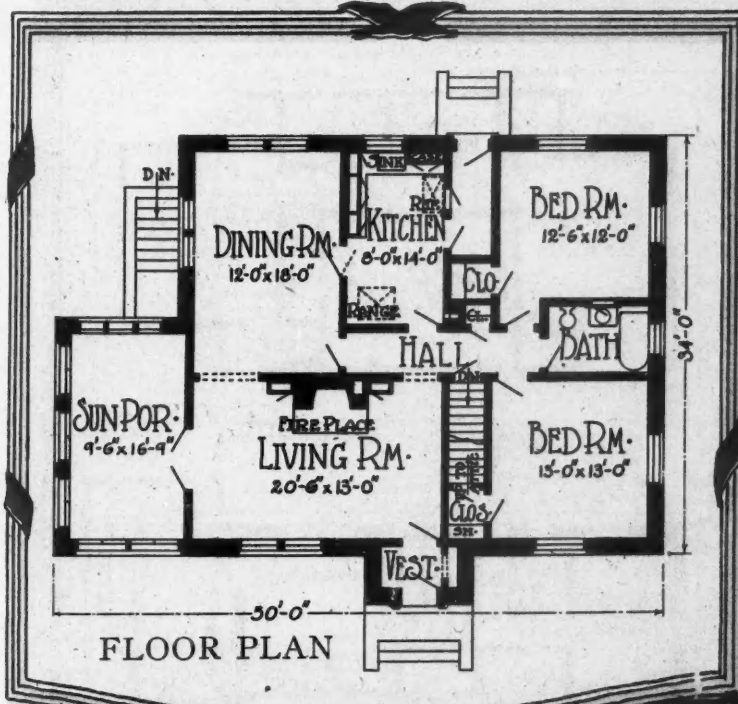
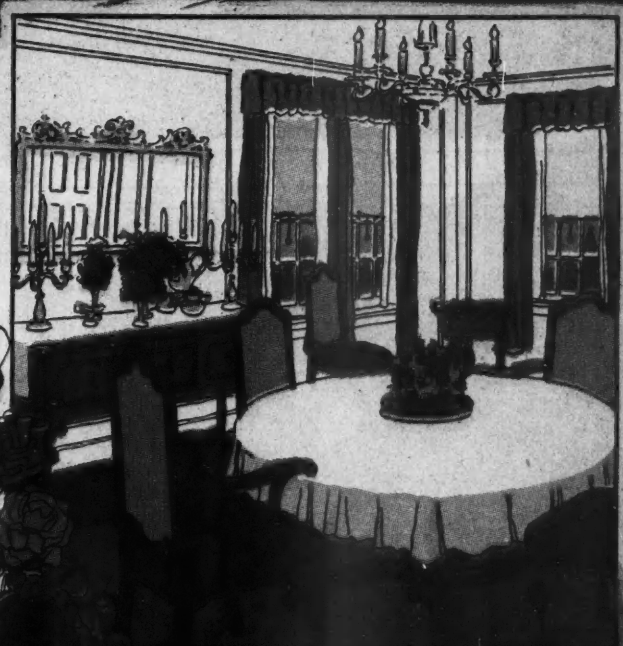


The Dutch Settle New Amsterdam, 1624



The ANDOVER

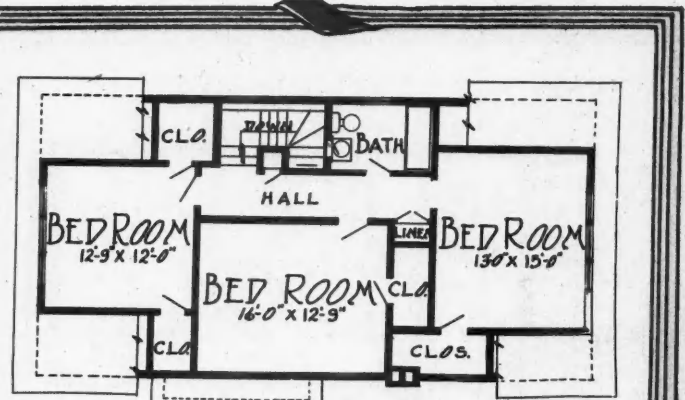
THE Colonial Entrance and door of this little home, in their coatings of white paint, show up remarkably well against the background of the brick walls; the shutters and the square paned windows are thoroughly in keeping with the design of the home. It will be noted from the floor plan that the living room and dining room, with the kitchen, occupy one side of the house, while the other side is devoted to the two bed rooms. The manner in which the sun porch has been planned is particularly good.



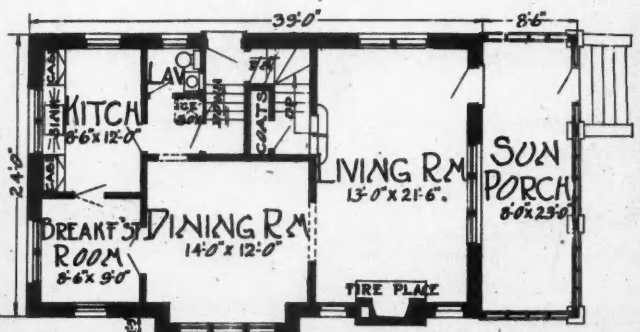


The ASHLAND

THIS home of a type so popular in the Middle West is practical, comfortable and the rooms are of such a shape that they can be beautifully decorated and furnished. Only twenty-four feet wide, it can be built on the average lot and still leave a comfortable driveway.



SECOND FLOOR



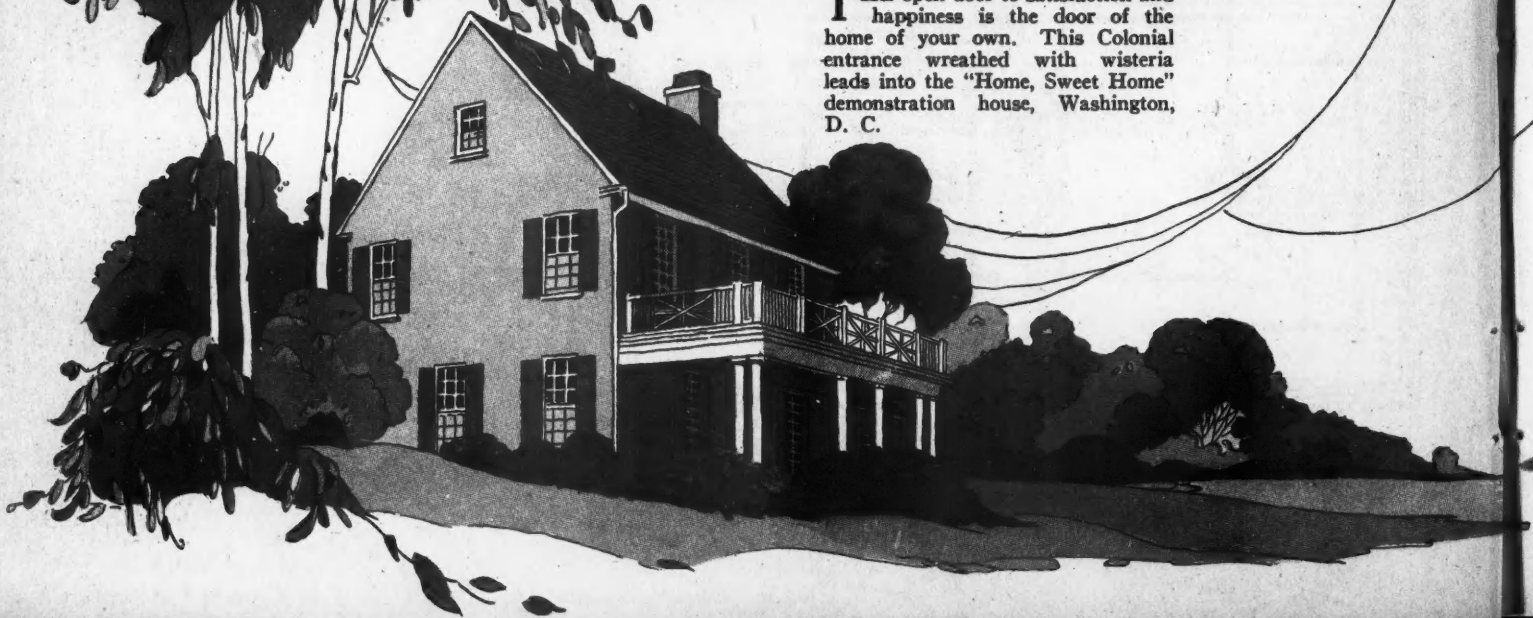
FIRST FLOOR



Father Marquette Explores the Upper Mississippi River, 1658

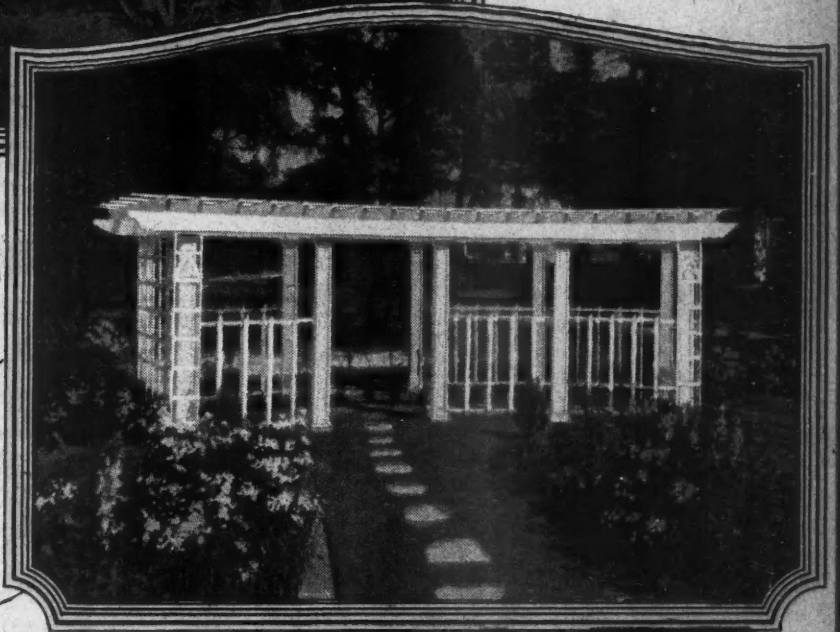


THE open door to satisfaction and happiness is the door of the home of your own. This Colonial entrance wreathed with wisteria leads into the "Home, Sweet Home" demonstration house, Washington, D. C.





To left: A covered seat and archway marking the path to the garage.



To right; a gleaming white pergola of graceful lines but simple construction screens the lower garden.

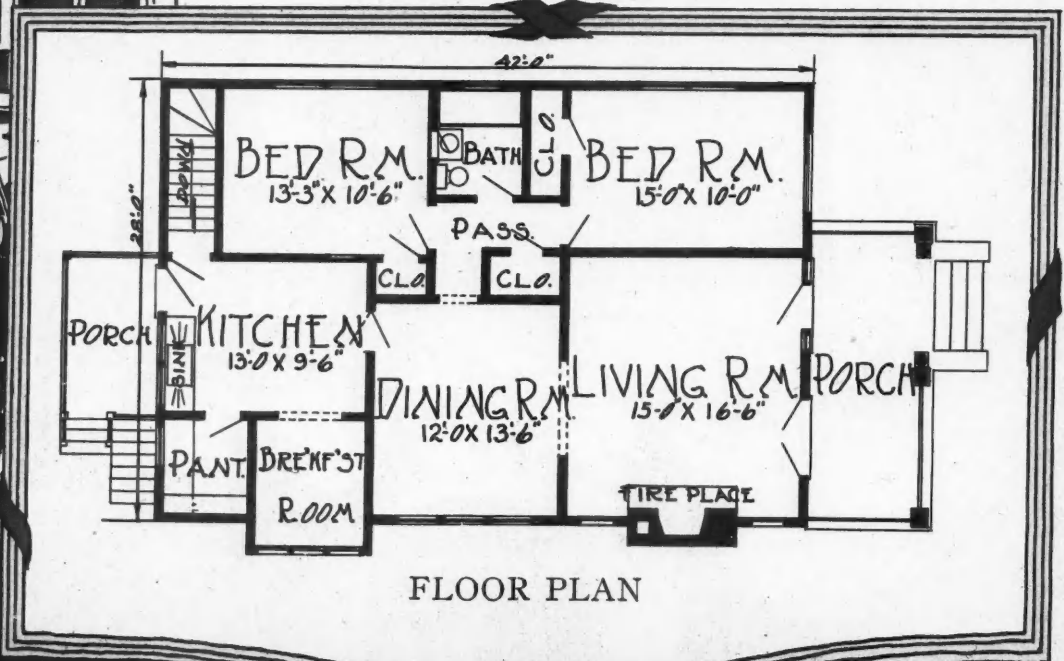
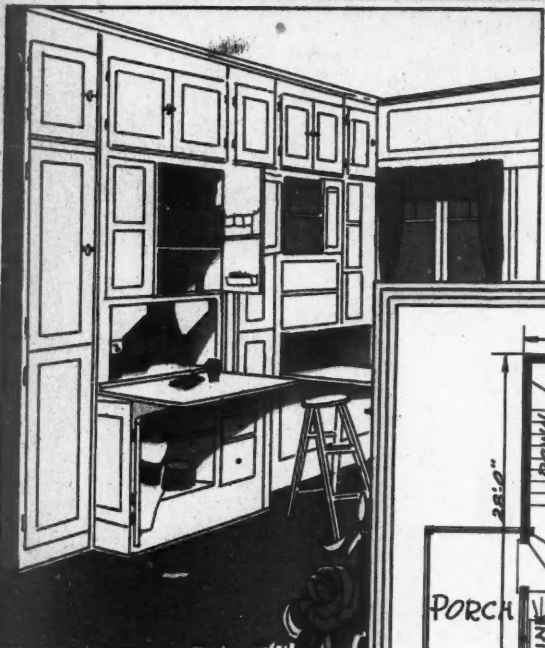


A PAGE of pergolas—each with its distinctive grace and beauty. A little well selected building material nailed together according to the proper plan makes more delightful the delights of the home, lawn and garden.

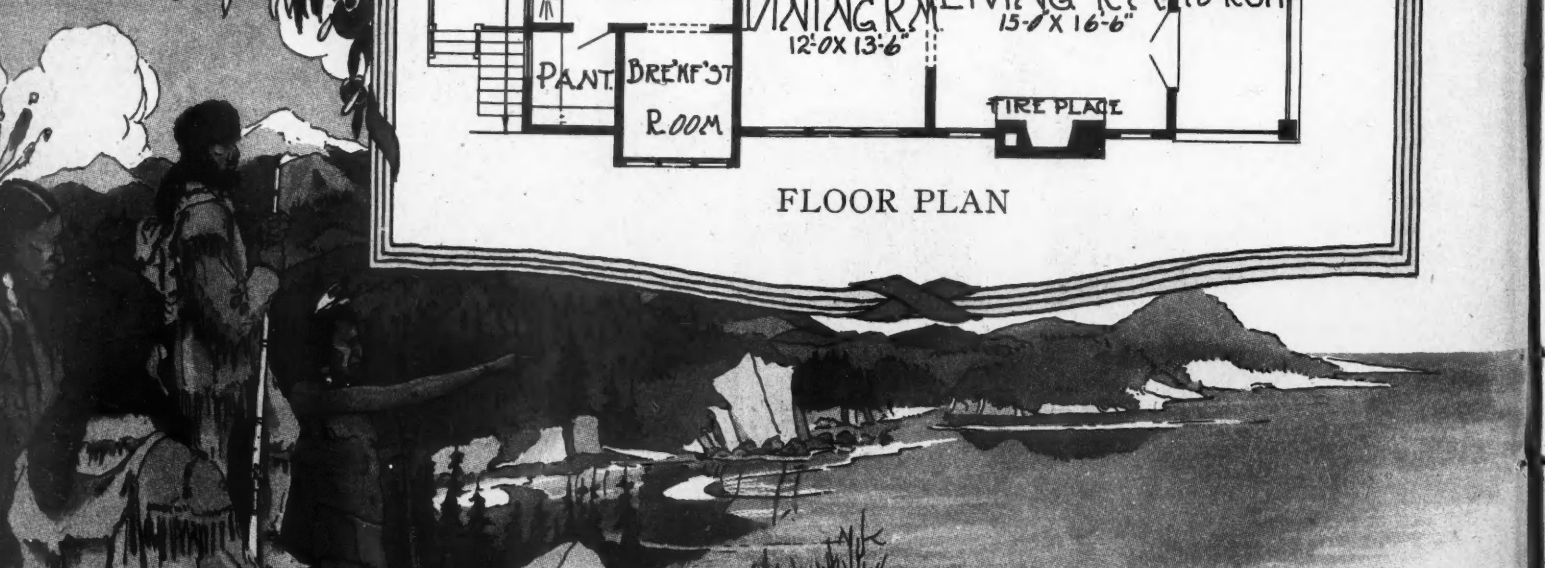


The ARCADIA

A PLEASING simplicity, in accord with its name, has been made the keynote in the design of this attractive frame bungalow of five rooms, a breakfast room and bath. All of the rooms in this home are notable for the exceptional amount of daylight and ventilation provided. The kitchen, the pantry and the breakfast room form an efficient working place for the housewife.



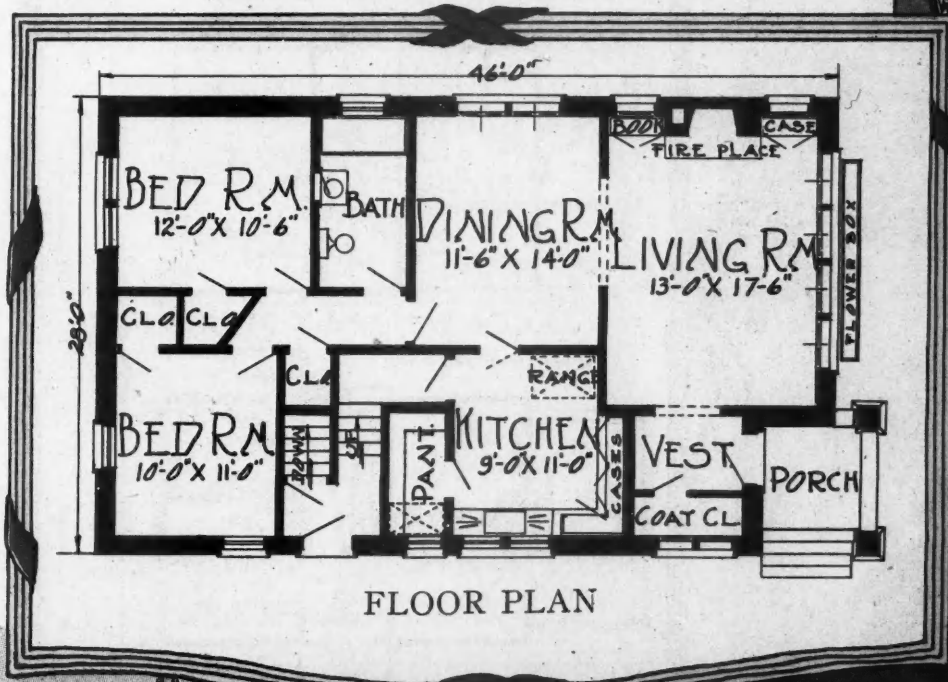
FLOOR PLAN





The AURORA

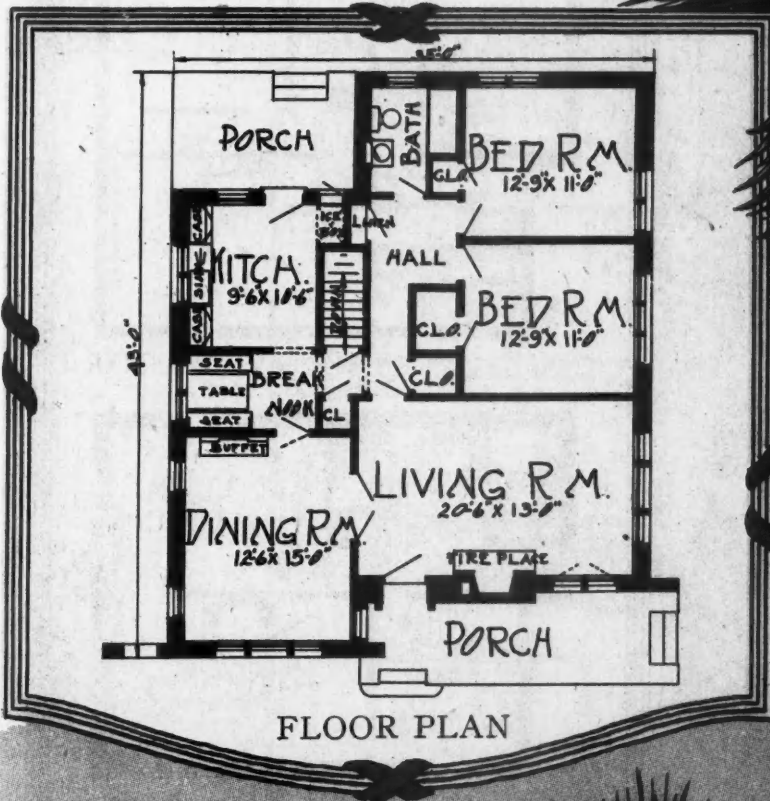
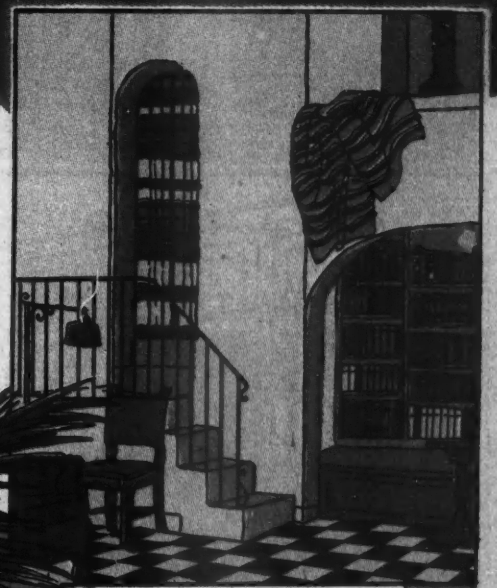
HERE is a home well adapted to almost any setting and one which is particularly attractive when surrounded with flowers and well planned shrubbery. The tile roof presents an interesting opportunity for a touch of color. The floor plan is unusual in the placing of the kitchen in the center of one side of the house rather than to the rear. Note that the bed room group is well separated from the rest of the home.





The ALAMEDA

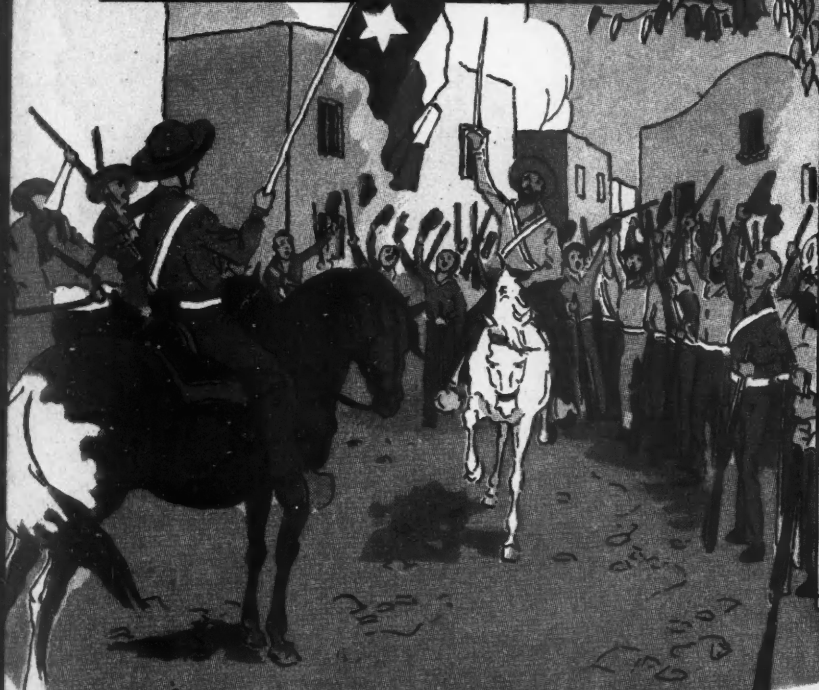
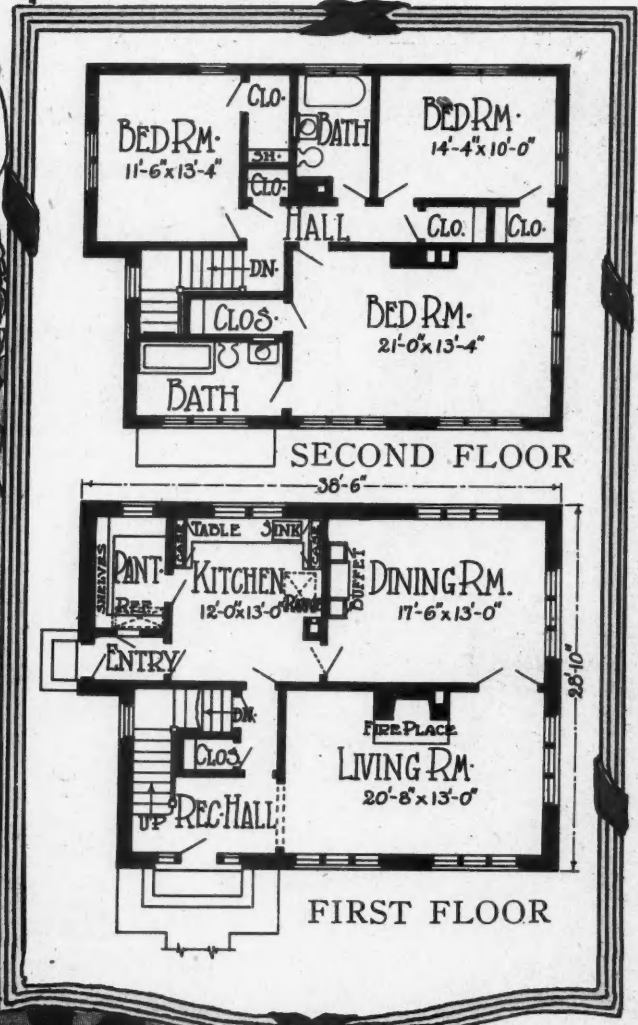
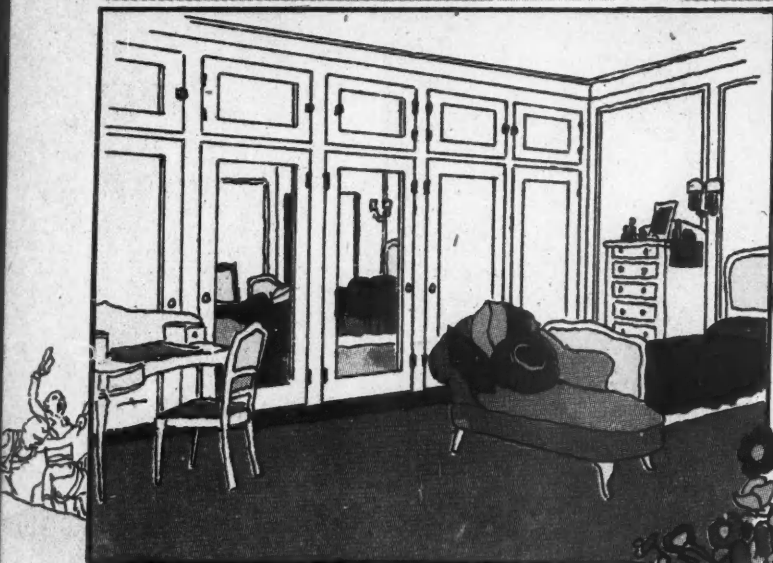
HOMINESS with distinction is well expressed in this modern dwelling of Spanish design. The planes of the stucco facade are interestingly broken by the arches of the windows and door. The proportions of the living room are especially good and the grouping of the dining room and kitchen with the charming breakfast nook is well done.





The AUSTIN

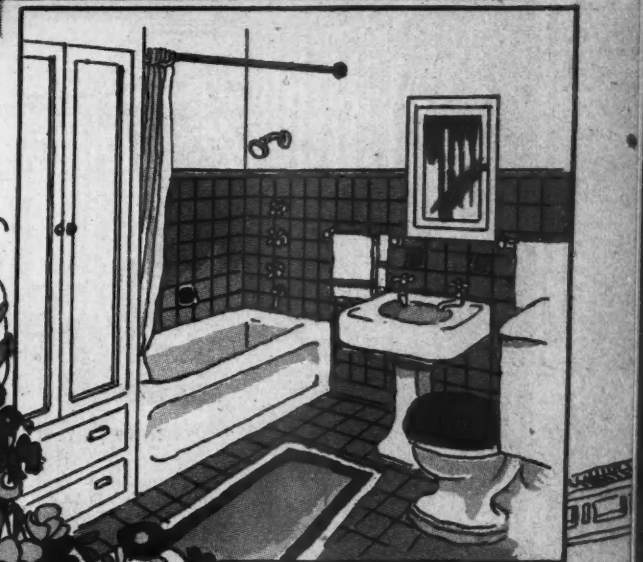
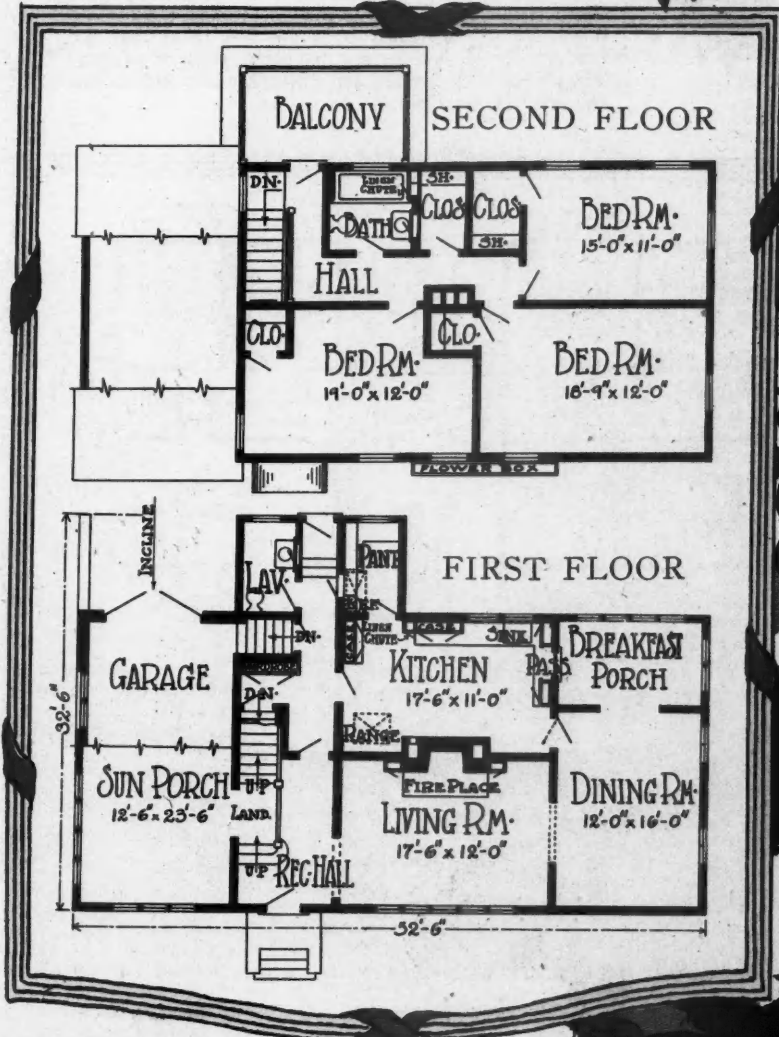
THE tile roof and decorative use of brick lend unusual distinction to this square type stucco home, an example of an attractive exterior attained through the careful use of simple details. The interior of the home is notable for the fact that all of the larger rooms have cross light and ventilation.

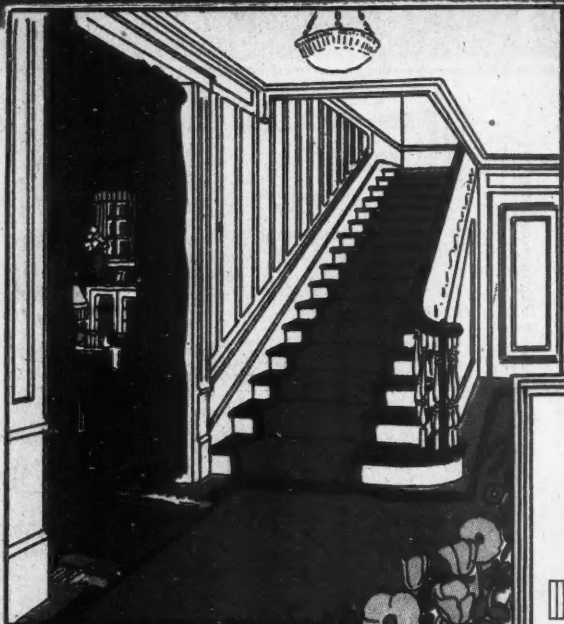




The AMHERST

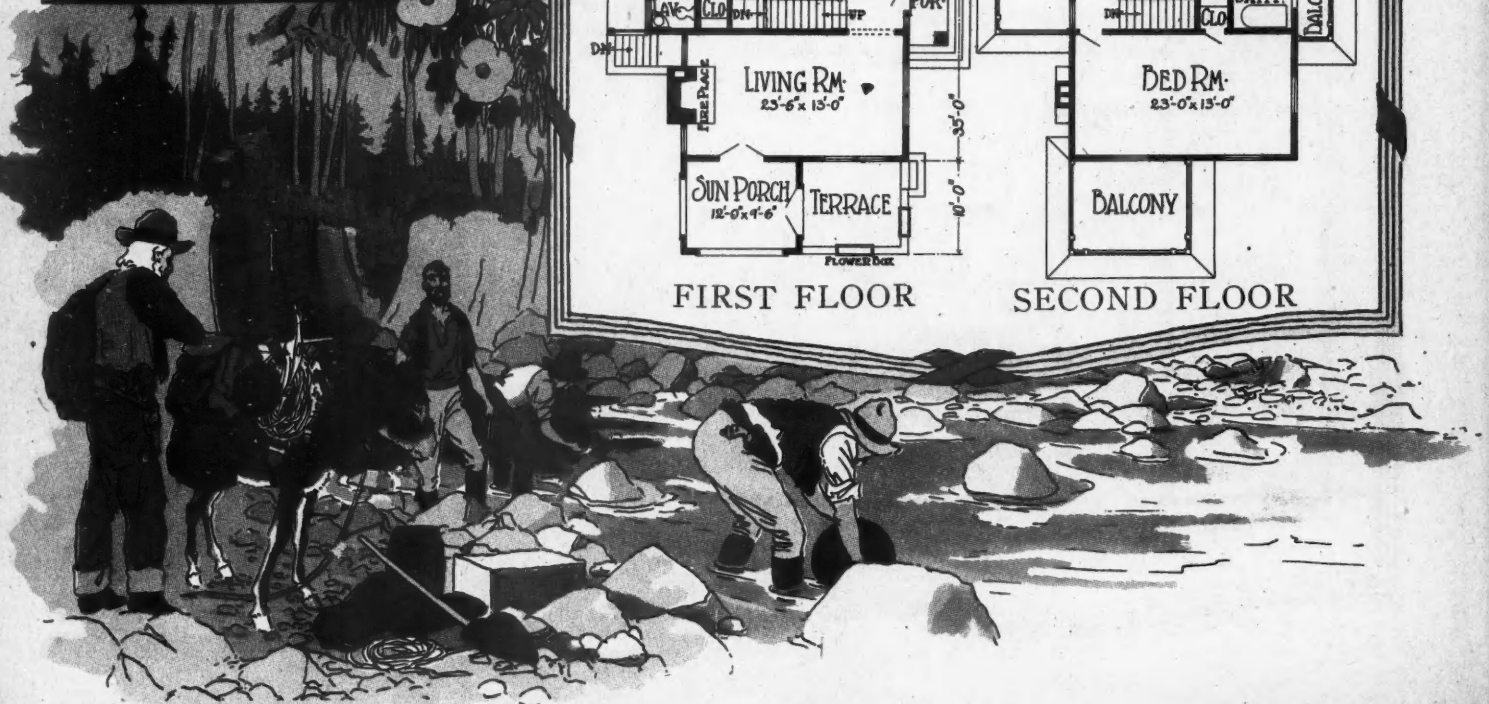
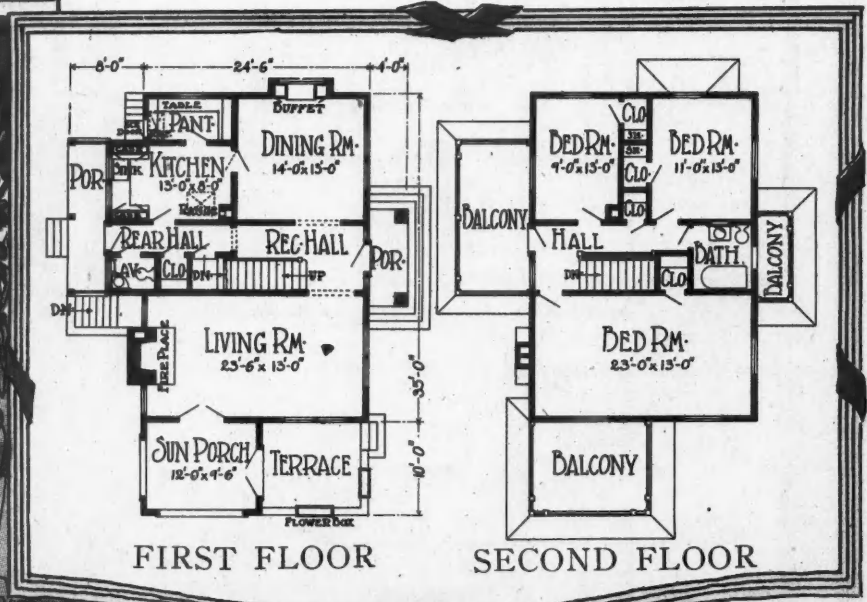
THE unusual and irregularly placed windows, the arched hood of the entry and the high gambrel roof make this home especially attractive in its setting of flowers and shrubs. The wealth of porch room and the well worked out details of the floor plan insure that such a home will be a comfortable one in which to live.



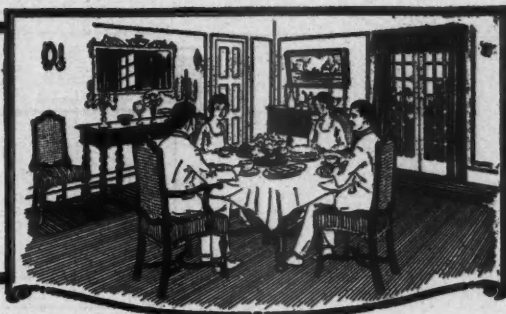


The APPLETON

PAINTED shutters and bright awnings add much to the beauty of this home of the ever-popular hip-roofed square type which is quite typical of the Middle West. It will be noted from the floor plan that the entrance on the side gives a distinctive sense of privacy. The rooms, both upstairs and down, are of adequate size and are well arranged.



OUR FRONT COVER HOME



Attractive New England Farm House Design is Notable for the Convenience of the Room Arrangement and Generous Porches

GREEN shutters against wide, white siding; attractive porches with simple but carefully worked out ornamentation and the pleasing door, with its effective sidelights are details adding much to the good proportions of this Colonial home, which shows to particular advantage in its setting of foliage as pictured on the Front Cover.

The front entrance admits one to an attractive reception hall, with a Colonial stairway leading to the second floor. On one side, in the usual Colonial manner, is the living room, with the sun porch adjoining and adding materially to the usable space. The window seat, with built-in book cases at each side, is good feature worth copying.

The other side of the reception hall is the dining room, reached through French doors. This room is reached from the kitchen through an unusually con-

venient serving pantry, which contains a work counter, a case and the refrigerator, which it is planned to have iced from the rear porch. A first floor lavatory is a feature which should not be overlooked. It is accessible from both front and rear of the house.

The second floor may be finished in either of two ways, as shown on page 129. The builder may install three bedrooms, one to be a master chamber, extending the full depth of the house, with its private bath and two generous closets. The other two rooms provided by this plan are of generous size and are well provided with closet space.

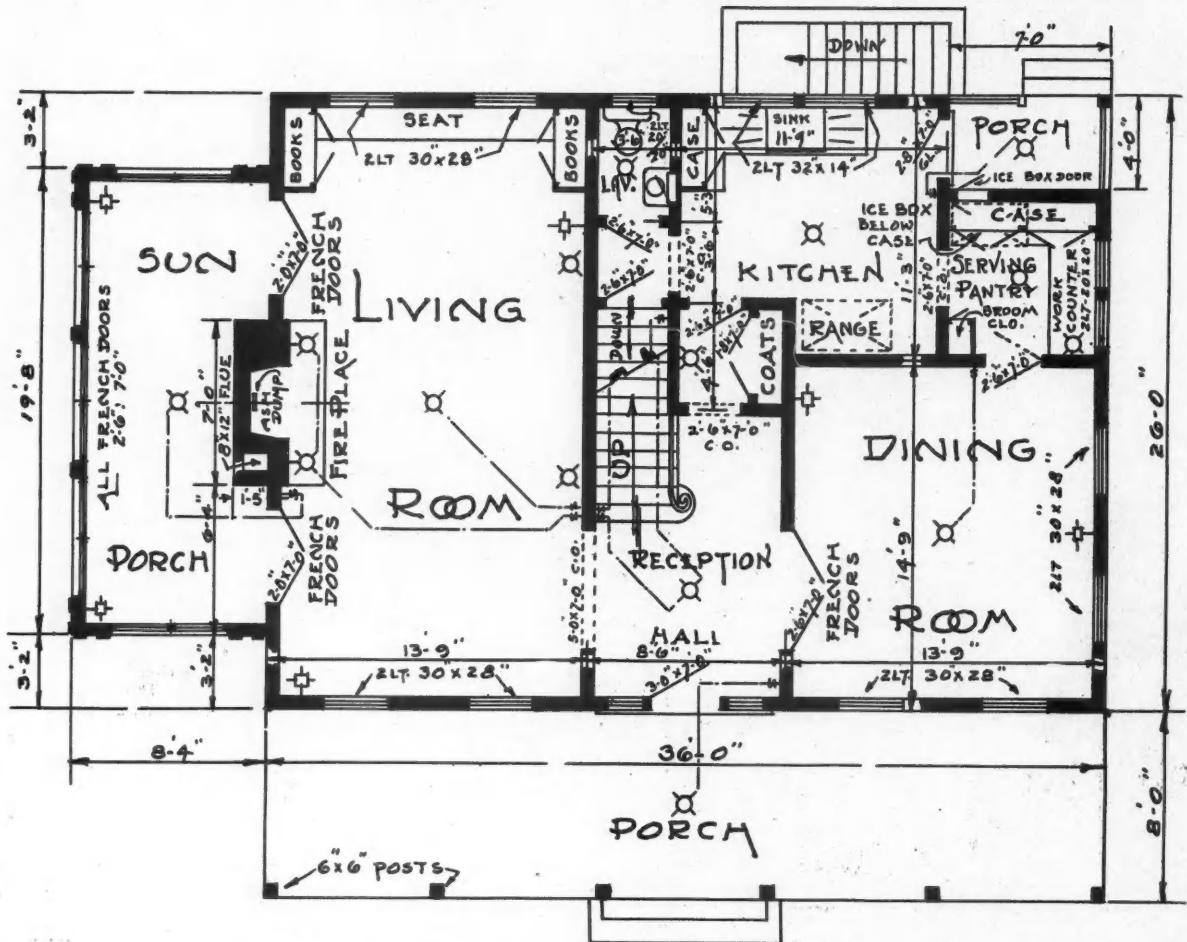
The alternate floor plan shown gives four bedrooms, all of adequate size and with cross-ventilation. In this plan a bath is placed directly between each two bedrooms and can be reached from either without the necessity of going out into the hall.



The Manner in Which the Porch Is Housed Under the Main Roof of This Month's Front Cover Home Makes It an Integral Part of the Home, Instead of Giving It the Effect of Being Added as an After Thought. Full working details of this attractive Colonial home will be found on the four following pages.



* FRONT * ELEVATION *



SHEET NO-1-

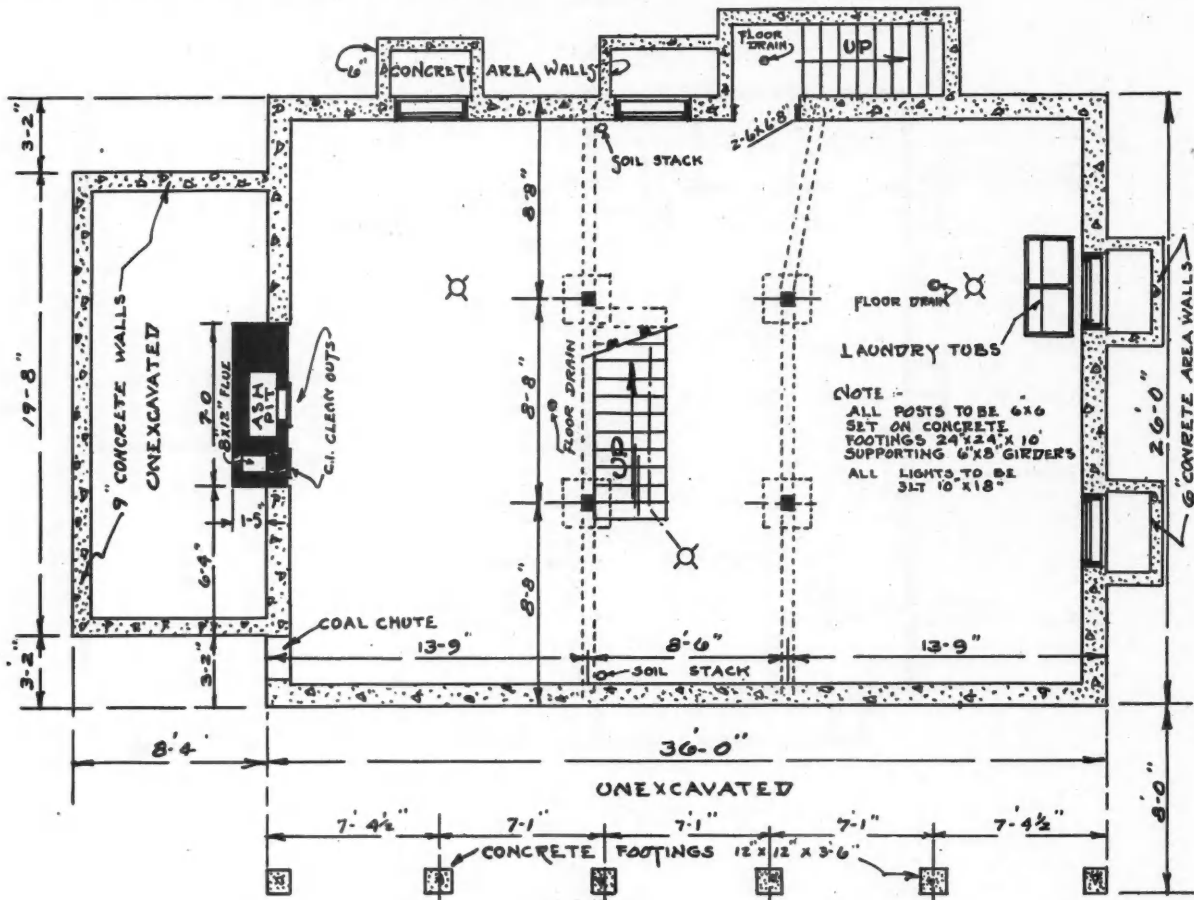
* FRONT * ELEVATION *

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

The Scale Drawing of the Front Cover Home Shows How the Details of the Wide Siding and the Well Proportioned Shutters Are Worked Out. The living room, with the fireplace in one side and the window seat flanked by built-in book cases at one end, is an unusually pleasant room. Two plans for arranging the second floor are presented on the following page.



* SIDE * ELEVATION *

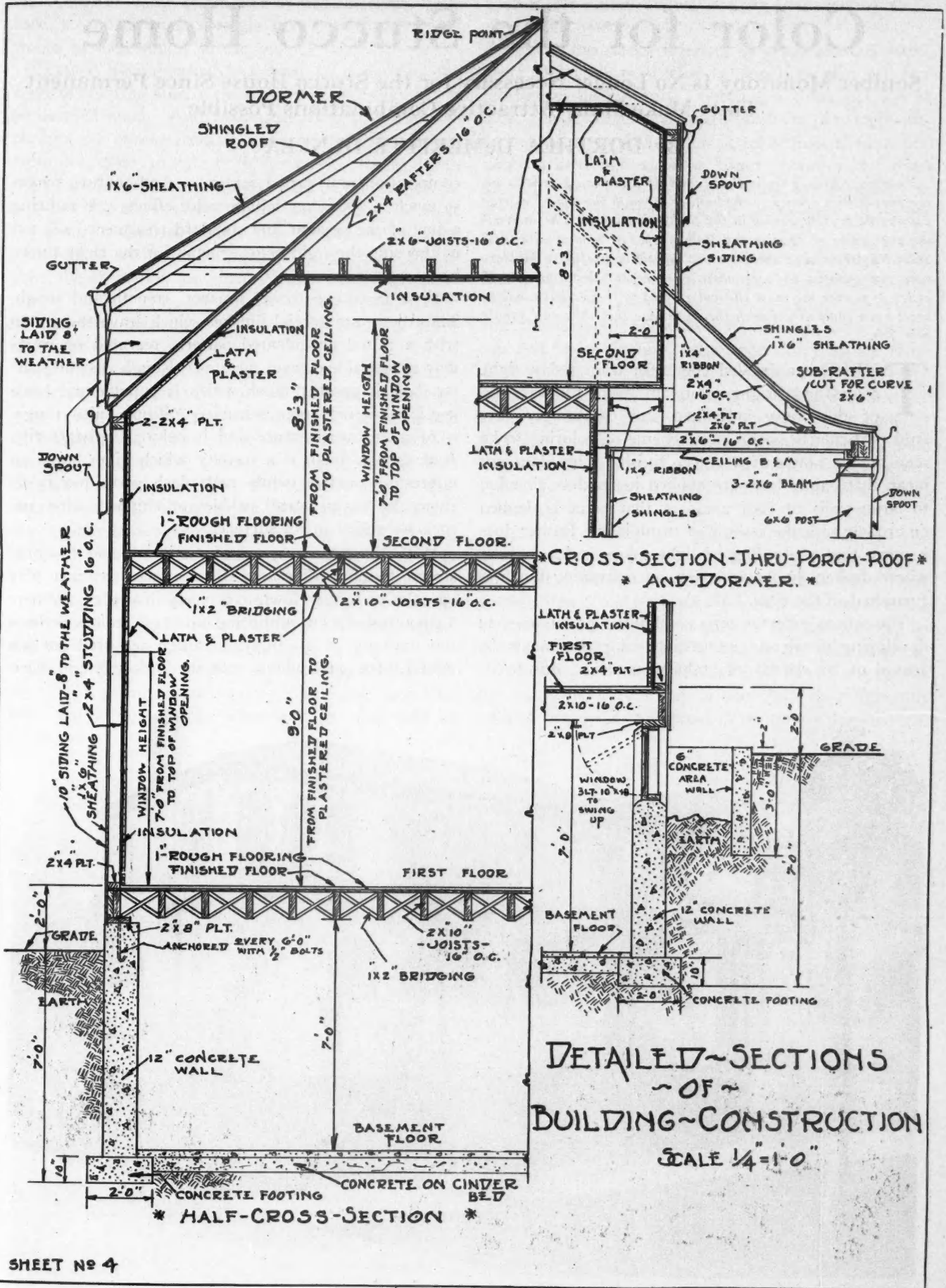


SHEET NO-3 -

* BASEMENT * PLAN *

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

The Basement of the Front Cover Home May Well Be Divided into the Well Lighted Laundry Indicated, with Its Built-in Tubs, a Section for the Heating Equipment and Coal Bins and a Section for Storage Purposes. A detailed cross section of the front cover home is given on the following page.



SHEET No 4

Details of the Construction of the Front Cover Home Are Presented in This Cross Section. Note that the 2-foot concrete footings and the 12-inch basement walls provide an adequate foundation for the building. Side wall and ceiling insulation is utilized to make heating easier and less expensive.

Color for the Stucco Home

Somber Monotony Is No Longer Necessary for the Stucco House Since Permanent Tints Make Many Attractive Combinations Possible

By DORTHEA DeMERITTE DUNLEA

EDITOR'S NOTE—This is the second of a series of articles on the possibilities opened to the builder through the use of mortar colors, the first appearing in the September issue. The increasing popularity of Spanish and Italian types of homes, with their stucco finish, makes such a topic especially useful to builders who are anxious to keep abreast of recent developments in order to render the most efficient service to their clients and to meet keen competition with the assurance that they can handle any job.

THERE is a decided vogue for color today, light colors and bright colors, to make the exterior of the house individual and charmingly gay. And particularly is this new scheme of coloring to be seen on the house of a stucco finish. This does not mean that gaudy hues are applied in reckless abandon to large walls or roof areas or that paint is daubed on crudely to make a show of trimmings. Rather does it mean that a blending of light colors is favored or, where darker shades are used, an enlivening touch is furnished in the trim.

The stucco exterior offers unlimited possibilities in developing novel and interesting color treatments by reason of its special adaptability to color, due to its

composition and varied texture. And texture means so much in obtaining definite color effects that noticing a few of the popular and standard treatments will aid in choosing the right color scheme for the right stucco house.

First there are trowel finishes, smooth and rough. Then there are special finishes which leave the stucco with a raised or indented pattern, repeated or irregular as individual taste dictates. Rough cast or spatter dash is another finish which is popular and lends itself to varied color schemes. Stipple, also rough, is of a uniform texture and is colored satisfactorily. And sponge finish is a novelty which gives walls an interesting surface while rock dash gives beauty to stucco by having small pebbles or chipped stone and rock imbedded in its surface.

With these many ways of surfacing and finishing stucco, to gain different textural effects, one may play up color or tone it down to a nicety of degree. Where a smooth surface would bring out bright colors perhaps too daringly or glaringly, a rough textured surface would soften and subdue with shadows here and there.



The Attractiveness of Stucco Homes Has Been Enhanced Greatly Through the Increased Attention Paid of Recent Years to the Color Possibilities Attained Through the Use of Mortar Colors and Through the Careful Consideration of the Texture of the Finish of the Stucco. The home shown above has been given a distinct individuality through the use of color complementary to the tile roof and through its rough finished surfaces.

On the other hand where dull or neutral colors were used, a smooth surface might give a uniformity that would be exceedingly attractive.

Texture having been considered as a definite element in coloring stucco, the choice of colors is next to be decided upon. And here again variety is available for one can choose from all the colors of the rainbow, from deep tones to light tints, forty colors being developed for use with one particular kind of cement stucco.

White has always been of the old standbys and for the small or the large house it is a good choice when an effective setting or background of green is obtainable. With white, one may have a choice of trimmings. Black, gray, pale green, dark green and light blue all have been used with pleasing effect for trimming the white stucco house.

For those who prefer a less striking effect, a little softer or more neutral tone for the stucco exterior, gray is a good color for surfacing. It has a certain Old World quaintness when developed in some of the slate tones and it comes in several shades from deep sombre gray to light and French grays. For stucco homes of darker grays, black and white make appropriate trimming colors. Lighter grays may be trimmed with dark gray, pale green, dark green, light blue, coral or maroon with very good effect.

The tans and browns are always effective for the stucco exterior and add a picturesque beauty suggestive of early Spanish days.

Brown, black and orange often are combined with tan. With cream, Nilegreen, light blue and deep blue form a pleasing contrast, while buff, so often used as

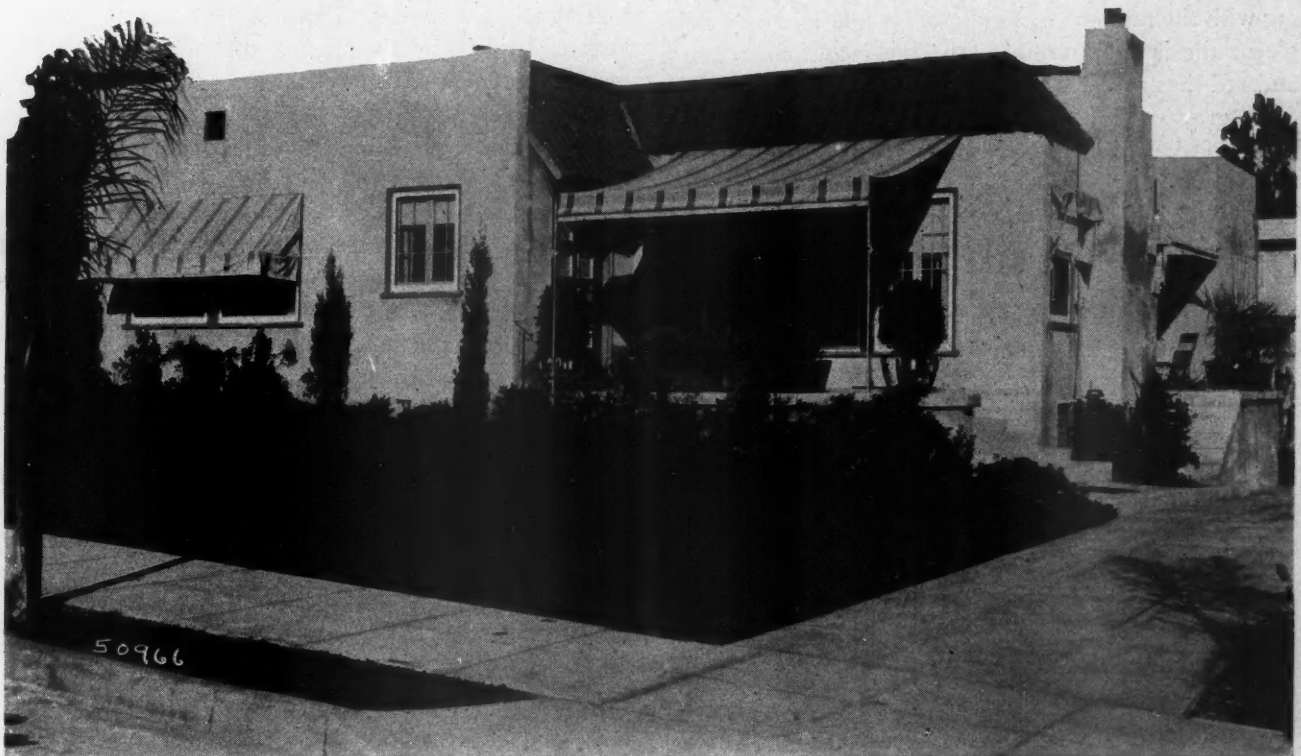
a color for stucco homes, is attractive when white is used for a relief color.

Besides the standard colors of gray, tan and white, there are many new color combinations that are captivating in their beauty. Green is a color that can be most conservative in its effect and yet pleasingly different. It is worked out on pastel or neutral tones and many a little bungalow or house of larger size owes its individuality to its stucco walls softly colored in green, with trimmings of black, white, gray, or deeper green.

Pink houses, blue houses and ones of lavender are also among the leaders in the new color parade. And very attractive are these colors if rightly chosen to suit the style of house and its setting. Pink houses are real "rosy dreams" come true, for they are more likely to be rose than pink, and shaded toward the terra cotta in hue. With deep rose, black and white are very often chosen for trimming while light or ciel blue is effective combined with shell pink or pale rose that has a hint of yellow or apricot. Light green (nile) is also liked in combination with shell tinted stucco.

Blue that matches the brightness of the sky or the alluring greenish color of the sea, is a means of giving distinction to the stucco house, too, if a right combination of colors is used for wall and trim. Black and white is effective, and gray or deeper blue may be chosen to make the blue acceptable for wall coloring.

Lavender is still another of the newer colors for the stucco house and may be seen in a clear light tint or as a part of a variegated or mottled color surface.



Remarkably Attractive Exteriors on Smaller Stucco Homes Are the Result of Careful Use of Mortar Colors in Determining the Shade of the Walls. Here the effect is heightened through the use of brightly colored awnings and carefully selected shrubbery.

Mixed colors (polychrome effect) are not to be overlooked either when coloring the stucco exterior, for giving as they do a hint of many colors, no one color leading or predominating, except in the trim of the house. Among the polychrome finishes, the following colors are frequently grouped:

Yellow, tan, brown and green.

Green, blue and gray.

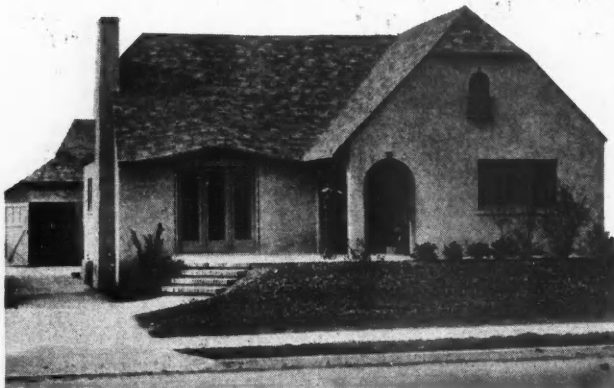
Lavender, blue and green.

Rose, green and tan.

The coloring of the stucco house is accomplished in two ways. Either by the use of stucco already mixed with colors or by the application of a color coat after the stucco is finished. The new house can, of course, take advantage of colored stucco while the house already built, which needs brightening up, can profit by the use of the technical paints that come especially for stucco. Ordinarily house paints do not work out satisfactorily by reason of their oil content combining with the alkali in cement, to form a soap which is soluble when wet. But especially prepared stucco coatings come in a wide range of colors to make a permanent surfacing that will not fade or wash off.

Light colors are stressed most at the present time, and the darker shades to be "in style" are usually brightened with touches of vermilion, orange, yellow, ciel blue or green, and these vivid colors are applied in many interesting ways. It may be that the roof is featured for contrast with neutral walls, or it may be that decorated motifs are applied to the house. The jazz roof is especially attractive when used with gray or tan walls, that are perhaps a bit sombre, for this roof is indeed a splash of color—the shingles vying with the rainbow for hues. The light green of shingle or tile is in harmony with almost any color house and red tiles are pleasing with dull or dark walls. The dark gray or black roof is wisely chosen when the walls of the dwelling have been painted gaily or decorated with high colors.

Painted motifs, in stencil effect, are one of the newer touches that give distinction to many types of stucco homes, from the Spanish or Italian to the cottage of Flemish or English design. These patterns follow around the windows and doors or are applied



Besides the Brightening Influence of the Multi-Colored Roof, Notice That a Band of Color Is Run About the Three French Windows Opening on the Terrace.



The White Walls of This Stucco Home Will Make an Interesting Background for the Foliage Which Will Surround It When the Landscaping Is Completed.

just as a special decorative feature on the surface of a wall, just below a gable, on the wall chimney or on the window blinds. These ornamentations are often worked out in a number of colors, combining rose and blue, yellow and black, yellow and green, or orange and black; even red and black may be liked for novelty if the red is merely used as a touch. And these color combinations are also applied to the balustrades and grill-work of the house.

Even the front door of the up-to-date stucco house, comes in for its share in brightening up the exterior. A polychrome effect has been used to advantage on some types of floors, especially those which are of Old World patterning. Panelling can also be accentuated effectively by the use of contrasting colors that match the color scheme chosen for the outside finish of the house.

The window boxes and flower pots can be made to echo the gayety of wall or trim, and awnings added in the summer-time will be a means of achieving success, in handling the favored high colors. In fact, just these touches of color are often more effective than a more liberal use of them.

And in selecting any of the light colors, it is well to remember that in general, they tend to increase the size of a place when used for walls. When used for roof, too, an effect of height is gained. Light colors also make the house cooler in summer, and light trimmings will bring out the outline of windows and doors, while dark trimmings will tend to decrease the size of these features.

Many makers of mortar colors have published interesting and valuable booklets, showing the various shades which may be obtained through using their colors and giving much information of value to those who propose to erect stucco homes. It is well worth the while of the builder to make a careful study of this literature to keep himself abreast of the latest developments and color possibilities.

Warm Homes Sell Best

Builders and Realtors Are Finding That Building Warmth Into Homes Is the Most Profitable Thing They Can Do

By CLYDE A. MANN

EDITOR'S NOTE: *This is the second article on insulation and its value to the builder and home owner by Mr. Mann, the first appearing in the September AMERICAN BUILDER. This will be followed by other interesting discussions.*

ALL over the country there are builders who have proved how temperature-comfort can be sold to homeseekers at a profit in reputation, clientele and money. On analysis it is not strange that ordinary temperature comfort for all the family on winter days or in midsummer should rate high among the factors which make homes sell readily and put a subdivision building campaign on a basis of an assured success even before the digging begins.

Moreover, builders argue, homebuyers are put into far more comfortable circumstances financially to make their payments and to add to the beauty of their property when their fuel bills are kept at a minimum and when doctor's bills are not a factor. Hard-to-heat homes not only are hard to sell but are hard to maintain and pay for and all this works against the best interests of the home builder.

The warmth—and its large fuel and doctor bill economy—built into homes is one of the factors referred to by Secretary Herbert Hoover of the Department of Commerce when he said: "Happily a large section of the people is awake to the problem of home ownership, and an increasing number of business groups have publicly acknowledged their responsibility and interest in it. They see that taking a neighborly interest in developing sound financing and other machinery for the use of home

seekers and insisting on the observance of honest, straightforward methods by those who deal with homeseekers is not paternalism but good business and good citizenship.

"It is the 'square deal'—and it is not only right but essential—that the cards should not be stacked against the homeseeker."

No city in the country has proved this practical value in home warmth more clearly than Minneapolis—unless it be St. Paul. In both of those cities there have been hundreds and perhaps thousands of new homes built successfully on what recently has been called a "low fuel cost" basis.

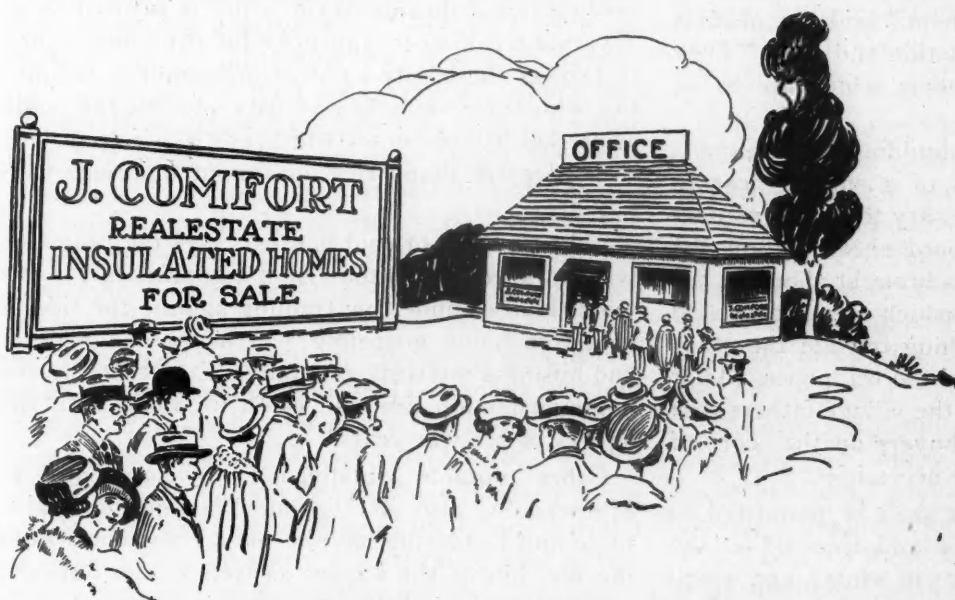
Take the experience of the "Bryn Mawr" development in Minneapolis. C. T. Moffett, the builder of that community, says himself that success is due to the fact that he gives particular attention to beam filling, and sidewall and ceiling "insulation" and moist air furnaces to insure warm dwellings for the purchasers.

The fact that the sales expense for 18 of the houses was a grand total of \$14 tells how well it paid.

The builder of homes in Bryn Mawr and other developments, tells his rules and objectives in these words: "The wise use of capital in supplying homes to the average paid artisan or clerk is like love—it needs no advertisement. From one to another the story continues to spread until you are swamped with business. And there is no more satisfying business than to see develop under your guidance the hopes of reasonable people for their very own

fireside. I like to make any kind of an equal deal in commodities or in real estate, but the selling of a house to a young married pair for a permanent abode leads all the rest.

"Most of my effort is expended in supplying warm five-room, all modern semi-bungalows, 24x43 feet on the ground in a variety of exteriors at a selling price of \$6,500, straight monthly payments of \$66.88. These dwellings have a capacity for two or three additional rooms on the upper floor. Should a small family grow, it need not move, it can build an addition. This re-



Warm Houses Reduce Sales Effort and Costs.

serve for increased capacity is one outstanding feature of my building plans."

Mr. Moffett's low sales expense was due in part to the plan of selling without requiring a down-payment of \$1,000 or some other substantial sum; but as most of the buyers were brought in by those who already had purchased houses it was evident that indoor comfort had been provided whether the outdoor temperature was raging at 20 below zero or was soaring above 100 in the shade. Wives and children had much to be thankful for on that account.

The heat-stopped walls and ceilings are credited properly with the fact that the hot air furnace in these houses maintained June temperatures without being crowded to the point of danger from fire. It is the easy-to-heat dwelling that is nearly immune from fire hazard, according to the records of the fire underwriters, simply because no desperate "forcing" of the fires, with consequent waste of fuel, becomes necessary when Boreas sweeps in from Medicine Hat and brings discomfort to thousands of families in any city, in hard-to-heat homes.

Keep Cold Out At Vulnerable Points

Mr. Moffett takes pains to keep out cold at one vulnerable place, between the foundation wall and the floor level. He sees to it that the "beam-fill" is not a makeshift but a thorough job. But while that is a detail, the wall, ceiling and roof materials and workmanship are fundamentals as easily may be seen, when the heat losses by transmission are figured just as they are figured in the engineering of skyscrapers and big hotel buildings. Heat by no means is confined by the plastered walls even if there be masonry back of the plaster. One inch of some materials designed to resist heat, the kind of stuff that long has been used in refrigerator cars and ice-boxes, checks the outflow of heat as much as over two feet of some kinds of masonry.

"I have found that certain heat resistive materials do just what is claimed for them," said Mr. Moffett in telling his story of construction and sales. "They hold the heat within the rooms which are to be warmed."

In contrast to this sort of building is the experience of the village trustees of a suburb near to Chicago which found it necessary to pass a mandatory ordinance requiring board sheathing on the studs of all houses. This was brought about by the discovery that small homes which were being sold to newcomers had no sheathing outside the studs between the winter winds and the wallpaper. After an investigation of the facts the village fathers rose up in defense of the home buyers on the score of comfort as well as structural necessities.

"No stranger in our gates shall be permitted to buy homes that are sure to be cold, too cold for the welfare of the kids and parents in winter, and which must be fuel eaters besides," declared the president

of the town board. Another city has passed ordinances requiring heat-stopping all homes, I am told.

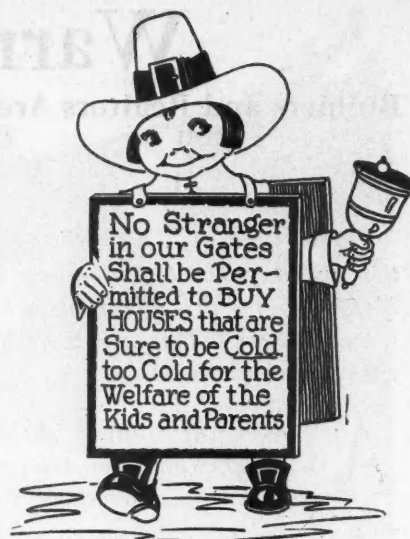
Progressive builders have always welcomed requirements of that sort. The heat loss by transmission right through the plaster or metal ceiling, or through the walls and roof as well as through the windows never has been generally understood. Too much B.t.u. and technical talk. The cost in tons of coal and dollars was not explained.

The ordinary frame type of construction with no heat stop used has a heat loss per hundred square feet of wall of 664 pounds of coal for a heating season in most northern states. This can be reduced to 332 pounds of coal, or a saving per 100 square feet in 30 years of 4.98 tons, or about \$85 in 30 years, if the coal be figured as anthracite of 13,000 B.t.u. burned with 65 percent efficiency, which is as good a record as can be looked for. That means in 30 years a saving of \$4,000 for walls and roof of a modest home.

Much has been said during the national convention of the real estate boards in Washington during June about the need to study the best interests of home buyers if the present ominous trend, away from home ownership, is to be properly checked. The fact that tenants have increased by seven percent during recent years is pointed to as a warning, calling for most careful attention to such factors as the bodily comfort of members of families who leave steamheated flats and try the home ownership life in houses which are less easy to heat to 70 degrees than brick apartment buildings usually are.

"The building of cold houses," says the progressive and successful subdivision campaigner, "is the worst kind of undertow running against the tide of own-your-home gospeling by the banks, realtors and business interests generally. Stop that and the home-ownership tide will catch up again with the figures of pre-war years."

Other notable subdivision developments in Minneapolis, also in Detroit, Washington, Baltimore and Louisville have in most cases considered the fuel bill of the buyers as well as the outward appearances.



The Trustees of One Village Found it Necessary to Pass an Ordinance to Protect the New-comer Against Unscrupulous Builders.

Take the case of Nicholson Park in Minneapolis built by Clarke Nicholson, a realtor. His homes when ready for homebuyers are made warm not only by heatstopping the walls and upper ceilings but by installation of special heaters and automatic damper control to prevent the peaks and valleys of heating, and a full equipment of storm windows. Folks who inspect Nicholson's homes see warmth in winter and coolness in summer beckoning to them—and they buy; sales effort is not necessary and its expense is avoided.

In the rules governing construction of cottages bought by hundreds of workmen at Detroit there has been attention to the heat loss through the ceilings—the exit for 60 per cent of the heat which is expensively produced from furnaces or stoves. No heatstop has been used but the loss has been greatly reduced by flooring over the attics. If the ceilings had been left with nothing between the winter cold in the attic and the room below but thin, hard plaster, the heat-loss would have been increased at least one-third. This subdivision campaign was planned and executed by R. G. Lambrecht, the sales plan requiring a down-payment of \$1,000 but small monthly payments thereafter.

In a Star Subdivision

In the outskirts of Chicago, with the clatter of a surface car line on one hand and on the other the sylvan quiet of the Forest Preserve, there is what is pointed to as a star subdivision building development of the better class, in which is recognized the need for structural sheathing and of water proof papers under the stucco or brick veneers. The home of the owner is made still more warm than the others for winter weather by the use of heatstop material in walls and ceilings. Just why the comfort of the purchasers was not considered as well as owner when it would aid them materially in paying off the mortgages given at purchase cannot be recorded; the builders, after most of the 50 charming homes were completed and waiting for buyers, wished very earnestly that they had built as well for buyers as for their own families. They had refused to use heatstop materials simply because they had followed the best rules for building that were known 25 years ago. Heatstop is an innovation of comparatively recent years. What they found true for their families they knew would have been equally agreeable to purchasers. This is what the daughter of the builder said:

"Our home in the new subdivision is delightfully cool this hot weather and it will be equally warm in winter. It makes life out here a real joy—for whatever the temperature, we are comfortable."

With nearly half a million dollars invested in the purchase of land and building of the homes it would have been very satisfactory to them to have advertised for buyers in such a way as this:

GUARANTEED WARM HOMES

Certainty of comfort in a new house has been our first thought in building these charming homes. Such a location and such careful building would be misused if the homes were not certain to be cosily comfortable on the coldest days of winter or the hottest days of summer. Homes must be made safe for those dear to us, safe from discomfort, distress, pneumonia. These homes, and every one of them, have warmth built into the walls and roofs. That spells safety, immunity from the ills reported in hard-to-heat homes.

Also it spells a great saving—one much greater than most people know. Get the facts. In ten years' time the saving will amount to a large part of the moderate price you will pay for such a home. Saving in fuel, in doctor bills, savings in worry, money, lives.

Such a setting for an ideal home as we have provided has been properly used. Get the facts.

This subdivision was built for folks who pay \$150 a month and more in rent and such folks are wedded to 70 degrees F. or more as a certainty whatever capers winter may cut. Folks who live in steam heated apartments are slow to risk the change to a home of their own because bodily comfort is a big factor and one not lightly to be disregarded. But the heat losses of those 50 houses will be so large that buyers will have days of poor heat, days when the babies cannot play on the floor and perhaps will be put to bed to keep warm! Will the word be passed at the card club and the lodge that those houses are worth a premium because of the way they were built? Unfortunately no.

Assurance Helps Sales

But there are many subdivision building campaigns being planned which can use this magic phrase:

"Built Warm"

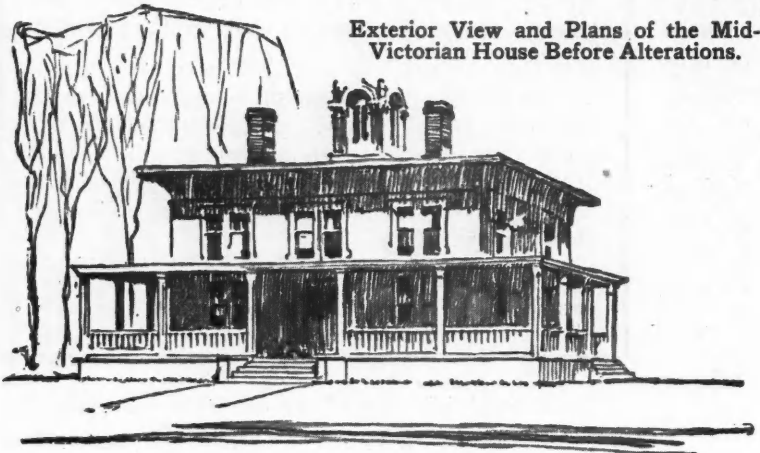
The furnace company which advertises in these words: "Makes warm friends," needs to add: "When our heat stays at home," for buildings which do not retain expensive heat cannot hold warm friends. The plan of "rating" houses and other buildings for their "fuel cost" promises a way, say technical engineers for many national associations, for identifying buildings which hold heat and friends.

The proposal is one which is sponsored by representatives of many engineering, architectural, asbestos and building material associations. Through the operation of the plan those buildings which deserve them be given "pedigrees" based on their "fuel cost factors."

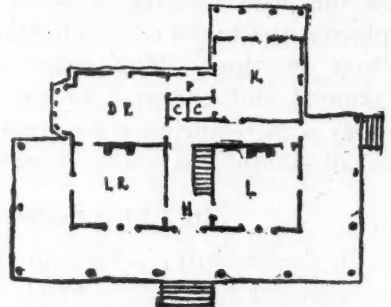
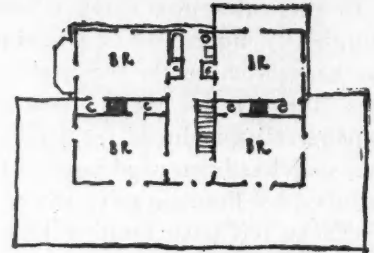
SUGGESTIONS FOR REMODELING

A series of very helpful drawings from the book, "Better Homes from Old Houses," prepared and copyrighted, 1924, by The Barrett Company. This series began in June and will be concluded next month.—The Editor.

Project No. 5—The Mid-Victorian House



Exterior View and Plans of the Mid-Victorian House Before Alterations.



Floor Plans of Mid-Victorian House.

THE Mid-Victorian house is generally large and has spacious rooms on two floors. Houses of that day were built of excellent materials and they lend themselves readily to marked improvement in the hands of the remodeler. The already roomy interiors require little alteration, but remarkable results are to be obtained by reworking the exteriors, as illustrated here.

Alteration One

Changing the proportions and eliminating jig-saw ornaments greatly improve these houses. In this plan a new pitched roof is built with the eaves just above the second floor windows; the old porch is taken off and new porches with shed roofs added at the sides. Floor plans are unchanged. Cost of new work is approximately \$1,800.



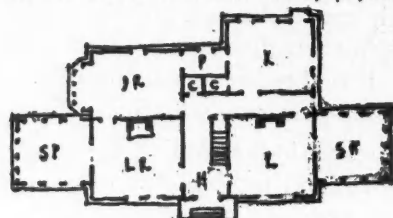
View Showing New Pitched Roof and Side Porches in Alteration One. Floor Plans Are Unchanged.

Alteration Two

A pitched roof with wide eaves covers the whole house. A glazed sun porch with pitched roof is added at each end. The entrance has a shingled hood supported by brackets. Floor plans are unchanged. Approximate cost including stucco for front and end walls, \$2,800.



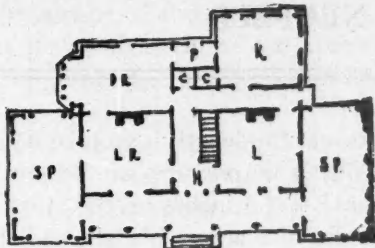
View from Street, Showing Change Effected by Stucco Exterior, New Roof and Sun Porches.



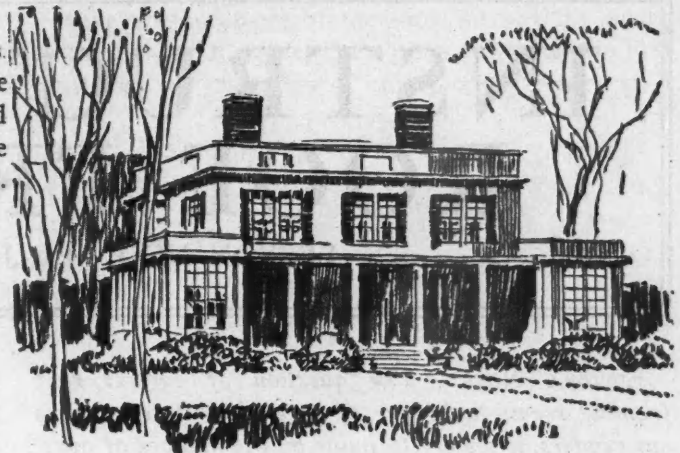
First Floor.
Second Floor Unchanged.

Alteration Three

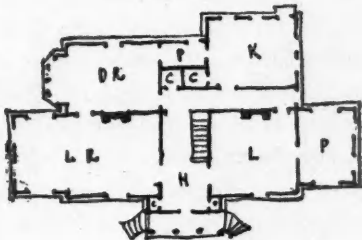
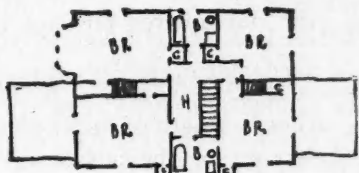
This dignified house is obtained by simple means. A new cornice with parapet is built just above the second floor windows, retaining the flat roof. Glazed porches at the ends project from the front and are connected by a colonnade. Floor plans are unchanged. Approximate cost including stucco, \$3,500.



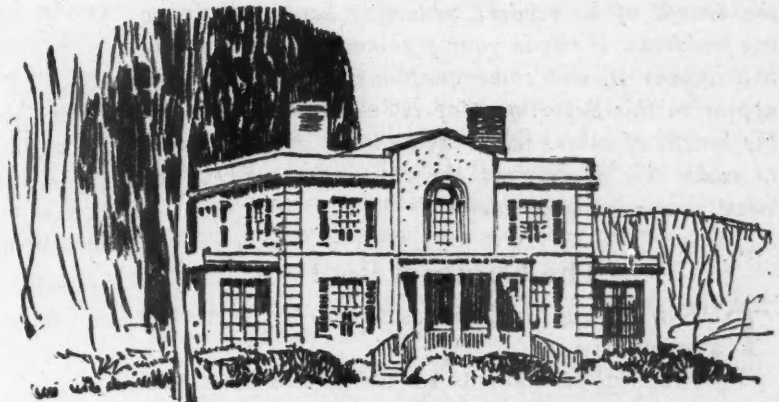
First Floor.
Second Floor Unchanged.



View of Alteration Three Showing Appearance of House with Stucco Front, New Cornice and Porches.



First Floor.
Second Floor Above.



View of Front and Left Side of Alteration Four.

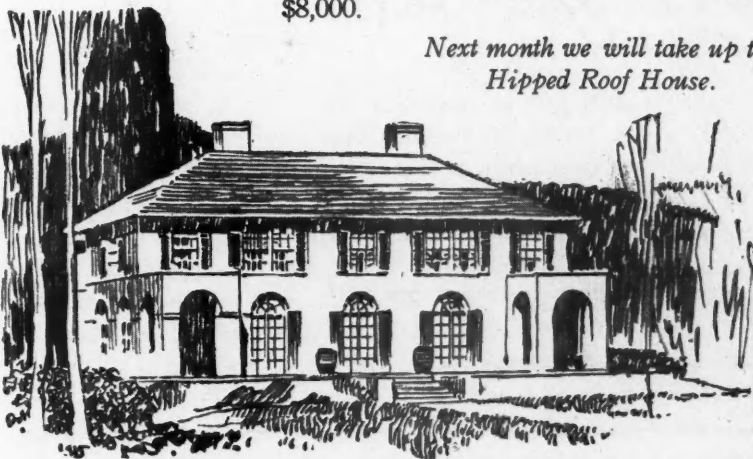
Alteration Four

A one story extension at the left increases size of living room; at the right provides sun porch. The center of house with low pitched roof is extended and gives new entrance porch and additional bath room. Approximate cost with stucco exterior, \$4,500.

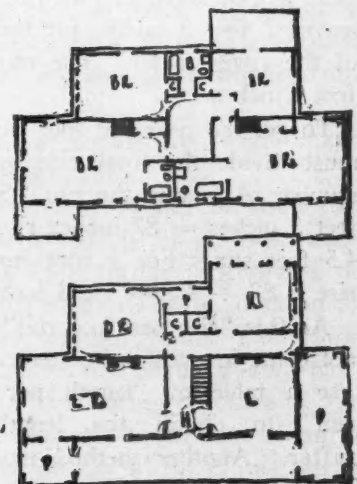
Alteration Five

An Italian style house is obtained by extending original house at each end, one room deep in both stories; projecting porches are built at the ends and a long terrace between them. Low hipped roof over entire house and exterior stuccoed. Approximate cost, \$8,000.

Next month we will take up the Hipped Roof House.



Alteration Five Gives the Effect of the Popular Italian Style.



Floor Plans, Alteration Five.

INSTRUCTIONS IN ROOF FRAMING

LESSON NINE—By JOHN T. NEUFELD

EDITOR'S NOTE: *The question of correct roof framing seems to be one of perennial interest among our readers, if we are to judge by the number of questions and answers on that subject which are sent in monthly for the Correspondence Department. AMERICAN BUILDER therefore conducts this department for the benefit of its readers who may have roof framing problems. Write in your problem and Mr. Neufeld will answer it, and some questions and answers will appear in this department of AMERICAN BUILDER for the benefit of others who may be interested. We want to make this department the place where YOU can solve your roofing problems.*

The Gambrel Roof

THE following problem was sent to the writer for a solution:

Find the lengths and cuts for the rafters for a gambrel roof with a span of 20 feet, run of lower rafters 4 feet 6 inches, run of upper rafters 5 feet 6 inches and with a purlin 7 feet 6 inches above top of wall plate.

The illustration shows the framing of this roof. It should be noted that this is not of the self supporting type that is usually used on barns. This type is perhaps used more on houses.

The depth of seat cut or the vertical distance that the edge of the lower rafter is above the top of the plate will be taken as 3 inches. This leaves 7 feet 3 inches for the rise of the lower rafter. The run is 4 feet 6 inches.

To get the riser per foot run we must divide the total rise by the number of feet in the run. Seven feet 3 inches = 87 inches rise and 4.5 feet run. For 1 foot run the rise is $87 \div 4.5 = 19.33$ inches.

As this "rise per foot run" does not come in even inches we cannot use a table of "length per foot run" to obtain the length of rafter. Another method must be used.

One way to get the length is to take 4½ inches for the 4 feet 6 inches on one arm of the square and 7¼ inches for the 7 feet 3 inches on the other arm of the square. The distance across is eight and six and one-half twelfths inches. The length of the lower rafter therefore is 8 feet 6½ inches. This is as accurate as can be found by this method.

We may also find the length of this rafter by finding the square root of (the run squared plus the rise squared).

$$\sqrt{(4.5)^2 + (7.25)^2} = \sqrt{20.25 + 52.5625} = 8.532$$

8.532 feet = 8 feet 6⅜ inches = length of lower rafter.

We note a slight difference in the answers. In measuring 1/12 of an inch stands for 1 inch and as

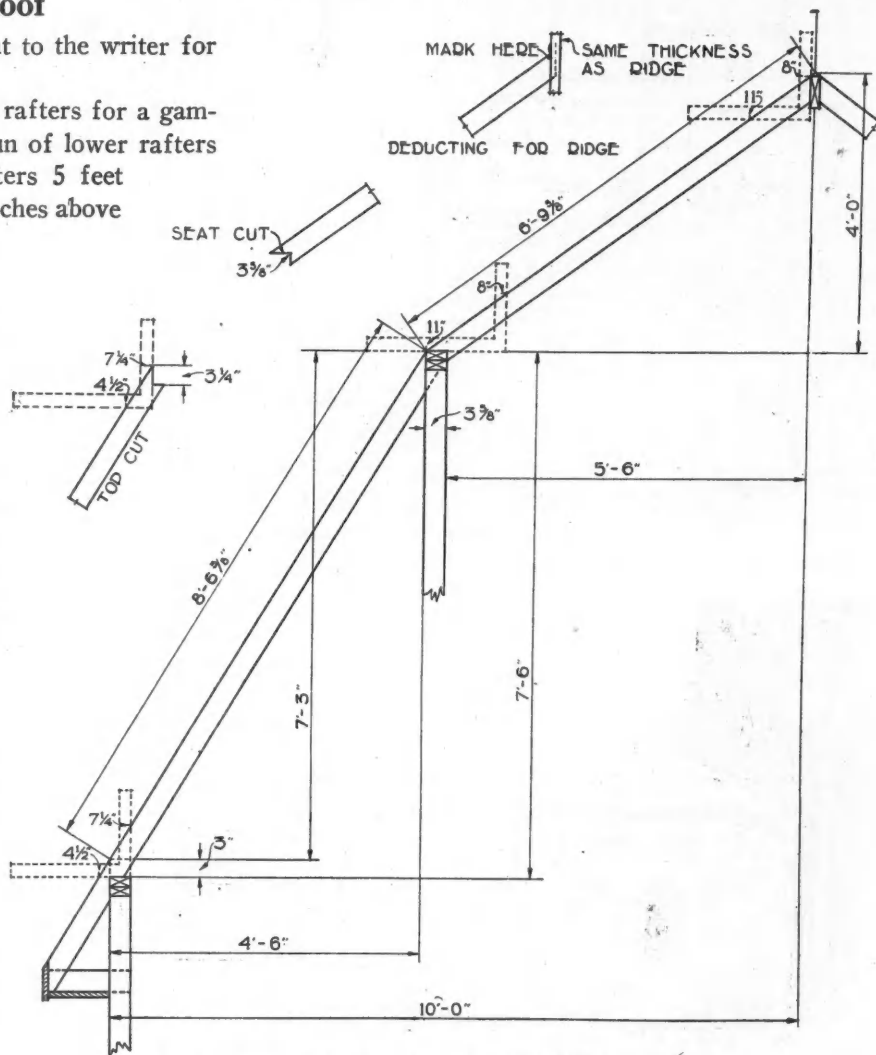


Fig. 45. The Solution of a Gambrel Roof Problem.

this is such a small scale it is hard to get very accurate results by measuring.

For the seat and plumb cuts for the lower rafters we use the total run and rise. The run is 4 feet 6 inches, therefore, we use $4\frac{1}{2}$ inches on the blade of the square.

The rise is 7 feet 3 inches, therefore, we use $7\frac{1}{4}$ inches on the tongue of the square.

Note that the vertical cut at the upper end is only $3\frac{1}{4}$ inches long and that a short horizontal cut is required.

The upper rafter has a run of 5 feet 6 inches and a rise of 4 feet 0 inches. This also is an odd pitch, therefore, we use the square root method to get the length of the rafter.

$$\begin{aligned} \text{Length of upper rafter} &= \sqrt{(5' 6'')^2 + (4' 0'')^2} = \\ &= \sqrt{(5\frac{1}{2})^2 + 4^2} = \sqrt{30.25 + 16} = 6.8008 \\ 6.8008 \text{ feet} &= 6 \text{ feet } 9\frac{5}{8} \text{ inches} = \text{length of} \\ &\quad \text{upper rafter.} \end{aligned}$$

If we take the run and rise on the square to obtain the cuts then we would have $5\frac{1}{2}$ inches on the blade and 4 inches on the tongue. If we multiply each by two we get 11 inches and 8 inches. We use these numbers as they are a little larger and give us more of a space on the square. See illustration.

The seat cut of the upper rafter has a horizontal cut of $3\frac{5}{8}$ inches and then a short vertical cut, which is at right angles to the horizontal cut.

The length that we have found for the upper rafter is to the center of the ridge board. We first lay off this length on the rafter and also mark for the upper cut and then we deduct for one-half the thickness of the ridge board. For this we use a

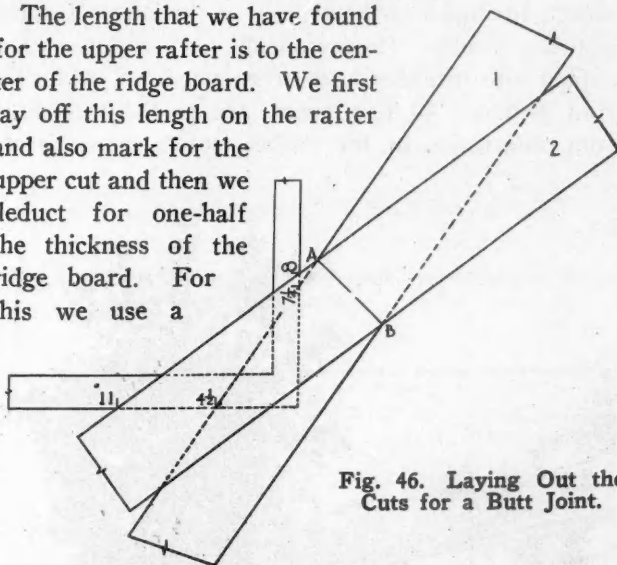


Fig. 46. Laying Out the Cuts for a Butt Joint.

piece of lumber of the same thickness as the ridge board and lay it over the upper end of the rafter, as shown, so that the rafter end comes to the center of this piece, mark along the side of the piece and cut off.

If the gambrel roof is of the self-supporting type, where the upper and the lower rafter are framed together with a butt joint, then the cuts may be laid out as shown in Fig. 46.

First lay a piece of timber to be used for the lower rafter, flat on a floor or bench. (See No. 1 in illustration.) On this piece lay the square with the numbers giving the pitch of the rafter on the edge of the board. In this case they are $4\frac{1}{2}$ and $7\frac{1}{4}$.

Take another piece of the same size as the upper rafter and lay this over the square and over the first piece, so that the edge of this piece coincides with

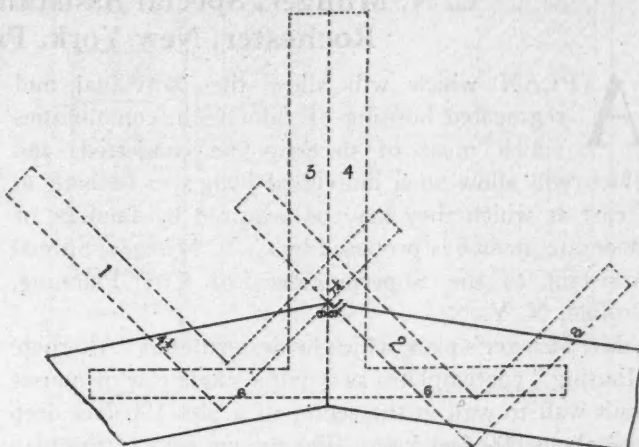


Fig. 47. Another Method of Laying Out the Butt Joints.

the numbers giving the pitch of the upper rafter. In this case this is 11 and 8 as previously found.

The points at which the edges of the two pieces cross each other will mark the lines for the cuts.

These two pieces may now be used as patterns for cutting the meeting ends of the other rafters.

Another method that may be used to lay out the butt joints at the meeting ends of the upper and lower rafter is illustrated in Fig. 47.

Taking the lower rafter we first lay out a plumb line on this rafter. Using the number $4\frac{1}{2}$ and $7\frac{1}{4}$ on square No. 1, which gives us the pitch of this roof.

Now take another square or this same square may be taken and lay out a 45 degree angle from the plumb line as shown by square No. 3, using any even numbers such as 6 and 6. The edge of the square No. 3 now marks the upper cut for the lower rafter.

The operation for the upper rafter is similar. First lay out a horizontal line on this rafter by using the numbers that give the pitch of the roof (11 and 8 in this case).

The edge of the blade of this square (square No. 2 in the illustration) now marks a horizontal line on the upper rafter.

From this horizontal line we must lay out a 45 degree angle. This is again done by using even numbers on the two arms of the square (6 and 6 in this case).

The edge of the blade of square No. 4 now marks the lower end of the upper rafter.

This last method illustrated should be used only where the upper rafter is exactly or at least nearly the reverse pitch of the lower rafter. Otherwise the length of cut will be longer on one rafter than on the other. The cut, however, will always fit. The following example will illustrate reverse pitch. A roof has a lower rafter with a rise of 6 inches per foot of run. The upper rafter has a 24-inch rise per foot of run or a 12-inch rise for 6-inch of run which is just the reverse of the pitch of the lower rafter.

A Novel Housing Proposal

C. N. Munger, Special Assistant to City Planning Engineer of Rochester, New York, Presents an Unusual Plan

A PLAN which will allow the individual and segregated housing of families in communities which must of necessity be congested, and which will allow such individual homes to be built at a cost at which they may be acquired by families of moderate income is proposed by C. N. Munger, Special Assistant to the Superintendent of City Planning, Buffalo, N. Y.

Mr. Munger's plan, which he designates as "Alternate Housing," contemplates as a unit a single row of houses built wall to wall in the center of a plot 100 feet deep and about 800 feet long. The unique part of the plan is that each house will face in the opposite direction and on another street than those to either side of it. Each home is entitled to the exclusive use of a front yard, 35 by 40 feet, but has no back yard at all.

All of the homes are to be heated and provided with certain service from a service building to be placed at the end of each unit. This building also will house a garage which will provide an individual space for each home.

The plan contemplates the use of certain association features which have proven their worth and practicability in co-operatively owned apartment projects. In addition to the service and garage unit attached to each group of homes, Mr. Munger plans a community center, to house the shops and offices necessary to the community which will be conveniently

located with reference to all the groups of homes which will go to make up the community.

The homes designed in the plan submitted are each 20 by 30 feet, and two stories high with a basement. Two of these, each with its front yard, 35 by 40 feet, are placed on each 40 by 100-foot lot. The houses are planned very carefully, to make the alternate housing possible, and are worthy of study.

As shown in Fig. 4, the first floor has the living room, fronting on the street and the lawn used by the family, with the kitchen and dining room to the rear. On the second floor are three bedrooms and a bath, while two additional bedrooms can be installed on the third floor.

The planning of the basements of the homes is a feature which makes the project practical, for here is incorporated a feature which allows the back yard to be eliminated. This is the "back yard room" shown in Fig. 4, which is separated by a heavy door from the rest of the basement, and it is through this room that garbage and waste can be collected, and deliveries be made.

Planting of shrubbery is an important factor in the project, for much of the privacy of the homes depends upon the shrubs. Thorny shrubs keep children from peeping into neighbors' basement windows, while the front porches, 40 feet apart, are partially screened from observation by the clothes closets shown in the



Homes Which Can Be Built Wall to Wall and Still Have a Front Yard Forty Feet Wide and Many of the Isolated Features of Detached Houses With Considerable Privacy Are Possible Through Mr. Munger's Alternate Housing Plan.

floor plans. A vine on a six-foot fence between the front lawns of the alternate homes, as shown in Figure 2, may be utilized to add to the privacy of the homes and yards.

It will be seen from the perspective of the street that all of the rear windows are at least five and a half feet above the ground and that all sleeping room windows are kept as far as possible from the windows of neighbors, to minimize the annoyance of noises through open windows.

Concerning his alternate housing plan, Mr. Munger says:

"This general plan provides for a maintenance association, comprising all of the house-owners in the system, to own in fee all of the stores, service and heating plants, offices, streets, and all other premises exclusive of the dwellings, each dwelling to carry one vote in the association.

"The success of the plan would be much enhanced if it were undertaken by capitalists with unlimited money always at hand, to take advantage of all the savings possible through eliminating excessive interest, bonuses, premiums on borrowed money and similar items. Since successful sale of the property and economy of operation would depend to a great extent on economical and good construction, the method of building the units is of great importance.

"A steam shovel, or 'drag line,' if more suitable to the work in hand, would be started at one end of the row of houses, excavating for the several basements in succession, and leaving the proper depression in the center for the sewer, gas and water mains, heating

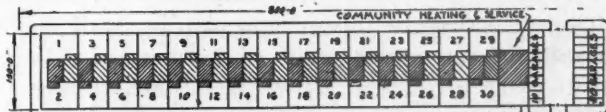


Fig. 1. The Plot Plan of a Thirty-Home Alternate Housing Group.

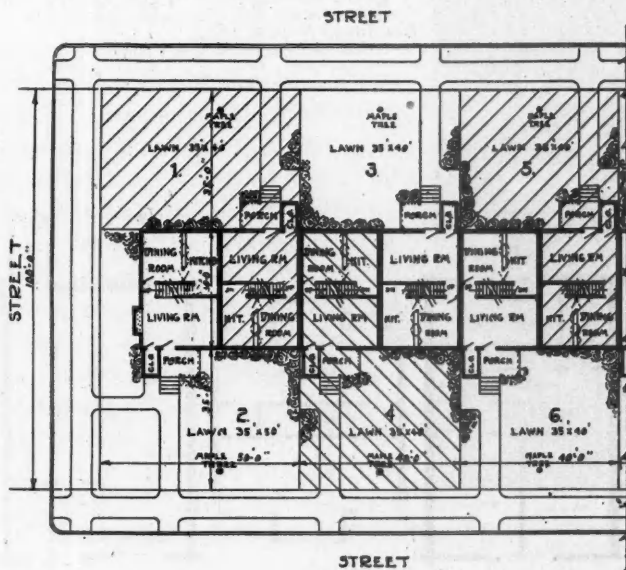


Fig. 2. Above is shown the details of the floor plans and planting of the individual plots to insure the privacy of the families occupying the alternate houses.

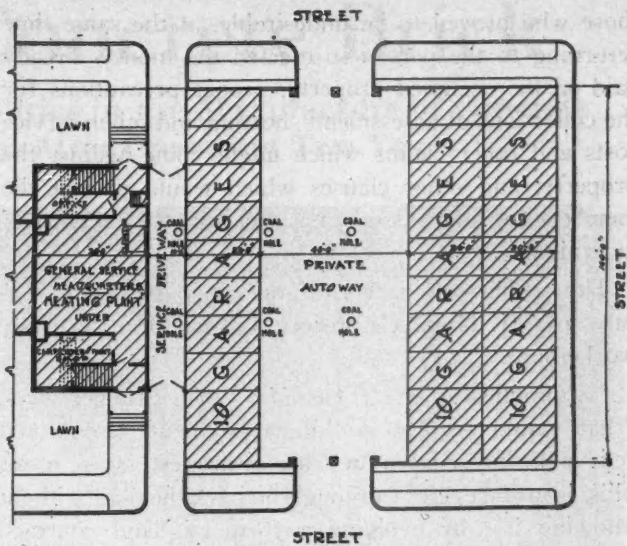


Fig. 3. A Garage and Service Headquarters at the End of the Group of Thirty Homes Would Serve All in the Group.

service and other details of the sort. The dirt would be cast up equally to either side, ready for smoothing off to form the grades of lawns and streets, and so proceeding throughout the entire system, leaving all excavations complete and ready for walls, eliminating expensive removal and most of the usual handling of material several times.

"The shovel should be closely followed by a gang of concrete wall and form builders, of sufficient size and equipment to keep up with it, and its daily rate of progress, and this outfit would be followed by properly equipped gangs of all trades and crafts required to complete each premises to the last detail, including lawn graders, walk layers, shrubbery planters, etc., each following in rotation and in order, until the last construction gang has passed out at the farther end, and the whole system is completed.

"As fast as the construction element retires, occupancy could follow (with approved prospective purchasers only), as renters, until the whole system is complete in every respect, and the actual total purchase price, based on actual cost, is established.

Plan of Sale and Purchase

"The parent company, now adding to their exact total cost, honest interest at 6 per cent on money as drawn month by month, just as if borrowed, and say 15 per cent for profit and pay for managing services, are now for the first time in a position to announce the selling."

Mr. Munger suggests a number of stipulations which would be made in disposing of the property to members of the association. Among these would be provisions that all rules and regulations of the association must be complied with and that the owner would be allowed to rent his premises to tenants approved by the directorate, but that no owner ever could rent or sell his property to any person not so approved by the association. Other clauses would care for contingencies which might arise if a member were unable to continue his payments; for ejecting

those who proved to be undesirable, at the same time returning to the person so ejected the money already paid on the occupied property, proper precautions for the collections of assessments, heating and other service costs and other claims which might come against the property, and other clauses which would protect the members of the association against the action of individuals.

The selling plan is one of the most important features of Mr. Munger's project, and has been carefully worked out.

"A practical plan is possible," Mr. Munger says, "that would require no 'down payment' and would relieve the buyer from the scare of interest, taxes, water bills, insurance, etc. (although he pays them all without knowing it), by evolving a form of 'land contract' that would only require a fixed regular monthly payment of not to exceed \$50.00 (which is about the limit of the average wage earner to pay, and about what he has long paid for rent) and providing for a deed to be given, etc., as soon as say one-third of the purchase price has been paid in, and further providing that buyer may at any time sell his equity to any approved successor who can take it over and continue payments.

"Forty to sixty dollars per month is the common rate now paid for rent by the so-called middle class in Buffalo, which, of course, covers all interest, taxes, water bills, maintenance, insurance, etc., and still yields the landlord a good profit.

"Now if these tenants were to continue to pay this average rate of \$50.00 per month, under the above contract, instead of as rent, and avoid being kicked around from one house to another by circumstances (and landlords) with each move costing equal to two or three months' rent (a dead loss that they can ill afford) they could live as securely and comfortably from the start as if they were the owners, and that same former landlord's profit each month would now be paying for their home for them, the seller continuously receiving his 6 per cent interest, as well as 2 or 3 per cent more for transacting the business of paying taxes, etc., with his investment absolutely safe at all times, and the buyer being nothing out if he 'falls down' over what he would have been if he had continued to pay rent.

"This form of contract and plan, furthermore simultaneously provides a continued inspiration to the buyer to 'stick it out' and not let this unusual opportunity get away from him from any cause. With this inspiration in the minds of a whole community, who doubts a healthy condition of morals and a constant high and rare grade of in-

dividual as well as public spirit and the especial success of the entire enterprise being continuously maintained?

"No payment down being required, any wage earning head of a family, or people of small means, can get started by this plan and live in one of these houses while paying for it, at a monthly cost no greater than the rent now paid for any premises of similar desirability and with a very much reduced cost of season heating included.

"The following table will show how this regular \$50.00 per month maintained for eleven years and five months will give the buyer clear title to his home.

Year	Principal at 1st of Year	Paid 6% Int. Dur. ing Year	Paid Taxes, Ins., Water, etc.	Tot. Exp. for Yr.	Paid on Prin Dur. Yr.	Total Pd. Dur. Yr.	Remark :
1	3,450.00	207.00	150.00	357.00	243.00	600.00	
2	3,207.00	192.42	150.00	342.42	257.58	600.00	
3	2,949.42	176.97	150.00	326.97	273.03	600.00	
4	2,676.39	160.58	150.00	310.58	289.42	600.00	
5	2,386.97	143.22	150.00	293.22	306.78	600.00	
6	2,080.19	124.81	150.00	274.81	325.19	600.00	1/2 Paid
7	1,755.00	105.30	150.00	255.30	344.70	600.00	1/2 Paid
8	1,410.30	84.62	150.00	234.62	365.38	600.00	
9	1,044.92	62.70	150.00	212.70	387.30	600.00	
10	657.62	39.46	150.00	189.46	410.54	600.00	
11	247.08	6.15	(5Mons. Prin & Int. only.)	189.46	247.08	253.23	All Paid
Totals		1,303.23	1,500.00	2,797.08	3,450.00	6,253.23	

"Now if buyer continues paying \$50.00 per month to the end of the eleventh year he will have (\$600.00 less the \$253.23 or \$346.77) with which to pay his taxes, insurance, etc. for that year (estimated as \$150.00) leaving him at the end of this year with home paid for and \$196.77 cash in his pocket.

"In many of the larger cities and industrial centers, present deplorable conditions can be hereby easily, successfully, safely and profitably relieved, and an intelligent perusal of this general plan in detail should instantly be convincing proof of its merit, and superiority as an investment, as well as a philanthropy.

"It would be useless to undertake any cost estimates here, with no particular or definite site in view, and considering the very great divergency in conditions and

(Continued to page 188.)

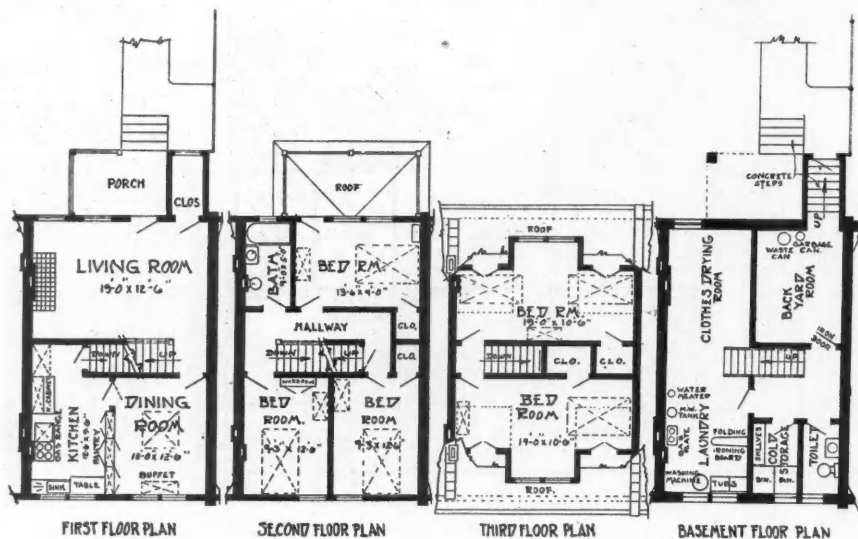


Fig. 4. A Surprising Amount of Room and Comfort Is Possible Though the Utilization of the Space in These Homes as Shown Above.

Success With Concrete Brick

Baltimore Concern Demonstrates Possibilities in the Manufacture of Concrete Brick; Planning Plant Expansion After Operating Two Years

THERE is no better evidence of the stable position of the concrete brick industry than a glimpse at the substantial, large capacity equipment, now being employed in many factories specializing in the manufacture of these brick. With last year's output variously estimated at 175,000,000 to 225,000,000 concrete brick, improved manufacturing methods and additional high-power machinery are boosting those figures many million brick per year. Concrete brick have had to secure recognition entirely on their merits. The demand for them has grown rapidly.

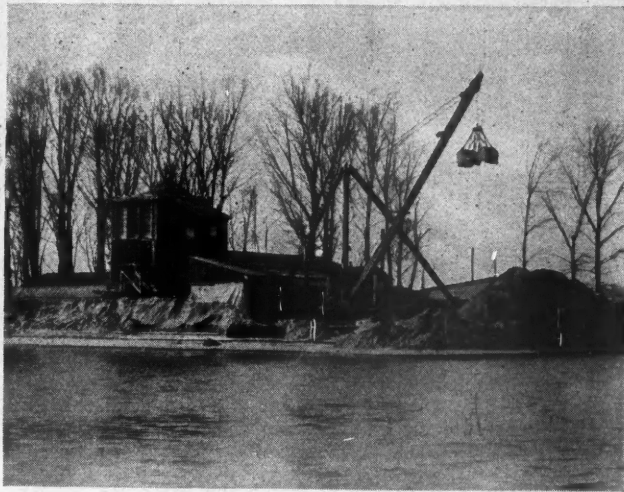


Fig. 1. Stiff Leg Derrick and Clam Shell Bucket Used to Move the Materials from the Barges to Storage Piles and to Hoppers, Which Appear at the Left.

Of the comparatively recent installations for the making of concrete brick one of the most complete, and therefore most interesting, is that of the Arundel-Shope Brick Company, of Baltimore, specializing in both face and common brick. After two years' introductory work in the territory and considerable modification of the equipment during that period to secure greater manufacturing economy, it may be stated that the business is a well proven success.

Efficiency in every step of the process, ample facilities for handling and delivering the product, and almost a mania on the part of the management to give service, have sold the brick at prices which provide a comfortable margin on the investment. The plant



Fig. 2. Unloading Sacked Cement into Cement Bin from Which it Flows Through Measuring Device to the Mixer. The bag cleaner is shown at the right.

has become a relatively large user of cement—with daily demands probably averaging 100 barrels to a car load. And the quality of the product is such as to make it a big booster for the industry.

Figure 1 of the accompanying series shows the equipment used to unload sand and gravel requirements from barges to storage piles on the waterfront. A large stiff-leg derrick and clam-shell are employed. The same derrick moves these materials as required to the aggregate hoppers shown to the left of the illustra-



Fig. 3. Large Steel Bucket Over Mixer Measures the Aggregate from the Material Bins Above. Smaller hopper at the right has just tilted down from a position under the supply bin further to the right.



Fig. 4. The Discharge End of the Mixer with Electrically Driven Car Which Distributes the Concrete into the Bins Which Feed the Brick Machines.



Fig. 5. A Battery of Concrete Brick Machines. At the right is seen a buggy by means of which the brick are conveyed to the curing chambers.

tion, from which they move by gravity to the mixer, located below.

A novel and undoubtedly very economical method of handling the cement employs a chain and bucket elevator from the cement storehouse to the cement bin which feeds the mixer. Figure 2 shows the charging door through which the sacked cement is dumped out into the elevator. Note sack cleaner at the right. The cement bin, located above the mixer, and alongside the aggregate bins, spouts the cement into a measuring hopper, shown in Figure 3. (Light object to the right of the aggregate measuring hopper, with mixer below.) These measuring devices are designed to proportion a two-sack batch, the cement hopper holding 2 cubic feet and the aggregate hopper being proportionately larger.

The electrically operated car which receives the concrete from the mixers is shown in Figure 4, also the discharge spouts of the latter. In Figure 5 the car appears again, showing method of side-discharge into the bins which supply the batteries of hand-operated brick machines. These bins hold 10 to 12 cubic feet, enough for about 300 brick. Entrance to one of the steam curing tunnels, with brick in process of curing is shown in Figure 6. Thorough curing is a dominant

feature of the process and nowhere given more careful attention than in the Arundel-Shope plant. After thorough curing in the steam chambers, where they remain at least 36 hours, the brick are taken via rubber tired hand truck (shown in center of Figure 7) to the stock piles, where they are given additional aging, being kept moist by means of sprinklers.

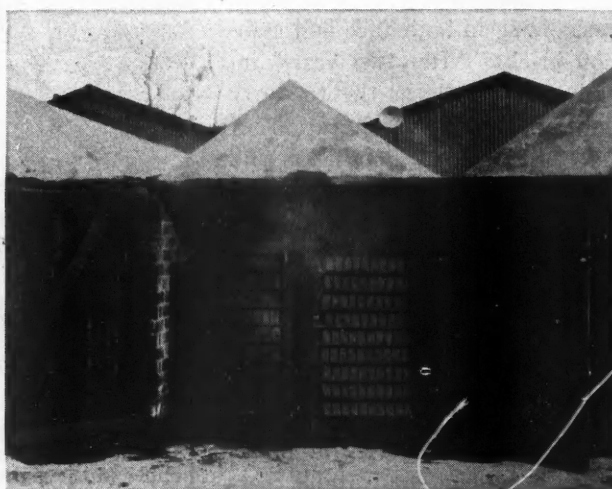


Fig. 6. View of Steam Curing Chambers.



Fig. 7. In the Storage Yard. The brick are brought from the curing chambers by means of rubber tired buggies.

Common brick are loaded for delivery by means of the outfit shown in Figure 8. By an ingenious method of piling the locomotive crane is enabled to slip arms or forks in under the pile, picking it up on the carrier, which is dumped into the truck body. Each carrier-load delivers 500 brick. Greater care is required in the handling of the face brick, and for loading them the process shown in Figure 9 is used. The brick are carefully packed on a heavy wooden pallet in lots of 2,200. The delivery truck, with floor tilted to the vertical position, backs up against a loaded pallet, so that truck body surrounds the pile. Pallet is then clamped to truck body and the latter is tilted to the horizontal position to complete the loading. The brick are discharged at point of delivery by performing the reverse operation, entirely avoiding the hard labor of piling and danger of breakage. Capacity of the plant has been made great enough to take care of reasonable demands. Delivery is made as promptly as necessary to accommodate the needs of the builders and the entire system of production and handling is such that broken brick and culls are held down to a minimum. The equipment used stacks piles neatly to facilitate use.



Fig. 8. Loading Concrete Common Brick by Means of Locomotive Crane and Scoop.

Earlier efforts to popularize concrete brick failed in many cases largely because the product was made more from the viewpoint of the theoretical engineer or designer than from that of the builder and the bricklayer. Concrete men, accustomed to a material ordinarily run into forms, long overlooked some of the necessary qualifications for a small unit to be laid in mortar, following the practice so well established in the use of clay brick. They made brick for maximum strength, sometimes without regard for suction or cutting qualities.

In modern concrete brick practice the manufacturer fixes the strength of his product at the requirement of the American Society for Testing Materials. Then of all the practical mixtures which may be relied on to

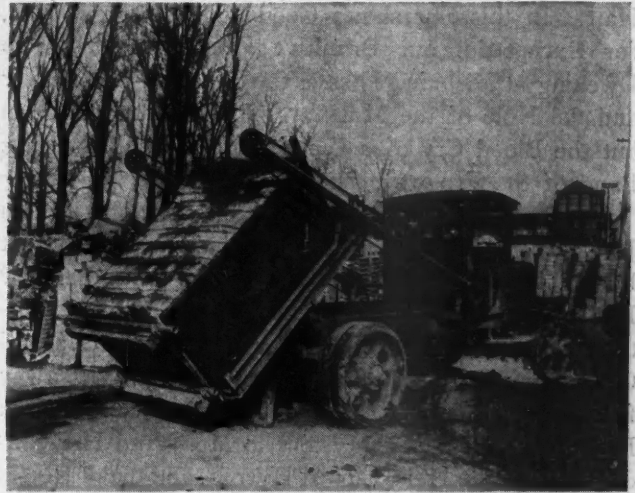


Fig. 9. Concrete Face Brick Are Stacked on Pallets in the Yard. Tilting body trucks back up to the pile, slide the truck body around the brick, clamp on the pallet and after tilting the body back to a horizontal position, the load is ready. At the delivery end the brick are left nicely stacked on the pallet.

give brick of that strength, he chooses the one or two which also give suction sufficient for rapid, convenient laying; cutting qualities comparable with those of competing materials; edges and corners as true as required for brick of the class; general appearance to meet the requirements and desires of local purchasers. The mixture in regular use in one of the large eastern factories, for example, was selected at the conclusion of practical tests on 25,000 brick of 72 mixtures, representing almost every local commercial possibility.



Specifications for Explosives Approved

THE specifications for the testing and use of permissible explosives submitted to the American Engineering Standards Committee, New York, by the U. S. Bureau of Mines has been approved by the A. E. S. C. as "American Standard."

The special committee of the A. E. S. C. which examined the proposed specifications and recommended them for approval by the Standards Committee included representatives of the U. S. Department of Interior, the American Mining Congress, the Coal Mining Institute of America, the Mine Inspectors' Institute of America, the American Society of Civil Engineers, the Institute of Makers of Explosives and the U. S. Department of Agriculture.

Parables of Bildad the Builder

He Brancheth Forth as a Summer Resort Subdivision Magnate, Convincing His Wife That His Malformed Head Consisteth Mainly of Business Bumps

FRIEND, you have Perhaps heard Me hold Forth at Divers times on the Merits of a Sojourn at Pishimagee Lake, where in an Inspired Hour I erected a Summer Dwelling for Myself and the Wife of my Bosom, and likewise for Our Lusty First-Born. And although I Hesitate to Deny that Mrs. Bildad's hurried Exit Thither every Summer is Due to a Desire to Ensnare the Wily Black Bass, the Fact is her Hurry is Due more to a Desire to Escape the Neighbors, who are Not all of our Social Sphere and who Have Bobbed Hair. In this She shows Good Judgment, as Usual, for Except for our Primitive Palace there was no Dwelling at Pishimagee save the Dome of the Beaver and the Hole of the Muskrat, and No sound at Even but the Blood Cry of a Giant Mosquito and the Jazz Band of the Frogs by the Shelving Shore.

Now as we Flivvered Thither on a Bright Day in July she Spoke me Softly: "Bildad, hast Seen that Last Shingle Bob Mrs. Wiffimbang has Given herself? I am Far from Baldheaded, but Bobbed Hair is Anathema to Me, who Could Wear it, having a Natural Curl to my Hair. I was Never so Glad to Get away from Anyone in My Life! How you ever Let them Build Next Door is a Mystery to Me. And Her children Look Like Hare-Lipped Hyenas, and make Noises like Hail on a Tin Roof. Believe Me, I am Glad to Get away. God gave Us our Neighbors, but thank Heavens we Can Chose our own Summer Resort."

I said Nothing, being Married over two Years now, and Being very Wise. But I had an Idea, which I Elucidated at Leisure.

"Mrs. Bildad," I ventured, "you Spoke like a Wise Woman when you Said that. It is True we can Chose our own Summer Resort, and We have Chosen Wisely,



"Believe Me, I Am Glad to Get Away. God Gave Us Our Neighbors, but Thank Heaven We Can Choose Our Own Summer Resort."

for Where, even in the Suburbs of Rome or Monte Carlo or Chicago or San Francisco can you Find Scenery Equal to Ours? Our Lake is Like a Sapphire fallen From the Almighty's Treasure Chest, and the Ozone from the Pines would Turn a Wax Dummy into a Circus Acrobat. I know What we Should do. Let us Gently Advertise Pishimagee in Our Dearest Friends, and be Wiser than Joseph. For He Foresaw that There might be Seven Lean Years to Follow Seven Fat Ones, and Unless my Favorite Presidential Candidate gets In, I may have a Slump. Now, it Being good Policy not to Keep all One's Eggs in One Basket, I can Keep busy Building Summer Homes at Pishimagee for a Select List of our Friends and Neighbors, and Keep my Work going in the City also; and Perchance next Year the Treasurer of these United States may Receive payment for a Million Dollar Income Tax."

She Looked at me Sidewise, as was Her Wont, and Said: "Bildad, when I Married you I thought You were the Homeliest Man I ever Saw. How any Head could have All those Knobs you Had on it and Remain Human was More than I could Figure. But I Always Knew you Had it in You to be a Success, and there is a Bare Chance that a Phrenologist would Find those Knobs indicating that You Possessed more Business Bumps for Your Cranium than is Seldom Given to Mortal Man."

"Just for that," said I, corroding with Pride and Gratitude, "you Have Insured yourself Receiving a hand-made Hudson Seal Coat next Winter that Will make Mrs. Wiffimbang's hair Bob right Off her Head." Whereupon I was Rewarded with a Wifely kiss and Made to Hold the Baby.

Need I Relate the Result of Our Endeavors? In my Time in our City I have built Up a Good reputation for Honesty and Fair Dealing, and am Known to Under-State the Merits of Anything rather than Over-Praise it. Now, when I Let Mr. Tom Gherkin and William Nutree and Elias Perkins and the rest of our Friends know Off hand, that There was the Very Slightest Chance that we Might Possibly Let them have a Fair Lot at Pishimagee, they Became Intensely Interested, and When I told Them, Furthermore, that I would Build, if Greatly Persuaded, a Cottage equal to the Palaces in which They resided in Town in Winter, they Fell on my Neck in Gratitude and like to Broke it.

Now there are Many Cottages in Pishimagee, but Not Too Many. I have Planned it in Such Wise it is the Joy and Despair of all Casual Visitors. For I Puzzled Out a Real Human Need, and gave it to the Housewives who Wanted it. Aye, even to the Drain Pipes in the Sink.



HOW DAN DOES IT.

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

\$2 for an Idea

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

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

Laying Out a Foundation

A "TOUGH JOB" which we have always with us is laying out a building on the ground without a transit. The writer has been in position for many years to observe the time wasted when a foreman comes on a job with a gang of men and all wait for him to fumble around in an aimless way to lay out the work and then it often turns out inaccurate.

Few foremen seem to be aware that other dimensions than the well-known 6, 8, 10 feet will square a corner. Accordingly these are used with the result that any inaccuracy is multiplied by the number of times these dimensions are multiplied.

Every foreman worthy of the name has a 50-foot or a 100-foot steel tape and can use any multiple of 3, 4, 5, and in such a manner as to avoid all fumbling.

Assuming that one corner of a building site and one line is given, drive a stake tall enough to indicate the height of the foundation wall. Center this with a small nail driven to within $\frac{1}{8}$ inch of the head. With a 50-foot tape measure off on the line 24 feet, drive a stake of same height and center it exactly as before. Button the ring of the tape on this stake and have some one hold 50 feet at the other centered stake. Now hold 30 and 32 feet together and you have a point in the side line. If a 100-foot tape is used, double these figures. A perfect square is now formed in which inaccuracy will be but little increased. These lines are projected or reduced to the dimensions of all sides will give the other corners.

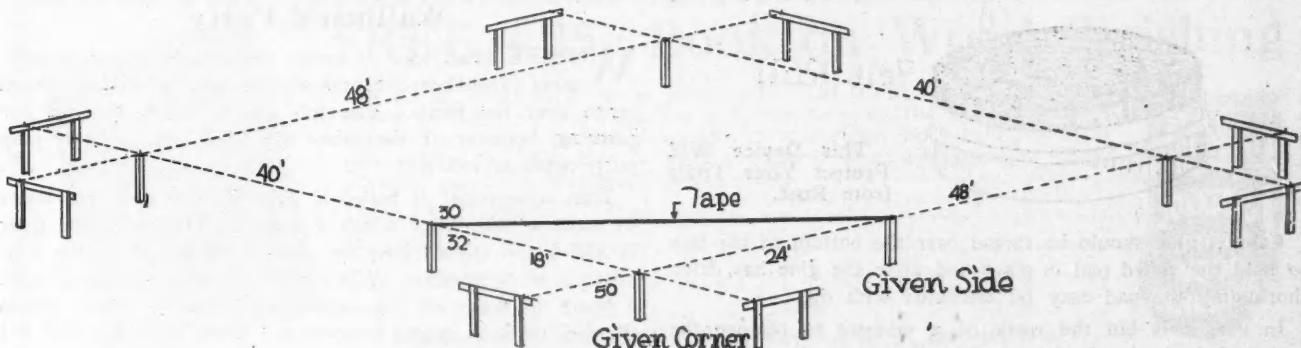
Next is the batter-boards on which to show the lines after the corners are removed by the excavation.

In almost every case where batter-boards are put up in the usual way, the foundation turns out to be too small in one or more dimensions. The reason is that the boards are put up diagonally across the corners or only three stakes are used for two sides. The result is when a line is drawn tight and a plumb-bob or several of them are hung on it, the other sides are drawn together by slight yielding of the stakes. A line left over night and shrinking will shift almost any stake more or less. To avoid this, put batter-boards far enough from the corners that they will not be shifted by dirt being piled against them and separate boards for each line at each corner.

The boards should be with tops level with top of foundation, but if this is not possible then an exact number of feet or inches above or below and the variation plainly written on the board with plus or minus sign prefixed. Any yielding of boards by stretching the line does not change the other lines. Lines should be indicated by a small nail driven in the edge of the board to within $\frac{1}{8}$ inch of the head so that the nail will not bend and line slide up unnoticed.

In leveling around, the straight-edge should be reversed, each length and, of course, the level reversed in each length for check.

It is usually more convenient to take the levels near the ground and then measure up or down for the location of the tops of boards.—G. M. BEERBOWER, Tarrytown, N. Y.

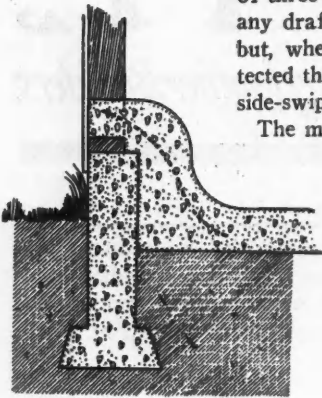


A Method of Laying Our Foundations Accurately and Conveniently Is Presented Here by G. M. Beerbower of Tarrytown, N. Y.

A Good Garage Floor

THE cut shows how an old building was converted into a two-car garage by removing the old plank flooring and replacing it with concrete.

The interior earth was well tamped before the concrete was laid. The sides were laid last. Narrow strips of woven wire were placed as shown by the dotted line for reinforcing. The mortar was then extended up over the sills to a depth of three inches. This not only prevented any drafts between sills and foundation, but, when smoothed off as shown, protected the machine's tires against possible side-swiping the rough edges.



A Useful Finishing Touch for the Concrete Garage Floor.

insure a good bond.—DALE R. VAN HORN, Walton, Neb.

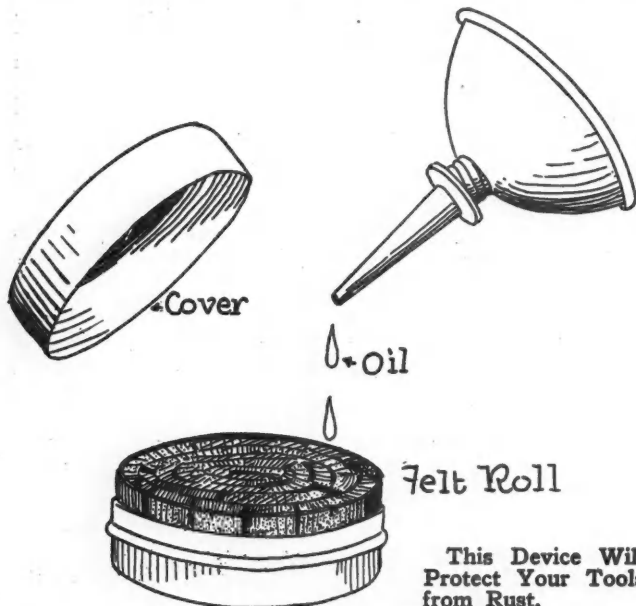
The molding of the concrete along the walls can be applied to any garage. When old concrete is to be bonded with new, be sure that the old concrete is not only thoroughly cleaned, but that, if the surface be smooth, pitted with a chisel. The old concrete must be well soaked with water before the new concrete is laid. A thin coating of pure cement on top of the old will usually



Protecting Tools Against Rust

A SIMPLE oiling-pad in the tool chest is convenient for coating tools with oil and preventing accumulations of rust.

Such a pad may be made quickly and easily from a strip of felt or heavy cloth and an empty shoe-polish box. The felt is cut into strips one-inch wide and these are rolled into a compact roll that will fit snugly into the tin box.



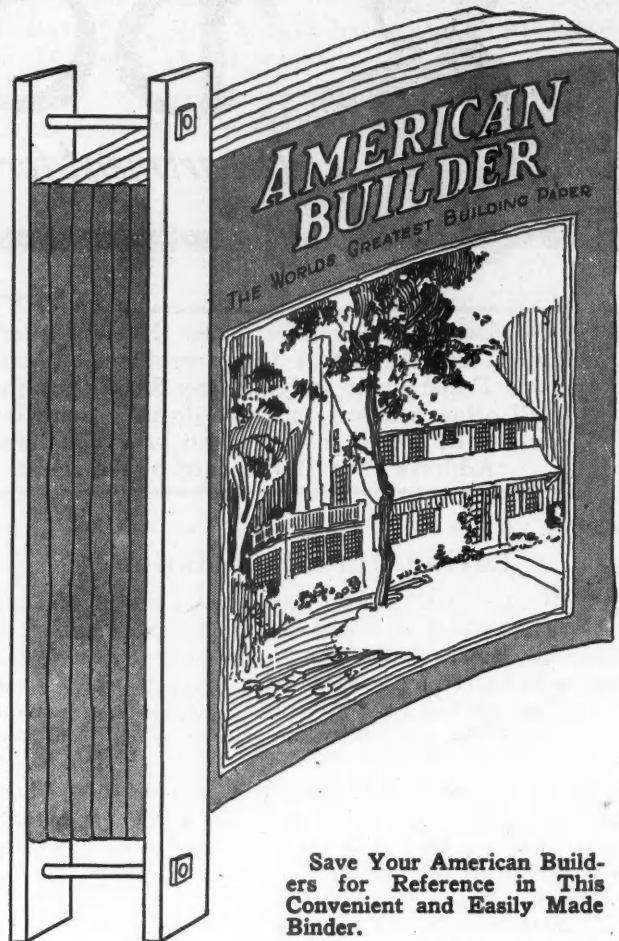
Cabinet glue should be spread over the bottom of the box to hold the rolled pad in place and after the glue has dried thoroughly the pad may be saturated with oil.

In use, it is but the work of a moment to remove the cover of the box and wipe saw, chisel, or any other steel with the oiled pad before these articles are stored away.

G. E. HENDRICKSON, Argyle, Wis.

An American Builder Binder

I SKETCH a binder I have used for many years in the shop to permanently bind the AMERICAN BUILDER semi-annually. Where removal of the copies is desirable, wing nuts would be much preferable to plain nuts. Square shank carriage



Save Your American Builders for Reference in This Convenient and Easily Made Binder.

bolts, $2\frac{1}{4}$ by $5\frac{1}{2}$ are used in the binder. A string tied to the bolts permits the binder to be hung on the wall, similar to a picture. Cardboard, inserted front and back of each file, makes a good cover and gives space for dates, inclusive, of each file, also an index of articles of especial interest. I hang as many as six files on one 20-penny nail, so you see how this method saves space in the shop and keeps your shelves clean for other things.

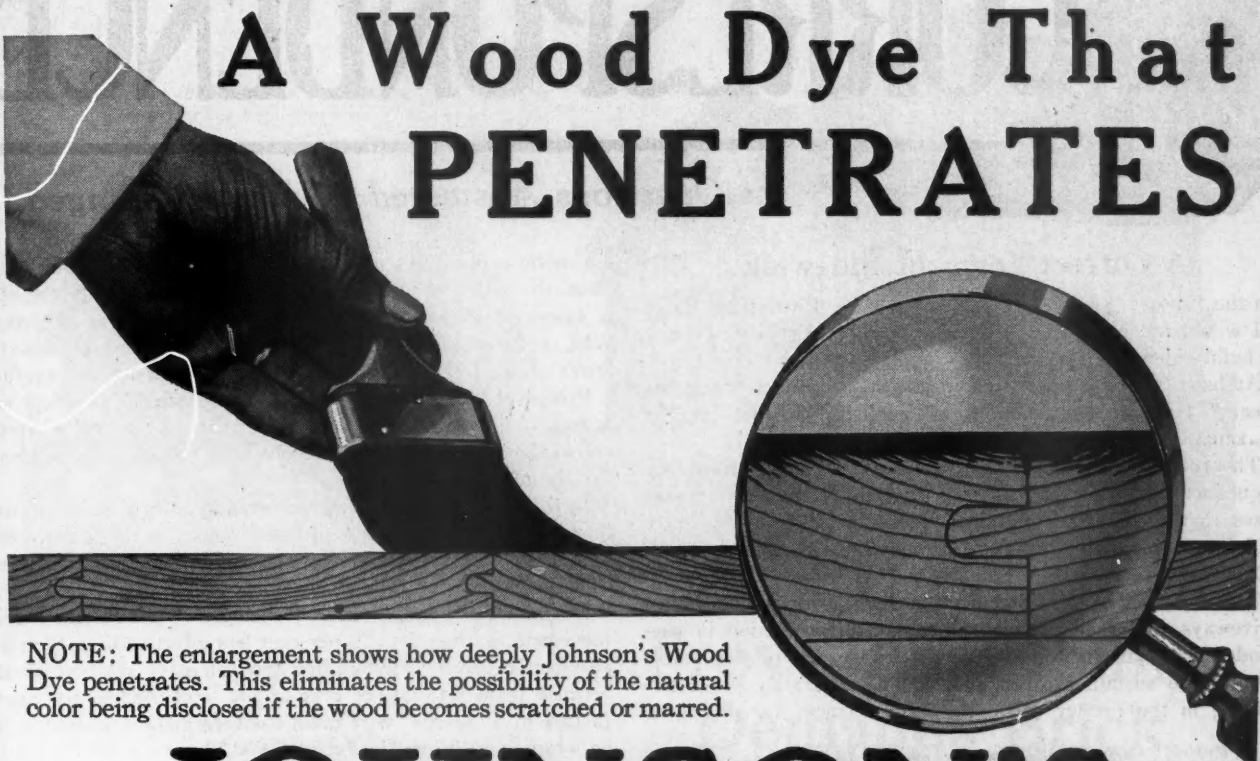
Mutilation of the magazines is eliminated through the use of this inexpensive and serviceable binder.—BERT W. CULBERTSON, Jackson, Miss.



Wallboard Putty

WHERE small jobs of repair work call for the employment of wallboard it is not always desirable to nail wooden strips over the joints. The job can be neatly finished for painting, however, if the joints are filled with a paper-pulp putty made as follows:

Thin scrap-paper is boiled in a kettle with sufficient water to make a pulp, after which a small quantity of white flour is added and stirred into the pulp to thicken it to the consistency of thin putty. When cool the putty is placed upon a board to drain off the surplus water and is then used to fill the joints or spaces between the sheets of wallboard. If carefully done and smoothed with a putty-knife the joints may be covered with paint to make them practically invisible.—G. E. HENDRICKSON, Argyle, Wis.



A Wood Dye That PENETRATES

NOTE: The enlargement shows how deeply Johnson's Wood Dye penetrates. This eliminates the possibility of the natural color being disclosed if the wood becomes scratched or marred.

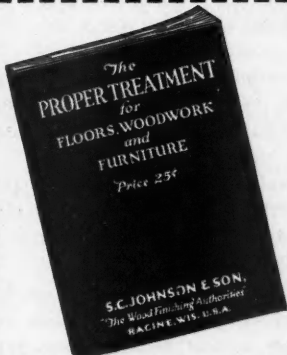
JOHNSON'S WOOD DYE

Johnson's Wood Dye is for the artistic coloring of all wood. With it inexpensive soft woods, such as pine, cypress, fir, etc., may be finished so they are as beautiful and artistic as hardwood. Johnson's Wood Dye is very easy to apply—it goes on easily and quickly without a lap or a streak.

Johnson's Wood Dye dries in four hours and will not rub off or smudge—it penetrates deeply, bringing out the beauty of the grain without raising it. Made in seventeen popular shades.

- | | | |
|-------------------------------|-------------------------------|------------------------------|
| <i>No. 128 Light Mahogany</i> | <i>No. 126 Light Oak</i> | <i>No. 172 Flemish Oak</i> |
| <i>No. 129 Dark Mahogany</i> | <i>No. 124 Golden Oak</i> | <i>No. 178 Brown Flemish</i> |
| <i>No. 127 Brown Mahogany</i> | <i>No. 125 Mission Oak</i> | <i>No. 131 Walnut</i> |
| <i>No. 329 Red Mahogany</i> | <i>No. 130 Wheathered Oak</i> | <i>No. 140 Early English</i> |
| <i>No. 120 Fumed Oak</i> | <i>No. 110 Bog Oak</i> | <i>No. 180 Gray</i> |
| <i>No. 123 Dark Oak</i> | | <i>No. 160 Brown Oak</i> |

All shades may be easily lightened or darkened. Full directions on every label. Select the shade of Dye you want from the list above and order it from your dealer by name and number.



FREE — 25c Book on Wood Finishing

Ask for a FREE copy of the Johnson Book at stores displaying the sign shown at right. If you have any difficulty securing the Book, mail this coupon for a copy free and postpaid. It is the best Book ever published on artistic wood finishing—the work of experts—illustrated in color. Gives covering capacities, includes color charts, etc.

DEALER'S NAME.....
 Your Name.....
 Your Address.....
 City..... State.....

Mail to: S. C. JOHNSON & SON, Dept. A.B. 10, Racine, Wis.



CORRESPONDENCE

Questions Answered—Ideas Exchanged

A Correct Form of Sidewalk

To the Editor:

Pittsburgh, Pa.

I would not hire "Dan"—H. H. Siegle, of Emporia, Kan.—to build sidewalks for me.

At least, not if he persisted in and insisted upon using his "beam" type of construction, as published in the August AMERICAN BUILDER.

Theoretically, this type is very fine—actually, a "bridge" or "aqueduct" type like this is very superior—because it recognizes that the stresses and loads encountered are absolutely undeterminable by mathematical computation—something which "Dan" has overlooked.

The function of reinforcement in such work as sidewalks, driveways, and roads, is not the same as its function in suspended slab construction—in the latter case, the reinforcement required to sustain a given load can be accurately pre-determined; in the former cases, the reinforcement (according to



This is the "Viaduct" Type of Concrete Sidewalk Construction Which Mr. Land Recommends When Properly Reinforced as Superior to the "Beam" Type.

the opinions of road designing and building experts such as H. Eltinge Breed and many of our foremost highway engineers) serves principally as a "wire binder" (much the same as wire in glass) to keep from opening up any cracks that may occur.

If a slab of concrete, similar to those used in our concrete sidewalks could be suspended in the air where it would not be subject to exterior forces, the necessity for "binding" or reinforcing would cease to exist. Concrete is continually changing in volume, although the change is very slight. This increase or decrease in volume is caused by its change in temperature and by the change in moisture content.

Lay a slab on the ground and the movement is restricted by the friction of the sub-base. If the concrete is expanding, the restricting force, friction, throws it in compression. Concrete has a high compressive strength, considerably higher than that to which this friction subjects it, and therefore is well able to resist this stress alone. If the concrete is contracting, however, the slab must resist a tension force which oftentimes is great enough to cause cracks, since concrete, unreinforced, is comparatively weak in tension.

In addition to the sub-base friction, there are at work other forces, much more severe. The ground beneath the slab swells when it takes in moisture and shrinks when that moisture dries out. The swelling is considerably increased by freezing. That earth directly under the middle of the slab is very little affected because the concrete covering prevents the rain from reaching it, and the side drains keep the ground water out. Under the edges of the slab to a certain degree, moisture does penetrate. The edges are, therefore, lifted when the ground swells probably leaving the slab with no bearing in the middle. When the ground dries out, the slab is lowered to its center bearing, but

the earth at the edges may dry out so much as to shrink away from the slab and thereby leave it overhanging. If the slab is subjected to heavy loads while supported under the edges only, a longitudinal crack may occur, opening only on the lower side of the slab, probably not evident on the surface.

Probably "Dan" realizes the "wire binding" function and action of a mesh reinforcement—but he misapplied whatever knowledge he might have, when he used "woven wire fencing" for the top slab.

In the first place, wire fencing is made from a grade of steel that is decidedly inferior to the grade used in the manufacture of mesh reinforcement—many states prohibit, by law, the use of wire fencing for reinforcing purposes.

On the other hand, "woven" fencing, or "woven" mesh reinforcement, is from 5 to 20 per cent less effective than the rigid, all-effective, electrically welded type of mesh reinforcement—because from 5 to 20 per cent of the steel used in the manufacture of a "woven" wire mesh reinforcement is wasted in ties or wraps, which are "ineffective" and play no part in resisting tensile stresses.

G. E. LAND.



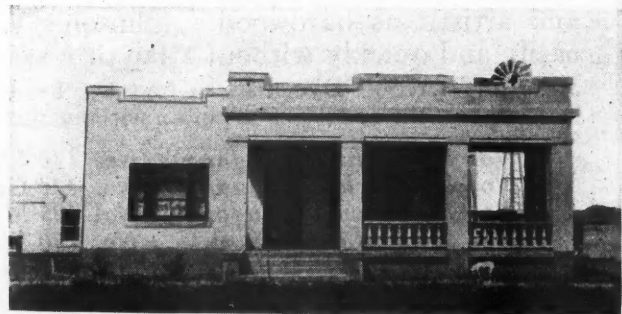
A Texas Builder Writes

To the Editor:

El Paso, Texas.

I am engaged in building homes in the Rio Grande valley on my acreage ten miles from El Paso.

I am sending you a kodak of the last home built, taken just after completion. It is on ten acres of choice land on a paved boulevard. It is the last word in a home, with all that goes to make up a modern residence. I am living in



Edmond Cardona Built This as One of a Number of Homes He Is Constructing Near El Paso, Texas.

this house at present and anticipate selling it shortly when I build a twelve room, two story residence on a six acre plot.

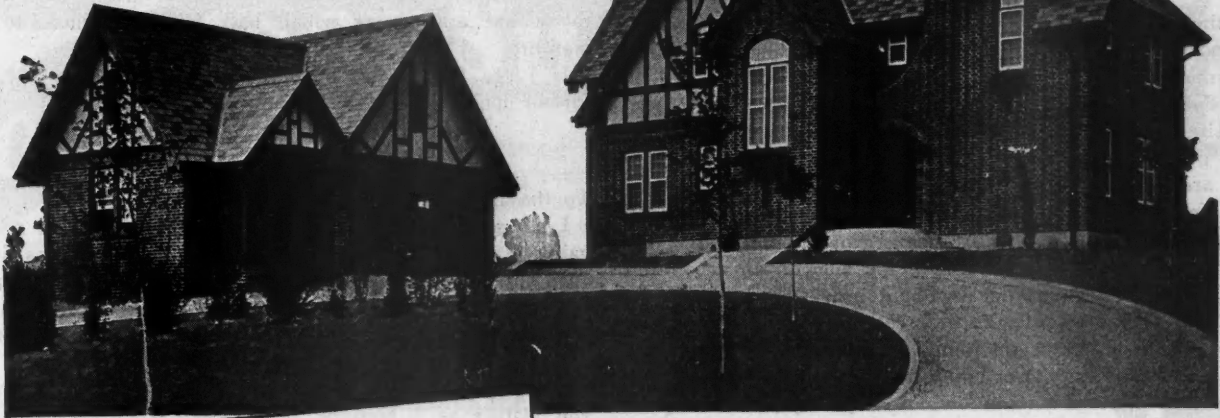
The houses that I build are complete with all outbuildings, water systems, fencing, planted in trees, flowers, etc., and when offered for sale as suburban homes pay 10 per cent on the investment. My present place is worth \$20,000.

I am my own contractor, builder and financier. I purchase material on a cash basis. I use nothing but first class materials in the homes I build, and I strive to install all and every modern feature available.

I shall avail myself from time to time of the services you offer your readers and appreciate all you do for me. If, at any time, I can reciprocate in this end of the country do not hesitate to call on me.

EDMOND CARDONA.

In the Westover development all residences are of the high character of this brick house.



FRANK H. HAMMOND

FRED H. HAMMOND

HAMMOND & HAMMOND
REALTORS
1712 F. & M. BANK BUILDING
FORT WORTH, TEXAS
April 21, 1924

Common Brick Mfg. Association,
Cleveland, Ohio

Dear Sirs:

Because of the high character of the property in this subdivision, we believed its development would more completely express our ideals and be a more permanent civic asset, as well as a more profitable investment to the purchasers if all homes in this subdivision were restricted to fireproof exterior walls and roofs.

Our success in handling the subdivision to date, convinces us that this requirement has met with hearty approval, and will result to the permanent good of all parties concerned.

Trusting this answers your inquiry, we are

Very truly yours,
HAMMOND & HAMMOND
BY *Fred H. Hammond*

FME/LB

Prove That Public Demands Brick Homes

Buyers Welcome Entire Development Restricted to Fireproof Exteriors

Whether you build one or a hundred homes a year, you will be keenly interested in the success with which Hammond & Hammond have *restricted an entire development to homes of fireproof exteriors. Every builder can profit by this experience proving that—*

Home buyers *want* sound, fireproof construction. They *want* walls that require no upkeep—that *improve* in appearance without painting, repair or replacement.

People will *pay a little more* for *permanent* value. Hammond & Hammond have *proved* this beyond question!

Meet this growing demand with homes of Common Brick. Tho the lowest in price of any enduring materials, Common Brick has an informal beauty and distinctive character worthy of the best neighborhoods. It is available everywhere.

In many localities you can build with Common Brick at a cost no greater than for less enduring materials. Write for list of members. Get the *facts*.

THE COMMON BRICK MANUFACTURERS'
ASSOCIATION OF AMERICA
2131 Cleveland Discount Building CLEVELAND, OHIO

Practical Plans for Attractive Homes

There is a real demand for permanent homes of enduring, fireproof materials.

Any of the 122 attractive brick homes available thru our home planning department will increase the salability of your properties.

Each home has been actually built and lived in. Capable architects designed them. The working drawings, complete in every detail, may be had as low as \$10 per set.

These 122 winners were selected from thousands of homes because they are practical to build, have well arranged interiors and attractive exteriors.

"The Home You Can Afford" shows sixty-two good ones in picture and plan. "Your Next Home" gives you sixty more. Send 20 cents for both booklets (or 10 cents for either one). That gives you 122 economical brick homes from which to choose those best suited to your particular needs.

The Cause of Timber Rot

AN interesting letter written to the *AMERICAN BUILDER* by Mr. Guy Sutton of Prentiss, Miss., and the solution of Mr. Sutton's problem as determined by C. J. Humphrey of the Forest Products Laboratory is reproduced here, since it may be helpful to a number of readers of the Correspondence Department.

Mr. Sutton's Letter

To the Editor: Prentiss, Miss.

Under separate cover by parcel post I am mailing you a specimen of soil and a fungus growth that rots the floor and floor joists of a brick building, the size of which is 50 ft. by 110 ft., so badly in two years that it has to be replaced that often. This building has floor ventilators, 18 of them that are 14 in. by 18 in. each. The floor joists are from 18 in. to 4 feet from the ground and are made of long leaf yellow pine, 90 per cent heart. This fungus growth spreads over the joists in a similar manner to a grape vine on an arbor and the main part or tap root is found near the center of the building. I have written to different people over the United States and have not as yet found what the trouble is, or what would remedy it. Two buildings (brick) were built just across the street from this building a year prior and at this time the floors are in first class condition and the ventilation is not near so good. Any information you can give me as to correcting this will be appreciated.—GUY SUTTON.

The Answer

UNITED STATES DEPARTMENT OF AGRICULTURE
BUREAU OF PLANT INDUSTRY
IN COOPERATION WITH THE FOREST PRESERVE
FOREST PRODUCTS LABORATORY
MADISON, WIS.

To the Editor:

Your letter transmitting sample of fungus growth submitted by Mr. Guy Sutton, Prentiss, Miss., was duly received. The sample arrived several days later.

Upon examination I find that the rot is due to a fungus scientifically named *Poria incrassata*. This organism is widely prevalent in the South as well as throughout the Pacific coast region. The rot produced is the typical dry rot. It attacks almost all types of wood structures from the most modest residence to large manufacturing plants. No wood is immune to the fungus. I have seen the best grades of heart pine and cypress decayed in a comparatively short time. The grapevine growths which you mentioned are water-conducting strands which carry moisture from the ground to the timbers high up in the building. In this way dry timbers are moistened and made susceptible to rot. I rather suspect that removal of these growths, particularly those portions which connect with the ground, will assist in the retardation of the fungus. However, I do not believe that this alone will be sufficient to stop the further, but slower, spread of the fungus. The ventilation which you have indicated should have been sufficient to prevent the development of the fungus under ordinary conditions. I imagine there has been some peculiar circumstances connected with the construction of the building which has permitted the spread of the fungus from the soil into the timbers and would appreciate any further statement which you can secure for me on this point. In other words, have not certain of the timbers been in actual contact with the soil at some time or other? I have seen instances where woody debris has been left beneath the building and the fungus has passed through this into timbers with which it came in contact. In other cases I know of dry rot fungi passed up from the soil through forming which had been left over concrete piers.

I believe the only safe method of control will be to eradicate the fungus as completely as possible by removing every trace of the decayed wood and replacing this with timber which has preferably been given a treatment with some suitable antiseptic, such as coal tar creosote, zinc chloride or sodium fluoride. In all such repair jobs it is also well to spray the walls adjacent to the original infection with the same antiseptic that you treat the timber with. This tends to remove any germs which may tend to adhere to the masonry.

If I can furnish any further information please feel free to call upon me.—C. J. HUMPHREY, Pathologist.

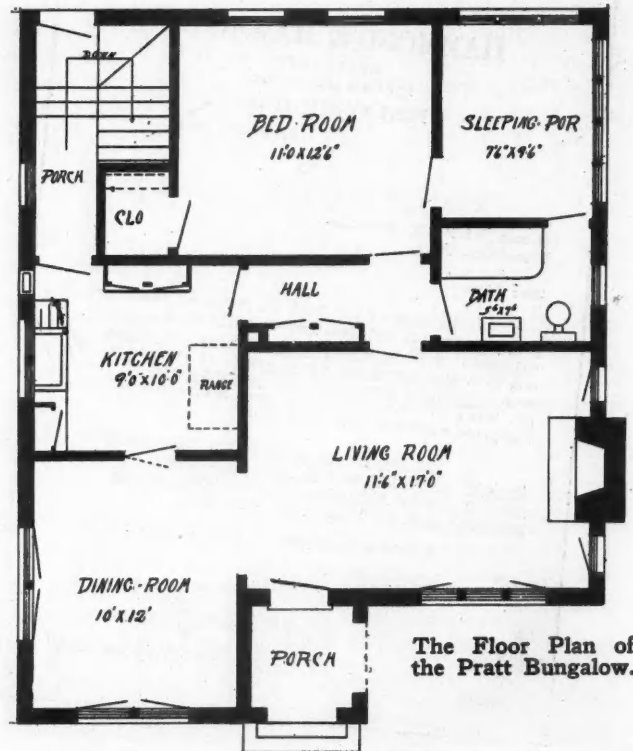
A Good Small Home

To the Editor: Denver, Colo.

I am sending you a photograph and floor plan of a bungalow I recently designed and built in Denver. It has developed into quite a popular house as I have had several inquiries from persons who wish to duplicate it. It has proven to be an economical house to build and appeals to the small family.

I am a faithful reader of the *AMERICAN BUILDER* and always am interested in studying the plans of the houses you feature as, I presume, many others are.

HENRY A. PRATT.



The Floor Plan of the Pratt Bungalow.



This Bungalow, Built by Henry A. Pratt, Denver, Colo., Has Attracted Much Attention and Aroused Inquiries Among Prospective Home Owners, Mr. Pratt Says.

SAVE 80% of Floor Surfacing Costs

Yes, sir, it is a strong statement and it may seem "too good to be true"! But there's indisputable evidence to back it up and that evidence is in the form of statements from hundreds of contractors and builders who know by experience that it is true. The

American Universal FLOOR SURFACING MACHINE

actually does the work of six fast hand scrapers at about twenty per cent of the cost and saves its owner eighty per cent.

But that's only half the story. The "A. U." does *better* work than any hand scraper can turn out. You find no waves, chatter marks or imperfections of any kind in the "American Universal" surface. It is as smooth and flat as a table top.

Another thing! Good hand scrapers, as you well know, are hard to get and hard to keep. The "American Universal" solves this labor difficulty. One unskilled man is all you need to operate it and with a day or two practice he will do the work of *six hand scrapers* and turn out a *perfect* job.

Better Business—Bigger Profits

Hand scraped floors are often a source of dissatisfaction on the part of your customers, a source of annoyance to you. The beautiful, flawless, "American Universal" surface pleases the customer, wins his enthusiastic praise and goodwill. That means better business.

When you can take six good men off the unprofitable job of hand scraping and put them on some job that is more satisfactory to them and more profitable to you, and replace them with *one man*, you are solving a labor problem, materially reducing your payroll, cutting down your operating costs and adding cold, hard dollars to your income.

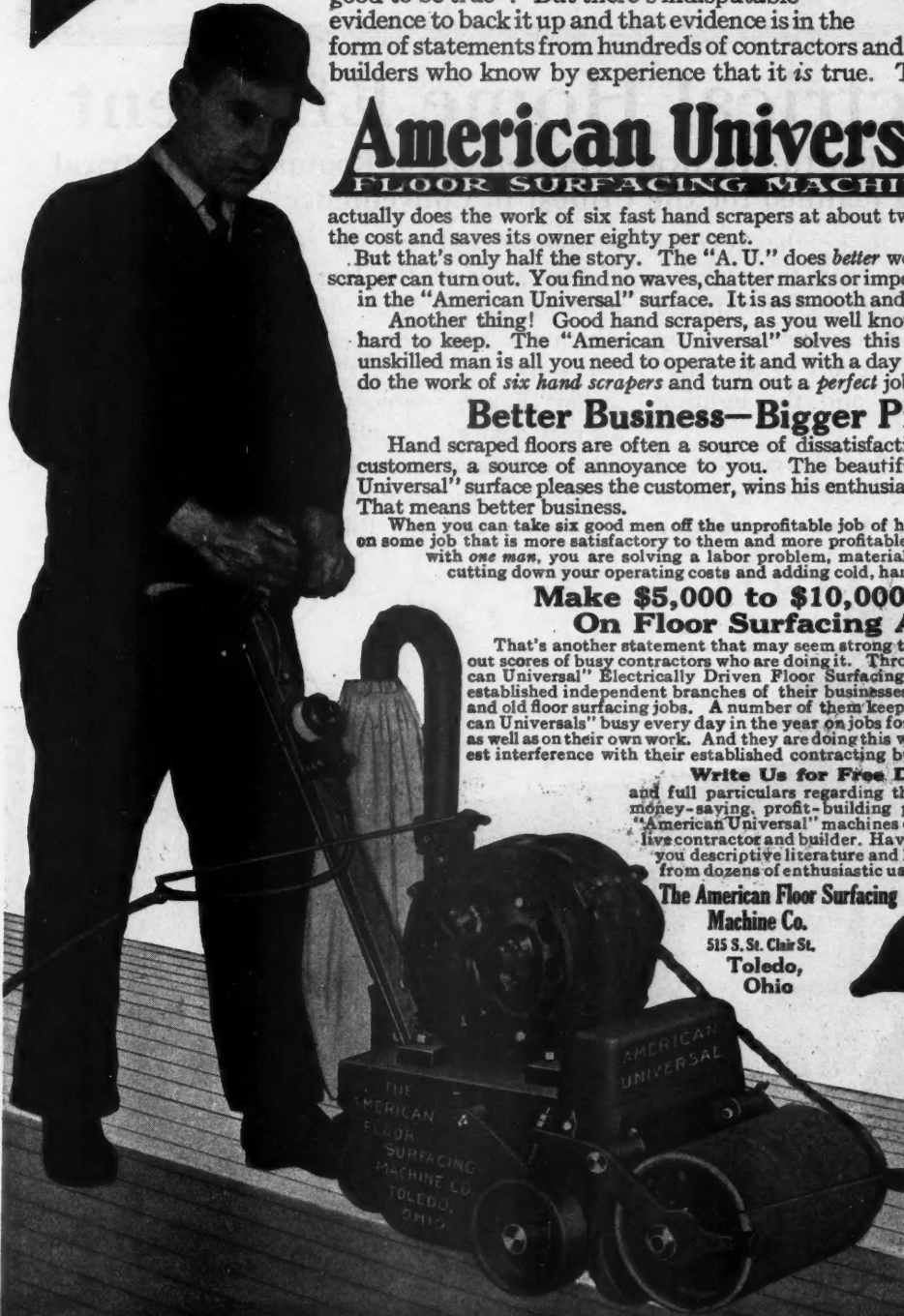
Make \$5,000 to \$10,000 a Year On Floor Surfacing Alone

That's another statement that may seem strong to you, but we can point out scores of busy contractors who are doing it. Through the use of "American Universal" Electrically Driven Floor Surfacing machines, these men established independent branches of their businesses and went after new and old floor surfacing jobs. A number of them keep five to ten "American Universals" busy every day in the year on jobs for other contractors as well as on their own work. And they are doing this without the slightest interference with their established contracting business.

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

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

Your inquiry will not obligate you in the least.
WRITE NOW!



American Floor Surfacing Machine Co.
515 S. Saint Clair St.
Toledo, Ohio

Please send me without obligation, full information regarding American Universal Floor Surfacing Machine.

() I am a contractor and want machine to use on my own work
() I am interested in surfacing floors "The American Universal" way for others in business.

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

SAVE THE WAGES OF THESE SIX MEN!



ELECTRIFY ALL BUILDINGS

A Department of Up-to-date Information
for all who Plan and Build

The Electrical Home Efficient

Five Room Stucco Home with Practical Arrangement of Rooms Has Electrical Wiring Planned for the Utmost in Convenience

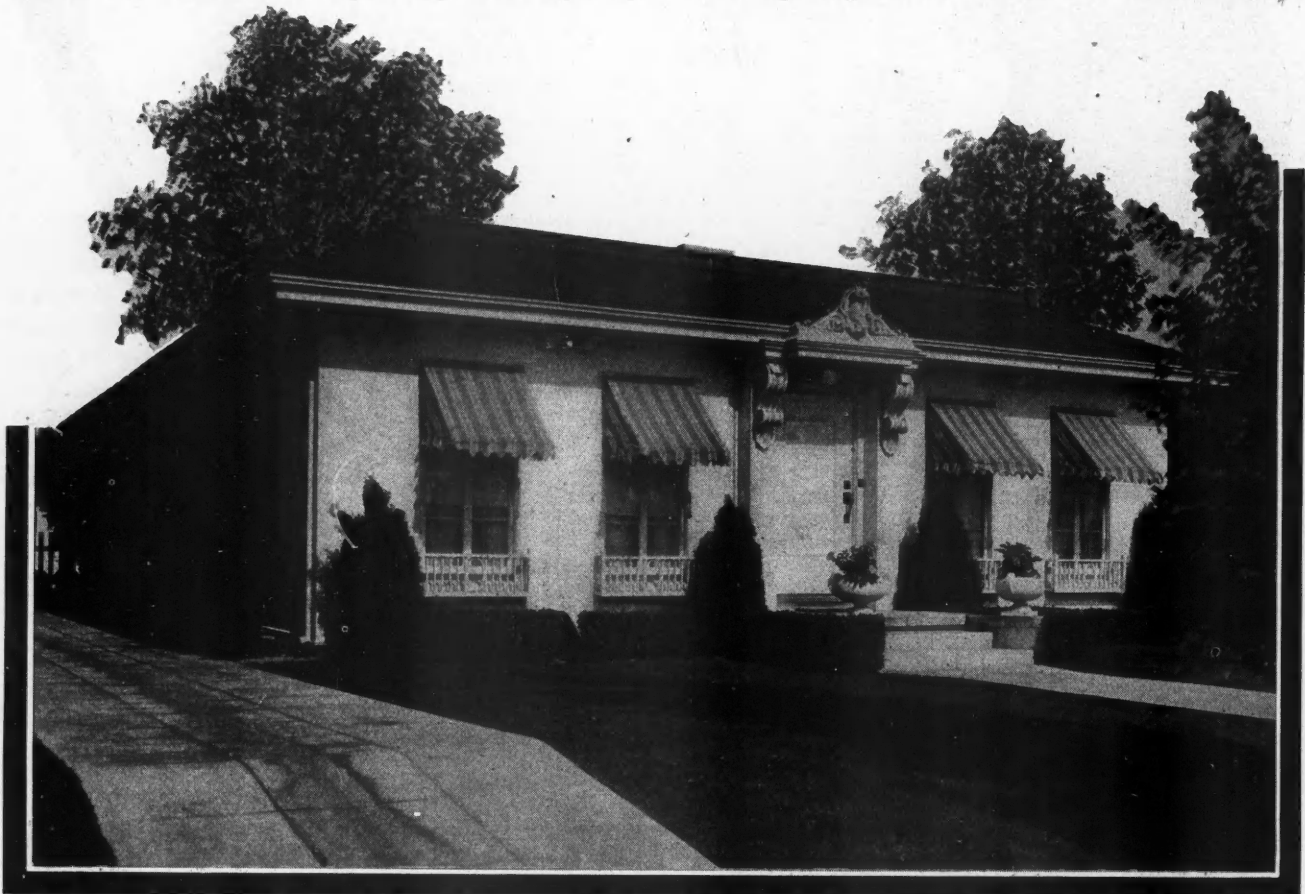
COMFORT would seem to be the keynote of the home shown here, and the exterior with its large windows insuring a maximum amount of daylight and air is not contradicted by the floor plans which show the details of the careful planning of all the rooms, and the lighting equipment.

For it must be remembered that the comfort of the "man of the house" during most of the hours when he is in the home depend upon the lighting

equipment, and that the convenience and the ease of the work of the housewife during her entire working day depend upon the convenience with which she can utilize electrical devices to lighten her work.

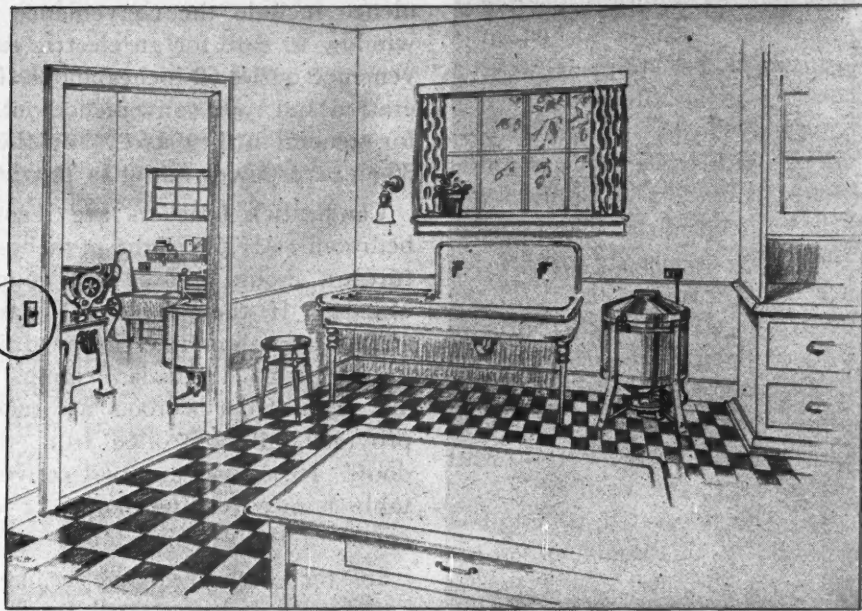
This home, simple though it is in design, has a great deal of attractiveness gained through careful ornamentation and by the careful planting of shrubs and the care of the lawn.

The lighting for this home has been designed

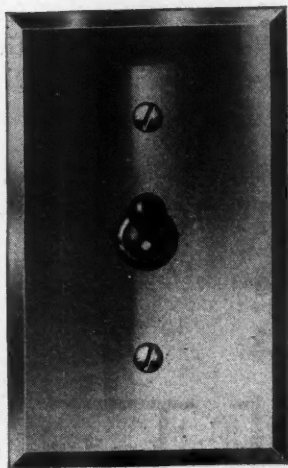


The Inviting Exterior of this Comfortable Electrical Home Efficient Merits the Careful Attention Which Has Been Given to the Planning of the Electrical Lighting and Convenience Equipment.

HUBBELL



Toggle Switches



Single Pole . . . No. 8641
 Double Pole . . . No. 8642
 Three-Way . . . No. 8643
 Four-Way . . . No. 8644
 Plate No. 8291

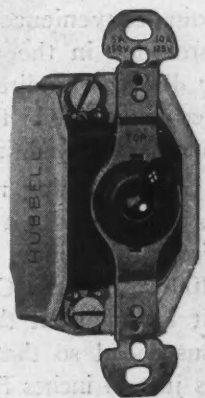
A new toggle switch with improved mechanism—the result of years of development.

The first successful toggle switch with a lock and release movement.

Quiet, quick-acting, and easily operated.

Toggle Arm of black "Bakelite" or brass. Brass arm can be supplied with luminous tip.

Single pole, double pole, three-way and four-way types.



Shallow body—only 1-7/16 inches deep. Suitable for thin partitions.

HARVEY HUBBELL INC.
 ELECTRICAL WIRING DEVICES
BRIDGEPORT CONN. U. S. A.

ELECTRICAL WIRING DEVICES



WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

by the engineering bureau of one of the largest electrical companies in the United States, and may serve as an authoritative model for wiring and lighting any similar house.

For both the front and the rear entrances the illumination engineers have specified ceiling type weatherproof lanterns to be illuminated by 40-watt Mazda B clear lamps. Both of these lights are controlled from switches placed at the proper height inside the front and rear doors respectively.

In the reception hall the light is placed in a ceiling globe fixture which is equipped with a 60-watt Mazda B lamp, or as an alternative where a more decorative effect is sought, with a suspension type of hall lantern with three 25-watt round bulb Mazda B all-frosted lamps. This light is controlled from just inside the front door, where a plate carrying two switches may be placed to care for the hall and entrance lights. In the closet off the hall, the light is mounted on a wall bracket directly above the door and equipped with a pull chain socket. The light is a 25-watt clear Mazda B lamp.

In the center of the ceiling of the living room is a cluster type suspension fixture using four 40-watt Mazda B lamps. It is suggested that all-frosted lamps should be shaded with decorated, tinted glass shades. About the walls of this room, on either side of the doors from the dining room and from the reception hall are wall bracket lights equipped with 25-watt Mazda clear lamps and glass shades to match the ceiling fixtures.

To give the maximum of service and convenience these lights should be placed with the outlets 60 inches above the floor. Placed in the baseboard about the room in such a manner that a floor lamp or table lamp in any location can be connected without trailing the cords all about the room are four convenience outlets. A floor outlet also is provided in the center of the room. The use of a direct or indirect floor lamp is recommended in this room to give a variety of lighting effects.

In the dining room the lighting is effected with a dome suspended from the ceiling, equipped with a 100-watt Mazda C all-frosted lamp. It is important that this dome be suspended so that the lower edge is just 54 inches from the floor. A wall bracket is placed at each side of the window, 60 inches from the floor, while convenience outlets are placed near the buffet and on the kitchen side of the room. The dome in the center is controlled from switches just inside the doors leading from the kitchen and from the dining room.

It is in the kitchen of the homes

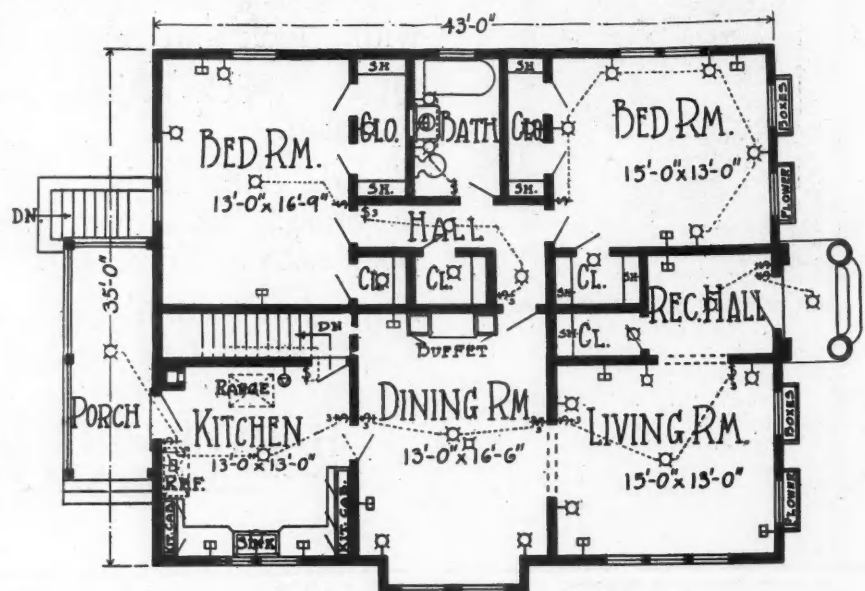
that the illuminating engineers have concentrated a great deal of effort to make the home as convenient as possible. The lighting consists of a squat enclosing globe with a 100-watt Mazda C clear lamp and the wall bracket, mounted 60 inches above the floor with an opal glass reflector equipped with a 50-watt white Mazda B lamp. The metal parts of all kitchen fixtures should be finished in white enamel.

Other provisions for kitchen comfort and convenience include the convenience outlet above the window to care for an electric exhaust fan, a convenience outlet 60 inches above the floor for refrigeration and twin convenience outlet 36 inches high for general utility use. For the electric range a 36-ampere power outlet is provided.

Candlestick brackets are recommended for the bedrooms. If one light is to be used in these fixtures, it should be a 25-watt round bulb all-frosted Mazda. If the two-branch candlesticks are installed they should be equipped with 15-watt round bulb all-frosted Mazda B lamps. It will be noted that in the front bedroom five such wall brackets are provided, all controlled from the switch by the door. Here also are two convenience outlets for table lamps, reading lamps or electrical conveniences for the dressing table.

In the back bedroom ceiling fixture is indicated with but two wall brackets, and with two convenience outlets. In the bedrooms the bracket lights should be equipped with glass or silk shades or shields.

Two bracket fixtures are placed in the bath room, one on each side of the mirror. These should be so placed that the light source will be 65 inches from the floor and have 25-watt Mazda B all-frosted lamp in each fixture. The convenience outlet in this room is placed between the wash bowl and the medicine cabinet.



The Floor Plan of the Electrical Home Efficient, Illustrated on Page 156.

Wire it with **Ovalflex**

OVALFLEX is flat— $\frac{5}{16}$ " thick—and lies snug and tight to every contour. Lay it on the surface without grooving, cutting or boring. Ordinary plaster will cover it.

For re-wiring, cut a shallow groove in the plaster and then plaster right over it.

Safe everywhere—bends flatwise and edgewise—easy to handle—saves time, saves money.

National Metal Molding Company



WORLD'S LARGEST PRODUCERS OF ELECTRICAL
CONDUITS AND FITTINGS

1175 Fulton Building, Pittsburgh, Pa.

Represented in All Principal Cities



[19]



OVAFLEX

A NATIONAL METAL MOLDING PRODUCT

"The Flat Armored Cable"



WHAT'S NEW?

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.*

For Convenience and Economy

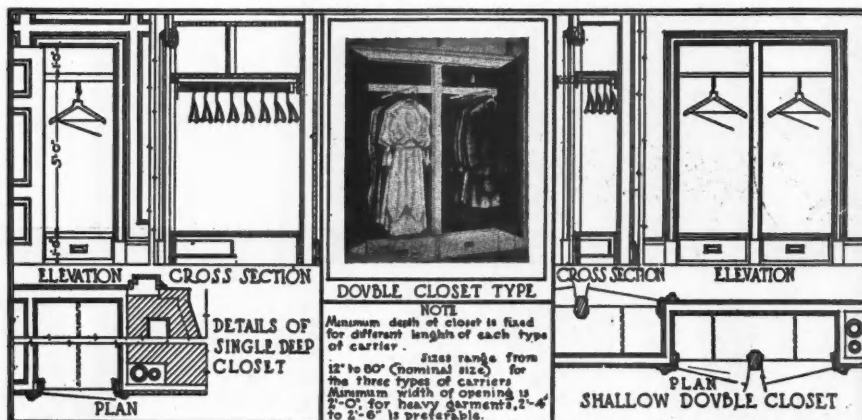
GREATER convenience in the buildings they construct has been one of the objects of builders for years, and this is particularly desirable when it can be achieved, not at a greater but at a decreased cost, as is possible through the use of a closet fixture now available.

Saving of space has always been important, and with the conditions of the present day, when no small part of the building operations are conducted on highly valuable land, and the cost of extra material must be considered, space saved means money saved.

This system of conserving closet space has the further advantage of replacing the hit and miss system of clothing storage used in most closets with one which provides an individual hanger of the proper design for each garment.

The idea is simple, as is shown in the drawing. The garment hangers are placed on a rod, so designed that when the closet is opened, the rod, with each garment in place on its hanger, can be drawn out where all are readily accessible. This eliminates the confusing row of hooks about the walls of the closet where often several garments are placed on one hook and consequently are difficult to find, and gives to the closet the efficiency of a modern clothing store, where care of men's and women's garments in the most compact and efficient manner has been reduced to a science.

The fixture which carries the hangers can be installed in any closet, old or new, with very little trouble, since a screw-driver is the only tool required. Plans for single and double installations are shown in the accompanying drawing.



Closets Which Save Space and Assure Better Care of Clothing Are Made Possible Through the Use of Especially Designed Fixtures.

A Time and Money Saver

MORTISING doors for locks is one of those jobs which long have been considered slow and costly, through the method of using a brace and bit and then a chisel to complete the job. Not only did it require a lot of time, but it took an expert workman to insure a good job.

Now it is possible, through the use of a machine, to mortise a door in one-fifth of the time required by the old method and to be sure of a perfect job. The builder who keeps a crew of men busy can readily see the saving which can be effected through this new method.

The mortiser, as shown in the illustration, is fastened to the door with two self-centering clamps, which have wood facings to prevent injury to the door. Each machine is equipped with two cutters and is adaptable to any size of door through many other cutters supplied by the manufacturers.



This Mortiser Replaces the Old Method of Using the Brace, Bit and Chisel.

A Motorless Oil Burner

OIL burning equipment for heating buildings of all sizes has been receiving the serious consideration of builders for several years, since a considerable demand for installations of this type has developed on the part of householders who would be pleased to be free from the inconvenience of firing their furnace with coal and from the inconvenience of getting rid of the ashes after the coal is burned.

A type of fuel oil burner which will meet with the approval of many who have made a study of heating equipment has as one of its features a gravity feed, which eliminates the expense of an electric motor and makes the burner practicable where electric current is not available. Another feature is the manner in which it is lighted. The pilot light fed by illuminating gas used for this purpose in many oil burners is replaced by an asbestos torch soaked in the fuel oil.

The secret of the success in burning of fuel oil without a motor-driven blower is said by the manufacturers to be in the



*General Motors Building,
Detroit, Mich.*

*Fisher Body plant, Cleve-
land, Ohio.*

*Traveling mast hoist driven
by G-E Motor, used on
Equitable Building, lower
Broadway, New York City.*

Superstructure

Even before the superstructure starts, General Electric apparatus is on the job operating machinery that handles building material and construction equipment when they are delivered. As the superstructure rises, more and more is the need for electrically operated construction equipment.

G-E Motors drive screens and concrete mixers, preparing concrete which is swiftly carried up electrified elevators, or lifted electrically in towers of concrete gravity chute systems. Other G-E operated elevators lift brick, tile and building materials. Electric winches handle the lumber for the forms—and derricks, now G-E equipped, bring up the structural steel and swing it into place. Above all is heard the machine-gun note of the pneumatic riveters powered by compressed air from electric motor-driven compressors.

The close relation of G-E engineers to the application of electricity to construction machinery has produced incomparable motive power and control performance.



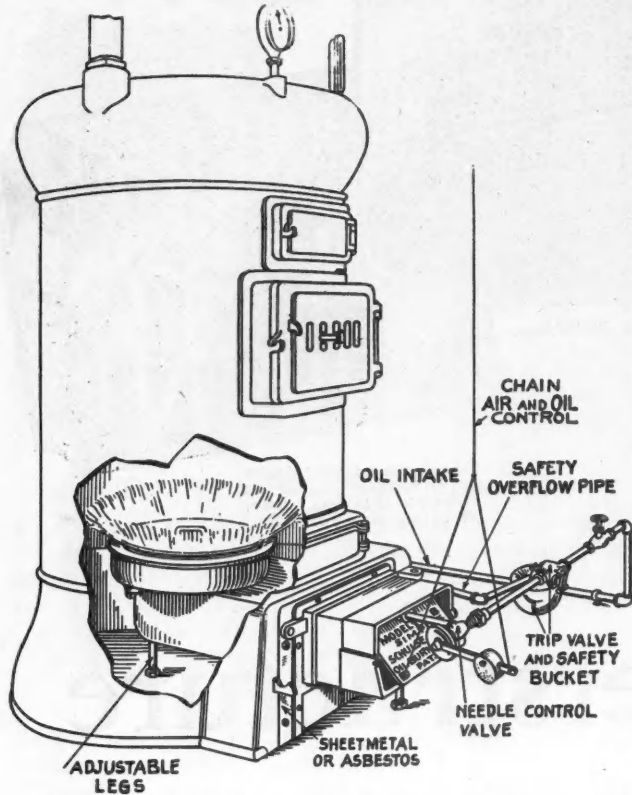
General Electric Company
Schenectady, N. Y.
Sales Offices in all Large Cities

423-44

GENERAL ELECTRIC

method by which air is delivered into the flame at right angles to the delivery of the oil.

The burner may be installed in any up-draft heater, steam, hot water, vapor or hot air and is built in sizes ranging from those for small homes to those for large hotels.



No Motor Is Required in This Oil-Burning Equipment of Special Design.



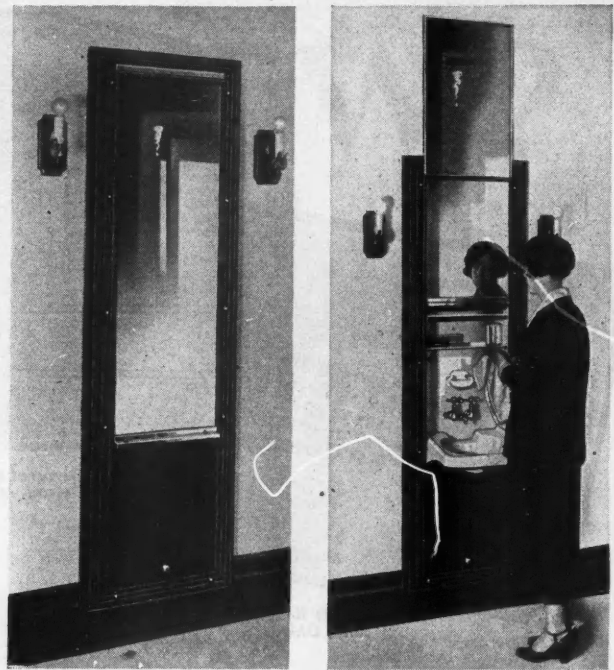
Lavatory Takes No Floor Space

A LAVATORY is desirable in any office, but the floor space required for a wash bowl and equipment of the regulation type can hardly be spared, even if the owner of the building is willing to go to the expense involved in providing a suitable cabinet.

Similarly a lavatory in every bedroom of a home would be a desirable feature, but the ordinary equipment almost requires a separate room or is in sight in such a manner that it detracts rather than adds to the beauty of the room.

Now the builder may install a unit which has all of the advantages and none of the objections of the lavatory of the usual type. This equipment, illustrated here, presents the appearance of a panel mirror and suggests nothing of the lavatory when not in use. When it is required the mirror is raised, revealing a bowl which can be swung down into place, a special mixing faucet for hot and cold water, a medicine cabinet and a soap tray.

The surprising thing about the equipment is that it only requires a minimum depth of four inches, making it possible to install it in almost any wall. The advantages in an office are obvious, and it can be utilized to a great advantage in homes and apartments in overcoming the demand for toilet facilities which usually marks those homes without baths for each room.



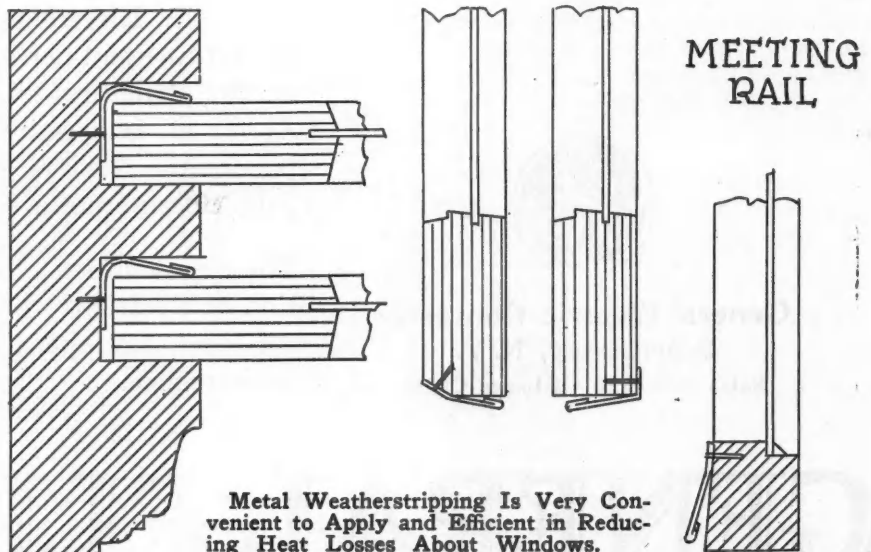
This Mirror Conceals an Attractive and Efficient Lavatory, Shown at the Right.

Easily Installed Weatherstrips

AS more and more attention is being paid to the conservation of fuel through the more careful and efficient construction and insulation of walls, it is becoming generally known that much of the good of such pains is lost if care is not taken to prevent the loss of heat around the windows. And this means that the careful builder is paying much attention to making the windows weather tight through the use of properly constructed and properly applied weatherstrips.

A weatherstrip which has gained a great deal of favor through its efficiency, ease of application and durability is a weatherstrip which is made entirely of bronze.

A feature of this weatherstrip, as shown in the illustration, is that the installation does not require grooving and does not require the sash to be removed, which saves time, labor and expense. The stripping strengthens the sash rather than weakens it, and is declared by the manufacturer to prevent absolutely dust and draft as well as the rattling of the windows. Since the strip is made of spring bronze, it will follow any shrinkage, expansion or warp of the sash, and is always snug without any possibility of sticking the window.



Metal Weatherstripping Is Very Convenient to Apply and Efficient in Reducing Heat Losses About Windows.



—an easy road to big profits
in your own business
Contractors—Material Dealers!

There's a constant and ever-increasing demand for good concrete brick, because concrete brick meet with the requirements of the smallest bungalow as well as those of the largest office building, hotel or school.

Shope Concrete Brick have demonstrated their value in all parts of the country. Where they are made and known, builders recognize them as the logical building unit, and architects specify them because of their beauty.

There is a real opportunity for you in your territory and we urge you to install at once a

SHOPE BRICK PLANT

Immediate Action!

Write or wire for complete information concerning the possibilities in your territory. Our franchise gives you exclusive rights—please investigate the proposition at once.

Exclusive manufacturing and selling rights for Shope Concrete Brick now are offered. This franchise eliminates all competition, giving you an exceptional opportunity to develop a well paying business in conjunction with your present activities. Shope Brick can be manufactured in a fraction of the time the old process takes, and the materials, just sand and gravel, are found everywhere.

SHOPE BRICK CO.
COMMON BRICK PORTLAND, OREGON FACE BRICK

A Convenient Digger and Loader

LOADING material into trucks from the ground in material yards or loading loose dirt on the job often is work requiring lots of time if special equipment is not available, and since many such jobs, in fact most of them, for the average contractor do not justify the use of a steam shovel, a smaller type of loading equipment and one which can be moved rapidly and with ease has been produced.



This Equipment, Mounted on a Fordson Tractor, Is Useful to the Contractor for Loading and Digging.

This loader is designed to be placed upon a Fordson tractor and is so built that adding it to the tractor does not require any additional holes to be bored in the tractor frame and so that the loading mechanism does not in any way interfere with the drawbar of the tractor or prevent it from being used to pull trailers in the regular manner.

The tipover bucket shown in the illustration is of one-quarter yard capacity, 40 inches wide and 22 inches deep. The shovel, while resting against the bumper shown on the front of the device, is pushed into the pile of material by the tractor so that the entire digging strain is carried by the main frame and rear axle of the tractor. The shovel is raised by power and turned by power to either side to be dumped into a truck. The lifting height from the ground is 8 feet, while the height to the bucket, dumped, is 6 feet 11 inches. The shovel swings 4 feet 9 inches to either side of the tractor. The shovel may be swung to the side while it is being raised.

Besides being used for loading sand, gravel, dirt, crushed stone and other like substances, it is used for digging and leveling streets for paving, scraping, backfilling charging mixers and other similar jobs. In some places it is used to load trailers and then to haul the trailers, since the shovel in no way interferes with the operation of the tractor.

A special shovel of half-yard capacity is provided for handling lighter materials, such as snow, ashes, cinders or loose dirt. Either the quarter or half-yard shovel may be used on the same loader and are interchanged through the removal of two bolts.



New Features for Concrete Mixer

A HEAVY duty construction mixer which may have the controls located at any one of three levels has been placed on the market by a firm which has been manufacturing equipment for similar purposes.

This is an innovation in heavy duty construction concrete mixers which should be welcomed by all contractors using this type of construction machinery because it adds to the prac-

ticability of the mixer and consequently enhances its money value.

The contractor is provided with a choice of any of the three distinct points of control, placed on three levels—bottom or ground control, intermediate, or overhead control.

With this placing of control points the mixer has a greater degree of versatility when working in crowded quarters or in places where a single, ground control would be inadequate.

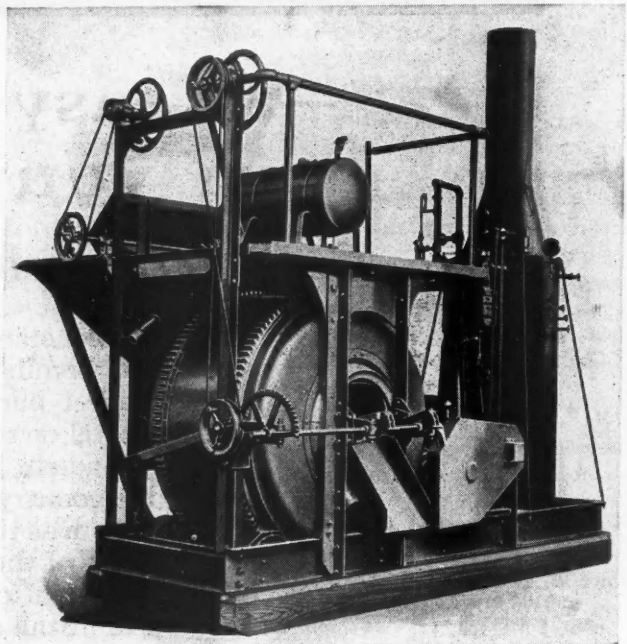
The overhead platform, which is built into the mixer when this control is specified, simplifies the control problem when the mixer is set into a depression on the ground, or when using overhead bins.

An intermediate platform can be built around the mixer making the control point at the top of the batch hopper waist high to the operator. This intermediate platform lightens the task of handling the cement into the hopper by the operator.

The ground control is used when the aggregates are discharged from an elevated bin into the batch hoppers, and the operator operates it from the ground.

These three control points make the mixer adaptable to every conceivable job layout which ordinarily would not be practicable.

A cast steel pivoted, swinging type batch hopper gate, with an opening 11 inches by 20 inches has also been installed on this mixer to replace the old sliding gate.



This Heavy Duty Concrete Mixer May Be Provided with Controls at Any One of Three Levels, Adapting It to a Variety of Work.

The standard power charging skip can also be furnished if desired. The mixer is mounted either on skids or regular steel rim wheels. A choice of steam, gasoline or electricity is offered.



A Ten-Ton Tractor Crane

REALIZING the many and varied uses of a crawling tractor crane of the proper size about a materials yard and in the equipment of contractors who deal with extensive undertakings, a firm which recently has completed several cranes of 200 tons capacity is now offering a new model particularly adapted to the building field.

This crane is built either for steam, electric or gasoline power. The machine is extremely versatile, operating with clamshell or dragline bucket, electric magnet, hook and block or grapple. It readily is convertible into a shovel or a pile driver.

The crane has two traveling speeds. Steering while under

Healthy heat—by burning oil

The simplest oil burner made Gravity feed—noiseless and clean

NO matter how much money there is to be spent on the heating plant—we unhesitatingly recommend the Schulse-Simplex Oil Burner.

With an oil-burner, the home-owner is free from the ash barrel and the coal shovel and all the dirt, annoyance, expense and actual hard labor that go with them.

The advantages of the Schulse over ordinary

oil-burners lie in the following ten points of performance and mechanical superiority.

1 The Schulse employs gravity feed—requiring no expensive electric motor or the care and knowledge a motor demands.

2 The Schulse is lighted by an asbestos torch soaked in fuel oil—thereby abolishing the gas pilot.

3 It is thus apparent that a Schulse installation is fully efficient in territories where electricity and gas are not available.

4 The secret of Schulse efficiency is in the patented air vanes which deliver the air right into the flame—at right angles to the delivery of the oil. This forces complete vaporization (without a motor or blower) and leaves no clogging soot or carbon to be cleaned out at regular intervals.

5 The Schulse may be regulated to burn from one pint to one gallon of fuel oil per hour. Without further attention, uniform heat is delivered—which means *healthy heat*.

6 The Schulse is the simplest oil-burner made—simple in construction—simple in operation.

7 The Schulse has a flawless service record—of one full year in homes and of many years on the vessels of the leading steamship companies.

8 The Schulse may be installed in any up-draft furnace—steam, hot air, hot water or vapor.

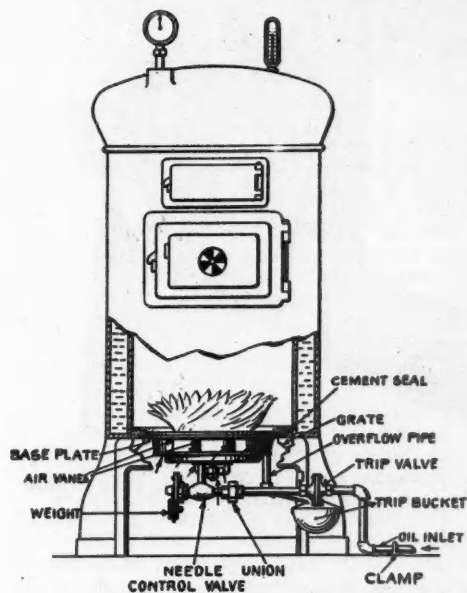
9 The cost to the home-owner of a complete Schulse installation is approximately \$300, depending upon local conditions.

10 The parent company guarantees replacement of any part which proves defective in normal service for one year. To date these have never been required.

On both new construction and replacement work, the Schulse satisfies the home-owner and increases the sale value of the home.

Schulse Burners are manufactured for installations of all sizes—from a California bungalow to a New York apartment hotel.

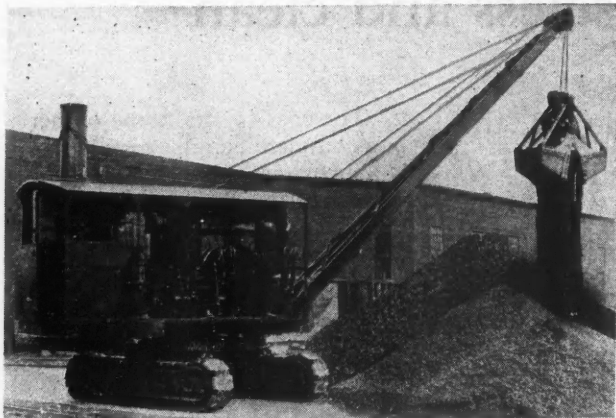
We invite you to write us for further details. Whether you are interested in one or a dozen installations—or in our interesting agency proposition—our engineering staff and sales department are at your service.



The **SIMPLEX FUEL OIL ENGINEERING CO., Inc.**
11 BROADWAY . . . NEW YORK CITY

way is accomplished from the operator's platform through friction clutches and breaks controlling each tractor belt.

Propelling up an incline skidway onto a flat car for transportation is very easily done. Other exclusive features are the automatic double hoisting drums which provide automatic control of the bucket during operation. Both drums provide enough rope pull as required for dragline and hoisting pur-



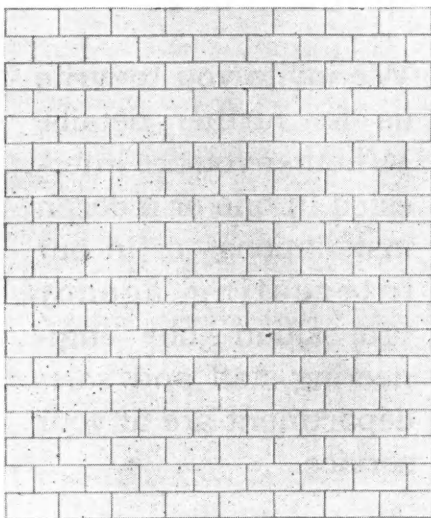
This Ten Ton Crawling Tractor Crane Can Be Operated with a Clamshell, Dragline Bucket, Electric Magnet, Hook and Block or Grapple.

poses. The feature of hoisting the bucket open on the auxiliary drum greatly increases the output of the crane and makes operation much simpler. A radius varying appliance consisting of bronze worm, worm wheel and drum, and controlled by friction clutches and semi-automatic brake, raises or lowers the boom when loaded to its maximum capacity. Levers actuating all motions are conveniently placed in two rows in front and alongside of the operator's platform which is located on the right-hand side with a full view of the work being done.



A New Tile Surface for Walls

A NEW development of fireproof wallboard consists of slabs of gypsum wallboard $\frac{3}{8}$ inch thick, 4 feet wide, and 6, 7, 8, 9 or 10 feet long. It is impressed to



A New Gypsum Board Has a Tiled Surface for the Bathroom or Kitchen.

represent ceramic tile of the standard size, $2\frac{1}{2}$ by 5 inches, and is to be finished with enamel. It is designed for wainscoting or entire walls in kitchens, bathrooms, lavatories and laundries in dwelling houses or for other places such as dairies, doctors' and dentists' offices, restaurants and barber shops where tile is required.

The tile board is nailed horizontally to the studing or over the

old wall. The various lengths make it possible in most cases to fit the space, with one board so that the joints are made in the corners; in other cases, the joints as well as the nailheads may be faced with a special finisher. The tile board surface then is primed with a mixture of equal

parts of good varnish size and flat paint of a color similar to that desired in the completed job. When this is dried, it is smoothed down with sandpaper. Then two coats of flat paint of the desired color are applied and, when they have dried, the surface is enameled.

Because it is a large-unit material, it is economical in application. It produces a washable, sanitary, permanent surface indistinguishable from ceramic tile. Because it is made of gypsum rock, it will not warp, bulge or crack. It is fire-resistive and an insulator. It is suggested as especially valuable in communities in which mechanics skilled in tile setting are not to be found.



Convenient Double Hung Windows

CLEANING of windows is one of the most difficult and, at time, dangerous tasks which confronts the housewife. And that builder who installs in the homes he builds windows which minimize the drudgery and eliminate the danger is doing a service which will make no small impression on those he serves.

Features which accomplish these things have been incorporated in a double hung window now on the market. And in addition to the ease and safety of cleaning the windows, many other advantages are offered which make windows so installed very desirable.

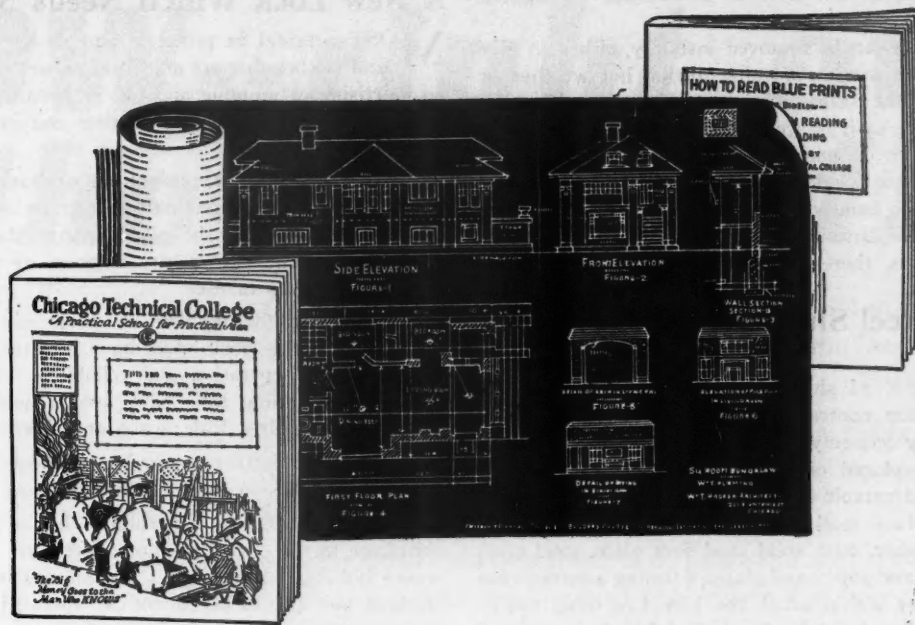
While these windows operate readily in the usual manner for double hung windows, they can be tilted inward into the



Ease of Cleaning Is One of the Features of This Unique Window Installation.

room as shown in the illustration. The upper sash can be lowered to a position just above that shown for the lower sash and cleaned in the same manner without the necessity of dangerous and tiresome leaning out of second story windows, resorting to the use of stepladders and other inconvenient methods.

In addition to the feature which allows the windows to be cleaned so easily, the device offers an exceptionally convenient method of ventilation. The lower sash may be tilted inward at the meeting rail, admitting air which is deflected upward, avoiding draughts. And it readily can be seen that none of these functions interfere with the screens on the windows



SENT FREE

Mail the Coupon for These Two Books and Blue Print Plans

If you are in any building trade, we want to send you these 2 books and blue prints at our expense. One of these books contains a lesson in Plan Reading prepared by the Chicago Tech. experts; the other explains the Chicago Tech. method of training men by mail in the building trades for the jobs that pay the most money or for businesses of their own. All you have to do to get them is to mail the coupon. Don't send a penny.

Get the Knowledge That Will Make You Worth More Money

You may be as good a man as there is in the use of tools but as long as you remain a workman you won't earn more than the wage scale. It isn't manual skill that puts a man in big pay class—it's the ability to use his head that brings the fat pay check or enables him to "go in for himself." That has been proved over and over again by workmen who took the Chicago Tech. training in the higher branches of building and are now foremen, superintendents and contractors.

J. B. Woodside of Oklahoma was a carpenter working for \$6 a day when he took a course in training by mail at Chicago Technical College and was advanced to a foremanship in 2 months; became a superintendent 5 months later and then went into contracting.

Carl Testroat of Iowa is another man who got into a successful contracting business through his training, as did J. G. Hart of West Virginia, and C. W. Busch of Kansas.

Not only workmen have got ahead through this instruction but also contractors who were taking on small jobs because their experience was limited. Chicago Tech. has taught them how to handle the big jobs that pay the most money.

Train by Mail

Never before have there been such opportunities as there are right now for men with expert knowledge of building. You can get ready for these big opportunities if you will use some of your spare time to study at home under the direction of the Chicago Tech. experts. No time taken from your present work. All this will be explained when we send you the free books and blue prints.

Become a Building Expert

Plan Reading. Every man who has got very far ahead in any building trade can read blue prints. No man

can expect to be a first rate foreman or superintendent until he knows what every line on a plan means and how to lay out and direct work from the architect's plans. By the Chicago Tech. Method you quickly learn to read any plan as easily as you read these words.

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

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

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

Mail This Coupon—Today

CHICAGO TECHNICAL COLLEGE,
Dept. 1036, Chicago Tech. Bldg.,
118 East 26th Street,
Chicago, Ill.

Please send me your Free Books and Blue Prints for men in the Building Trades. Send postpaid to my address below.

(Write or print name plainly.)

Name

Address

City State

Occupation

CHICAGO TECHNICAL COLLEGE

Dept. 1036, Chicago Tech. Building, 118 East 26th Street, Chicago, Ill.

which, once in place, do not have to be touched throughout the season.

The individual sash can be removed instantly, either to give full advantage of the window opening during hot weather or for the painting of the sash. The removal and replacement of the sash is accomplished easily and without danger of marring the window frames.

These windows are different from the usual double hung ones in that the sash are on the same plane when the windows are closed; that is, there is no offset at the meeting rail.

Steel Shore Uses Old or New Timber

USE of shoring timbers, old or new, that the contractor or builder already has, is a big economy effected by a new building shore just placed on the market.

Adjustable combination square shore consists of two steel channels, 5 feet long riveted together, with solid steel foot plate, steel cross ties and steel hand plates, forming a strong container within which the 4 by 4 or other timber is placed, adjustable in height at pleasure; $3\frac{1}{2}$ by $3\frac{1}{2}$ timbers can be used or two 2 by 4's can be spiked together.

Two sides of the container are solid, the other two have open channels an inch wide almost the entire height.

These open channels permit nailing bracing to the timber contained within the body. Bracing may be attached to any part of the timber above the shore. This is an exclusive feature of this shore and

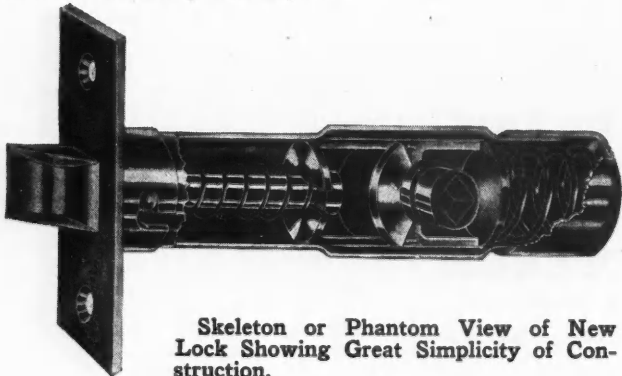
A New Shoring Device Utilizes New or Old Timbers.

one greatly appreciated by workmen.

The shore head is remarkable for its simplicity as well as its efficiency. The timber is held in place by heavy curved plates pivoted and braced in the shore head. The plates have strong teeth that permit upward movement of timber, but bite in so that there can be no sinking until dogs are released.

When it is desired to release the shore a safety locking plate is raised, allowing a release key to be pushed forward until the release notches in the head enter those of the key. Then the timber and head drop seven-eighths of an inch, relieving the timber of the load on top. This allows the gripping dogs to be raised. The timber may then be telescoped into the shore body, and taken down. No conceivable accident could cause the timber to drop otherwise.

The shore is easily operated by unskilled labor. Setting up, adjusting, taking down, resetting is a one-man job of few moments. There are no wedges, no loose parts, no guess-work in grading, no expensive "scabbing" of timbers. The shore is remarkably low in price.



Skeleton or Phantom View of New Lock Showing Great Simplicity of Construction.

A New Lock Which Needs No Mortising

MOST original in principle and design are the new locks and latches that are made in tubular form, as they require no mortising or gouging and can be installed by simply boring four holes. Even the slow worker can install four of them in an hour.

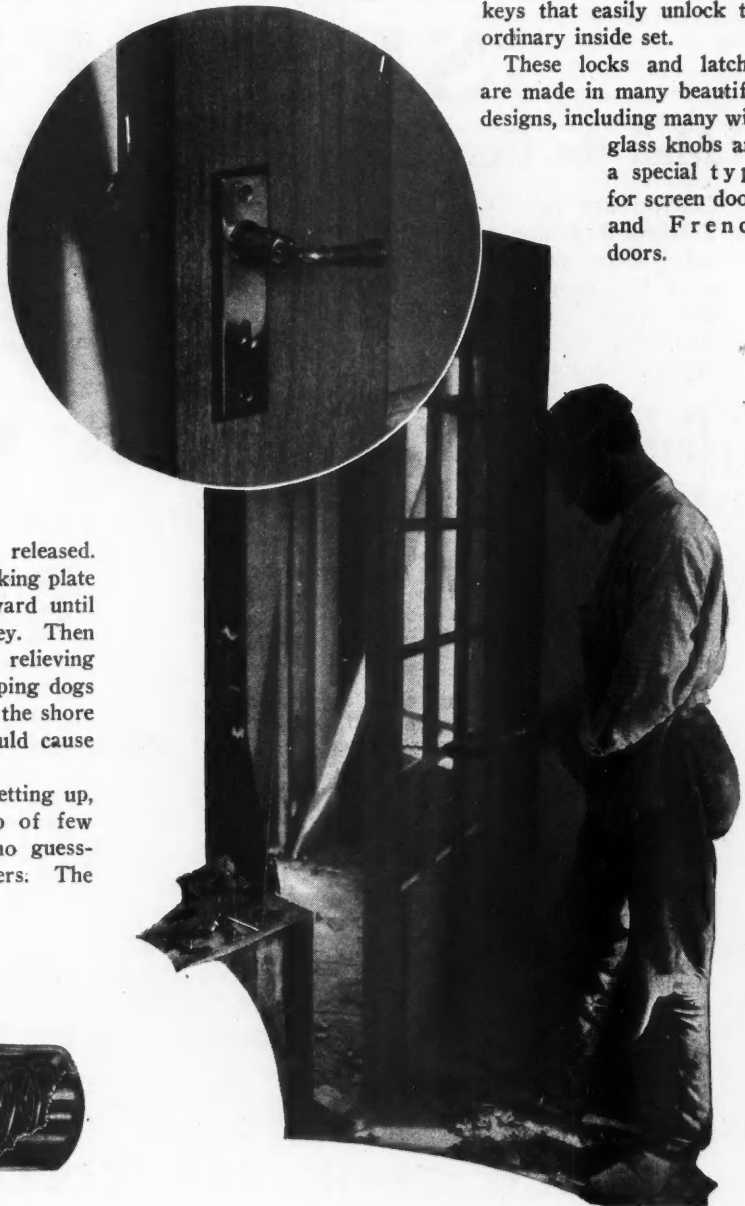
When installed they present an appearance similar to the ordinary lock set, although they offer an additional advantage in that the lock may be placed above the latch, a practice favored by many contractors because of the increased convenience it offers in use.

By reducing the number of parts in the latch set, the designers of this lock-latch have secured greatly increased smoothness of operation and reliability. Instead of the old type of flat spring, they have used a powerful compression spring that requires little space and fewer attendant parts.

Reliability is further assured by making the latch bolts and hubs of cast brass—a material three times as strong as cast iron.

The latches are so constructed that a normal amount of shrinkage in the door does not affect their positive action and secure holding power. Keys are offered in fifteen actual key changes and the locks cannot be operated with the skeleton keys that easily unlock the ordinary inside set.

These locks and latches are made in many beautiful designs, including many with glass knobs and a special type for screen doors and French doors.



Four of These Locks Can Be Set in an Hour by the Ordinary Workman, Since Two Holes Bored Are All That Is Needed to Fit the Lock to the Door.

NOW--right over the old roof!

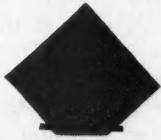
Genasco Latite Shingles can be laid right over old weather-battered wood shingles. Thousands of homes and other buildings all over the United States are being reroofed in the "Genasco Way."

Think of the advantages! No time and labor wasted in ripping off the old roof. No littering walks, lawns and attics. No taking chances on the weather while reroofing.

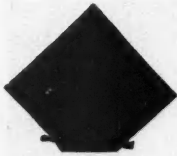
The self-spacing, quick-covering features of Genasco Latite Shingles are two other outstanding advantages. Actual tests prove that you can cover twice as much surface per hour as any other kind—individual or strip.

Genasco Latite Shingles are locked together. Thick layers of Trinidad Lake Asphalt Cement keep them absolutely weather proof. A top coating of granulated slate makes them attractive and fire-safe.

There's a strong, weather-tight, Genasco Roofing (roll, shingles or built-up roofing) for every type of building—home, industrial or farm. Write for attractive booklet.



Front view of a Genasco Latite Shingle. In three natural, unfading colors—red, green and blue-black.



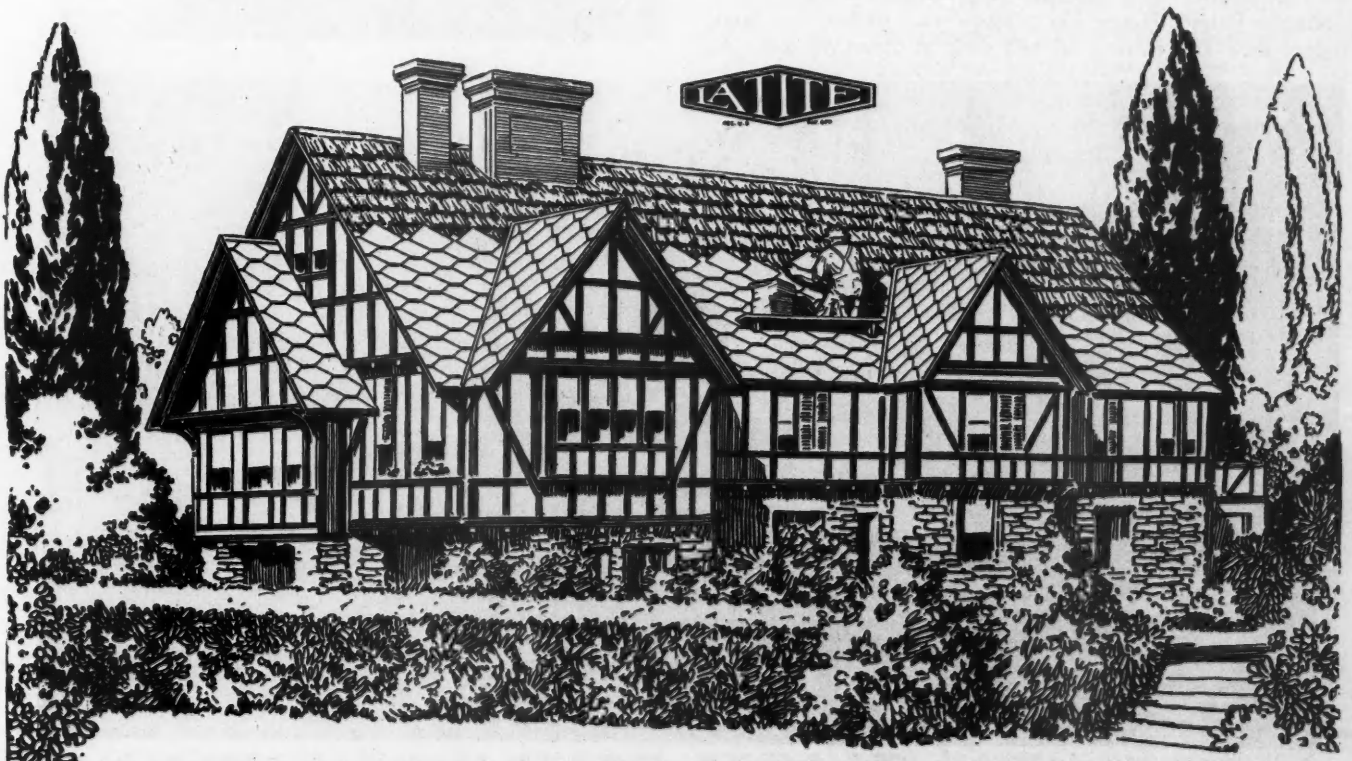
Back view of a Genasco Latite Shingle showing the "key" that locks them firmly and flatly to the roof deck.

The Barber Asphalt Company Philadelphia

New York
Chicago

Pittsburgh
St. Louis

Kansas City
San Francisco



Digging Skyscraper Caissons

AT the time the first "skyscrapers" were experimented with foundation construction hadn't kept pace with the part of the building that projects beyond the sidewalk. Pyramidal stone or "spread" foundations went under the first tall buildings. And their inadequacy became apparent quite early. About this time General Smith, famous government engineer, turned his attention toward these heavy type buildings and conceived the caisson idea for foundations, choosing one of his men, one "Andy" Graham, to give them their first tryout. So the Chicago Stock Exchange was the first to employ this type of foundation. The experiment was successful and the General's contribution to the engineering art was adopted rapidly and widely.

At that time digging was done with hand windlasses, old-fashioned gasoline torches furnished light, and, because of lack of any ventilation, the gases at the bottom of those old holes often proved dangerous, even fatal. Electric light, compressed air ventilation and pumps took much of the uncertainty and drudgery out of caisson building, and as time went on hand windlasses were abandoned and a cableway system operating several holes at once, all in a line, were adopted. This was only a partial improvement, though. The cables and ropes wore out very rapidly, much power was wasted, the system of digging the holes all in a line was awkward and interfered with the speedy handling of materials, and worst of all, the contractor couldn't move his equipment to a new location until all the holes were finished; if one hole was slower than the rest the whole row of windlasses was tied up until that one was completed.

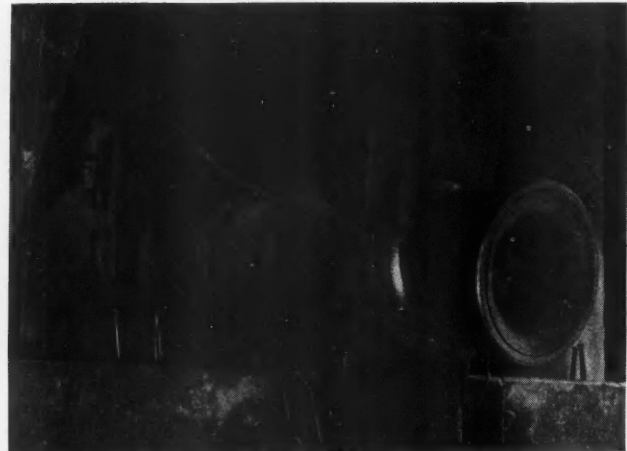
A couple of years ago a new idea in caisson building made its appearance—the single electric caisson winch. With this equipment each hole is dug independently. The same Andy Graham who dug the first caisson, now with W. J. Newman Company, foundation contractors, working with Mr. MacGregor and Mr. Jones of the same company, is using this equipment at the Sherman House addition, Chicago, having hauled it over from the new Chicago Palmer House job which they just completed.

At the Palmer House 136 caissons were pulled, averaging 6 feet wide and resting on bed rock at about 95 feet. At

the 70-foot level boulders were encountered, then sand, quicksand and water. Two five-foot forms were driven in before this loose material, forced in by pressure of adjacent buildings, was passed. An eight-story building at one corner of the job had to be jacked up to prevent it listing and forcing loose materials into the five caissons along one side of it.

The high platforms with chutes down the front, under the winches on the far side of the general view of the job, were tried as an experiment in speeding up the handling of muck from the holes. This stunt was a complete success and all the winches at the Sherman Hotel job are now set up on tall platforms.

The electric winches used in digging the caissons for the Palmer House are equipped with a 2 H. P. motor, either for direct or alternating current, with a starter of the enclosed type. All of the gears run in oil and the coupling is flexible, of the leather ferrule type. It is equipped with a pawl and ratchet type safety device which is visible at all times. The base is of heavy 12-inch channel steel. The winch head is 8 inches in diameter with 12-inch flanges and a 10-inch face, with a speed of 135 feet a minute as a maximum and a pull of 600 pounds on a single line. The weight of the winch is approximately 500 pounds.



Single Electric Caisson Winches Were Utilized for the Gigantic Task of Digging the Caissons for the New Palmer House, Chicago, Which Will Be the Largest Hotel in the World. The winches are shown under the canvases in the picture. Above is a closeup view of one of the winches.



“There’s Another House With Steel Windows”

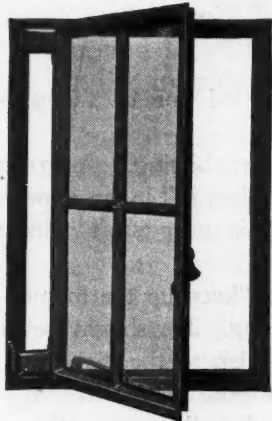
—and if it’s for sale it won’t stay unsold long. Home buyers today insist on every modern construction feature, and one of the most important is improved steel windows—Fenestra Windows, in the basement, throughout the house, and in the garage.

More and more builders are finding that the use of Fenestra helps them sell the houses they build. These better windows make the home more light, airy and secure; they add to its architectural beauty; they make every room more cheerful, and more usable.

Yet with all their advantages

Fenestra Windows need not add to your building cost. Their first cost is little if any more than that of wood windows and they come completely equipped with hardware, ready to be quickly and economically installed. They eliminate many expensive delays, they are easier to glaze, and they can be obtained promptly, in any quantity, from local dealers near you.

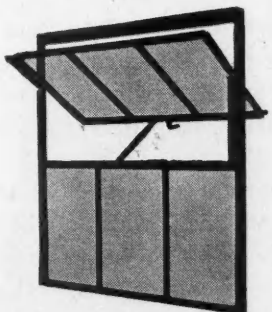
Let “Fenestra-equipped” help you sell the next house you build. Write for literature showing how easily and quickly these windows can be installed and for the name of a near-by dealer who can quote prices.



Fenestra Casement



Fenestra Basement Window



Fenestra Utility Window

DETROIT STEEL PRODUCTS COMPANY
2260 East Grand Blvd. • Detroit, Mich.

Fenestra

WINDOWS FOR THE HOME

Detroit Steel Products Company
2260 East Grand Blvd.
Detroit, Mich.

Please send me information regarding your

- Fenestra Steel Casements
- Fenestra Basement Windows
- Fenestra Utility Windows

Name

Address

MOTOR TRUCKS and TRAILERS



Motor Truck Maintenance

Care of Transmission, Clutch, Rear Axle, Brakes, Front Axle and Steering Mechanism as Advised by an Expert

By F. A. WHITTEN

EDITOR'S NOTE: *This is the second a series of articles on Truck Maintenance, written by Mr. Whitten, chief engineer of one of the largest truck manufacturing firms in the United States. The first of the series appeared in the September issue of the "American Builder."*

NEVER "coast" your truck down a hill. By this we mean do not descend a hill with a truck, loaded or empty, with your clutch disengaged.

By leaving your clutch engaged your motor assists in braking the truck and also relieves the brakes themselves of part of the strain and helps keep them from "burning." It is also better not to shut off the ignition because if you do so on a long hill, the excess gas which accumulates during the descent may cause an explosion of sufficient force to ruin your muffler when the ignition is turned on again at the bottom of the hill. In addition it causes the carbon to form quickly.

"Coasting," in many states, is against law because it is conducive to traffic accidents due to the fact that a loaded truck may burn out its brakes or attain such a speed as to get beyond control on a steep hill. In addition, re-engaging the clutch with the truck traveling at high speed can do almost irreparable damage to a truck. Most motor truck engines are governed at a specified speed. If a truck traveling down a hill with clutch disengaged attains a speed of 35 to 40 miles per hour and its engine is governed at, say, 25 miles per hour, imagine what will happen if the clutch is re-engaged with truck and engine running at these respective speeds.

If the load is sufficiently heavy the entire driving mechanism may be torn out of the truck, or the least

that may happen is the ruining of one of the propelling units.

Care should be taken in gear shifting. A green driver should in all cases be "broken in" by an experienced one until he "knows" his gear shift almost instinctively.

Last of all, the driver should "keep up the momentum" of his truck in heavy going. He should never let the speed of his truck diminish to the "laboring" point before he shifts. The purpose of the transmission is to provide locomotion under all road conditions and failure to "shift" when it is necessary causes unnecessary strain.

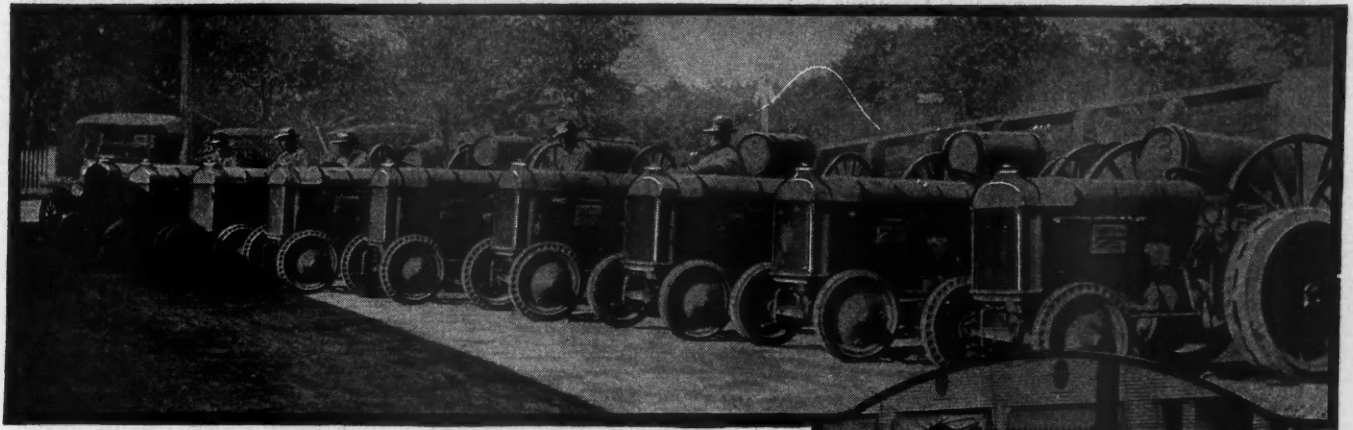
Proper Use of Clutch

The proper use of the clutch in the operation of a motor truck will assure you against breakage or overstrain in rear axle gears.

The operator who allows his clutch to drop back to instant contact may strip his rear axle gears. The same accident may occur in "coasting," which, as we have previously noted, is equally dangerous to the transmission.

Lubrication again is an important factor. "Oil is cheaper than machinery," is an old adage which applies to every part of the truck. The use of a heavy fluid oil or a selected non-fluid oil is recommended. The term "600-W" is usually understood to mean a rear axle oil and your garage man will most likely know exactly what to give you if you ask for it, in case you are not using a specified brand.

Oil should not be allowed to work out into the brake bands. Such a condition may cause your brakes to become useless at just the time you need them most. Gaskets, or whatever contrivances are used to prevent this flow of oil to the brake bands, should be renewed by your repair man.



Municipal Use—Street Cleaning

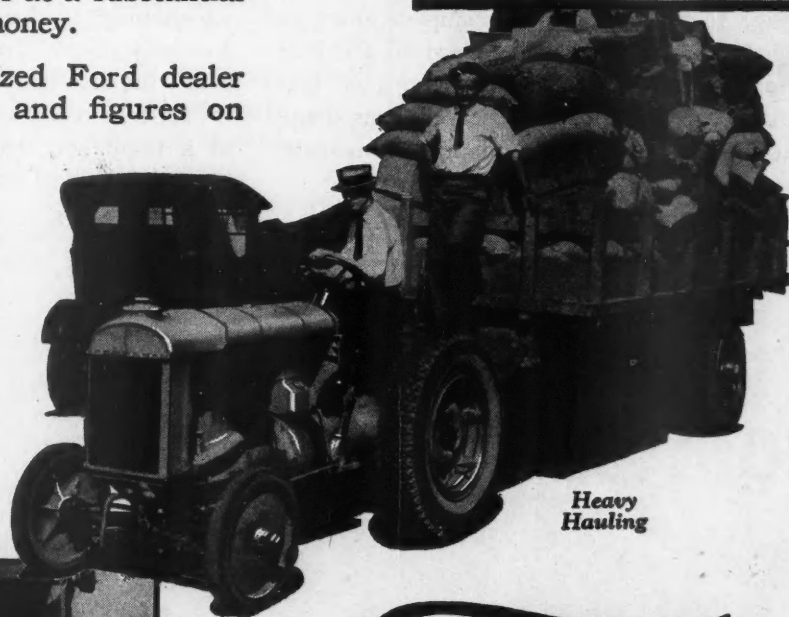
Ford Products For Every Business

Ford Transportation—Passenger Car and Truck—and Fordson Power can be applied to your business at a substantial saving in time, labor, money.

Your nearest Authorized Ford dealer has up-to-date facts and figures on the cost of operating these dependable units in your business. He will gladly show them to you and at the same time arrange to give you a practical demonstration, any time, any place you name.



House to house delivery



Heavy Hauling

Construction Work



Ford

CARS - TRUCKS - TRACTORS

Advertising as well as quick service



Rear axle gears do not need frequent adjustment. However, after the truck has been in use for a long period, a noisy axle may develop due to the gears getting out of pitch line or to bearing wear. Adjustment should then be made to eliminate noise and wear incident to this condition. This is particularly necessary in motor buses where the minimum of operating noise is desirable.

The above discussion of adjustments refer to bevel and worm gear type of axles which are in most common use. Chain drive trucks require more frequent adjustment. The chains should be adjusted often enough to avoid "whipping" and lost power due to excessive slack and to avoid breakage.

Care should be taken to get this adjustment even on both chains or a noisy roaring chain will result uneven pulling and excessive wear.

Brakes, Tires and Steering Gear

Overloading of trucks is the big cause of excessive wear. Perhaps no part of the truck is subjected to greater strain on overloads than the tires.

Where pneumatics are used this practice does as much damage to truck tires as a complete disregard of the rules of inflation. With regard to the latter subject, the tire manufacturer's instructions on inflation of truck tires should be observed consistently. Over-inflation is, in most cases, as dangerous as under-inflation.

Even braking is necessary to obtain maximum wear from tires. Assuming brake pull-rods are adjusted to give even pull, the proper place to make first adjustment is at the brake band or shoe, not at any other part of the mechanism. Regular inspection of brakes is necessary and an even contact of the band at all points is requisite in good adjustment. Uneven contact of brake bands is the cause of "chattering" when brakes are applied.

A severe shock, such as results in striking a curb, may spring the knuckle tie rod, thus throwing the front wheels out of proper alignment. This results in hard steering and excessive wearing of tires, either solid or pneumatic. In a case which recently came to my attention an operator completely ruined a pair of pneumatic tires on a fifty-mile drive after a slight accident.

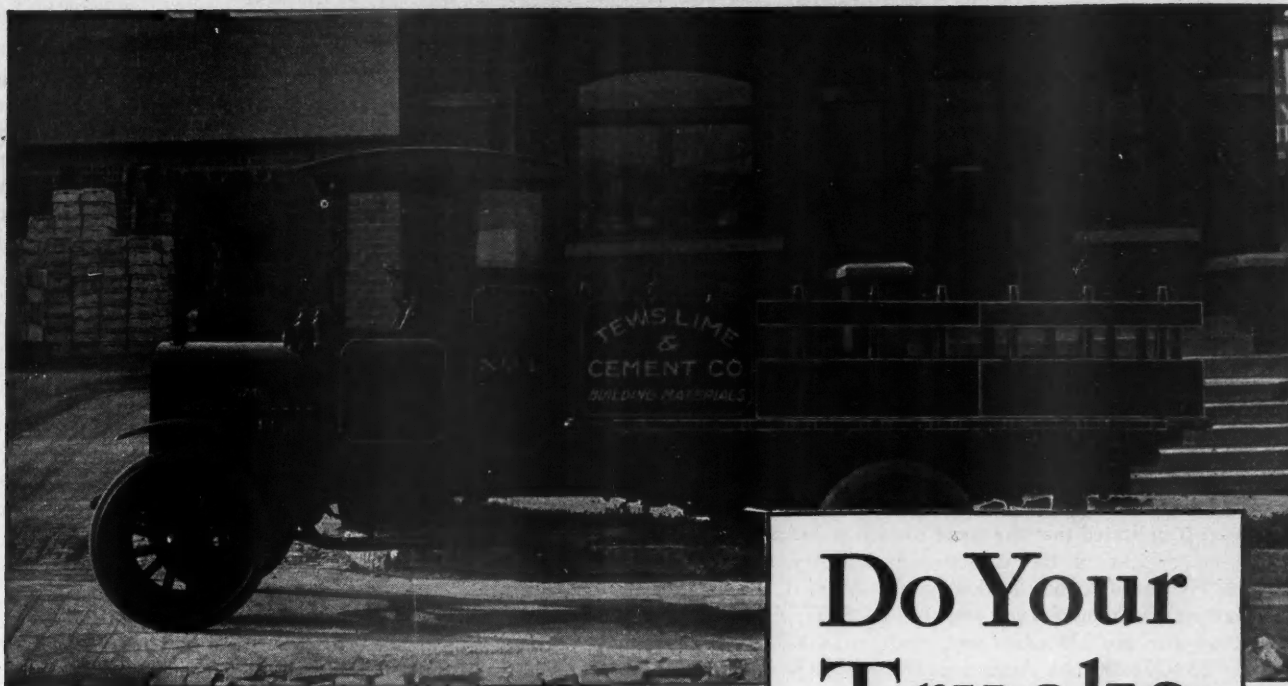
The front wheels should not be lined up exactly parallel. Tie-rod adjustments should produce a "toe-in" of one-fourth to one-half of an inch in the front wheels (see manufacturer's instructions for exact dimensions and method of making adjustment).

Lubrication of all steering gear connections, including steering knuckles, at regular intervals, is necessary. The majority of "hard steering" complaints are due to a lack of lubrication.

"Lost motion" in the steering gear should be kept at a minimum, but without causing binding at any point in the full travel of the wheel.



Contractors' Trucks Must Meet Unusual Conditions, Off the Paved Roads, That Entitle Them to Especially Good Care.



Do Your Trucks Cost or Save?

DON'T let your trucks run up their costs to the point where they take a hungry bite out of your profit. GMC Trucks will save your money.

Get a GMC catalog and check your truck needs against the many mechanical superiorities of this pioneer truck.

Study these points of GMC distinction and learn the reason why they guarantee savings in hauling under any working condition.

1. Lower purchase price.
2. Now-famous GMC Two-Range Transmission.
3. Easy renewability of wearing parts.
4. Renewable cylinders.
5. Surplus strength in every part.
6. Economical engine.

GMC Trucks will turn in more ton miles every single year, indefinitely—with only the most economical maintenance. Ask for a catalog.

GENERAL MOTORS TRUCK COMPANY
 Division of General Motors Corporation
 PONTIAC, MICHIGAN

General Motors Trucks



CLIP AND MAIL

GENERAL MOTORS TRUCK CO.,
 Dept. 9, Pontiac, Mich.

Send me the GMC Catalog.

Name _____

Business _____

Address _____



The Building Outlook

BUILDING permit reports from 330 cities and towns for August indicated that the trend toward stabilization, which had been evident in the construction industry for several months, continued to be the dominant feature, it is stated in the National Building Survey prepared by S. W. Straus & Co. The total for the 330 cities and towns was \$277,458,847 as against \$269,373,230 last August and \$264,376,450 in July this year, a gain of 3 per cent over a year ago and a gain of about 5 per cent over the previous month.

The month of August, with few exceptions during the past decade, has shown a decrease in building permits from July. The increase of about 5 per cent this year would, therefore, seem to point to a healthy condition in the building industry at large.

It will be noted that taking the country by regions, every region showed some increase over July and only one, the Pacific West, failed to show an increase over August, 1923.

The South continued to show unusual activity in the planning of new construction, with a gain of 46 per cent over last August and 15 per cent over this July. The Pacific West had a gain of 14 per cent over July.

In the twenty-five leading cities (selected on a basis of volume of permits) the increase over last August was in keeping with the general stabilizing trend, the total being \$173,204,314 against \$173,195,515. The increase in these same cities this August was about 16 per cent over August, 1922. There was also an increase in these cities over July this year.

New York City showed a loss of 33 per cent from August, 1923. Among the larger cities showing gains are: Miami, 482 per cent; Philadelphia, 179 per cent; Boston, 162 per cent; New Orleans, 126 per cent; Kansas City, Mo., 98 per cent; Buffalo, 74 per cent; Milwaukee, 44 per cent; Cleveland, 20 per cent, and Chicago, 9 per cent.

Except for weakness in some grades of pine, the most outstanding feature of last month's building materials market was the recovery in lumber prices. While July witnessed a definite check to the down-trend of lumber, August brought a definite reversal; upward changes amounting to 10 per cent in many instances.

Steel showed further weakness both in Chicago and Pittsburgh, though warehouse prices in all centers remained practically unchanged.

Wire Screens Tests Planned

TESTS to determine the relative resistance to atmospheric corrosion of wire screens of different metals are planned by the Bureau of Standards of the Department of Commerce in co-operation with the American Society for Testing Materials. The metals to be included in the test are copper, commercial bronze, low brass, aluminum bronze, silicon bronze, and Ambrac metal. All materials will be tested in the form of Standard No. 16 mesh screens.

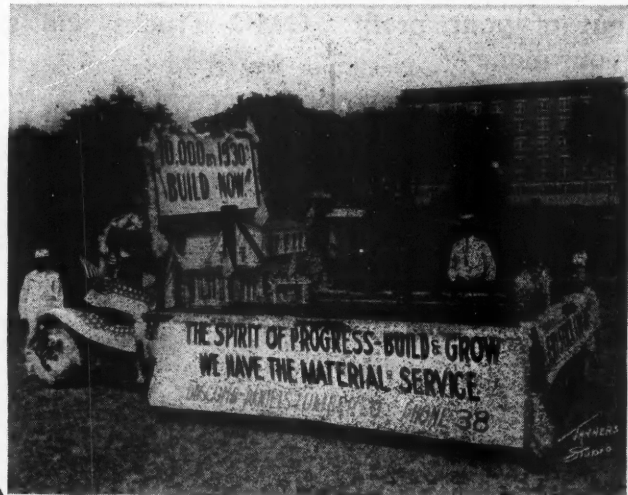
The screens will be exposed to the weather in four locations—an inland location, an industrial center, a seacoast and a tropical seacoast. The cloth of each material will be exposed on a painted frame that will withstand the weather. Three types of frame will be used—12 x 12-inch wooden frames, 30 x 36-inch wooden frames, and 30 x 36-inch metal frames. The tests will be made in co-operation with the manufacturers of the materials. The Bureau of Mines, the Bureau of Lighthouses, and the Panama Canal will co-operate with the Bureau of Standards in making the exposure tests.



Lumber Firm Builds Prize Float

A CLEVER float conceived by Earl R. Porter, manager of the Dascomb-Daniels Lumber Co., Boonville, Mo., was awarded first prize in the celebration held in Boonville to commemorate the opening of the first free bridge across the Missouri river at Boonville.

The float entered in the parade by the lumber company portrayed a most pleasing home set in grounds worthy of its beauty, as can be seen in the illustration. The model home



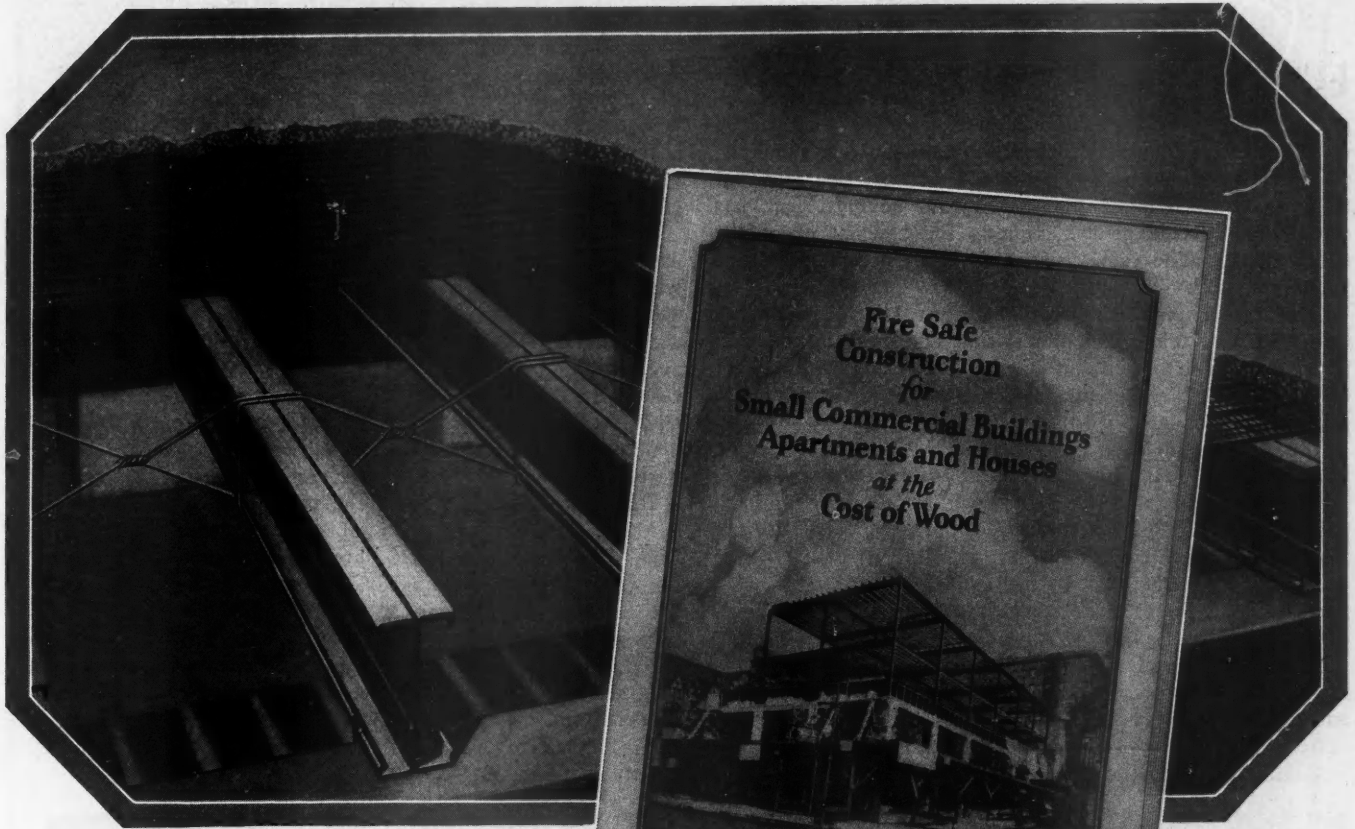
This Clever Float Was Built in the Yard of the Dascomb-Daniels Lumber Co., Boonville, Mo., Under the Supervision of Earl R. Porter, the Yard Manager.

was procured from the Long-Bell Lumber Company, and the rest of the exhibit was prepared in the yard of the Dascomb-Daniels Company. The float presents a display idea worthy of adoption by many lumber firms which take part in local parades.

SUMMARY OF AUGUST REPORT BY REGIONS

PREPARED BY S. W. STRAUS & CO.

No. Cities		Aug., 1924	Aug., 1923	July, 1924	Gain or Loss Aug.-Aug.	Gain or Loss Aug.-July
93	Eastern	\$113,875,290	\$111,470,063	\$111,223,895	\$2,405,227 +2 per cent	+\$ 2,651,395
107	Central	88,705,820	88,538,407	87,625,169	+167,413	+ 1,080,651
54	Southern	30,740,420	21,086,268	26,747,586	9,654,152 +46 per cent	+ 3,992,834
76	Western	44,137,317	48,278,492	38,779,800	4,141,175 4 per cent	+ 5,357,517
330	Total	\$277,458,847	\$269,373,230	\$264,376,450	\$8,085,617 +3 per cent	+\$13,082,397



Sectional View Shows Truscon Steel Joists with Hy Rib Metal Lath and Cement Finish Floor.

Valuable Book on Building Economies *Sent Free to Builders*

Some of the subjects:

How depletion of American forests makes steel cheaper than wood; How to get fire protection and soundproofness; Economy of Steel Joists in apartments; Valuable chart of Steel and lumber prices; Analyses of floor construction costs.

Truscon has published a book which tells how to get firesafe construction at the cost of wood.

It points out many economical methods for using Truscon Steel Joists in place of wood joists, gaining for the owner longer lasting, fire safe, soundproof floors.

This valuable book has been compiled to give detailed facts and figures on the use of steel joists in hospitals, schools, apartments, hotels and other light occupancy buildings.

It contains an exhaustive analysis of floor construction costs per square foot for live loads of various weights, and will be found invaluable.

This book "Fire Safe Construction at the Cost of Wood" will prove of real service in every builder's office. A copy will be sent free to those who write for it.

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO

Warehouse & Sales Offices from Pacific to Atlantic, for addresses see phone books of principal cities. Canada Walkerville, Ont. Foreign Dist; New York.

TRUSCON

TRUSCON STEEL CO.

STEEL JOISTS

Simplify Structural Slate

FOLLOWING extended investigation of widespread diversity in specifications covering the use of structural slate for plumbing and sanitary purposes, and tentative adoption by members of the National Slate Association of a simplified program, the Division of Simplified Practice, Department of Commerce, which aided the industry in the movement, has sent to all affected groups requests for acceptances of the eliminations. The new programs will become effective January 1, 1925.

Construction items which will be affected include: laundry tubs, sink and tub combinations, sink and two-tub combinations, sinks with or without integral backs and with one or two drain boards, slate sink tops, slop hoppers, shower stalls, toilet enclosures, and urinals.

In addition to the slate association members in the movement, the consuming group was represented by the Structural Service Bureau of Philadelphia, the New York City Board of Education, the Eastern Supply Association, the American Construction Council, the American Institute of Architects, the Division of Simplified Practice, Department of Commerce, the United States Bureau of Standards and the United States Bureau of Mines.

As adopted the simplification items are very nearly a standard of practice. Reductions are made in varieties of width, length and inside depth of sinks and tubs, together with fixed thicknesses for material. Regulations covering the placing of slate in the showers and other sanitary equipment are also included.

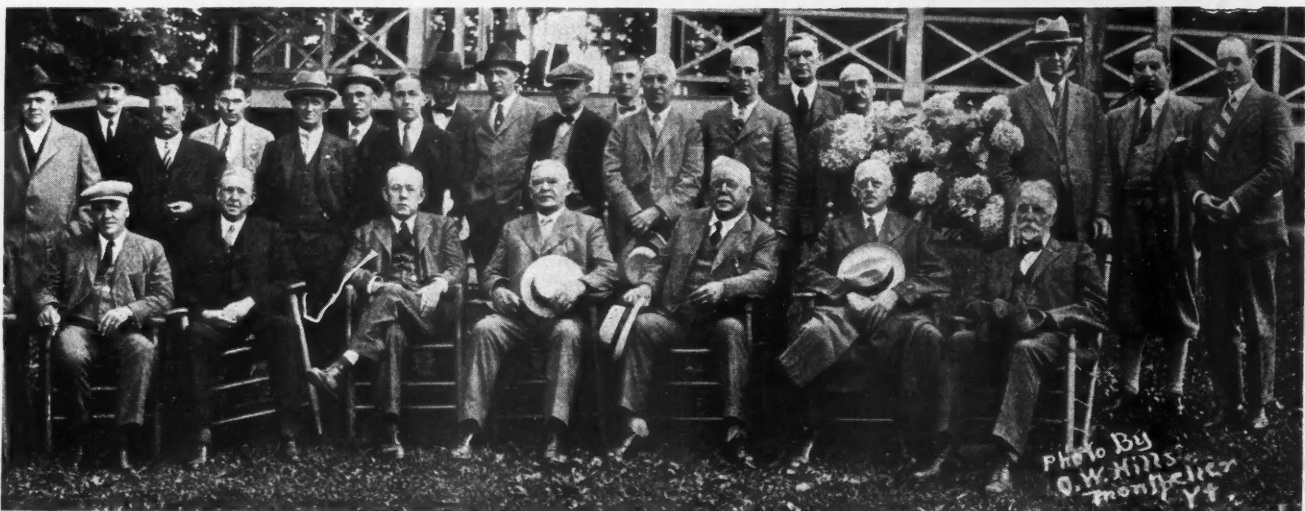
U. S. Faces Timber Bankruptcy

WITHIN fifty years, the United States will be lumber-bankrupt, B. C. Dahlberg told a meeting of lumber men in Chicago recently. All the virgin timber of the country will have been used at the end of a half century unless vigorous methods of reforestation denuded timber lands are put into effect, Mr. Dahlberg said.

"The United States," said Mr. Dahlberg, "once had 800,000,000 acres of virgin forests. Today it has 138,000,000 acres, of which 75 per cent is west of the Rocky Mountains. Of 181,000,000 acres that have been denuded of timber, 81,000,000 acres are absolutely barren. About 250,000,000 acres are in stumps, slash and various stages of second growth. We are now cutting 10,000,000 acres a year and forest fires are destroying 8,000,000 acres. To replace our disappearing forests, we are planting 36,000 acres to trees annually. At the present rate of destruction, the end of our timber resources is in sight.

"Hope for the builders of the nation lies in a substitute for lumber. This discovery of synthetic lumber made of bagasse, which is the waste fibre of sugar-cane, has averted the possibility of vast tragedy. There is enough bagasse in the annual crops of sugar-cane in the United States and Cuba to produce 25,000,000 feet of synthetic lumber a day.

"This synthetic lumber has all the building qualities of natural lumber and in addition is an insulator and sound-deadener and by reason of chemical treatment in the making, is as immune to decay as the papyrus manuscripts found in ancient Egyptian tombs."



Lake Bomoseen, Vermont, Was Chosen by the Group of Men Shown Above for the First Annual Outing of the National Slate Association, September 5-6. Thirty-five companies in the Vermont-New York district were represented and others from New York, Philadelphia, New Orleans and Chicago attended the meeting. In the lower picture at the extreme right is seated Mr. George E. Barnard of the Monson Slate Company, Boston, president of the Association. Standing at the extreme right of the lower picture is W. S. Hays, the Association secretary.

Wet Cellars Made Dry From The Inside. "DAMP-PRUFE"



Illustrating logical way to Damp-Prufe a cellar; coating the inside walls and floor with Damp-Prufe, backed up with finished concrete.

Backed by a Ten Year Bond

DAMP-PRUFE is daily solving difficult water proofing problems, regardless of conditions, and many of them that were considered hopeless. When Damp-Prufe is applied, water and moisture are completely shut out and the cellar becomes absolutely dry. Damp-Prufe results are always the same, satisfactory and permanent.

Damp-Prufe is applied from the inside

Damp-Prufe is delivered on the job in steel drums ready to apply; it is spread on the inside of the original walls with a trowel up to grade and on the floors to a thickness of one quarter of an inch; allowed to dry for seventy-two hours and backed up with one to three inches of finished concrete. Simple, practical, efficient.

Damp-Prufe is used under all weather conditions. It is also successfully used for outside walls on new buildings under construction.

Low Cost: Damp-Prufe is inexpensive and a little goes a long way; five gallons will cover a hundred square feet. By using our method, contractors perform the work in one half the time and can underbid by a safe margin and make a handsome profit.

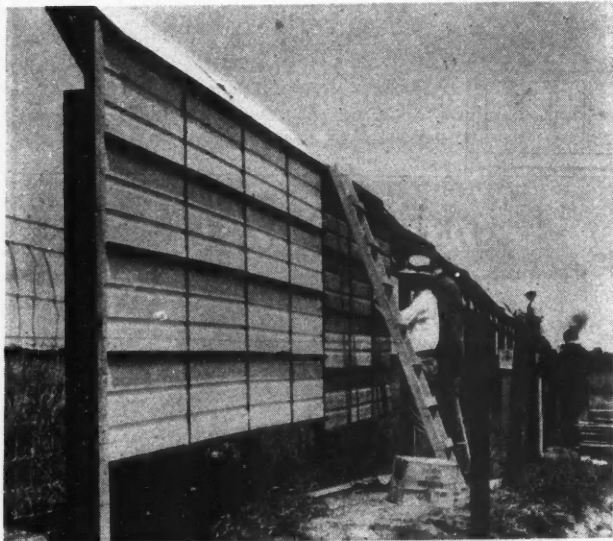
Send for Literature and Complete Information

This is a real opportunity for builders and contractors who realize the importance of dry cellars and the large profits in its application. Agency rights to progressive firms that will co-operate with our intensive advertising and distributing campaign. Write or wire today for details.

CONSUMERS ASBESTOS CORPORATION
110 West 40th Street, Dept. A, New York

Forest Service to Test Paints

A TEST fence is being erected by the Forest Products Laboratory at Madison, Wis., to show which of the woods commonly used in outside construction will take and hold paint satisfactorily, which are difficult to paint, and how painting difficulties may be overcome. Nine other test fences are being put up in the various climatic regions of the United States.



The Test Paint Panels Are Erected Carefully So That Pigments from One Panel Cannot Wash Down on Another.

As the study undertaken is not for the purpose of comparing various paint mixtures, two paints only have been used. One of these is a Dutch process white lead in oil and the other a white lead, zinc oxide, and asbestine, mixed pigment

paint which is believed to be representative of a large amount of the high grade "ready mixed" paints on the market.

A flat-grain panel and an edge-grain panel of each kind of wood are coated with each kind of paint. Three coats of the paints are applied. The row of tilted panels at the top of the fence is for the purpose of comparing weathering of paint on an inclined surface with weathering on the vertical surfaces.

Horizontal drain strips between panels serve to keep the pigment of the upper panels from washing across the lower ones.

After each coat of paint is applied to a panel, the painter weighs paint, can and brush to determine the amount of paint required to coat the various woods.

Paint and varnish and lumber associations, the Bureau of Standards, and private interests are co-operating with the Forest Products Laboratory in the painting study.



Concrete Pavement Data Sought

A NNOUNCEMENT is made by Chas. M. Upham, Director of the Advisory Board on Highway Research of the National Research Council, that Mr. C. A. Hogentogler of the U. S. Bureau of Public Roads, has been granted leave of absence in order to conduct for that Board a fact-finding survey of the economic value of reinforcement in concrete pavements. This survey is to be national in scope, and will be conducted in cooperation with agencies interested in this important subject. It is proposed to cover the various soils, traffic and climatic conditions throughout the United States.



Roofing Firm Insures Workers

IT is announced by the Ford Roofing Company of Chicago that group insurance has been put in force for all the employes at the three manufacturing plants and the general offices. Each employe is insured, without cost to themselves, to the amount of \$1,000.

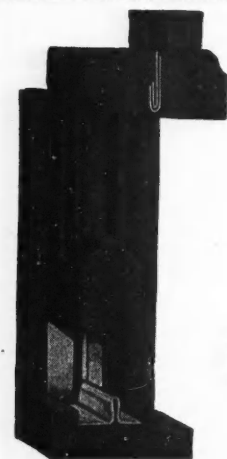
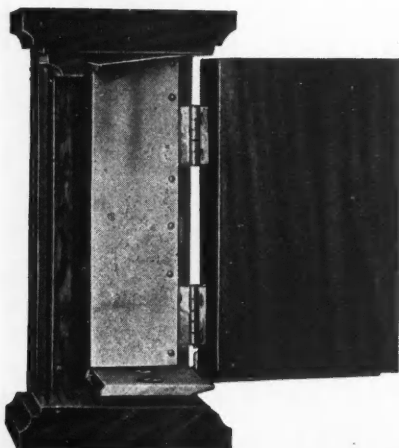


Illustration shows how Allmetal Weatherstrip is put on sash.



MAKE MONEY with ALLMETAL Weatherstrip

Now is the logical time to go after this profitable business. Everyone is preparing for winter and no argument is necessary to convince the homeowner that he needs Allmetal Weatherstrips.

Allmetal Weatherstrip makes doors and windows storm and wind-proof, effecting a saving of fuel and protecting the health of the occupants. Every new and old building owner is a prospect. We offer you a liberal proposition and will be glad to give you suggestions on how to make money in this profitable field.

ALLMETAL WEATHERSTRIP CO.
231 West Illinois Street Chicago, Illinois

SEND BACK THE COUPON

Allmetal Weatherstrip Co.,
231 W. Illinois St., Chicago, Ill.

Gentlemen: Without obligation, please send me samples and literature.

Name

Address.....

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

Showing Allmetal Weatherstrip installed on doors.



At the left is a general view of the ruins. Gerry's Drug Store and the Belgium Lace Shop windows can be seen covered with ice. Above, the same windows after the ice had melted, showing the store windows and displays intact.

Fire—Water—Ice!

—but Brasco Setting Kept the Store Windows Intact

The fire which destroyed this business block in Hamilton, Ontario, broke every window in the building except the store windows which were set in Brasco Copper Sash.

The interior of the two stores shown were badly damaged but notwithstanding the intense heat and the heavy coat of ice outside, *the plate glass was left intact.* A more severe test of the safety and protection to glass provided by Brasco construction could hardly be imagined. The firemen did everything but put an axe through the glass.

Brasco patented sash and moulding provides the safest setting for glass. The *indirect screw pressure* fastening prevents any screw pointing directly

toward the glass and makes it impossible for the glass to settle down on any screw. The copper moulding gives an *extra wide grip on the glass*, firm, safe and flexible enough to permit the necessary movement of the plate.

This Brasco construction is approved by architects and builders everywhere. Contractors who install Brasco Fronts assure their customers not only glass safety, but every other possible advantage of beauty, strength, ventilation, drainage, ease of installation and economy. One job invariably brings others.

Send for our new book of designs and catalog and learn how other contractors make money out of store front work. Mail the coupon now.

BRASCO MANUFACTURING CO.

5029 South Wabash Ave., Chicago

Brasco
COPPER STORE FRONTS

(AB1024)

Send me the new Brasco book of designs and information on store front work.

Name _____

Address _____

Business _____

New Representatives for Anchor Line

THE Beckwith Machinery Co., Arch and Park streets, Pittsburgh, now represent the Anchor Concrete Machinery of Adrian, Mich., in the Pittsburgh territory. The West Penn Machinery Co. of Pittsburgh has been dissolved and F. W. Wehrum, formerly with the latter firm, has joined the Beckwith force and will give special attention to the Anchor products.

The E. B. Kelly Co., New York City, has opened an office at 520 Arch Street, Philadelphia, and will handle the Anchor line in the Philadelphia territory. L. W. Cline, formerly with the Staley & Morris Company, will have charge of the new Kelly office.



Republic Names Seattle Distributor

THE Republic Truck Company, Alma, Mich., announces the appointment of Robert S. Taylor, as distributor for Republic trucks in Seattle, Wash. The sales rooms and a well equipped service station are located at 401 East Pine Street. With the appointment of Mr. Taylor as the Seattle distributor the Republic company completes the establishment of a complete chain of distributors the entire length of the Pacific Coast.



U. S. Gypsum Opens New Mill

THE United States Gypsum Company, headquarters at 205 West Monroe Street, Chicago, has started operation of a new Sheetrock wallboard mill at Plasterco, Va. This addition to the plant which it has operated there for many years costs \$400,000 and has a daily capacity of 100,000 square feet of gypsum wallboard. It has been under construction since last December. All the machinery is of the most modern design, the mixers, wallboard machine and continuous kiln embodying the most recent refinements developed by the engineering department of the Gypsum Company.

Supply Firm Insures Workers

W. E. WHELESS, president of the Allen Manufacturing Company, Ltd., at Shreveport, La., distributors of building supplies, has announced an arrangement for a group life insurance policy through which the 150 employes of that business are insured for \$750 each.

The life insurance company with which the Allen policy has been placed, provides a nursing service for its policyholders, and Shreveport is one of the more than four thousand cities and towns in which this is available. Any insured worker who is stricken ill may obtain an insurance company nurse, who will assist in instructing the family in the care of the patient and who will see that the directions of the attending physician are carried out.

In addition representatives of the insurance company will distribute at frequent intervals the instructive literature published by that organization. This, compiled by experts, discusses timely health and sanitation subjects, and is given to policyholders without charge.



Presbyterians Paint Property

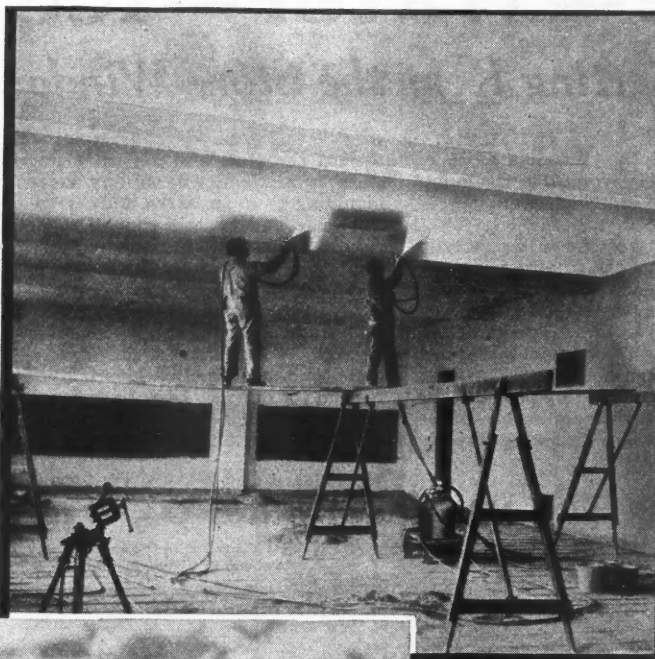
PLANS are being perfected to realize the plans approved by Wisconsin Synod at its recent meeting for painting Presbyterian property in its "P. P. P. campaign." The plans include an inspection of the property of all Presbyterian congregations in the synod, co-operation with the congregations in painting their property, raising of a fund to assist weaker churches in the painting, use in most cases of a uniform bright color for all the churches, erection of attractive signs on all church buildings identifying them as Presbyterian edifices, with signs on the highways nearby directing travelers to the churches and renovation of church yards, including mending fences.—The Continent.

Better Painting—Greater Profits

IN the new 2000-student capacity high school building pictured below, the wall and ceiling surface was spray-painted with DeVilbiss equipment.

The contractor who did the spray-painting reported that three coat work, greater in hiding power and highly superior in quality, was done with a coverage of over 600 sq. ft. to the gallon of paint; further, that on the entire job he effected a saving in excess of 70% on the single item of labor.

The larger picture at the right shows the spray-painting operation in one of the class rooms.

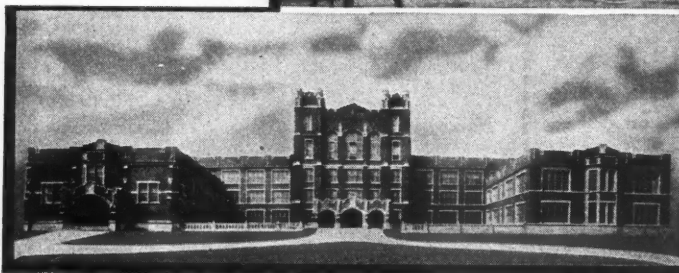


RESULTS produced on a wide variety of work, over a period of years, show that spray-painting with DeVilbiss equipment insures an improvement in quality of work and an increase in net earnings.

This school was an average job. The contractor produced a superior quality of painting throughout and saved 70% in labor costs. He gave his customer the benefit of part of that saving and still made considerably more money than he ordinarily would. Both as to quality and to lower cost of work, this painter made for himself a completely satisfied customer who will prove to be a substantial business booster.

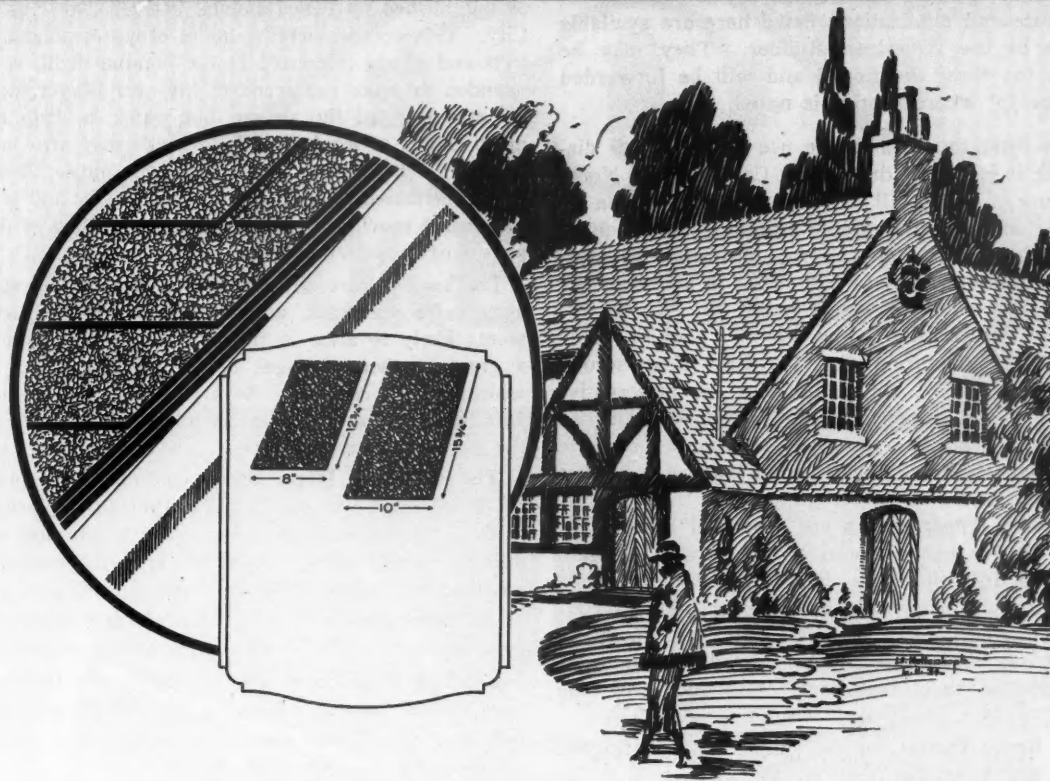
Painting the DeVilbiss way, on all classes of work, will average 4 to 5 times faster than brush painting. The coatings applied reach all places, and are uniform, free from defects and greater in hiding power. There is no dripping and spattering. The painting is done quickly and without confusion.

For further consideration of this important matter of painting better and making greater profits, we'll gladly mail you additional facts about the DeVilbiss Spray-painting System and what it will enable you to do. Address—



THE DEVILBISS MFG. CO.
238 Phillips Ave. TOLEDO, OHIO

DeVilbiss
Spray-painting System



You Can Forget This Shingle When It's Down!

PUT on a roof of Carey Asfaltslate Shingles and you can go away and forget it. It won't have any "come-backs" to annoy you and eat into your profit.

It will protect the building against heat, cold, rain, snow and wind. The heavy felt, thoroughly saturated with asphalt and covered with natural slate, resists all the elements.

It is permanent—the outstanding feature. This is "the Shingle that Never Curls." It is good to begin with, and it stays good.

The longer it is on a home the more it

becomes the topic of enthusiastic comment.

Then, too, it is more economical. It gives more to your customers, more real roof service. It is also more economical for you to apply. In the large size now used by most builders, 10 x 15 3/4 inches, it allows a 5-inch exposure and makes a three-thickness roof. This requires less time and less nails.

From every viewpoint the Carey Asfaltslate Shingle is the best for the contractor to furnish, simply because it is best for the customer to buy. Write us for further information, please.

THE PHILIP CAREY COMPANY

510-530 Wayne Ave., Lockland, Cincinnati, Ohio

Carey
ASFALTSLATE
SHINGLES

THE SHINGLE THAT NEVER CURLS

THE PHILIP CAREY COMPANY,
 510-530 Wayne Ave., Lockland, Cincinnati, O.

Gentlemen: Please send copy of "Before You Build" booklet to

Name _____

Firm _____

Address _____

Books, Bulletins and Catalogs for You

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

Economy in Building through the use of Celotex is discussed in a bulletin issued by the Celotex Company, 645 North Michigan Avenue, Chicago, Ill. The ease of application of the material, the saving in the time of workmen and its qualities as a sheathing, a plaster base, a roof insulation, an exterior finish and a sound deadener are discussed in an interesting manner.

The Secret of Preservation is the title of a booklet issued by the Arobel Manufacturing Co., 110 East Forty-second Street, New York, N. Y., which discusses the preservative qualities of Lithol and its application to woodwork, railroad ties, fence posts, wooden floors, storage warehouses, concrete floors and structures, brick walls, and a number of other materials.

Floor Surfacing Opportunities are described in a recent booklet issued by Wayvell Chappell & Company, Waukegan, Ill., entitled "Get Into the Floor Surfacing Business While the Field Is Fresh." The booklet tells how building contractors, carpenters and others may well make floor surfacing a part of their business and describes in detail the automatic ball-bearing electric surfacing machine produced by the company.

Centrifugal Sump Pumps are the subject of Bulletin No. 173 issued by the American Well Works, Aurora, Ill. The bulletin describes and illustrates the pump equipment made by the company and presents the general dimensions for the different types of centrifugal sump pumps with the capacity of the pumps per minute under varying conditions.

The Architect's Law Manual, by Clinton H. Blake. Price \$5. Published by Pencil Points, 19 East 24th St., New York City. This volume, which should prove invaluable for architects and others interested in the building field, is in no way intended to make the architect his own lawyer, according to the statement of the author, but rather to help in avoiding many causes of legal difficulties which may arise in the practice of the profession. Mr. Blake, the author, has for some time contributed to architectural publications and is the author of several previously published books dealing with the legal phases of construction work.

The book is carefully indexed to make it of especial value as a reference work, and after covering the general legal points likely to arise in the practice of architecture, devotes a great number of pages to special forms and agreements which may be copied by the architect to govern his relations with his clients. The book should be a valuable addition to the library of any architect.

The Concrete Dope Book, compiled and published by W. H. Stewart, Station "A," Waterloo, Iowa, (price 25 cents) gives a number of interesting tables on mixing concrete of different types, information as to the work possible with various types of equipment under different conditions, information as to removing forms and a list of interesting "Don'ts" in concrete work. This is the fourth edition of this booklet.

Security Wall Safes are described in a folder issued by the Chicago Automatic Machine Co., 400 North Oakley Street, Chicago. The folder shows the construction and advantages of the wall safes designed to be built into the walls of a home. These wall safes are designed to be imbedded in the masonry of the wall and offer protection against thieves, since they are usually concealed where they will not be found by the prowler.

Make More Money Selling Burrowes Weatherstrip!

Most Serviceable Weatherstrip

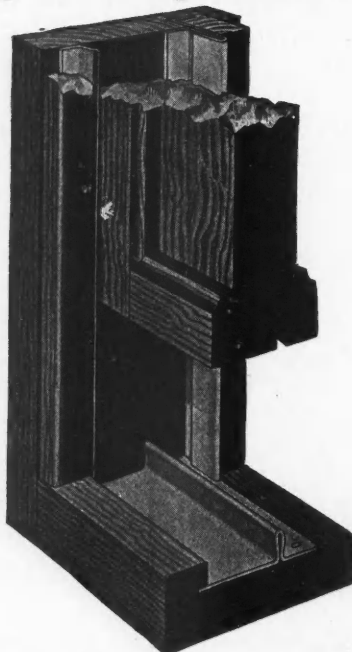
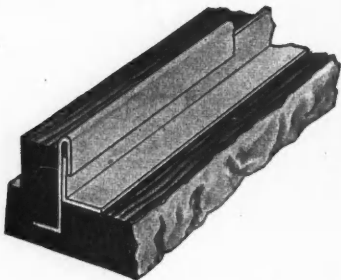
Burrowes Weatherstrip is the most serviceable weatherstrip made. It is

Mechanically Perfect

— the result of years of experiment by experienced building engineers. You can make more money by selling the Burrowes. Everybody wants

A Coal-Saving Device

in these days of high-priced coal. Because the Burrowes Weatherstrip keeps out cold drafts and keeps the heat in, it enables the house-holder to save a considerable proportion of his winter's fuel bill.



Easiest to Sell

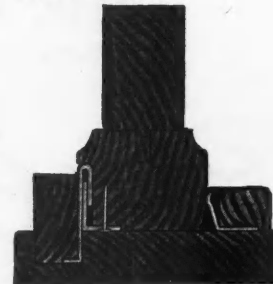
These facts make the Burrowes the easiest weatherstrip to sell. Hundreds of licensed Burrowes dealers are making good money. From the very day you start

You Make Big Profits

with Burrowes Weatherstrip. The market lies at your very door, for few houses are properly insulated against cold. This is the time of year when selling is easiest.

Start Right Now!

Write to us today, asking for full particulars about our offer. This is your opportunity.



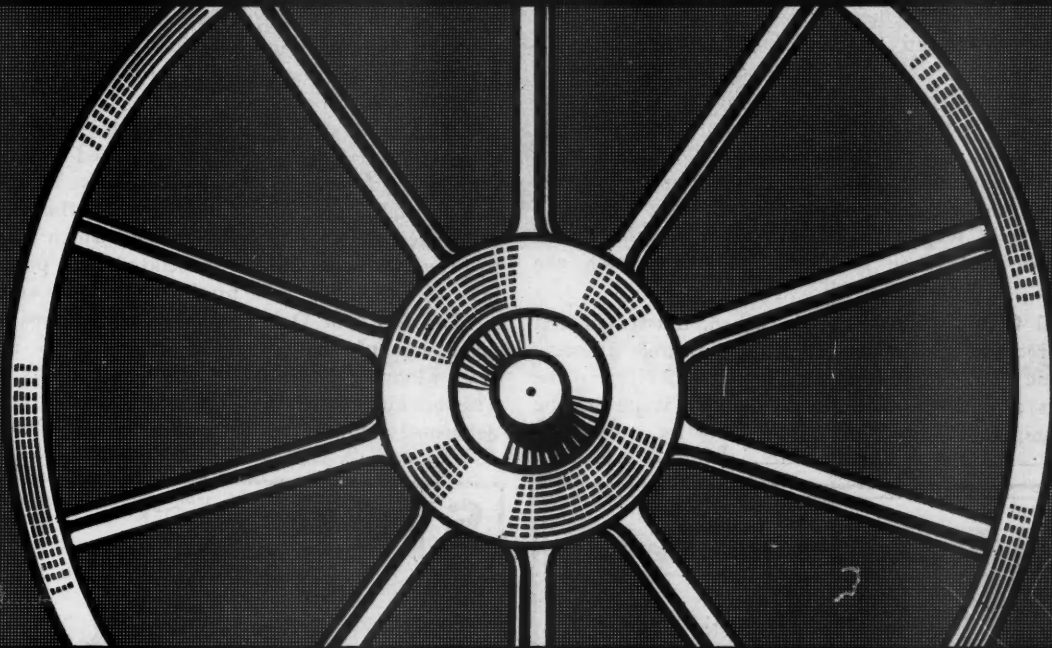
Please specify what territory you prefer when you write

Burrowes Weatherstrip Co.

1930 South 52nd Ave.

Chicago, Ill.

10 SPOKE WHEEL



Two Spokes Better

THIS improvement scores another victory for "Sterling" originality and gives our contractor friends more for their money.

In the manufacture of wheelbarrows it has always been the Universal practice to install eight spokes in the wheel, it being considered that eight spokes were sufficient.

Technically Sterling wheels are two spokes better, but in reality they have double the strength. Still, the cost has not advanced.

WRITE FOR CATALOGUE

STERLING WHEELBARROW COMPANY
STERLING ON A WHEELBARROW MEANS MORE THAN STERLING ON SILVER
 Milwaukee  ALLIED CONSTRUCTION MACHINERY CORPORATION  Wisconsin

The Axle is Keyed



Books, Bulletins and Catalogs for You

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

Ceramics in Architecture is the title of the first of a series of monographs upon the subject of tiles and their uses throughout the ages to be published by the Associated Tile Manufacturers of Beaver Falls, Pa. This first publication of the series, written by Rexford Newcomb, Professor of Architecture, University of Illinois, should be of special interest to architects, contractors, decorators, tile setters and all others interested in an authentic discussion of the correct use of tiles in various historic styles and periods. The publication is beautifully illustrated with examples of tile work, with a frontispiece in color.

National Steel Fabric as made for stucco plaster reinforcement, as a reinforcement for concrete floors, driveways and sidewalks and for reinforced concrete roads is shown in detail, with practical uses and applications in a publication issued by the National Steel Fabric Company, Pittsburgh, Pa. The bulletin tabulates some very interesting strength tests made with the material and shows a number of building operations where the reinforcing has been used. Architectural details of some of the work and building methods which should prove very valuable to the contractor and those in charge of construction are given.

Red Devil Glaziers Tools are described, illustrated and listed in a recent catalog issued by the Smith & Hemenway Co., Inc., 108-130 Coit street, Irvington, N. J. The catalog lists a number of tools of distinct value in the builder's equipment.

Studies in Lime, with specifications, is the title of an interesting discussion of the use of this material published by the Kelley Island Lime and Transport Company, Leader-News building, Cleveland, Ohio. The booklet is issued in the size proper for the architects and builders file and is assigned A. I. A. File No. 21 A 1. Among the features of the book which should be of special interest to readers of the AMERICAN BUILDER are the illustrations of Tiger Finish walls and ceilings, the architectural details of cornices and geometrical ceilings and specification tables. The drawings of cornice and ceiling details are to scale and placed in loose leaf form so that they can be removed conveniently and slipped beneath tracing cloth.

Structural Repair and Plant Maintenance materials are listed in the Fall, 1924, edition of the Repair and Maintenance Review, published by the Stone & Tar Products Co., 97 South Sixth street, Brooklyn, N. Y. Among the materials described are Property Cement Filler, Cement Filler for Fireproofing over wood partitions, interior and exterior waterproofing, welding cement, damp resisting paint and a number of other products.

A New Paint Product, made possible by the use of Lithophone, Zinc Oxide and other ingredients is described in detail in an interesting booklet issued by the New Jersey Zinc Company, 160 Front street, New York, N. Y. The booklet tells of the composition of the new paint, its properties and of a number of tests which have been made to prove its worth. It is illustrated with pictures of buildings to which the new product has been applied.

"The Story of Oak Floors" is the title of the attractive discussion of oak as a flooring material issued by the Oak Flooring Bureau, 1014 Ashland Block, Chicago, Ill. The booklet, which has reached its tenth edition, is very generously illustrated with halftones and color plates.



This shows a house insulated with Cabot's Quilt, ready to receive the outside finish. Russell S. Walcott, Archt., Chicago, Ill.

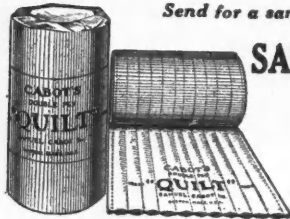
Build your House Like a Fireless Cooker

A fireless cooker keeps hot because it holds the heat. It cooks foods with only a fraction of the heat required in a stove, because that heat cannot escape.

Cabot's Insulating "QUILT"

keeps your whole house warm in the same way. It holds the heat of your heater by insulation. It saves coal enough to pay for itself in two hard winters, besides keeping the house warm and comfortable for all time and reducing doctor's bills. "Build warm houses; it is cheaper than heating cold ones."

Send for a sample of Quilt



Cabot's Creosote Shingle Stains

SAMUEL CABOT, Inc.

Manufacturing Chemist
141 Milk Street
Boston, Mass.

342 Madison Ave., New York
24 West Kinzie St., Chicago

Agents Everywhere

STOP



HEED

BUY
THE BEST
HARDWARE
FOR
HARD-WEAR

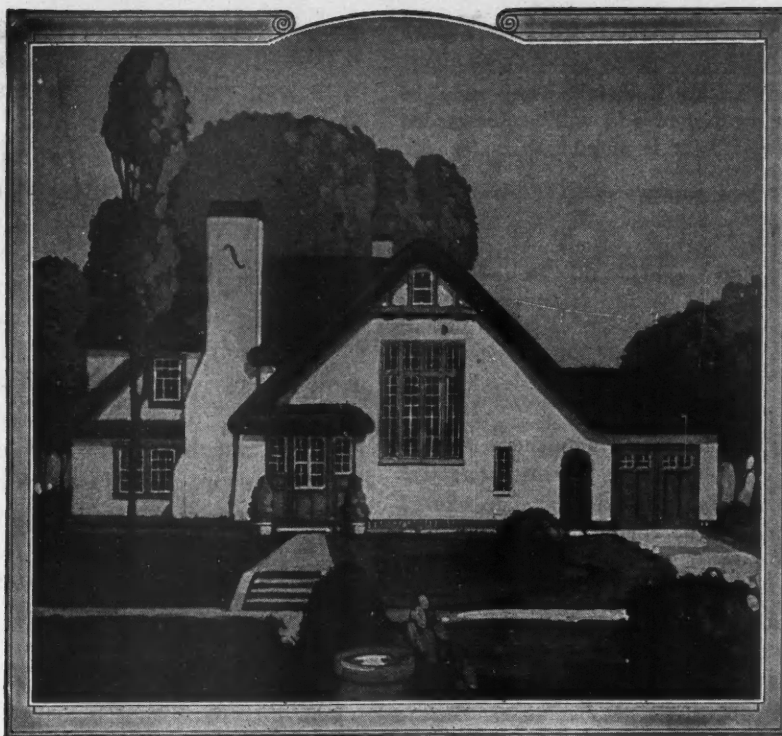


UTILITY
DURABILITY
BEAUTY
IN THE
BOMMER

BOMMER SPRING HINGES ARE THE BEST

Your DEALER handles them,
Get New Catalog 47, you need it.

BOMMER SPRING HINGE COMPANY
MANUFACTURERS BROOKLYN, N. Y.



Cornerstones of Your Business Reputation

WELL built, comfortable, attractive homes that endure the stress of weather and time, are the cornerstones on which your business reputation will be founded.

The unvarying high quality of ASBESTONE Everlasting Magnesia Stucco has been proven by over eighteen years of successful use by leading contractors and builders. Made only of the very best materials—the high tensile strength and elasticity of ASBEST-

ONE assure a permanent and unmarred surface.

The contractor who builds with ASBESTONE may be assured that he is getting the absolute best at a very moderate price.

Ask your dealer or write us for samples in color tints and pebble dashes. Ask for our new ASBESTONE book.

FRANKLYN R. MULLER, Inc.
208 Madison Street, Waukegan, Ill.

ASBESTONE

EVERLASTING MAGNESIA STUCCO



ASBESTONE Stucco for Exteriors + ASBESTONE Plaster for Interiors

WHEN WRITING ADVERTISERS PLEASE MENTION THE AMERICAN BUILDER

Books, Bulletins and Catalogs for You

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

"Letters To and Fro" is the interesting title of an informal discussion of steam, vacuum and hot water heating systems, issued by the Burnham Boiler Corporation, Irvington, N. Y. The book, which takes the form of letters of advice written by freinds and relatives concerning the heating plant a young couple propose to install in their home, is written in language which will appeal to the layman and is designed to be a direct sales help to contractors and builders.

Slate for the Roof Architectural, published by the Vendor Slate Co., Inc., Easton, Pa., is a most attractive forty-two page book showing the varieties of slate offered by the company. Because of the correntness of the color plates used to show the various types and colors of slates offered, this book well may be considered an authority on slates and as a valuable reference work in the files of any architect or builder. "Mattowee Stone" as used for terrace flooring, porch flooring and for garden walks and other purposes also is shown.

T-M-B Flooring, the product of the Thos. Moulding Brick Co., 133 West Washington street, Chicago, as used in a number of large buildings is shown in an interesting bulletin issued by the manufacturers, who also install their own product. With this bulletin, architects and others interested may obtain specification sheets detailing the methods and materials for laying the T-M-B floors and also specification sheets covering the construction of T-M-B Caen Stone Cement Finish.

A Novel Housing Proposal

(Continued from page 145.)

costs of materials and labor in different parts of the country, therefore only plans sufficiently explicit to convey the general idea of alternating frontages, and so segregating families, and its entire practicability, are presented here, as a basis for proper detailing by engineers and architects, working directly with owners, with actual costs and conditions in the vicinity and at the time at hand, and it is hoped that this article will be found sufficiently explicit to inspire the starting of many enterprises of this kind without delay, resulting in early relief of suffering humanity, generally reduced rents and much improved conditions.

"Sun parlors, breakfast rooms and other such things have not been considered here, because they are superfluous to comfortable living anywhere, and therefore foolish, and because only those rich enough to afford much more luxuriant quarters, can afford to be either foolish or superfluous in anything, especially in their daily existence.

"While this idea is a new and novel one, and very different from anything that people have been used to, it is sure to ultimately be found so exceedingly desirable for its segregation, economical, refining, and many other advantageous features, that it will be extensively adopted (especially in congested districts), as an important improvement, as soon as the public become familiar with the new style called 'ALTERNATE HOUSING'."

A Special Inducement

to enable you to discover the ease of application, economy and lasting beauty of Cameo. We want you to try it for yourself.

The attached coupon and \$2.00 will bring you 1 quart each of Cameo White Flat and Cameo White Enamel. Specify whether you wish Gloss or Matte (Satin Finish) (Regular Sales price \$3.55).

CAMEO

White Enamels and White Flat

Specifications in Sweet's

DENNY, HILBORN & ROSENBACH
Chicago, PHILADELPHIA, New York.

Fill out and mail this coupon today.

 Denny, Hilborn & Rosenbach,
 318 W. Washington St., Chicago
 Attached is \$2.00 for which please send me one quart each of
 Cameo White Flat and Cameo White Enamel Gloss or Matte.
 My Dealer's Name.....
 Name.....
 Address.....
 City..... State.....



Mortar Colors

**Rich in Color
 Permanent
 Non-Fading**

The proper selection of mortar colors is as necessary, in obtaining those pleasing or striking effects that are so desirable, as the selection of the brick from which the wall is built.

The cost of Tamms mortar colors is so small it can hardly be considered of consequence.

Inquire for samples and prices

TAMMS SILICA CO.

Mines & Mills Chicago 30 North
 Tamms, Ill. La Salle St.

*We also manufacture
 Stucco-Lite*

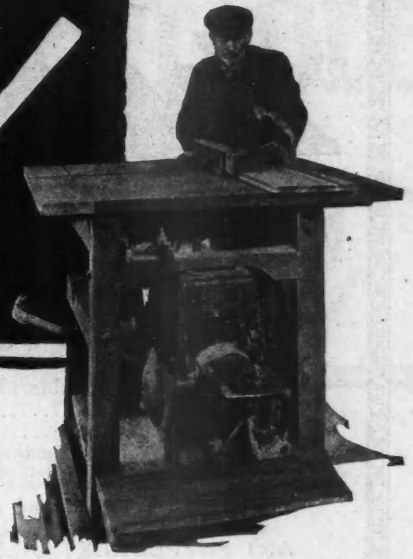
Chocolate Buff Red Black for stucco and concrete-work.

If

**YOU DO NOT FIND
 WHAT YOU WANT**

in the AMERICAN BUILDER,
 write us and we will try to
 get it for you.

Turn odds and ends into cash!



12
Operations

Every cut needed in building



Ripping



Mitreing



Cross Cutting



Jointing



Bevel Jointing



Dadoing



Bevel Sawing



Boring



Rabbetting



Sanding



Band Sawing



Grinding

Will you let the Leach Saw Rig pay its own way?

HERE is a whole woodworking plant in compact form—an all-round, year-round money maker sold on a basis that enables you to pay for it out of added profits.

It's built along lines that appeal to the man on the job—rugged and substantial to stand up under the rough handling and jolting that can't be escaped when it is moved from place to place and hauled from job to job. And its accurate work is backed up with the kind of gas engine that you can start and then forget.

Try it out—free

You don't have to take anyone's word on the superiority of the Leach Saw Rig but your own. The Leach will be sent to you for ten days' trial, absolutely without cost or obligations to buy. Then if you decide to own the Leach it is yours for a small payment. Simply send the coupon below for complete details. Get acquainted with the Leach.

LEACH COMPANY
Oshkosh, Wisconsin
(Formerly Oshkosh Mfg. Co.)

LEACH Saw Rigs
Ever Ready!



Check information desired:

- Complete description of Leach Saw Rig
- Details of free trial
- Details of deferred payment plan

Mail to:

LEACH COMPANY
Oshkosh, Wis.

AB10-M-RTG