THE ARCHITECTURAL FORUM

OCTOBER 1920

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For exposed plumbing, ornamental work and hardware where strong, durable material with a permanent white color is required.

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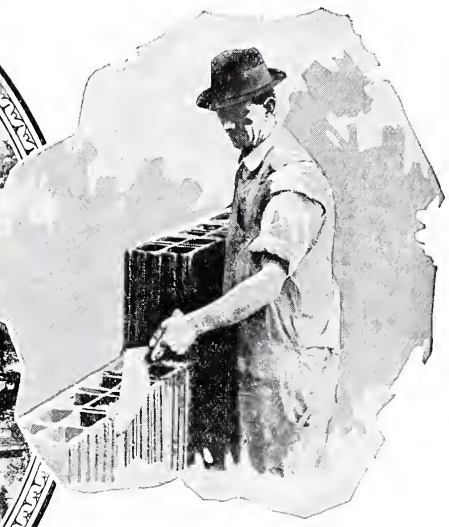
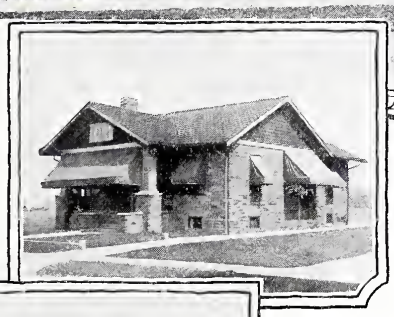
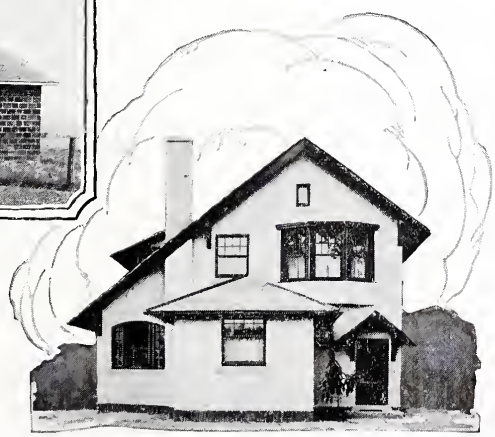


Satisfied Clients

Clients who want comfortable, fire-safe homes that will at the same time be economical, are fully satisfied with Natco Hollow Tile.

Natco Hollow Tile are large and light. One tile takes the place of from six to twelve common brick. Invariably the final cost of a Natco Home has proved to be less than brick or concrete. At present lumber prices hollow tile construction is practically the same as the best frame construction. Moisture does not condense on or penetrate Natco Hollow Walls. The savings in fuel are considerable as the walls are wind-proof and the still air spaces keep in the heat.





A few of the many excellent types of Natco Homes are shown here. In our new book on Natco Homes, we show many others with descriptions and floor plans. Write for it—To-day.

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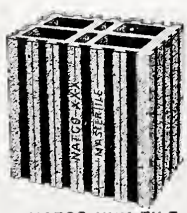
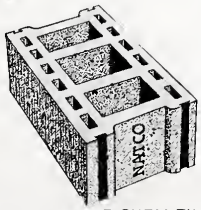
NATCO HOLLOW TILE

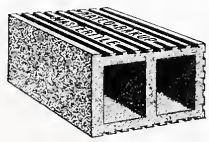


NATCO XXX TILE FOR A STUCCO FINISHED HOME

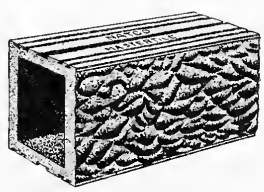


NATCO DOUBLE SHELL TILE FINISHED FACE, ROUGH IN TEXTURE-GLAZED OR UNGLAZED

NATCO DRAIN TILE FOR DRAINING LOW LANDS



NATCO BAKUP TILE USED WITH VENEER OF FACE BRICK



NATCO GLAZED BUILDING BLOCK ROCKFACED, FOR FOUNDATIONS AND BUILDINGS

THE Fleming Furniture Company building, Cleveland, D. T. Owen, Architect, is a pleasing illustration of the use of terra cotta for store fronts.

The clean, attractive, up-to-date appearance of this building was obtained by the use of "Northwestern" terra cotta; polished granite terra cotta base course and cream enamel terra cotta, satin finish, for balance of facing, except first story spandrels, which are accentuated by the use of color.

A booklet on the use of terra cotta in store fronts, published by the National Terra Cotta Society, 1 Madison Avenue, New York, will be sent free upon request.

NORTHWESTERN is a short form of specification for architectural Terra Cotta of superior quality.

THE NORTHWESTERN TERRA COTTA CO.

CHICAGO

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In Atlantic Terra Cotta the introduction of Gothic detail does not increase the cost materially.

The color, the surface texture can be what you please, but should be consistent with Gothic precedent.

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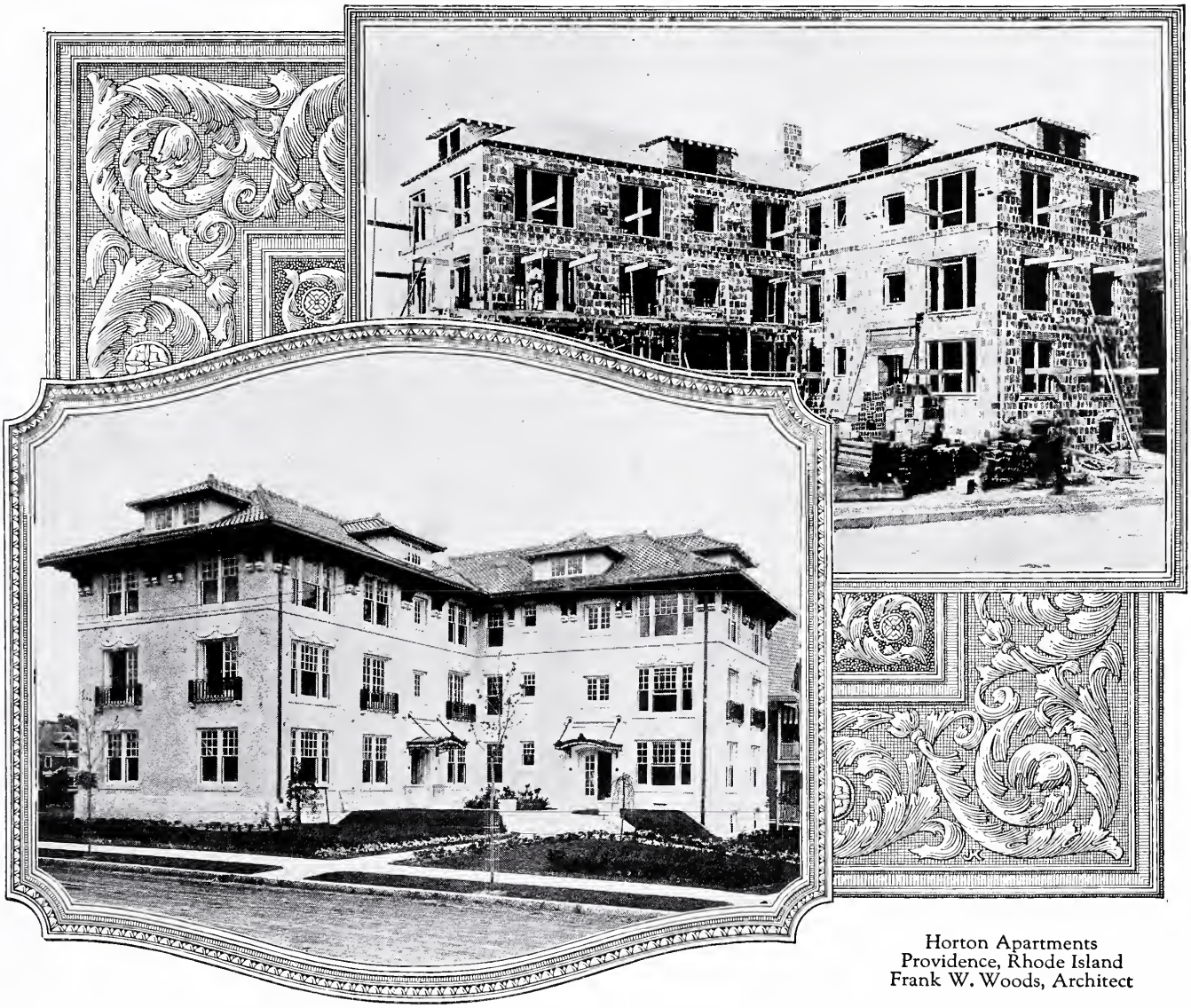
1170 Broadway New York

Southern Branch
Atlanta Terra Cotta Company
Atlanta, Georgia
Factory, East Point, Pa.

Fyfe Store Building, Detroit; Smith, Hinchman & Grylls, Architects; W. E. Wood Co., Builders. Entirely of Atlantic Terra Cotta in gray granite color and texture.



Horton Apartments
Providence, Rhode Island
Frank W. Woods, Architect

THE low cost of laying large *Hollow Tile* units and the permanent, lasting character of the burned clay keep down the original investment and minimize upkeep and operation expenses—*materially increasing the percentage of profits from apartment buildings.*

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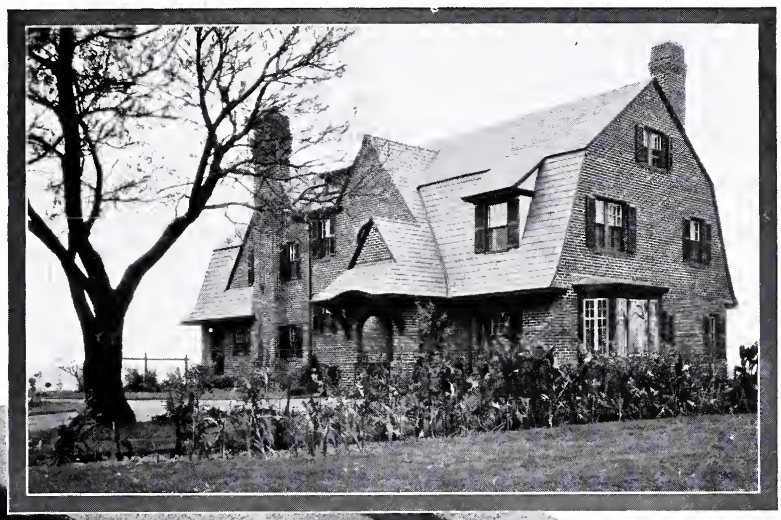
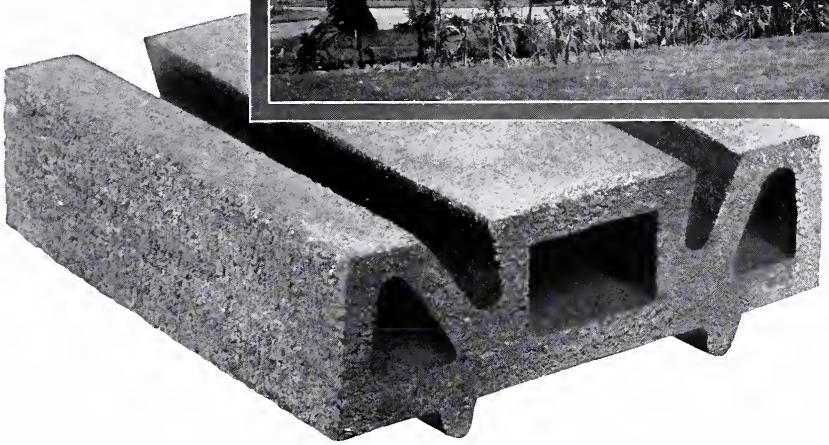
CONWAY BUILDING, CHICAGO

A "FISKLOCK" HOUSE





A "FISKLOCK" BRICK

Are *You* Saddling Heavy Repair Bills on Your Clients?

It's hard enough for your client to build now. You will help him if you say —

> "I advise you to build of brick; then you'll have little or no future expense. A brick house is free from expensive repairs, free from large paint bills — the first cost is the whole cost."

And when you go a step further and specify

"FISKLOCK" BRICK

HARDONCOURT-FISKE PATENTS

you can show your client that the first cost of a brick house is not so very high; it's no greater than that of other constructions that stand the test of time.

"Fisklock" brick saves labor cost, saves the laying of the common brick backing, for a "Fisklock" brick is a face brick and a common brick in one unit.

It's not what brick costs per thousand, but what it costs *in the wall*

FISKE & COMPANY, Inc.

BOSTON, MASS.

New York — ***"Tapestry" Brick***

Face Brick

Watsontown, Pa. — ***Fire Brick***

COMPETITION FOR THE PLAN AND EQUIPMENT OF A MODEL KITCHEN

First Prize	$500	Four Mentions		Third Prize	$100
Second Prize	200	$25 Each		Fourth Prize	50

Competition Closes Thursday, November 4, 1920

PROGRAM

Object

This competition is being conducted by the Hoosier Manufacturing Company of Newcastle, Indiana, to encourage the study by architects and architectural draftsmen of labor-saving devices and economies in plan and equipment for the modern small-family kitchen. The acuteness of the servant problem has resulted generally in increased kitchen activities on the part of individual members of the family and in a better understanding by the mistress of the house of the possibilities of the kitchen as a place for making or saving extra steps, wasting or conserving energy, and economy or extravagance in the use of space. That a kitchen should be a laboratory—a really pleasant room to work in, convenient, sanitary, a place for everything and everything in its place—is becoming recognized in larger measure in all communities. The Hoosier Manufacturing Company, believing that a real demand exists for standardization of at least the essentials in good kitchen planning and equipment, hopes through this competition to bring to the problem the experience and professional skill of the architect and, with the suggestions thus obtained, expects to be able to submit to the public and the architectural profession data and practical suggestions for an up-to-the-minute model kitchen. It is therefore hoped that architects and architectural draftsmen will co-operate generally and cordially in making this competition a success to the end that it may be national in scope and representative of the best thought and skill of the profession.

The Problem

The problem involves the design of a fully equipped kitchen for a family of four or five without a servant.

The floor area, exclusive of alcove, if any, shall not exceed 144 square feet; at least one wall shall have unobstructed outside exposure; and not less than two nor more than three doors, exclusive of closet door, if any, shall be provided, one of which shall be the exterior entrance door.

The doors shall be so located as to establish the relationship of the kitchen to other parts of the house and the plan of the kitchen such that it may become an integral unit of a practical house plan, the parts of which immediately adjacent to the kitchen should be sufficiently indicated in outline and designated by name to determine definitely their relation to the kitchen.

For the purpose of this competition, the essential requirements for the kitchen equipment shall be taken to be a sink with drainboard or boards, a range, a refrigerator, and a kitchen cabinet. A table, either hinged, stationary or portable and provision for surplus kitchen storage are considered desirable. The proper disposition of essentials and the addition of such other conveniences as, in the opinion of the designer, are necessary to fully equip the small model kitchen, are left to his skill and ingenuity.

Indication may be made, if desired, of the flooring material, wall and ceiling finish, color scheme, and other finish details contemplated by the author's design, but this is not required. Size and type of windows contemplated should be clearly shown and the points of the compass indicated to show the direction from which the light is obtained.

Presentation

All drawings are to be made on one sheet 19 x 27 inches in size. Plain border lines are to be drawn so that the space within them shall measure 17 x 25 inches. Whatman or similar white paper is to be used. Tracing paper, tracing cloth or Bristol board are prohibited and no drawings are to be mounted. All drawings must be made with black ink, undiluted, and without color or wash. All figures and notations shall be plainly made so as to be clearly legible at a reduced scale. A graphic scale must be shown for each scale used.

Each drawing shall be titled where space is best suited, DESIGN FOR A SMALL-FAMILY MODEL KITCHEN as submitted in the HOOSIER MANUFACTURING COMPANY'S COMPETITION, and shall be accompanied by a plain sealed envelope containing the true name and address of the competitor within. No marks shall be placed on the drawings, envelope or package by which they could be identified.

Any competitor may submit more than one design, providing each is accompanied by a sealed envelope containing his name and address.

Drawings Required

On the single sheet above referred to the following drawings shall be grouped, each rendered in outline and to the required scale. The sectional areas of the floor plan shall be filled in solid with black ink.

(a) A kitchen floor plan drawn to a ⅜-inch scale showing the size and disposition of all equipment and with dimensions from plaster line to plaster line each way clearly indicated.

(b) An outline elevation of each of the four enclosing walls and such of the equipment, doors and windows as are incidental thereto, drawn to a ⅜-inch scale.

(c) A pen-and-ink perspective showing at least two-thirds of two adjacent and intersecting walls, one of which must include the kitchen cabinet. This perspective may be drawn to any scale which, in the designer's opinion, will best fit the space on the sheet and satisfy his sense of proportion.

(d) Additional sketches or notations which may be deemed necessary to illustrate or adequately interpret special features not otherwise clearly shown in plan or elevation will be permitted at the designer's option, though these are not required.

The Kitchen Essentials

For the sake of uniformity, the dimensions of the equipment hereinbefore referred to as essentials shall be as follows: sink, 20" x 30"; range, 24" x 46"; refrigerator, 23" x 38" for a maximum ice capacity of 100 pounds. The dimensions and arrangement of the kitchen cabinet are indicated in the accompanying isometric sketch. Additional data regarding the design and construction of this cabinet may be obtained by addressing the Hoosier Manufacturing Company, Newcastle, Indiana.

Professional Adviser

Herbert Foltz, F. A. I. A., 845 Lemcke Annex, Indianapolis, Indiana, has been retained by the Hoosier Manufacturing Company as its professional adviser in conducting the competition and any inquiries regarding its terms and conditions, interpretations of the program, or requests for extra copies of the program should be addressed to him.

Delivery of Drawings

The drawing is to be rolled in a tube to prevent creasing or crushing and, with the sealed envelope, forwarded prepaid to the Professional Adviser at the address above given. If sent by mail, the first-class postage rate is to apply as required by the postal regulations. All drawings must be forwarded in time to reach their destination on or before 5 P. M. of Thursday, November 4, 1920.

The drawings will be removed from their covers by the Professional Adviser, who will place a number upon each drawing and a corresponding number on the accompanying sealed envelope for proper identification. These envelopes will then be filed and not opened until after the awards have been made.

Judgment

The competition will be judged by a jury of five members, constituted as follows:

Mr. Frederick L. Ackerman, Architect, of New York.

Miss Alice Bradley, Principal of Miss Farmer's School of Cookery, Boston.

Mr. Edwin H. Brown, Architect, of Minneapolis.

Mrs. Ida Langerwisch, Superviser of Cooking in the Indianapolis Public Schools.

Mr. George W. Maher, Architect, of Chicago.

Each of the above has consented to serve on the Jury of Awards but the right is reserved to substitute others of equal qualifications in case of the disability of either or any for service when the jury meets.

The jury will make an award or awards to one or more of those taking part in the competition unless no design is submitted which fulfills the mandatory requirements of the program.

In making the awards, the jury will give consideration to the kitchen plan as an effective working unit; to the character and disposition of the several items of equipment and their relation each to the other; to the relation of the kitchen to other adjacent parts of a practical house plan; and to the skill and ingenuity displayed in the solution of the problem as a whole. The question of skilfulness in the execution of the drawings will not be considered, though neatness in their presentation is not to be disparaged. Drawings which are found not to conform in all respects to the conditions of the program will be eliminated from consideration by the jury.

The jury will make a full report which will include its reasons for the selection of the winning design and its reasons for the classification of the designs placed next in order of merit. A copy of this report, accompanied by the names of the prize winners, will be sent by the Professional Adviser to each competitor or announced in a magazine published in the interest of the architectural profession, promptly upon the announcement of the awards and the submission of the report.

Payment of Prizes

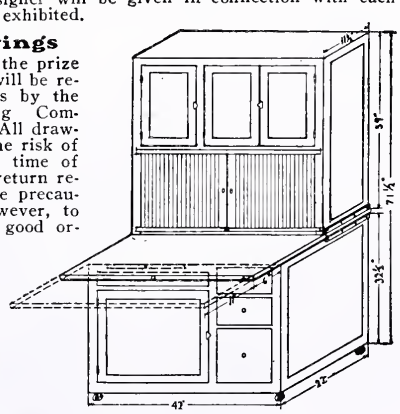
The Hoosier Manufacturing Company agrees that the jury above named has authority to make the awards, that its decisions shall be final, and that payment of the prizes to the respective winners will be made within ten days after judgment is rendered, on the following basis: First prize, $500; second prize, $200; third prize, $100; fourth prize, $50; for each of the four mentioned drawings, $25.

Use of Drawings

The prize and mention competition drawings are to become the property of the Hoosier Manufacturing Company and the right is reserved to use these in such manner as in its judgment may seem best without further obligation than the payment of the prizes to the authors. The right is also reserved to publish or exhibit any or all of the other drawings submitted in the competition. The name and address of the designer will be given in connection with each design so published or exhibited.

Return of Drawings

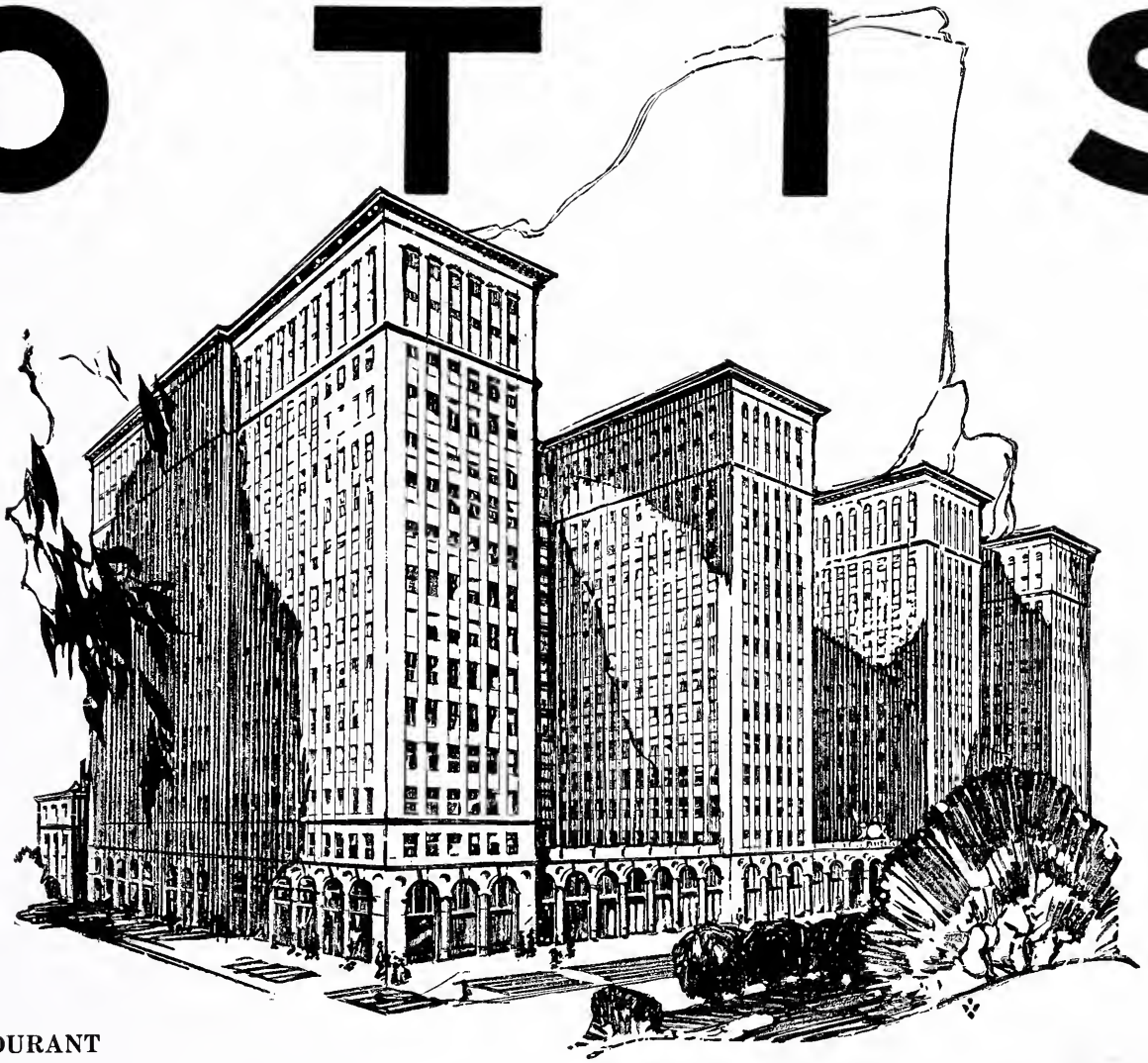
Drawings other than the prize and mention drawings will be returned to their authors by the Hoosier Manufacturing Company, postage prepaid. All drawings submitted are at the risk of their authors from the time of forwarding until their return receipt. Every reasonable precaution will be taken, however, to insure their return in good order.



Approval of Program

This program has been approved for the American Institute of Architects by the Illinois Chapter Committee on Competitions.

OTIS



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White Cement Stucco

Frank Meline
Designer and Builder

Manufacturers of Medusa White and Medusa Gray Cement—Plain and Waterproofed—and Medusa Waterproofing—Paste or Powder.

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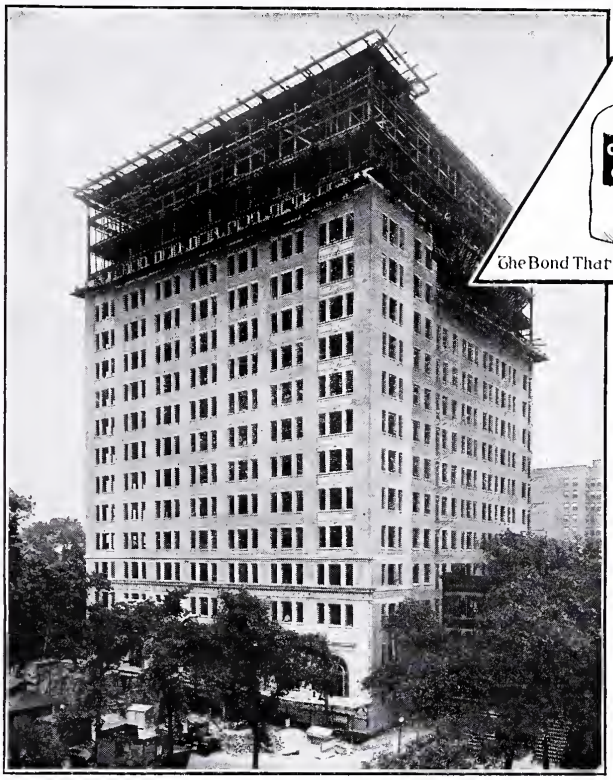
The Sandusky Cement Company

Department F Cleveland, Ohio



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Architect and Engineer, Fridstein & Co., Chicago
Builders, G. H. Gottschalk & Co., Chicago
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The Bond That Will Guarantee Your Wall

THE architects who planned the Webster Hotel in Chicago specified Carney's Cement because they knew it would do what they wanted it to do.

They knew that it would become harder than the brick itself—that its unequaled adherence and durability would produce walls of superior quality.

They knew that it would save money in first cost, the labor of using, and in the number of bricks laid per barrel.

"The Bond That Guarantees The Wall"

They knew that its plasticity would make the use of lime unnecessary and that the careless addition of more sand than required would cause the man on the job to send the mortar back to the mortar box—automatic assurance of a perfect mix.

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Tiger Finish *spreads like warm butter*. It sets slowly—allowing time to trowel and float all surfaces perfectly. It is quickly prepared—no screening, and thus proves a real economy by saving time and labor.

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World's Largest Producer of Lime

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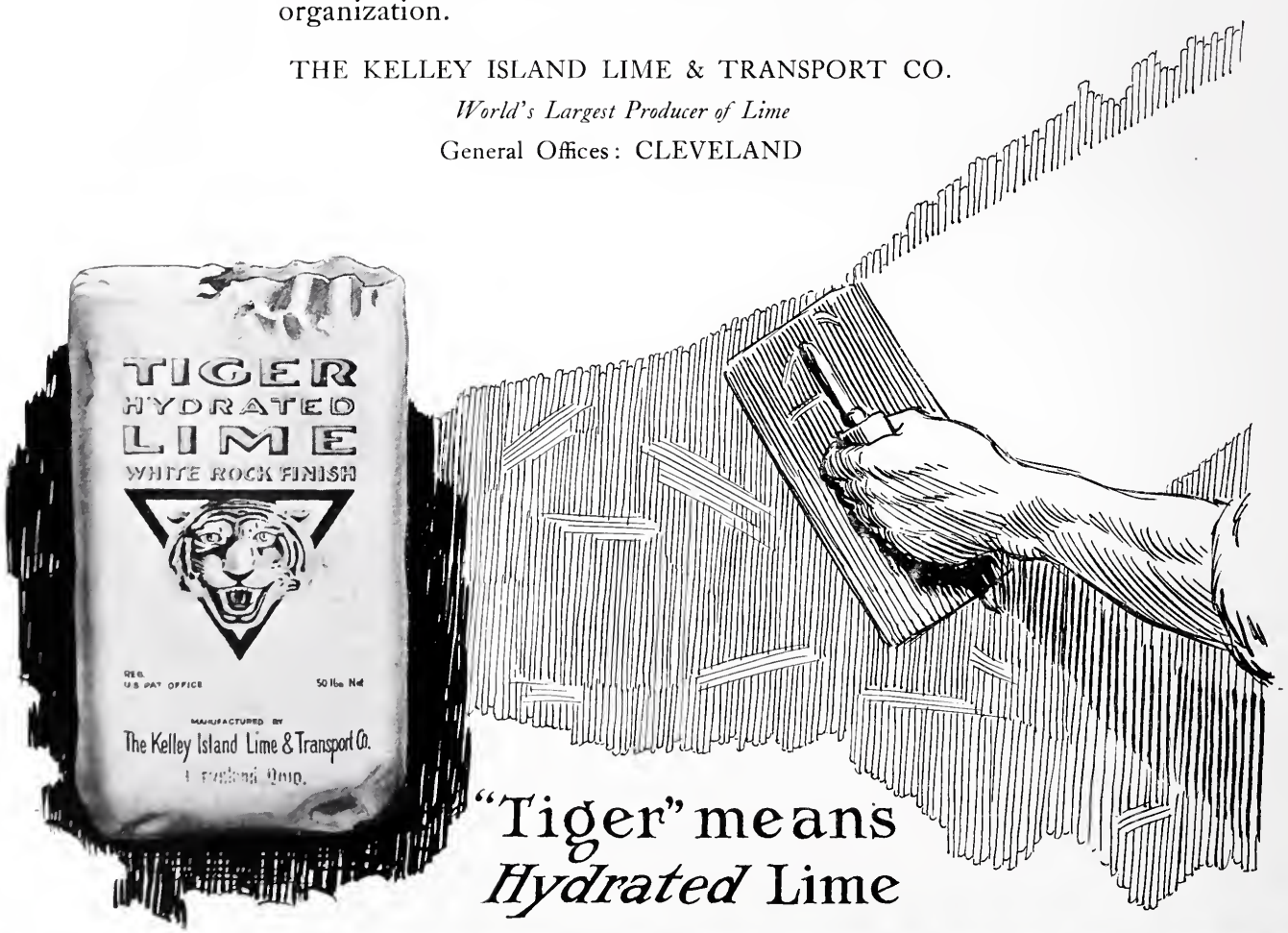

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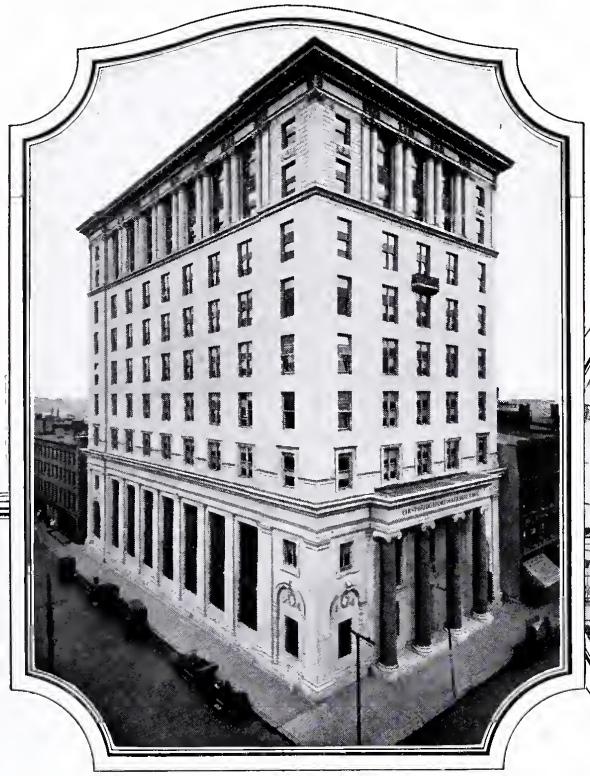

The First-Bridgeport National Bank

Tracy & Swartout, Architects Hoggson Bros., Builders

THE plans of such buildings must be traced on cloth that will take the finest ink or pencil marks satisfactorily, that will give long and continuously satisfactory service, that will stand filing and refiling without cracking, and exposure without becoming cloudy, that will permit of many erasures, that will always give clear, easily read prints no matter how old.

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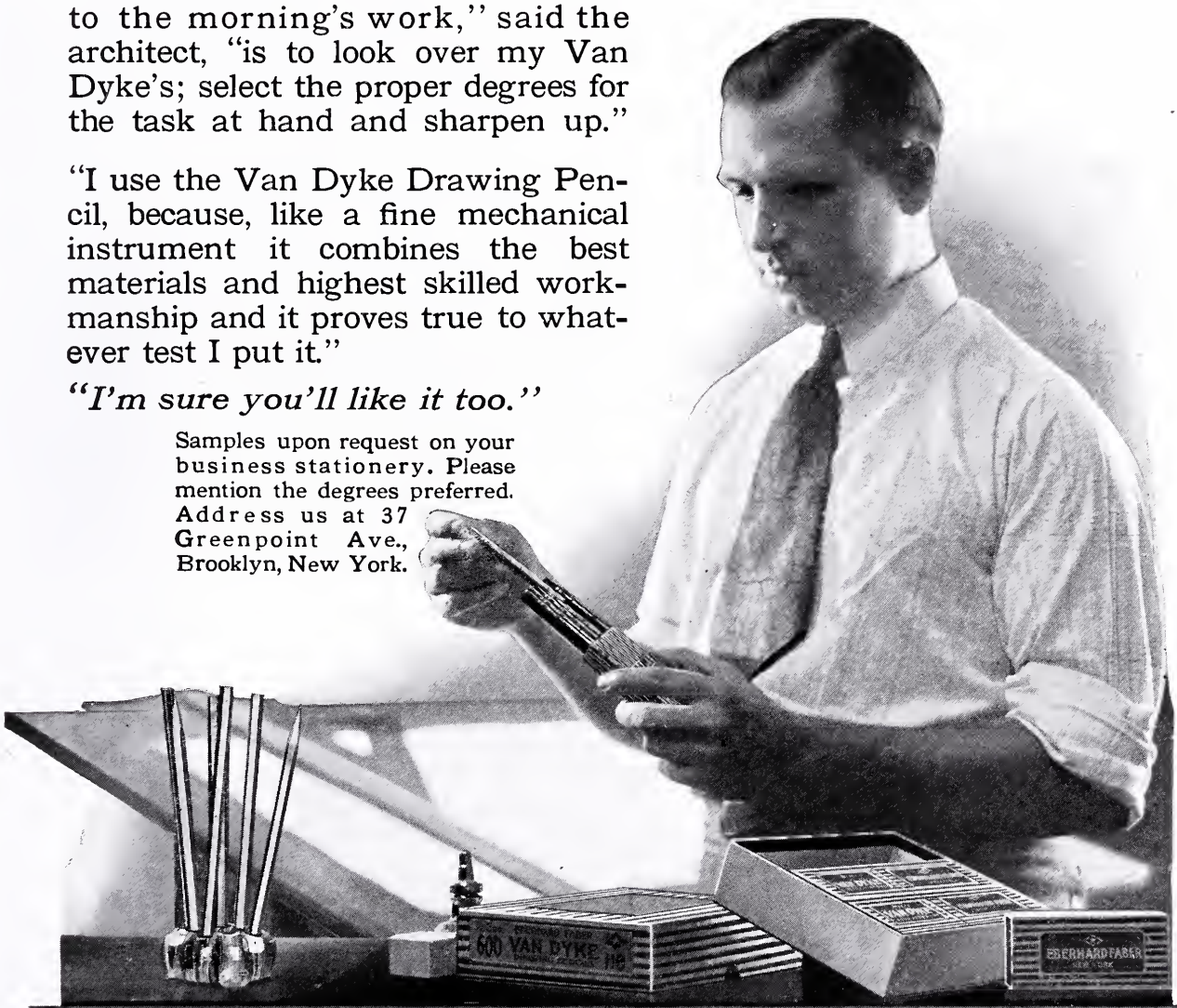
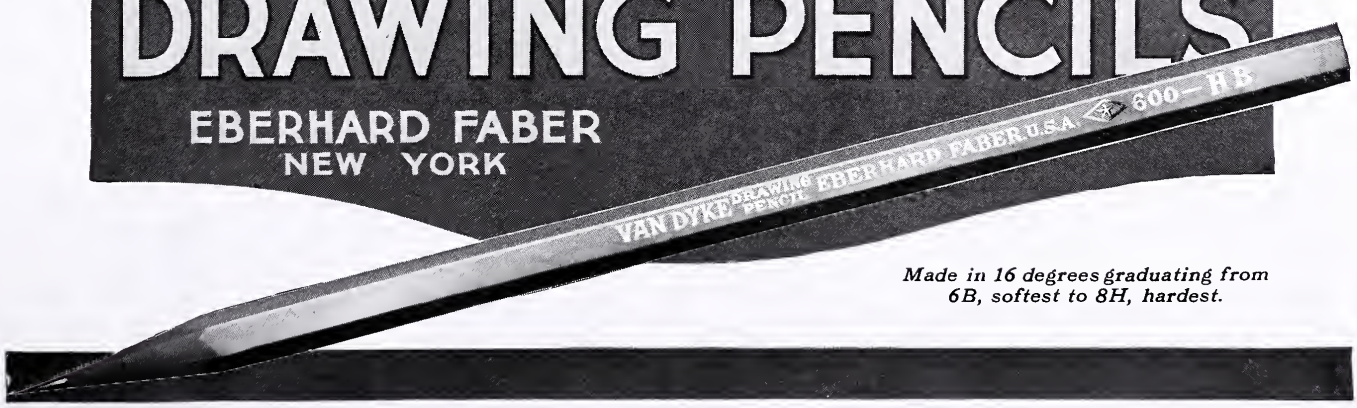
"I'm sure you'll like it too."

Samples upon request on your business stationery. Please mention the degrees preferred. Address us at 37 Greenpoint Ave., Brooklyn, New York.

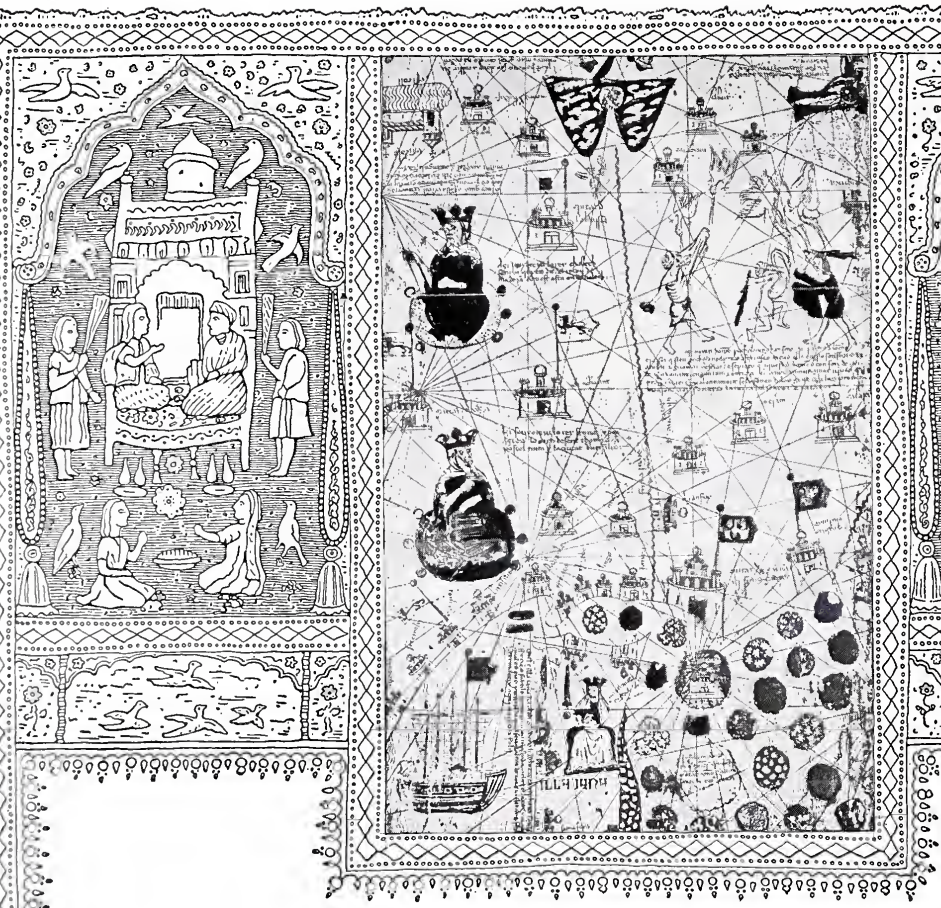


VAN DYKE DRAWING PENCILS

EBERHARD FABER
NEW YORK



Made in 16 degrees graduating from 6B, softest to 8H, hardest.



MARCO POLO—THE ADVENTUROUS

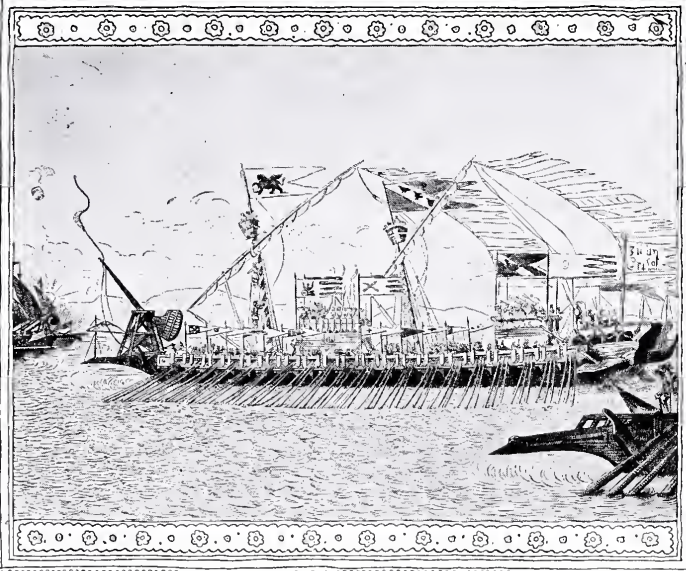
A JOURNEY to distant China, whose period was three and a half years! It was a fitting preface to the life of that adventuring discoverer, Marco Polo, who, at fifteen, set forth with his father on their historic visit to the court of Kublai Khan—the "Great Khan" who "sent his emissaries forward forty days' journey to welcome them."

Kublai was the grandson of the mighty Ghengis Khan before whose sword even that of Alexander the Great, himself, seemed inconsequent; and to Marco, Kublai Khan displayed a rare constancy of friendship. Indeed, during the years of Marco's service the adventurer was sent on various missions to Tibet, India, Abyssinia, Borneo, the Philippines, Madagascar, the Malay Peninsula, and the Province of Russia. Marco, in fact, was even appointed by the Khan to act as deputy governor of the city of Yang-cheu-fu, holding the office for three years.

In his travels throughout China, Polo speaks continuously of the production of raw silk and its manufacture into "tissues of gold", as well as many other kinds and colors of silk. In India, too, he was observant: "There is a great traffic of merchants with their goods this way. They descend some eighteen days from Baudas and then come to a certain city called Kisi, where they enter the Sea of India. In Baudas they weave many different kinds of silk stuffs and brocades, such as *nasich*, and *nac*, and *cramoisy*, and many another beautiful tissue, richly wrought with figures of beasts and birds."

Marco Polo returned at length to Venice, after a long service to the mighty Khan.

The map reproduced above is part of the famous Catalan one of 1375. In this Marco Polo's influence, not necessarily on geography but on map making, is seen to the greatest advantage. It is an endeavor to represent the known world on the basis of collected facts.



MARCO POLO'S GALLEY GOING INTO ACTION AT CURZOLA
A representation of a naval battle fought between Venetians and Genoese—at which Marco Polo was defeated and captured.
—From a print of the period.

MARCO POLO—THE ADVENTUROUS

All his party were dressed in rags, but the clothes concealed fabulous treasures in precious stones. Their friends, indeed, looked askance at them; but the Polos prepared a surprise—a banquet where their guests were received in garments of crimson satin, which were varied at intervals with those of crimson damask, and of crimson velvet—the cast-off garments being distributed to the company as they were relinquished. Finally were displayed the disdained rags from whose open seams sparkled rubies, pearls and diamonds—the harvest of the adventurers' magnificent wanderings!

From this instant the Polos enjoyed a tremendous popularity, Marco being later put in command of the Venetian fleet. But defeat awaited him and a Genoan prison—though even here he became a popular idol, the Genoese flocking to hear his remarkable story.

To Polo was due, in a great measure, the development of the silk industry in the United States; for the descriptions of his voyage awakened emulation in others, and great discovering voyages were taken and new sea routes achieved to the silk lands of the East. To Marco Polo, too, the oriental influence in western design may measurably be traced; and to this degree there may be said to be a far echo of Marco in the oriental motifs which distinguish various of the silks for decorative purposes produced by Cheney Brothers.

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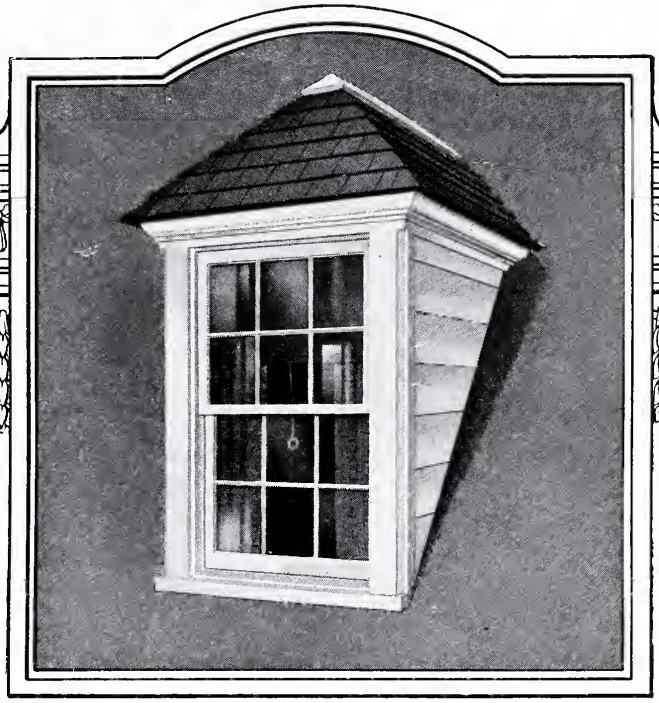
The border decoration is from a cashmere scarf in the India Museum. "In Baudas they weave many different kinds of silk stuffs and brocades . . . . richly wrought with figures of beasts and birds."— From the Book of Marco Polo.

B.K.



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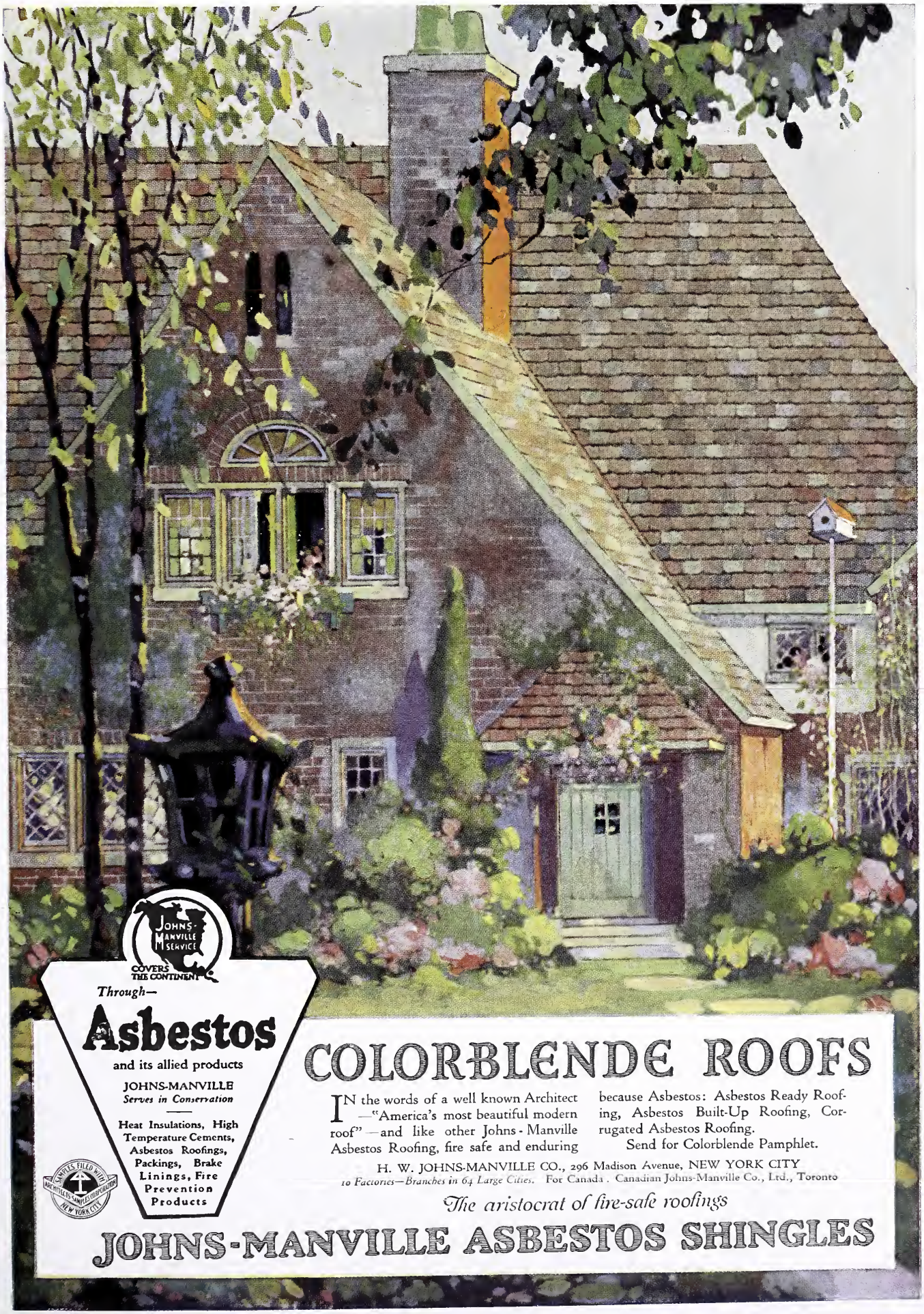
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THE ARCHITECTURAL FORUM

VOLUME XXXIII NUMBER 4

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PLATE ILLUSTRATIONS

LETTERPRESS

ALBERT J. MacDONALD, Editor

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THE EDITORS FORUM

THE RAPID DEVELOPMENT OF INTEREST IN CO-OPERATIVE BUILDING

IN the course of presenting several articles from month to month in the Department of Architectural and Building Economics it has been said several times that while active interest in co-operative building has been largely confined to New York City, ultimately there would be shown national interest in this subject and that undoubtedly a large volume of building construction would proceed through this method of financing if sufficient information on the subject could be disseminated.

Several letters which have been received recently relative to this subject tend to show the diversified and widespread interest in the question of co-operative apartment house financing and it is evident that as these plans are worked out many buildings will be constructed. Extracts from letters received from different sections of the country are given. We shall be glad to answer inquiries of other readers who may be interested in any of the questions brought out in these letters.

From a Chicago architectural firm:

"We are very much interested in the ideas contained in the article 'Co-operative Ownership to Meet the Present Shortage of Buildings' in the copy of THE ARCHITECTURAL FORUM received yesterday. If it is not asking too much we would appreciate the names and locations of a few of the buildings that have been built on this plan in New York."

From a letter from an architect:

"I am very much interested in the article in the July FORUM on co-operative ownership, and would like, if possible, more detailed information on recent buildings which are of the less expensive type of apartment in which instalments were paid for stock.

"I should also like to know in such cases how the building operation was financed, when the mortgage and minimum cash payments do not equal the cost of building as shown in the chart. How was the balance to complete operations secured? Did the contractor take the stock, or was the money secured through mortgaging this stock?

"It is impossible here to build for any such cost as shown per room; it would be more nearly double. The plan is fine and undoubtedly some such scheme will be necessary in order to promote building in the future."

From Philadelphia architects:

"We have read with interest recent articles in the FORUM relative to co-operative building. We have had in mind something of the kind for some time and would like to find out more about how it actually works out. Could you put us in touch with anyone who has put one of these propositions through? Any suggestions you might offer to forward such a project will be appreciated."

From a Canadian realty investment corporation:

"We are subscribers to THE ARCHITECTURAL FORUM and have just read with great interest the Associate Editor's article on co-operative ownership for apartment house building.

"We are contemplating erecting a Class A apartment house building on the co-operative plan and would greatly appreciate any information as to where further statistics could be obtained of buildings which have been successfully operated and financed in this manner. Mr. Taylor refers to a prospectus of a proposed project of this sort. Would it be possible to obtain a copy?"

From a Trenton, N. J., architect:

"Referring to the article in the March edition of THE ARCHITECTURAL FORUM, 'The Co-operative Method of Financing Buildings,' I note that you say you are collecting additional data for the benefit of owners who might be interested in financing apartment house propositions on the co-operative plan.

"I am interested in an apartment house proposition in Trenton that we are trying to finance under this plan. I would appreciate it very much if you would let me have any details that I might be able to make use of in trying to put through our proposition. I would also appreciate it very much if you would forward me any further information on this subject."

From a prospective owner in Seattle:

"Will you please put me in touch with several of the companies who have organized and promoted co-operative apartment houses? I would like to get several prospectuses and learn a little more of this plan.

"Your articles appearing in June and July issues are very illuminating as well as instructive. If you have any more information or descriptive matter on the subject or if you can give me the names and addresses of any companies who have built and operated apartments on the different plans, I would be deeply grateful."

From another prospective owner in Iowa:

"I would appreciate very much, if it is possible for you to do so, that you furnish me the name and address of the attorney or attorneys who have been employed in the preparation of articles of incorporation for co-operative apartment house ventures, especially of the type costing $200,000.

"Our building will be a twelve-family building, six stories in height and I am enclosing a print of the first floor plan and believe you will agree with me that it has exceptional merit."

LOOKING SOUTH FROM WASHINGTON SQUARE,
NEW YORK CITY

From Pencil Drawing by Harold R. Shurtleff

The
ARCHITECTURAL
FORUM

VOLUME XXXIII OCTOBER 1920 NUMBER 4

Some Lesser English Churches

FROM DESIGNS BY GILBERT SCOTT, A.R.A., ARCHITECT

By R. RANDAL PHILLIPS

MR. GILBERT SCOTT is the third of a line of modern English church architects who have borne the same name, each distinguished in his generation, though each represents a different kind of achievement. In the heyday of the Gothic revival it was Sir Gilbert Scott who rose to fame. He it was who wrought mightily in the restoration of our cathedrals and parish churches. We are still astounded by the record of his activities but we think rather sadly of the wholesale making anew of ancient buildings that was the inevitable accompaniment of revival enthusiasm. His son, George Gilbert Scott, is a far happier memory. We have indeed in his best known church, St. Agnes', Kennington, a splendid piece of modern Gothic free from pedantry, with a warmth and life about it that Sir Gilbert could never have compassed. The present Mr. Gilbert Scott had, therefore, in his father's work, a much more exhilarating model than in what his grandfather did. He too, in one sense, is carrying on the same torch that was lighted in mid-Victorian England, but he reflects the different spirit of our own times. The zeal which set new designing in what they conceived to be the thirteenth or fourteenth century manner, and which made them dogmatic about the hollow of a moulding or the precise ornament for a capital, finds no exponent today. Gothic is no longer a style to be copied with minute exactitude, but a manner of building made to suit the needs of the modern church.

It seems likely that Liverpool Cathedral will constitute Mr. Scott's magnum opus, since it is the largest Protestant cathedral undertaken in England since the reformation, and that as yet it has advanced no further than the choir and lady chapel. But though this great fabric has absorbed his chief attention since he won the commission as a young man of twenty-two,—that was in 1905,—he has nevertheless designed and carried out a number of lesser ecclesiastical buildings. Five of these are here illustrated and brought under consideration. They are all pre-war churches, as might be supposed, remembering the five years' ban on building other than that for some sort of war purpose, and remembering also that since the armistice there has been no church building of any kind in England.

The most recent of these five churches is St. Paul's, Derby Lane, Liverpool. This affords an unusually striking example of bold, straightforward brick building which relies for its exceedingly graceful effect entirely upon the use of very simple materials, and strong, vigorous structural lines. Of applied ornament indeed there is very little, the ribs of the brick vaulting serving to give relief to the interior, in connection with exposed brickwork around the tall window openings and at pier angles. The plan is interesting. It consists of choir and nave with three transepts on either side and a large square tower rising above the intersection of the central transept with the main roof. This is very clearly expressed on the interior. It would indeed be difficult to conceive of a church which more fully showed its arrangement on the outside. Inside, an original effect is produced by the intersection of the transept vaulting with the main vault, resulting in the main arcade being composed of high and low arches alternately.

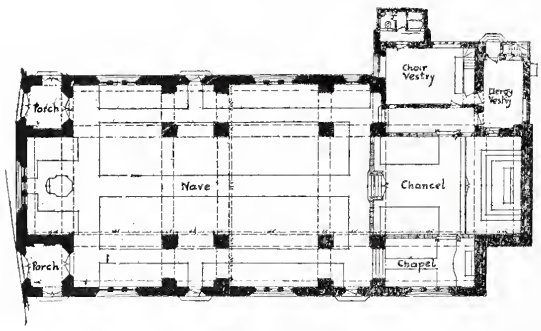
Externally the church is faced with small silvery gray bricks laid up in an appropriate bond; the unusual plan of the building makes possible broad wall surfaces which, particularly in a structure of brick, add a definite element of strength to the appearance of the building. The square tower rises to a height of about eighty feet and its roof, like the roofs of the entire church, is of tiles.

A very effective though extremely simple arrangement has been made of the grouping of the tall, narrow windows at the West end of the nave and in the several transepts. By placing them closely together, divided by piers or mullions of specially modeled brick and recessed slightly within the outer surface of the walls, a very interesting result has been obtained. Equally successful is the high wall of gray brick which encloses the ground about the church and the use of wooden gates in the arches from the street into the open porches. The interior of the church is consistently simple. The

walls are plastered and a high dado of wood, paneled and painted, runs about the walls. The aisles are paved with tiles, with wood blocks elsewhere, the use of a wood floor beneath benches or chairs being probably due to the fact that many people object to the coldness of tiles or stone. At the South side of the choir is a small chapel which is used for daily services and at the opposite side are arranged the choir room and the clergy sacristy over which extends an ample space for an organ chamber.

In the building of this church, which accommodates a congregation of about 640, quite obviously the controlling factor was cost. An imposing structure was required at a minimum of expense, and Mr. Scott has very successfully met the conditions, by adopting largeness of scale and simplicity and dignity of proportions rather than any elaboration of treatment. It is, perhaps, not over satirical to observe that whereas we never hear of the cheap hotel or railroad station, the cheap church is always confronting us. And the architect's task to provide it, effectively, is not easy. The available funds are almost always insufficient to do more than make possible the barest fabric, and though in later years all manner of enrichment may be added, not often does this follow a complete scheme, pre-conceived by the architect and in accordance with his own designs. He who pays the piper often calls the tune, and so we usually have the sight of an interior being successively ruined by "memorial" windows, organs and other features thrust upon the church by well meaning donors who are often wholly devoid of a sense of appropriateness or suitability.

It has often been Mr. Scott's problem to design churches on this basis of minimum cost, and that his main reliance on structural lines and good proportion is right may be seen again in the church at Northfleet, at the mouth of the Thames. This church stands on high ground in the midst of a poor district, and its tower is a landmark for miles around. A very



Main Floor Plan

View of West End, St. Paul's Church, Derby Lane, Liverpool

St. Paul's Church, Derby Lane, Liverpool

noble tower this, rising sheer from the pavement and maintaining its square form to the summit, where it has no crowning flèche, spire or cupola, but only a crenelated parapet. The outline is excellent, the slight breaking back of the succeeding stages giving all the relief that is needed, while the high, narrow belfry opening on the Western face produces a shadow depth that is extremely effective. The nave walls are carried high and the interior is ceiled straight across. Reinforced concrete beams are used here, as often in Mr. Scott's churches, frankly as modern construction. The fabric is of two-inch Crowborough bricks, plastered internally; the sanctuary roof is decorated in black and white on a red and gray ground, and the nave and aisle roofs, organ gallery front and other interior woodwork is finished in two shades of gray. This is a Catholic church, providing accommodation for about 380 worshipers. The accompanying view of the interior looking West shows the organ gallery across the end of the nave. The placing of organs at the West end is an old practice and much happier in effect than putting them in transepts or, —worst of all possible schemes,—setting them straight in front of the congregation, where the collection of metal pipes provides a conspicuous opportunity for strange and wonderful displays of stenciled decoration.

Two other Catholic churches by Mr. Scott are those at Ramsey, Isle of Man, and at Sheringham, Norfolk, each of these having a presbytery attached to the church. The Sheringham plan is very unusual, the church itself being L shaped, the nave occupying one arm, and a transept the other, the sanctuary coming, of course, at the junction of the two. The presbytery is connected with the transept and incorporates the sacristy accommodations. The nave is very high and narrow, the simple king post construction of the roof showing inside and being decorated with color. The focus of the interior is, however, the high reredos, which consists of a magnificently embellished frame around seven devotional panels of figure subjects, four of them being copied from an old Norfolk screen. The sanctuary has a black and white marble floor; the altar and retable are also of marble. Hanging from the roof and dividing the sanctuary from the nave is a richly carved Rood, colored and gilded, made

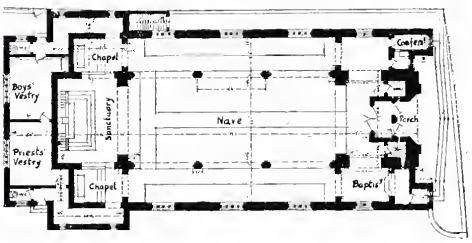
ALTAR OF CATHOLIC CHURCH, RAMSEY, ISLE OF MAN

ALTAR OF ST. MARY'S CHURCH, DOUGLAS, ISLE OF MAN

FROM DESIGNS BY GILBERT SCOTT, A.R.A., ARCHITECT

Nave of Catholic Church, Northfleet, Kent

The church stands by the sea, on a site as romantic as that of Whitby or Iona. Being in a very exposed position, its walls are made extra strong and hollow, the outer thickness of wall being of rubble obtained from old buildings on the site, the inner thickness of smooth local bricks, which have been lime whited only, not plastered. The effect is that of truly monastic simplicity redeemed by the rare beauty of the structural proportions. The triptych in this church is a particularly good example of the architect's work in detail,—a modern version of flamboyant Gothic, full of vitality and rich fancy.

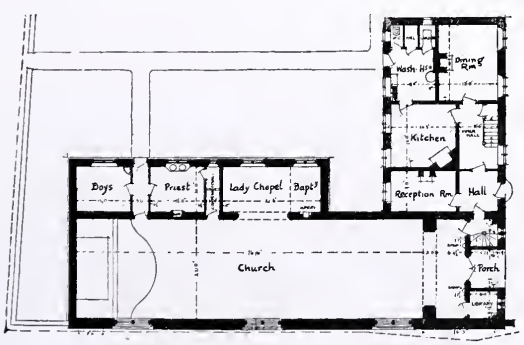


Main Floor Plan

in the Tyrol by the clever craftsmen in wood of that district.

The interior of this little Norfolk church may well be regarded as one of the most beautiful among modern English work. It possesses much of the reticence and simplicity which have made the English country church, during many centuries, the model upon which church architects everywhere base their efforts.

The other church with presbytery attached, at Ramsey, consists of a long nave and sanctuary, a plan with which Mr. Scott is unusually successful. There are no aisles and no transepts. Everything is severely plain and simple, but here again, as in all Mr. Scott's Catholic churches, color and gilt enrichment around the altar, on the tie beams and in the Stations of the Cross, produce a strong effect and redeem the interior of any feeling of bareness.



Plan of Church at Ramsey, Isle of Man

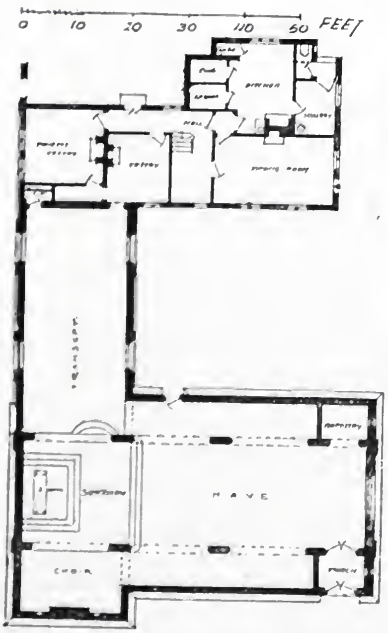
Tower on West End, Catholic Church, Northfleet, Kent

East End of St. Nicholas Church

Another interesting treatment of sanctuary accessories is in St. Mary's Church, Douglas, Isle of Man. Here again the space above the altar is occupied by a triptych, carved, colored and gilded. At the top the ornament takes the form of a "Jesse Tree," a subject frequently worked out in stained glass and sometimes in sculpture. The Jesse Tree portrays the royal lineage of Christ; at the bottom King Jesse is shown and the tree growing from his loins bears many royal figures wearing crowns and bearing scepters, the full flowering of the tree being shown as the Mother and Child at the top of the entwining branches.

While referring to this matter of enrichment it may be interesting to know that Mr. Scott's practice is always to design the details himself. We see in old churches marvelous craftsmanship in wood and stone, we admire the individual touch of the workman, the inequalities in the setting out, the running of the ornament as the spirit moved and not in mechanical repetition of an exact copy. And we may conjure up a picture of a similar thing being done today by the ordinary carver or decorator. But, though there are not lacking craftsmen who could be trusted thus to work out their own designs, disaster would surely follow the giving of such freedom into the workman's hands. In execution his work may be admirable, but he has no tradition of good design behind him as the older men had, and in face of this fact it is best to provide him with full sized details. This is Mr. Scott's custom and the enrichment thus produced has an orderly, definite and logical effect in harmony with the architectural design. In the Golden Age of Art it would of course have been all very different but it is best to frankly acknowledge the conditions which surround us, and to allow the architect to design the enrichment for his own buildings.

A church, more than a building of almost any other character, should be a consistent and finished work of art and such it never can be unless carried out to complete the scheme as it exists in the mind of the architect who has studied and planned it, complete with all its details of structure and ornament.



Floor Plan and Transept Detail, St. Nicholas Church, Sheringham, Norfolk

St. James' Chapel, Cathedral of St. John the Divine

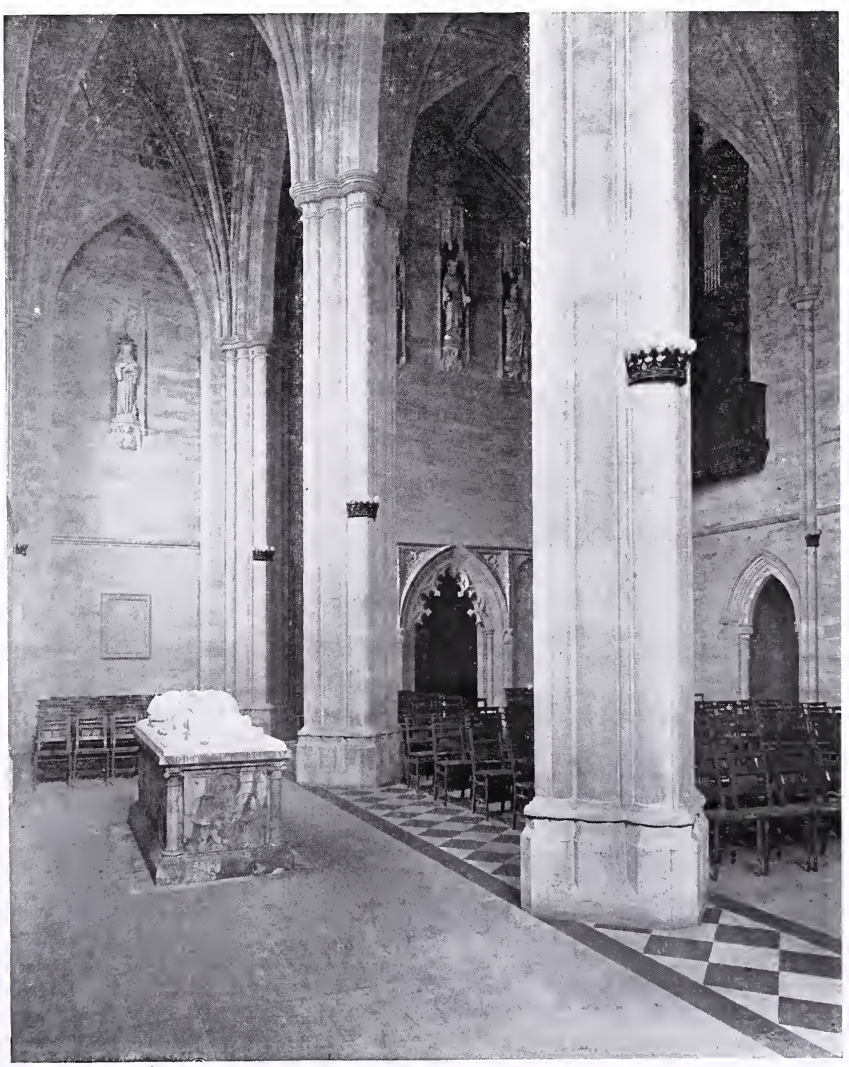
HENRY VAUGHAN, ARCHITECT

SLOW but steady progress on the Cathedral of St. John the Divine marks the passing of the years and already there are certain parts of the vast pile of buildings which have attained what will be their completed form. No part of the Cathedral has thus far been more successful than the seven small chapels,—the "Chapels of the Tongues,"—which surround the choir and sanctuary, each of which has been the gift of some individual or of some one family. To each donor belonged the privilege of selecting the architect for the particular chapel in question, the designs and plans being made subject to the approval of the architect to whom belonged jurisdiction over the entire Cathedral and all of its auxiliary buildings.

The Chapel of St. James, the gift of the widow of the late Bishop Henry C. Potter and her children, is by far the largest of these seven chapels and occupies a space at one corner of the Cathedral where the South transept crosses the nave. This position affords access into the transept and also into the wide ambulatory which extends around the choir and sanctuary and from which all the seven chapels are entered.

The architect of St. James' Chapel, the late Henry Vaughan, has well utilized the small space at his disposal and has created a work of great architectural dignity and of a well restrained character which is in thorough accord with its highly architectural surroundings. Owing to the small area of the Chapel Mr. Vaughan very wisely emphasized its height, with three richly traceried windows filling the three bays of the wide aisle which the peculiar position of the Chapel made possible. Balancing the bay nearest the altar the space which opens into the ambulatory gives something of the effect of a transept which materially increases the width at this point.

St. James'Chapel is now complete excepting for the stained glass which is to fill the three large windows. Like other parts of the Cathedral the walls are of stone, the floor of marble and the roof is vaulted. It is the only chapel of the seven to include a small but well appointed choir and it has its own organ, set within a chamber in the thickness of the wall and high above the floor near the West end of the Chapel. Above the altar is placed a richly carved reredos with canopies above a sculptured portrayal of the Transfiguration and tall statues of the Evangelists with their appropriate emblems. At either side of the reredos are smaller statues in niches representing St. Augustine of Canterbury and St. Gregory the Great while further above and at either side of the stained glass window are statues of St. Peter and St. Paul. In the front of the mensa, or altar table, is placed a sculptured representation of the Last Supper. In the wide aisle of St. James' Chapel is placed the tomb of the Bishop, the recumbent effigy showing him vested in the robes of his episcopal office.



Tomb of Bishop Potter in Aisle of Chapel

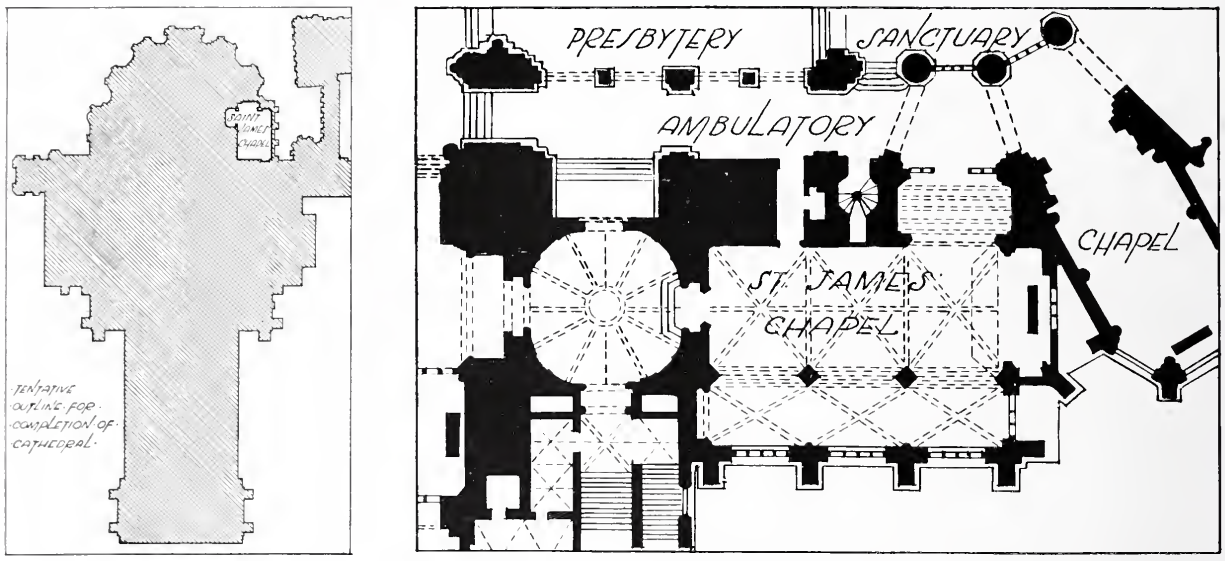


Diagram of Location in Cathedral and Detailed Floor Plan of Chapel

Most of Mr. Vaughan's churches include very carefully designed details of structural ornament and very interesting furnishings and fittings. In addition to such decorative details of St. James' Chapel as have already been mentioned there are important accessories in the carved stone screen which separates the Chapel from the choir ambulatory and various niches in which statues are placed under Gothic canopies. A very interesting example of this treatment occurs above the door leading from the end of the Chapel into the close where three niches and statues are grouped together. Some very successful details of wood carving are the ends of choir stalls, the lecturn and the case for the organ with the tiny gallery for the organist.

Screen at Ambulatory Entrance to Chapel

These various small chapels which cluster about the choir and sanctuary of the Cathedral have been planned for the holding of services of the Episcopal church in various languages which accounts for their being called the "Chapels of the Tongues." The dedications of the chapels may be regarded, to a great extent, as suggesting the languages used in the services therein; German is obviously the tongue suitable for the Chapel of St. Boniface, French for that of St. Martin of Tours, Italian for St. Francis, while Spanish might be the language employed in St. James' Chapel. The decorative accessories in these chapels relate, in each instance, to their dedications. Such details as sculptured adornment, stained glass and screens or grilles of metal have been planned to embody symbolism of an appropriate kind.

Rich opportunities have been offered in these small chapels for the successful use of glass. In each instance a considerable part of the walls is made up of large windows and the great openings have made possible the use of small medallions which in many instances show scenes in the lives of the saints to whom the chapels are dedicated.

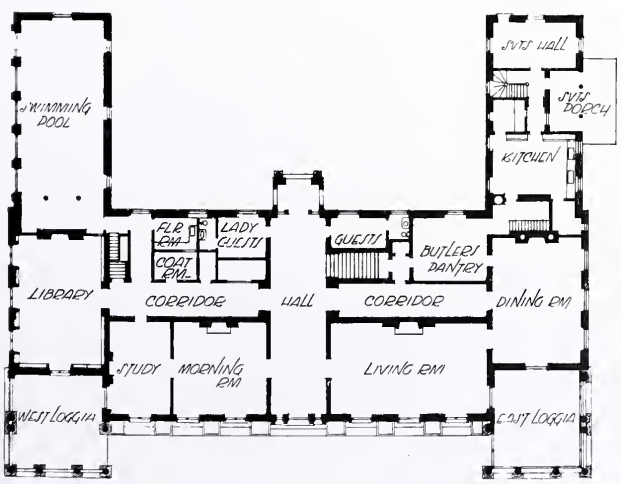
The exterior appearance of these various minor chapels is especially interesting, for they are all very slightly different and their comparatively moderate dimensions tend to emphasize the great height of the body of the Cathedral which towers above.

A House at Mount Kisco, N. Y.

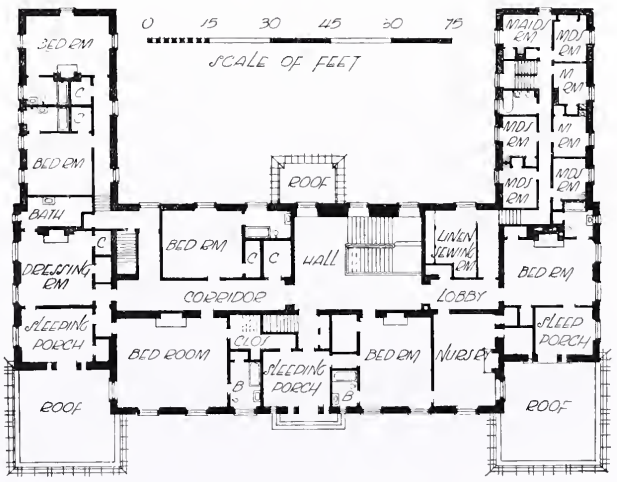
THE RESIDENCE OF EUGENE MEYER, ESQ.

CHARLES A. PLATT, ARCHITECT

TO Charles A. Platt is in large measure due the credit for the very great stimulus that has brought American country house architecture to the high standard it holds today and to him are directly attributable some of the most stately and beautiful homes in America, which with their garden settings rank with English country places that for many years have been recognized as the finest expression of domestic architecture. Mr. Platt enjoys the distinction of having been a painter and etcher before he began the practice of architecture. He is endowed with the powers of the artist as well as the architect, and it is therefore not strange to find his architectural works characterized by a careful regard for line, subtle color and charming relations between setting and structure. He entered upon his work as a designer of houses at the time interest in country living began to assert itself as an American quality and his early houses which were designed with a fresh memory of previous study of Italian gardens and villas, established a standard which has exerted a marked influence on domestic architecture. In all of the many houses he has designed there is a consistent element of fitness to site and a remarkable measure of restraint in the use of architectural motifs and decoration. These



First Floor Plan



Second Floor Plan

houses while in most cases composed on a large scale have in them a great simplicity and homelike character. They are always formal, but their symmetry is never dull, it is tempered by a perfect understanding of the art of fitting the building into its surroundings, and by a sure handling of the color and texture of materials. His designs are perhaps of the greatest interest in their proportions and beauty of line; this is accomplished not through applied decoration but by the most honest and straightforward expression of form.

In the house for Eugene Meyer, Esq., at Mount Kisco there is seen a recent example of Mr. Platt's work which is quite distinctly different from his other houses. It has the breadth and distinction of the Italian which underlies all of his work—there is, however, little that can be definitely labeled as Italian—one feels perhaps a stronger suggestion of French inspiration; it is truly derived from no single precedent, being rather the product of intelligent eclecticism which insures a quality of refinement because of the background provided by the appreciation of all that is good in architecture.

The planning of this house presented a most interesting architectural problem. The site is on very high ground overlooking a wide expanse of woodland, the fall being very abrupt from the terrace to the south of the house. The comparatively

Charcoal Study of Central Motif on Terrace Façade

CORNER OF FORECOURT AND SERVICE WING

NORTH OR COURT ELEVATION

HOUSE OF EUGENE MEYER, ESQ., MOUNT KISCO, N. Y. CHARLES A. PLATT, ARCHITECT

Hall Doorway to Morning Room

level area for the house, garden and approach was limited and an examination of the plot plan on Plate 50 will show how ingeniously this has been utilized to provide the essential features of a country place.

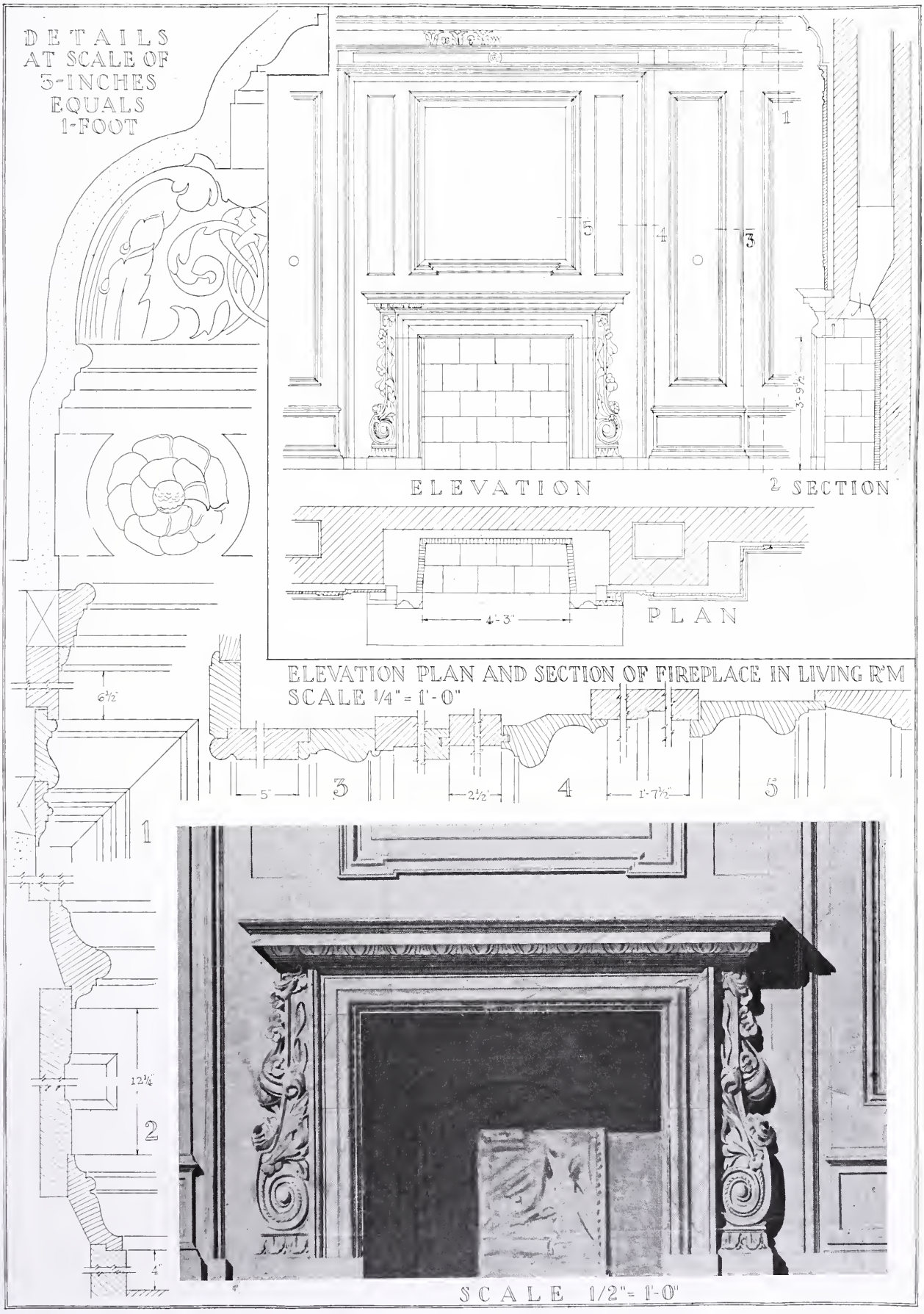
The approach to the house is from the north. A gently rising and curving roadway leads to a low walled forecourt approximately 100 feet square, the grade of which is but a step or two below the main floor level. The low and irregular planting of box along the base of the walls, the great breadth of the façade and the low-roofed wings on either side make a charming ensemble. There is nothing to detract from the simple dignity of the beautifully balanced disposition of windows and wall spaces, the entrance doorway bearing the only note of accent save the artistically wrought lamps that hang out from the forecourt walls of the two wings.

The south side of the house has been located on the very edge of the slope so that all the available level space is given to the garden at the right of the forecourt. This has considerable area and is treated in a simple, open manner to increase the apparent size. The main axis runs north and south terminating at the northern end with an orangery and the wooded slope at the south. The cross axis is the same as that of the forecourt. Access to the garden from the house is through the library windows, which open on to long, low steps.

The land falls away at the east again which made it possible to arrange some of the service features in the basement, and a branch from the main drive leads to the service court at the basement level. The grade about the opposite wing is only a foot or two below the floor level. The swimming pool which occupies the lower portion of this wing is lighted by a row of windows opening to the floor and about nine feet high. These windows overlook the garden and the great expanse of glass gives the pool practically the effect of an outdoor location.

The exterior walls of the house are built of local granite that was quarried on the property, most of it coming out of the site of the house. It is a warm gray with considerable variation in graining and in tone. The stones are sawed square and vary slightly in size; they are laid in the wall in random-coursed ashlar. The cut stone cornices, columns and window trim are

Morning Room toward Living Room



DETAILS OF LIVING ROOM, HOUSE OF EUGENE MEYER, ESQ., MOUNT KISCO, N. Y.
CHARLES A. PLATT, ARCHITECT

Detail of Swimming Pool

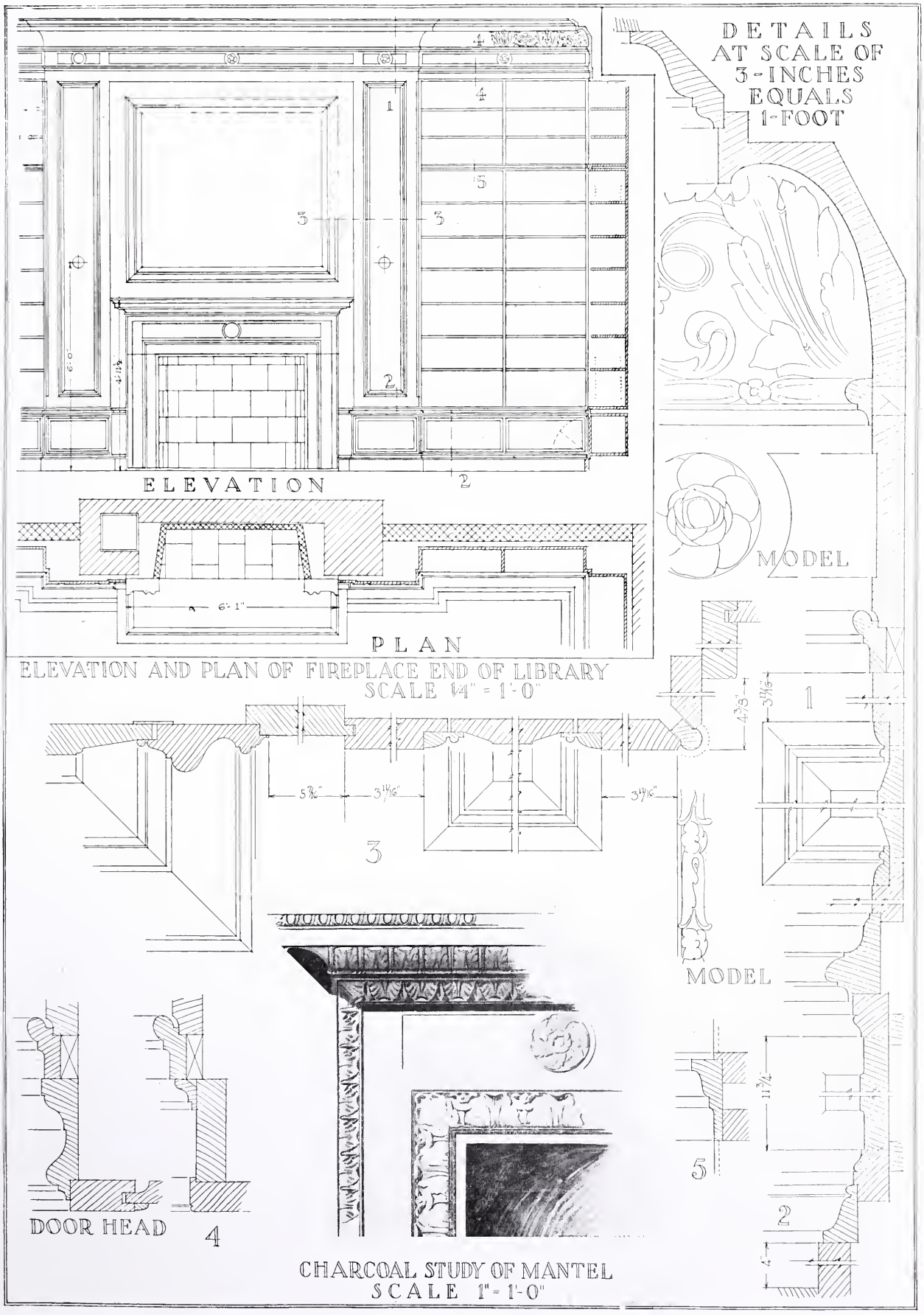
Indiana limestone. The roofing slate is from Vermont quarries and is green and dark gray, varying in color and thickness. The sash is painted a dull white and the shutters a warm gray; the metal work is green. Note should be made of the inconspicuous appearance of the leaders and rain water heads. The frequency with which the eaves are broken by dormers necessitated a large number of leaders; the vertical lines made by them on the façade have been kept narrow so that the continuity of the long horizontal lines is not interrupted.

Although the plan of the house is U shaped, it presents an appearance of a long building of simple mass from whatever point it is viewed. The wings which form the forecourt are kept low and the long dominant main roof line rises above them, emphasizing the main mass of the house which is some 143 feet long. The large scale of the main block can be appreciated by noting that the wings contain three stories in less than the height occupied by two in the main portion.

The care with which the architect considers scale is illustrated by the loggias at the ends of the south front. The openings are about 14 feet high which accord well in scale with the house as viewed from the exterior. From the loggia itself these openings appeared too high and a wrought iron grille of pleasing curves was arranged in the upper portion which effectively adjusted the relation between exterior and interior scale.

The arrangement of the floor plan is simple and direct—a wide central hallway unbroken by stairs extends through the house to the terrace. Corridors at right angles to the right and left bring the rooms in the wings into easy communication with those in the central portion. The entire north side of the house is taken up with service quarters, so that all the main rooms are so placed that they have sunny exposures and a command of the distant views. A pipe organ is a feature of the house; the tone chamber is in the space adjoining the ladies' coat room on the first floor with an opening into the

Orangery and Formal Garden



DETAILS OF LIBRARY, HOUSE OF EUGENE MEYER, ESQ., MOUNT KISCO, N. Y.
CHARLES A. PLATT, ARCHITECT

corridor, the console is placed against the east wall of the living room.

The second floor is chiefly arranged in suites of bedroom, bath and sleeping porch. The upper hall is specially noteworthy for its carefully balanced treatment and its general spaciousness. Maids' rooms occupy the second and third floors of the service wing. Guests' rooms are arranged in the central portion of the third floor with a play room at one side and a lounging room at the other.

In the basement below the terrace is a bowling alley reached from a vaulted hall, the stairs to which lead from the first floor near the library. The service wing in the basement is taken up with the laundry and general service quarters and sleeping rooms for men servants. The heating plant is located in the center portion below the living room.

The interior treatment of the house exhibits the sympathy Mr. Platt holds for the ordered development of the Italian renaissance. The same careful regard for proportion and restraint in the use of ornament that is characteristic of his exteriors is equally evident in his interiors. The largest and most imposing room is composed of simple elements; nothing is introduced that would impair the sense of refinement and homelikeness which pervade all his interiors.

The walls of the entrance hall and the staircase are of Indiana limestone, the surface of which is honed; the floors are of special hand-made tile, waxed and polished. The living room is a large apartment simply treated with broad plaster panels with low wooden wainscot and wooden mouldings, the color of which is warm gray. The wall decorations in this room as well as in the morning room are beautiful Chinese paintings, the wall color or background being complimentary to the paintings.

The dining room is carried out entirely in marble. The walls are of deep Istrian marble with honed surface and the floor is paved with alternate squares of black Belgian and Istrian marble. The mantel is an Italian antique of vigorous design and dark brown from age and discoloration.

The library walls are low toned English oak with book shelves covering a large part of the surface. The mantel is of kingwood stone.

The details and office sketches reproduced herewith are of special interest in showing the way in which design is studied in Mr. Platt's office. Ornament and mouldings are studied in large scale charcoal rendered drawings which give an effect approximating modeling. In addition actual models are made and submitted for criticism of all carving on mantels and ceilings. In many cases these models include the mouldings of adjacent wall panels so the finished effect of the combined details may be readily determined in advance.

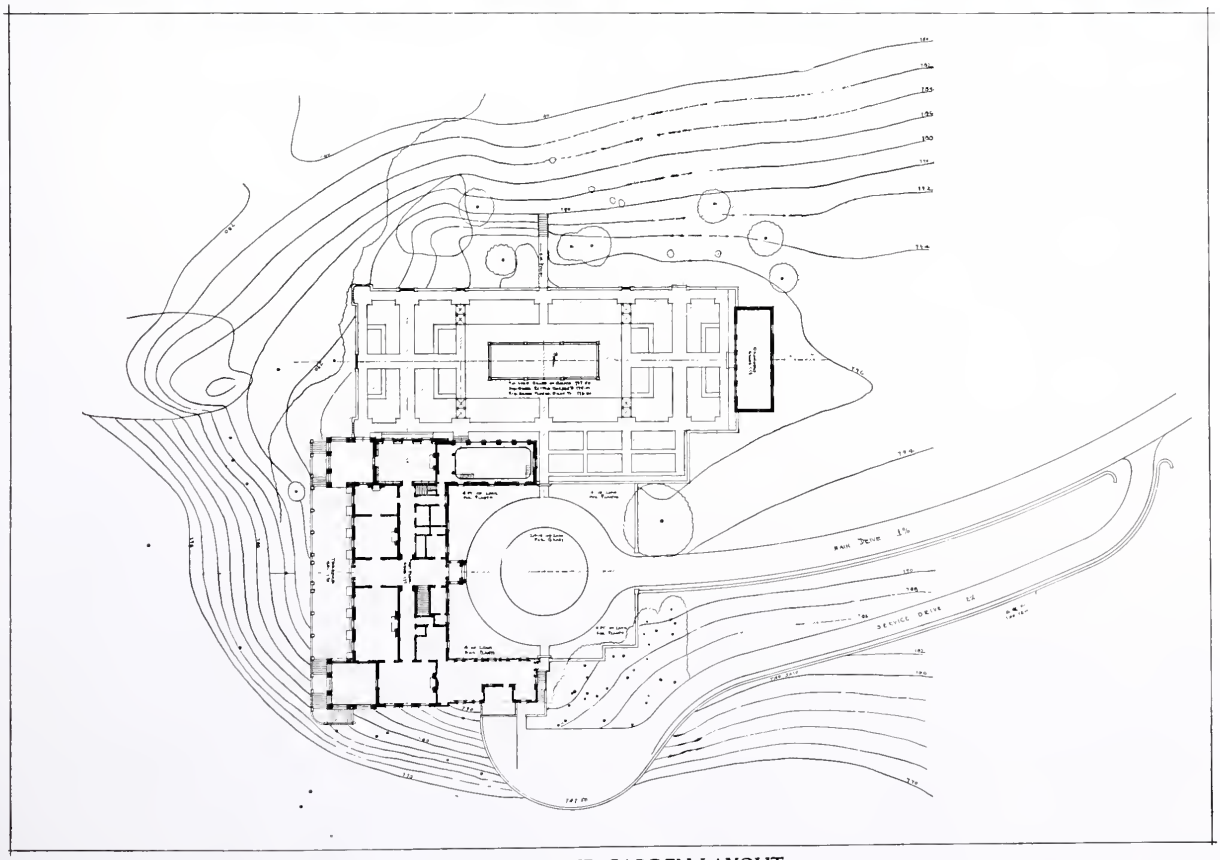
View of House from the Valley

DETAIL OF TERRACE FACADE

HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.

CHARLES A. PLATT, ARCHITECT

DETAIL OF ENTRANCE FACADE



PLOT PLAN AND GARDEN LAYOUT

HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.

CHARLES A. PLATT, ARCHITECT

WEST WING FROM GARDEN

LIBRARY BAY ON WEST FACADE

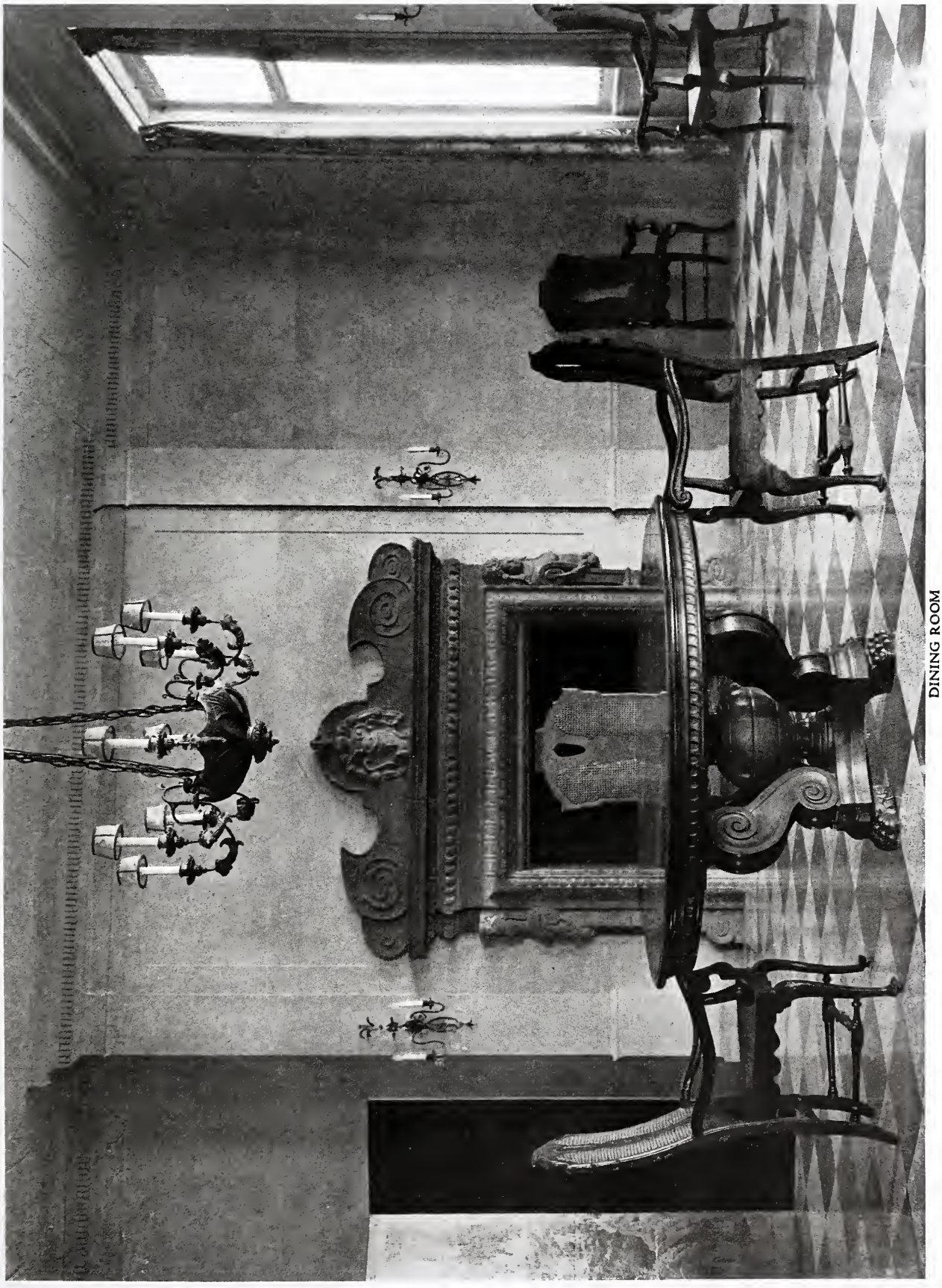
HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.

CHARLES A. PLATT, ARCHITECT

LIVING ROOM

HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.

CHARLES A. PLATT, ARCHITECT



DINING ROOM
HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.
CHARLES A. PLATT, ARCHITECT

LIBRARY

LIBRARY CORNICE DETAIL

HOUSE OF EUGENE MEYER, ESQ., MT. KISCO, N. Y.

CHARLES A. PLATT, ARCHITECT

ENTRANCE FRONT

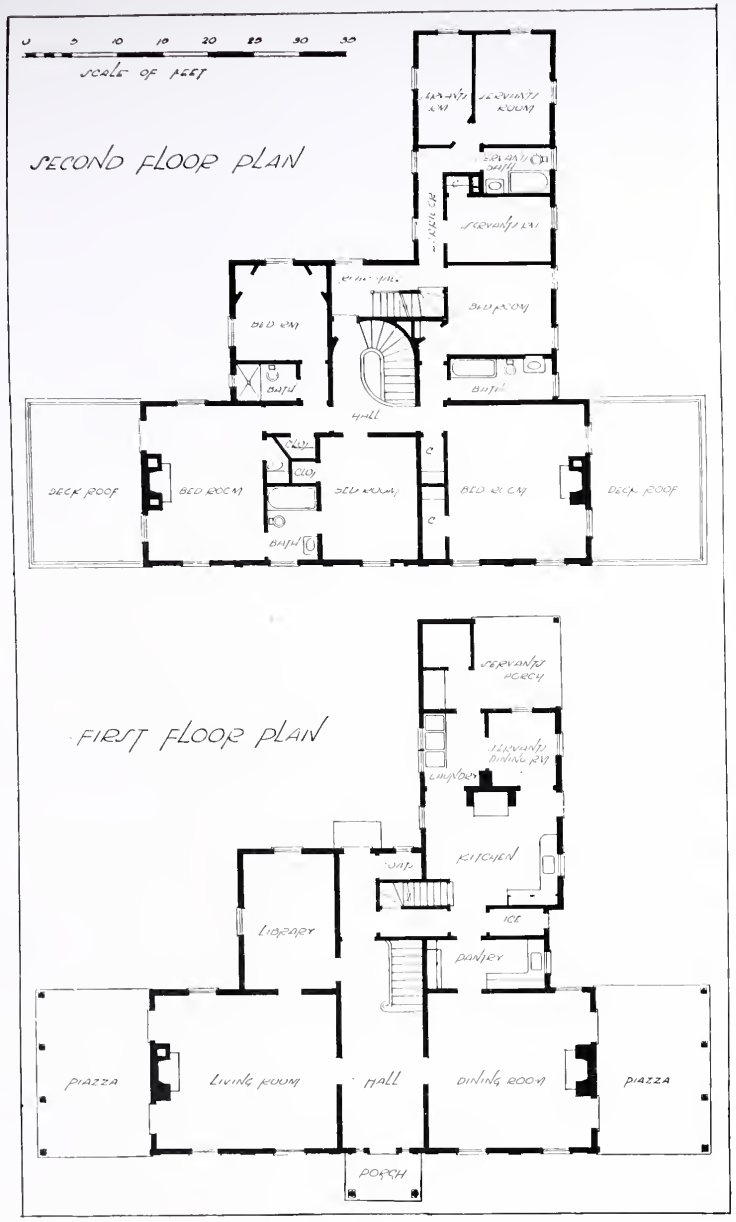
HOUSE OF SAMUEL OUTERBRIDGE, ESQ., OYSTER BAY, LONG ISLAND, N. Y.

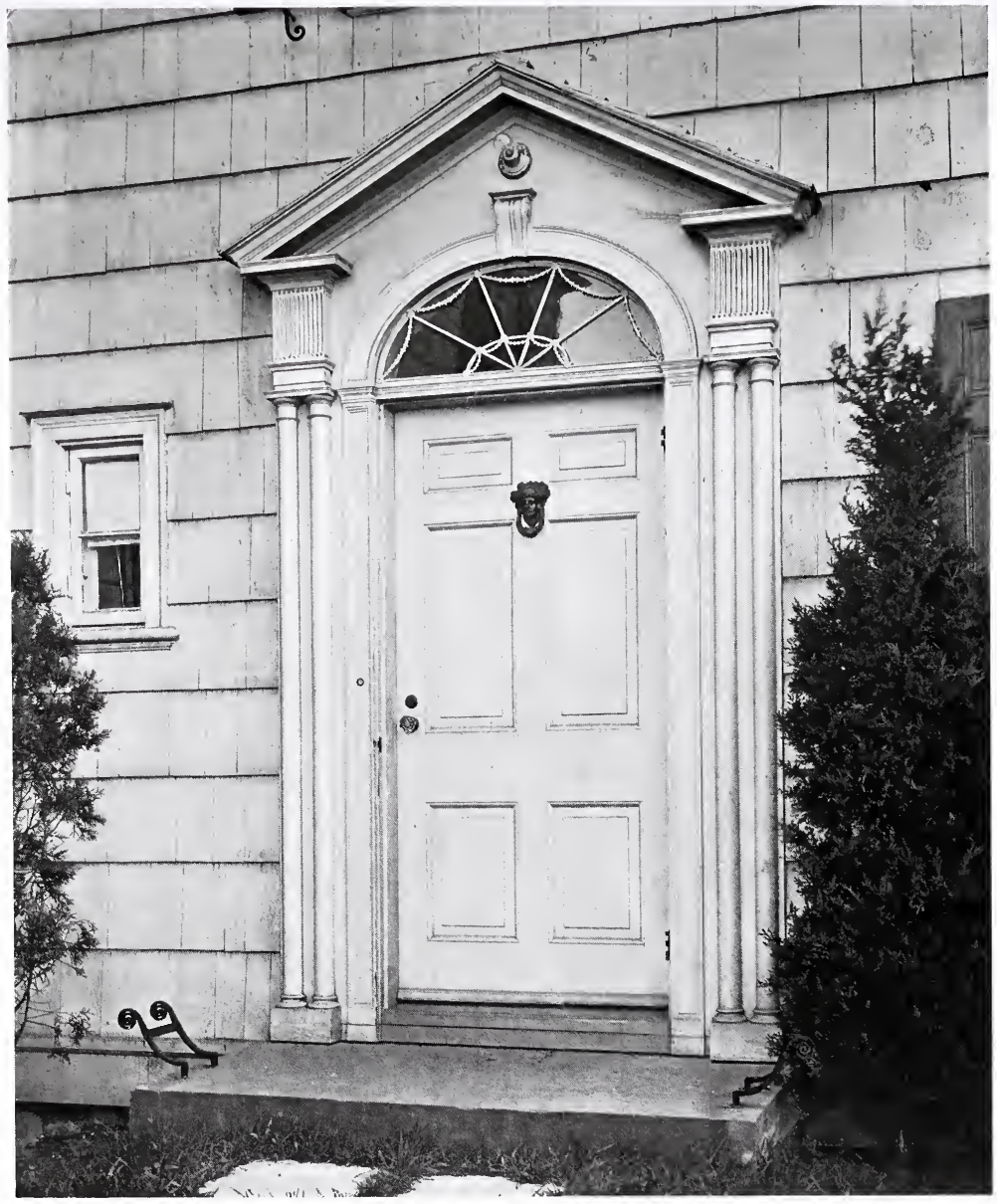
ELECTUS D. LITCHFIELD. ARCHITECT

DETAIL OF ENTRANCE PORCH

HOUSE OF SAMUEL OUTERBRIDGE, ESQ., OYSTER BAY, LONG ISLAND, N. Y.

ELECTUS D. LITCHFIELD, ARCHITECT





FLOOR PLANS AND DETAIL OF GARDEN DOORWAY

HOUSE OF SAMUEL OUTERBRIDGE, ESQ., OYSTER BAY, LONG ISLAND, N. Y.

ELECTUS D. LITCHFIELD, ARCHITECT

ALTAR AND REREDOS

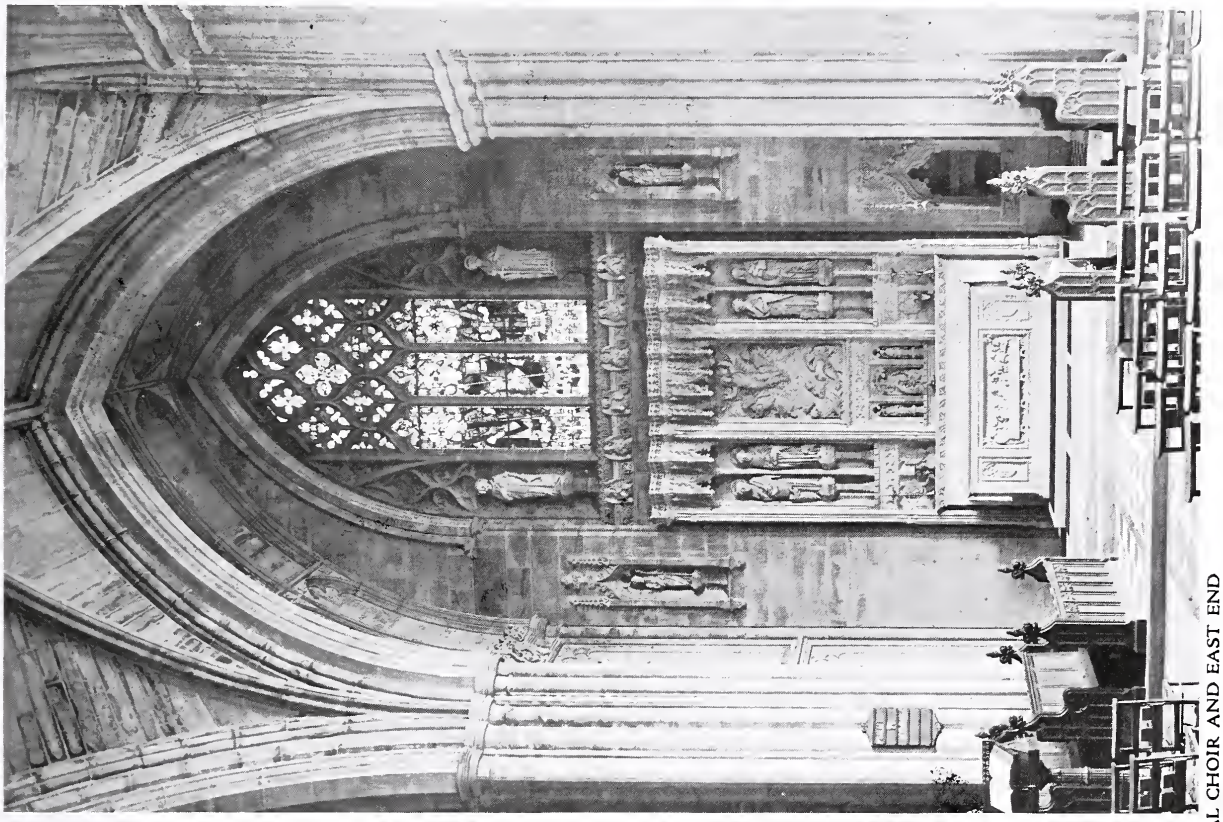
ST. JAMES CHAPEL, CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y.

HENRY VAUGHAN, ARCHITECT

WEST END AND ORGAN LOFT

ST. JAMES CHAPEL, CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y.

HENRY VAUGHAN, ARCHITECT



VIEWS TOWARD CATHEDRAL CHOIR AND EAST END

ST. JAMES CHAPEL, CATHEDRAL OF ST. JOHN THE DIVINE, NEW YORK, N. Y

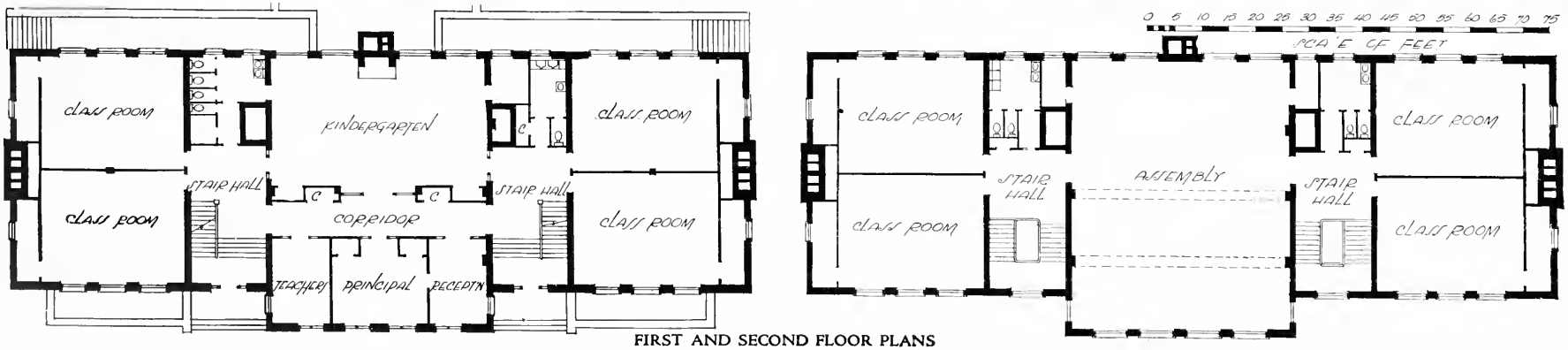
HENRY VAUGHAN, ARCHITECT

MAIN FACADE

LOWER SCHOOL BUILDING, PRINCIPIA SCHOOL, ST. LOUIS, MO.

WILLIAM B. ITTNER, ARCHITECT

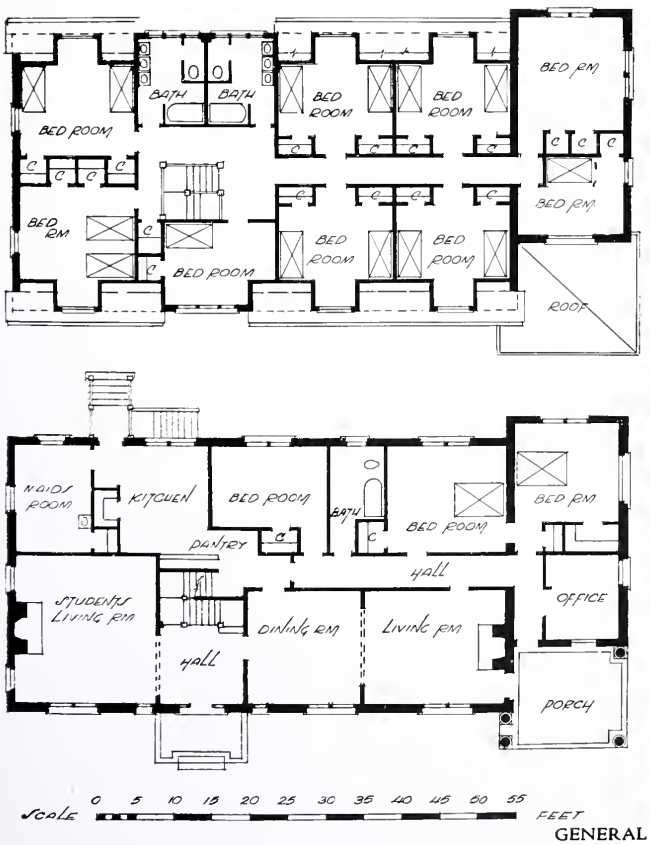
KINDERGARTEN AND TYPICAL ENTRANCE



FIRST AND SECOND FLOOR PLANS

LOWER SCHOOL BUILDING, PRINCIPIA SCHOOL, ST. LOUIS, MO.

WILLIAM B. ITTNER, ARCHITECT



GENERAL VIEW

GIRLS' DORMITORY, PRINCIPIA SCHOOL, ST. LOUIS, MO.

WILLIAM B. ITTNER, ARCHITECT

GATE HOUSE AND STAIRWAYS

COMPTON HILL RESERVOIR, ST. LOUIS, MO.

GUY STUDY & BENEDICT FARRAR, ASSOCIATED ARCHITECTS

Interior Woodwork

THE DEVELOPMENT OF THE NORTHERN VERSION OF THE COLONIAL

By RICHARD B. DERBY

WE usually distinguish the several stages of our Northern work by marking it off into periods as the Gothic, the Georgian, the Roman, the Greek, etc., or as the first period, the second period, the third period; but our period divisioning is arbitrary at best and merely serves, like railroad stations, to note the direction in which we have been traveling. It is desirable, if only for the sake of variety, to look at our architectural development from another point of view. It is even possible that the new point of view may be fundamentally better than the old. Certainly it is better to recognize the various changes at briefer intervals than those marked by the so-called periods, and to do so it is only necessary to think of them in terms of construction instead of in terms of style as is commonly done. Inside finish, whether taken as a whole or in parts, notes this progress of development by many and intimate steps which relate themselves (at any rate in the earlier work), almost more intimately to the changing types of construction than to the changing styles.

The construction of our houses from the Gothic period to 1800 varied from time to time in almost all particulars, but there is one time, which can be more or less clearly stated, at which it ceased to be definitely one kind of construction and became definitely another kind. The first was of a kind either wholly or partly exposed to view; the second was of a kind wholly concealed. The first originated with our earliest houses and continued until the modern method had standardized all the members. Our first walls were posts, girts, girders, etc., with merely a filling between. Modern walls are a collection of studs reinforced at the corners. This, of course, omits from consideration brick and stone structures.

Finish applied to the early construction may properly be called native. It was even a kind of opportunist's finish in which the workman took advantage of this or that accident, or allowed himself to be forced in this or that direction by conditions. The bulk of the finish in the early houses was little more than the construction itself. When more finish than the mere construction was needed, the carpenter took occasion to give his special imprint

Room in the Hannah Robinson House, Saunderstown, R. I. Built about 1750

Stairway, Hancock-Clark House, Lexington, Mass.

to the parts he himself supplied. There was, of course, a general tendency of direction which was adhered to by everyone, but there was ample opportunity for the individual workman to apply his own ideas without any interference with this. As a result, we have in this earlier work a finish which supplements, while adapting itself to, the construction and is at once the expression of common general ideas, and of the ideas of the workman.

The characteristics of this work are those of an unsophisticated art. Chief among these are freshness and virility. The interest attaching to this work is not due to fine relations of mass or to refined proportion of parts. It is rather an interest due to qualities of charm, quaintness, flavor, naïveté, and the like. When we go into one of the old rooms we expect to find new variations of the characteristics which we already know. We expect to find the kind of individuality which is due to the handling of parts rather than the handling of a style. The style was imposed by construction, methods of workmanship and materials. It was not less of a style because of these things. Perhaps it was more of a style. Certainly it was more indigenous. But over and above the interest due to this is the interest due to accident and opportunity, taken advantage of by the individual workman.

It is perhaps hazardous to give an exact date to the time at which the unsophisticated workman gave place to the designer. The general practice probably began about the middle of the eighteenth century. But the line of demarcation between the two kinds of work, even though it cannot be given a definite year, is clearly enough perceivable in the work itself. It is, of course, at that period when the old construction passed completely over into the modern construction. At this time inside finish ceased to be the complement of construction and became an applied product. The wall beam, whether cased or not, disappeared within the wall or floor of the house, and the cornice which was nothing but a cornice took its place. The corner post likewise disappeared. The door frame became purely a door frame and was no longer a part of the architrave. The minor ceiling beams, originally exposed, passed through the stage of being concealed above plaster; and then the summer or main beams underwent the same change, until the plain ceiling only remained. When the construction had thus been entirely reduced to its modern equivalent, walls and ceiling alike became an open page on which the new designers were to write.

The new designer began his work with the study of the classic. His first attempts were rather unfortunate from the domestic point of view. He was too much in the position of the man who loves art

Stairway Window, Pierce-Nichols House, Salem, Mass.

Stairway in the Hannah Robinson House

for its own sake and who doesn't realize that the only right use of his knowledge comes at about the time he is able to forget that he has it. His first work was cold, formal, precise, heavy and barren. He was no doubt in sympathy with his art, but he was not, as artist, sufficiently humanized to be in sympathy with the use to which it was put. His rooms were unhomelike and pretentious; but he worked with a formidable and increasing knowledge.

The new American classicists started their career with a study of the orders; not the orders as taught today, perhaps, when they are put before the student in such a way as to serve as a comprehensive background for architecture in general. Now we are taught all the variations which the several nationalities using them gave to all the orders. But our first students gave their attention almost exclusively to what might be called Roman work; and what they attended to as students they applied later (or simultaneously) as designers. Consequently we have in this early period of genuine design, a style of finish which partakes so strongly of Roman influence that it is not unreasonable to call it the Roman style.

The old construction having been superseded by the new, the designers had now a clear track for the application of their new finish. There were no embarrassing eccentricities of plan, no beams to be worked in as members of a cornice; no interrupted corners. Their only limitations were the sizes of rooms and the door and window openings. The size of a room was indeed a handicap and, judged by the early failures to design homelike interiors, it must have been insurmountable. Their task was to adapt their ponderous and formal prototypes, appropriate enough to the life of classic Rome, to the intimate and friendly use of the colonies.

The general effort simmered down to the particular attempt to make the order fit a room. This, the order, was what the designers chiefly worked with. They spread it, literally, around the room. The pedestal, instead of being a vertical motive, basing a column or a pilaster, became a horizontal motive, a dado, to be measured by the yard,—this in addition to its occasional use as a pedestal. The columns and pilasters, taken from massive rotunda or portico, were arcaded on the walls, at the corners of the room and on either side of the fireplace. The original powerful entablature was as powerfully employed as possible, the cornice given full scope, the frieze and architrave abbreviated to do duty, and

Stairway in the George Cabot House, Beverly, Mass. Built 1783

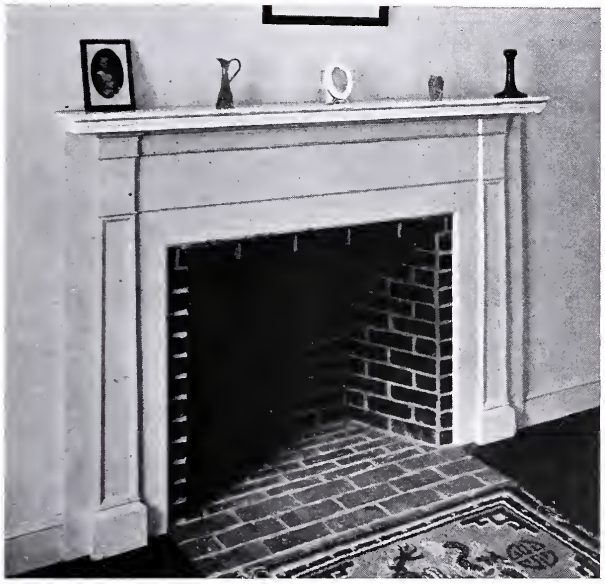
Stairway in Present Day House at Newcastle, N. H.
Little & Brown, Architects

echo their source, above the shaft. This is, perhaps, to satirize the new movement a little. Certainly the weight of the prototype persisted in the adaptation and especially in the details. There were the strong base of the dado and the strong cap, with its projection, like that of its original, of 45 degrees; and there was the resulting necessarily strong projection of the architrave to receive the cap and base. Other details were similarly strong and heavy and the total effect was the effect of architecture and, for its special purpose, architecture misapplied.

But the path of the beginner, and especially in art, is not easy; he meets with many obstacles not encountered by his successor, and his work as done becomes a guide, both negatively and positively, to the man who follows him. The designer of finish as an applied treatment in a room had a harder row to hoe than the man who added finish as a complement to structure. He had to give up charm and quaintness as qualities in his work, qualities which to the early workman were almost accidental, and seek for and consciously exemplify other qualities which should give his work a standing. He turned naturally enough to the prototypes in which these qualities were to be found, but he had to find the qualities out and, having found them, to adapt them; and in adapting them, however unsatisfactorily, he initiated a new art and took the first steps along the road since followed.

The interest in finish from this time on is primarily the interest due to design. We turn from the quality of casualness to the quality resulting from proportion and mass, and to the quality of detail as applied with these in mind. And, this primary source of interest granted, there is a secondary interest in any study of the later development in following the increasingly better adaptation, in the use of design, of means to ends. Used at first for its own sake, design was, in result, merely architecture; but in proportion as the designers mastered their art their work ceased to be inappropriate and extraneous. The Roman influence persisted, only it was more and more modified to the purposes in hand. There was a gradual reduc-

Detail of Restoration Work, Old House at Bolton, Mass.
Biglow & Wadsworth, Architects



Example from Late Eighteenth Century Precedent
Derby & Robinson, Architects

tion in the amount of finish used, a better studied and more appropriate placing of what was used and a tendency toward refinement in the use of detail; the whole development reaching its culmination in the work of 1800 or thereabouts.

The best work of this time,—covering fifteen or twenty years,—is the final and perfect achievement of colonial architecture as a style. The artistry which has been struggling upward for half a century finds its complete manifestation in this work. Design, as applied to finish, is still recognized as a thing in itself, but it is recognized as something more than this. It is a self-conscious art, an art which knows itself and knows what it can do, and more than this, an art which does what it should do. It recognizes as a fundamental purpose the adaptation of itself to the purposes in hand. It is no longer clumsy in adaptation of means to ends. Its results are appropriate. As this is true in general, so it is true also in detail. We find that the details are worked out according to exact standards and may be adapted with accuracy to different proportions. The same design of an architrave, for instance, which is used for a small door may be used for a large door by a definite method of proportioning parts; that is, it is not necessary to re-design the architrave. Similarly with other details. Having cultivated design to this degree it is natural that the architects should have wished to preserve their work in records, hence we find books in which these are preserved like the books of Asher Benjamin. The inevitable result of this, of course, was a speedy decline in the quality of work. The records were put to an artistically unintelligent use and became ultimately "rules of thumb" for the untrained. In other words the 1800 work, reduced to a technique, foundered on its own formulæ.

From any simplified general statement, such as we are giving, much important matter is necessarily omitted. In order to cover the development thoroughly it would be necessary to examine the work at frequent intervals. If this were done it would be found that for each stage there were numerous variations of the type. These would vary from the simplest to the most complex design. At every stage, however, two leading variations will be found. The one might be called the "country gentleman" variation, the other the "town house" variation, or, as it might otherwise be stated, the "simple style" and the "grand style." Perhaps the most profitable periods at which to study these two leading variations would be about 1775 and then again, of course, at 1800. In 1775, the differences will be much more strongly marked in the matter of design than they are in 1800, but in 1800 the design will be noticeable for its just adaptation of proportions. The simpler type of 1775 was still strongly influenced by the older work; the Roman overtook it more slowly and less completely than it did the grand style of the same period. Partly this was due, no doubt, to the relative amount of money

Modern Use of Simple Rail and String Detail
Howell & Thomas, Architects

on hand in the two cases, so that we find the grand style more portentously Roman than the simpler style. This was not true of the 1800 work. Here the design is as clearly marked in the simple as in the grand style.

This paper is concerning finish as it developed in the North, and the development as outlined bears this purpose in mind. Certain tendencies and influences are common for all parts of the country, but these are subject to the variations which the different localities impressed upon them. The earliest, or Gothic work, is pretty much a product of New England. At any rate the numerous examples still standing in New England give to this section of the country a strong claim to the style. This is explained, of course, by the fact of earlier settlement. The middle and Southern states had no strong headway in a given direction, such as New England had, when the classic influence made itself felt. For this reason the Gothic work, and the development out of it toward the classic, is pretty much a Northern product. But the classic work itself was more hampered in the North by conditions, chiefly climatic, than in the Southern and middle states. In the South the large rooms and high ceilings gave an ampler opportunity for the application of classic finish, and in the middle states too, especially in Pennsylvania, where the Georgian work impressed itself very strongly, and where we still find standing many fine examples from the time of the latter half of the eighteenth century. In the North, with its cold climate, and perhaps narrower means, the rooms were small and comparatively low studded, and the heavy classic detail was much more constrained than in the South. This shows itself, not only in the design of a room as a whole, but in the designs of parts, all of which had necessarily to be scaled down. The fireplace is the single Northern motive which is as large or larger than its corresponding motive in the South or in the middle states.

Modern Colonial work follows Classic tradition, and, for the most part, that variation of it which might be called 1800 work. Certain of the details and much of the clumsiness of the earlier Classic work creeps into the design of the present day, but generally speaking, it is the 1800 models that are being followed. The result, however, is almost always a debased version of the type. The style, never more in demand than now, must draw more directly and with greater reverence on the old work if it is not to come into disrepute. To prevent this it is necessary for designers to achieve a greater and more genuine interest in their sources of information. There are variations enough in the style to attract and hold the attention of many different types of mind. We cannot, of course, revert, except in unusual cases, to the old form of construction, and the design of our finish must be the design of an applied treatment, but the very old, or so-called native models, need not be altogether neglected on this account.

Living Room of House at Chestnut Hill, Massachusetts, in the Manner of Late Seventeenth Century Work
Derby & Robinson, Architects

Tile and Its Installation

PART I

By E. STANLEY WIRES

THE possibilities in the use of tile have never yet been fully developed, and only through proper co-operation between the manufacturer, the tile contractor and the architect can we reach the ultimate extent of its use and a fuller appreciation of its merits and possibilities. In common with the use of other building materials, under conditions which now exist, there are delays and disappointments attending the use of tile. A variety of shapes and sizes and many special forms and designs pleasing to the architect and the owner are unprocurable. These inconveniences, however, are unavoidable and temporary and must be accepted with the hope that the conflicting influences responsible will soon be reconciled.

Tile factories are principally in Ohio and both floor and wall tile, as well as roof tile, are manufactured in this district. New Jersey, Kentucky, West Virginia and Indiana also have factories engaged in the manufacture of tile. The tile men are banded together in an association called the "Associated Tile Manufacturers" and this association is doing all that can be done to further the interests of the tile industry.

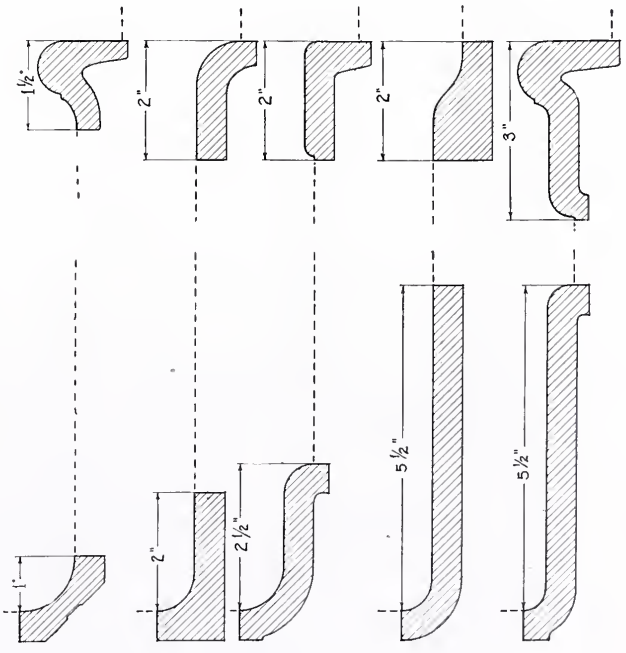
The manufacture of tile requires a variety of buildings and departments in addition to offices and display rooms. Among the principal departments and activities are the clay stock house, the blunging mills and sifting tanks, filtering, clay dry kilns, reduction press rooms, tile drying, designing, packing and shipping.

From the stock room the various materials are automatically weighed into an electric car for transportation to the next department. The clay is subjected to treatments of refining in tanks lined with a heavy insulation of porcelain blocks, impervious to stain. The clay then passes to large filter presses to remove, by powerful compression, the water which must be extracted. When removed from the filter presses, the clay is in a plastic state and all moisture is evaporated in dry kilns, through which the clay cakes pass on cars. These dried cakes are reduced to powder by crushing and sifting and this powder has made possible the clean and even symmetry which characterizes the tile of today.

In the press room this powder is moulded and pressed into shape, and dried on steam drying racks. Placed in special clay boxes, known as "saggers," the tile receives its first burning. Each "sagger" is given a location in the kiln according to a predetermined plan. After burning the tile designed to receive a glazed surface are only partially completed; the unglazed or floor tile have their only firing.

The factories use both a circular oven-like kiln, where the tile remain fixed for a certain period, and also what is known as a tunnel kiln from 200 to 350 feet long, from which a car of tile is drawn every 30 to 50 minutes. Most of the flat glazed tile have the glaze applied by machine, but the more artistic colors and shapes are hand dipped. After a second firing in the glaze kilns the tile are sized and shaded. The white glazed tile go through a machine that automatically stamps each tile with a letter designating a slight change in size, and also stamps the slightly warped tile.

At the present time the white glazed wall tile are classified into three grades, "selected," "standard" and "commercial." These grades are not the result of any intent of the manufacturer to produce different qualities but are the result from the selection made in the product intended to be of the highest possible quality. The Associated Tile Manufacturers have prepared a standard certificate of grade of tile, and such a certificate is sent on request in connection with all tile shipments. On



Cap and Base Sections of Standard Manufacture

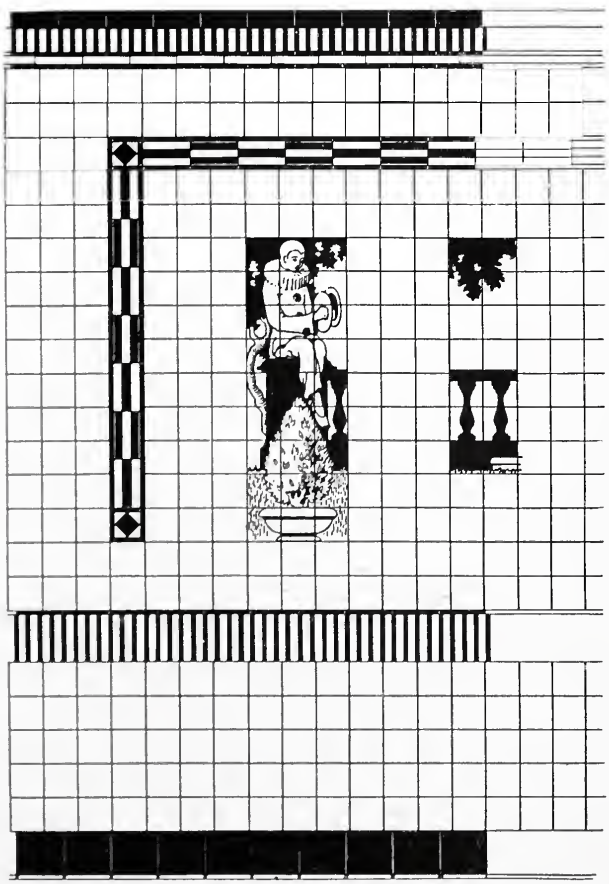
account of the lack of skilled labor and high prices architects should endeavor to use the most economical grade of material suitable for their work.

Wall tile, both white and colored, are produced with a bright finish, in matt finish, and in semi-matt or dull finish. The principal sizes in which the wall tiles are marketed are:

Square		Oblong	
6 inches	9 x 3 inches	6 x 1	inches
4¼ "	6 x 3 "	6 x ½	"
3 "	6 x 2 "	4¼ x 2⅓	"
2⅛ "	6 x 1½ "	3 x 1	"

With the knowledge that these tile are produced in the small units, the architect should be able to design tile wainscots much different from the ordinary stereotyped treatment. The Associated Tile Manufacturers have issued a specification suggesting the use of a few standard cap and base patterns for work of moderate cost instead of the many varieties illustrated in the manufacturers' catalogs. These types, as well as several others of better design, are here shown and can be procured from most of the factories.

The trade term "floor tiles" includes a great variety of sizes and shapes. The unglazed floor tile are classified as vitreous or non-absorbent and semi-vitreous or absorbent, according to the amount of burning they have undergone. The common vitreous colors are white, silver gray, celadon, green, blue and cream. Some of the semi-vitreous colors are buff, salmon, black and red, although several of the reds and browns are very hard and are quite as suitable for any purpose as the vitreous colors, especially as their texture is adapted for such work.



Wall Treatment Using Plain and Decorated Units

Ceramic mosaic is a trade designation for the tile of the smaller sizes, made ¾ inch square, 1 inch and 1¼ inches hexagon and 1 x ½ inch oblong. These tile are mounted on paper, the square size either straight or broken joint and the oblong size usually in herring bone design. Between these sizes and the 3-inch size, inclusive, tile of the same material are designated as "unglazed floor tile"; above this size, up to 6 inches inclusive, they are known as "unglazed floor tile" if semi-vitreous and as "flint tile" if vitreous.

The principal sizes in floor tiles are:

Square	Hexagon	Oblong	Octagon
6 inches	6 inches	6 x 1 inches	6 inches
4¼ "	4¼ "	6 x 2 "	4¼ "
3 "	3 "	6 x 3 "	3 "
2⅛ "	2 "	3 x 1½ "	

The term "quarry tile" is usually applied to the thicker and rougher textured unglazed tile. There is a great difference in the hardness of this type of tile and those imported from England are not suitable for weather exposure except under most favorable conditions. The principal sizes in this quarry tile are 12, 9, 6 and 4 inches square while oblong shapes are 6, 4½ and 3 inches wide by 9 inches long.

The size 12 inches square is much more expensive than the other sizes. Certain manufacturers of even rougher textured, hand made quarry tile have adopted sizes as follows:

Square		Oblong	Hexagon
4½ inches	2 inches	6 x 2½ inches	3⅝ inches
4 "	1¾ "	2 x 3 "	2½ "
2¾ "	⅝ inch		

"Faience tile" takes its name from the town of Faenza in Italy and is applied to many kinds of decorated, glazed and enameled tiles. These tiles can be procured in practically any size and shape and the important thing to remember is that several months are necessary for the manufacture of this material under present conditions.

Appropriate uses and proper setting of tile are matters usually settled by the architect and tile contractor, and today the contractor has an excellent opportunity to co-operate with the architect and render the benefit of his personal experience as well as that of the manufacturer. He should combine an adequate knowledge of tile and tile design with an intelligent labor organization and should convince the architect that it is to his advantage to deal directly with the specialist. Proper consideration should be given to estimates and designs. A properly organized business is entitled to not only the cost of material, labor and a profit, but also the item of "overhead" covering office and shipping expense, interest, depreciation, etc. Many dealers ignore this and the ultimate result is defective work.

Sprinkler Installation for Fire Protection

PART IV—GENERAL DISSERTATION ON AUTOMATIC SPRINKLERS

By W. D. BROWN, C.E.

CAREFUL planning of a building and a thorough understanding of sprinkler requirements will result in a saving on the cost of the system and will also prevent unsightly breaks in sprinkler pipes.

For example, in planning intermediate partitions it will often be possible to locate them in relation to ceiling beams so as to avoid extra sprinklers. Partitions constructed of wood and glass should, if possible, be so arranged that piping will pass through mullions or mouldings without offsets.

Conveyors, shaftings and other obstructions on ceilings should be considered. Arrangements should be made for openings in foundation walls for supply pipes, sleeves for riser pipes and inserts for hangers.

The wisdom of these considerations can be appreciated when it is understood that all pipes, hangers and other materials are cut especially for each contract and are shipped to the building ready for assembling. In case of a revision at the building a large portion of this material cannot be used.

Underwriters require that plans showing inside and outside systems of piping, also all valves, details of sprinkler systems, etc., be submitted for approval before starting work at the building. Therefore it is recommended that ample time be allowed between the signing of the contract and the designated time for starting work. This period can be utilized for co-operation with other contractors and a careful consideration of the layout with the underwriters and the owner.

PLANS—All features required on a sprinkler layout can be shown on plans drawn to a scale of one-eighth of an inch to 1 foot. In addition to showing floor plans of sprinklers a section through each building should be prepared. Plans and sections should show arrangement of piping together with location of risers, L. T. fittings, valves, tanks, etc. Size and length of each piece of pipe should be marked. The standard practice is to designate the size of pipe above the pipe line and the length below. See Figs. 1 to 4 in the August issue.

Locations of partitions, decks, skylights, beams, columns and all other features necessitating additional sprinklers or causing offsets in sprinkler pipes should be shown. Dimensions such as width of bays, length of building, height from floor to ceiling, thickness and construction of floors, sizes of beams, girders and floor joists, should be shown on plans or sections. Care should be taken in running piping to avoid interference with structural or decorative members of buildings, stairways, stair wells, windows, doors, transoms, etc. Special efforts should be given to avoiding pockets and extra drips. A peculiarity which has caused considerable confusion is the fact that inasmuch as a sprinkler system is located on the ceiling the plan should show features on the ceiling and not on the floor.

THEATERS AND CAR BARNS—Owing to the nature of construction and occupancy of theaters and car barns special rulings have been made to cover special conditions. These rulings vary somewhat with different inspection bureaus, but these rules are as near standard as possible and have been adopted by the majority:

In theaters sprinklers are located on roofs of stages, gridirons, fly galleries, painters' bridges, basements and all retiring rooms including toilets.

In lobby and auditorium sections sprinklers are omitted. Special permission should be asked for the omission of sprinklers in concealed spaces over auditoriums.

Sprinkler lines should run on top of gridirons and heads should be nippled down so that tops of deflectors will be 1½ inches below beams. Splash plates should be provided over sprinklers on gridirons to prevent the water from roof sprinklers wetting the solder on heads below, which would destroy their sensitiveness. (Splash plates are small metal collars over sprinklers.)

Under stages proper sprinkler lines should be equipped with shut-off valves and drains to near cross mains. This arrangement will permit the removal of pipes under traps with the added feature of having protection on the remaining portions.

Separate shut-off valves should be used to divide sprinklers into three units,—*I*, stage basement; *II*, all sprinklers above stage; *III*, auditorium basement including auditorium.

Sprinklers are located over a proscenium arch for the purpose of wetting the asbestos curtain and forming a water curtain between stage and auditorium. This arrangement consists of two lines of sprinklers spaced not more than 8 feet on centers, the top line being automatic and the lower line open type.

The open sprinklers are operated manually by a quickly opened valve located above the stage floor, and are installed below the automatic sprinklers. Sprinklers should be located just below an asbestos curtain when curtain is down. Gongs should be located where the noise will not cause a panic.

CAR BARNS—A standard sprinkler system should be installed in all portions of a car barn and additional "aisle line sprinklers" should be placed on both sides of tracks, in an upright position, on horizontal pipe lines parallel with tracks, and so located that water will spray directly into cars through side windows of car bodies. The sprinklers must be at such a height that their deflectors will be from 2 to 4 inches below the upper sash rails of car windows.

The aisle sprinkler line should be placed not less

than 6 inches or more than 12 inches from sides of cars to be protected. An exception may be when the distance between sides of cars on adjacent tracks does not exceed 4 feet when one line of sprinklers should be placed in the center of each aisle. Lines of sprinklers should be placed to cover between sides of cars and partitions or outer walls. Distance between sprinklers on aisle lines should not exceed 8 feet. No pipe smaller than 1 inch should be used and all sprinklers on adjacent lines should be staggered.

Automatic Sprinklers as a Life Saving Proposition

A modified automatic sprinkler system is often installed in apartment houses, hospitals, schools and other public buildings for the purpose of saving lives rather than insurance saving. In such installations the sprinklers are omitted where the fire hazard is negligible.

All basements, attics, store rooms, sleeping quarters, laundries, kitchens and attachments, tops of elevators, light and ventilating shafts, hallways, exits and retiring rooms, including toilets, should be protected. The moral effect of the presence of water in stairways and exits, in case of fire, has a tendency to calm excitable persons and has been known to avert a panic.

Specifications

Owing to the varying sizes and characters of sprinkler equipments standard specifications cannot be used, but some suggestions will cover essential items necessary with the average system.

There should be a paragraph in the specifications giving the definitions of the words, "Contractors," "Engineers" and "Owner." All items, unless otherwise noted, should be furnished by contractor.

Detailed information should be supplied covering these details:

(1) Name and location of concern to which proposal is to be submitted.

(2) Name and location of property to be equipped.

(3) Name and numbers of buildings in which the systems are to be installed.

(4) Whether systems are to be wet or dry.

(5) Number and date of requirements which are issued by the inspection department.

All piping, valves, tanks, etc., should conform to these requirements. *Note:* The procedure for obtaining requirements is to submit an application to the inspection department having jurisdiction. A surveyor or inspector will examine the plans to ascertain the exposure, hazard and available water supplies and from his report the requirements will be established.

The insertion of this paragraph will shorten the specifications:

"It is understood and agreed that all material used shall be of standard quality, that plans will be submitted and work thoroughly done and system tested when completed to the satisfaction of the (name of inspection department having jurisdiction)."

An interpretation of this paragraph denotes that the sprinkler contractor will submit plans to the inspection department and obtain their approval before starting work and that all fittings, hangers, pipes, valves, etc., shall be so constructed as to conform to requirements. It also stipulates that the contract is not completed until the installed work is inspected and approval acknowledged by reduced insurance rates.

"Duplicate of plans submitted to the underwriters, shall be forwarded to the (architects, engineers or owners)."

"It is understood and agreed that the contractor will start work at (give size of pipe, location and description of starting point)."

Automatic Sprinklers—"Contractor shall install a complete (wet or dry) pipe system of automatic sprinklers in buildings (number and description of buildings). It is estimated that (total of sprinklers) will be required."

"In case more or fewer sprinklers should be necessary they shall be charged for or credited at (agreed price) per sprinkler."

All contracts should contain this pro-rata clause to cover small changes at building.

If high temperature or corro-proof sprinklers are necessary, number and locations should be specified.

Open Sprinklers—"Contractor shall install a complete system of open sprinklers consisting of (total number and size of orifice) to be installed on (give description of location), making (size) connection to (source of supply) with necessary controlling valves and draw-off piping. All pipes on system side of controlling valve, and all fittings and hangers outside of building to be galvanized."

Valves—"(Alarm or dry pipe) valve (or valves) to be installed as outlined in requirements."

"Above (valve, or valves) to be connected to electric alarm gong (specify location). This connection is to include electric alarm gong, batteries, wiring, switch and cleats; also annunciator, conduit and hood when required."

"(Number) water motor alarms to be furnished and connected in a standard manner on the outside of the building at locations satisfactory to the inspection department."

"Contractor shall install necessary gate and check valves to conform to National Board of Fire Underwriters' standard." Gate valves should be located under alarm and dry pipe valves in main sprinkler risers and in supplies to adjoining buildings; also, as in the case of department stores, special efforts should be made to reduce water damage by installing a valve on each floor. Ladders or riser steps should be provided for floor shut-off and draw-off valves and check valves installed in supply pipes. Give number and description of valves needed or direct attention to valves shown on requirements.

Drains—"All wet systems should pitch at least ¼ inch in 10 feet and dry system ½ inch in 10 feet

for drainage. Main draw-off for system should be properly connected so as to permit full flowing capacity of a 2-inch pipe. Auxiliary draw-offs shall be satisfactorily connected."

HANGERS—"All inserts for hanger rods and sleeves for pipes shall be furnished, together with complete plans showing location, by the contractors and installed at building by owner."

Inserts for sprinkler piping should be of a type to provide for horizontal adjustment and of a size suitable for standard hanger rods approved by the insurance laboratories. Owing to the special design of these inserts, it is recommended that they be furnished by the contractor. Owner should arrange to set inserts on concrete forms to avoid special trips to buildings by contractor.

EXTRA SPRINKLERS—"Contractor shall leave at the building a cabinet with twelve sprinklers and sprinkler wrench to be used in case of emergency."

STAND PIPES, ROOF HYDRANTS AND HOSE CONNECTIONS—"(Number) (size) standpipes in (descriptions of location) with (number) (size) hose out lets, connected to source of supply, with controlling valves and draw-off connections."

"Hose equipment as follows: (number) (size) (number)-way roof hydrants to be installed on (description of buildings), connected to sources of supply, with controlling valves and draw-off connections."

"(Number) (size) hose connections, attached from 2½-inch or larger sprinkler pipe. Outlet for hose to be 1-inch. Should be installed (locations). Each connection shall be complete with control valve, hose, ½-inch or smaller hose nozzle and rack clamped to pipe or bracket attached to wall."

FIRE DEPARTMENT CONNECTION—"(Number) (single, two-way, three-way, four-way) fire department connection (descriptions of location, sidewalk, wall, etc.) connected to system in a standard manner complete with approved caps, check valve and automatic ball drip."

FIRE PUMPS—"(Number) (——) gallon National Standard Underwriters' Steam Fire Pump. (Number) (——) gallon (electric—rotary—triplex—centrifugal) Standard Underwriters' Fire Pump (——) volts, (direct-alternating) current, (——) cycle, (——) phase."

"(Designate) shall provide foundations with anchor bolts for (description) pumps. (Designate) to set pumps. (Designate) shall furnish (direct-alternating) electric current, including necessary switchboard, starting device, etc. (Designate) shall make wiring connections from switchboard to motor."

"(Designate) shall provide pump house, when necessary, of required dimensions."

"(Designate) shall provide steam connection, from proper size valved outlet to pump, and exhaust connection from pump to atmosphere. Contractor shall provide (size) suction pipe from (cistern—reservoir—city water supply) to pump, including (post valve—gate valve)."

"Contractor shall make proper connection from discharge of pump to (underground supply line), including necessary check and gate valves, and connection from waste cone to outside of pump room."

"Contractor shall provide connection from tank filling pump to tanks, with necessary controlling valves."

"Contractor shall furnish (number) -way hose connection at convenient point outside pump room and connect with discharge of pump, including shut-off valve, hose thread to conform to local fire department standard."

"(Number) (——) gallon (wood—steel) priming tank complete with connection to pump, set on supports provided by (——)."

"(Designate) to provide filling pipe for priming tank, including ball float valve."

"(Designate) to provide necessary priming connection to pump from city water supply."

PRESSURE TANK—"(Designate) to furnish (number) (——) gallon steel pressure tanks, placed on foundation or supports, including necessary saddles to be located on (roof-story) as required, height to allow of standard piping connections, built in accordance with requirements of underwriters having jurisdiction and municipal authorities, with necessary outlets to be located as shown (——)."

"(Designate) to provide tank house at (location) of required dimensions for enclosing pressure tank. (Designate) to supply light and heat for tank house."

GRAVITY TANK—"(Designate) to furnish (number) suitable (——) gallon (wood or steel) gravity tanks. (Designate) to furnish structure and supports of standard spread. Tank structure, etc., shall be in accordance with requirements of (insurance companies, architects, engineers, municipal authorities) to be located (give description of location—on building—separate structure away from building), as shown on (name) insurance (plan—requirement) date (——)."

"(Designate) to furnish proper foundation for (——) tank and set tank in standard manner."

"(Designate) to box exposed riser piping, shut-off and draw-off connections, including painting."

"(Designate) to provide proper piping from tank to (sprinkler system—underground system) including controlling valves, draw-off, filling and overflow connections and (altitude gauge—pneumercator)."

HEATERS—"(Designate) to furnish (steam hot water tank heater—coal fire hot water heater—gas hot water heater) placed at location indicated."

"(Designate) to furnish necessary connections from tank heater to tank and to (steam—hot water supply). (Designate) to furnish valved outlet at (location) from sufficient steam or hot water supply (and suitable house for heater). (Necessary smoke piping) for coal fire heater. (Necessary gas supply for gas hot water heater, exhaust pipe to atmosphere.)"

To prevent water in exposed elevated gravity tanks from freezing the tank heater has been designed. In detail the steam supply is connected to a brass coil located inside of heater; cold water, returning from base of tank riser, is heated by passing through shell enclosing the coil and warm water is discharged into tank by a small flow pipe. A thermometer on the return pipe indicates the temperatures of the coldest water in tank. Water accumulated through condensation is discharged through a steam trap.

The tank heater is an improvement over the steam coil in tank proposition, which fails when steam pressure is allowed to drop below the point necessary for circulation.

In case tank is heated by brass coil inside of tank:

"(Designate) to supply brass heating coil of sufficient size in gravity tank, return and supply pipes, (trap), gate and check valves. Supply outlet at (——) return outlet at (——)."

UNDERGROUND PIPE AND FITTINGS—"Contractor shall furnish and install cast iron piping as shown on (description) plan. Pipe shall be approved bell and spigot type in standard 12-foot lengths. All underground joints to be well leaded."

"Contractors to furnish and install (gate—check) valves." (Description where used) (as shown on plan) as follows: (number) (size)."

"Contractors to furnish and install post indicator valves (shown on plan) as follows: (number) (size)."

"Contractor shall furnish and install hydrants (with—without) independent hose valves (shown on plan) as follows: (number) (size) (number) (-way)."

"(Designate) to furnish necessary pits for (name of valves). Pits to be of standard dimensions."

"(Designate) to furnish (size) city water supply connection at (curb—property line), including meter if necessary."

MISCELLANEOUS—"It is understood and agreed that the (——) shall pay all freight and carting charges on material herein specified."

"It is understood and agreed that (——) are to do all carpenter and mason work necessary for this installation. Staging to be erected by (——)."

"(Designate) to do necessary trench work including excavating and back filling." Specify type of soil and whether shoring will be necessary.

"(Designate) shall paint all sprinkler pipes, fittings, etc., in (section—building) with (number) coats of (color and kind) paint. Pipe to be thoroughly cleaned below painting."

Owing to the fact that sprinkler contractors employ experienced mechanics, it is not expected that they should build valve houses, hydrant houses, provide foundation and arrange setting of pumps and tanks, erect tank structures, construct boxing for tank drop, build valve pits, do mason and carpenter work, trench work and painting. It is recommended that the owner provide for these details, as in most cases men doing this sort of work are employed at the building.

Combined Heating and Sprinkler System

A combined heating and sprinkler system is no new discovery but is a combination of old and proven practical devices of heating and sprinkler equipment. It consists of a slightly modified standard automatic sprinkler equipment, hot water for heating purposes being conducted in sprinkler piping.

The fundamental feature is the method of insulating the sprinkler from the hot water pipe. This insulator or water trap is a curved ¾-inch pipe, projecting from the hot water main and approximately 14 inches long. It is so arranged that a loop is made to form a pocket. The lower portion of the pocket is below the center line of the hot water main with the sprinkler elevated above this level. This method, slightly modified, has been used for years as a siphon cock for protection on steam gauges.

Other modifications are:—pipes for connecting the ends of the stringer or branch lines to a common return, a circulating pump, a hot water heater, a hot water supply pipe, a by-pass piping around the alarm valve, pressure relief valves and other necessary valves and fittings.

The hot water heater, which heats the water to a temperature not to exceed 212° Fahr., is connected by means of the hot water supply pipe to main sprinkler riser about 5 feet above and on system side of alarm valve. A valve is installed in the supply pipe so that hot water supply may be shut off from the sprinkler system when necessary. Risers, cross mains and branch lines remain the same as in a standard equipment.

The ends of branch lines used for heating purposes are piped together in convenient groups, and the return from these groups, which are provided with shut-off valves, run to a hot water return. The main return is either connected direct to the hot water heater or through a circulating pump. A by-pass is connected around the alarm valve and relief valves are installed in the hot water supply pipe at the heater to take care of expansion and contraction. No concealed pipings are installed and clean water only is used.

Where the sprinkler system does not furnish sufficient radiation to properly heat the building, additional pipe coils or radiators are installed. This auxiliary radiating system is independent of the sprinkler system.

When one or more sprinklers operate the reduction in the pressure above the alarm valve causes the valve to operate and the system to act as a standard sprinkler equipment. In establishments where a steam plant is installed the exhaust steam from engines, pumps, etc., is used for heating the water.

A summary of a report on combined heating and sprinkler systems for the Underwriters' Laboratories, Inc., and under the direction of the National Board of Fire Underwriters reads:

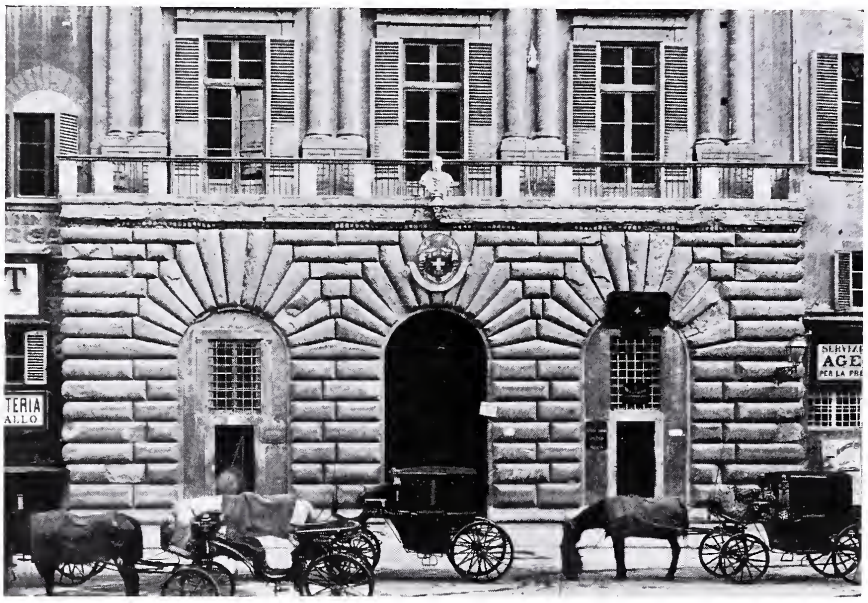
"From the conclusions drawn it will be noted that the design and construction of the combined heating and sprinkler system are suitable for the class of service for which the system is intended; that it is practical to install and maintain the system without unusual difficulty; that the system is not subject to rapid deterioration; that the parts and assembled system are capable of safely withstanding all stresses to which they are likely to be subjected under ordinary service conditions; that the system is reliable in operation; that accident hazard is remote, and that the parts can be uniformly made and uniformly assembled and installed."

Italian Renaissance Details

A COLLECTION OF MEASURED DRAWINGS BY WM. D. FOSTER

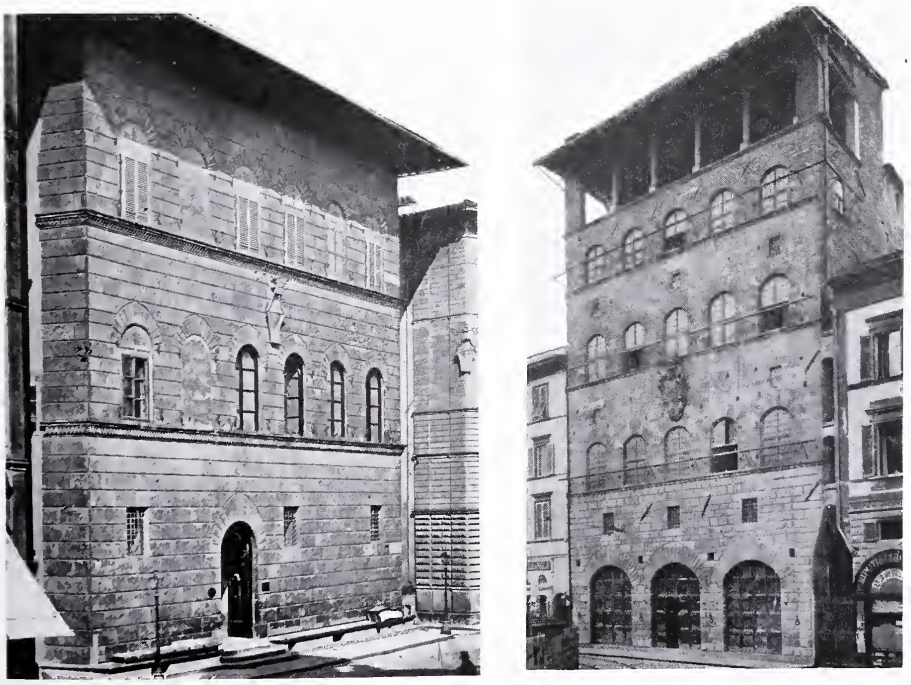
THE effect that is obtained from the rustication of a wall depends upon the study of the joints and the texture of the stone surfaces; these may result in giving a very sturdy and rugged appearance or in only slightly accenting the rusticated beyond the other portions of the building. The most interesting examples of rustication are to be found in renaissance work. Constructed at a time when there were wars not only between cities but between families and even individuals, the buildings of the time were very generally made to appear strong and capable of resisting attacks as well as actually being so. The gates of the cities as, for example, the gates of Verona by San Michele, were usually rusticated in a vigorous way that adds materially to their appearance of solidity and strength.

The three examples of rustication here shown are from the smaller palaces of Florence, of the late fifteenth century, and illustrate three variations of strengthening the appearance of the lower stories with rustication.



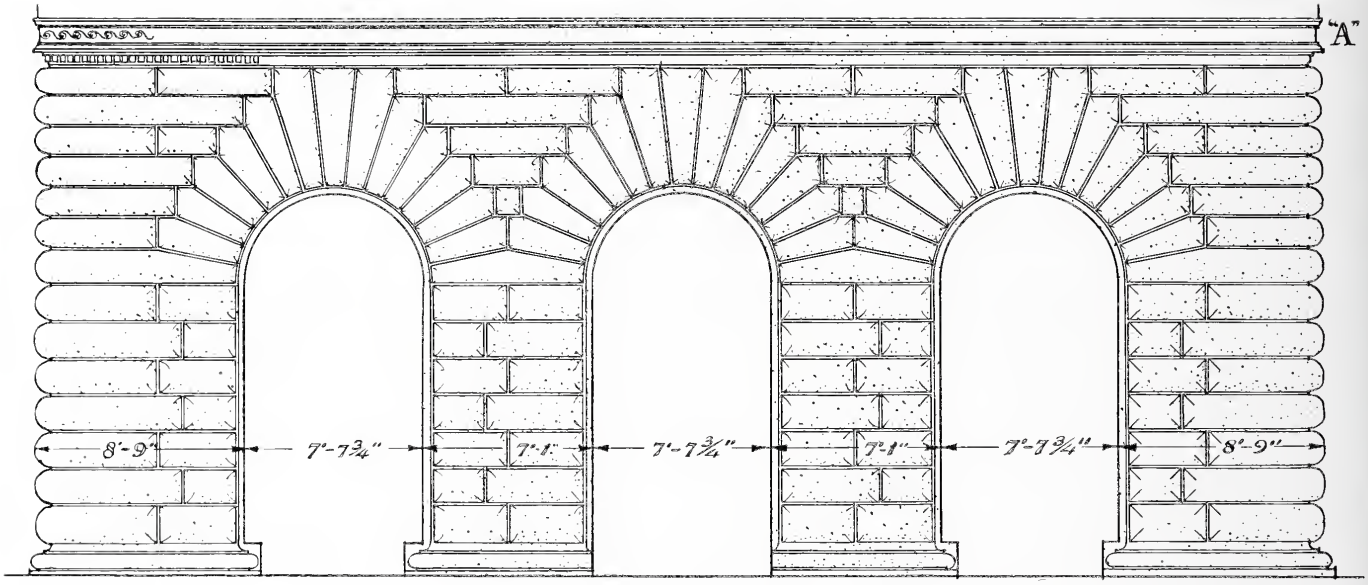
Detail of the Palazzo Uguccioni, Florence

The Palazzo Uguccioni is of the particularly rugged type with very deeply recessed joints, the projection of the stones being from 7½ to 8 inches beyond the joints. The surface of the stone also is rather deeply tooled. The rustication of the Palazzo Davanzati and the Palazzo Antinori is much flatter and the surface of the stone, accordingly, is tooled more lightly. In each of these cases the stones project from the joints from 1 to 1½ inches.



Two Florentine Façades, Palazzo Antinori and Palazzo Davanzati

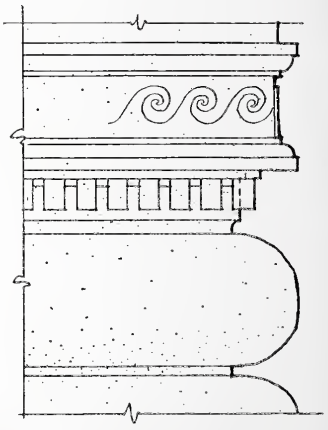
The rustication in the Palazzo Davanzati stops at the band course while in the Antinori instance it continues up the whole façade, being slightly lighter above the band course. The Palazzo Antinori is one of the finest of all examples of the renaissance palace both in proportion and refinement of detail. The treatment of the lower courses, where the projection forms a seat as well as a base to the building, is interesting and was used on several of the other palaces. In all three of these buildings the rustication is carried around the sides for about five feet.



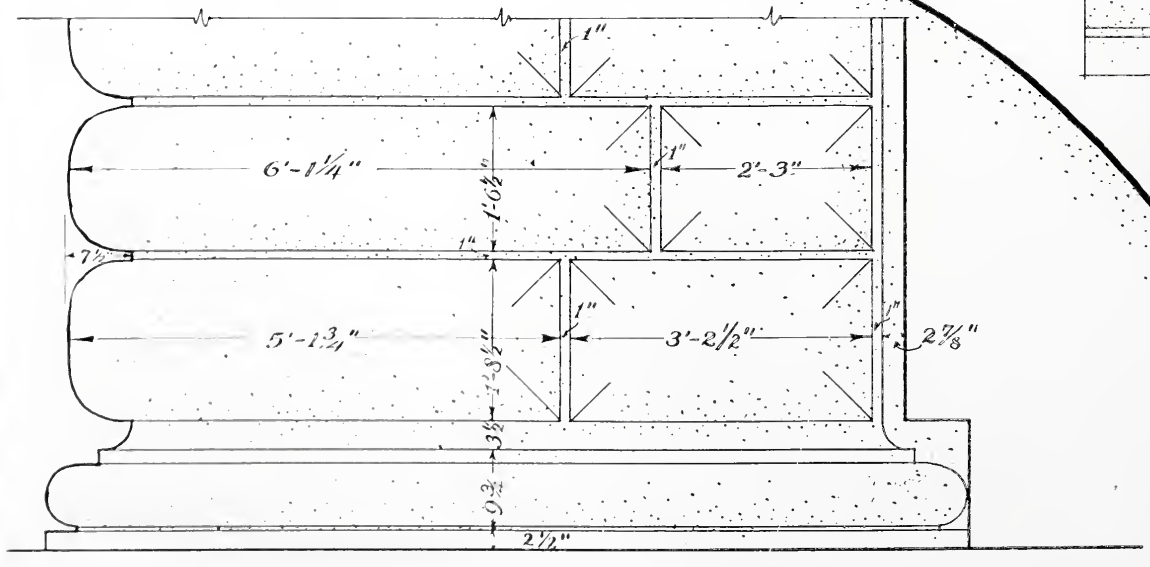
ELEVATION · OF · FIRST · STORY

SCALE · ⅛" = 1'-0"

F · S · PROFILE · OF · RUSTICATION



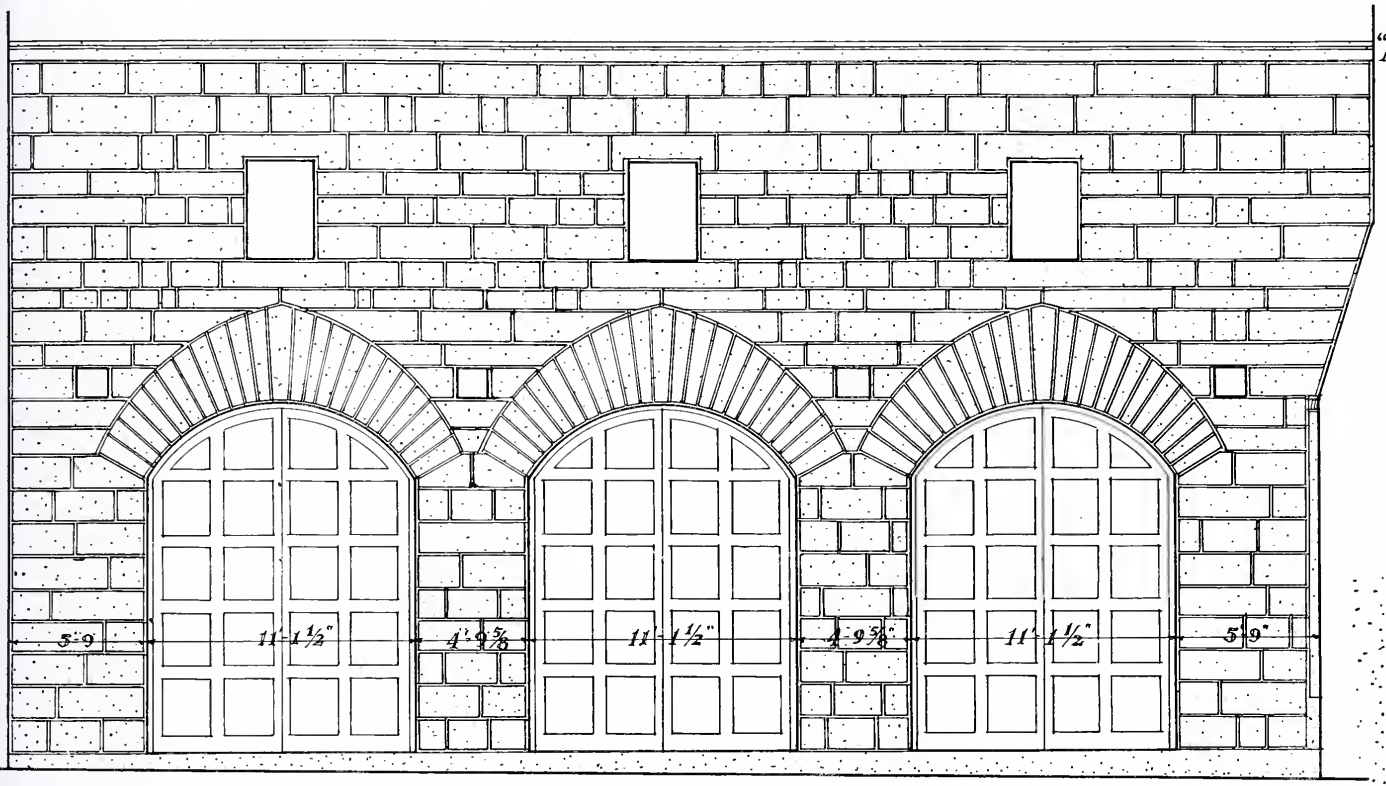
DETAIL · AT · "A"



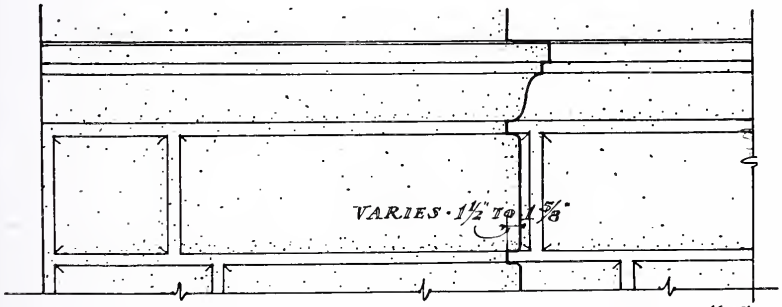
DETAIL · OF · LOWER · COURSES

SCALE · ½" = 1'-0"

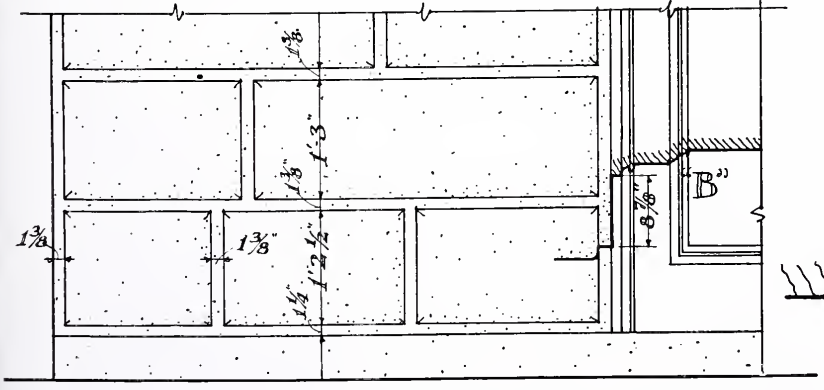
ITALIAN DETAILS 1920	PALAZZO UGUCCIONI FLORENCE	MEASURED and DRAWN · by WM · D · FOSTER



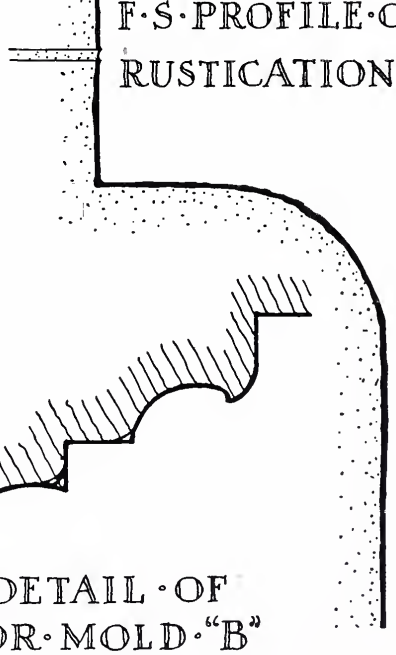
ELEVATION · OF · FIRST · STORY
SCALE · ⅛" = 1'-0"

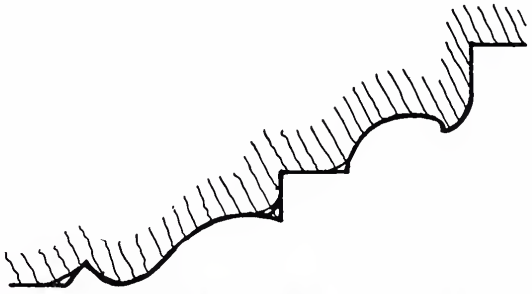


DETAIL · OF · BELT · COURSE · "A"



DETAIL · OF · LOWER · COURSES
SCALE · ½" = 1'-0"



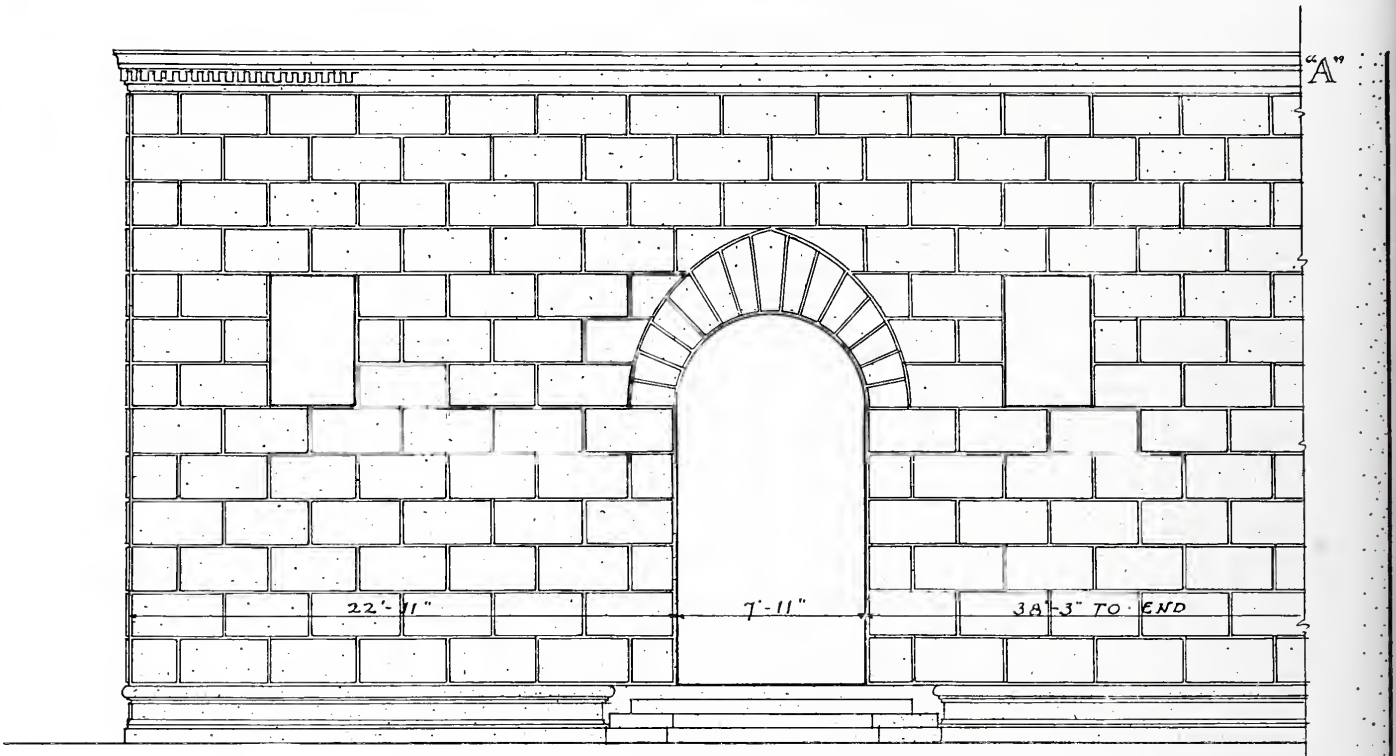


F · S · DETAIL · OF
DOOR · MOLD · "B"

ITALIAN DETAILS 1920

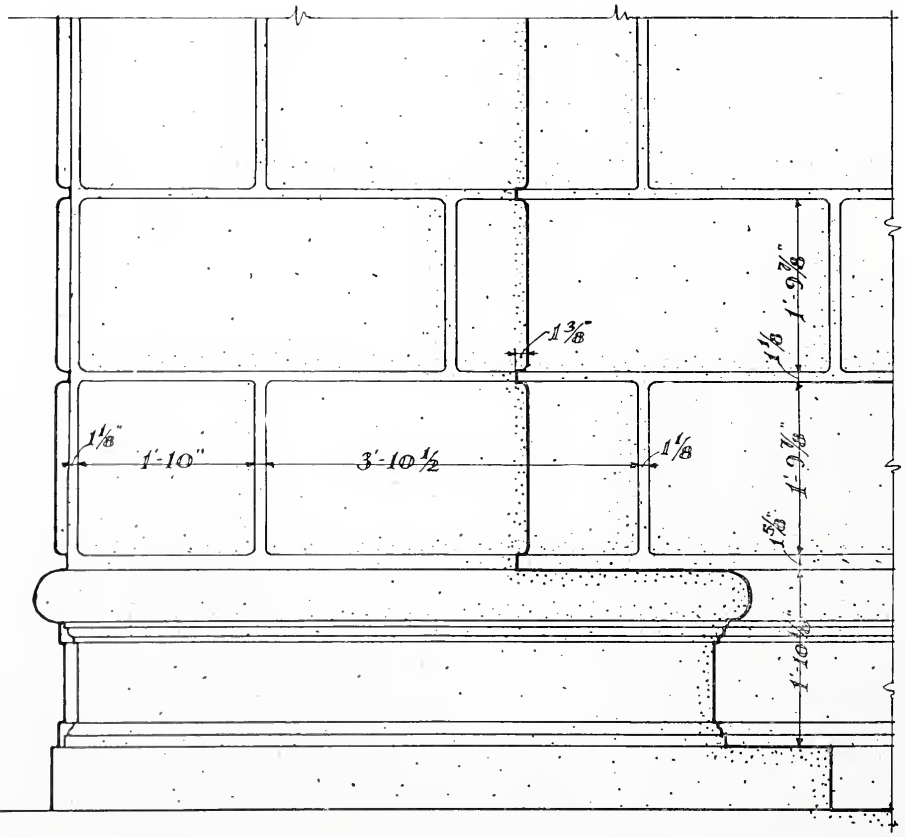
PALAZZO DAVANZATI FLORENCE

MEASURED and DRAWN · by WM · D · FOSTER

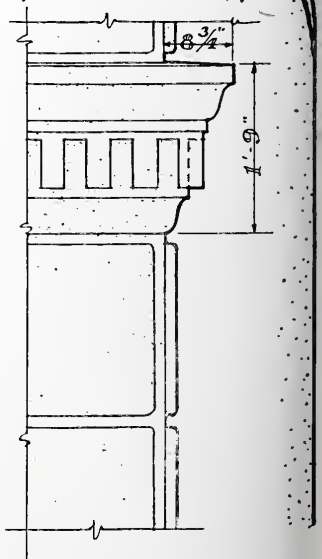


ELEVATION · OF · FIRST · STORY
SCALE · 1/8" = 1'-0"

F · S · PROFILE · OF
RUSTICATION



DETAIL · OF · LOWER · COURSES
SCALE · 1/2" = 1'-0"



DETAIL · AT · "A"
1/2" = 1'-0"

ITALIAN
DETAILS
1920

PALAZZO ANTINORI
FLORENCE

MEASURED and
DRAWN · by
WM · D · FOSTER

Encouraging Conditions in Building Construction Field

DURING the past month there have been a number of unusual developments in the building construction field, many of which are of an encouraging nature, directly affecting the volume of work which may be expected next year. Never in the history of the industry has building been so definitely a subject of national interest. The voicing of popular demand for relief from the present condition of building shortage is having its effect in the development of intense interest in the subject on the part of federal, state and municipal legislative bodies. Organized efforts are being made throughout the country to bring about the release of funds for building and permanent mortgages, the stabilization of material prices, betterment of transportation conditions and the establishment of more amicable and stable labor relations.

Regarding the general economic situation the National Bank of Commerce has recently issued a statement that the banking situation is improving rapidly. One section of this report is of direct interest in its application to conditions which are reflected in the building industry:

"A number of factors have facilitated the improvement in the credit outlook. As the continued improvement in transportation permits more normal movement of commodities the mobility of credits is gradually being restored. Progress is being made in the liquidation of commodity stocks and of loans against them. While the downward trend of prices involves current difficulties, it is a movement toward greater rather than less stability in both the credit and the general business situation, since it tends to reduce the pressure on banking facilities and at the same time to stimulate the large potential demand for goods which increasingly high prices had impaired. In contrast with the movement in progress a year ago, therefore, the general trend of business conditions within the United States is in the direction of increasing soundness and stability.

"Prices continue to move downward in many important groups of raw products, and of semi-manufactured materials for use in further manufactures. Declines have been passed on to the finished product in some lines. Unless untoward social and political developments should take place in Europe, however, it now seems likely that in the case of most commodities the period of rapid price adjustment has passed and that fluctuations from now on will be through a gradually narrowing margin. Present price movements, however, must be interpreted with the greatest care. Cases in point relate to those commodities the prices of which appear superficially stable, but in which, as a matter of fact, almost no business is being done. In such

INDUSTRIAL QUESTIONS	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Are building operations in your territory increasing or decreasing at this time?	Increasing	Decreasing	Decreasing	Decreasing	Increasing	Increasing	Increasing	Decreasing	Increasing
In what classes of the following buildings is the greatest activity manifest? (*a*) Warehouses and factories, (*b*) Office buildings and stores, (*c*) Low priced dwellings, (*d*) High grade dwellings and apartments	Warehouses Factories Stores	Warehouses Factories Low priced dwellings	Low priced dwellings Warehouses Factories	Low priced dwellings High grade dwellings Apartments	Warehouses Factories Low priced dwellings	Low priced dwellings Warehouses Factories	Low priced dwellings Office buildings Stores	Low priced dwellings Office buildings Stores	Low priced dwellings Warehouses Factories
What is the extent of the increase in the cost of labor over 1919?	10 to 50%	20 to 40%	10 to 40%	10 to 50%	10 to 50%	5 to 40%	20 to 50%	5 to 30%	10 to 30%
Is labor increasing in productivity per man?	No	No	Slightly	No	No	No	No	No	Yes
Is there a shortage of labor?	No	Yes	No	No	Slight	No	No	No	No
Is there evidence of unemployment?	No	Slight	No	No	No	No	No	No	No
How do the wholesalers and retailers regard the prospects for fall and winter?	Good	Uncertain	Fair to good	Good	Good	Good	Good	Fair to good	Good
Are manufacturing plants well filled with orders?	Yes,—some cancellations	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Is there a shortage of raw materials sufficient to curtail production?	No	No	No	No	No	No	No	No	No
Is there a shortage of coal?	Yes	Yes	Yes	Yes	Slight	Yes	Yes	No	No
Is the shortage of freight cars being substantially reduced?	Yes	Yes	Yes	Yes	Yes	Slightly	Slightly	Slightly	Yes
Are general transportation conditions improving?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Are industrial concerns carrying large amounts of customers' paper?	Yes	No	Yes	Yes	Yes	Normal	No	Normal	No
Are industrial concerns discounting their bills?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
What is the sentiment regarding Govt. ownership of railroads?	Opposed	Opposed	Opposed	Opposed	Opposed	Opposed	Opposed	Opposed	Opposed
What is the sentiment regarding general co-operative movements?	Opposed	Favorable	Divided	Favorable	Favorable	Favorable	Favorable	Divided	Opposed

An interesting analysis of national conditions and public sentiment recently made by the Fidelity and Deposit Company of Maryland shows facts of interest to the building industry.

Table Based on Questionnaire from Nine Hundred Sources

cases actual values cannot be known until trading operations are resumed.

"Curtailment of manufacturing and merchandising activities was inevitable while price changes were radical in character. On the other hand, slowly declining prices require that business be carried on cautiously and with careful thought to the long future, but do not preclude sane and conservative operations. Unwillingness to face the facts in the hope of a return to another period of rapidly rising prices, and failure to admit that a new working basis must be found, not only react on the individual interests involved, but on the entire business community. Fortunately the facts have been recognized by many interests, but in some lines failure to do so is handicapping business."

An important analysis of general conditions throughout the country has just been made by the Fidelity and Deposit Company of Maryland. In order to determine actual economic conditions this concern sent a questionnaire for telegraphic reply to nine hundred specially selected representatives who answered the questions after careful investigation. The section of the questionnaire and replies of most direct interest is given in tabular form here.

New York legislators have been giving consideration to a number of remedial measures in order to provide relief from the acute housing shortage. These included proposed bills establishing building and mortage loan funds financed through state and municipal sinking funds and bond issues, exemption from taxation for a period of years on all new residential structures, a special tax on funds of insurance companies, savings banks and similar institutions not invested in mortgages together with many similar measures and proposed laws curbing the profiteering activities of landlords and speculators. Unfortunately all issues providing relief by the provision of financing for new building failed to pass the special session called to meet the housing shortage. Several bills were passed, however, tending to definitely curb speculation and rent raising. One interesting bill which has become law in New York exempts from local taxation for a period of ten years all new housing construction. In view of the present tax rate in New York this means a definite saving of about 30 per cent of the cost.

The legislators have also appealed strongly for federal action as follows:

1—Institute immediately a sweeping investigation of the building materials industry to ascertain if a combination exists designed to keep up the present prohibitive prices of building materials.

2—Grant priority shipment rights to building materials, second only to the priority transportation of food and coal.

3—Place an embargo on the shipment of building materials to foreign countries.

It is interesting to note that the "sweeping investigation" referred to has been instituted and material men have been called upon to report what can be done toward lowering and stabilizing prices. In these days of sudden reversals of judgment it is very difficult to make definite statements. Knowing conditions intimately, however, we are inclined to discount entirely the theory or accusation of price-fixing control in the building material manufacturing industry. Allan E. Beals of the Dow Service Building Reports, in a recent analytical article in the New York *Times*, makes these statements with which we agree entirely:

"Groping about for an underlying cause for the housing shortage, the public mind has been filled by inference and innuendo with the belief that a great building material trust or combination exists for the sole purpose of keeping basic building material prices high without regard to production capacity or demand.

"When the government officials charged with the duty of shaping industrial policy toward the winning of the war first viewed the national scope of the building material industry, they also were inclined to believe that no industry producing more than $1,700,000,000 worth of building commodities every year could possibly be conducted without some policy-shaping head. But, after careful scrutiny into the innermost fundamentals of the industry, the various boards, commissions, departments and individuals, finding no such cohesion as had been imagined, finally had to appeal to the patriotism of the various industries as separate entities in all parts of the country to sink their inter-trade antagonisms and merge their endeavors, plant capacities, and frequently organizations, temporarily to insure adequate supplies to accomplish the national aims. Promoters of great industrial and trade combines always work along the lines of mutual interest and natural trade alliances. What more diversified field could possibly be found than in the building material and equipment manufacturing industry?

"There are some 3,000 different items that can enter into the erection and completion of a modern structure in the form of materials or equipment. Common brick manufacturing interests certainly have no industrial relationship to the manufacture of lumber. As a matter of fact, they are rival building commodities. So brick, both common and face, is a competitor for public favor, with cement as a component of concrete. Lumber interests are as widely separated from the steel manufacturing interests of the country as anything that can be imagined, and so are such items as plaster and lime and hardware and glass. Building stone is in direct competition with architectural terra cotta, and so on down through the entire building material industry."

In view of the fact that approximately $2,500,000,000 worth of proposed construction work is tied up throughout the country, the recent meeting of the National Building and Construction Congress in Chicago has set in motion machinery for a scientific survey of the industry in order to develop remedial measures with every component activity

in the building field working in unified harmony.

The facts just given represent only a small part of the general interest in this subject which is being manifested in every section of the country. It is evident that the results of such intensive public interest must be felt within a short period by a renewal of definite activity in many classes of construction, particularly those designed to relieve the housing shortage which is being felt in every part of the United States, particularly in centers of industrial activity and in the larger cities.

Recently there has been in the middle West and Eastern states a considerable reduction of prices in basic building materials of several classes. It is evident, however, that this condition cannot be taken as a definite sign that building costs are to be lower. Sales made at lower prices are usually found to be the result of "dumping" which generally follows when consumers show reluctance to purchase. The great obstacle at present is the lack of financing, and once building loan money is generally released building material prices will probably stabilize at a fairly high level until production can meet the successive rushes of demand as financing is provided and projects now held in abeyance are placed under active construction.

The development of powerful public demand, as evidenced by the activities herein outlined, is certain to have its effect in increasing the volume of construction and it is a fair deduction that the offices of architects and engineers will be much busier within a short time, probably immediately after the country settles down from its interest in the presidential election.

Senator Calder Places Construction First in National Rehabilitation

DEFERRED construction has been classed by Senator William M. Calder, Chairman of the United States Senate Committee on Reconstruction, as part of the war debt of the country and as a first creditor which must be satisfied before adequate earning power for the payment of the war debt can be created.

"The cause of many of our difficulties," he said, "has been federal interference, and the cure must be not only in the removal of this interference, but in the encouragement of construction work of all kinds by the federal government in order that the health and earning power, and, therefore, the credit, of the nation may be restored.

"What can this Committee recommend to break down the barriers between the willing buyer and the willing seller? From testimony of experts and practical builders, manufacturers of materials, of bankers and engineers, it appears that the initial obstacle is transportation. Many projects have been started but cannot be completed because they cannot get transportation for the necessary materials, while the season for building, to relieve conditions during the coming year, is fast slipping by."

"As to taxation, it has been represented to this Committee that this is the basic difficulty in the construction industry, for the tendency of the times seems to have been rather toward trading in the products of the old plant than investment of money in a new and more efficient plant.

"A revision of the taxation system, which would throw the burden of taxation upon expenditures rather than upon savings, which would not discourage private initiative and would not throw capital into exempt securities, has been strongly urged.

"The attention of the civic committees throughout the United States should be strongly directed against profiteering in finance. The man who is willing to build a home should be given long-term accommodations in loans equal to those accorded the farmer under the Farm Loan Bill. Investors in property should not be harassed by bonus requirements, which are now being resorted to by money lenders, I am sorry to say, in order to evade the usury laws.

"I am pleased to say that encouraging reports have been received from places throughout the country as to the increasing efficiency of labor. This efficiency should be met with a corresponding efficiency and a non-disposition to profiteer in the production of materials.

"The price of building materials has practically doubled since the war, and while in some cases this is due to profiteering on the part of the producers, it is in many cases caused by speculation due to the uncertainties of transportation. It must be borne in mind that the increased cost of transportation has greatly affected the basic costs of building materials."

Senator Calder said that builders calculate that the average cost of materials today is $2.40, as against $1.00 prior to June, 1918.

"In granting the increase of 40 per cent to the railroads, I am glad to say that the Interstate Commerce Commission, after reviewing the building situation, has recommended to the carriers that they give consideration to the hardships imposed upon the building industry and grant relief where necessary. This Committee has already taken the initiative and made representations to the carriers as to the ultimate effect of greatly increased cost of building materials upon housing and other construction; it is argued that the prosperity of the country depends upon the prosperity of its basic industries, and that, if construction is hampered, the country cannot grow and that, therefore, in the long run, the carriers will be deprived of business which might otherwise fall to them through general prosperity.

National Certification of Architects

A SUGGESTION FOR JURISDICTION BY THE AMERICAN INSTITUTE OF ARCHITECTS

By W. W. BEACH

THE practice of architecture has ever offered peculiar attractions to the charlatan and the crook, just as have, in their own ways, the professions of law and medicine. These latter have, however, been able to hedge themselves about through the entire country with stringent laws and regulations which serve to render exceedingly uncomfortable the path of any individual who attempts to enter such practice unprepared or, later, to make use of unprofessional methods while pursuing that practice.

Not so in architecture. Less than half of our states have passed laws attempting to control the profession and none of these can be considered entirely satisfactory. Not all architects believe that practice should be licensed, but all who favor such restriction are agreed that a national law would be an improvement over separate state measures.

In discussing the subject, it would be well, perhaps, to give consideration, point by point, to those things that may be expected to be gained by the institution of any supervision over the personnel of the profession.

First, then, is the elimination of the man of insufficient preparation. Such a one can, by the offer of low fees for services, acquire clients who later, consciously or not, are forced to pay for the architect's further education and experience. Such "architects" materially lower the standard of practice and, at the same time, the public regard for those who follow it.

Next should come about the passing of the charlatan who deliberately prostitutes his calling by soliciting employment both through the offer of cheap drawings and specifications and by submitting worthless "guaranteed" preliminary estimates; then later recoups through contractors and material men, at the expense of the client. This individual, even more than the ignoramus, serves to bring odium upon us and tends to reduce our whole average reputation. Why owners will continue to employ as architects (super purchasing representatives) men whom they would not trust as ordinary purchasing agents passes comprehension; but they do.

Third, we may also expect the relegation or regulation of the self-styled "architect-and-builder" and "architect-and-engineer." The public should have some means of judging such individuals or concerns other than by their advertising matter and completed work. The latter may be the product of a capable employe who may not be available for the next commission. This is true of any architect, hence again the necessity for limiting to the capable the use of the appellation.

And fourth, we should anticipate direct benefit to the public as well as to ourselves through the improvement that would be brought about in structural economy and design. Not only do the ignorant architect and the shyster copy misapplied design and details, guess at the strength of material required, and at the shape and size of the cross-section needed to meet such requirements but, through carelessness in drafting, checking and specification writing, betray their clients' interests at every stage of procedure. This is done as often by sheer waste of material as by ill-considered saving.

Where all is guess-work, little can be correct. But, when failure or loss is disclosed, the penurious owner who sought to economize by employing cheap talent is the first to cry out against the whole tribe of architects. Who suffers most?

Fifthly, we may consider the possibility of improvement of the status of the architect in the opinion of the contractor. Much is to be gained by increasing his respect for the average of us. The lax architect produces the lax builder and, inasmuch as the burden of the success or failure of a structure rests more on the former than on the latter, the contractor cannot be blamed for taking every possible advantage and profiting accordingly. Nor is it surprising to find him frequently backing for employment that architect who has pandered to his gain, rather than one who makes his work more difficult.

Now, if these five nightmares of our profession (the ignoramus, the shyster, the hyphenated, the "jerry-building" and the misguided contractor) might be eliminated or at least modified, controlled or materially reduced, how manifestly better would the public be served and how much discomfort would be subtracted from our daily toil.

State laws have helped in this, no doubt, but to them there are certain minor objections that cause their promulgators to be more or less lukewarm in their propaganda in many states, especially in those where the ethical practitioners are outnumbered by their unprofessional confrères.

One fault is that all such laws, when put into effect, must grant recognition to all individuals then practising, regardless of their fitness, reputation or character. Thereafter it takes a generation to weed the rascals out.

Another objection is that the state machinery for the administration of such laws is liable to be unwieldy and expensive—and this cost must be borne by the profession. Further, there is ever the danger of the admixture of politics.

Again, it is difficult to establish and maintain a standard sufficiently high. For instance, if a good college of architecture happen to be located within the state, it may be hard for legislators to see why

graduates of such institution should not be granted license without further experience or examination, as is the case with lawyers, doctors and dentists. It is not generally understood that the faculties of architectural schools make small pretense of preparing men for independent practice, but that custom dictates that such graduates shall supplement their technical education with years of training in the offices of competent architects.

On the other hand, it should not be made impossible for a man to prepare himself for practice without having been graduated from an accredited school, no matter how unusual such procedure. Standards should be high and comprehensive, not dogmatic.

All these factors and more have been taken into consideration in working out a scheme for the examination and certification of architects throughout the entire country in a way that should be at once both feasible and efficacious.

It is simply that such certification shall be provided by the American Institute of Architects, independent of membership in that body.

The success of such measure would depend, of course, upon the number of architects who availed themselves of the privilege. But, is it not to be assumed that, if registration and certification are made simple and convenient for those who are capable, it would become as popular as is the process of admission to the bar on the part of young lawyers?

In debating this question, it were well to consider what are the influences now operating to restrain from joining the Institute many who would be fit candidates. Why would not these same causes limit the number of applicants for the suggested certificates?

Again we have recourse to an analysis:

1. Membership in the Institute is quite altruistic in its objects—any good to be derived therefrom is primarily that accruing to the entire profession or to the public at large. It is easy for the outside architect to persuade himself that Institute affairs will be properly administered and its welfare advanced without his collaboration.

On the other hand, registration is primarily selfish in its aims, though the ultimate good to be derived must be shared by all who are deserving.

2. Institute membership involves an appreciable tax on the man with a small income, an annually recurring assessment.

Registration, under Institute control, could be handled at a small initial expense and no annual due charges. Thus, if it be provided that a man is made eligible for certification by receiving the endorsement of ten registered architects, two of whom were Institute members, a fee of five dollars would likely cover all attendant expenses of the Institute bureau in charge.

If the limited acquaintance of the candidate rendered impracticable the securing of the necessary number of sponsors and made an examination necessary, then the expense of such examination would need to be added to the fee.

But, once having declared a man eligible to practise, there would be no object in having to renew the declaration year by year nor in maintaining expensive machinery for the purpose as is now done by those states where license is in vogue. The certificate granted could remain the property of the Institute, loaned to the user and revocable at the discretion of the officers of the Institute.

3. Many architects consider that, if one of a firm is an Institute member at the expense of the firm, then is its loyalty to the profession satisfied and the reason for another membership nil.

This excuse would not operate against inexpensive registration, if it were demanded by the public. All members of a firm would be expected to have equal professional standing. Again, as to this attitude of the public: it has for a long time looked to the profession to purge itself of the undesirable, while we have put upon the public the burden of the riddance. Whose is the duty and who can perform it most readily? When the public is finally stirred to attempt the task, we are asked to foot the bill. That being the case, let us get about it in a much more effectual and economical way.

4. The public takes no cognizance of Institute membership. This is because there are many able architects who are not members of the Institute, thereby discounting the prestige of the national body. Campaigns for increased membership have been effective but not all-embracing. To go much further would be to let down the bars to an inexpedient degree. There are many practitioners fit for registration who would not make good Institute timber. With certification in vogue, it would soon be a matter of course with all who could secure it.

5. Many architects, remote from centers of large practice, do not feel enough "community of interests" with their fellows to really count it worth while to join forces with men who might deem them outsiders. To these certification would have a quite different aspect.

6. We know architects who cherish strong and conscientious resentment against certain Institute members because of unprofessional conduct (real or imagined) which worked to the disadvantage of the non-member.

The withholding of Institute support by these is on par with the excuse of those who abstain from church membership because of the hypocrisy of some of the pillars therein. There will likely be some in the Institute who are unfit as long as there are hypocrites in the churches. Objectors on this score would be among the first to endorse registration and certification.

7. And there are always those who "intend to go into the Chapter some day"—"when they get around to it" or "when a different set of fellows gets into control" or simply when they can make up their minds to expend the effort and cash.

These procrastinators will always put things off

but, in lesser numbers, if the public manifests a preference for registered architects—as it surely will.

Arguments against the inauguration of the venture may be summed up as follows:

1. It would be purely experimental and the result very much in doubt. Failure would be worse than no trial.

Any departure from established precedent is experimental. The conservative who refuses to experiment with the uncertain is reactionary. Through the years of existence of architectural practice almost nothing has been accomplished by the profession at large to make easier the path of the average practitioner, except in a few states, as has been noted. It will take further generations to extend licensing throughout all the states and then another generation still to make it effective. How much more quickly and surely could Institute regulation be inaugurated!

2. It would reduce Institute membership by causing many to substitute registration.

Perhaps; but, on the other hand, it is more probable that the Institute, by the inauguration of a measure of such practical value to the entire profession, would win as converts many high class men who have hitherto refrained from joining because of a feeling that the Institute fails to accomplish things of real benefit, except to a chosen few. (There are many of these who are more familiar with Chapter limitations than with the larger activities of the Institute.)

3. It would render useless the machinery already upbuilded in some states for the accomplishment of a like purpose.

So be it. It is better that this should be wasted than that many should continue to suffer needlessly because a few are satisfied. But there is strong probability that it would also help the few by adding just that one further restriction which they now lack to protect themselves against the crook who rode in on the law when it was put into effect. If national registration were placed on a higher plane than state license, he would find himself bereft of the standing to which he now pretends.

Then there follows as matters of course the two chief reasons why registration and certification by the Institute transcends all regulation by license.

First, its adoption lies entirely within the will of members of the profession. No public propaganda is necessary to its inauguration.

Second, its administration remains with the same body, free from politics or other questionable control.

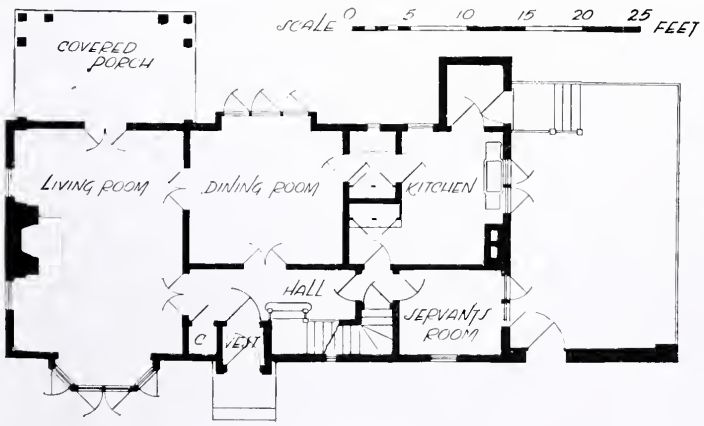
Query: Isn't the time already at hand when the American Institute of Architects may be considered sufficiently representative and influential a body to warrant its initiating just this measure for the great good of the profession at large and that public which they seek to properly serve?

Old English Cottage of Early Georgian Character
Note the leaded casements simulating double-hung windows

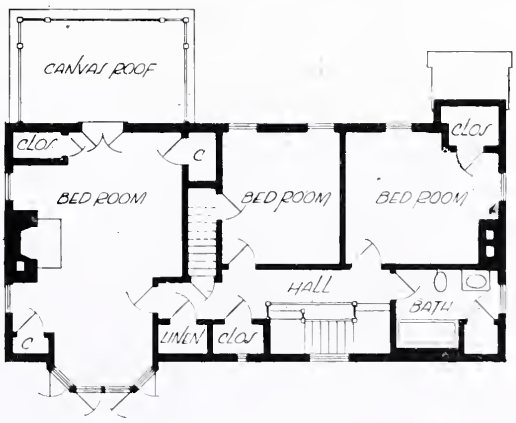
A Small Country House in Belmont, Mass.

STANLEY B. PARKER, ARCHITECT

MAIN FRONT FROM THE STREET



FIRST FLOOR PLAN



SECOND FLOOR PLAN

EDITORIAL COMMENT

THE ARCHITECT'S POLITICAL DUTY

UNDER normal conditions in the building industry, as represented by the period before the war, the interest of the average architect or builder in the question of politics was of a more or less perfunctory nature, confined principally to local issues. The coming presidential election, however, with its resultant establishment of certain fundamental policies, is of more importance to the building industry than any other single factor or condition which may be mentioned at this time.

The reason for this is simply that among the great issues of today are several of fundamental importance to the building industry. The railroad question, the shipping question, problems of international finance, the question of rural development, the coal question, and many others which may be mentioned as affecting directly the prosperity of our industry in the years to come, depend, however, upon the attitude of the government as expressed by those in executive power.

It is not our purpose to express any political preference, either Republican or Democratic, but it is our purpose to direct the attention of architects and builders throughout the country to the tremendous importance of the results of this election in its effect on conditions in the industry.

As never before it is the duty, not only of architects and builders but of every business man, to give serious consideration to the issues which are at stake and to the qualifications of party platforms and representatives. During the past few years there has been a great volume of emergency construction, but the building industry in general has suffered. Although it is one of the powerful industries of the United States (which has to play a most important rôle in national rehabilitation), it has not been accorded the attention and encouragement of which it is deserving. In fact, we can only realize the importance of the building industry when, as is the condition today, business and living conditions are seriously crippled because of the lack of proper building space.

Not only is this industry seriously affected at present by poor transportation conditions, but it is utterly lacking in the necessary financial backing which will make possible a continuation of building operations at a rate sufficient to meet normal needs, without consideration of the need for catching up with lack of production in finished buildings during the past few years.

There can be no question but that a great movement is to be expected in building construction. Already there are signs of such a movement, and the drop in material prices which has recently occurred may be construed as a lull before the real storm of building sets in.

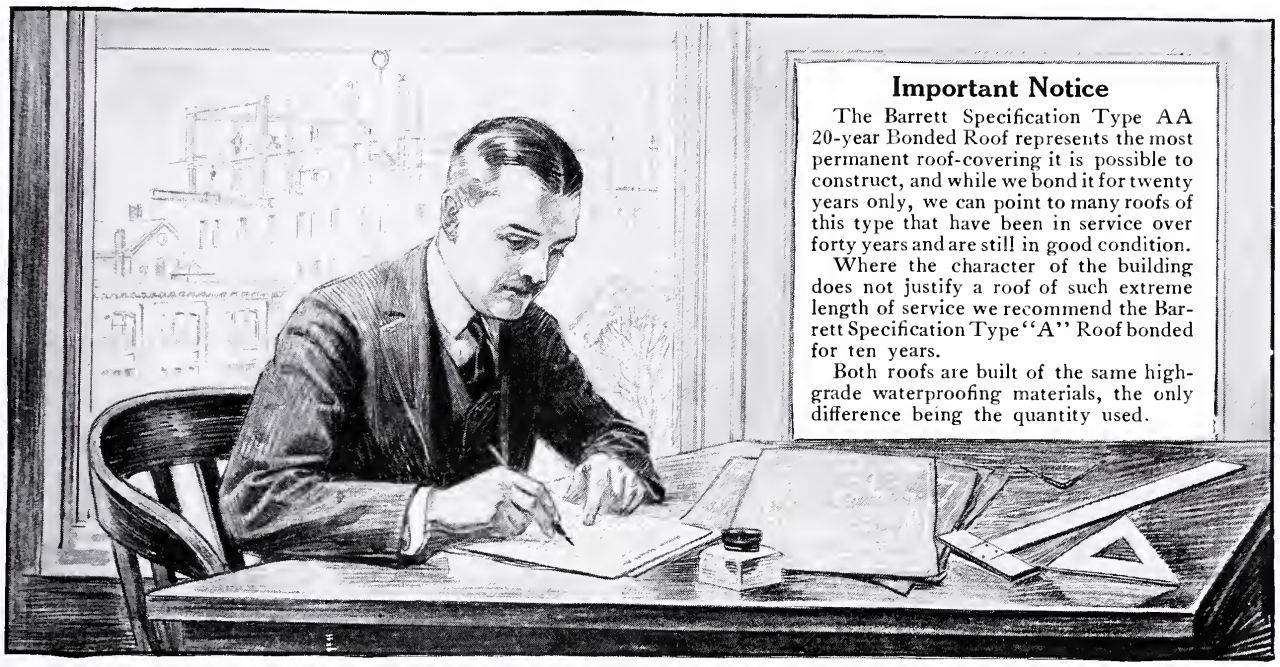
The old law of supply and demand is beginning weakly to function again in relation to labor supply. After the election the building industry may expect unusual stimulation. To what extent this coming activity may be placed on a possible and profitable basis depends largely on financial conditions. If the results of the election are encouraging to business, and particularly to strong financial interests, there is no doubt that relief may be felt from the pressure which has recently blocked much activity in the field of building construction.

In the past, many good men have given comparatively little consideration to the issues of politics and have voted not from a sense of inner conviction or knowledge of the attitude of the party which they wish to place in power, but rather because of other motives such as environment, hearsay, or other comparatively unimportant reasons. Consequently there are many men, who have made politics a business, who design to meet their personal ends rather than to bring the greatest good to the greatest number. This year, as never before, the thinking voter must turn out to work according to his definite convictions in order that the politics of personal motives may be supplanted by the politics of an intelligently voting nation of people.

If the coming great election results in the casting of a record vote in which the average vote has received serious personal consideration, there is little question but that the outcome will be beneficial to the building construction industry. The next few years must constitute a business era of an unprecedented nature in which there shall be closer cooperation between the fundamental industries and the financial resources of this country. Politics, as a means to an end, must be discarded in favor of national business organization. The government must, as never before, be placed upon an efficient business basis in order that it may function to the best interests of the business men of the nation, and when this is done the resultant stabilization, while it may not bring a "business boom" condition, will create sound financial and production conditions which, in turn, will prove beneficial to the consumer.

Consider, therefore, not only the personalities of the candidates who are placed before the public for selection, but the business qualifications of the party platforms. The next few years will be no time for theory or academic experiments. They must be serious, practical years devoted to the rehabilitation of business conditions, backed by a strong national government which not only realizes the needs of the country's great industries, but which will recognize them and will attempt, in a serious and not too experimental a manner, to solve the problems which are before us today.

Let good men, therefore, enter into the spirit of the political situation as never before and determine, with the wise consideration which each gives to his own business, how best to create a national government which in itself constitutes a great and efficient business organization functioning in behalf of its stockholders,—the citizens and taxpayers.



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TRADE B MARK

The Definite Specification

From Editorial Page, American Architect, N. Y.

"THE physician who made a practice of prescribing certain drugs or others whose * * * * properties were similar—would soon lose the confidence of his patients, and yet that is in effect what the architect is doing who persists in the outworn and discredited practice of writing 'or equal' after the specification of a given material. * * * *

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Manufacturers' Catalogs and Business Announcements

ANNOUNCEMENTS

Messrs. Coffin & Coffin announce the removal of their office to 522 Fifth Avenue, New York City.

Mr. Clarence E. Wunder, formerly of the firm of Peuckert & Wunder, announces the removal of his office to 1415 Locust Street, Philadelphia, Pa., where the business will be continued under the firm name of Clarence E. Wunder, architect and engineer.

Mr. Morgan D. E. Hite and Mr. Walter J. Ferguson have moved their offices to the Canal Bank Annex, 211 Camp Street, New Orleans, La.

Tyrrell-Hullsick & Company, architects and engineers, announce the opening of offices in Richmond, Va., with their principal office at Room 400, Flat Iron Bldg., Norfolk, Va. Manufacturers' samples and catalogs requested.

Mr. Julius Gerloff, architect, 265 New Monroe Bldg., Norfolk, Va., is desirous of receiving manufacturers' catalogs and samples.

Mr. Charles L. Hofmann announces the formation of a partnership with Mr. Henry T. Barnham under the firm name of Barnham & Hofmann with offices in the Chamber of Commerce Bldg., Richmond, Va.

Mr. A. Frank Wickes, architect, formerly located at 506 Gary Theatre Bldg., has moved to larger quarters in Suite 206, Harrison Bldg., Gary, Ind.

Messrs. Peacock & Frank, architects and engineers, announce the opening of offices at 520–521 Colby-Abbot Bldg., Milwaukee, Wis.

Mr. C. Howard Crane, Mr. Elmer George Kiehler and Mr. Cyril E. Schley, architects, announce the opening of a Chicago office at 127 N. Dearborn Street, to be in charge of Mr. H. Kenneth Franzheim.

Mr. William Van der Lyn, 1840 Camino Palmero, Hollywood, Calif., announces that he is about to open a new studio for the practice of interior architecture, decoration and furnishing and is desirous of receiving manufacturers' samples and catalogs.

Mr. Arthur Dahlstrom, architect, has removed his offices from 612 Andrus Bldg. to 305 Essex Bldg., Nicollet at 10th Street, Minneapolis, Minn.

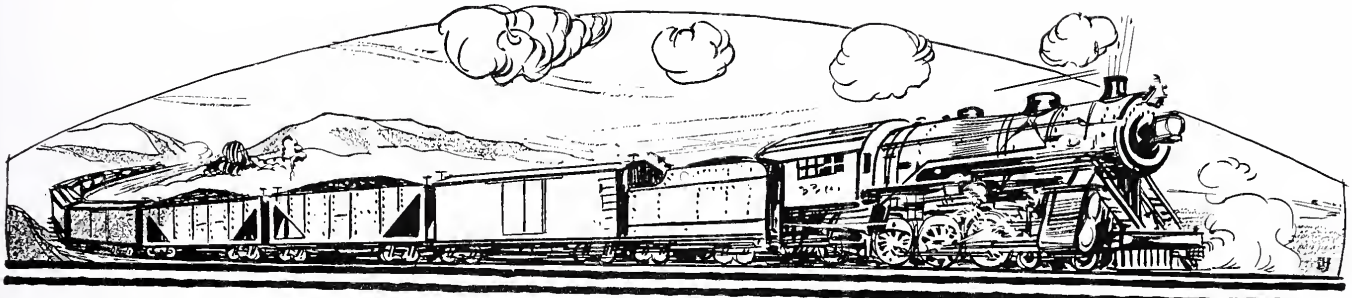
Mr. C. Frank Jobson, architect, announces his office is now incorporated under the name of Jobson & Hubbard, with offices at 225 N. Michigan Boulevard, Chicago, Ill.

Mr. Frank A. Weston and Mr. Harry J. Simmonds have formed a partnership for the practice of architecture under the firm name of Weston & Simmonds, with offices at 612 Banner Bldg., Greensboro, N. C. Manufacturers' catalogs desired.

Mr. John M. Gardner and Mr. Richard O. Parry announce the formation of a partnership under the name of Gardner & Parry, architects and engineers, at 209-211 Guardian Trust Bldg., Denver, Colo., and will be glad to receive manufacturers' samples and catalogs.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, ETC., OF THE ARCHITECTURAL FORUM

Editor: Albert J. MacDonald.
Managing Editor: None.
Business Manager: Robert Sweet.
Owners: Albert J. MacDonald, Belmont, Mass.; Russell F. Whitehead, New York, N. Y.; Henry B. Dillenbach, Brookline, Mass.; S. Howard Myers, New York, N. Y.; Robert Sweet, Melrose, Mass.
Bondholders, mortgagees and other security holders: None.
(Signed) ALBERT J. MACDONALD, *Editor.*
Rogers and Manson Company.
Sworn to and subscribed before me this 29th day of September, 1920.
ROBERT SWEET,
Notary Public.



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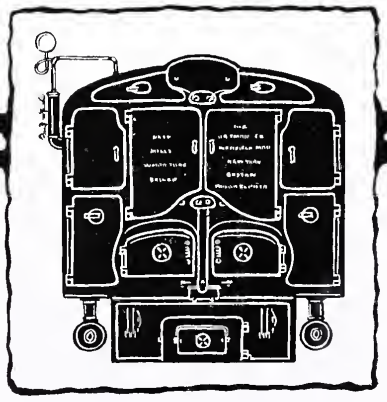

Selected List of Manufacturers' Literature

FOR THE SERVICE OF ARCHITECTS, ENGINEERS, DECORATORS AND CONTRACTORS

The publications listed in these columns are the most important of those issued by leading manufacturers identified with the building industry. They may be had without charge, unless otherwise noted, by applying on your business stationery to *The Architectural Forum,* 142 Berkeley St., Boston, Mass., or the manufacturer direct, in which case kindly mention this publication.

Listings in this Department are available to any manufacturer at the rate of $5 per listing per month.

BOILERS—See Heating Equipment

BRICK

American Enameled Brick and Tile Co., 52 Vanderbilt Avenue, New York.
Enameled Brick. Circular. Illustrated.
Fire Brick. Circular. Illustrated.

American Face Brick Association, 1151 Westminster Bldg., Chicago, Ill.
The Story of Brick. Booklet. 7 x 9¼ in. 55 pp. Illustrated. Presents the merits of face brick from structural and artistic standpoints. Tables of comparative costs.
The Home of Beauty. Booklet. 8 x 10 in. 72 pp. Color plates. Presents fifty designs for small face brick houses submitted in national competition by architects. Text by Aymar Embury II, Architect.

Bradford Brick Co., 2 Main Street, Bradford, Pa.
"Red" Catalog. 7 5/16 x 5 in. 30 pp. Illustrated. Covers dry pressed and impervious smooth-faced brick.

Common Brick Manufacturers Association of America, 1312 Schofield Bldg., Cleveland, Ohio.
Brick for the Average Man's Home. Book. 8½ x 11 in. 72 pp. Color plates. Book of plans for bungalows, houses and apartments for which working drawings are available Price $1.00.
Brick—How to Build and Estimate. Book. 8½ x 11 in. 48 pp. Illustrated. A manual for the brick builder on estimating and details of brick construction. Price 25c.

CEMENT

American Materials Company, 101 Park Avenue, New York; Weed Street and Sheffield Avenue, Chicago, Ill.
Elastica, the Stucco of Permanent Beauty. Catalog. 8½ x 11 in. 32 pp. Illustrated. Treatise on composition and application of Elastica Stucco.

Carney's Cement Company, Mankato, Minn. Booklet. 8 x 10 in. 20 pp. Illustrated Complete information on product, showing prominent buildings in which this cement has been used.

Muller, Franklyn R. Co., Waukegan, Ill.
Everlastic Magnesite Stucco. Booklet. 8½ x 11 in.

Sandusky Cement Co.. Dept. F, Cleveland, Ohio.
Medusa White Portland Cement, Stainless. Booklet. 8½ x 11 in. 48 pp. Illustrated.
Medusa Waterproof White Portland Cement. Booklet. 6 x 9 in. 32 pp. Illustrated.
Medusa Review. 6 x 9 in. 18 pp. Illustrated. House organ issued bi-monthly.

United States Materials Co., Weed Street and Sheffield Avenue, Chicago, Ill. See American Materials Co.

CONDUIT

National Metal Molding Co., 1113 Fulton Building, Pittsburgh, Pa.
Bulletin of all National Metal Molding Products. In correspondence folder. 9½ x 11½ in.
Sherarduct. Circular. 5 x 8 in. Illustrated.
Flexsteel. Circular. 5 x 8 in. Illustrated.

CONSTRUCTION, FIREPROOF

Bostwick Steel Lath Co., The, Niles, Ohio.
After The Fire. Booklet. 6 x 9 in. 13 pp. Illustrated. Showing the fire-resistance of Bostwick "Truss-Loop."

General Fireproofing Co., The, Youngstown, Ohio.
Fireproofing Handbook. Catalog. 6 x 9 in. 112 pp. A book dealing with the problems of fireproof construction, using as a basis the reinforcing materials—Self-Sentering, Trusset and Expanded Metal.
General Fireproofing. 8½ x 11 in. 16 pp. House organ issued monthly.

National Fire Proofing Co., 250 Federal St., Pittsburgh, Pa.
Standard Fire Proofing Bulletin 171. 8½ x 11 in. 32 pp. Illustrated. A treatise on fire proof floor construction.

Northwestern Expanded Metal Co., 934 Old Colony Building, Chicago, Ill.
Fireproof Construction. Catalog. 6 x 9 in. 72 pp. Illustrated. Handbook of practical suggestions for architects and contractors. Describing Nemco Expanded Metal Lath.

Fire-Proof Construction. Handbook. 6 x 9 in. 72 pp. Illustrated. Describing Kno-Burn expanded metal lath.

Republic Fireproofing Co., 26 Cortlandt Street, New York.
Republic Fireproofing Construction for Buildings. Booklet. 8½ x 11 in. 28 pp. Illustrated. A complete description on the two-way construction, its lightness, distribution of loads, saving of loads, saving in structural steel or concrete and its general adaptability to Fireproof Construction.

DOORS, WINDOWS AND TRIM, METAL

Merchant & Evans Co., 2019 Washington Avenue, Philadelphia, Pa.
Evans "Almetl" Fire Doors and Shutters. Catalog. 8½ x 10¾ in. 24 pp. Describes the entire line including "Star" Ventilators.

DOORS, WINDOWS AND TRIM, WOOD

Curtis Service Bureau, 6031–7031 S. Second Street, Clinton, Iowa.
Architectural Exterior and Interior Woodwork, Standardized. Catalog. 9 x 11½ in. 238 pp. Illustrated. Covers a complete line of architectural woodwork, standardized both as to designs and sizes. Builders are requested to apply through their dealer.

Morgan Sash and Door Co., Chicago, Ill.
The Door Beautiful. Catalog. 8½ x 11 in. 50 pp. Color plates. Showing doors in appropriate interior settings.
Masterpieces of Doorcraft. Catalog. 6⅞ x 8 in. 23 pp. Color plates. Doors and types of architecture for which they are appropriate.
Adding Distinction to the Home. Catalog. 5 x 7⅜ in. 32 pp. Illustrated. Showing a number of entrances, various uses of French doors, mirror doors, flush doors, etc.

Reliance Fireproof Door Co., 47 Milton Street, Brooklyn, N. Y.
Reliance Fireproof Doors. Catalog. 6¼ x 9¼ in. 44 pp. Illustrated. Contains details of door and window construction, including molding and trim dies.

Stearns Lumber Co., A. T., Neponset, Mass.
Catalog "K." 9 x 12 in. 80 pp. Illustrated. Covering the entire line of exterior and interior finish, including Stearns' "Florida-Gulf" Cypress.

DUMBWAITERS

Kaestner & Hecht Co., Chicago, Ill.
Bulletin 520. Describes K. & H. Co. electric dumbwaiters. 8 pp.

Sedgwick Machine Works, 151 West 15th Street, New York.
Catalog and Service Sheets. Standard specifications, plans and prices for various types, etc. 4¼ x 8¼ in. 60 pp. Illustrated.

ELECTRICAL EQUIPMENT

Frink, I. P., Inc., 24th Street and 10th Avenue, New York, N. Y.
Catalogue 415. 8½ x 11 in. 46 pp. Photographs and scaled cross sections. Specialized bank lighting, screen and partition reflectors, double and single desk reflectors and Polaralite Signs.
Catalogue 421. 8½ x 11 in. 12 pp. Illustrated. Various reflectors for use in operating rooms and ward of the modern hospital.

General Electric Co., Schenectady, N. Y.
G. E. Specialty Catalog. 3¼ x 4½ in. 210 pp. Illustrated. Pocket size descriptive booklet with cloth binding. Gives dimensions, catalog numbers, capacities, package weights, etc., of a complete line of essential wiring devices.
Novanux. Booklet. 8 x 10½ in. 36 pp. Illustrated. Ornamental street lighting units.
Standard Unit Switchboard Panels. Booklet. 8 x 10½ in. Illustrated. An index to types of standard unit panels for large and small plants, alternating current and direct current, giving references to descriptive bulletins on each type.

Habirshaw Electric Cable Company, Inc., 10 East 43d Street, New York.
Plans and Specifications for the Home Electrical. Catalog. 11 x 14 in. 20 pp. Rubber, oiled paper, varnished cambric insulated wires and cables for every condition of service.

Hart & Hegeman Mfg. Co., The, 342 Capitol Avenue, Hartford, Conn.
Catalog "P." 4¾ x 6¼ in. 183 pp. Illustrated. H. & H. Switches and Paiste Wiring Materials.

Prometheus Electric Co., 511 West 42nd Street, New York.
Electrical Equipment. Booklet. 6 x 9 in. 5 pp. Illustrated. Electric plate warmers, sterilizers and mechanical heating devices.

Simplex Wire & Cable Co., 201 Devonshire Street, Boston, Mass.
Simplex Manual. Catalog and reference book. 6¾ x 4¼ in. 92 pp. Contains in addition to information regarding Simplex products, tables and data for the ready reference of architects, electrical engineers and contractors.

United Electric Co., Canton Ohio.
The Tuec in the Factory. Booklet. 8½ x 11 in. 6 pp. Illustrated. The application of air suction cleaning to factory practice.
The 260 Truck type Tuec. Booklet. 8½ x 11 in. Illustrated. 6 pp. A portable type vacuum cleaner combining the power of the stationary type with portability. Can be attached to any lamp socket.
The 260 Tuec. Booklet. 8½ x 11 in. 16 pp. Illustrated. A ¾ H. P. universal motor driven household stationary vacuum cleaner weighing less than 200 lbs.
The Tuec Pool Cleaning Tool. Booklet. 8½ x 11 in. 6 pp. Illustrated. A practical durable tool for removing sediment from vats, swimming pools, etc.

Western Electric Co., 195 Broadway, New York.
Western Electric Electrical Supply Year Book. Catalog. 6½ x 9½ in. 1248 pp. Illustrated. Listing equipment for every electrical need for homes, institutions, office buildings and industrial plants. Prices for estimating included.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 56*

ELECTRICAL EQUIPMENT — Continued

Western Electric Flip Switches. Folders. Illustrated. Listing a complete line of lighting switches operated by levers thrown up or down.

Western Electric Decorations for Duplexalites. Bulletin L-1. 6¼ x 9½ in. 8 pp. Illustrated. Listing a great variety of shades and decorations in parchment, silk, etc., for standard Duplexalites.

ELEVATORS

Kaestner & Hecht Co., Chicago, Ill.
Bulletin 500. Contains 32 pp. Giving general information on passenger elevators for high buildings.

Sedgwick Machine Works, 151 West 15th Street, New York.
Catalog and descriptive pamphlets. 4¼ x 8¼ in. 70 pp. Illustrated. Descriptive pamphlets on hand power freight elevators, sidewalk elevators, automobile elevators, etc.

FENCES

American Fence Construction Co., 106 Church Street, New York.
Afco Factory Fences. Booklet. 9 x 12 in. 32 pp. Illustrated.
Residential Fences. Booklets. 7 x 2½ in. Illustrated. A series of booklets on residential fences consisting of photographs, productions and brief descriptions.

FIRE DOORS—See Doors, Windows and Trim, Metal

FLOORING

Armstrong Cork & Insulation Co., 132 24th Street, Pittsburgh, Pa.
Linotile Floors. Catalog. 6 x 9 in. 40 pp. Color plates. Describes Linotile, a composition of ground cork, wood flour, linseed oil and various gums and pigments in tile form.
The Ten-Point Cork Floor. Booklet. 3½ x 6 in. 16 pp. Shows design panels in color for Cork Tile floors.

Armstrong Cork Co. (Linoleum Dept.), Lancaster, Pa.
Armstrong's Linoleum Floors. Catalog. 8½ x 11 in. 54 pp. Color plates. A technical treatise on linoleum, including tables and specifications for installing linoleum floors.
The Artistic Possibilities of Armstrong's Linoleum Floors. Booklet. 11¼ x 16½ in. 12 pp. Color plates.
Armstrong's Linoleum Pattern Book, 1920. Catalog. 3½ x 6 in. 176 pp. Color plates. Reproductions in color of all patterns of linoleum and cork carpet in the Armstrong line.
Quality Sample Book. Three books. 3½ x 5¾ in. Showing all grades and thicknesses in the Armstrong line of linoleum and cork carpets.

Johns-Manville Co., H. W., New York City.
A Flooring That's "Made to Fit." Booklet. 3½ x 6 in. 14 pp. Illustrated. Descriptive of Johns-Manville Asphalt Mastic Flooring.

Muller Co., Franklyn R., Waukegan, Ill.
Asbestone Composition Flooring. Circulars. 8½ x 11 in. Description and Specifications.

FLOOR HARDENERS

Anti-Hydro Waterproofing Co., 299 Broadway, New York.
Floor Hardening. Circular. 6½ x 8½ in. 4 pp. Describes an inexpensive method for producing permanently smooth, dustless and wearproof floors.

Sonneborn Sons, Inc., L., 266 Pearl Street, New York.
Concrete and Lapidolith. Booklet. 5¾ x 8⅛ in. 24 pp. Illustrated. Describing relation of Lapidolith chemical floor hardener to concrete construction.
Why Lapidolize? Booklet. 8½ x 11 in. 11 pp. Illustrated. Reasons why Lapidolith should be specified.
Lapidolith Specifications. Circular. 8½ x 10¾ in. 2 pp.

Truscon Laboratories, The, Cor. Caniff Avenue and Grand Trunk R. R., Detroit, Mich.
Agatex and Its Performances. Booklet. 8½ x 11 in. Describes the methods of hardening concrete floors by the application of a chemical which forms a new surface as hard as agate.

FURNACES—See Heating Equipment

FURNITURE

Leavens Co., Inc., The William, 32 Canal Street, Boston, Mass.
Catalog. 7 x 9 in. 200 loose leaved pp. Illustrated with wood cuts.

GARAGE CONSTRUCTION

Ramp Building Corporation, 50 Church Street, New York, N. Y.
The d'Humy Motoramp System of Building Design. Booklet. 8½ x 11 in. 20 pp. Illustrated. Describing the d'Humy system of ramp construction for garages, service buildings, factories, warehouses, etc., where it is desirable to drive automobiles and motor trucks or industrial tractors under their own power from floor to floor.

GLASS CONSTRUCTION

Mississippi Wire Glass, 220 Fifth Avenue, New York.
Mississippi Wire Glass. Catalog. 3¼ x 8½ in. 32 pp. Illustrated. Covers the complete line.

HARDWARE

Cutler Mail Chute Company, Rochester, N. Y.
Cutler Mail Chute Model F. Booklet. 4 x 9¼ in. 8 pp. Illustrated.

L. P. T. Specialty Co., 846 Builders Exchange, Minneapolis, Minn.
Details and Specifications for Counter Balanced Window Hardware. 8½ x 11 in. Illustrated with drawings and blue prints.

McKinney Mfg. Co., Pittsburgh, Pa.
McKinney Cabinet Hardware. Catalog. 6 x 9 in. 32 pp. Illustrated. Describes complete line of hardware for cabinet and furniture work.
McKinney Hardware for Sliding Doors. Booklet. 6 x 9 in. 18 pp. Illustrated. Describes different types of sliding door hardware.

Smith & Egge Mfg. Co., The, Bridgeport, Conn.
Catalog No. 10. 6¾ x 9 in. 42 pp. Illustrated. Covers a complete line of chains, hardware and specialties.

Stanley Works, The. New Britain, Conn.
Wrought Hardware. Catalog. BJ10. 6½ x 10 in. Color plates. Shows all of the Stanley Works products made of steel from their own mills.
Eight Garages and their Stanley Garage Hardware. Booklet. 5 x 6¾ in. 32 pp. Illustrated. Illustrations and floor plans of eight typical garages that have been correctly equipped with Stanley Garage Hardware.
Ball Bearing Butts. Booklet. B8. 5 x 7¼ in. 32 pp. Illustrated. Concise description of various butts manufactured.
Stanley Specially Designed Garage Hardware. Booklet. B-50. 6 x 9 in. 24 pp. Illustrated. Detailed pictures and descriptions of various garage hardware equipment.

Vonnegut Hardware Co., Indianapolis, Ind.
Von Duprin Self-Releasing Fire Exit Devices. Catalog 12F. 8 x 11 in. 41 pp. Illustrated.
"Saving Lives." Booklet. 3¼ x 6 in. 16 pp. Illustrated. A brief outline why Self-Releasing Fire Exit Devices should be used.

Yale & Towne Mfg. Co., The, Stamford, Conn.
Burglar Foils. Booklet. 3½ x 6 in. 12 pp. Illustrated. Describing an important new lock.

HEATING EQUIPMENT

American Radiator Co., 816 South Michigan Avenue, Chicago, Ill.
Engineers' Data Book. 8 x 10¾ in. 48 pp. Illustrated. Valuable engineering data for estimating heating and ventilating requirements.
Ventilation for Vento Heaters. Catalog. 8 x 10¾ in. 24 pp. Illustrated. Examples of installation.
Ideal Type "A" Boiler. Catalog. 6 x 8½ in. 46 pp. Illustrated. Describes this new type of boiler accompanied by charts and tables.

James B. Clow & Sons, 534 S. Franklin Street, Chicago, Ill.
Gasteam Catalog. 6 x 9 in. 16 pp. Illustrated. New radiator using gas for fuel.

Abram Cox, American & Dauphin Streets, Philadelphia, Pa.
Catalog 73. 9 x 12 in. 40 pp. Illustrated. Covers the complete line.
Industrial Housing Circular. 8 x 10½ in. 12 pp. Illustrated. Modern industrial housing projects with specifications for heating equipment.

Gorton & Lidgerwood Co., 96 Liberty Street, New York.
Gorton Self-Feeding Boilers. Booklet. 4¼ x 7¼ in 32 pp. Illustrated. Descriptions, specifications and prices.

Graver Corporation, East Chicago, Ind.
Hot Water Service Heaters. Booklet. 8½ x 11 in. 4 pp. Illustrated. Describing Graver vertical and horizontal service heaters which utilize exhaust steam for heating.

Kelly Controller Co., 175 W. Jackson Blvd., Chicago, Ill.
The Kelly Low Pressure Controller. Booklet. 4 x 9 in. 22 pp. Illustrated. Describing what The Kelly Controller accomplishes, its mechanical operation, and its application.

Kewanee Boiler Co., Kewanee, Ill.
Kewanee on the Job. Catalog. 8½ x 11 in. 80 pp. Illustrated. Showing installations of Kewanee boilers, water heaters, radiators, etc.
Catalog No. 73. 6 x 9 in. 35 pp. Illustrated. Describes Kewanee steel power boilers with complete specifications.
Catalog No. 74. 6 x 9 in. 35 pp. Illustrated. Describes Kewanee steel heating boilers with specifications.
Catalog No. 75. 8½ x 11 in. 6 pp. Illustrated. Specifications on Tabasco Water Heaters, Kewanee water heating garbage burners and Kewanee steel tanks.

Moline Heat, Dept. C, Moline, Ill.
Moline Heat. Catalog. 8½ x 11 in. 46 pp. Illustrated. Covers the complete line.
Moline Heat Supplement A. 8½ x 11 in. 32 pp. Illustrated. Moline Heat as applied to factories, central station, dry kiln heating, etc.

Page Boiler Co., The Wm. H., 141 West 36th Street, New York.
Page Boilers. Catalog. 4½ x 8 in. 84 pp. Illustrated. Descriptions, specifications and methods of installing Page Round and Square Sectional Boilers.
Monarch Smokeless Boilers. Circular. 8½ x 11 in. Illustrated. Describing the Monarch Down-draft Smokeless Boilers.

Pratt & Cady Co., Hartford, Conn.
Heaters and Pumps. Booklet. 6¼ x 3½ in. 12 pp. Illustrated. Covering feed water heaters, hot water generators, duplex and triplex power pumps.

Riverside Boiler Works, Cambridge, Mass.
Riverside Range Boilers and Tanks. Catalog. 6 x 3 in. 35 pp. Illustrated. Shows sizes regularly manufactured, methods of installation and descriptions of processes used in manufacturing.

Steam at Pre-War Prices?

WHEN you are drawing specifications for steam piping installations do not overlook the fact that *coal costs are nearly double* those of pre-war days.

The owner of the new building who must pay this increased cost will welcome your suggestion of better pipe covering to cut down his coal bills to something approaching pre-war levels.

Let your specification read:

> "All exposed boiler-surfaces, all pipes, fittings, or appurtenances carrying steam, hot water or hot gases, where radiation would cause condensation or drop in temperature, or result in loss of heat which could be utilized, shall be thoroughly insulated as specified in detail in the Magnesia Association Specification A. A.

A full copy of the specification will be sent on request. Also the new treatise "Defend your Steam," which covers exhaustively every phase of the heat insulation problem.

MAGNESIA ASSOCIATION *of* AMERICA

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R. V. Mattison, Jr.	Keasbey & Mattison Co.	Ambler, Pa.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 58*

HEATING EQUIPMENT—Continued

Smith Co., H. B., 57 Main Street, Westfield, Mass.
General Boiler and Radiator Catalog. 4 x 7 in. 90 pp. Illustrated. Giving ratings, dimensions, capacities and working pressures.
Engineer's Data Ring Book. 4 x 7 in. 125 pp. Illustrated.
Architect's and Contractor's Binders. These binders are made up of 9½ x 11 in. folders of different kinds giving dimensions, price lists, and erecting directions on the different lines of our manufacture.

United States Radiator Corporation, Detroit, Mich.
The Complete Line. Catalog. 4¼ x 7¼ in. 255 pp. Illustrated. Contains important technical information of special interest to architects and heating engineers.
A Day's Work. Booklet. 3½ x 6 in. 20 pp. Suggestions from employees for the purpose of promoting service and good will.

Utica Heating Co., Utica, N. Y.
Imperial Boilers & Heating Supplies. Catalog. 3½ x 6½ in. 52 pp. Illustrated.
Imperial Super Smokeless Boilers. Loose leaf catalog. 8½ x 11 in. 24 pp.
Superior Warm Air Furnaces. Catalog. 4½ x 8 in. 36 pp. Illustrated.
New Idea Pipeless Furnaces. Circular. 8½ x 11 in. 4 pp. Illustrated.

HOISTS

Gillis & Geoghegan, 544 West Broadway, New York.
Man Saving Load Lifting. Booklet. 6 x 8¾ in. 8 pp. Illustrated. Labor saving service in the lifting or lowering of lighter loads, through the use of G. & G. Telescopic and Non-telescopic Hoists.
Removing Ashes. Booklet. 6 x 8¾ in. 6 pp. Illustrated. Removing ashes from boiler room directly to wagon by electrically operated Telescopic Hoists.

HOLLOW TILE—See Tile, Hollow

INSULATION

Armstrong Cork Co., 132 Twenty-fourth Street, Pittsburgh, Pa.
Nonpareil Corkboard Insulation. Catalog. 6 x 9 in. 152 pp. Illustrated. Describes use in cold storage warehouses and wherever constant low temperatures are necessary.
Nonpareil Cork Covering. Catalog. 6 x 9 in. 64 pp. Illustrated. Describes the insulation of cold pipes and tanks of all kinds.

Philip Carey Co., The, Cincinnati, Ohio.
Carey Asbestos and Magnesia Products. Catalog. 6 x 9 in. 72 pp. Illustrated.

Magnesia Association of America, 721 Bulletin Building, Philadelphia, Pa.
Defend Your Steam. Booklet. 7½ x 10 in. 80 pp. Illustrated. A treatise covering every phase of heat insulation.
Standard Specifications. Booklet. 8½ x 11 in. 12 pp. Specifications for the application of 85 per cent Magnesia pipe covering.
Better Heated Houses. Catalog. 6 x 3⅓ in. 12 pp. Illustrated.
Coal Saving Tables. Booklet. 6 x 3¼ in. 4 pp.

United States Mineral Wool Co., 280 Madison Avenue, New York.
Uses of Mineral Wool in Building. Catalog. 5¼ x 6¾ in. 23 pp. Illustrated.

INCINERATORS

Kerner Incinerator Co., 595 Clinton Street, Milwaukee, Wis.
The Kernerator. Booklet. 5½ x 9¼ in. 40 pp. Illustrated. Descriptions, installations and testimonials.

JOISTS AND STUDS, PRESSED STEEL

General Fireproofing Co., Youngstown, Ohio.
Steel Lumber. Hand Book. 4 x 6½ in. 72 pp. Illustrated. Data on the use of Steel Lumber and Metal Lath for economical fireproof construction. Tables and Specifications.

North Western Expanded Metal Co., 934 Old Colony Building, Chicago, Ill.
Pressed Steel Lumber Manual. Catalog. 6 x 9 in. 56 pp. Illustrated. Describes a new system of light weight fireproof construction.

Truscon Steel Co., Youngstown, Ohio.
Truscon Standard Buildings, 4th ed. Catalog. 8½ x 11 in. 40 pp. Illustrated. Erection details, cross-section diagrams and adaptations are given.

Truscon Structural Pressed Steel. Catalog. 8½ x 11 in. 24 pp. Illustrated. Information on Pressed Steel Beams and Joists for light occupancy buildings. Tables, specifications and views of installations.

KITCHEN EQUIPMENT

Aluminum Cooking Utensils Co., New Kensington, Pa.
Wear-Ever. Catalog. 6 x 9 in. 55 pp. Illustrated.

LATH, METAL AND REINFORCING

The Bostwick Steel Lath Co., Niles, Ohio.
Bostwick Steel Lath, Revised Edition 1920. Catalog. 9 x 11½ in. 28 pp. Illustrated. Covers the entire line. Drawings and Specifications.

LATH, METAL AND REINFORCING—Continued

General Fireproofing Co., Youngstown, Ohio.
Herringbone Rigid Metal Lath. Catalog. 8½ x 11 in. 32 pp. Illustrated. A treatise on the many uses of Metal Lath.
Trussit. Booklet. 6 x 9 in. 16 pp. Illustrated. Detailed descriptions on the use of Trussit as a reinforcement for Concrete.
Self-Sentering—A Reinforcement for Concrete Floors, Roofs and Walls. Booklet. 8½ x 11 in. 36 pp. Illustrated.

North Western Expanded Metal Co., 934 Old Colony Building, Chicago, Ill.
Designing Data. Catalog. 6 x 9 in. 94 pp. Illustrated. Describes most efficient use of Econo Expanded Metal Reinforcing.
Formless Concrete Construction. Catalog. 6 x 9 in. 80 pp. Illustrated. Describes use of T-Rib Chanelath, a form and reinforcing for concrete.

Truscon Steel Co., Youngstown, Ohio.
High Rib and Metal Lath. 18th ed. Catalog. 8½ x 11 in. 64 pp. Illustrated. Gives properties of laths, specifications, special uses and views of installations.

LIME

Kelley Island Lime & Transport Co., Leader News Building, Cleveland, Ohio.
The Perfect Finishing Lime. Catalog. 4½ x 7¼ in. 32 pp. Illustrated. Describes use and advantage of "Tiger Finish" and gives illustrations of several large jobs.
For Finish-Coat Plastering. Booklet. 3½ x 6½ in. 12 pp. Illustrated.

LUMBER

American Hardwood Mfrs. Association. Room 1402, 14 Main Street, Memphis, Tenn.
Technical Information about Red Gum. Booklet. 6 x 9 in. 16 pp. Illustrated.
Red Gum Facts. Booklet. 5½ x 8½ in. 14 pp. Illustrated. Oak Catalog. 6 x 9 in. 31 pp. Illustrated.

American Walnut Mfrs. Assoc., Rm. 1000, 616 S. Michigan Blvd., Chicago, Ill.
American Walnut, the Choice of the Master Craftsman. Booklet. 7 x 9 in. 45 pp. Illustrated. The use of walnut in fine furniture and woodwork.
Specification Notes for American Walnut Interior Trim. 8½ x 11 in. 3 pp. Includes notes on the different styles of finish suitable for walnut.

Arkansas Soft Pine Bureau, 1551 Boyle Building, Little Rock, Ark.
Arkansas Soft Pine Handbook. 8½ x 11 in. 64 pp. Illustrated. Treatise on soft pine.
Arkansas Soft Pine. How to Finish and Paint it. Booklet. 5 x 7 in. 36 pp. Illustrated. Information on proper painting and finishing for outside work and inside trim.
The Home You Long For. Loose Leaf Folder. 8½ x 11 in. 36 pp. Illustrated. Contains 8 home designs, by Robert Seyfarth, Architect, Chicago. Illustrations include exterior and floor plans with architect's estimate.

California Redwood Association, 760 Exposition Building, San Francisco, Calif.
California Redwood Homes. Booklet. 6 x 9 in. 16 pp. Illustrated.
Specialty Uses of California Redwood. Booklet. 6 x 9 in. 24 pp. Illustrated.
California Redwood on the Farm. Booklet. 3¾ x 9¼ in. 40 pp. Illustrated.
How to Finish California Redwood. Booklet. 3¾ x 9¼ in. 16 pp. Illustrated. Formulae and instructions.

Long Bell Lumber Co., R. A. Long Building, Kansas City, Mo.
The Post Everlasting. Booklet. 10½ x 7½ in. 32 pp. Illustrated. Information regarding creosoted yellow pine fence posts, barn poles, paving blocks, etc.
Poles That Resist Decay. Booklet. 9¼ x 4 in. 16 pp. Illustrated. Poles for telegraph, telephone, high power transmission lines.

North Carolina Pine Association, 91 Bank of Commerce Building, Norfolk, Va.
Home Builders Book. 8½ x 11 in. 24 pp. Color plates. A book for the consumer, with plans and suggestions on attractive modern rooms.
Book of Interiors. 8½ x 11 in. 16 pp. Color plates. A book for the architect or consumer, showing many beautiful woodwork effects.
Architect's Specification Manual. 9½ x 11½ in. 8 pp. Illustrated.

METAL LATH—See Lath, Metal and Reinforcing

METALS

American Brass Co., Waterbury, Conn.
Price List and Data Book. Loose Leaf Catalog. 3¾ x 7 in. 168 pp. Illustrated. Covers entire line of sheets, rods, tubes, etc., in various metals. Useful tables.
Price List and Tables of Weights of Seamless Brass and Copper Tubes. 4¼ x 6¾ in. 60 pp.
Price List No. 12. 4¼ x 6¾ in. 40 pp. Useful tables of weights and data pages for brass, bronze and nickel silver sheets, wire and rods.
Tobin Bronze. Catalog. 4¼ x 6¾ in. 304 pp. Illustrated. Describes its use and gives specifications.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 60*

METALS — Continued

American Sheet & Tin Plate Co., Frick Building, Pittsburgh, Pa.
Reference Book. Pocket Ed. 2½ x 4½ in. 168 pp. Illustrated. Covers the complete line of Sheet and Tin Mill Products.
Copper—Its Effect Upon Steel for Roofing Tin. Catalog. 8½ x 11 in. 28 pp. Illustrated. Describes the merits of high grade roofing tin plates and the advantages of the copper-steel alloy.
Apollo and Apollo-Keystone Galvanized Sheets. Catalog. 8½ x 11 in. 20 pp. Illustrated.
Research on the Corrosion Resistance of Copper Steel. Booklet. 8½ x 11 in. 24 pp. Illustrated. Technical information on results of atmospheric corrosion tests of various sheets under actual weather conditions.
Facts Simply and Briefly Told. Booklet. 8½ x 11 in. 16 pp. Illustrated. Non-technical statements relating to Keystone Copper Steel.
Black Sheets and Special Sheets. Catalog. 8½ x 11 in. 28 pp. Illustrated. Describes standard grades of Black and Uncoated Sheets, together with weights, bundling tables, etc.
Bright Tin Plates. Catalog. 8½ x 11 in. 16 pp.

International Nickel Company, 43 Exchange Place, New York, N. Y.
Pamphlet. 3½ x 6 in. 8 pp. Illustrated. Describing the wire strength and durability of Monel Screens.

METAL TRIM — See Doors, Windows and Trim, Metal

METAL WORK, ORNAMENTAL

Hope & Sons, Henry, 103 Park Avenue, New York.
Hope's Leadwork Catalog. 9 x 12 in. 46 pp. Illustrated.

Polachek Bronze & Iron Co., John, 476 Hancock Street and 579 Boulevard, Long Island City, N. Y.
Honor Roll Tablets, Memorial Tablets and Monuments in Bronze. Booklet. 6 x 9 in. 28 pp. Illustrated.
Distinctive Metal Work. Booklet. 8½ x 11 in. 8 pp. Illustrated.
Special Design Portfolio. Looseleaf Catalog. 6 x 9 in. 32 pp. Illustrated. Information as to size, number of names or letters accommodated on Memorial Tablets.

NURSERIES

Bobbink & Atkins, Rutherford, N. J.
Nursery Catalog. 10 x 7 in. 82 pp. Illustrated.
Home Grounds Book. 7¾ x 5¼ in. 50 pp. Illustrated. Concise explanatory notes on residential landscape work.
World's Choicest Roses. Catalog. 7 x 10 in. 32 pp. Illustrated. Complete list of roses hardy in Northern States.

Davey Tree Expert Co., The, Kent, Ohio.
When Your Trees Need the Tree Surgeon. Booklet. 9¼ x 8 in. 16 pp. Illustrated.

OFFICE SUPPLIES

Angel, Inc., H. Reeve, 7–11 Spruce St., New York.
Drawing Papers. Sample Book. 3½ x 5½ in. Showing all the surfaces and substances in general demand.

American Lead Pencil Co., 220 Fifth Avenue, New York.
Venus Pencil in Mechanical Drafting. Booklet. 6 x 9 in. 16 pp. Illustrated.
Venus Pencil in Your School. Booklet. 6 x 9 in. 16 pp. Illustrated.

Dixon Crucible Co., Joseph, Pencil Dept., 224 J. Jersey City, N.J.
Finding Your Pencil. Booklet. 6¼ x 3¼ in. 16 pp. Illustrated.
The First Five. Booklet. 3½ x 5¼ in. 10 pp. Illustrated.
A Study in Sepia. Booklet. 7 x 4½ in. 5 pp. Illustrated.

Faber Co., Eberhard, 37 Greenpoint Avenue, Brooklyn, N. Y.
Eberhard Faber Pencils, How They Are Made. Booklet. 4¾ x 6¾ in. 23 pp. Illustrated.

N. Y. Blueprint Paper Co., 102 Reade St., New York.
Catalog of Drawing Materials, Mathematical and Engineering Instruments. 4 x 6 in. 400 pp. Illustrated. Covers the complete line.

PAINTS, STAINS, VARNISHES AND WOOD FINISHES

Berry Brothers, Detroit, Michigan.
"Natural Woods and How to Finish Them." Booklet. 6½ x 4¾ in. 95 pp. Containing technical information and advice concerning wood finishing.
"Beautiful Homes." Booklet. 8½ x 6½ in. 26 pp. Illustrated in colors. Giving information to home builders and others on interior finishing.

Boston Varnish Co., Everett Station, Boston, Mass.
The Inviting Home. Booklet. 5½ x 9 in. 16 pp. Color Plates. A briefly worded book on painting for the busy architect or decorator.
The White Enamel Specification Book. 6 x 9 in. 12 pp. Explaining the use of Kyanize White Enamel on interior or exterior surfaces.

Cabot, Inc., Samuel, Boston, Mass.
Cabot's Creosote Stains. Booklet. 4 x 8½ in. 16 pp. Illustrated.

Clinton Metallic Paint Co., Clinton, N. Y.
Clinton Mortar Colors. Booklet. 3½ x 6⅜ in. 8 pp. Illustrated. Complete description of Clinton Mortar Colors with color samples

PAINTS, STAINS, VARNISHES AND WOOD FINISHES — Cont.

Creo-Dipt Company, Inc., 1025 Oliver St., Tonawanda, N. Y.
Dixie White. Folder. 3½ x 8 in. 3 pp. Illustrated. A heavy white stain which produces the whitewashed effect.

Devoe & Raynolds Co., Inc., 101 Fulton Street, New York.
Architectural Finishes. Catalog. 5 x 7 in. 40 pp. Specifications and suggestions for painting, varnishing, staining and enameling.
Harmony in the Home. Booklet. 4½ x 6 in. 24 pp. Illustrated. Flat finish wall paints, color suggestions and specifications.

Eagle-Picher Lead Co., The, 208 S. La Salle Street, Chicago, Ill.
Protective Coatings for Structural Metals. Book. 6 x 9 in. 48 pp. Illustrated.

Fox Co., M. Ewing, New York, N. Y.
Calcimines. Booklet. 3¼ x 6¼ in. 8 pp. Color cards.
Water Paints. Booklet. 3¼ x 6¼ in. 6 pp. Color cards.

Murphy Varnish Co., The, Chicago, Ill.
Beautiful Floors and How to Care for Them. Booklet. 3⅜ x 6¼ in. 16 pp. Illustrated.
Murphy Varnish. Booklet. 3⅜ x 6¼ in. 12 pp. Illustrated. Advantages of Waterproof Varnishes.
How to Have a Modern Bathroom. Leaflet. 3⅜ x 6¼ in. 4 pp. Illustrated.
Modern Sanitary Kitchen. Leaflet. 3⅜ x 6¼ in. 4 pp. Illustrated.

O'Brien Varnish Co., 1121 Washington Avenue, South Bend, Ind.
That Magic Thing Called Color. Booklet. 5½ x 8½ in. 24 pp. Illustrated. Short treatise on the use of color in the home, special reference to walls and ceilings.
Architects' Specification Manual. 8½ x 11 in. 50 pp. Complete specifications for all paint products.

The Sherwin-Williams Co., 882 Canal Road, Cleveland, Ohio.
A Book of Painting and Varnishing Specifications. 8½ x 11 in. 30 pp. A text book on painting and finishing.
Announcement of Sherwin-Williams Flat-Tone Multi-Color Effects. Booklet. 2½ x 6 in. 10 pp. Illustrated. Development of a new system of wall decoration.
Monthly Architectural Bulletin. 8½ x 11 in. Bulletin issued periodically on painting and finishing.

Smith & Co., Edward, P. O. Box 76, City Hall Station, New York, N. Y.
Architect's Hand Book. 4¾ x 7½ in. 24 pp. Specifications and suggestions for painting, varnishing, enameling, etc.

Sonneborn Sons, Inc., L., Dept. 4, 264 Pearl Street, New York.
Paint Specifications. Booklet. 8½ x 10¾ in. 4 pp.

Truscon Laboratories, The, Cor. Caniff Avenue and Grand Trunk R. R., Detroit, Mich.
Spread the Sunshine Inside. Booklet. 5 x 8 in. 24 pp. Describes methods for light saving by the application of light reflecting enamels to interior walls of factories and workrooms.

Wadsworth-Howland Co., Inc., Boston, Mass.
Paints and Varnishes. Catalog. 5¾ x 8½ in. 140 pp. Illustrated. Covers the complete line.

PIPE

Byers Co., A. M., Pittsburgh, Pa.
General Information for Pipe Users. Bulletin No. 26. 8½ x 11 in. 24 pp. Illustrated. Description of materials and processes employed in the manufacture of Byers Pipe. Contains many useful tables.
An investigation of Pipe Corrosion. Bulletin No. 30. 8½ x 11 in. 20 pp. Illustrated. A report of general interest to architects, engineers and builders.
Corrosion of Wrought Iron, Cast Iron and Steel Pipe in House Drainage Systems. Bulletin No. 32. 8½ x 11 in. 36 pp. Illustrated. Data obtained through investigations conducted in New York and Chicago.
The Installation Cost of Pipe. Bulletin No. 8. 8½ x 11 in. 32 pp. Illustrated. Cost analyses of 20 different pipe installations in power and industrial plants, office buildings, hotels, residences, etc.

Clow & Sons, James B., 534 S. Franklin Street, Chicago, Ill.
Catalog "A." 4 x 6¼ in. 706 pp. Illustrated. Shows a full line of steam, gas and water works supplies.

National Tube Co., Frick Building, Pittsburgh, Pa.
National Bulletin No. 11, History, Characteristics and Advantages of National Pipe. Catalog. 8½ x 11 in. 48 pp. Illustrated.
National Bulletin No. 25. National Pipe in Large Buildings. Catalog. 8½ x 11 in. 88 pp. Illustrated.
National Bulletin No. 7, Manufacture and Advantages of National Welding Scale Free Pipe. Booklet. 8½ x 11 in. 16 pp. Illustrated.
National Bulletin No. 3, Prevention of Corrosion in Pipe. Booklet. 8½ x 11 in. 24 pp. Illustrated. Contains the results of carefully conducted investigations.

U. S. Cast Iron Pipe & Foundry Co., Burlington, N. J.
Keystone Columns. Architectural Service Sheet. 16½ x 21½ in. Illustrated. Standard specifications with description and formula for calculating cast iron building columns.

PLUMBING EQUIPMENT

Brunswick-Balke-Collender Co., 623 S. Wabash Avenue, Chicago, Ill.
Whale-bone-ite Seat. Booklet. 3½ x 6¼ in. 4 pp. Illustrated.
Whale-bone-ite Seat. Booklet. 3½ x 6¼ in. 8 pp. Illustrated.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 62*

PLUMBING EQUIPMENT — Continued

Clow & Sons, James B., 534 S. Franklin Street, Chicago, Ill.
Catalog "M." 9¼ x 12 in. 184 pp. Illustrated. Shows complete line of plumbing fixtures for Schools, Railroads and Industrial Plants.

Crane Company, 836 S. Michigan Avenue, Chicago, Ill.
Crane Products in World Wide Use. Catalog. 5 x 9½ in. 24 pp. Illustrated.
Plumbing Suggestions for Home Builders. Catalog. 3 x 6 in. 80 pp. Illustrated.
Plumbing Suggestions for Industrial Plants. Catalog. 4 x 6½ in. 43 pp. Illustrated.
No. 50 Steam Pocket Catalog. 4 x 6½ in. 775 pp. Illustrated. Describes the complete line of the Crane Co.

Eagle-Picher Lead Co., The, 208 S. La Salle Street, Chicago, Ill.
Plumbers' Lead Guide. Catalog. 4⅞ x 7⅝ in. 52 pp. Illustrated.

Maddock's Sons Co., Thomas, Trenton, N. J.
Higbest Grade Standardized Plumbing Fixtures for Every Need. Catalog. 5 x 7½ in. 94 pp. Illustrated. Covers the complete line.
Bathroom Individuality. Booklet. 6 x 9 in. 28 pp. Illustrated. Sbowing view of complete bathrooms with complete descriptions of floor plans.
Specifications for plumbing fixtures. Booklet. 9 x 12 in. 8 pp. Tables of specifications for industrial buildings, schools, apartments, hotels, etc.

Rundle-Spence Mfg. Co., Milwaukee, Wis.
Bubbling Fountains. Catalog. 5½ x 8 in. 74 pp. Illustrated.

PUMPS

Goulds Mfg. Co., The, Seneca Falls, N. Y.
Set of Twenty Bulletins. 7½ x 10⅝ in. 12 to 32 pp. each. Illustrated. Covers complete line of power and centrifugal pumps for all services.
Catalog "K." 6 x 9 in. 216 pp. Illustrated. Covers complete line of smaller size pumps.

REFRIGERATION

Isko Co., The, Chicago, Ill.
Electrical Refrigeration. Booklet. 8 x 3¼ in. 16 pp. Illustrated. Services and advantages of the household machine.
Bulletin No. 142. 8½ x 11 in. 4 pp. Illustrated. Isko electrical refrigeration for cooling drinking water systems.
Bulletin No. 140. 8½ x 11 in. 4 pp. Illustrated. Isko electrical refrigeration for both household and commercial use.

Johns-Manville Co., The H. W., Madison Avenue and 41st Street, New York, N. Y.
Johns-Manville System of Refrigeration. Booklet. 3½ x 6 in. 16 pp. Illustrated.

ROOFING

American Sheet and Tin Plate Co., Frick Building, Pittsburgh, Pa.
Better Buildings. Catalog. 8½ x 11 in. 32 pp. Illustrated. Describes corrugated and formed roofing together with table of weights and methods of application.

Barrett Co., The, Chicago, Ill.
Barrett Everlastic Fiber Coating. Booklet. 3⅜ x 6 in. 8 pp. Illustrated. A new liquid cement for covering roofs and how to apply it.
Barrett Service Sheets. 8½ x 11 in. For architects, builders and contractors.

Philip Carey Co., The, Cincinnati, Ohio.
Architects' Specifications for Carey Building Material. 8½ x 11 in. 48 pp. Illustrated.

Creo-Dipt Company Inc., North Tonawanda, N. Y.
Thatcb Roofs. Booklet. 8½ x 11 in. Illustrated. Showing the varied effects obtainable with Stained Shingles.

Johns-Manville Co., The H. W., Madison Avenue and 41st Street, New York.
Johns-Manville Asbestos Shingles. Booklet. 3½ x 6 in. 32 pp. Illustrated. Prices, construction data and specifications.
Johns-Manville Roofing and Building Materials. Catalog. 3½ x 6 in. 24 pp. Illustrated. Describes building materials such as asbestos wood, sound deadening and insulating felts, waterproofing, etc.

Keasbey & Mattison Co., Ambler, Pa.
Ambler Asbestos Shingles. Catalog. 5½ x 8½ in. 40 pp. Illustrated.
Ambler Asbestos Corrugated Roofing and Siding. Catalog. 8½ x 11 in. 36 pp. Illustrated. Standard Purlin Spacing Tables.
Ambler Asbestos Corrugated Roofing and Siding. Catalog. 8½ x 11 in. 20 pp. Illustrated. Prices and specifications.
Ambler Asbestos Building Lumber. Catalog. 8½ x 11 in. 32 pp. Illustrated.

Ludowici-Celadon Co., Chicago, Ill.
Roofing Tile. A Detailed Reference for Architects' Use. Handbook. 9 x 13 in. 106 pp. Illustrated. A working handbook for architects.
Roof Beautiful. Catalog. 6½ x 8½ in. 39 pp. Illustrated.
Folder No. 8. 3¾ x 9 in. 10 pp. Illustrated. A condensed catalog.

SEWAGE DISPOSAL

Kewanee Private Utilities, 442 Franklin St., Kewanee, Ill.
Specification Sheets. 7¾ x 10¼ in. 46 pp. Illustrated. Detailed drawings and specifications covering water supply and sewage disposal systems.

SHRUBS, TREES, ETC.—See Nurseries

STORE FRONTS

Kawneer Co., The, Niles, Mich.
Kawneer Solid Copper Store Fronts. Catalog "K." 8½ x 11 in. 32 pp. Illustrated. Information about various members used in the pioneer Kawneer construction.
Book of Designs. Catalog. 6 x 9 in. 64 pp. Illustrated.

New Jersey Terra Cotta Co., Singer Building, New York.
Store Front. Booklet. 8½ x 11 in. 20 pp. Illustrated.

Zouri Drawn Metal Co., Chicago Heights, Ill.
Key to Getting the People In. Catalog BJ8. 6 x 9 in. 68 pp. Illustrated. Zouri Safety Sash, corner and division bars have been approved by the Underwriter's Laboratories and are manufactured under their supervision.

STUCCO—See Cement, Portland.

STUCCO AND WALL BOARD

Bishopric Manufacturing Co., 9 Este Avenue, Cincinnati, Ohio.
Homes Built on tbe Wisdom of Ages. Catalog. 6 x 9 in. 48 pp. Illustrated. Describing the use of Bisbopric stucco board and Bishopric sheathing board.

Carey Co., The Philip, Cincinnati, Ohio.
Carey Board for Better Building. Catalog. 6 x 9 in. 32 pp. Illustrated.

TELEPHONE, INTER-COMMUNICATING

Western Electric Co., 195 Broadway, New York.
Specification for W. E. Inter-phones and Private Telephone Systems. 8 x 10¾ in. 88 pp. Illustrated.

TERRA COTTA

Northwestern Terra Cotta Co., The, 2525 Clybourn Ave., Chicago, Ill.
Booklet. 8¼ x 11 in. 77 pp. Illustrated. Showing in a concise way the usefulness of terra cotta.

TILE, FLOOR AND WALL

Associated Tile Manufacturers, The, Beaver Falls, Pa.
Tile Floors and Walls for Hospitals. Booklet. 8½ x 11 in. 40 pp. Illustrated. Reasons for selecting Tile for hospitals.
Bring the Crowds to Your Market. Booklet. 8½ x 11 in. 16 pp. Illustrated. The use of Tile for the modern sanitary market.
Preparation for Tile. Booklet. 6 x 9 in. 32 pp. Illustrated. Describing the manner in whieh Tile is set and the various types of construction which are used as a foundation for the product.
Swimming Pools. Booklet. 8½ x 11 in. 32 pp. Illustrated. A handbook on swimming pools and their construction.

TILE, HOLLOW

Hollow Building Tile Association, Dept. 189, Conway Bldg., Chicago, Ill.
Handbook of Hollow Building Tile Construction. 8½ x 11 in. 104 pp. Illustrated. Complete treatise on most approved methods of hollow tile building construction and fireproofing.

National Fire Proofing Co., 250 Federal St., Pittsburgh, Pa.
Standard Wall Construction Bulletin 174. 8½ x 11. 32 pp. Illustrated. A complete treatise on the subject of hollow tile wall construction.
Industrial Housing Bulletin 172, 8½ x 11 in. 14 pp. Illustrated. Photographs and floor plans of typical workingmen's homes.
Natco on tbe Farm. 8½ x 11 in. 38 pp. Illustrated. A treatise on tbe subject of fire safe and permanent farm building construction.

VALVES

Jenkins Bros., 80 White Street, New York.
Tbe Valve Behind a Good Heating System. Booklet. 4½ x 7¼ in. 16 pp. Color plates.
Jenkins Valves for Plumbing Service. Booklet. 4½ x 7¼ in. 16 pp. Illustrated.

Pratt & Cady Co., Inc., Hartford, Conn.
Valves. Catalog. 9 x 6 in. 221 pp. Illustrated. Covers the complete line.

VENTILATION

Clarage Fan Co., Porter Street, Kalamazoo, Mich.
Clarage Multiblade Fans. Catalog No. 51. 8½ x 11 in. 64 pp. Illustrated.
Type S P. Exhaust Fans. Catalog No. 111. 8½ x 11 in. 36 pp. Illustrated.
Type C. I. Fans and Blowers. Catalog No. 112. 8½ x 11 in. 8 pp. Illustrated.
Type S. P. Blowers. Catalog No. 23. 8½ x 11 in. 20 pp. Illustrated.

Globe Ventilator Co., Dept. P., Troy, N. Y.
Globe Ventilator's Catalog. 6 x 9 in. 32 pp. Illustrated.

SELECTED LIST OF MANUFACTURERS' PUBLICATIONS — *Continued from page 64*

VENTILATION — Continued

Moline Heat., Dept C, Moline, Ill.
Univent. Catalog. 8½ x 11 in. 32 pp. Color plates. Ventilation in all its phases.
Architect's and Engineer's Univent Data Book. 8½ x 11 in. 32 pp. Illustrated. Technical information on ventilating.

Royal Ventilator Co., 415 Locust Street, Philadelphia, Pa.
Ventilation. Catalog. 4¾ x 9 in. 48 pp. Illustrated.

WATERPROOFING

Anti-Hydro Waterproofing Co., 299 Broadway, N. Y.
Waterproofing. Booklet. 3½ x 6 in. 4 pp. Methods used for waterproofing conerete and mortars.

Barrett Co., The, Chicago, Ill.
Barrett Elastigum. Booklet. 3¾ x 8½ in. 8 pp. Illustrated. Describes elastigum, a waterproof cement, and its application to parapet walls.
Barrett No-Aer-Leeks. Booklet. 3⅜ x 6 in. 8 pp. Illustrated. How it is applied to make air-tight and moisture proof walls around boiler settings.

Sandusky Cement Co., Dept. F, Cleveland, Ohio.
Medusa Waterproofing. Booklet. 6¾ x 9 in. 37 pp. Illustrated.

Toch Brothers, 320 Fifth Ave., New York, N. Y.
Toxement. Booklet. 5¼ x 8⅛ in. Illustrated. 24 pp. Describes Toxcment, an integral waterproofing compound for concrete, stucco, cement, mortar, etc.

Truscon Laboratories, The, Cor. Caniff Avenue and Grand Trunk R. R. Detroit, Mich.
Structural Waterproofing. Handbook. 8½ x 11 in. 100 pp. Illustrated. A reliable and trustworthy text-book on modern waterproofing practice.
Truscon Stonetex. Booklet. 5 x 8 in. 36 pp. Illustrated. A booklet telling of methods to decorate and make brick, stucco and masonry free from stains by the application of a cement coating.

Wadsworth-Howland Co., Inc., Boston, Mass.
Bay State Waterproofings. Booklet. No. 10. 8½ x 11 in. Illustrated. Methods of applying Cement Coating.

WATER SOFTENERS

Graver Corp., East Chicago, Ind.
Graver Zeolite Softeners. Bulletin 509. 8½ x 11 in. 16 pp. Illustrated. Water softeners for homes, institutions, hotels, apartments, etc.
Graver Vertical Pressure Water Feeders. Bulletin 502. 8½ x 11 in. 8 pp. Illustrated. Detailed description of parts, capacities and dimensions.
Graver Small Continuous Water Softener. Bulletin 507. 8½ x 11 in. 12 pp. Illustrated. A softener for raw water ice plants and small steam power plants.

Permutit Company, The, 440 Fourth Ave., New York, N. Y.
Permutit-Water softened to No (Zero) Hardness. Booklet. 8½ x 11 in. 32 pp. Describing the original Zeolite process of softening water to zero hardness. An essential for homes, hotels, apartment houses, swimming pools, laundries, textile mills, paper mills, ice plants, etc., in hard water districts.

WATER STERILIZATION

R. U. V. Company, Inc., 165 Broadway, New York, N. Y.
Bound Bulletins. 8½ x 11 in. 27 pp. Illustrated.
Information on the sterilization of water and the sources of ultra violet rays.

WATER SYSTEMS

Kewanee Private Utilities, 442 Franklin St., Kewanee, Ill.
Modernize Your Farm. Booklet. 7¾ x 10¼ in. 16 pp. Illustrated. Description of water systems and lighting equipment.

WINDOW CORD

Samson Cordage Works, Boston, Mass.
Catalog. 3½ x 6¼ in. 24 pp. Illustrated. Covers complete line.

WINDOWS, CASEMENT

Crittall Casement Window Co., 685 East Atwater Street, Detroit, Mich.
Catalog No. 18. 9 x 12 in. 56 pp. Illustrated.

Hoffman Mfg. Co., Andrew, 900 Steger Building, Chicago, Ill.
Hoffman Casements. Catalog. 5½ x 8 in. 8 pp. Illustrated. Miniature details and phantom drawings.
F. S. Details. 22 x 34 in. Full size working details for mill work and installation with isometric views.
Architects' Portfolio. 8½ x 11 in. Loose leaf circulars.

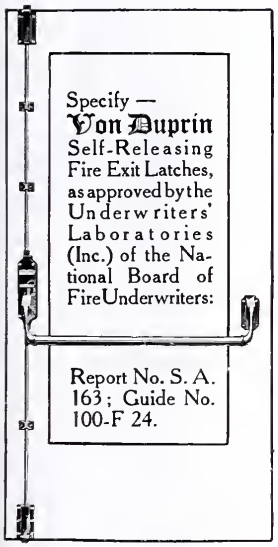
Hope & Sons, Henry, 103 Park Avenue, New York.
Catalog. 12¼ x 18½ in. 30 pp. Illustrated. Full size details of outward and inward opening casements.

International Casement Co., Inc., Jamestown, N. Y.
Casements for Banks and Public Buildings. Catalog. 8½ x 11 in. 24 pp. Illustrated. Shows construction of steel windows and surrounding masonry.

WOOD—See Lumber

Von Duprin

Self-Releasing Fire Exit Latches



To Conserve Human Life

IN building the United States Nitrate Plant at Muscle Shoals the engineers wished to throw every possible safeguard around the lives of the workers employed there, so the entire plant was equipped with Von Duprin Self-Releasing Fire Exit Latches.

Yet, after all, is human life any more precious at Muscle Shoals than it is in one of your buildings? Isn't it true that the architect who is keenly alive to his responsibilities will equip every building that is designed to house large numbers of people with every possible means for conserving the lives of the inmates?

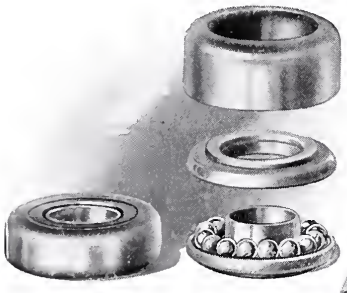
Von Duprin latches greatly diminish the danger of fire panic. Once the inmates reach the doors — safe exit is a positive certainty; the touch of hand or body on the cross bar instantly releases the door.

Let us send you catalog 12-F, or see "Sweet's," pages 793-797.

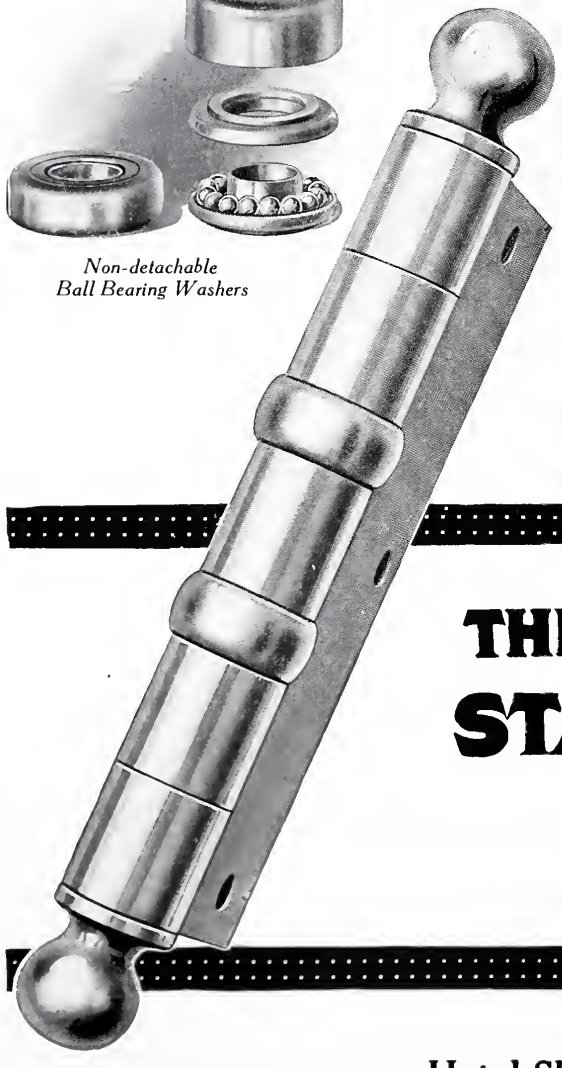
U. S. Nitrate Plant No. 2, Muscle Shoals, Alabama. Dwight P. Robinson & Company, Engineers and Contractors, Consolidated with Church, Kerr and Company, Inc., New York.

VONNEGUT HARDWARE CO.
Indianapolis, Ind.

Service



Non-detachable Ball Bearing Washers



THE STANLEY WORKS BALL BEARING BUTTS

TRADE S.W. MARK

Hotel Sherman, Chicago, Ill.

The modern hotel demands more than the usual service from its doors.

Swinging constantly from kicks, bumps and all sorts of abuse, the butts are subjected to real work.

This organization is pleased to state that this hotel is equipped with The Stanley Works Ball Bearing Butts, and that their service is entirely satisfactory.

We have ready for distribution to architects, an architectural service sheet N 10 featuring Storm Sash Hardware which will be mailed on request.

THE STANLEY WORKS

NEW YORK **NEW BRITAIN, CONN.** CHICAGO

Architects - - -
Let's Spread the Facts

NORTH EASTERN
CONSTRUCTION CO.

YOU know and we know the acuteness of the housing shortage.

Both of us know that necessity is about to compel increased building activity, whatever the cost of materials and labor. We know that prices cannot come down, except for momentary fluctuations, in the face of this actual need of houses. We know that industrial building will be more difficult and expensive when the country's building facilities must be devoted in larger part to meeting the enforced demand for individual houses and apartment houses.

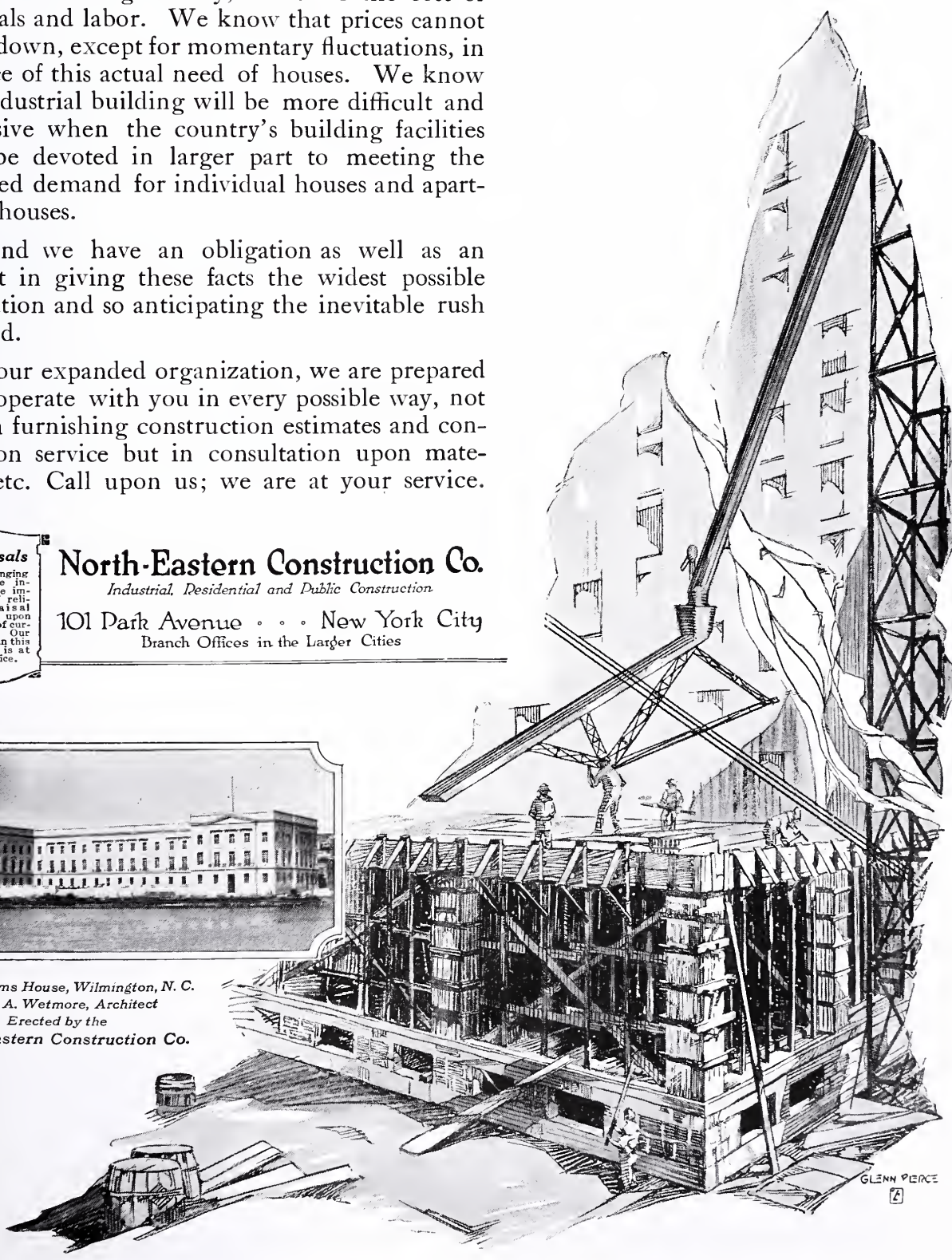
You and we have an obligation as well as an interest in giving these facts the widest possible circulation and so anticipating the inevitable rush to build.

With our expanded organization, we are prepared to co-operate with you in every possible way, not only in furnishing construction estimates and construction service but in consultation upon materials, etc. Call upon us; we are at your service.

Appraisals
Rapidly changing values have increased the importance of reliable appraisal work based upon knowledge of current costs. Our experience in this connection is at your service.

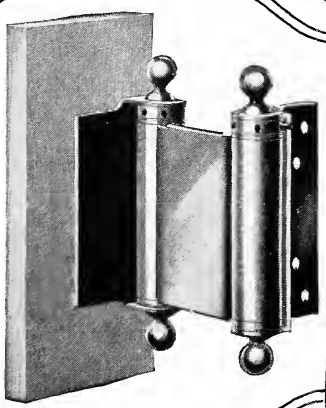
North-Eastern Construction Co.
Industrial, Residential and Public Construction
101 Park Avenue . . . New York City
Branch Offices in the Larger Cities

U. S. Customs House, Wilmington, N. C.
James A. Wetmore, Architect
Erected by the
North-Eastern Construction Co.



SPECIFICATIONS

Lawson Spring Hinges



The Lawson Way

They require no hanging strips

LAWSON

Nu Jamb Spring Hinges

Applied directly to the door jamb without a hanging strip.

What a saving in time and money!

They cost no more.

Write them in your specifications on every job.

LAWSON MANUFACTURING CO.

Eastern Representative
JOHN H. GRAHAM & CO.
113 Chambers St. 95 Reade St.
New York City

230 W. SUPERIOR STREET
CHICAGO, ILL.

Pacific Coast Representative
C. N. & F. W. JONAS
Seattle San Francisco
Los Angeles

LAWSON
MANVFACTVRING CO.

HABIRSHAW

"Proven by the test of time"

Insulated Wire & Cable

This is one of a series of advertisements appearing in Saturday Evening Post, Literary Digest and other national Magazines

Quickening the Pace of Electrical Progress by Advertising Central Station Economies

HABIRSHAW'S co-operative *good-will* policy is featuring Central Power Stations through its current advertisements in the Saturday Evening Post, Literary Digest, Factory, System and Manufacturers' Record.

The ad appearing herewith is more than general publicity since it aims directly at the factory executives and industrial chiefs numbered among its several million readers—men to whom its message will be of real value. To these in particular Habirshaw has told the story of central power station economies: wholesale power minus overhead, operating labor—minus everything but efficiency.

Habirshaw firmly believes that this system of power distribution will eventually control the majority of industries. And to bring the resultant prosperity of central station growth closer to the electrical industry of this generation, Habirshaw has given generously of its advertising space—that every architect, electrical engineer, contractor and dealer of today, as well as Habirshaw, may reap the benefits of industrial electrification.

Habirshaw Wire Manufactured by
Habirshaw Electric Cable Co.
Incorporated
Yonkers, New York

Habirshaw Wire Distributed by
Western Electric Company
Incorporated
Offices in All Principal Cities

Paper Insulated Cable
Round Conductor Cables
Sector Cables

Varnished Cambric Insulated Cables
Armored Cables

Rubber Insulated Cables
Code (Black Core)
Intermediate (Red Core)
30% Hevea R. S. A. Standard

The Hotel Walton is especially noted for the excellence of its service. Opened in 1895. Remodeled during 1918-19. Lessee — Walton Hotel Co. Resident Manager — Eugene G. Miller. Has 330 rooms and 270 baths.

Architect (present): A. M. Gray, N. Y.

The Kitchens of the HOTEL WALTON (Philadelphia) are equipped with "Wear-Ever"

Aluminum Cooking Utensils

Hotel kitchens that are models of cleanliness are equipped with **"Wear-Ever"** Aluminum Utensils. These modern utensils recommend themselves because of their distinct and important advantages.

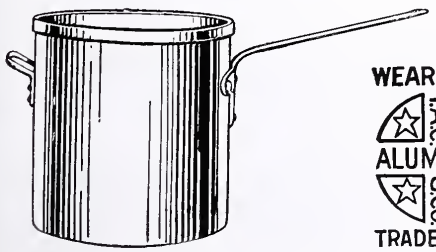
Made of hard, thick sheet aluminum, **"Wear-Ever"** utensils have no joints or seams in which food can lodge. Clean, bright, silver-like, they help make the hotel kitchen the attractive and thoroughly sanitary place it should be. **"Wear-Ever"** utensils *never need tinning*, thus saving constant bother and expense.

Replace utensils that wear out with utensils that "Wear-Ever"

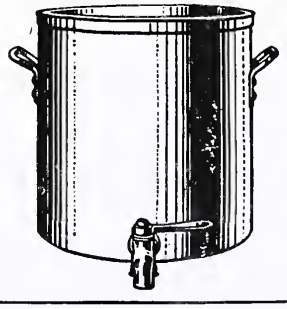
See Sweet's Architectural Catalog and the American Architects' Specification Manual for specification data on "Wear-Ever."

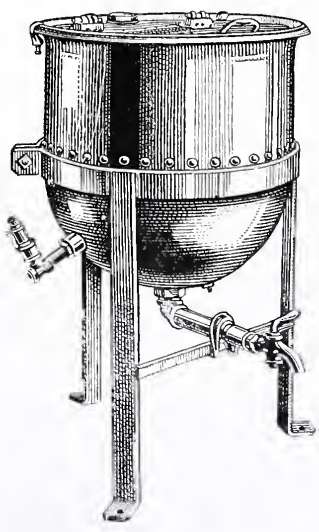
The Aluminum Cooking Utensil Co., New Kensington, Pa.

In Canada "Wear-Ever" utensils are made by Northern Aluminum Co., Ltd., Toronto, Ont.

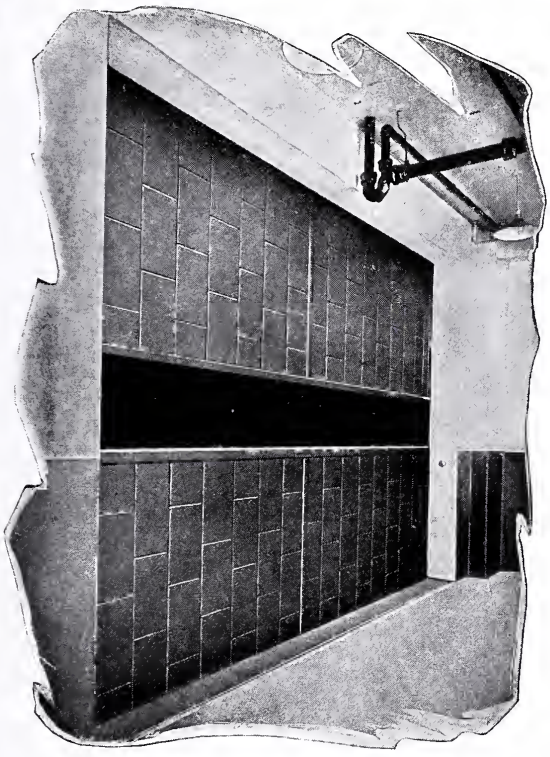


WEAR-EVER T.A.C. ALUMINUM U.C.O. TRADE MARK





Note: This advertisement appears in leading industrial and business publications. Are you ready to meet the demand?



PEELLE

COUNTERBALANCED - TRUCKABLE

Freight ELEVATOR DOORS

WHATEVER your elevator door requirements may be, submit them to a specialist in whom you have absolute confidence—your architect, for instance.

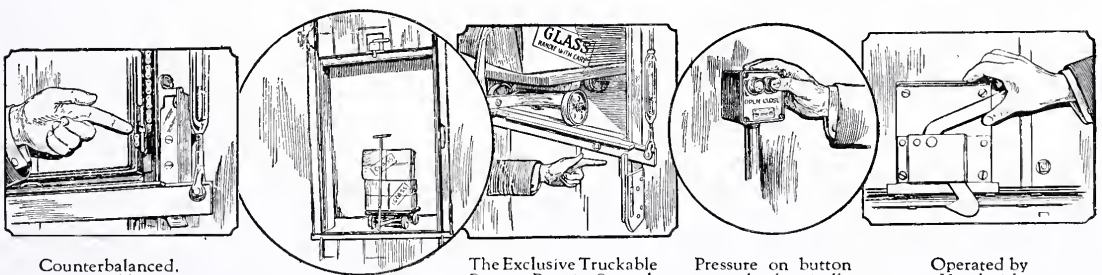
Your architect has observed that the installation of PEELLE Doors makes for immediate efficiency. He knows that PEELLE Doors have fewer replacements — their sturdy construction gives them longer life. Elevator operators find them easy to operate, either manually or electrically, because their operation is scientific.

Their steel framed panels are absolutely fireproof. Trucks pass smoothly into or out of elevators because of the truckable feature. And their vertical movement accomplishes a saving of floor space, and permits full clearance for loading and unloading quickly.

When your architect specifies PEELLE Doors, he knows they will solve your elevator door problems—he knows they are the direct-way to elevator door efficiency.

Ask your architect!

Your copy of "Elevator Door Efficiency" is ready. Write for it. The best is the most imitated Avoid imitations termed "PEELLE Type", "PEELLE Style", etc.



Counterbalanced. Durable Construction

Vertical Operation Permits Full Clearance

The Exclusive Truckable Feature Permits Smooth Trucking Passage

Pressure on button controls electrically operated doors

Operated by Hand with little effort

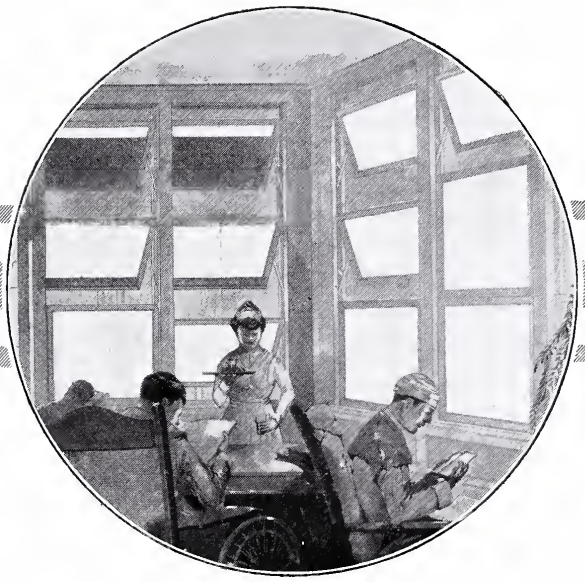
THE PEELLE COMPANY

Stewart Avenue and Harrison Place : : : Brooklyn, New York

Chicago, Philadelphia, Boston, Cleveland Canada: Toronto, Montreal, Winnipeg

Put your Elevator Door Problems up to Peelle

No Awnings Required
Roller shade attached to sash provides efficient awnings.



Ideal for Solariums
Fresh air room or weather-proof sun parlor as you wish.

Weightless, Reversible
Easy to operate. Snug weathering. Sturdy strength.

Kawneer

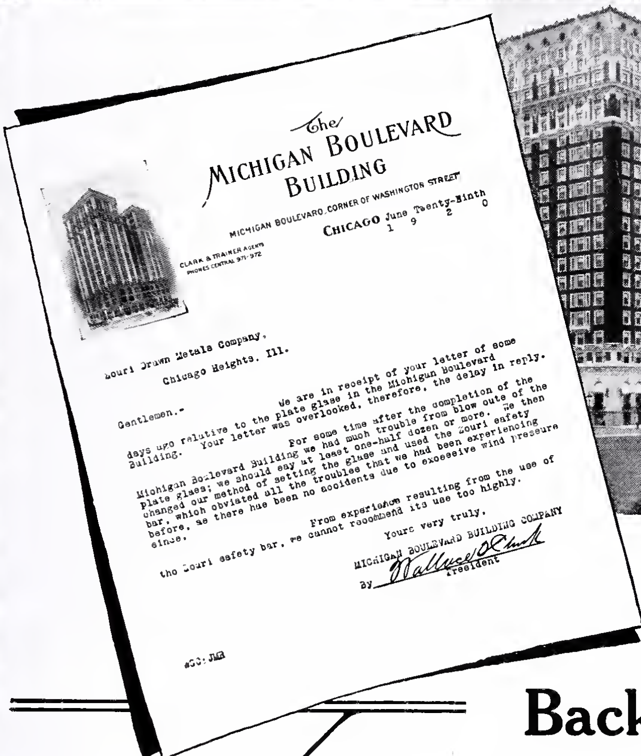
SIMPLEX
WEIGHTLESS REVERSIBLE
WINDOW FIXTURES
MADE OF SOLID BRONZE
for

Modern Hospitals

Modern Hospital Windows must be more than *sash and glass*. Ventilation and light control are now recognized as positive requirements for the sick room. *Simplex Windows* give the utmost efficiency on these two points, besides a score or more of other exclusive features. Another of these big features is that they can be cleaned from within, as all *Simplex* sash are reversible.

LET US SEND YOU FULL DETAILS

THE Kawneer COMPANY
NILES MICHIGAN


The Michigan Boulevard Building
MICHIGAN BOULEVARD, CORNER OF WASHINGTON STREET
CLARK & TRAINER AGENTS
PHONES CENTRAL 971-972
CHICAGO June Twenty-Ninth 1920

Zouri Drawn Metals Company,
Chicago Heights, Ill.

Gentlemen.- We are in receipt of your letter of some days ago relative to the plate glass in the Michigan Boulevard Building. Your letter was overlooked, therefore, the delay in reply.

For some time after the completion of the Michigan Boulevard Building we had much trouble from blow outs of the plate glass; we should say at least one-half dozen or more. We then changed our method of setting the glass and used the Zouri safety bar, which obviated all the troubles that we had been experiencing before, as there has been no accidents due to excessive wind pressure since.

From experience resulting from the use of the Zouri safety bar, we cannot recommend its use too highly.

Yours very truly,
MICHIGAN BOULEVARD BUILDING COMPANY
By Wallace O. Clark
President

#CC:JMB

Here you will find the world's finest shops

Chicago's Michigan Boulevard faces Lake Michigan. Winter's gales and summer's storms sweep across the wide stretch of water, spending their full force on the buildings which line this magnificent thoroughfare and shopping center.

Back of the Architect —

stands the service he renders—both personal and advisory.

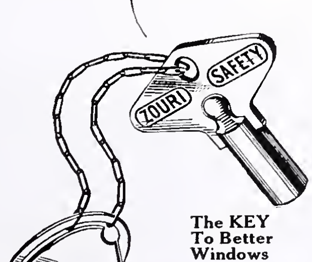
The *lesson learned* from Chicago's Michigan Boulevard is valuable to every architect. Owners of many of the buildings along this famous thoroughfare have found the greatest satisfaction in window construction to be

ZOURI SAFETY METAL STORE FRONTS

Architects who recommend Zouri key set line construction help their clients and themselves. Both appreciate Zouri benefits—increased display features; beauty combined with strength; least possible loss from glass breakage. *Approved by Underwriters' Laboratories.* Zouri fronts deserve your approval.

Our Nearest Representative at Your Service

We have one hundred and ninety-three distributors throughout the United States and Canada, each equipped with a full line of Zouri and International construction ready to serve you. There is no obligation incurred through consulting them. Write us for the name of our nearest distributor.



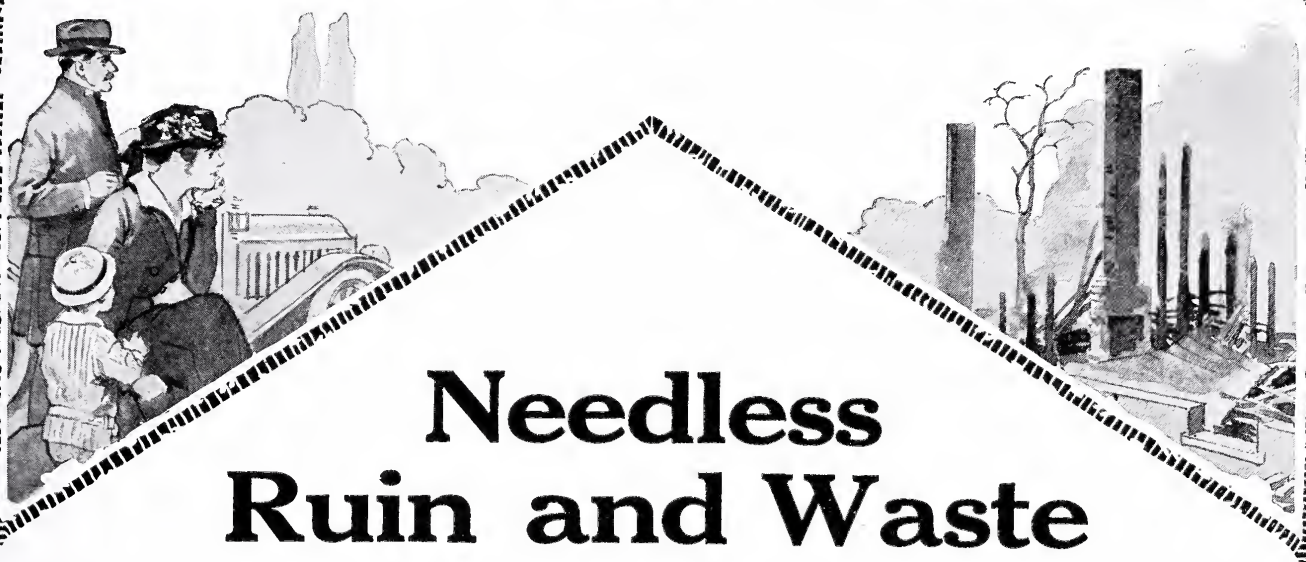
The KEY To Better Windows

Zouri Drawn Metals Company

General Offices and Factories

CHICAGO HEIGHTS : ILLINOIS, U. S. A.

Makers also of the Famous International Store Front Construction



Needless Ruin and Waste

Last year a city street 1000 miles long burned down. It was lined closely on both sides with homes, factories, offices, churches, and school buildings. In dollars alone this annual conflagration causes a

$269,000,000 Loss

That does not take into account the persons injured nor burned to death. It does not represent the loss to the suspended businesses on that thousand-mile street while it is being re-built. That is actual property loss alone.

And this year and next year and the next year the same fire will sweep steadily onward unless buildings are fire-resistant in their make-up.

Herringbone Rigid Metal Lath

will protect the bearing members of a frame building until the firemen come. Herringbone, back-plastered with Portland cement (with proper fire-stops built into the studding) will more than cover the margin of safety needed.

Underwriters' Laboratories Test

A report on recent tests conducted at the Underwriters' Laboratories, Chicago, by W. C. Robinson, Vice President, indicate that Metal Lath and Portland Cement stucco finish (back plastered) and entitled to over a one hour rating even on wood studs. This means that a fire with a head-start on a tardy or inefficient fire department need not be a disastrous one—if HERRINGBONE holds the plaster and cement. Herringbone's perfect keying design will grip and hold the plaster against heat and water streams. Herringbone walls and ceilings never crack nor fall. A Herringbone building, even if of lumber frame, is a safe building, and Metal Lath again demonstrates its value in the rating just given it by the Underwriters' Laboratories.

The summary of the test by Mr. Robinson follows:

> "The results of the tests and investigations made indicate that under exterior fire exposures of average severity, the flame retardant and heat insulating properties of the finish (Metal Lath and Portland Cement stucco finish, back plastered) are such as to prevent the transmission of fire for about one hour, and that the finish can be classified as one-hour protection under such fire exposure"

The General Fireproofing Company

YOUNGSTOWN, OHIO

BRANCHES

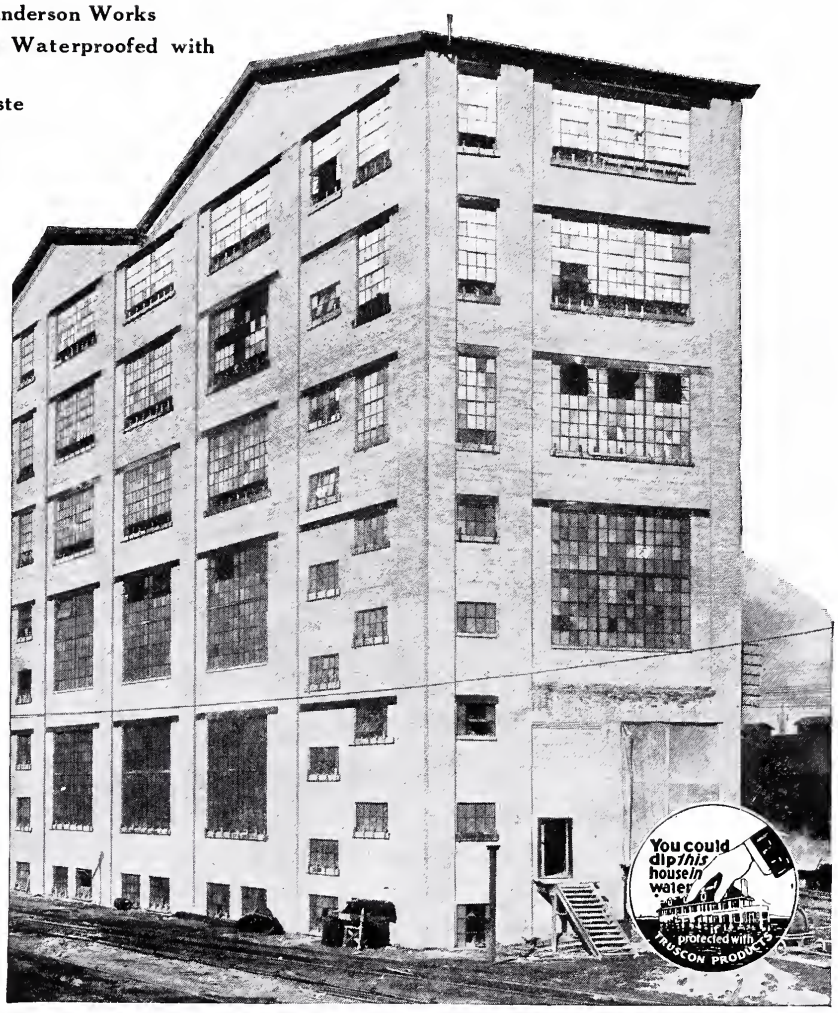
Buffalo Chicago New York Boston
Milwaukee Kansas City Minneapolis San Francisco
Philadelphia Omaha Atlanta

National Fire Prevention Week Oct-3-9

CRUCIBLE STEEL CO.—Sanderson Works
Basements and Concrete Tanks Waterproofed with
Truscon
Waterproofing Paste
Concentrated

Built On Marshy Land

The new Sanderson Works Plant of the Crucible Steel Company of America represents another triumph of modern waterproofing skill in the face of the severest hydrostatic condition. All basements, cement floors and walls, as well as several concrete tanks are efficiently protected with



W. H. Taylor, Construction Engineer

TRUSCON *Waterproofing Paste* CONCENTRATED

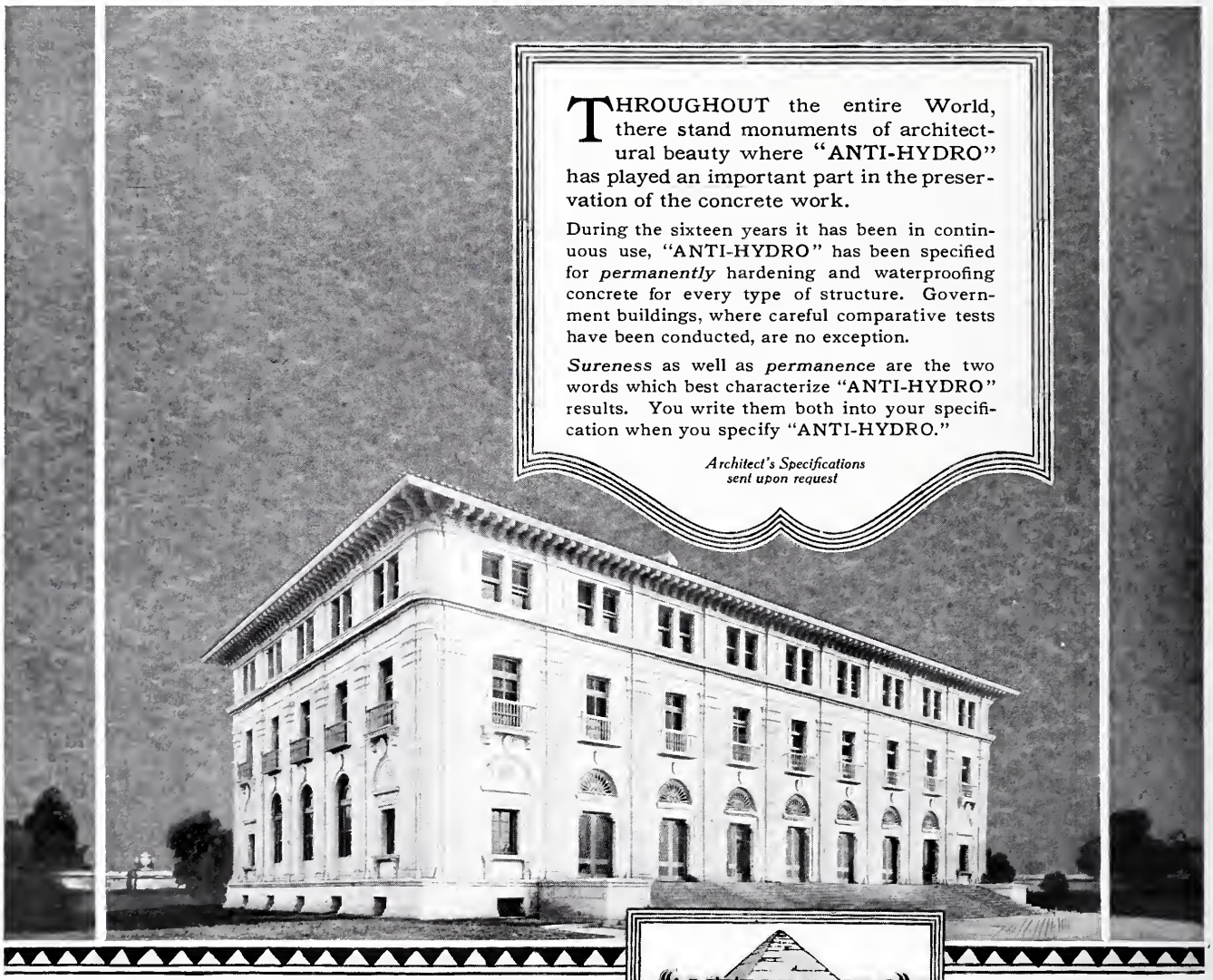
The porosity of masonry surfaces and their ready absorption of water is generally known. Hence, the necessity of a waterproofing as a "factor of safety" on all construction work is agreed upon. The Crucible Steel Company have used Truscon Waterproofing Paste extensively in practically all their plants. Consequently, when they came to the erection of the building shown above at Syracuse, where waterproofness was acknowledged an exceptionally difficult task, they put full reliance in Truscon. Needless to say their basements are absolutely waterproof—bone dry.

Integral Waterproofing Specifications sent free. Ask for book entitled "Structural Waterproofing"

THE TRUSCON LABORATORIES

The World's Largest Manufacturers of
Integral Waterproofings

DETROIT, MICHIGAN



THROUGHOUT the entire World, there stand monuments of architectural beauty where "ANTI-HYDRO" has played an important part in the preservation of the concrete work.

During the sixteen years it has been in continuous use, "ANTI-HYDRO" has been specified for *permanently* hardening and waterproofing concrete for every type of structure. Government buildings, where careful comparative tests have been conducted, are no exception.

Sureness as well as *permanence* are the two words which best characterize "ANTI-HYDRO" results. You write them both into your specification when you specify "ANTI-HYDRO."

Architect's Specifications sent upon request

"ANTI-HYDRO"
FOR PERMANENT CONCRETE
HARDENS WATERPROOFS

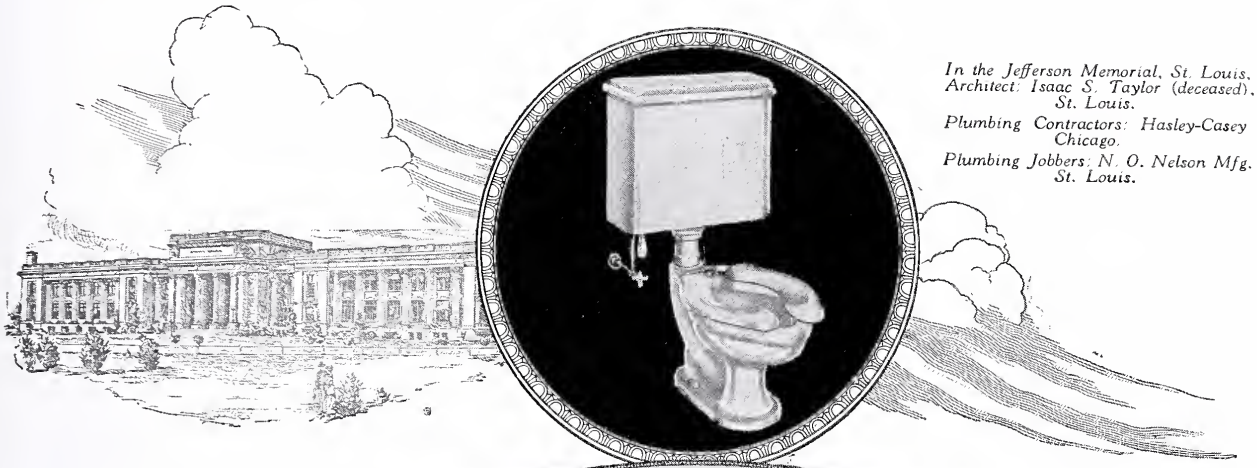
U. S. POST OFFICE, AUGUSTA, GA.
OSCAR WENDEROTH, SUPERVISING ARCHITECT
WM. H. FISSELL & CO., CONTRACTORS

WHEN a material is so inherently good and so honestly dependable as to score a sixteen year record of continuous success, you can make no mistake in recommending it to your clients.

By specifying "ANTI-HYDRO" you not only select a tried and proved material for your client, but you also indicate to the contractor your preference for a material which, by its very performance, has removed all doubt from the results you expect from him.

"ANTI-HYDRO"

ANTI-HYDRO WATERPROOFING CO.
299 Broadway, New York



In the Jefferson Memorial, St. Louis, Mo.
Architect: Isaac S. Taylor (deceased), St. Louis.
Plumbing Contractors: Hasley-Casey Co., Chicago.
Plumbing Jobbers: N. O. Nelson Mfg. Co., St. Louis.

MADDOCK

Permanence is an essential requirement in plumbing equipment

The Jefferson Memorial, St. Louis, Mo., where the dignity of the exterior and the permanence of the structure are reflected in the interior appointments, is equipped with Thomas Maddock sanitary fixtures.

Enduring service is one of the things provided by the use of Maddock fixtures. Lasting satisfaction, endless comfort and life-long health protection are other advantages that also are assured by the *permanence* of Maddock plumbing equipment.

Maddock fixtures are made entirely of glistening, practically unbreakable vitreous china which will stand years and years of service without repairs, without chipping, cracking or crazing and without even showing wear.

Write for our architect's catalog which fully describes the various forms of Maddock equipment designed for domestic, public building, medical and other special requirements.

See our section in the Fourteenth Annual Edition of Sweet's Catalog, pages 1037 to 1044.

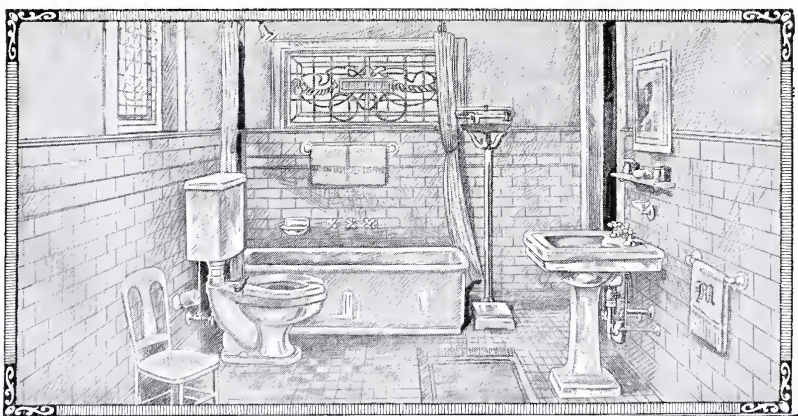
Thomas Maddock's Sons Company, Trenton, N. J.

OLDEST ▪ SANITARY ▪ POTTERS ▪ IN ▪ AMERICA —— ESTABLISHED 1859

Manufacturers of sanitary earthenware plumbing fixtures for bath, kitchen and laundry needs in the home; also sanitary ware for medical, industrial, commercial and public building installations

Branches: New York – Philadelphia – Chicago – San Francisco – St. Louis

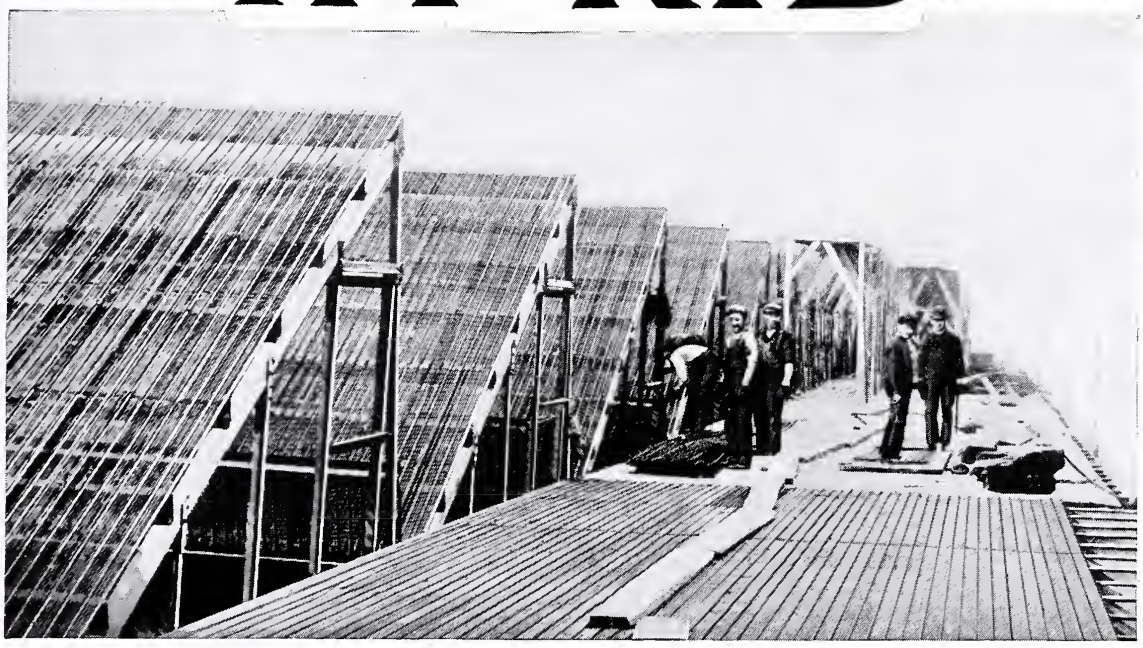
THOS. MADDOCK'S SONS CO. TRENTON, N.J.



The fixture shown in the panel is the Ariston. A vitreous china, silent-action, non-soiling, syphon jet closet. This pattern has the largest water surface of any closet made today. It has an extended lip, front and back. These features, together with the thin, sanitary flushing rim and other Maddock advantages, provide a greater degree of non-soiling insurance and better sanitation than that attained in any other closet construction.

First in the industry — foremost since

HY-RIB



Hy-Rib Saw-tooth Roofs before Concreting, Oliver Chilled Plow Co. Prack & Perrine, Architects

Quickly Erected, Concrete Roofs

The most practical roof for present-day needs is the Hy-Rib concrete roof. Fireproof, permanent and light in weight this roof is rapidly and economically erected without the use of forms and with minimum labor.

Hy-Rib is a steel mesh stiffened by rigid ribs all manufactured from a single plate. The Hy-Rib sheets are set in place, the concrete applied and the under surface plastered. The construction is very simple and rapid—no forms nor special equipment are required.

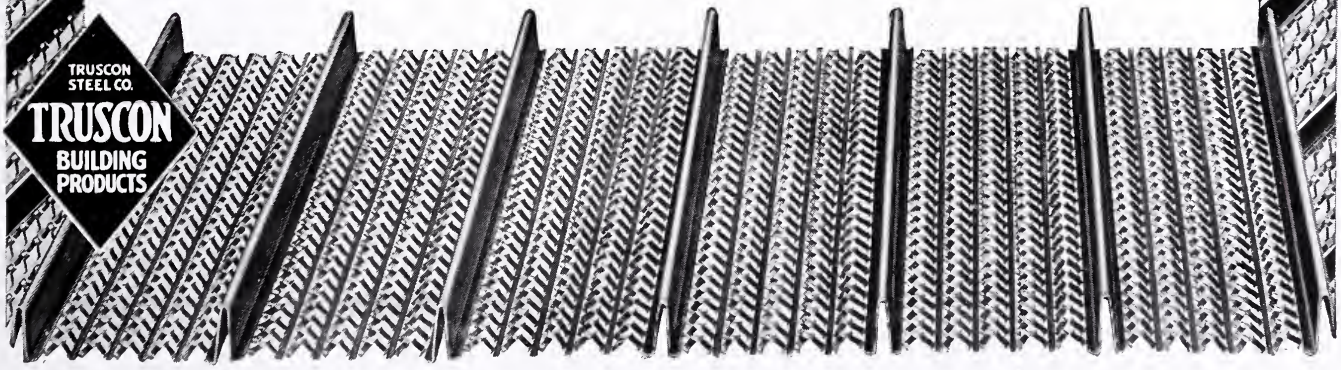
The Hy-Rib concrete roof is light in weight, using little material and is erected by few workmen. This thin slab effects a great saving in dead weight and reduces the size and cost of roof members, columns and foundation.

Thousands of manufacturers have availed themselves of the advantage and economy of Hy-Rib not only for roofs but also for sidings, partitions, ceilings, floors, etc. Investigate Hy-Rib for your prospective building by writing to-day for Hy-Rib book.

TRUSCON STEEL COMPANY, YOUNGSTOWN, OHIO

Warehouses and Sales Offices in Principal Cities

TRUSCON STEEL CO.
TRUSCON
BUILDING PRODUCTS



For Your Client's Satisfaction

— *specify* BRIKLATH

As solid and durable when set as a brick wall, yet as pliable as cloth in its application, Briklath is at once the most practical as well as the most saving in money, time and labor of any lath now on the market.

Made from brick clay baked on steel wire mesh, Briklath is a fireproof lath. And because it may be plastered on *both* sides Briklath used for partition walls saves floor space to an appreciable extent, at the same time eliminating studding.

Fitting all angles and corners tightly and easily, Briklath is the most adaptable for all purposes, whether on interior walls or ceilings or for exterior work, stucco, etc.

The most effective working out of your plans and ideas can be attained with Briklath. Specify it — it will enhance your reputation.

Composite Metal Lath Co.

1008 Majestic Building
Chicago

Factories at
NEW CHICAGO, IND.
ATHENS, N. Y.

New York Office
110 WEST 40th ST.
NEW YORK CITY

Smoke bears acids that destroy most screening

Rust rarely works alone

Rust gets its foothold on metal pitted by salty moisture or by the smoke borne acids found wherever coal is burned.

Such corrosive forces are the recognized destroyers of iron, steel or even bronze and copper. Is it any wonder then that screening made of these materials gives such relatively short service.

MONEL metal is untouched by rust

MONEL metal has proven its remarkable resistance to just such chemical solutions in its long service record in industrial use, as filter cloth machine parts, etc. The first MONEL metal window screening put up on seashore cottages over nine years ago shows no sign of corrosion today.

Its mechanical strength is 60% greater than copper

Nor is resistance to rust and corrosion the only claim MONEL screening makes for specification preference. Its extraordinary wire strength largely eliminates the sag and the wire breaks resulting from rough usage. Then, too, visibility is increased since lighter wire can be used in the finer meshes.

Economies to be had in MONEL screening

The long service life of MONEL screening makes its higher initial cost an ultimate economy. And it can be ordered in widths that will cut exactly to your window openings without waste. Our distributors stock the following widths, meshes and gauges:

Widths—18, 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46 and 48 inches.
Meshes—14, 16 and 18. Gauges—.009 for 18 mesh; .010 for 14 and 16 mesh.

MONEL screen is made in the usual widths, meshes and gauges. Write us for names of manufacturers where MONEL metal screen may be obtained.

Other common uses of MONEL are roofing, flashing, ornamental trim, hinges, screws, bolts, nails, etc.

The name MONEL is given to a line of metal products produced by The International Nickel Company from a natural nickel alloy—67% nickel, 28% copper and 5% other metals. These products include MONEL blocks, MONEL rods, MONEL castings, MONEL wire, MONEL strip stock, MONEL sheets, etc. The name MONEL identifies the natural nickel alloy as produced by The International Nickel Company.

THE INTERNATIONAL NICKEL COMPANY
43 Exchange Place, New York
The International Nickel Company of Canada, Ltd., Toronto, Ontario

screen

INCO MONEL METAL TRADE MARK INCO NICKEL MARK

THE INTERNATIONAL NICKEL COMPANY

What Saved the Omaha Court House

The illustration shows what happened—how the hot blaze from the burning county records damaged the walls, ceilings and columns. But the picture tells more than this! The ceilings were of hollow tile, while the steel beams were furred with 24 gauge

Kno-Burn

Expanded Metal Lath. *And the plaster for which metal lath was a vehicle remained intact.* This is merely another case which serves to prove the merits of metal lath. As long as this plaster remained in place it kept the flames away from the structural steel which was the support of this building. The building is now being remodeled and KNO-BURN Lath is again to be used wherever adaptable.

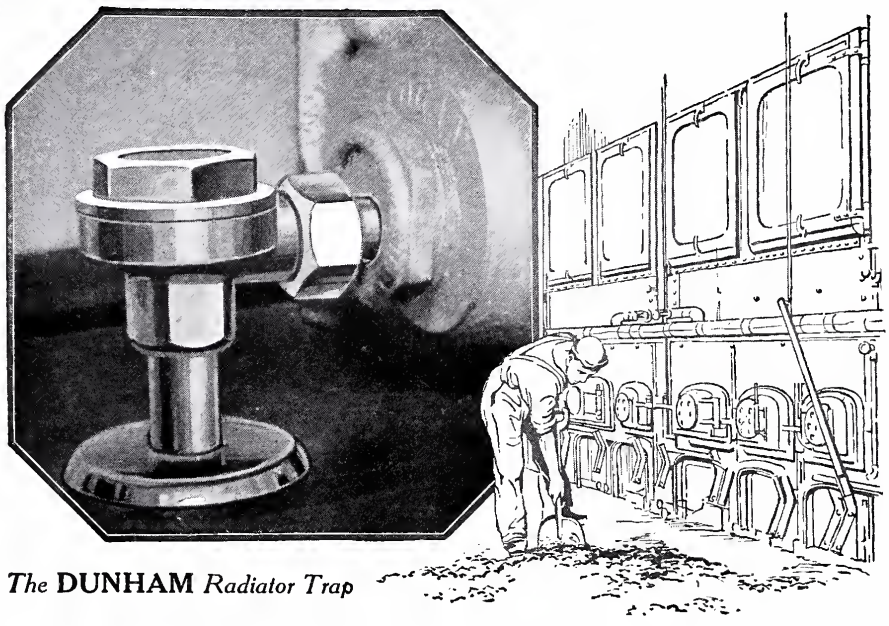
More and more architects are adding to their reputation by specifying metal lath as a base for interior plaster and ornamental work, also for exterior stucco—not only in public buildings, but in all kinds of construction such as homes, schools and churches, where protection for the occupants, permanence and fireproofness are factors to be considered.

NORTH WESTERN
EXPANDED METAL COMPANY
934 OLD COLONY BUILDING
CHICAGO

New York Boston Atlanta Cincinnati Los Angeles Minneapolis

Fire Prevention Week and Metal Lath Week October 3d to 9th

NORTH WESTERN
EXPANDED METAL CO.
OLD COLONY BUILDING CHICAGO, ILL.



The **DUNHAM** *Radiator Trap*

Not primarily a fuel saver, yet it has a top-notch record for B. T. U.s saved

Neither your best interests, nor ours, are served by exaggeration. For that reason we are extremely conservative when stating the fuel-saving ability of the Dunham Radiator Trap.

In home heating systems, the methods of firing vary so, that we positively refuse to make any definite claims regarding economy. But large installations form a different story—and one which you will find most interesting. May we tell it to you?—that you may see just where the Dunham Radiator Trap fits into the fuel-saving scheme.

"The Dunham Hand Book" is full of facts. Send for your copy.

Dunham Specialties

Packless Radiator Valves
Radiator Traps
Drip Traps
Blast Traps
Air Line Valves
Vacuum Pump Governors
Reducing Pressure Valves
Oil Separators
Suction Strainers
Air Vents
Return Traps
Check Dampers
Damper Regulators

The DUNHAM HEATING SERVICE
REG. U.S. PAT. OFF.

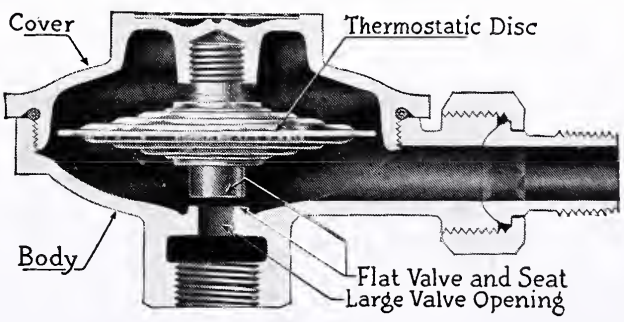
C. A. DUNHAM CO., Fisher Building, CHICAGO

Factories: Marshalltown, Iowa; Toronto, Canada

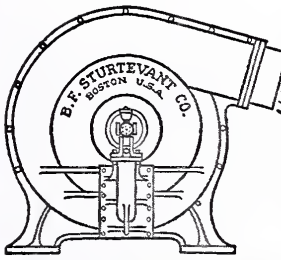
Branches in 36 cities in United States and Canada

London: 64 Regent House, Regent Street, W. 1.

Paris: Establts. Munzing & Cie., 47 Rue de la Fontaine-au-Roi



Cross-section of No. 2 Trap



Sturtevant

REG. U.S. PAT. OFF.

PUTS AIR TO WORK

Importance to the Architect of Securing Efficient Heating and Ventilating

THERE is no greater pride indulged in by important institutions than that from the possession of a fine architectural building. The creation of these structures is a highly valued contribution of the architect. A second function of architectural service and of equally great importance as design is the choice and supervision of mechanical installations on which a building depends for efficient service. The careful architect exercises an intelligent discrimination in the choice of so important a feature to his client as heating and ventilating.

In the consideration of your problems, we offer the cumulative experience of sixty years in the design and manufacture of heating and ventilating appliances. We welcome the opportunity of discussing with you any phase of ventilation, and recommend the early consideration of the problem because of the many structural features which affect the installation. Satisfactory conditions can be easily arranged in the early stages of a plan; if postponed a compromise is the usual result which is unfair to both architect and client.

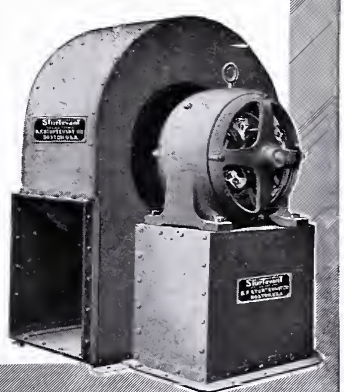
For your convenience in securing ready information about our products there are eighteen pages of definite data in Sweet's Catalog. Our twenty-four branch engineering offices in the principal cities are open for consultation and at Hyde Park, Mass., our research and engineering departments are equipped to consider the more exacting problems of any installation.

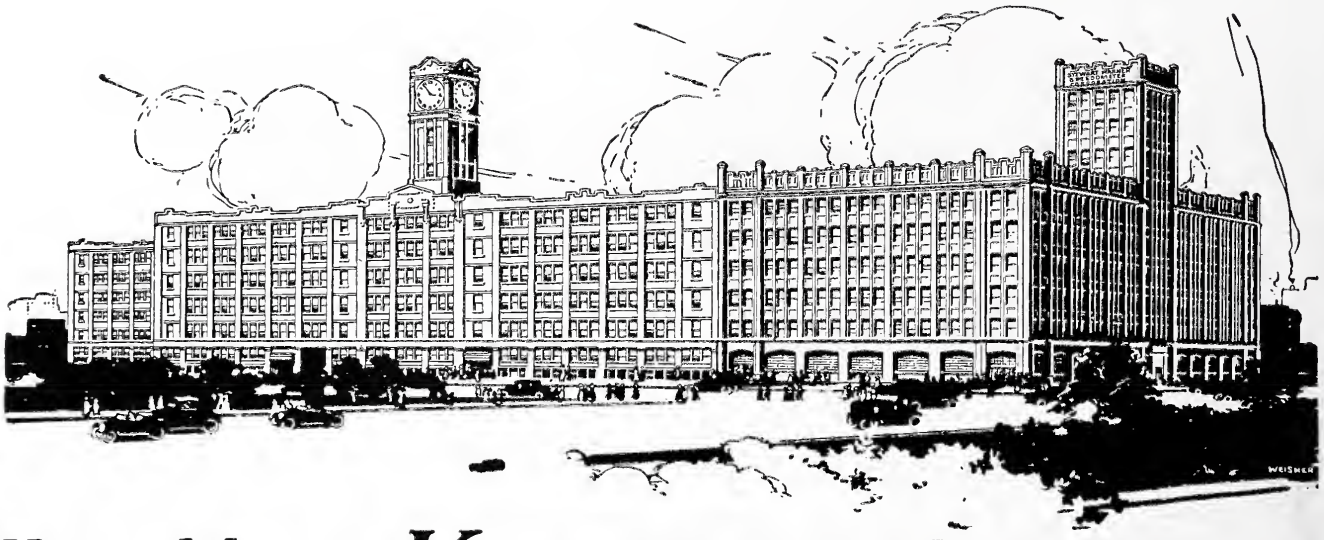
Descriptive matter sent upon request

B. F. STURTEVANT CO.

HYDE PARK, BOSTON, MASS.

AND ALL PRINCIPAL CITIES





Heated by 12 KEWANEE Smokeless Boilers

One of the Biggest Low Pressure Heating Boiler Plants in the World

Stewart-Warner Speedometer Corporation
CHICAGO

Picture shows Diversey Blvd. and Lincoln St. Sides.

L. G. Hallberg & Co. Chicago, Architects.

George A. Henrich Company, Heating Contractors.

12 No. 120 Kewanee Smokeless Boilers, of a total heating capacity of 192,000 square feet of radiation.

The above is a picture of the Stewart-Warner Speedometer Corporation plant on Diversey Parkway, Chicago, which has been using 6 Kewanee Smokeless low-pressure heating boilers for 4 years. They *have become so fond of them* that they have now ordered 6 more to heat new buildings now being erected. The twelve boilers will heat a radiation surface of 192,000 square feet.

This is one of the biggest low-pressure heating boiler plants in the country and it is just as well to add that the Stewart-Warner concern is the most successful builder of speedometers in the world and does not buy anything that is not absolutely the best. The Kewanee boilers were chosen by the architect with approval of the mechanical engineer of the Stewart-Warner Corporation.

Several years of practical experience with 6 Kewanee Boilers have given the Stewart-Warner Corporation a mighty keen appetite for more Kewanees to heat their new building. Zowie! That's the kind of unasked testimonial *that is worth its weight in gold in an advertising sense.* You can't *buy* it to save your soul.

All through the industrial world where men are practical and cold as Greenland's icy mountains, the fame of Kewanee is spreading like the desire for real liberty and good government.

One of the big facts that stands out like a wart on your neck, is that *competent engineers* who choose the heating boilers for the big plants, *invariably want steel boilers,* and usually the Kewanee Smokeless boiler is the boiler that they pick.

If you are about to erect an industrial plant or any big building of any description, you'd better build the heating plant on a rock and avoid the shifting sands which are all around you.

ALSO KEWANEE RADIATORS

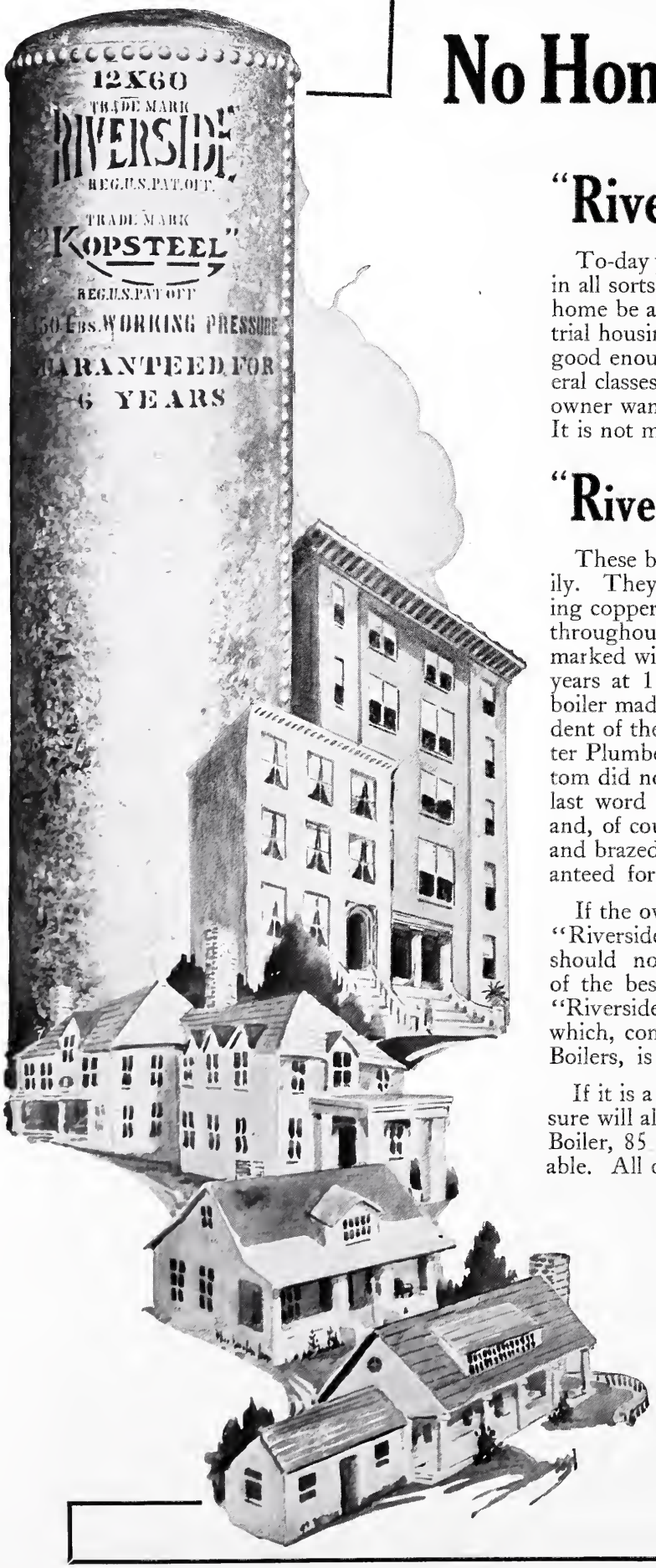
KEWANEE BOILER COMPANY

KEWANEE, ILLINOIS

Branch Offices:

CHICAGO	Market & Washington Sts.	ST. LOUIS	1212 Chemical Bldg.	PITTSBURGH	945 Oliver Bldg.
NEW YORK	47 W. 42nd St.	MINNEAPOLIS	708 Builders Exchange	DALLAS	Southwestern Life Bldg.
DES MOINES	315 Hubbell Bldg.	WASHINGTON, D.C.	534 Southern Bldg.	DETROIT	1925 Ford Bldg.
KANSAS CITY	2014 Wyandotte St.	SALT LAKE CITY	Scott Bldg.	TOLEDO	629 Nicholas Bldg.
INDIANAPOLIS	3105 N. Pennsylvania St.	MILWAUKEE	Mer. & Mfrs. Bank Bldg.	CLEVELAND	706 Rose Bldg.

CANADIAN REPRESENTATIVES—The Dominion Radiator Co., Ltd.
Toronto, Ont., Montreal, Que., Winnipeg, Man., Hamilton, Ont., St. John, N. B., Calgary, Alta., Vancouver, B. C.



No Home is Too Good

for the

"Riverside" Range Boiler

To-day you will find the "Riverside" Range Boiler in all sorts of homes. It matters not whether the home be a high class residence or one of an industrial housing proposition. The "Riverside" is made good enough for any and all uses. It is made in several classes, and it is purely a question of what the owner wants to pay. It has real Quality built into it. It is not merely a receptacle for water.

"Riverside" Kopsteel Boilers

These boilers are the best of the "Riverside" family. They are made of specially selected rust-resisting copper steel, and a double extra thickness is used throughout. Each boiler is tested to 300 lbs., but is marked with and carries a definite guarantee of six years at 150 lbs. working pressure. Tests of this boiler made under the supervision of a former President of the Massachusetts State Association of Master Plumbers showed that at 300 lbs. plus the bottom did not bulge a hair! This boiler represents the last word in galvanized range boiler construction, and, of course, like every "Riverside," it is riveted and brazed. Remember that it is marked and guaranteed for six years at 150 lbs. working pressure.

If the owner cannot afford the extra cost of the "Riverside Kopsteel" Boiler (which, by the way, should not cost more than one-half to one-third of the best copper boiler made), then specify the "Riverside" Extra Heavy, 150 lbs. working pressure, which, compared with other so-called Extra Heavy Boilers, is really a "Super-Extra Heavy" Boiler.

If it is a question of price entirely, and if the pressure will allow it, the "Riverside" Standard Range Boiler, 85 lbs. working pressure, will be found suitable. All of these boilers are Riveted and Brazed.

"Look us up in Sweet's"

RIVERSIDE BOILER WORKS, Inc.

The Quality Range Boiler Builders

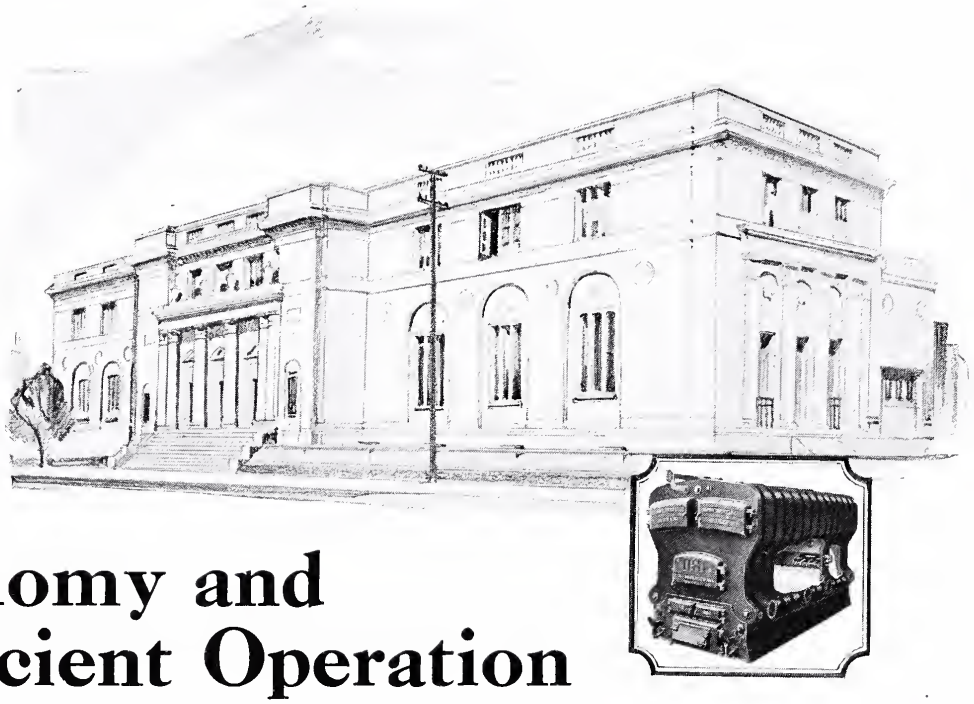
Cambridge, Mass.

Legler Branch of Chicago Public Library

Heated by three Imperial Super-Smokeless Boilers

A. S. Alschuler Architect

F. W. Lamb Co. Heating Contractors



For Economy and Efficient Operation

there is no question of the superiority of the Imperial Super-Smokeless Boiler. And the secret of this lies in the *Hot Blast Chamber* at the rear of the fire-box. Here those rich gases and smoke that usually rush up the chimney, unconsumed, are caught, burned and their high heating value utilized.

Through its perfect combustion, the Imperial will burn all fuels successfully and thus put the owners beyond the reach of fuel troubles. Smoke is eliminated.

Only normal draft need be provided and, as there is only one grate and the construction is simple, inexperienced help can operate the Imperial successfully — an additional source of economy.

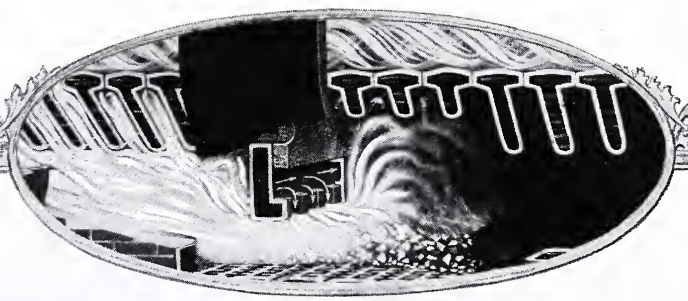
Send for our literature and list of installations in apartments, garages, office buildings, large residences, public and private institutions in cities throughout the country.

UTICA HEATER COMPANY, Utica, New York

218-220 W. KINZIE STREET, CHICAGO, ILL.

Branches in all principal cities

A 20-5



Section through the Hot Blast Furnace Chamber

of the Imperial Super-Smokeless Boiler

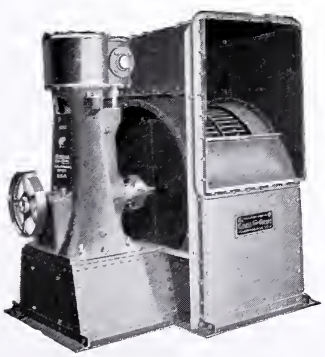
Imperial Super-Smokeless Boilers

Architects
Perkins, Fellows & Hamilton
Chicago, Ill.

Pontiac is Twenty-Six Miles from Detroit –

Moreover, Pontiac Schools are famous. Great care has been taken to provide adequate buildings for the school children. This High School in Pontiac, Michigan, is an architectural feast from without and a marvel for convenience and health within.

It is only to be expected that Clarage Fan Equipment was selected for heating and ventilation. Every day, winter and summer, these students enjoy the comfort and beneficial effects of clean, fresh air, correctly temperatured.



HEATING AND VENTILATING UNIT
Clarage Multiblade Fan and Clarage Steam Engine

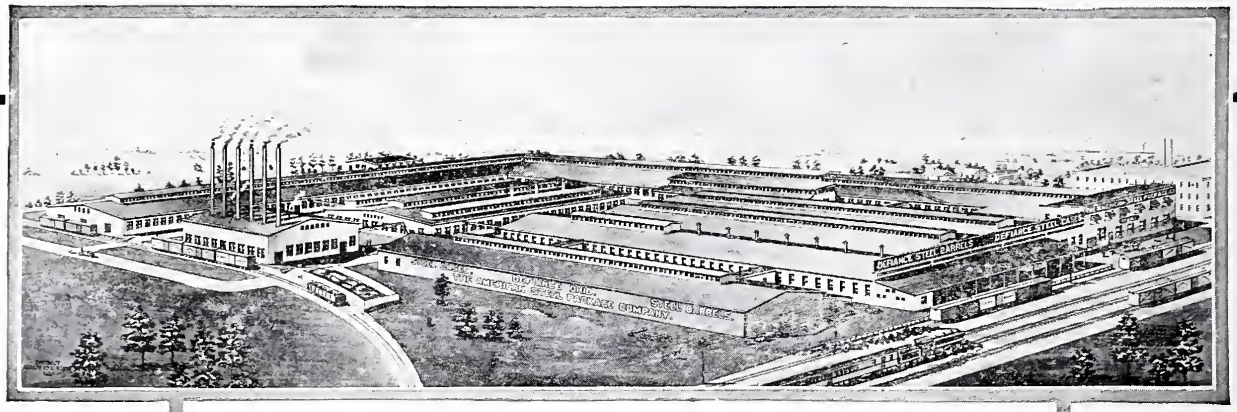
Why not allow Clarage Engineers to co-operate with you on your next proposition? Anyway, write for literature to-day.

CLARAGE FAN COMPANY

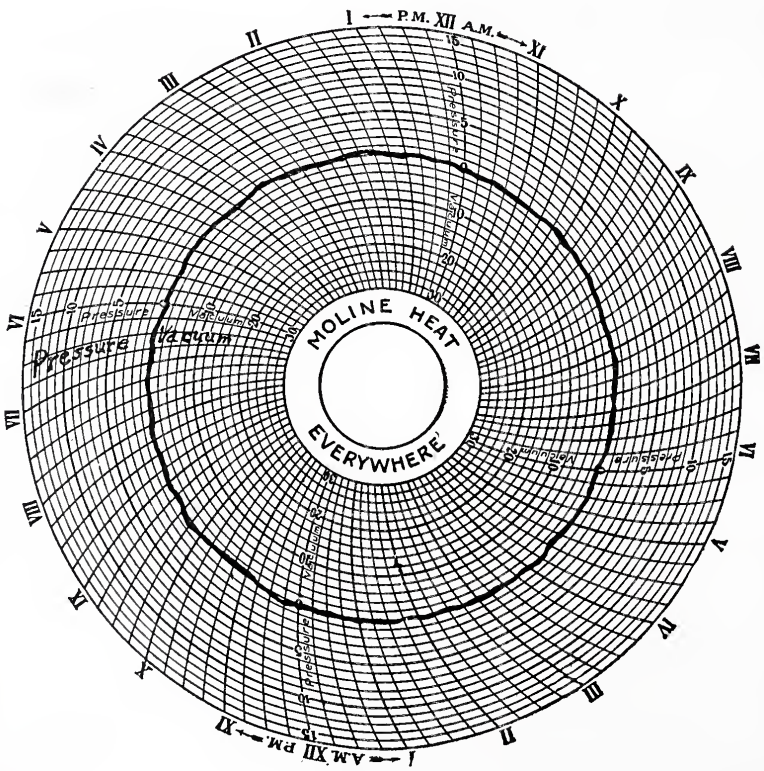
PORTER STREET, KALAMAZOO, MICHIGAN

Engineering and Sales Offices in Principal Cities

Manufacturers of Fans, Blowers, Heaters, Steam Engines, Etc.



American Steel Package Co., Defiance, Ohio



Over 300 Radiators without Automatic Traps

Over 40,000 square feet of Radiation—No Vacuum Pumps

OVER 40,000 square feet radiation supplied with exhaust steam at pressure shown on chart. Superintendent says he gets either his heat or his power without cost. Over three hundred radiators and coils without traps—no vacuum pumps. Consider the saving in operating and maintenance cost.

Norbury Sanitarium, Jacksonville, Illinois
Jacksonville Plumbing & Heating Co., Heating Contractors C. W. Buckingham, Architect

This building is heated by Moline Heat rrom a boiler plant in a laundry building separated from this building without any pump or any automatic traps on the radiators

SIZE CHARACTER or LOCATION

It Makes No Difference —

Moline Heat Equipment is simple, positive and dependable, and —

Moline Heat has a co-operative service that you as an Architect can profitably use.

Moline Heat does not submit plans and specifications for competitive purposes, but when you specify Moline Heat complete Construction Details are submitted for your approval—thus insuring that Moline Heat Equipment will be installed properly and under proper conditions.

That is your insurance—your client's insurance—and your business as an Architect can be made more profitable.

Moline Heat has proven equally successful for the smallest residence as well as for the largest factory or school fan blast system.

Your inquiries are solicited.
Catalogs upon request.

See complete specifications in Sweet's Catalog pages 1417 to 1436, Fifteenth Edition

Address Moline Heat, Department C

Moline Illinois

I. J. Moebs Apartments, Washington, D. C.

460 radiators on this plant, with no automatic traps on them. Moline Heat does the work without any pumps to produce circulation

O. Cunningham Residence
Baxter, Iowa

Murphy Univernish

Impervious to Boiling Water

BEAUTY of course, but cleanly, sanitary beauty—beauty that endures—that is every woman's ideal of home decoration.

Specify Univernish for *all* woodwork because it is beautiful, but more important still, because it stays beautiful under repeated scrubbings with boiling water.

Use Univernish in kitchen and bathroom, on outside of doors, on hall and vestibule floors, on window sills, on table tops—wherever woodwork is exposed to water, boiling hot or cold, hot liquids of all kinds, ammonia, alcohol or powerful cleaning agents which destroy ordinary varnish.

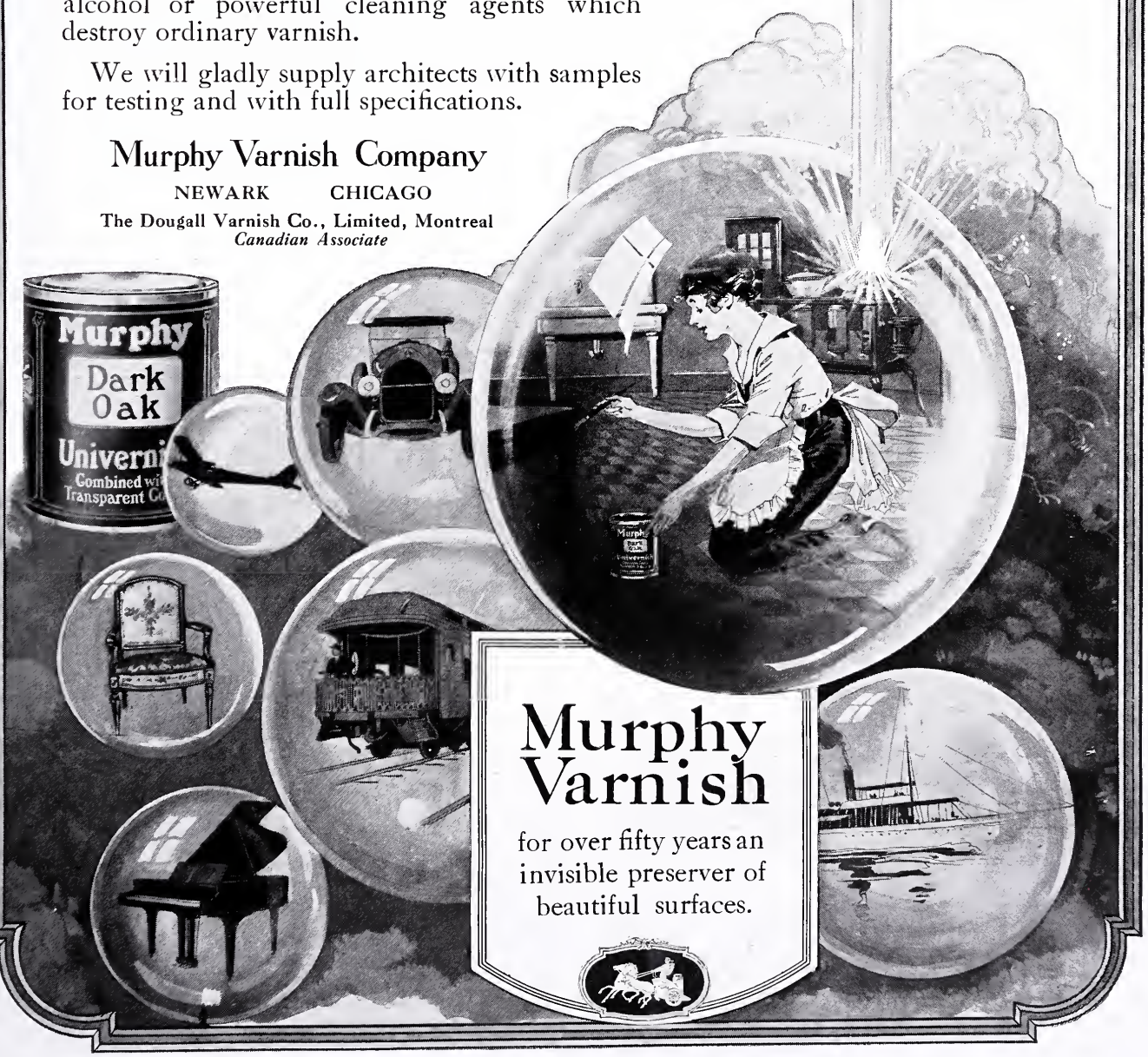
We will gladly supply architects with samples for testing and with full specifications.

"Save the Surface and You Save All"—Paint and Varnish.

Murphy Varnish Company

NEWARK CHICAGO

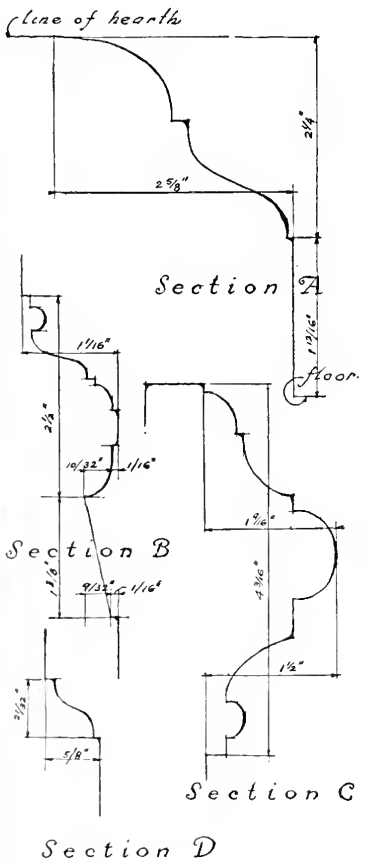
The Dougall Varnish Co., Limited, Montreal
Canadian Associate

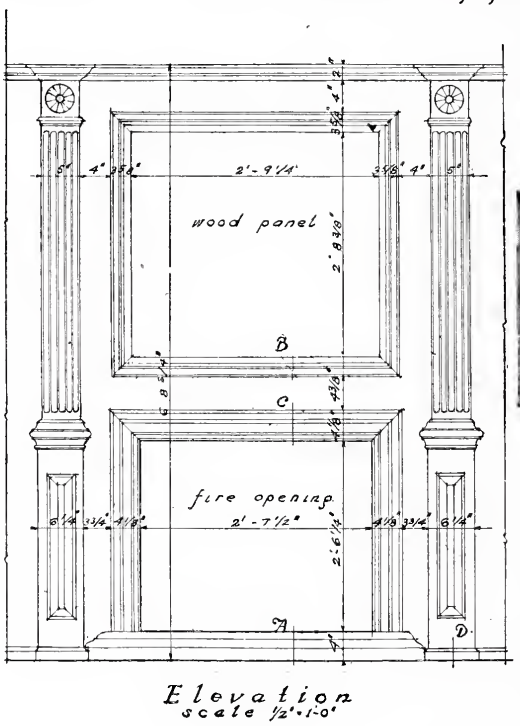


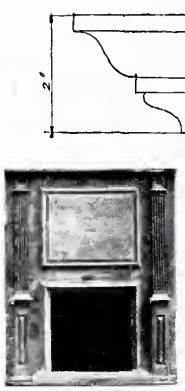
Murphy Varnish

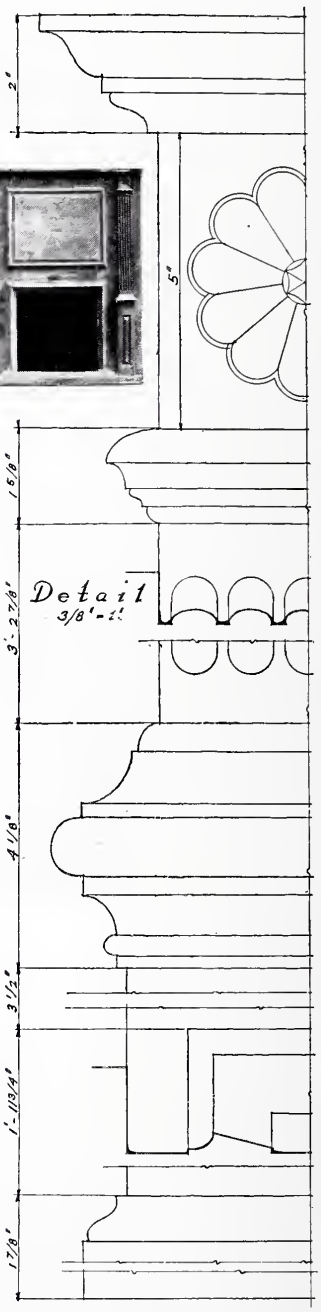
for over fifty years an invisible preserver of beautiful surfaces.

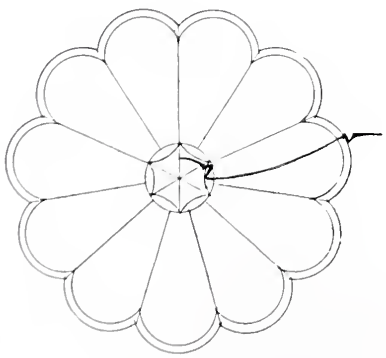
All sections are drawn one half full size











Rosette

MANTEL FROM A HOUSE IN COVENTRY CONN

Now in the Metropolitan Museum of Art

NEW YORK CITY

Measured & drawn by
Edgar & Verna Cook Salomonsky

THIS REGISTERED TRADE-MARK IS INDELIBLY STAMPED IN THE END OF EVERY BOARD OF TRUE "TIDEWATER" CYPRESS. LOOK FOR IT.

Why, Oh, Why, Oh, Why, Oh, Why CYPRESS

Why, because it's the lumber that lasts and lasts and lasts and lasts and lasts and lasts and then starts in lasting and lasts a long time yet till you almost wish you had some excuse for inoculating it with decay-germs only you can't do that because they'd die on the job and that's why it's called "the Wood Eternal" of course. Beautiful is its grain for rich interiors and carved panels, etc., and Longevity is an ephemeral word to apply to the durability of Cypress, which is, as has so well been said by those who know as much about it as we do—"the Wood Eternal" sure enough.

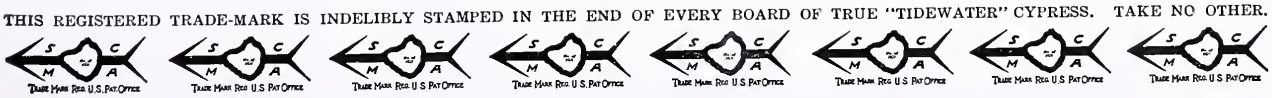
Let our "ARCHITECTS' DEPARTMENT" help YOU. Our entire resources are at your service with reliable counsel. We invite correspondence with a serious purpose in it.

Southern Cypress Manufacturers' Association

1234 Perdido Building, New Orleans, La., or 1234 Heard National Bank Building, Jacksonville, Fla.

SPECIFY AND INSIST ON "TIDEWATER" CYPRESS.
IDENTIFIED BY THE CYPRESS ASSN.'S REGISTERED TRADE-MARK.
IF IN ANY DOUBT, PLEASE WRITE US IMMEDIATELY.

THIS REGISTERED TRADE-MARK IS INDELIBLY STAMPED IN THE END OF EVERY BOARD OF TRUE "TIDEWATER" CYPRESS. TAKE NO OTHER.



Douglas Fir
Northern White Pine
Idaho White Pine
Western Soft Pine

Arkansas Soft Pine
Washington Red Cedar
Red Fir and Larch
Norway Pine

WHY THIS TRADE-MARK MEANS A NEW SERVICE IN THE LUMBER BUSINESS

IN nearly everything we buy or use we have become accustomed to look for a standard article of known merit.

We want to know where it comes from, who is back of it, what can be expected of it, and how it compares in quality and price with similar merchandise sold for a like purpose.

This is a busy world. We cannot take the time to learn solely by our mistakes; we may learn too late.

We cannot wait to test every coin we accept in payment for goods or services. So we have a standard currency—the Government's stamp or trade-mark to certify its worth.

For like reasons we insist on products with the stamp or trade-mark of responsible manufacturers to assure us the value we pay for.

Some of these makers' stamps are almost as dependable as the mint-mark on a coin.

Yet when it comes to lumber most of us know very little about it; what species or grade of wood is best for the purpose we have in mind, where it comes from, who manufactures it.

As substantial factors in the lumber business, the Weyerhaeuser people want you to think more about the wood you use. To this end they will supply to lumber dealers and to the public any desired information as to the qualities of different species and the best wood for a given purpose.

This service will be as broad and impartial as they know how to make it. They are not partisans of any particular species of wood. They advise the best lumber for the purpose, whether it is a kind they handle or not.

What they advocate is conservation and economy through the use of the right wood in its proper place.

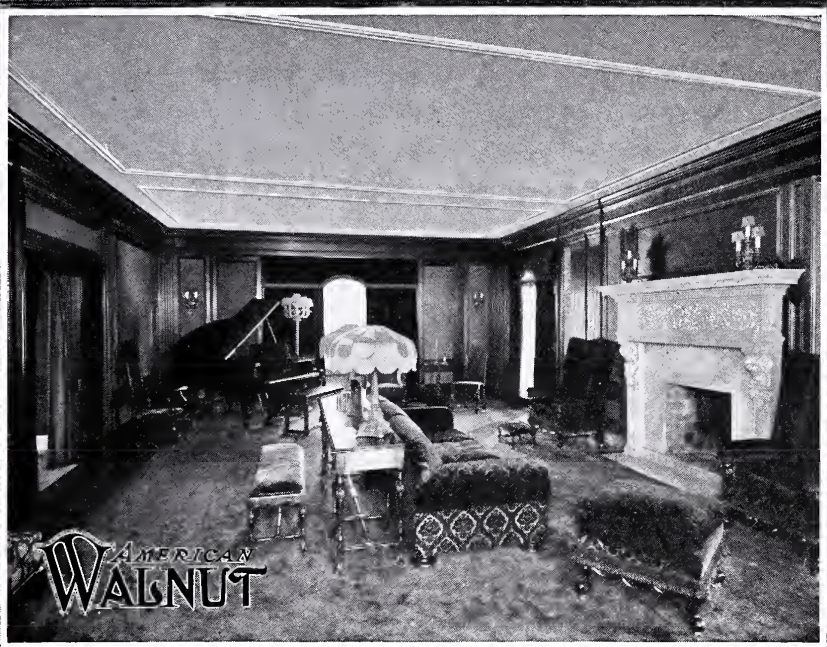
From now on the Weyerhaeuser Forest Products trade-mark will be plainly stamped on their product. You can see it for yourself at the lumber yard or on the job after it is delivered.

When you buy lumber for any purpose, no matter how much or how little, you can look at the mark and know that you are getting a standard article of known merit.

WEYERHAEUSER FOREST PRODUCTS
SAINT PAUL • MINNESOTA

Producers of Douglas Fir, Washington Red Cedar and Cedar Shingles on the Pacific Coast; Idaho White Pine, Western Soft Pine, Red Fir and Larch in the Inland Empire; Northern White Pine and Norway Pine in the Lake States; and Arkansas Soft Pine in the South.

THIS BORDER IS A SKETCH "FROM LIFE" OF A FINE EXAMPLE OF CARVING IN AMERICAN WALNUT



Living Room, Residence of A. C. Lewis, Esq., Dallas, Texas. Mr. H. B. Thompson, Architect, Dallas, Texas. American Walnut Panels and Furniture.

Permanent Panel Work

THE rich beauty of American Walnut is equaled by its splendidly satisfactory behavior.

American Walnut *stays put*—even under conditions as difficult as those of broad panels and long mouldings.

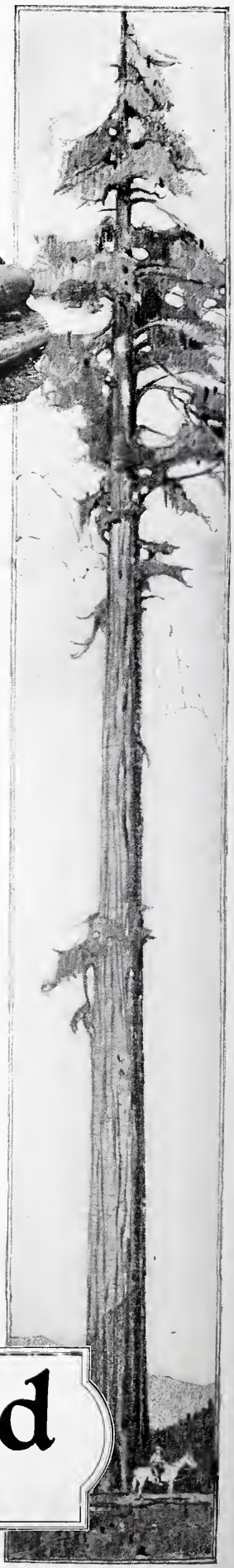
So American Walnut justifies the highest type of workmanship—yet will do more by its inherent qualities than any other wood to offset deficient workmanship—a merit worth considering these days.

SAMPLES DISPLAYED WITH ARCHITECTS SAMPLES CORP. NEW YORK CITY

The Walnut "Brochure de Luxe" is an interesting historical summary containing authentic engravings of many furniture masterpieces in Walnut. May we send it?

AMERICAN WALNUT MFRS.' ASSOCIATION
Room 1000, 616 South Michigan Boulevard, Chicago

Bored Redwood pipe used for 16 years as part of underground public water distribution system at Fort Bragg, California.



A Hard Test for Wood

Six-inch bored Redwood pipe used for 16 years as part of an underground water distributing system. Then piled, as shown above, in the weather for 10 years! Still perfectly sound, and now used as part of the water system on a ranch. The rancher says he believes they will outlast new iron pipe for his purpose.

Nature has provided Redwood with a *preservative* which prevents the growth of decay-producing fungi.

This unusual quality renders Redwood unexcelled for all sorts of construction exposed to earth, chemicals, weather or moist atmosphere, such as siding, weather boards, shingles, mudsills, foundation posts, curbing, fence posts, flumes, culverts, pipes, tanks, vats, silos, mill roofs, and scores of specialty products, such as beehives, battery separators, casket shells and boxes, greenhouse and garden furniture, etc.

Redwood also resists fire, because free from pitch or resin—a valuable quality in wood. And because of its porous nature, Redwood takes and holds paint exceptionally well. It is easily worked and when properly seasoned will not shrink, warp, or swell.

Gradually increasing knowledge of the unusual and peculiar properties of Redwood for many building, industrial and specialty purposes, has resulted in a demand for this lumber to the extent of taxing the present facilities of the Redwood mills. The mills are making every effort to enlarge their production to take care of the increased demand. There has also been a persistent demand from lumber users and prospective users for further information about this remarkable wood, and this series of advertisements is for the purpose of providing such information.

CALIFORNIA REDWOOD ASSOCIATION
760 EXPOSITION BUILDING, SAN FRANCISCO

California Redwood
Resists Fire and Rot

A quiet floor of Armstrong's Cork Tile

First National Bank, Portland, Ore. F. H. Miles, Supervising Architect

Where Comfort and Quietness Are Essential

THE bank floor makes a peculiar demand upon the architect. He must design a floor that will be not only dignified, but in harmony with the nature of the business, and the other architectural features and decorations as well. In addition, the floor must be quiet, easy and comfortable under foot, and capable of resisting the wear that is concentrated on limited spaces. Hence, choice of materials is greatly restricted, as few possess the necessary qualifications.

Armstrong's Cork Tile meets the most exacting requirements of a bank floor without sacrifice of any of the refinements — beauty, cleanliness, warmth or any other desirable quality.

Made of clean cork shavings, a floor of Armstrong's Cork Tile is almost as quiet and restful as a carpet. It excludes any possibility of the mental and physical fatigue induced by hard, noisy floors, and in this way maintains morale and efficiency.

Furthermore, Armstrong's Cork Tile is non-absorbent, easily cleaned and remarkably durable, while the beautiful shades of brown and many sizes give unlimited scope for originality in design and treatment. In short, a floor of Armstrong's Cork Tile earns for the bank the gratitude and good will of its employees and for the architect the appreciation of his client.

A request to this address will bring you a copy of the book, "Armstrong's Cork Tile," and, if you so desire, put you in touch with the Company's representative in your district.

Armstrong Cork & Insulation Company, 132 Twenty-fourth St., Pittsburgh, Pa.

Also manufacturers of Nonpareil Cork Covering for cold pipes; Nonpareil High Pressure Covering for steam lines; Nonpareil Insulating Brick for boiler settings, etc.; Nonpareil Cork Machinery Isolation for deadening the noise of machines; Circle A Cork Brick for cold storage room floors, and Linotile for floors in offices, residences, etc.

ARMSTRONG'S CORK TILE

REGISTERED U.S. PAT. OFF.

Photographs show the Little Building, Boston, Mass. Architects: Blackall, Clapp & Whittemore. Contractors: L. P. Soule & Son Co. Gold Seal Battleship Linoleum laid throughout entire building by C. C. Bailey Co.

Permanent Floors In Permanent Buildings—

Permanence, silence and comfort underfoot, economy and ease of cleanliness—these qualities have made *Gold Seal* Battleship Linoleum practically standard for the floors of modern office buildings like the Little Building, Boston.

But not only in office buildings—in auditoriums, theatres, industrial structures and hospitals, *Gold Seal* Battleship Linoleum has proved absolutely suitable.

Always in the best of taste, uniformly serviceable, it lends a remarkably attractive appearance to the floors in any well appointed up-to-date building.

Its durability is beyond question. It more than meets the rigorous Navy specifications for deck service on U. S. battleships. But for the complete assurance of your client, you have only to point to the Gold Seal Guarantee which appears on every two yards of *Gold Seal* Battleship Linoleum. This guarantee is clear—"Satisfaction Guaranteed or Your Money Back." We are proud to back this pledge of satisfaction to the letter.

Specification for laying *Gold Seal* Battleship Linoleum on request from the nearest office.

Gold Seal Cork Carpet

For those places where absolutely noiseproof floors are needed. This wonderful floor-covering is as velvety quiet underfoot as the heaviest Axminster carpet. It is made in soft, restful shades of brown, green and terra cotta—with polished or dull surface—10 shades in all. You will find it remarkably durable and, of course, it bears our iron-clad Gold Seal Guarantee.

Samples and specifications for laying *Gold Seal* Battleship Linoleum and Cork Carpet sent upon request. Submit your floor covering problems to our Service Department.

Congoleum Company
INCORPORATED

PHILADELPHIA CHICAGO SAN FRANCISCO
CLEVELAND NEW YORK MINNEAPOLIS
DALLAS BOSTON KANSAS CITY MONTREAL

GOLD SEAL
Battleship Linoleum

(THE FAMOUS FARR & BAILEY BRAND)

U. S. NAVY STANDARD

On every two yards of Gold Seal Battleship Linoleum will be found this Gold Seal Guarantee.

Index to Advertising Announcements

LIGHT WEIGHT CONSTRUCTION *for* LIGHT LOADS

Does it not seem uneconomical to design a floor construction which weighs nearly as much as the load it supports? Yet this is what must be done with many types of fireproof construction to support loads such as occur in apartment houses, schools, hotels, office buildings, etc. A great part of the materials of construction is thus used to support itself.

The light weight of Truscon Pressed Steel makes it ideal for light-occupancy buildings. The beams are light in weight and correspondingly easy to handle, while only a minimum of materials is required for the floor and ceiling. All members are shop fabricated, saving field labor. Merely set the beams in place, attach Hy-Rib Lath and apply plaster and concrete. No centering nor forms are required.

Truscon Pressed Steel Construction is fireproof and permanent, and economical in all respects. It is the ideal construction for apartment buildings, schools, stores, hotels, etc. Endorsed by successful use in many important buildings.

On request, we will gladly furnish complete information, catalog, etc.

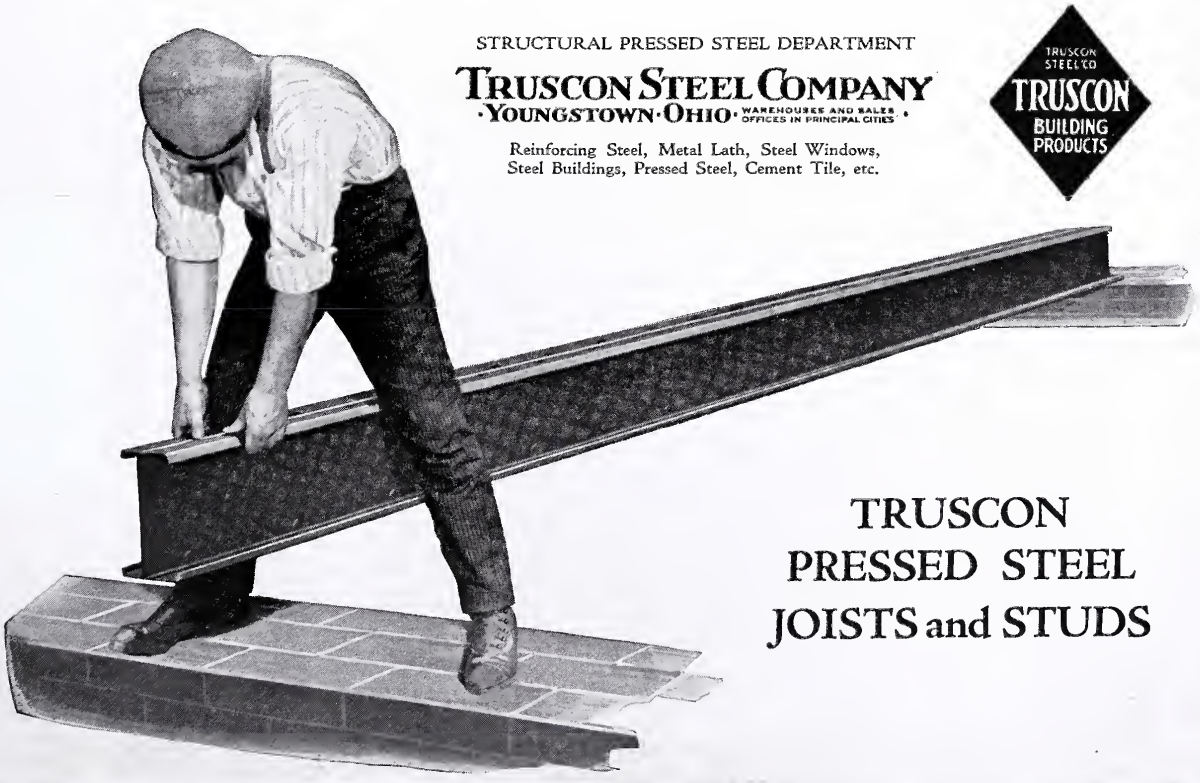
STRUCTURAL PRESSED STEEL DEPARTMENT

TRUSCON STEEL COMPANY

·YOUNGSTOWN·OHIO· WAREHOUSES AND SALES OFFICES IN PRINCIPAL CITIES

Reinforcing Steel, Metal Lath, Steel Windows, Steel Buildings, Pressed Steel, Cement Tile, etc.

TRUSCON STEEL CO. TRUSCON BUILDING PRODUCTS



TRUSCON PRESSED STEEL JOISTS and STUDS