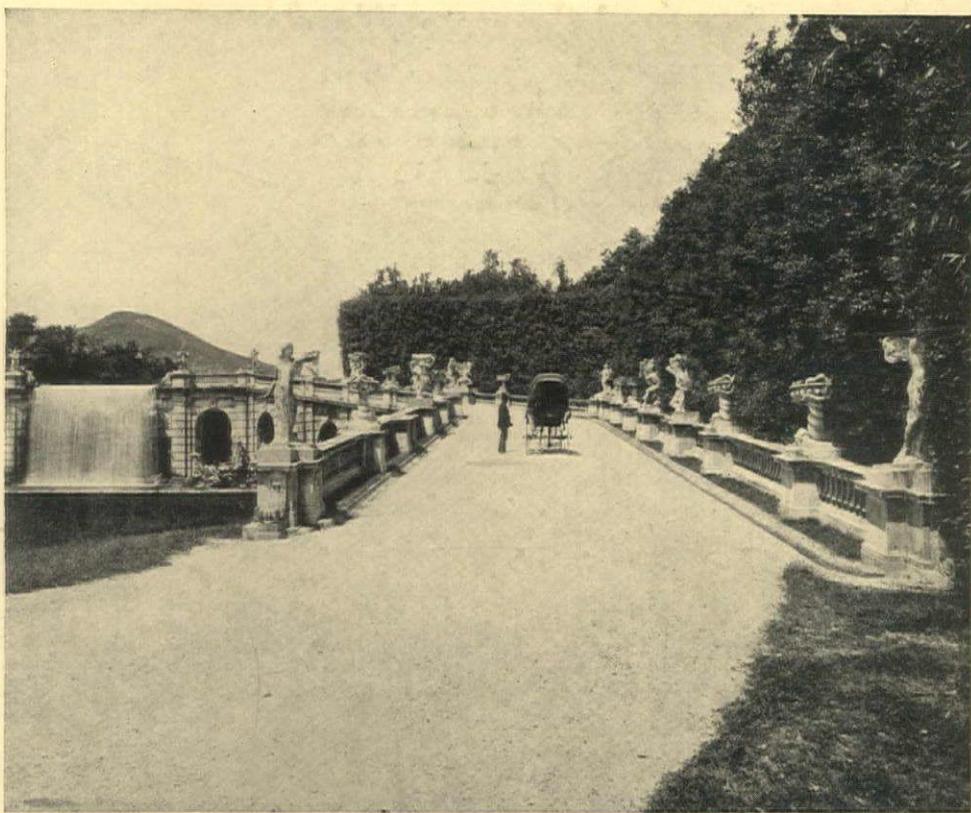


The AMERICAN ARCHITECT



TERRACE AND CASCADE, PALAZZO REALE, CASERTA, ITALY

PUBLISHED WEDNESDAYS IN NEW YORK—FOUNDED 1876
VOLUME CXIII MARCH 6, 1918 NUMBER 2202

The Thoroughness
of the
Raymond Method
Makes Certain
Perfect Concrete
Piles

This method allows for no element of chance in the formation of a concrete pile foundation. In the circular illustration you see concrete being poured into the hollow steel shell, which remains in the ground after the driving core has been withdrawn.

The interior of every shell may be inspected before this pouring, giving ocular proof that the Raymond Concrete Pile foundation will be worthy the structure.

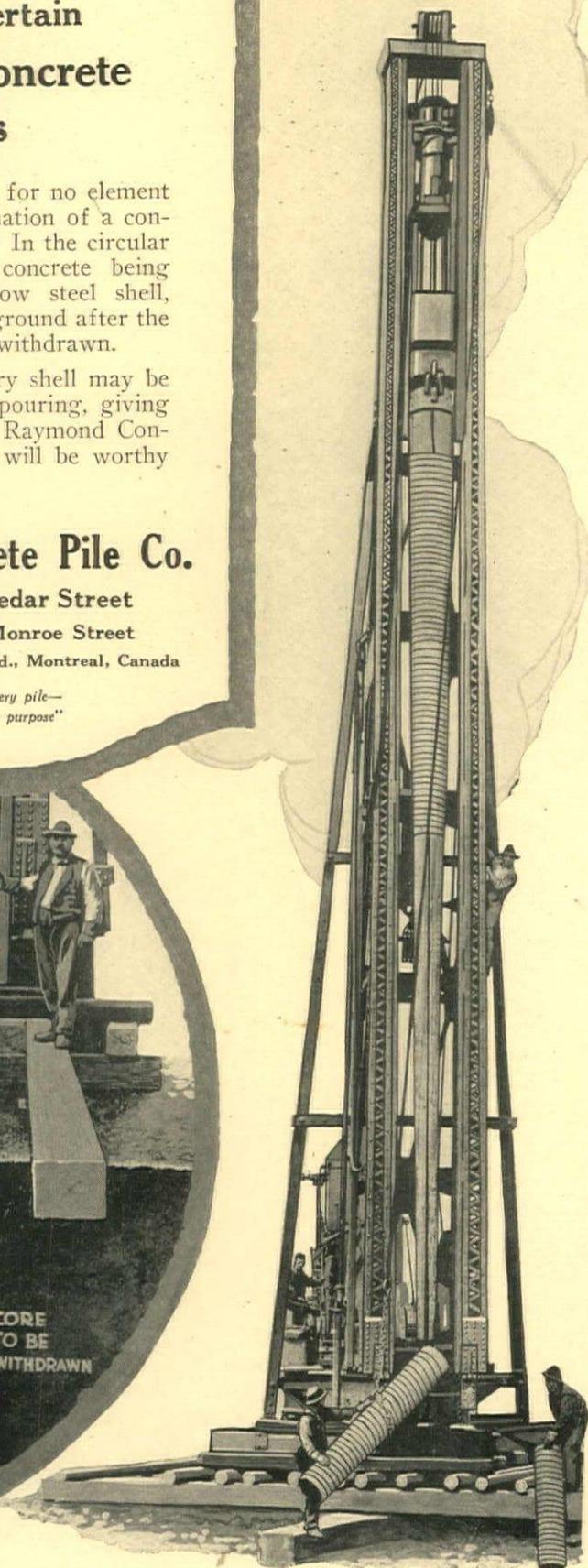
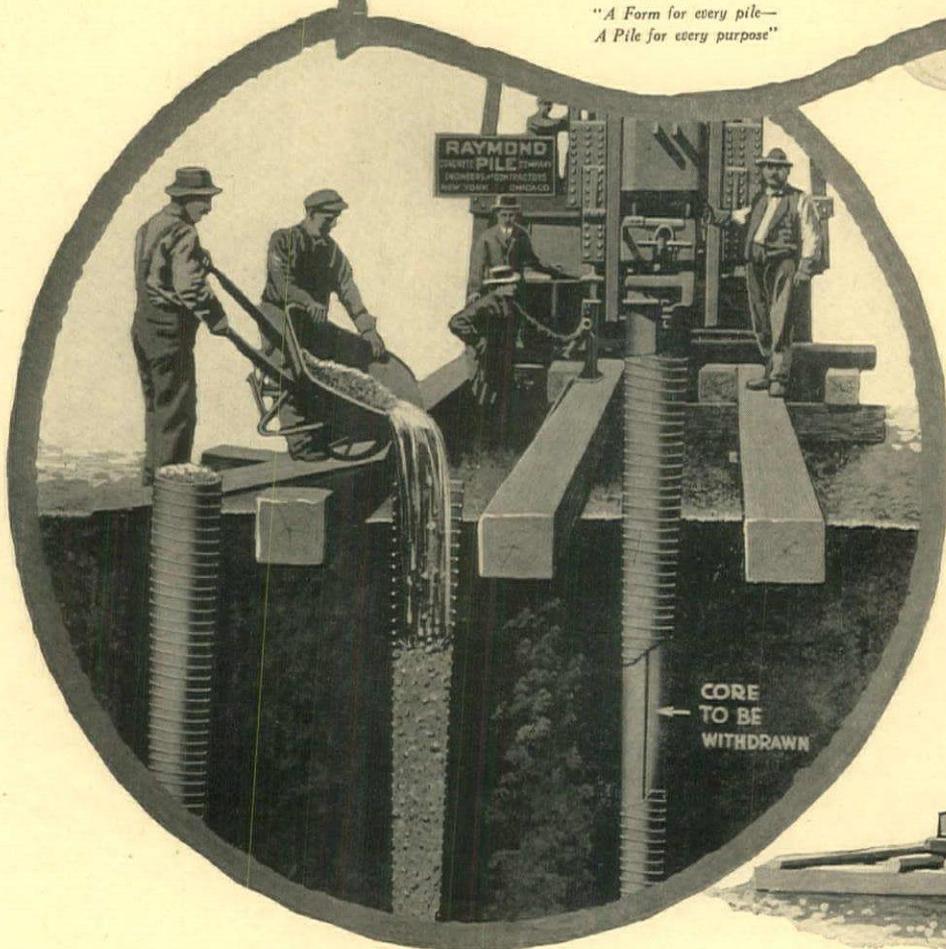
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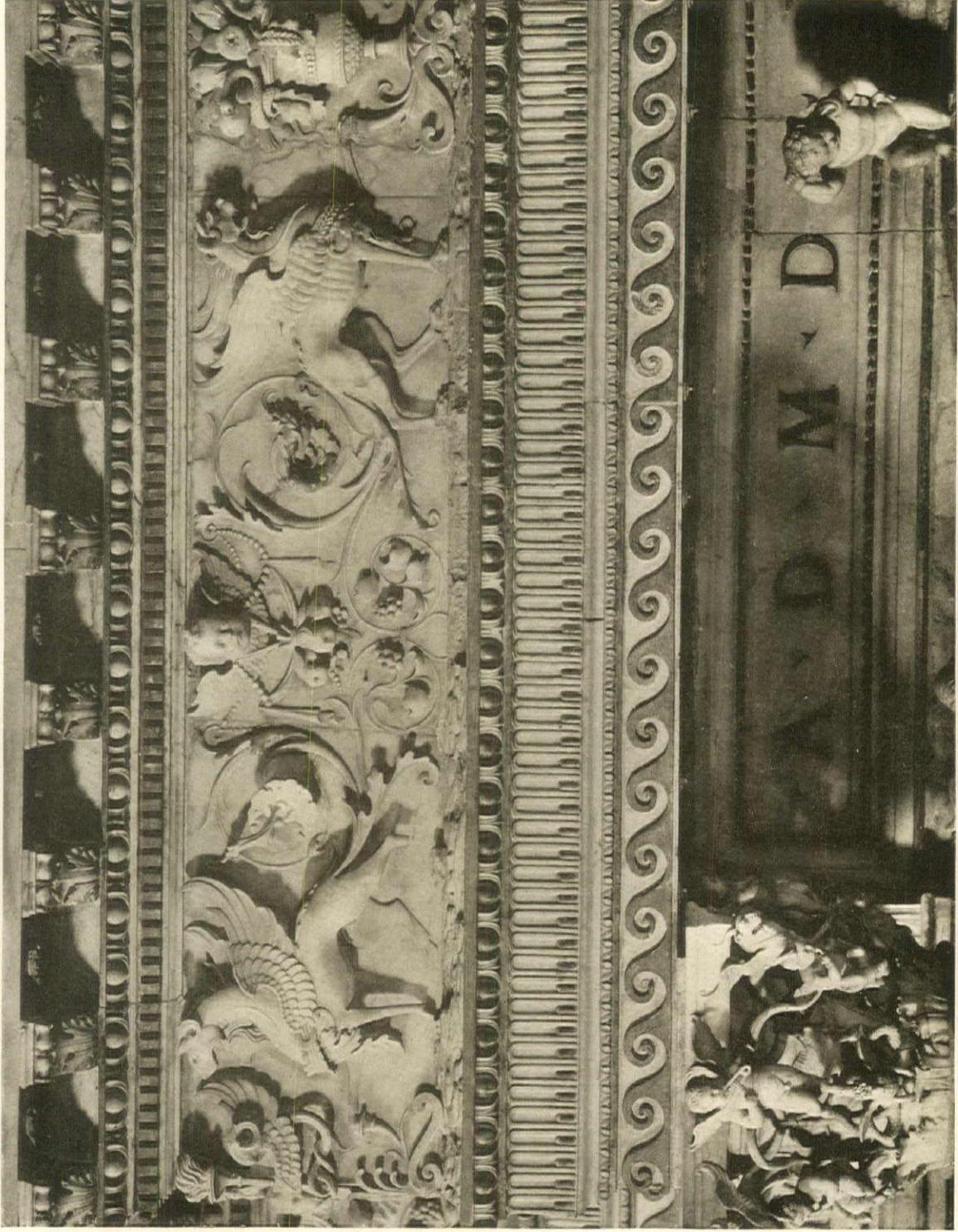
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*"A Form for every pile—
A Pile for every purpose"*





DETAIL OF ENTABLATURE OF THE HIGH ALTAR, CHURCH OF FONTEGIUSTA, ALINARI, ITALY (1517)

THE AMERICAN ARCHITECT

VOL. CXIII

WEDNESDAY, MARCH 6, 1918

NUMBER 2202

Preliminaries to Taking Bids and Letting Contracts

By FRANCIS W. GRANT

Part III—An Elementary Discussion of the Bid Blank

AS a suggestion upon which to base a discussion of bid blanks in the abstract the following hypothetical proposal is submitted:

HOUSTON, TEXAS, Jan. 5, 1917.

HON. THE BOARD OF LIBRARY COMMISSIONERS,
Houston, Texas.
Mr. GEORGE OLDS, Secretary.

Gentlemen:—Pursuant to published invitation to bidders dated Dec. 5, 1916, the undersigned hereby proposes to furnish all labor and material required for the construction complete (excepting only Book Lift and operating mechanism for same) of a library building on lots 9 and 10 of Block 46 of the plat of the city of Houston, in accordance with drawings Nos. 1 to 16 both inclusive and the specifications accompanying the same, also circular letter to bidders dated Dec. 28, 1916, all as prepared by Pierce & Dix, architects, for the sum of *one hundred seventy-six thousand, four hundred and ten dollars* (\$176,410.00), and to complete the same within eight calendar months of the date of negotiation of a contract therefor.

ALTERNATIVE No. 1

The undersigned further agrees that if Scagliola be substituted for marble under the conditions named in paragraph No. 177 of the specifications, the sum of *two thousand dollars* (\$2,000.00) will be deducted from the above named sum.

ALTERNATIVE No. 2

The undersigned further agrees that if that portion of the Vacuum Cleaning Plant described in paragraph No. 211 of the specifications be omitted the sum of *eight hundred and seventy-five dollars* (\$875.00) will be deducted from the above named sum.

This proposal is void unless accepted within ten days of date and such alternative proposals as shall not have been accepted when a contract is negotiated shall thereafter be deemed void.

As evidence of good faith and subject to the conditions named in the Invitation to Bidders, there is enclosed a certified check payable to George Olds, Secretary, in the sum of *three thousand dollars* (\$3,000.00).

Respectfully,

Stoelker & Co.,
By Otto Carl Stoelker,
Member of Firm

Notice to Bidders—All proposals must be rendered on this form without erasure or interlineation and all blanks must be filled in. Comment of any nature must be made the subject of a separate communication. Proposal must be enclosed in a plain opaque envelope, sealed, addressed as indicated, endorsed "Bid on Library Building" and delivered at the office of Pierce & Dix at or before 3 p. m. Jan. 5, 1917.

Unless all bidders are required to conform to some uniform statement of their proposals, great variation in language and consequent meaning is to be expected, and the fairness of the competition is thereby endangered. A slight difference in the words used in expressing a proposition may conceal a tremendous difference in the propositions themselves, not readily appreciated by such more or less cursory examination as is liable to be given

them at the time bids are being compared. By the adoption of identical bid blanks, and their use made mandatory, comparison of bids is simplified and a fairer competition is promised.

It is thought that a proposal expressed in substantially the language employed in the above suggested form states only what is essential for the bidder to state, and that in competitions similarly circumstanced the addition of other matter or the omission of any point here covered would be inappropriate if not detrimental to the purpose of the proposal, if the work is to be let under one general contract.

If the work is to be let in separate contracts the bid blank must accurately define and limit the division to which it relates, and this should be in such language that no cross-reference to the proposal covering another division will be necessary to determine extent. Mere reference to paragraph numbers in the specifications should be sufficient for this purpose, but seldom is.

It frequently happens that the owner or the architect decides, after the drawings are completed and specifications written with the expectation of letting the contract entire, to take separate bids on the various branches of the work. This introduces an element of risk often too lightly regarded. It may be, for instance, that the drawings clearly show a septic tank and the specifications clearly cover all materials entering into its construction and no possible chance exists of the tank not being included if one general contract be let, yet if bids be taken separately on general construction and plumbing with no specific mention in either bid blank of the septic tank or of the paragraphs covering it, the owner will most likely find the tank included in the usual bill of extras. With some kinds of specifications it will be necessary to insert something in the bid blank to prevent error just the opposite in effect

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to that above described, whereby both general contractor and plumber figure on the septic tank. When such overlapping occurs it is not customary for either contractor to mention it to the architect.

It is sometimes provided in the invitation that the time stated by the bidders within which they will complete the structure will be given consideration as well as the amount bid, the contractor being subject to the provision for fixed damages for delay beyond the time named in the bid. Assuming that damages for delay could be collected with certainty, this would seem an excellent arrangement, but unfortunately such is not always the case, and to permit the promised time factor to act as an advantage to a bidder who is not low is in some cases extremely unfair to a better man, one who really means just what he says about the time required to do the work, while the bidder claiming superior rapidity may be merely trusting to his cunning to evade the liability for damages due to the delay that he knows would be inevitable under his proposal.

While the bid blank should be as brief and explicit as possible, it must not fail to include sufficient detail to unite it completely with the work to which it relates and to all of the other papers that are eventually to become instruments of the contract.

Definite reference should also be made by date, number, or other index, to bulletins or circular letters answering interrogations of bidders made during the period of competition, if any such have been issued.

If this matter of tying-in of the invitation and bulletins or circular letters be properly attended to in the framing of the bid blank and the bid subsequently made a part of the formal agreement of contract, as it should be in all cases, a complete gathering up of essential loose ends will have been neatly accomplished.

That the circular letters to bidders may be mentioned in the bid blank, it will be necessary to delay the preparation of the bid blank until the expiration of the period of time within which it is provided that inquiries may be made by bidders. It is, of course, possible to prepare the form earlier and leave a blank space for mention of the circular letters, but this course is open to the objection that the bidders would probably fail to give proper attention to the matter.

Attention is invited to the advantage accruing through committing the bidder to the furnishing of all labor and material required by the drawings and specifications instead of all labor and material "shown."

Reference to the drawings and specifications should be sufficiently explicit that no question can possibly be raised as to which of a future mass of drawings are the "contract" drawings. This is

best accomplished by consecutively numbering the drawings and referring to them by number in the bid blank.

Bid blanks should not contain recapitulations of the specifications to any extent whatever. This is no proper place to state that the building is to be of brick, stone or other material, or to attempt any other structural description; nor is it a proper place to insert matter defining or limiting the contractual relation other than that which is distinctly the utterance of the bidder.

It is quite commonly stated in the bid blank, and thus made a declaration of the bidder, that the site has been visited and the drawings and specifications examined and read, all by the bidder personally. Such surplusage seems to the writer as inane as the phrase, "I now take up my pen to write." The contractor's obligation is not one whit greater or more binding by reason of such declaration having been made a part of his proposal.

If the bidder offers to build a building in accordance with certain identified drawings and specifications on a site specifically described in the call for bids or in his offer, and his offer is accepted as rendered, what concern is it then of the architect or the owner if he has not seen fit to visit the site or to personally read the specifications with the care that he should have? It is generally best to let contractors alone in matters so distinctly their own affair as are these. Very, very few architects can properly qualify for the paternal function in dealings with contractors as a class.

While a proposal made out on a form prepared by the architect is, when signed by the bidder, the direct declaration of intention of the bidder and becomes binding on the bidder in all particulars therein contained, yet it must be remembered that if controversy arises over the true meaning of any portion of it and the case goes to court on the issue of what is the real intent of the language, the court is bound to construe it with a favorable leaning toward the bidder on the perfectly equitable ground that the bidder was not primarily responsible for the phraseology employed. This constitutes no argument against the use of identical forms of proposal prepared by the architect, but does point to the great importance of careful phrasing and the use of simple and exact language in the bid blank.

Alternative proposals should be handled with especial care as to clarity and brevity. Their brevity should not be such, however, that the slightest doubt exists as to just where the proposed substitution, omission or addition begins or ends. Overlapping must be carefully guarded against.

Alternative proposals are frequently required on forms of construction not covered by the contract drawings and specifications, the bidder being ex-

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pected to submit drawings illustrating his alternative proposal, or perhaps taking a chance on what the architect may at a later date prepare in the way of a drawing appropriate to the proposed substitution. Circumstances may at times seem to warrant this procedure, but it is poor practice and should be discouraged. It justly creates a suspicion in the minds of strangers to the architect that it is but cover to a scheme to "let in" some favored bidder, and no reputable architect can afford to assume the burden of defending his name against the insinuations likely to result.

The owner should be discouraged from demanding too many alternate proposals. A contractor is often reluctant to enter a competition if there be a large number of alternative proposals asked, as it tends to uncover his method of estimating, and for the further reason that by juggling these alternatives any one of several bidders selected by the juggler may be shown to be the lowest bidder, contrary to the real facts of the case. Many a favored bidder has, in actual practice, been "let in" in this manner when by fair comparison he was not the lowest bidder. An alternative asked in bad faith has only to be adopted and that action rescinded at a convenient later date and the trick is turned.

A proposal should never be required to include a schedule of unit prices, either partial or complete. The owner and architect are not entitled to this information until after a contract has been negotiated. Such unit prices are not useful for any honest purpose preliminary to the negotiation of a lump sum contract, and to exact them is unfair to all bidders.

The inclusion in the bid blank of such provisions as "Damages for Delay" and for "Surety Bonds," and other paragraphs similarly defining or limiting the contractual relation, as the bid blank included in the American Institute of Architects' Standard Documents contemplates, is a considerable departure from ordinary practice, and the writer wholly fails to see merit in the innovation and again recommends the use of the briefest possible form of bid blank, rigidly excluding from it all matter inconsistent with the fact that the document is signed by and thus becomes the utterance of the bidder. It is contrary to universal practice and is unreasonable for the bidder to impose conditions pertaining to surety bonds guaranteeing the performance of the contract he proposes entering into, or to take the initiative in the matter of damages to be assessed him in case of default in the performance of that contract. These matters come distinctly within the category of conditions and terms proper for the other party to the contemplated contract to impose and for the bidder to abide by if he cares to negotiate. Their proper place is in the general conditions of the specifications or in the formal agreement or contract

(preferably in the specifications). An argument advanced by an apologist for the A. I. A. code of documents for this impropriety of arrangement of matter is that the main purpose sought was a set of standard general conditions capable of bodily incorporation in architect's specifications which would have no blank spaces, and that this necessitated the exclusion from those general conditions of clauses containing variable terms. The writer does not subscribe to the theory that stereotyped general conditions are in any event desirable; but, granted that he is in error, he further contends that no form should be allowed to become stereotyped until the ingenuity of its authors had discovered some way of including in it all essential matter.

The first paragraph of the A. I. A. form of proposal, the one that really is the proposal, is so composed as to cause the bidder to state that he has performed certain more or less meritorious acts, including inspection of the premises, mixing in with this recital the title of certain drawings and winding up with the statement that he will furnish all materials and labor "called for by them" and in accordance with certain related documents for a certain sum. The pronoun "them," as used, includes premises, and the bidder therefore agrees to furnish all labor and material and labor called for by the premises.

The use of the two terms "called for by them" and "in accord with said documents" in the same paragraph is an apt illustration of what should always be avoided, *i.e.*, the use of two terms intended to mean the same thing in the writing of any contract document.

Following the definite proposal to do all that is wanted done for a certain sum, the language of the A. I. A. proposal is such as causes the bidder to affirm further that he will enter into a contract accordingly and that such contract shall be for the same sum that he has just offered to do the work for. It should go without saying that the bidder will enter into a contract for the same sum as his proposal; in fact, the courts would hold that it had been said in the first instance.

Particular attention is invited to the advisability, from the standpoint of fairness, of including a paragraph providing a time limit to the life of the proposal, and especially the alternative proposals. Proposals are frequently based on sub-proposals subject to time limit, these always being advantageous; otherwise the time limit would not be placed on them. If the proposal may be indefinitely held up it must necessarily be made in a sum that warrants the bidder's disregard of all advantage accruing from time limited sub-proposals, to the disadvantage of the owner.

It is generally conceded that such of the alterna-

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tives as are not adopted along with the main proposal are to be considered void, but laymen are apt to dispute this and to contend that they are free to accept these at pleasure during an indefinite period of time. This of course is not fair, and a provision specifically covering this point is recommended in the bid blank.

FORM OF PROPOSAL

(Recommended by the American Institute of Architects as a part of the "Uniform Documents," second edition, 1915.)

HOUSTON, TEXAS, Jan. 5, 1917.

HON. THE BOARD OF LIBRARY COMMISSIONERS,
Houston, Texas,
c/o PIERCE & DIX, Architects.

Gentlemen:—Having carefully examined the Instructions to Bidders, the General Conditions of the Contract and Specifications entitled Library Building for the city of Houston and the Drawings, similarly entitled, numbered 1 to 17, as well as the premises and the conditions affecting the work, the undersigned proposes to furnish all materials and labor called for by them for the entire work (excepting only the Book Lift and operating mechanism for same) in accordance with the said documents for the sum of *one hundred seventy-six thousand, four hundred and ten dollars* (\$176,410.00) and to execute a contract for the above work, for the above stated compensation in the form of the Standard Agreement of the American Institute of Architects (second edition), provided that he be notified of the acceptance of this proposal within ten days of the time set for the submission of bids.

The undersigned agrees, if awarded the contract, to complete it within 240 days, Sundays and whole holidays not included.

And further agrees that, from the compensation otherwise to be paid, the Owner may retain the sum of *fifty dollars* (\$50) for each day thereafter, Sundays and whole holidays not included, that the work remains uncompleted, which sum is agreed upon as the proper measure of liquidated damages which the owner will sustain per diem

by the failure of the undersigned to complete the work at the time stipulated, and this sum is not to be construed as in any sense a penalty.

The undersigned agrees, if awarded the contract, to execute and deliver to the architect within *five* days after the signing of the contract, a satisfactory bond in the form issued by the American Institute of Architects (second edition) and in the sum of *one hundred seventy-six thousand, four hundred and ten dollars* (\$176,410.00) extending from the time of signature for *six* months from the day on which the final payment under the contract falls due, and further agrees that if such bond be not required, he will deduct from the proposal price the sum of *one thousand seven hundred and sixty-four dollars* (\$1,764.00).

The undersigned further agrees that the certified check payable to George Olds, Secretary of the owner, accompanying this proposal, is left in escrow with the architect; that its amount is the measure of liquidated damages which the owner will sustain by the failure of the undersigned to execute and deliver the above named agreement and bond, and that if the undersigned defaults in executing that agreement within *fifteen* days of written notification of the award of the contract to him or in furnishing the bond within *five* days thereafter, then the check shall become the property of the owner, but if this proposal is not accepted within *ten* days of the time set for the submission of bids, or if the undersigned executes and delivers said Contract and Bond, the check shall be returned to him on receipt therefor.

Should Scagliola be substituted for marble the undersigned agrees to deduct *two thousand dollars* (\$2,000.00) from the proposed sum.

The undersigned agrees that work added shall be computed at the following prices, and that work omitted shall be computed at 10 per cent less than these prices.

Concrete foundations	\$8.00 per cu. yd.
Rough brickwork	18.00 per thousand
Plastering30 per yard
Corridor doors cased and trimmed.....	75.00 each
Cement walks22 per sq. ft.

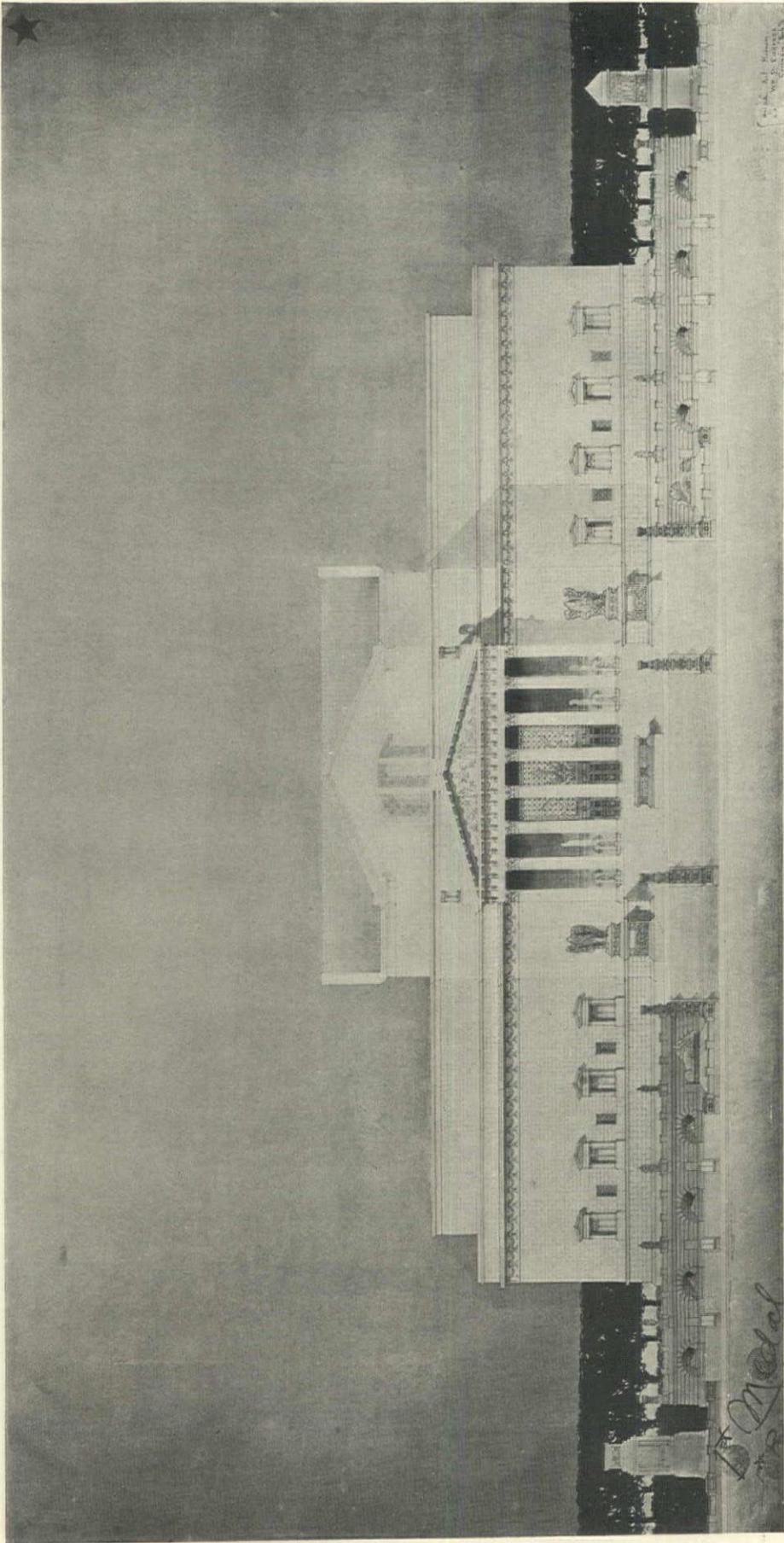
In case of obtaining the award the undersigned will employ, subject to the architect's approval, subcontractors in each of the several trades, selected from the following list (one or more names must be inserted for each trade).

Excavation	Phillip McGee, Horace Tyler.
Stone Masonry	William MacAllister.
Brickwork	F. B. Gubreth, John McGrath.
Plastering	Sanders & Co.
Sheet Metal	Beaumont Sheet Metal Works.

Very truly yours,

Stoelker & Co.





FIRST MEDAL—WILLIAM J. RICHARDS, CARNEGIE INSTITUTE OF TECHNOLOGY

SPECIAL PRIZE COMPETITION

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

Beaux-Arts Institute of Design

DIRECTOR OF THE INSTITUTE, LLOYD WARREN

DIRECTORS OF DEPARTMENTS

ARCHITECTURE, FREDERICK A. GODLEY

SCULPTURE, LLOYD WARREN

MURAL PAINTING, ARTHUR CRISP

Special Prize Competition

Special Prize offered by the Paris Prize Fund of the Society of Beaux-Arts Architects.

CLASS "A"—THIRD PROJET

PROGRAM

"A MUSEUM OF FINE ARTS"

In a large city park, facing one of the important drives and not more than 100 feet from it, a plateau has been created against the side of a gentle hill, which, at the front side, is 15 ft. above the grade of the hill, and at the rear is at its level. Masonry retaining walls support the plateau which in its greatest dimension may not exceed 400 ft. The approaches, however, may be outside this dimension. It is proposed to erect upon this ground a museum of Fine Arts, realizing to the fullest extent its possibilities as a base for the building and as a setting for the outdoor exhibition of large groups of statuary and architectural fragments.

The museum is intended for the exhibition of objects of fine and applied arts, and will serve the general public, students and workers in all artistic pursuits. Its galleries should therefore provide for the exhibition of the minor arts as well as for those of architecture, painting and sculpture.

The building will contain three stories: The basement, partly out of the ground, not over 13' 0"; the entrance floor not over 25' 0" and the second floor not over 22' 0".

BASEMENT: In the basement will be quarters for the service department, power plant, rooms for restoration and copying, unpacking, storage, inspection of exhibits and other rooms not used for exhibition purposes.

ENTRANCE FLOOR: This floor should contain:

1. The main entrance with adequate check rooms and rooms for the sale of photographs.
2. Rooms for the Director and his assistants, as well as a room for the Trustees of the Museum.
3. An Architectural Hall for the Exhibition of architectural fragments, casts, models, etc.—area about 10,000 sq. ft.
4. A Lecture Room, so arranged with stage, dressing rooms, etc., as to be also suitable for the presentation of concerts and certain types of dramatic performances—total area about 5000 sq. ft. This room may have a balcony if desired.
5. A Reference Library of works pertaining to the Arts; area about 5000 sq. ft.
6. Galleries of various sizes for the display of Sculpture and exhibits of the minor arts, other than painting, which do not require overhead lighting—total area about 25,000 sq. ft.

Any of the rooms on this floor may extend through two stories.

SECOND FLOOR: This floor will contain galleries of various sizes for the exhibition of painting and other

exhibits requiring overhead lighting. The various galleries should be accessible from corridors which may be also used for exhibition purposes and the galleries themselves may be arranged in suite.

All exhibits should have natural lighting, and those lighted from one side should not be more than 25' 0" in width.

In general the plan should be conceived in the monumental character that this type of building demands. Adequate provision should be made for ample stairways and circulations to the various parts. Elevators for visitors and lifts for the handling of bulky pieces should be provided. There should also be rest rooms and toilets for both sexes on each floor.

JURY OF AWARD: F. A. Godley, F. C. Hiron, M. B. Stout, J. F. Harbeson, H. Sternfeld, H. W. Corbett, J. Wynkoop, L. P. Burnham, W. Lamb, R. M. Hood, H. Hornbostel, L. E. Smith, and G. A. Licht.

JURY OF AWARD FOR PRIZE: F. A. Godley, L. Warren, W. L. Bottomley, A. L. Noel, W. Lamb, R. M. Hood, H. Hornbostel, and L. E. Smith.

Number of Drawings Submitted: 41.

AWARDS

FIRST PRIZE—Architectural Books to the value of \$200: William J. Richards, Carnegie Institute of Technology, Pittsburgh.

SECOND PRIZE—Architectural Books to the value of \$100: R. W. Cheesman, Cornell University, Ithaca.

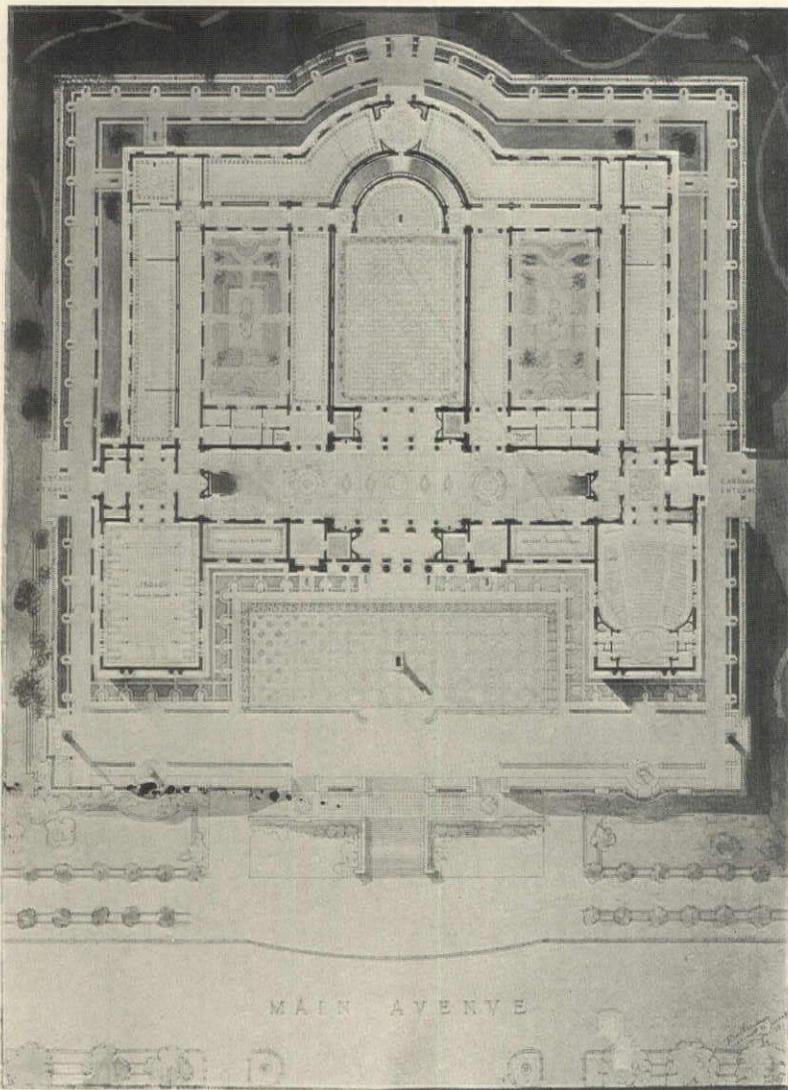
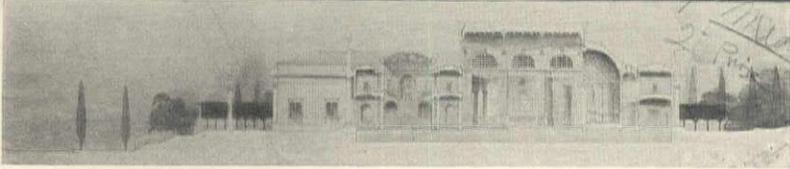
THIRD PRIZE—Architectural Books to the value of \$50: Harry Finkelstein, Columbia University, New York.

FIRST MEDAL: William J. Richards, Carnegie Institute of Technology, Pittsburgh; R. W. Cheesman, Cornell University, Ithaca; Harry Finkelstein, Columbia University, New York.

SECOND MEDAL: H. D. Watterson, Carnegie Institute of Technology, Pittsburgh; H. Cohen, Columbia University, New York; A. A. Scheffer and W. H. Livingston, University of Pennsylvania, Philadelphia.

MENTION: C. H. Boyd and B. Bocchicchio, Carnegie Institute of Technology, Pittsburgh; L. V. Lacy, K. F. Coffin and R. Wolcott, Cornell University, Ithaca; M. S. Diamond, Columbia University, New York; M. C. Beebe and A. F. Skogse, Atelier Hiron, New York; F. A. Fuller, "T" Square Club, Philadelphia; E. F. Cullity, M. A. Bernhardt, F. J. Kuchler, S. Wassermann, J. K. Smith, H. G. Stewart, C. F. Pyke, R. W. Banwell, A. M. Pyke, F. C. O'Dell, G. A. Anderson, J. H. Samuels and A. V. Fisher, University of Pennsylvania, Philadelphia; F. A. Elsasser, Atelier Wynkoop, New York; E. E. Weihe, Atelier A. Brown, Jr. S. F. A. C., San Francisco.

H. C.: L. Fentnor, Atelier Wynkoop, New York; R. Nickel, Beaux-Arts Atelier of Washington, D. C., Washington, D. C.



FIRST MEDAL—R. W. CHEESMAN, CORNELL UNIVERSITY
SPECIAL PRIZE COMPETITION
STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

THE AMERICAN ARCHITECT

CLASS "A"—THIRD ESQUISSE-ESQUISSE

PROGRAM

THE PUBLIC FLOOR OF A LARGE HOTEL

In the business district of a city of the first class it is proposed to erect an hotel of about 800 rooms which will depend for its clientele principally upon transient guests, who will not occupy their rooms for more than a few days or weeks at a time. The property is a lot 200 ft. on a side with the main entrance or entrances facing the principal thoroughfare. It is flanked by two less important streets. At the rear is a service alley or street.

The problem is the arrangement of the public floor of this hotel.

In conformity with the usual practice for this type of hotel, this floor should contain:

First.—The Public Lobby, devoted to the reception, registering and checking out of guests, and to the accommodation of the visiting public. It should be a large room or gallery directly accessible from the main entrances to the building, and should contain the office and desk at which the guest transacts his business with the hotel; ample lounging spaces and the news and cigar counters. From it should open the entrances to the main public dining rooms, six passage elevators and main stairway and the smaller rooms such as ladies' parlors, toilets, etc.

Second.—The Public Restaurants, consisting of two rooms, one a large general restaurant and the other a men's dining room or grille room.

Third.—The main kitchen, so located as to give direct service to both of the restaurants. The kitchen, to give adequate service, should have a floor area approximately equal to the area of both restaurants. It should also have direct access to three service lifts.

Fourth.—The service entrance, and entrance for the employees of the hotel. This should consist of a vestibule containing the service lifts, and a hall containing the time-keeper's office and the stairway to the employees' department above and below.

It is desirable that the public rooms be all located so as to receive ample daylight and outlook. The kitchen may be without daylight, as it is usually provided with adequate forced ventilation.

The main lobby and restaurants may be placed at different levels in relation to each other and to the street, but it is essential that the kitchen be on the same level as the restaurants.

Provision should be made for the four fire stairways or towers carried down from the typical floors and exiting directly upon the streets.

It is assumed that the mezzanine floor will contain the writing rooms, private dining rooms and other necessary spaces.

CLASS "B"—THIRD ESQUISSE-ESQUISSE

PROGRAM

A GATEWAY TO A PRIVATE ESTATE

INTRODUCTION

The private parks of many large estates are surrounded by walls of masonry or by fences of wood or iron, both to secure protection from marauders and to obtain privacy for those within. The entrance ways through these enclosing walls are of various types. The minor ones, for service, etc., need not be discussed for the present program. There is, however, always one more important gateway, which by its more elaborate treatment or larger size, accents the main driveway to the house. In feudal days this took the form of a strong fort, with all the means of

defense possible. However, in more modern times the gateway became a medium for great artistic achievement and lost entirely its military character. At many of the larger places in England and France are to be seen examples of gates, usually of wrought iron, designed with great skill, as they are one of the most important elements of the treatment of the grounds and parks of these estates.

THE PROBLEM

The gateway which is the subject of this program is placed at the main entrance of a large country estate, the park of which is surrounded by a masonry wall 8 ft. high. The edge of the highway is about 15 ft. from this wall. The driveway through the gates is 12 ft. wide in the clear. The gates should be of wrought iron of a design suitable to the importance of the estate, and should be hung from masonry piers. Minor entrances for pedestrians 3 ft. 6 in. wide should be placed at one or both sides of the main gates. A suitable planting of trees and shrubs should be indicated to give a pleasing ensemble.

CLASSES "A" AND "B"—THIRD ESQUISSE-ESQUISSE

JURY OF AWARD: L. Warren, W. L. Bottomley, A. L. Noel and G. H. Bickley.

This Jury also served as Jury of Award for Classes "A" and "B" Archæology—Third Project and Measured Drawing.

PROGRAM

CLASS "A"—The Public Floor of a Large Hotel.

CLASS "B"—A Gateway to a Private Estate.

Number of Drawings Submitted: Class "A," 9; Class "B," 24.

AWARDS

CLASS "A"—MENTION: A. M. Pyke and F. J. Kuchler, University of Pennsylvania, Philadelphia.

CLASS "B"—MENTION: H. R. Kaplan, Columbia University, New York; H. Logemann, 726 Caswell Block, Milwaukee; E. T. Mock, George Washington University, Washington, D. C.

CLASSES "A" AND "B"—ARCHÆOLOGY—THIRD PROJECT

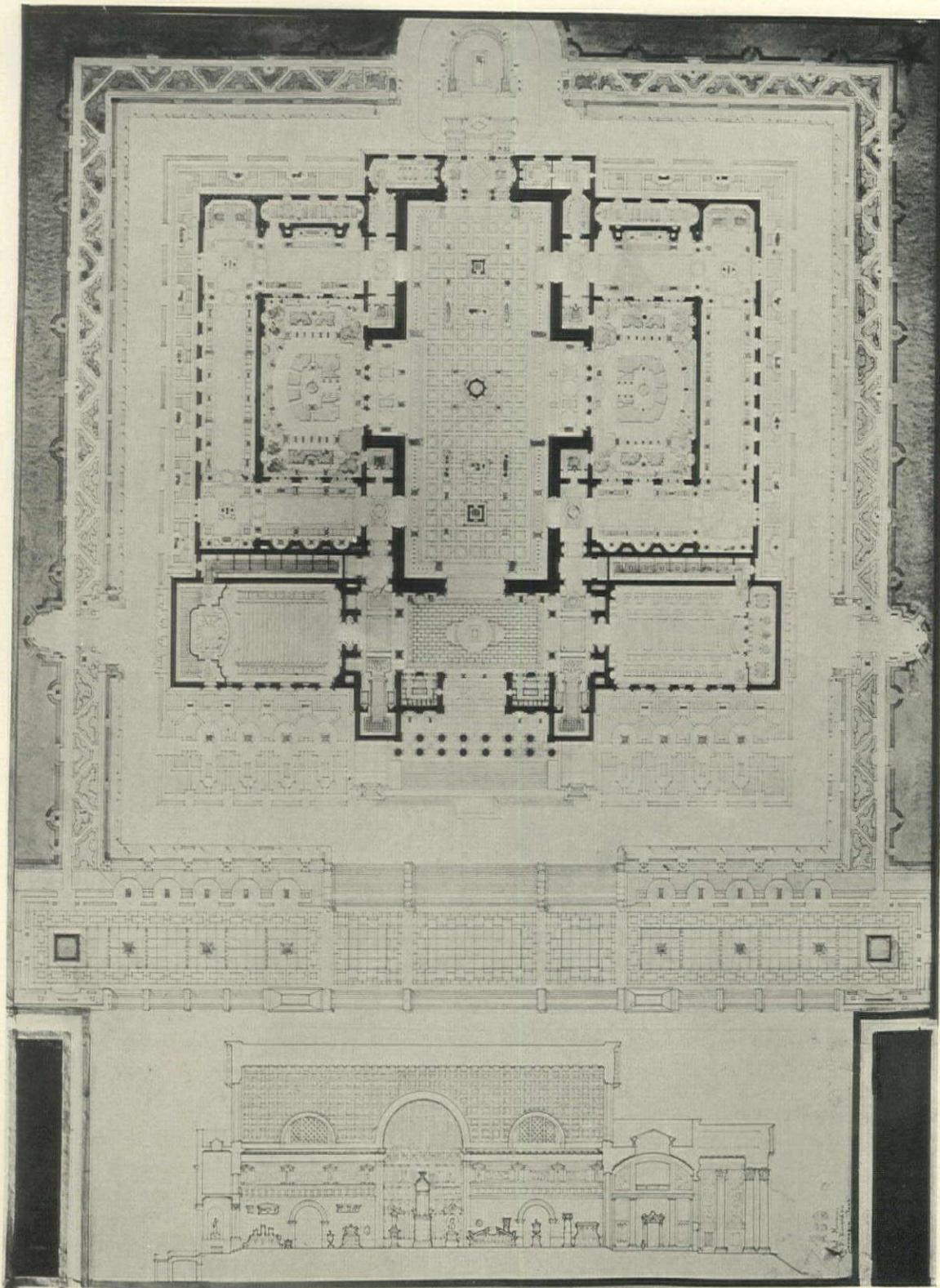
PROGRAM

"A FLAMBOYANT CLOCK TOWER"

INTRODUCTION

The final development of the French Gothic style, which occurred during the fifteenth century, is known as the Flamboyant or Flowing style. It is characterized by the flowing window tracery, the great wealth of intricate detail, usually quite naturalistic in feeling, and the marvelous and daring lace-like treatment of the decorated portions, the balustrades, buttresses and finials. The main elements of the composition of the façades were retained as in the earlier styles, but were treated with much more freedom, although there was always the expression of the structure beneath. There are many examples of the Flamboyant Period in France, especially in the northern part. The Tour St. Jacques—all that remains of a church of that name, which is now used for the weather bureau observations—the churches of St. Maclou, St. Ouen and parts of the cathedral at Rouen, and St. Wulfran at Abbeville, are a few of the larger monuments of this period that remain.

THE AMERICAN ARCHITECT



FIRST MEDAL—WILLIAM J. RICHARDS, CARNEGIE INSTITUTE OF TECHNOLOGY

SPECIAL PRIZE COMPETITION

STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

THE AMERICAN ARCHITECT

THE PROBLEM

The problem under consideration is the restoration of the tower of a fifteenth century church which has been in the invaded district of France, and which was completely destroyed, leaving only one of the towers in a damaged condition. The town wishes to rebuild this as a clock tower. The location of the clock is not determined, but should be so arranged as to be visible from all parts of the town. The only fixed dimension is the total height above ground—150 ft.

REQUIRED FOR THE ESQUISSE

Plan and elevation at the scale of 1/16 in. to the foot.

REQUIRED FOR THE PROJET RENDU:

Elevation at the scale of 1/4 in. to the foot.

One plan and as many others as may be necessary to explain the design at the scale of 1/4 in. to the foot.

Details of important parts at the scale of 1/2 in. to the foot or larger.

Number of Drawings Submitted: 6.

AWARDS

THIRD MEDAL: L. Williams and S. Minoli, Columbia University, New York.

MENTION: J. L. Baker, Columbia University, New York; J. C. Meyer, University of Pennsylvania, Philadelphia.

One (1) measured drawing was submitted in this competition, on which the following award was made:

MENTION: D. R. Wilkinson, Los Angeles Architectural Club, Los Angeles.

NOTE.—The next Class "A" projet will be a large exterior decorative scheme. The next archaeology projet will be in the English Tudor style.

The Architectural Problem of the Low-Cost House

ROOM FOR ARTISTIC IMPROVEMENT

Architects, comments the Duluth *News-Tribune*, like to boast of the steady improvement in the design of expensive American homes and in the laying out of big estates, but when asked about our smaller domestic work they tell you it is still far below the standard. The reasons for this are obvious enough.

No well-trained architect whose education has been a matter of six or seven years and a great sum of money can afford to design small houses at the established rate. A small house looks like an insignificant problem—so easy of solution, every untrained woman in the land is ready to solve it; but the truth is that a house at \$4,000 requires twice as much time and study to design successfully as a house of \$8,000, for the reason that there never lived a \$4,000 client who did not want every convenience and comfort crowded into his little house that an \$8,000 man demands in his.

Moreover, he is usually a tyro in home-building; his little sum represents the first money he has been able to amass for the purpose, and it takes much patience to persuade him how really little he can expect for it—that he must not expect the number of closets and baths and dens and back staircases and piazzas that can be put into a costlier house.

If a small dwelling is to have any distinction whatever, its prime expression must be simplicity. It takes more art to leave out useless ornament and detail than to put it in. A small house is nothing more than the simplest form of shelter for a very few people.

New York Building and Allied Industries Form New Body

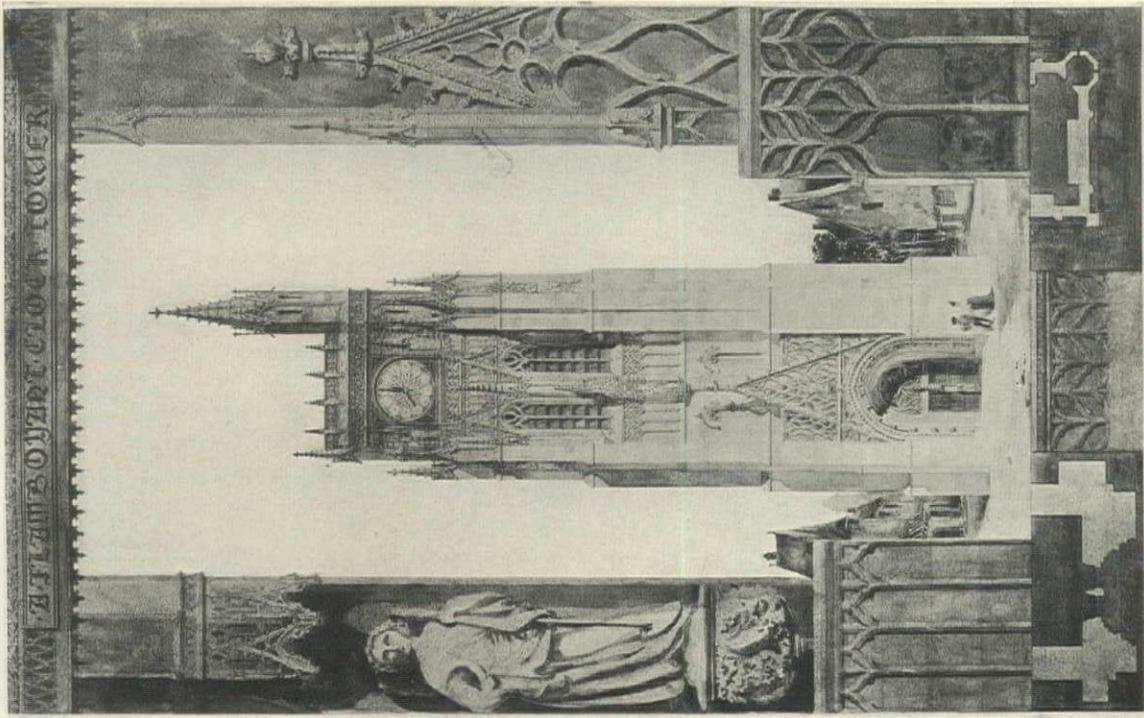
During the last week the Building Trades Employers' Association passed a resolution to join the Association of Building and Allied Industries of New York. This means that it carries with it all the thirty-one constituent associations, which comprise all the organizations of employers in the various industries allied to the building trade.

The other associations which have joined the Association of Building and Allied Industries include the Building Material Exchange, the National Plate Glass Association, the New York Chapter, American Institute of Architects; the Brooklyn Chapter, American Institute of Architects; the New York Society of Architects, the Credit Association of Building Trades, the Real Estate Board of New York and the Queens Chamber of Commerce.

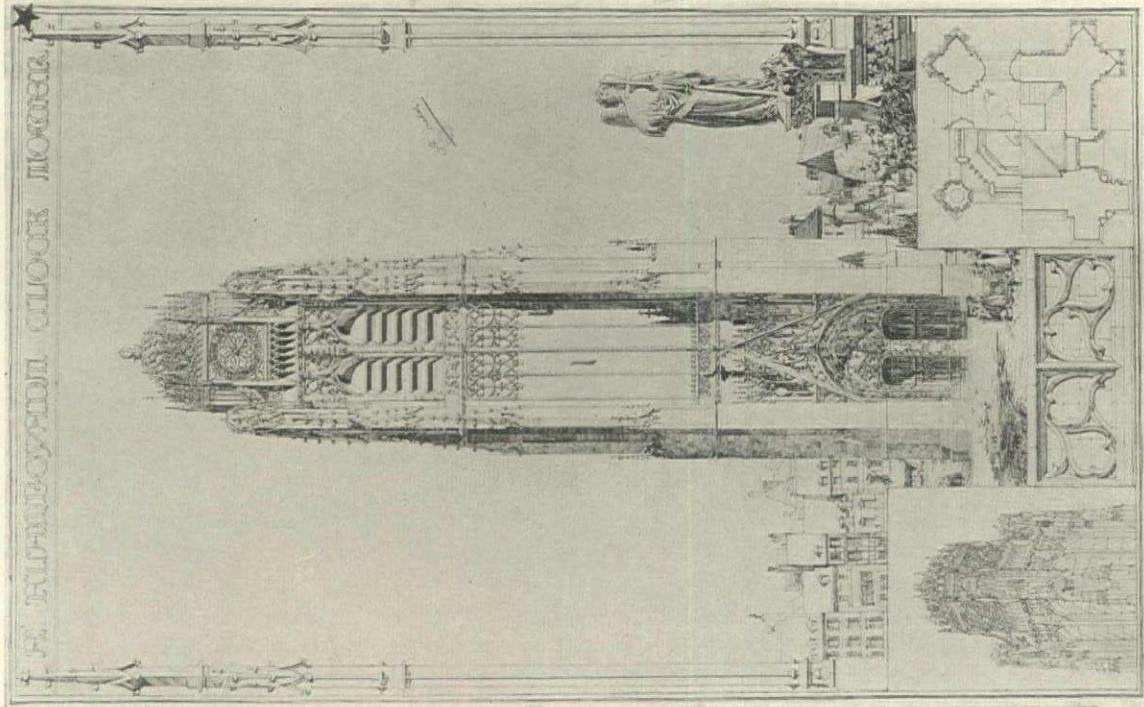
Other organizations are interested in the movement, and during the week it is expected that the membership list will be augmented by the names of several other associations.

Otto Eidlitz Appointed Director of Building

The Department of Labor has announced the appointment of Otto Eidlitz of New York as Director of Building. Mr. Eidlitz, an architect and builder, has been the chairman of that committee of the Council of National Defense which was asked to deal with the peculiar housing conditions induced by the war. He will now have control of government activities bearing upon the provision of living quarters for industrial workers, exclusive only of those engaged in shipbuilding plants.



THIRD MEDAL—S. MINOLI, COLUMBIA UNIVERSITY



THIRD MEDAL—L. WILLIAMS, COLUMBIA UNIVERSITY

CLASSES "A" AND "B"—ARCHÆOLOGY—III. PROJET. A FLAMBOYANT CLOCK TOWER
 STUDENT WORK—BEAUX-ARTS INSTITUTE OF DESIGN

The Doctrine of Labor and Materials

THE present business of the United States is war—war to exterminate autocracy and unrighteousness and to establish peace among the nations of the world.

The president has stated that the war can be won only if all the people of the country unite in a common purpose to defend our shores from aggression. No one group of people, or two groups, or three groups can win the war. It can only be won by the united and continuous co-operation of every man, woman and child. The two Liberty Loan campaigns have demonstrated the willingness of our people to reach down into their pockets and lend their dollars to the Government. A plan has now been perfected which will enable all our people without exception to lend their money to the Government.

The plan proposed has, however, an object even more important in the present crisis than the actual money which it will produce. It is based on fundamental principles so simple and so direct in their appeal to our people that they cannot fail to meet with enthusiasm and universal response. These principles involve the saving of life. They involve pointing out to the citizens of the country that we cannot support a vast army in the field and a great navy at sea and at the same time spend the same amount of money we used to before the war for all manner of articles which may be perfectly proper to buy in times of peace, but which are not necessary to the carrying on of the great war which we are now fighting.

We have got to get behind the Government, which is devoting its entire energies to waging a great warfare for freedom. This warfare requires putting men in the field and keeping them fed and clothed. It requires the production of ships and shells, guns and rifles, motor trucks, horses, saddlery, aeroplanes, hospital supplies, food and a great variety of goods the production of which calls for vast industrial plants from one end of the country to the other, manned by millions of men and women who serve their country as effectively as our soldiers and sailors.

If the American people continue to require all the pleasant and comfortable luxuries which they consumed before the war they are making it necessary for those thousands of factories and shops, employing millions of men and women, to produce articles which do not help to bring peace a day nearer when they might be devoting themselves to

the production of the necessary things which will help to bring the war to a victorious conclusion.

Both things cannot go on together. We have pledged the honor of our country and our people to fight this war to our last dollar and to our last man, if necessary. America does not break her word. The necessities of the war must be produced and must be produced quickly. The key to the situation, therefore, rests in the hand of the average man, woman and child in every state in the Union who can, by refraining from everything not absolutely necessary to health and efficiency, release strong arms to the production of materials of war and the support of our army and navy.

This is the philosophy of labor and materials. This is the lesson which must be immediately brought home to the people of America. This is the sacred gospel which underlies the campaign of the National War Savings Committee and the principle which the members of the War Savings Societies pledge themselves to follow and to induce others to follow, not for one day, or one week, but honorably, patriotically and persistently until we have fought this war and won it according to the highest traditions of our country.

Our fighting forces are formed of companies of soldiers and sailors banded together to serve their country. War Savings Societies will be formed of companies of savers banded together to save their country. For the success of our army and navy every company of soldiers in France, the crew of every ship, should have back of it at home a company of savers. As a united people, consecrated to the great task which lies before us, we cannot fail.

A Rare Archæological Gift

A collection of 4000 specimens of copper, pottery, stone carvings and other relics of Iroquois Indian life has been gathered by Dr. W. L. Hildeburgh of Charlestown, W. Va. This collection is said to be of far wider scope than any other in its field, and represents valuables of all types cherished by the Iroquois Indian from prehistoric times up to Colonial days. These interesting objects have been presented complete to the American Museum of Natural History as a memorial to the owner's father. Archæologists have recognized the collection for years for its rare types of stone and pottery pipes, curiously carved stones used as badges of authority, native copper cooking implements and other uncommon marks of Indian comfort and luxury.

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

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A Question of Ethics

A QUESTION of ethics may become so academic in its discussion that the very purpose that it is intended to serve will be lost sight of. For many years the architectural profession has struggled with the question of advertising. That question has been debated in most of the architectural journals, and there has been a wide difference of opinion as to whether or not architects should be permitted by the Code of Ethics, established by the governing body of the profession, to advertise their services.

The question of professional advertising is not exclusively confined to architects, but is discussed from time to time by most of the important professions in this country. The insistence by the Institute that architects must not advertise, and an attempt made at one time to characterize as advertising any illustrations of the architect's work in the architectural press, clearly indicates the attitude of that body toward this question.

The Illinois Chapter has made an entering wedge in this matter by a resolution, calling for a change in the Code of Ethics as regards advertising, to the extent of permitting architects to place their names upon buildings during their construction. We have

a promise that this question will be debated very thoroughly at the forthcoming convention of the Institute, to take place at Philadelphia in April.

In the profession of architecture matters have developed very rapidly, and very threateningly, during the past year. Even he who runs may read the handwriting on the wall. It indicates a grave condition, one that will require well directed, concerted effort in its correction.

There are many reasons why an architect might be allowed to place his name on buildings. These should, and probably will, influence the action of the convention in April.

If an architect has some specially developed service to offer the public, is there any reason why he should not let the fact be known, so long as he pays for his publicity just as any other person does?

Is there any reason why architects cannot be broad and fair-minded in their dealings, keeping abreast of the times instead of remaining in the rut of a custom which might, perhaps, be more honored in the breach than in the observance?

Is there any reason why the Code of Ethics should not be amended in any one of its provisions in such manner as will make it more suited to present conditions? Is it not, in many essential respects, archaic?

To paraphrase a quotation from a certain firm in another profession, which strenuously objects to the Code of Ethics governing that profession, we might state:

Every architect probably sleeps on an advertised mattress, bathes every morning with an advertised soap, uses an advertised tooth paste on an advertised tooth brush, puts on an advertised suit of clothes, eats an advertised breakfast food and starts to his day's work, after putting on an advertised hat and coat. Thereupon he sets out on his daily task. He must strenuously avoid everything that savors of advertising the measure of his own ability, or else risk the wrath of the governing body of his profession. Is this consistent?

Let us make inquiry into just what this prohibition of advertising effects for the good of architects. Does it protect him against the public, or does it protect the public against him? Does it add to his dignity to the extent of convincing the client of his great ability? Does the fact that he advertises place him in the ranks of the "fakir," or that he does not firmly imprint him on the minds of the public as the most complete demonstration of professional ability?

There is advertising and advertising. To permit an architect to place his name prominently on a building during construction would serve the useful purpose of educating the public to appreciate what the services of architects mean to the community.

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To deprive him of this publicity is, in a sense, almost equivalent to an insistence on anonymity.

To deprive a man of the credit for his accomplishment is to reduce him to the level of a laborer. Why should not the architect be permitted to inform the world that the building under construction is his creation in design and plan? If the results do not meet approval, does he not take the same chances of public censure as does every other artist, be he painter, sculptor or craftsman? If he is willing to take this risk, should he not be at liberty to do so?

Education in Architecture

NO profession calls for a wider range of knowledge than does architecture. Just what is the proper method to acquire such knowledge has been debated at much length in this country, and considerable divergence of opinion has been manifested. Men whose judgment entitles their views to respectful consideration have differed widely on the subject of the proper curriculum for the architectural student. There is, however, agreement concerning the necessity for an early test of the ability in architectural design.

The profession of architecture is no different in respect to its misfits from any other. The continuance of men as students after they have demonstrated their absolute unfitness is, in a sense, the fault of many schools, willing, for the fees received, to continue such students on their rolls.

Just what should the young man set out to learn; just what should be emphasized in his courses? These questions, and in fact the whole subject of architectural education, are most admirably answered by Mr. Frederick W. Garber in the course of an address which he made at the Ohio State Association of Architects held in Dayton in February. Mr. Garber stated:

"When I train my own boy I am going to send him to college and then to the Beaux Arts; take him into my office for a couple of years, give him general knowledge of office work; one year must be spent in a structural iron shop; one year to studying concrete engineering with a contractor; one year with a decorator and one year with a general contractor. After assimilating what these craftsmen know, another year in my office ought to fit him for practice, provided he has spent his nights keeping up with design and studying the financing of building operations."

Mr. Garber's plan, it will be noticed, begins the education of the student with his college course. Every practical phase is subsequent to that experience. A period of from ten to twelve years

as outlined in this educational scheme is, of course, not all a student period, as when the Beaux Arts course is completed, the "student" will have entered on the practical, self-supporting phase. But, he will be none the less a student. Such a course of study is, in effect, a return to those days when there was no royal road to learning to the extent that there is now.

In the Middle Ages the young men who strove to find a place in the professions allied to the arts spent many long years in practical study. Rubens ground colors for his master, learned to wash brushes and do all the studio drudgery before he was even allowed to try his hand at the work for which he was striving to fit himself.

Of course it would be difficult to get the average young man to dig and delve into things to the extent that Mr. Garber intends his son shall do, nor will many of them have parents willing to wait so long for results. It is interesting to note how a man, well trained in his profession and highly qualified to discuss the topic of education, has placed stress on the features of engineering, contracting and financing aspects of architecture.

The lessons brought home to us since this war started have been valuable, as they have clearly shown that much of our past educational method has been cumbered with non-essentials, and that the tendency has been to create a false point of view among the young men who are starting out in practice.

While architecture is indisputably an art, it is equally indisputable that no art requires so large an equipment of practical common sense. Architects complain that they are not understood, that the true meaning of their work is not appreciated. Clients are, in a sense, educated by their architects. If the *poseur* believes, as many of them do, that he must accent, in some cases to a point of effeminacy, the esthetic side of his work, he must not blame the client who takes him at his own valuation.

Long hair, a velveteen coat and a flowing tie may, at one time, have declared the artist. Today our great artists cannot be set apart in manner and dress from successful business men. Clean-cut, aggressive, manly men always inspire respect and confidence. The ultra-esthetic, often anæmic *poseur* is now eradicated from most, if not all, of the arts. His survival in any of them should be the reason for his suppression and relegation to the companionship of his kind. or, at any rate, he should be so segregated that he can do no harm to his profession and only work injury to himself.

Criticism and Comment

"Who Was the Architect?"

The Editors, THE AMERICAN ARCHITECT:

I have read with considerable interest your editorial of December 5, 1917, "Who Was the Architect?"

I believe the answer is readily found, if you will consider but two phases of the newspaper business—first, it must pay if it wishes to continue in business, and second, it must have news if it wishes to have readers and stay in business.

As to the first, every paper considers the mention of the name of anyone who might derive any profit from such mention as advertising. Under that heading are all builders and material men, and incidentally architects. To aggravate matters from the newspaper man's standpoint, the architect, under our Code of Ethics, cannot advertise; the contractor does advertise. Moreover, under the sanction of the Committee of Public Information, we are to obtain all manner of mention in the daily papers, particularly regarding the profession at large. I have yet to find the newspaper man who could suppress a smile when I told him that I should be suspended from the Institute if I paid him anything, but if he would mention my work free of charge I would be commended as an active chapter member.

Now, I do not criticise the Institute for prohibiting advertising, and so long as I am a member I shall refrain from advertising, in fact, am quite willing to do so, in view of the undignified and ridiculous manner in which some non-Institute members have spread their wares in the daily press. But we cannot be on two sides of the fence without getting caught in the barbed wire.

Regarding the second clause, I have never yet found that when the mention of the architect's name was "news" the paper did not mention it. In our dailies of this morning, two architects were mentioned on the front page. When, however, a building is completed, the architect is "news" no longer; the mention of his name would lead to other business and the business office steps in to blue pencil the reporter's copy. I am afraid we shall have "to loosen up." In the obituary column our buildings are gladly mentioned, with a few that we didn't do thrown in for good measure.

In support of the above I can draw from my own experience. Several years ago I erected a large building, which was fully described in a "building edition." Naturally, I refused to advertise and explained the situation. The advertising man asked me to permit my name to be used, without any

charge to be made. Of course, I granted it, but I am sure that I could never have cleared my name, because on the face of it it looked like advertising.

There is one remedy, however, which we, individually and collectively, refuse to apply, and that is service to the public. If we become active in public affairs, in civic organizations, even in social or fraternal organizations, so that the weight of our professional opinion is felt in the community, the papers will be only too glad to obtain interviews, which in time will extend even to Congress.

What actually happens? For instance, we have a large, powerful and influential commercial organization in a certain city, of which many architects and engineers are members. This organization of 2500 members sub-divided its membership into groups, each group to elect three members to a members' council, where the general policies were to originate. In the "Architects and Engineers" group were sixty names. On the day the vote of this group was taken just two men attended. There was no interest, because a little energy was needed. Had they all attended we might have availed ourselves of our privilege to form a powerful group to which the other members would have paid attention and respect. And the sequel? These same men meet in chapter meetings and tear their hair because the new \$3,000,000 public building is apt to have an unregulated competition. I have since spoken before the members' council on the matter of the new building, but, unsupported, have little weight. But my remarks were mentioned in the quite important monthly publication of this organization. So long as the architect is willing to take a back seat he will find lots of room in the rear rows.

K. D. A.

The Editors, THE AMERICAN ARCHITECT:

Having read with interest your issues for a long time past, there are two things which have come up in connection with your Jan. 30th number which call to mind conditions with which the public has been struggling, both in community and in a private way, for a long time, meeting with discouragements through fear of possible vandalism by the small boy.

Being a student of economic conditions relative to city and suburban housing problems, your article "Hiding Ugly Things" brings to mind what is always unsightly, both in the city and in crowded sections of the country, and that is the back-yard fence. How much more artistic, idealistic, and beautiful

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the block spaces of our cities and country towns could become by the combined interest and efforts of all of the householders, tenants and others in the block if they could be made to see the many advantages to be gained by doing away with all of these unsightly fences, which are expensive to erect and maintain, and in their place have lawns, paths, etc., dotted here and there with fruit trees—"public fruit trees," if you like—so that the people of the block would be benefited by the fruit so grown, and at such a trifling cost, as oftentimes there is an enthusiastic amateur fruit grower, or professional gardener, or some other equally interested party, who would care for the trees and take an interest in the gardens.

The open space covered with lawns and gardens thus forms a place on which the children can play without the necessity of finding their enjoyment either in the streets, public parks, or public playgrounds, being therefore more closely associated with their own home and neighborhood life.

I trust this may strike a note in connection with the recent agitation for housing communities throughout the country, under Government or privately controlled enterprise, and that we may some day see our cities and villages beautified in a manner of which we may be proud.

BERNARD E. JAMME.

New York.

A Recent Book

MINOR ECCLESIASTICAL, DOMESTIC AND GARDEN ARCHITECTURE OF SOUTHERN SPAIN, by Austin Whittlesey, with a preface by Bertram Grosvenor Goodhue. Cloth, 9 x 12 inches, 107 pp. New York: The Architectural Book Publishing Company. Price \$13.50.

This collection of plates, assembled by the winner of the Pierre L. Le Brun Scholarship for 1916, covers the different architectural epochs of Southern Spain in an admirable manner. As stated by Mr. Goodhue in the introduction, the war in Europe made it impossible for Mr. Whittlesey to pursue the prescribed course of travel in England, France and Italy. So it is that this interesting volume came to be.

In this material the curious intermingling of the Moorish with Renaissance, Gothic, and even Norman, elements is to be noted. Quaint turrets, tiled roofs and rich colorings, so suggestive of the Byzantine, greet the eye side by side with a typically Gothic tower in all its aspiring pointedness, while a grim old Norman tower may be ornamented with an elaborately ornate Renaissance doorway. Mr. Whittlesey makes clear the materials used in the buildings; stucco and tile, ashlar and plaster relief stand out as such in his admirable photographs.

There are also a number of sketches to be found scattered through the book. They have a clear, delicate quality of line. A monastery near Cordoba, an Andalusian farmhouse, measured drawings of a doorway in Ronda are some of the fascinating subjects of his sketches.

The plates cover the more interesting buildings in Cordoba, Sevilla, Carmona, Osuna, Malaga, Utrera, Lorca, Granada and other cities. The Gen-

eralife's Gardens in Granada are admirably illustrated photographically and with plan.

Mr. Whittlesey has succeeded in incorporating much of the life of the country into this volume. The intimate relation between the people and their architecture is well portrayed.

Carved Wood Doorway

The illustration of a wooden door in the plate section of this issue represents a work in carving executed for the First Church of Boston from designs by R. Clipston Sturgis, architect.

The doorway was erected as a memorial to Governor Thomas Hutchinson, of Massachusetts. The coat of arms over the door is that of the Hutchinson family. The wood used is walnut. The natural forms in the decorative scheme include Indian corn, grapes and the leaf of the tobacco plant.

In the tympana of the arch are the seal of Great Britain at the left, and of the United States at the right, the former being that in use at the time of George the Third. At the upper left side of the door is a shield bearing the Massachusetts Colony arms, at the upper right the Plymouth Colony arms. The left center space is ornamented by the seal of the Superior Court of Judicature, and a seal of the Probate Court of the County of Suffolk occupies the right center. The lower left-hand space shows the green pine tree of Massachusetts on a white ground, and opposite this, at the right side, the present arms of the Commonwealth of Massachusetts are represented. In the center of the square base at the right of the door is the seal of the Colonial Society of Massachusetts, under which is the statement "Erected MCMXVII."

This memorial was set in place through the efforts of the Colonial Society of Massachusetts.



PLATE 77

HOUSE OF THOMAS NEWBOLD, 15 E. 79th STREET, N. Y.

McKIM, MEAD & WHITE, ARCHITECTS

11



PLATE 78

FOUNDERS BUILDING—LOOMIS INSTITUTE, WINDSOR, CONN.
MURPHY & DANA, ARCHITECTS



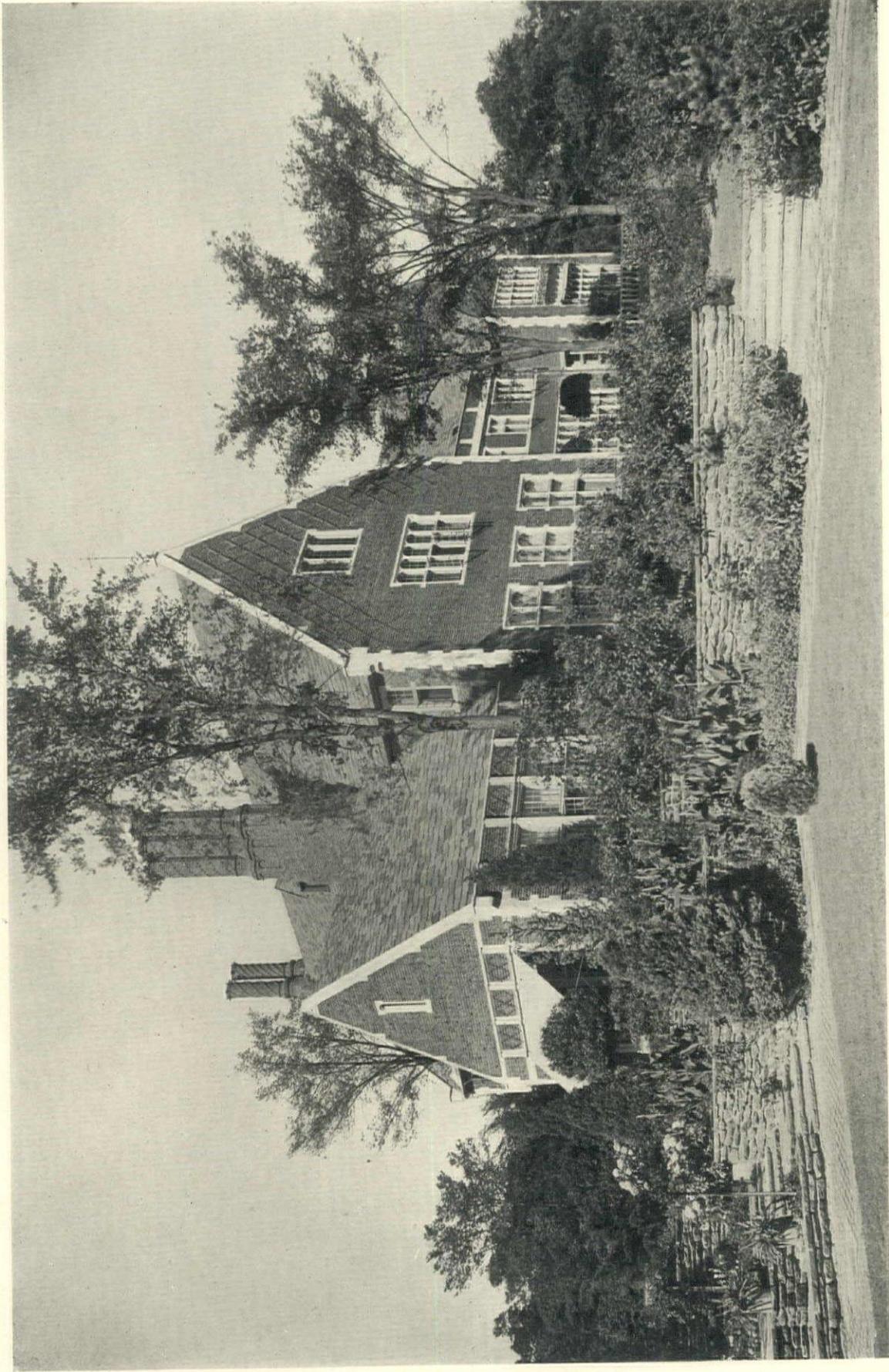


PLATE 79

DETAIL—THE CHURCH IN THE GARDENS, FOREST HILLS, L. I., N. Y.

GROSVENOR ATTERBURY, ARCHITECT





SOUTH ELEVATION FROM GARDEN

HOUSE OF GEORGE ARENTS, JR., RYE, N. Y.

LEWIS COLT ALBRO, ARCHITECT



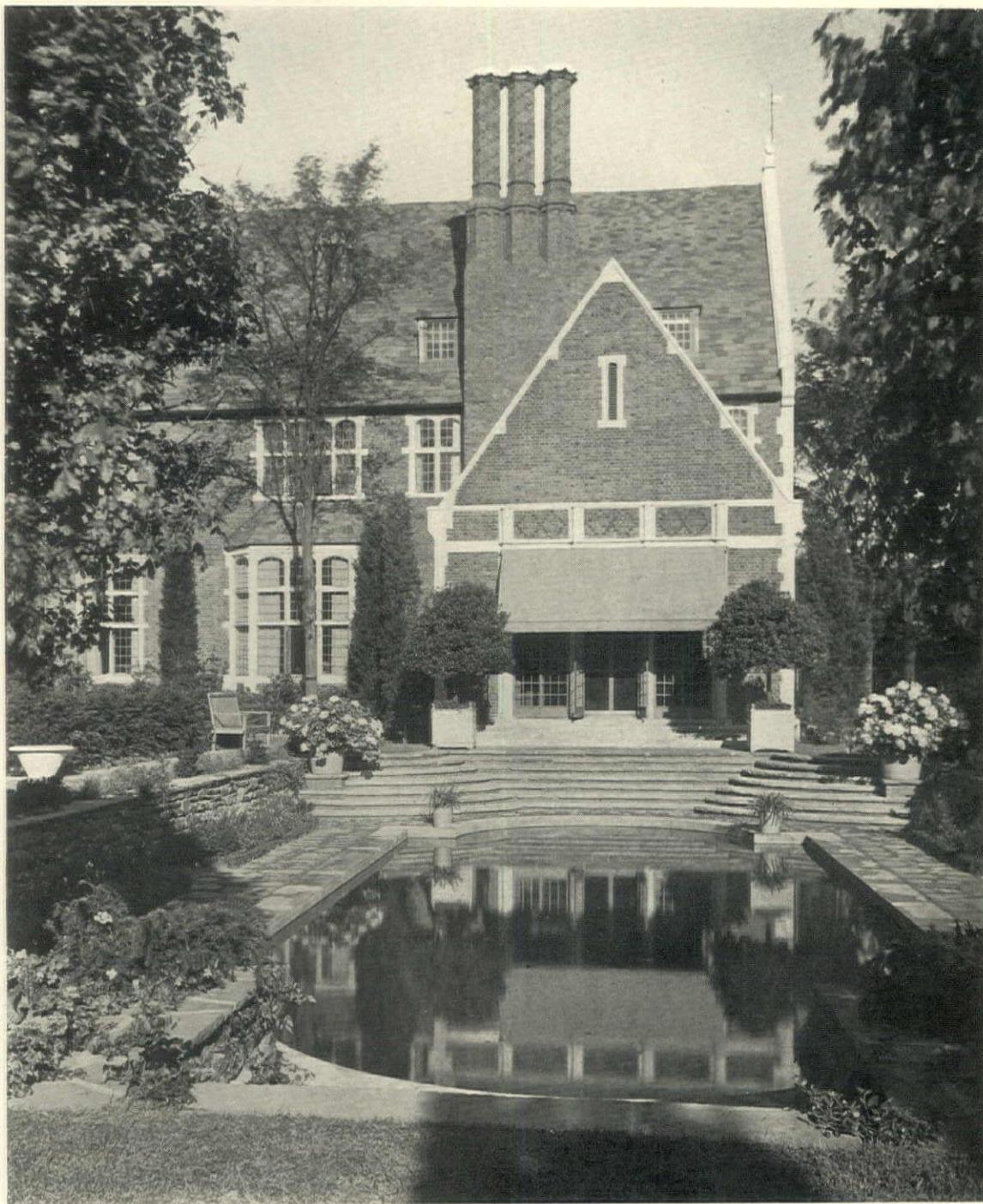


PLATE 81

LOGGIA WING AND POOL

HOUSE OF GEORGE ARENTS, JR., RYE, N. Y.

LEWIS COLT ALBRO, ARCHITECT





PLATE 82

DETAIL OF MAIN ENTRANCE

HOUSE OF GEORGE ARENTS, JR., RYE, N. Y.

LEWIS COLT ALBRO, ARCHITECT



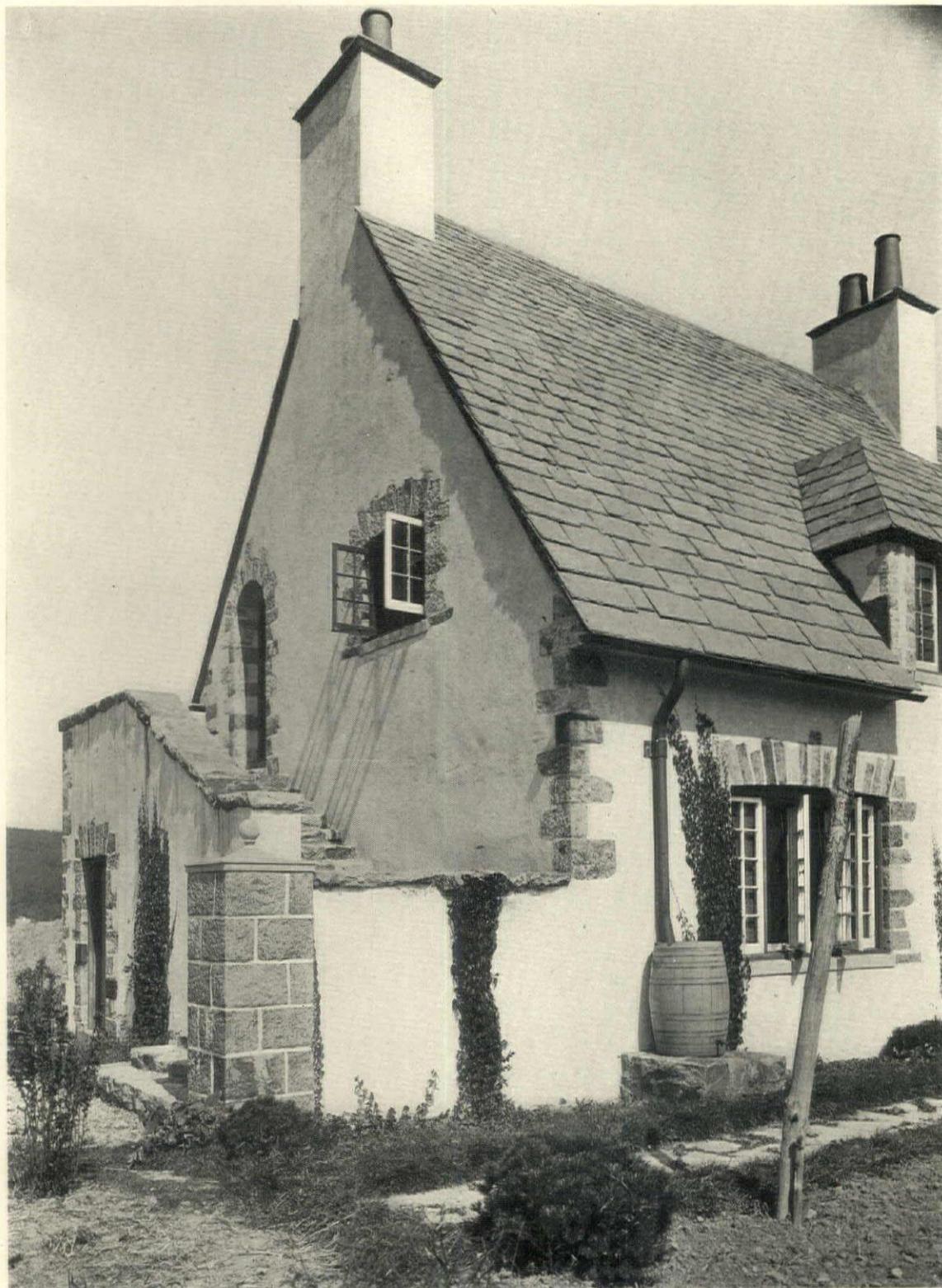


PLATE 83

DETAIL OF SUPERINTENDENT'S COTTAGE

ESTATE OF MAJOR CLARENCE FAHNESTOCK, COLD SPRING, N. Y.

LEWIS COLT ALBRO, ARCHITECT



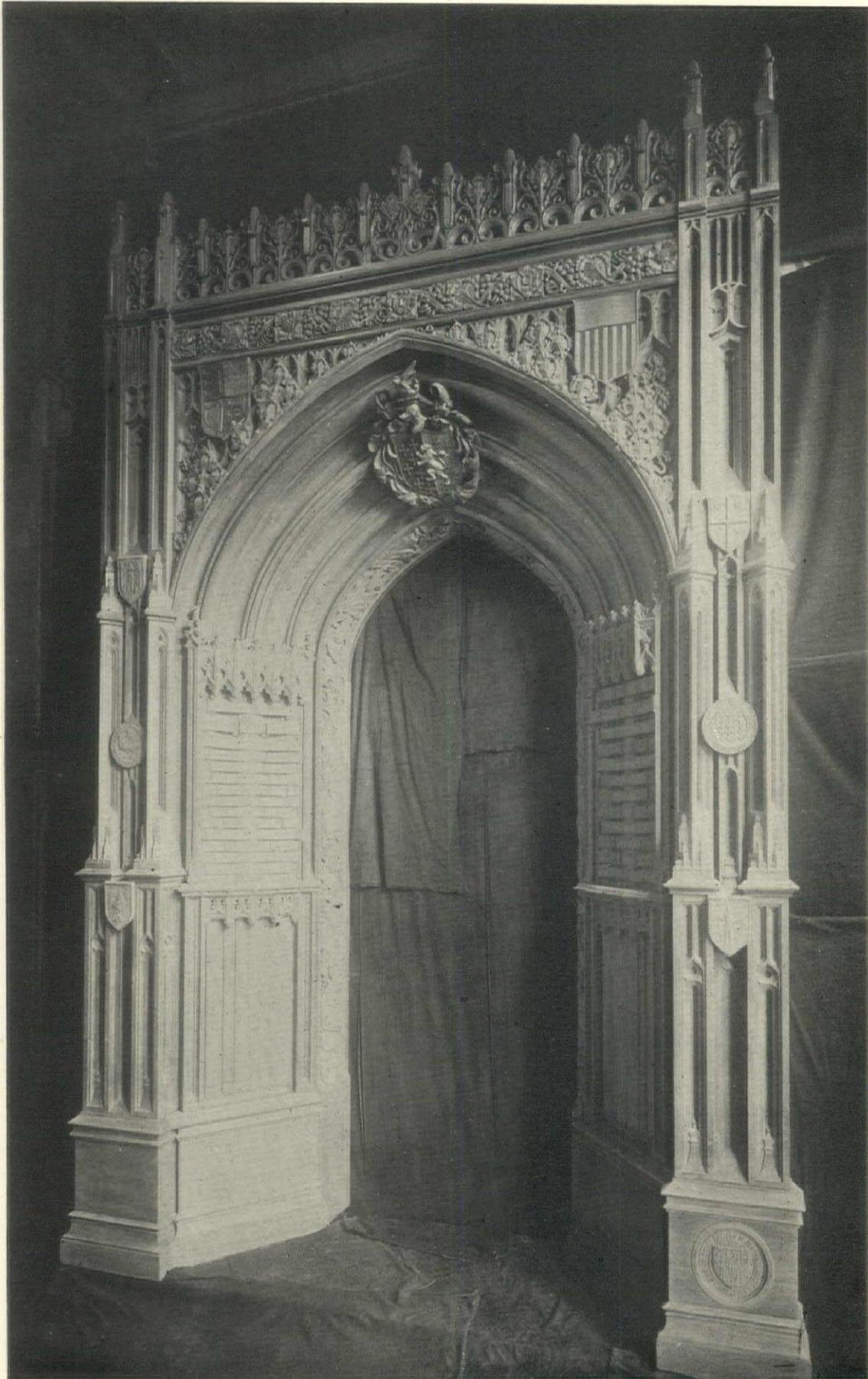


PLATE 84

CARVED WOOD DOORWAY, FIRST CHURCH OF BOSTON, MASS.

R. CLIPSTON STURGIS, ARCHITECT

(See page 294 for description)



Beware of Fraudulent Subscription Collectors

Many complaints have been received regarding payments made to men soliciting subscriptions to this publication and who claim to be working their way through college. These men often agree to accept less than regular subscription rates.

Subscribers should make checks payable to the AMERICAN ARCHITECT and forward to this office. If the supposed agent is our representative due credit will be given him.

Publishers the AMERICAN ARCHITECT.

Architects Elect Officers

Following are the newly elected officers of the Engineers' and Architects' Association of Southern California: H. Z. Osborne, Jr., president; J. J. Backus, chief inspector of the Los Angeles Building Department, vice-president; H. L. Smith, second vice-president; directors, A. B. Benton, G. E. Bergstrom, A. H. Koebig and G. P. Robinson.

Missouri Convicts to Build Roads

The State Highway Department of Missouri is using convict labor for road work, and the first camp has been established at Mineola. Only "honor men" are employed for this work. They do not have guards and are not in prison uniform. These men are being used because of the shortage of other labor, and there are more of them available for work of this sort.

Steamers May House Workers

That idle passenger vessels, wherever available, be pressed into service to house the overflow of workers in towns which are turning out war orders, is the suggestion which has come to Washington from two sources. Charles W. Morse, New York ship owner, in proffering this suggestion, tendered to the Government the use of six of the large steamers of the Morse Line on the Hudson, each capable of furnishing living quarters to about 600 workmen.

A second offer of similar nature came from steamboat owners along the Mississippi. Denied the opportunity to assist the Government in the prosecution of the war because of an exceptionally low stage of water in the Mississippi, the steamboat men conceived this new idea of service. The Streckfus Line has initiated the plan at Rock Island, Ill., where it has agreed to winter its

three largest boats. They will be anchored near the arsenal, and will provide accommodations for 1000 of the workmen, demand for whose services at the arsenal has seriously embarrassed the city's housing facilities.

"Remedying the World"

The re-establishment of normal peace conditions, when at last the war shall have ended, not only promises a series of most difficult problems, but—what is much more encouraging—it presents, in the words of Mr. John Oxenham, "an opportunity of remedying the world." Since a great deal of rebuilding must perforce be done—rebuilding not only of houses and factories, but of all kinds of social arrangements—let us build something better than we have had before. That is the idea which underlies much of the activity of the Ministry of Reconstruction and countless efforts which are being put forth by committees and individuals everywhere. The very difficulties of the work which lies before us may be turned to advantage if tackled in a spirit of strenuous optimism, just as the architect of genius makes the difficulties of his site the opportunities for his finest effects.—*Carpenter and Builder.*

Replanning Philadelphia

The annual meeting of the Fairmont Park Art Association of Philadelphia was particularly significant because of the presentation of what is acknowledged to be a very unusual series of plans for the rearrangement of the layout of that city. Jacques Greber, the French landscape architect, has prepared these drawings at the invitation of Joseph D. Widener, president of the Art Jury and member of the Board of Commissioners of Fairmont Park. After they have been formally accepted by the Art Jury, the Mayor will ask their adoption in a practical way. All who have seen these sketches feel that the future architectural beauty of Philadelphia is assured.

Unnecessary Waste and Normal Business

George S. Mills, commenting on present and future probable building activities, gives the following advice:

For business men, who need building expansion to take care of business expansion, nothing is to be gained by waiting. Nor should normal business be held in abeyance owing to a mistaken sense of patriotism. The sooner business people are able

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to distinguish between unnecessary waste and normal business, and how necessary normal business is to the welfare of a nation that must supply and consequently earn the money to carry on the war, the sooner will the United States of America be in shape to be sure of putting up not only a stiff fight, but, if necessary, a long one.

Negro Community Center

AN INTERESTING EXPERIMENT IN NEW YORK

A seven-story building to be dedicated to the social needs of the New York negro is now in course of construction. The structure is to contain a banking room, restaurants, studios, lecture halls, lodge rooms, dormitories, dance halls, an auditorium, swimming pool, and all the appurtenances of the modern clubhouse and social center.

This will satisfy a much-felt need in the community where it will be erected, and it is to be hoped that it will serve as an example of what may be done for other sections in New York and in other localities where representatives of any one race or nationality congregate in large numbers.

A New Building Code

SPRINGFIELD, O., HAS CODE BASED ON GOOD FEATURES

Months of active investigation and analysis of the building science have served to evolve a building code for the city of Springfield, Ohio, which seems to have much to commend it. The principal provision of this code is that a building inspector be appointed to pass on plans and protect the proper development of all projects in course of construction. This inspector is to be an architect. Fifty-five paragraphs in the code cover all the important phases of building activity. The provisions set down were based on the best features of codes for cities of Springfield's size in and near Ohio.

War Gardens

City planners and landscape architects should be interested in the emphasis now being given in some of the larger towns to the subject of war gardens. The city of Seattle, Wash., is providing courses in horticulture as part of its movement for the establishment of war gardens, and a landscape architect, F. J. Cole, is one of the men to lecture.

An educational campaign is on foot in the city of New York for the cultivation of vacant lots, in support of the Federal Food Board. The National

Agricultural Prize Commission is at the head of the movement, and it is planned to bring all the unoccupied land in the city under cultivation. Three fifty-dollar Liberty Bonds will be awarded during the summer as prizes for the best results in city gardening.

Particular encouragement is also to be given to establishing farm colonies for partially disabled soldiers and orphans; to boys' and girls' agricultural clubs; to State extension work; the teaching of economic uses of food to housewives, etc.

The University of Cincinnati, Cincinnati, Ohio, is conducting a course in war gardening. Lectures and demonstrations are being given in connection with the botanical work, while laboratory work, or practical work on individual garden plots at the university, will begin as soon as weather conditions will permit. There is no tuition fee for this work, its purpose being to prepare persons for intensive food production.

Building and Drink

It is stated on the authority of David C. Scott, discussing the influence of housing conditions on the general welfare of the workers, that statistics both in the United States and in England indicate that drunkenness prevails to a much larger extent in mining districts than in other sections of the country. Analysis discloses that the only reason for this condition is that most houses in these mining districts have been built without due regard for ventilation. A lack of ventilation under the first floor causes dampness to pervade the house, and the consequent lowering of vitality induced by such dampness finds relief in the stimulation obtained from drink.

A Housing Administrator

Lawrence Veiller, secretary of the National Housing Association, believes that the appointment of a national housing administrator would effectively improve the poor housing conditions now retarding the work of the Government. He would have Congress vest this office with full power to provide necessary housing facilities, even to the extent of commandeering homes, if need be, to meet the demand. Such an administrator should, in his opinion, have entire charge of supplying the various branches of the Government providing war needs, and should be responsible to the President only. Liberal appropriations should be given him to construct workmen's homes for the Government, and, incidentally, the program should be so arranged as to enable these workmen to buy the homes from the Govern-

ment. Since the homes would be permanent in character, it would be a good thing for the Government to have them taken off its hands, and would, of course, be to the advantage of the employees.

Bell for New York's City Hall

Frank L. Dowling, Borough President of Manhattan, has advanced a plan, which seems likely to be approved, to have a town bell in the new cupola on the old New York City Hall. This bell will toll the hours and will be rung on festive and other occasions.

The bell which it is proposed to use is one which has been in the possession of the city for twenty-five years, and has never been used during that time. It was cast more than forty years ago for the former village of Tremont, and was used in the belfry there. When the Bronx was annexed this bell became the property of the City of New York. It is of bronze and weighs 1500 pounds. It is said that the bell will be ready for use July 4th next.

City Funds More Needed for School Purposes than for West Side Improvement

Discussion has lately been renewed as to the West Side Improvement Plan, and the New York Board of Trade and Transportation has authorized its president to appoint a committee to consider the situation. Controller Craig, however, in testifying before the West Side Improvement Commission, said, among other things, that money was more needed for educational purposes than for the proposed West Side improvements. Mr. Craig stated, however, in referring to the value of the waterfront, that it should always remain in the possession of the city, and that piers should be built and leased to the railroads. Previous committees have considered many of the questions under dispute, but the appointment of another committee was deemed advisable.

Architect Not Liable for Injuries

A RECENT IMPORTANT LEGAL DECISION

If an architect exercises a reasonable degree of skill and care in his work he is not liable for injuries sustained in consequence of defects in plans prepared by him, according to a decision made recently by the Michigan Supreme Court in the case of Bayne vs. Everham, et al. The court also rules that in no event can the architect be held liable for injury

resulting from a collapse of a building due to defective construction.

In this suit damages were sought by plaintiff as administrator for the death of a carpenter, who was killed by the collapse of a garage in course of construction. The court found that the following principles of law applied to the case:

"In Corpus Juris, vol. 5, p. 269, the rule is stated as follows: 'In the preparation of plans and specifications, the architect must possess and exercise the care and skill of those ordinarily skilled in the business; if he does so, he is not liable for faults of construction resulting from defects in plans, as his undertaking does not imply or guarantee a perfect plan or a satisfactory result, it being considered enough that the architect himself is not the cause of any failure, and there is no implied promise that miscalculations may not occur.'

"This court has held that the responsibility of an architect does not differ from that of a lawyer or physician. When he possesses the requisite skill and knowledge, and in the exercise thereof has used his best judgment, he has done all that the law requires. The architect is not a warrantor of his plans and specifications. The result may show a mistake or defect, although he may have exercised the reasonable skill required."—*Improvement Bulletin*.

Personal

F. W. Kinney, architect, Minneapolis, Minn., has retired from practice owing to ill health.

George F. Loring, architect, of the firm of Loring & Phipps, Boston, died on Feb. 2, in his sixty-seventh year.

Orlando C. Miller and Robert P. Reeves, architects, will open an office at 610-620 New First National Bank Building, Columbus, Ohio, and will be known as the firm of Miller & Reeves.

Arthur Brown, Jr., of the architectural firm, Bakewell & Brown, San Francisco, has been appointed lecturer in design in the Harvard School of Architecture. Mr. Brown was graduated from the college of civil engineering, University of California, in 1896 and then studied and practised abroad in Paris for about eight years, where he won an unusual number of honors. He has been practising in California since 1904, and has erected many of the finest and best known pieces of architecture in that section.

Industrial Information

In this department there is published each week the latest information as to developments of materials and methods, derived from many reliable sources.

Metal Equipment

The Manufacturing Equipment and Engineering Company are the makers of a number of products which should be of interest to architects and engineers. They include metal plumbing equipment of all kinds, metal lockers, metal chairs and stools for school and factory use, as well as a number of other useful things. This sort of equipment is valuable, not only from the standpoint of extreme durability, but also because of its sanitary and fireproof qualities.

Pyrobar Ornamental Tile

The simplicity of Pyrobar Reinforced Gypsum Roof Deck Construction for ornamental roofing purposes has made possible, it is claimed, a return to the ornamental roof of other days. These tiles are manufactured by the United States Gypsum Company, 205 West Monroe Street, Chicago, Ill.

All that is necessary for this sort of construction is a light steel framing, some tee iron, Pyrobar roof tile, and any desired sort of roof covering. These structures can be varied and molded at will, giving graceful curves, dormers and other deviations from the ordinary. The roofs are fire resisting, permanent and the cost is comparatively low. The roof coverings can be nailed directly to the deck when this type of construction is used, and the deck tile can be applied easily to warped surfaces.

Bessler Movable Stairs

Saving floor space is the mission of the Bessler Movable Stairway, manufactured by the Bessler Movable Stairway Company, Akron, Ohio. There are a great many kinds of buildings in which a movable stairway can be used to good advantage, including bungalows, some two-story houses, balconies and mezzanine floors in banks, theaters, hotels, stores, etc., and lofts.

Stairways are very considerable items of cost, and, particularly in the small house, add to the building expense; hence any arrangement which makes possible their elimination means a saving in money as well as an appreciable saving in space.

Bessler Movable Stairways are constructed of strong, durable materials, attractively finished. When the stairway has been pulled up to the ceiling

nothing is visible from below except a neat, paneled door in the cased opening. It is claimed that the Bessler Movable Stairway is very simple of operation; it is only necessary to pull a cord and the stairs drop easily, quickly and without force. The opening is equally easy to close, and further, is warranted not to drop unless the cord is pulled.

An Expanded Metal with Ribs

A combined centering and reinforcement for light-weight fire resisting construction is advertised by Mellor & Hamburger, 103 Park Avenue, New York.

Ribplex, which is the trade name of this product, is an expanded metal with ribs. The design is a plexus, or network, of strands, which form meshes between V-shaped supporting or stiffening ribs. The ribs are cold formed, which gives an increased elastic limit in the metal, while the mesh, which is turned on edge, stiffens the expanded metal between the ribs and develops its full tensile strength. It also prevents the plates from becoming twisted or distorted in shipping or erection.

Ribplex can be used for a number of purposes. The ribs act as beams in supporting the wet concrete or plaster, thus eliminating form work on short spans in floor or roof construction, and as studs and furring in plastering work. The small meshes give a good bond, and allow only a small percentage of waste of concrete or plaster, due to dripping.

For floors and roofs Ribplex is fastened to the framework by means of clips, and the concrete placed. On ordinary spans it is said that no supports are needed, and on long spans only temporary braces are required. The same is true of suspended ceilings—Ribplex is fastened on with clips, and the plaster applied. This material is used with as much simplicity for partitions.

The plate is 24 in. wide, and comes in stock lengths of 4 to 12 ft. The ribs are $\frac{3}{4}$ in. deep, spaced 4.8 in. center to center. The gauges are 24, 26 and 28.

The Asbestos Protective Metal Co., Pittsburgh, announces the removal of its Boston office to the State Mutual Building, to be in charge of William H. Cummings.

DEPARTMENT OF ARCHITECTURAL ENGINEERING

Concrete Comes Into Its Own

By S. M. FECHHEIMER

AMERICA is a motion picture of rapidly changing views and conditions. A few years ago all was abundance—there was a surplus of wealth everywhere. Nature had dowered us with limitless resources; little efforts brought immense returns. What mattered it then if there were waste? There was plenty, and more to take its place.

In erecting buildings, literally and actually we had money to burn. Any kind of building, of any sort of construction, would pay for itself, because

every building was in demand. A flimsy building might burn down and thus destroy national wealth, yet there was money enough to replace it. A needlessly expensive construction might represent an overbalanced investment, yet the building was so badly needed that it would return an ample revenue.

A new film is thrown on the screen. The scene now is war, with all the lessons of thrift it has brought home to the American people. "Consume less, produce more" is an economic necessity. Make every stroke count, stop waste, do and use every-



VIEW IN SHANGHAI, CHINA. THE BRIDGE ACROSS SOOCHOW CREEK

Note location of Godown (warehouse) of Lee Chong, illustrated on following page

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thing efficiently. We must finance and support our allies; all our energies are needed to win the war.

The building and construction world has been quick to realize the rapid change in conditions and to adapt itself to them. Methods and materials which had become practically standardized were discarded almost over night and new ideas adopted. Institutions which had resisted the modernizing influences of recent years and had steadfastly adhered to their old-established practices quickly readjusted themselves to the new times. Everywhere the one aim has been to do everything in the most effective way possible. War is a ghastly schoolmaster, but the building world will profit for generations by its lessons.

Reinforced concrete has been given new impetus



GODOWN (WAREHOUSE) OF LEE CHONG, SHANGHAI, CHINA

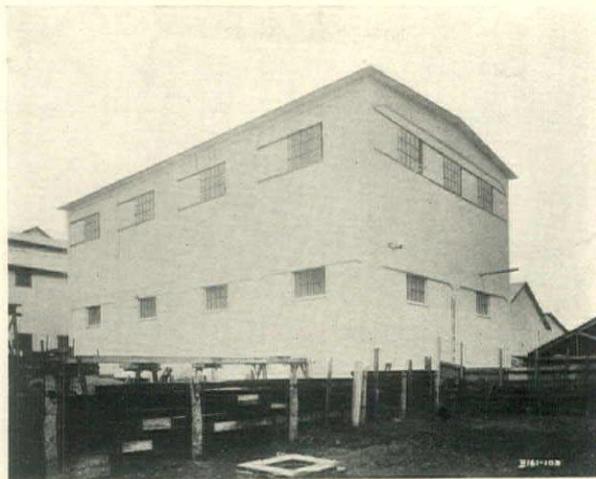
since the war began. It has entered many new fields of application and has become universally established in old ones. War is a veritable glutton for steel and consumes immense tonnages of it in every phase of its activities—for ammunition, guns, ships, trucks and structures. The tremendous demand for steel naturally created a shortage and increased prices.

Builders had to economize in the use of steel wherever possible. What is more natural than to use reinforced concrete instead of structural steel? For instance, a reinforced concrete beam or girder requires only one-third of the steel necessary in a structural steel member. What is more, the concrete is the best kind of fireproofing at the same time that it is helping to carry the loads; while the fireproofing for structural steel adds just that much dead weight and does not contribute to the strength.

These are old facts, you will say, and have been recognized in building many industrial and commercial buildings. Yet it took the shock of the war and

the necessity of finding something that could be used instead of structural steel to cause the application of these facts to many types of buildings.

Take for instance in many monumental and public buildings, where expense was a minor consideration,



FERTILIZER BUILDING FOR SMITHFIELD ARGENTINE MEAT CO., ZARETE, ARGENTINA

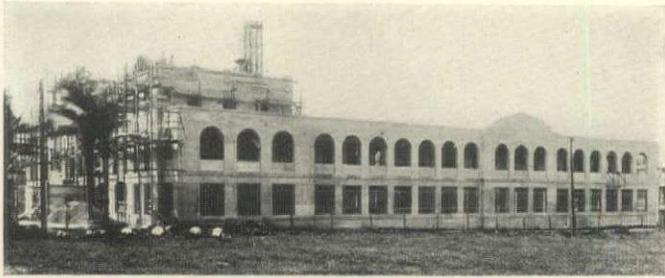
a frequent practice was to use steel girders placed comparatively closely together with some form of fireproof floor between them. This is a thing of the past now, and we have the advices of such prominent architects as Cass Gilbert, who writes:

“ . . . We have been perhaps extravagant in America in the use of structural steel for building work. There are hundreds of buildings erected in this country every year which could be just as well erected without steel, and in hundreds of others the amount of steel could be greatly reduced. An enormous tonnage could be saved if reinforced con-



COOPERAGE BUILDING FOR SMITHFIELD ARGENTINE MEAT CO., ZARETE, ARGENTINA

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PRESBYTERIAN HOSPITAL, SAN JUAN, PORTO RICO

crete, masonry or other material were used. Practically all buildings of moderate height can be erected without the use of large quantities of structural steel. Reinforced concrete or old-fashioned masonry can take its place. . . ."

Many examples can be cited of the present general use of reinforced concrete where it has hitherto not been considered practical, or has been used only in rare instances.

In theaters, for instance, it has usually been considered that structural steel presented the easiest solution of the complicated framing of long-span girders, inclined floors and cantilevered balconies. Nowadays it is quite

a common practice to build this entirely of reinforced concrete, making a complete monolith of girders, cantilevers and floors; and, as this construction has developed, it has been interesting to see the ingenious way in which all parts of the construction have been used to give additional strength and stability. The surprising part of it all has been that the construction has worked out very simply and is proving a revelation from an economic standpoint. Needless to say, there will never be a return to the old standards even when the war is over.

Interesting examples of the use of reinforced concrete in theater constructions can be found in many places. A particularly noteworthy one is that of the theater in the Edison Building at Los Angeles. Here a 104-ft. reinforced concrete arch serves as a

fulcrum support for six cantilevers under the balcony. It is stated that delivery of structural steel for this work could not have been secured from eastern fabricators short of eighteen months. The cantilever portion is in the form of a truss, and the entire structure was tested to twice its live load with very satisfactory results.

In New York City there is another interesting concrete theater construction in the Vanderbilt Theater on West Forty-eighth Street. Here also reinforced concrete was used because of the difficulty in obtaining steel. The main balcony girder of reinforced concrete is 56 ft. 2 in. in span. The design is ingeniously prepared and is proving economical in material and cost.



SCHOOL, CONVENT, RECTORY AND CATHEDRAL OF THE REDEMPTORIST FATHERS, SAN JUAN, PORTO RICO

Designs in long-span floors and girders, ordinarily not contemplated in reinforced concrete, have become common. Many interesting examples can be pointed out. At Emory University, Atlanta, Ga., there is a reinforced concrete floor with a clear span of 37 ft. 6 in., and in the same building a roof girder 52 ft. 2 in. in span, supporting in addition an 8-in. concrete partition.

In the United States National

Bank at Portland, Ore., girders 40 ft. in span were employed in all the five stories of its height to support the floors.

Churches, as a rule, have not adopted reinforced concrete extensively because of the complicated



ST. ANTHONY APARTMENT, MANILA, P. I.
SIDNEY D. ROWLANDS, ARCHITECT



WAREHOUSE AT RIO SANTIAGO, S. A.

structural framing necessary, yet we find in recent times a number of interesting examples, such as the Gesu McDermott Memorial Church at New Orleans, the San Augustin Church at San Juan, Porto Rico, and the State Mosque at Kuala Kangsar, Federated Malay States.

In foreign countries we are seeing some of the most interesting and ingenious applications of reinforced concrete. Many of these countries, shut off by embargoes and steel shortage, have literally been forced to develop the use of concrete, and they are using it with excellent results. A few examples of these installations are the Buddhist Temple at Hakodate, Island of Hokkaido, Japan, designed by Japanese architects and engineers; a Godown (warehouse and store) for Lee Chong, at Shanghai, China; Preston House, Brisbane, Australia.

In the Argentine Republic is the reinforced concrete building of the Smithfield Argentine Meat Co. at Zarate; also a refrigerating plant for Armour & Co. at Rio Santiago.

In the Philippine Islands there is the concrete St. Anthony Apartment Hotel at Manila, and in Porto Rico the all-concrete Presbyterian Hospital at San Juan. Most ingenious is the construction of the reinforced concrete Zamboanga Pipe Line in the Philippine Islands. Here the curved Hy-Rib units were plastered, completed and shipped ready for use in the pipe line, the concrete layer being poured on the outside to complete the construction.

In England it is quite common to build ore and lime bunkers of reinforced concrete, an interesting example being those of the Brymbo Steel Works. Here everything is of reinforced concrete, including the bins, bunkers, trestles and supports.

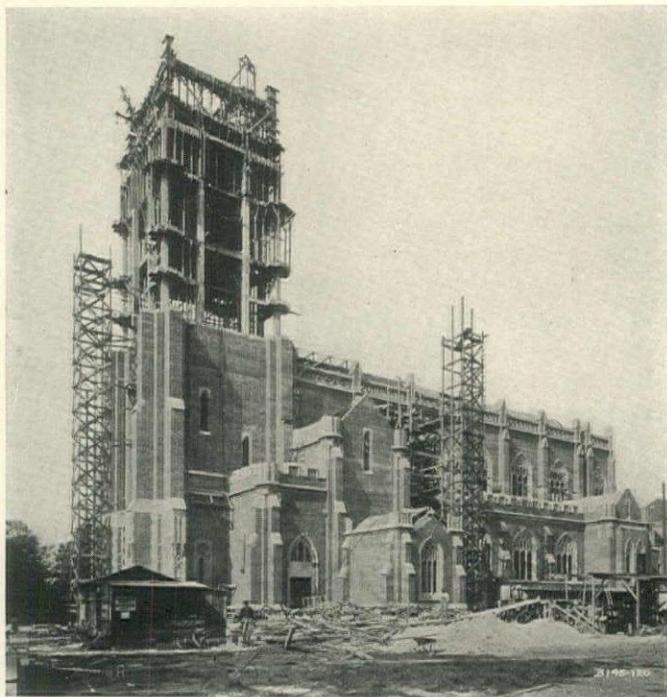
In Pietermaritzburg, Natal, there is a complete arched rib truss bridge of reinforced

concrete which is 170 ft. long, 30 ft. wide and has a central span of 75 ft.

For storage tanks of all kinds the use of reinforced concrete has increased tremendously. These tanks are used for storage of grains in the West and Northwest, and, with suitable lining, they are being used as reservoirs for oil throughout Ohio and the Southwest. Water tanks of concrete are found everywhere. An ingenious water standpipe has been developed in the Southeast. In this construction the standpipe tank, which is of necessity high in the air, is supported by a stem of reinforced concrete with a spread foundation to give proper stability. The tank resembles a goblet.

Special applications of the use of concrete can be found in almost every issue of our technical press, in domes, trestles, bridges, stadiums, etc., of all kinds. Even at the mouth of the Kaleakala Crater in Hawaii, the little rest house is built entirely of concrete.

The war has brought prominently before communities the necessity for industrial housing. Permanency and sanitation are requisite in these buildings. Many excellent groups of houses, entirely of concrete, have been built with great success, and economically. Improved methods for this construction are being developed almost daily. Examples of the all-concrete industrial group house



GESU McDERMOTT MEMORIAL CHURCH, NEW ORLEANS, LA.

DE BUYS, CHURCHILL & LA BUISSE, ARCHITECTS

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are: The Lehigh Coal & Navigation Co., Lansford, Pa., are erecting houses for their clerks, engineers and superintendents. The Delaware, Lackawanna & Western Coal Co. have constructed what is known as "Concrete City" in Pennsylvania for their employees. Nothing but concrete is to be found in these houses except the furnishings.

In military affairs, concrete is playing an important part in defensive works. Not only is it being used in fortifications, but for the linings of

its Wyoming lines, consisting of "A" frames supporting the walls, with concrete girders and roofs.

Concrete trestles supporting steel spans are common, as is also the extensive use of concrete in terminal buildings. The new Trans-Mississippi Terminal at New Orleans has train sheds, as well as the building proper, of reinforced concrete.

No picture of the new uses of concrete would be complete without mention of the concrete ships which are occupying so much space nowadays, not



UNITED STATES NATIONAL BANK, PORTLAND, ORE.

A. E. DOYLE, ARCHITECT

trenches and dugouts and building of "pill-boxes," gun foundations, etc. Many of the hospitals, particularly the base hospitals in England, are of concrete construction, using stucco on metal lath.

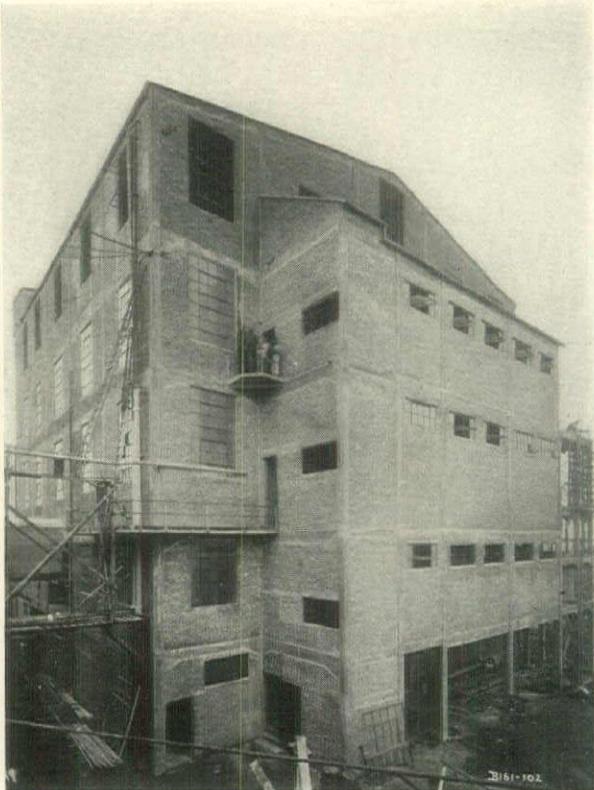
The railroads are using reinforced concrete more extensively than ever, as is exemplified by constructions such as the reinforced concrete cylindrical coaling station recently completed for the St. Louis & San Francisco Railroad. This has an outside diameter of 27 ft. and a total height of 75 ft., entirely of reinforced concrete. The Union Pacific Railroad has built a novel concrete snow shed on

only in our technical magazines but in the popular press as well. The successful use of concrete ships in Norway, and of barges in other localities, has stimulated concrete shipbuilding everywhere. In California there is now being completed a boat of 4500-ton capacity, and larger ones are being planned. Two or three large concrete shipbuilding companies have been organized in the East and already have contracts to go forward. The United States Government is taking a deep interest in this subject, and has appointed a board to devote itself strictly to concrete shipbuilding. The speed with

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which a concrete boat can be built, the simplicity of the equipment necessary and the economical cost suggest that it might prove the solution of the shipping problem which is so vital to the success of the Allies.

If we are to complete our motion picture of American conditions, the final scene must show a partial glimpse into the future. Concrete is coming into its own, largely because of its intrinsic



CANNING BUILDING, SMITHFIELD ARGENTINE
MEAT CO., ZARETE, ARGENTINA

merits. No doubt in exceptional cases its use is being forced by war conditions, but it is safe to say that many of its applications have been revelations to designers because of its economy and efficiency. From these places it will not be dislodged, but will continue in use just as other materials will continue to be used in the places in which they are best fitted.

Value of Coal Storage Capacity

THE winter season just passing has demonstrated the value of storage capacity for coal. Many buildings which had only storage room for a few days' run were unable to replenish their supply owing to the storm-bound condition of the streets or lack of fuel in the markets. To avoid

such trouble it will be necessary to allot more space for this purpose. To do this may require sacrificing space used for other purposes and the most essential requirements should be recognized.

In this connection it will be well to note that anthracite coal, broken, and loosely packed, will occupy from 40 to 43 cu. ft. per ton of coal. Bituminous coal, under the same conditions, will occupy from 43 to 48 cu. ft. per ton. Washed screenings of either kind, which is so largely used for steaming purposes, will take some less room, as it will pack more closely.

Engineering Books

PRACTICAL STRUCTURAL DESIGN: A Textbook and Reference Work for Engineers, Architects, Builders, Draftsmen and Technical Schools; Especially Adapted to the Needs of Self-Tutored Men.—By Ernest McCullough, C. E., M. Am. Soc. C. E. New York: U. P. C. Book Co., Inc., 243 West Thirty-ninth Street, New York City. Cloth; 6 x 9 in.; 303 pages, illustrated, \$2.50.

TO explain the elements of structural design and apply them in a practical manner by the use of common arithmetic has been successfully accomplished by the author. For this reason the book is especially usable by draftsmen, builders, engineers, architects, and students in manual training schools. From lack of constant use, persons with complete technical training often find it difficult to dig into a problem as usually presented in textbooks.

Although the book is not large, it covers almost every phase of work encountered in the general practice of a structural engineer, and its arrangement, index and general make-up are satisfactory.

This unusually happy presentation of the subject found its inception in material prepared by the author for use in night and special classes taught by him during a busy professional activity. Later it appeared in a series of articles published in *Building Age*, completed early in 1916. In response to a demand about an equal amount of matter was added, and the present book is the result.

The author's experience as a practising consulting engineer enabled him to attack the proposition from a different angle than that employed by the majority of writers, which accounts for the explanation of some factors which influence and often control practical designing. This makes the book especially valuable to the young engineer and architect who is just entering into business life. The book should find an extended use in technical and trade schools, among teachers and in the offices and libraries devoted, even remotely, to building construction.

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A Comparison of Unit Costs

A TYPICAL open-loft structure, 16 stories high, was constructed in New York during the period from January, 1916, to February, 1917. Mr. Russell B. Smith, C.E., the consulting engineer, reports to *Buildings and Building Management* a table comparing the cost of the building as erected with a cost recently obtained for a duplication of the work.

These items are worthy of very careful study on the part of architects and engineers and serve as a guide to possible cheapening of building construction. Of course, it will be remembered that the figures given are local to New York and that local conditions in other places will undoubtedly modify some of the details. However, the structural steel item is the one item showing the great increase in cost of 51 per cent. Minor increases are noted in some other items and there are many decreases in cost which are encouraging. The use of metal seems to be the one thing that is responsible for the excessive cost of buildings.

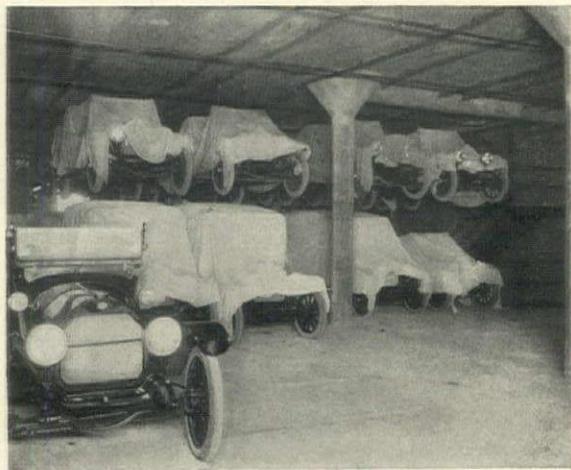
It is entirely feasible to erect a 16-story building of reinforced concrete. Such a building is now under construction in St. Louis, and with the use of cast-iron cores or other means the excessive size of the columns can be reduced to a reasonable limit. A readjustment of the design and of the uses of material is a necessity that confronts the industry to-day, and a study of the data submitted may lead the way to its accomplishment:

	1915-16	1917-18
Steel fabrication	17.4%	26.3%
Masonry	15.2	11.9
Elevators	7.3	7.5
Fireproofing	6.6	6.2
Plastering	4.5	3.4
Plumbing (including fixtures)....	4.4	3.7
Heating	3.9	5.0
Ornamental iron	3.8	4.2
Excavation	3.3	2.7
Exterior limestone	3.2	2.5
Interior doors and trim.....	3.2	2.9
Sprinklers	3.2	3.8
Electric wiring	2.8	2.5
Windows	2.7	2.9
Steel erection and inspection.....	2.7	2.1
General contract (miscellaneous)	2.5	1.2
Architectural terra cotta.....	1.9	1.6
Roofing and sheet metal.....	1.5	1.4
Interior marble	1.4	1.2
Hardware	1.3	1.4
Tile	1.1	1.1
Glass and glazing.....	1.0	1.3
Waterproofing	0.7	0.5
Granite base	0.5	0.5

Boiler stack	0.5%	0.9%
Painting	0.4	0.7
Mail chute	0.3	0.3
Stair treads	0.2	0.2
Carpentering	0.1	0.1

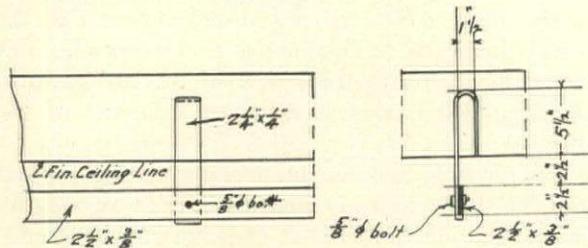
Three Stories Serving for Five

TO make a ceiling serve as a floor is accomplished in the construction of an automobile storage and sales building erected in St. Louis for the Delor Realty Company. The capacity of



INTERIOR VIEW SHOWING AUTOMOBILES IN POSITION

the building in car storage, office and salesroom space was fixed. With a ground area of 50 x 155 ft., it was found that a five-story building would be required to fulfill the requirements if it was designed along the usual lines.



DETAIL OF HANGER AND TRUCK

In order to reduce the cost and maintain the capacity of the building, it was decided to make a radical departure from the accepted construction for this type of building. This change consisted of eliminating the third and fifth floors, and in the building as designed two stories are used for storage instead of four as usually built. In these two stories automobiles are placed on the floor in the

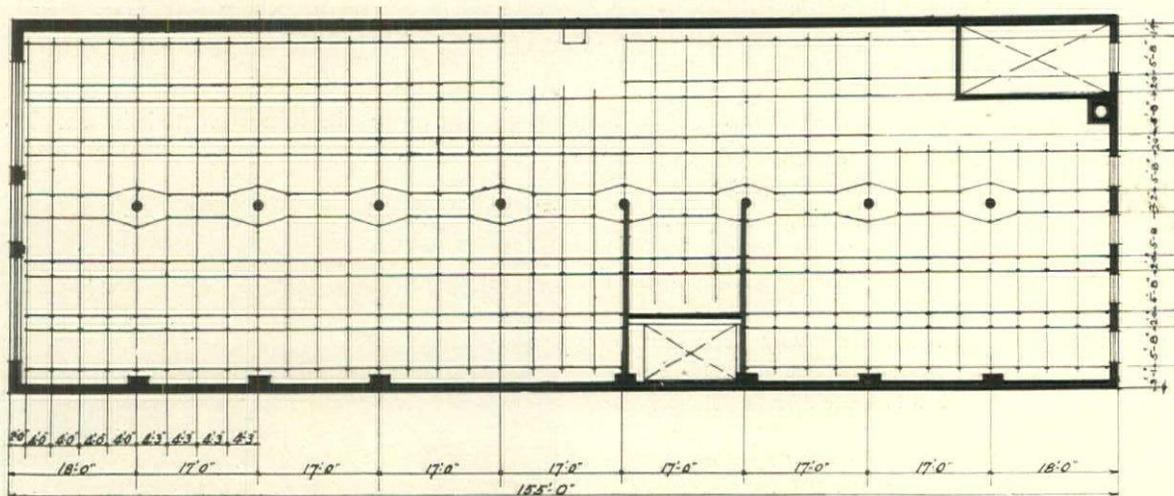
THE AMERICAN ARCHITECT

usual manner, and above them is suspended a tier of automobiles from the ceiling.

The stories are made 16 ft. high from floor to ceiling, and to the ceiling is attached $2\frac{1}{2}$ x $\frac{3}{8}$ -in. bars, spaced 5 ft. 8 in. on centers, with the upper edge $2\frac{1}{2}$ in. below the ceiling. These bars are suspended from the ceiling by $2\frac{1}{4}$ x $\frac{1}{4}$ -in. hangers,

can be applied to buildings used for the storage of other commodities, such as wagons, implements, etc., with equal economy.

This building was designed and its construction supervised by Albert B. Groves, architect. Brussel & Viterbo, consulting engineers, designed the reinforced-concrete construction.



PLAN SHOWING ARRANGEMENT OF TRACKS AND HANGERS

spaced 4 ft. 3 in. on centers and anchored into the floor slab, as shown.

The 10 x 24 ft. elevator in the rear of the building is provided a door opening the clear height of the story, and the pent house is sufficiently high to permit the highest stop midway between the third floor and the ceiling.

A movable steel platform is provided which is high and wide enough to pass over the cars resting on the floor. This platform receives the automobile from the elevator platform and is then rolled on the floor, over the cars stored thereon, to the point where the automobile is to be stored. The car is then hung to the $2\frac{1}{2}$ x $\frac{3}{8}$ tracks by means of four hook chains attached to each end of the axles.

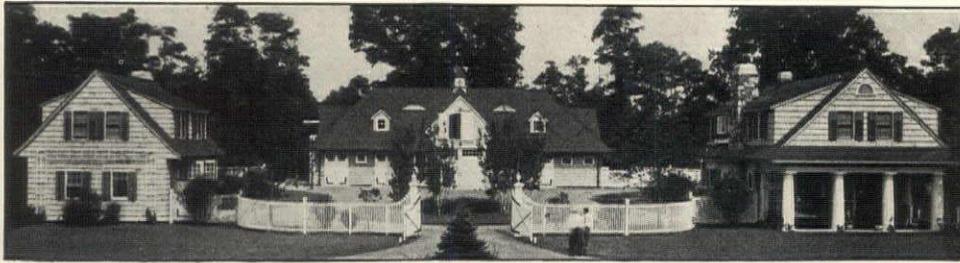
This floor is necessarily stronger than the usual floor in such cases, because it carries two loads. This double duty, however, does not require double the amount of material required for the usual floor, as will be readily understood, and the expense of two tiers of floor centering is eliminated. The saving to the owner through the elimination of the two floors was \$22,000. The building is constructed of reinforced-concrete and equipped with an automatic sprinkler system. The first story is used as a salesroom and offices. This kind of construction

Ventilation in the Boiler Room

OUT of consideration for the fireman during the summer, ventilation is provided in the boiler room, but it is not generally remembered that the furnace requires ventilation as well. During the unusually severe cold weather a mechanical engineer was called on to discover why one of his plants would not generate steam. Investigation showed that the boilers were not generating steam as usual and the cause was found to be that the engineer had almost hermetically sealed the boiler room to keep out the cold air. This condition resulted in the furnace not receiving enough air to permit of the proper combustion of the fuel. Upon opening up the air inlets the boilers regained their usual capacity for work.

Summer ventilation should provide as cool air as possible for the fireman. In the winter it might be possible to provide a fresh air inlet that would pass the air about the smokestack and warm it. This would provide warm air for the fireman and also warm air for the furnace, which would effect some economy in fuel consumption. Such an arrangement would require two fresh air inlets, but it would satisfy the necessities of the boiler room under all conditions.

Walls finished with Cabot's Old Virginia White; roofs stained with Cabot's Creosote Stains.



Tooker & Marsh, Architects, New York

Cabot's Old Virginia White

The Modern Architectural Outside White

The clean, brilliant "whitewash white" effect of Old Virginia White has real distinction. It is a softer and yet a brighter white than paint, and its texture and color-values are essentially different in character from the heavy, hard paint coating. This makes it especially appropriate for the modern "Colonial," because it gives the house at once the aspect of well-groomed old age—a result that it would take years to accomplish with paint.

(You can get Cabot's Stains all over the country. Send for samples and name of nearest agent.)

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All colors attractive and inter-harmonious: many new, rare and not otherwise obtainable. Texture is rough and interesting. A perfect medium for antique reproduction, even Colonial work.

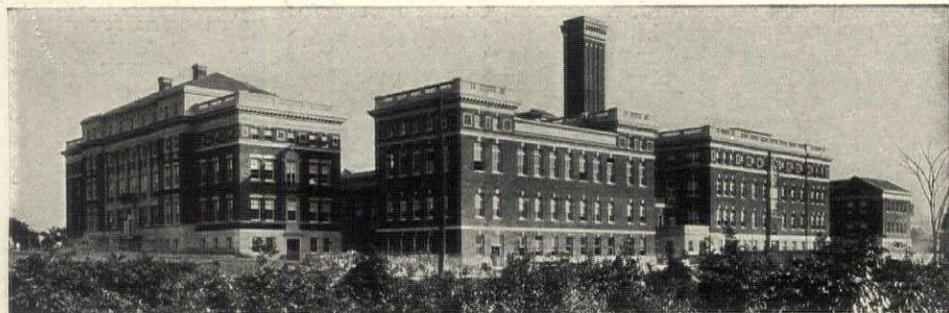
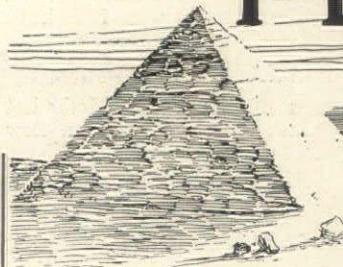
Layouts submitted; samples furnished; advice on subjects relating to the sloping roof—all without obligation.

Cost is low—12c upward per square foot at the quarry—same as graduated slate. Tudor Stone, Junior, an "architectural life-saver," is but 7c.

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acteristics. Experienced architects know it—hence their recommendation and constant specification for buildings of any size or purpose. Our Free Book sent postpaid on request.

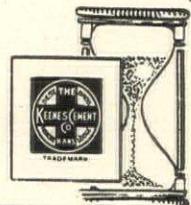
The Montefiore Home, Gun Hill Road, New York. Arnold W. Brunner and Buchman & Fox, Architects. Best Bros. Keene's Cement used for interior plastering.

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CHICAGO



BUILDING NEWS

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

ALABAMA

ALABAMA CITY, ALA.—The Dwight Mfg. Co. will build a four-story warehouse in Alabama City, Ala., to cost \$40,000.

CALIFORNIA

CALISTOGA, CAL.—Trustees of the Stanford University are contemplating improvements on their Calistoga bath house. Mr. Stow, one of the trustees, says the expenditures will be about \$12,000.

LOS ANGELES, CAL.—The M. & H. Novelty Company will operate a plant at 857 East Twenty-fourth Street, Los Angeles, for the manufacture of gear-shifting devices. F. T. Hughes, president.

OAKLAND, CAL.—It is reported that a \$300,000 ship-building plant will be developed at Redondo Beach, Cal., for G. W. & E. W. White, Oakland, Cal.

SAN FRANCISCO, CAL.—William H. Weeks, 75 Post Street, San Francisco, Cal., is architect for a store and apartment building to be erected at Howard and Twenty-first Streets, San Francisco. Cost, \$30,000.

CONNECTICUT

BRIDGEPORT, CONN.—The Board of Education, of which A. Slawson is superintendent, plans to spend \$320,000 for a school on Prospect-Myrtle Avenues, Bridgeport, Conn.

HARTFORD, CONN.—Burton S. Clark, 747 Main Street, Hartford, has prepared plans for a fire headquarters building on Pearl Street, Hartford. Cost, \$100,000.

NEW LONDON, CONN.—The Standard Brass & Copper Tube Company, New London, Conn., is to install a new power plant in connection with an addition to its rolling mill on Woodbridge Street, New London, Conn.

STAMFORD, CONN.—L. K. Prince, Stamford, Conn., has selected L. F. Werlier, 71 West 125th Street, New York, as Architect for a \$10,000 garage to be built at Thirty-seventh Street and Eleventh Avenue, New York.

COLORADO

DENVER, COLO.—The presidents of four State higher educational institutions reached an agreement at a conference with Governor Gunter of Colorado to appropriate \$350,000, as follows: University of Colorado, Boulder, Colo., \$140,000; Agricultural College, Fort Collins, Colo., \$108,000; Teachers' College, Greeley, Colo., Normal School, Gunnison, Colo., \$18,000; Fort Lewis School of Agriculture, \$18,000. Dr. Geo. Norlin, University of Colorado; Dr. Chas. A. Lory, State Agricultural College; Prof. J. B. Crabbe, Colorado Teachers' College, all interested.

DENVER, COLO.—A mausoleum to cost \$60,000 is to be erected in Denver. Mountjoy, French & Frewen, Chamber of Commerce Building, Denver, Architects.

DENVER, COLO.—Mountjoy, French & Frewen, Chamber of Commerce Building, Denver, have plans in progress for a school to cost \$20,000.

DELAWARE

WILMINGTON, DEL.—Two stores and apartments to cost \$15,000 will be built for Mrs. Rose Gross, 909 Market Street, Marcus Hook, Wilmington, Del. E. C. May, Du Pont Building, Wilmington, Architect.

WILMINGTON, DEL.—J. J. Kennedy, 925 Market Street, Wilmington, Del., has drawn plans for a store and office building to cost \$20,000. It will be built between Eighth and Ninth Streets for Dan and Rocco Abessinco, 925 Market Street.

WILMINGTON, DEL.—W. E. Hance, Equitable Building, Wilmington, Del., is making plans for a picture theater which the Brandywine Amusement Company desires built. Cost, \$25,000.

WILMINGTON, DEL.—John J. Kennedy, Ford Building, Wilmington, Del., has plans for the alteration of the McMahon store at Sixth and King Streets, Wilmington.

WILMINGTON, DEL.—Plans have been drawn by J. J. Kennedy, Ford Building, Wilmington, Del., for an apartment house and four smaller houses to be located at Seventh and Washington Streets, that city. Gidel Podolsky, owner.

WILMINGTON, DEL.—A store and apartment building will be constructed at 106 West Sixth Street, Wilming-

ton, Del., for the use of J. Edward Reynolds & Son. Plans have been completed by Wallace E. Hance, Equitable Building. The structure will cost \$18,000.

WILMINGTON, DEL.—Dr. Stephen L. McKee is having plans drawn for a store and house at 403 Delaware Ave., Wilmington, Del. The cost will be \$5,000. Roscoe C. Tindall, Equitable Building, is the architect.

FLORIDA

CLEARWATER, FLA.—Adolphus Lentz of Wauwatosa, Wis., has acquired possession of the property and home occupied by Mrs. Schooler in Clearwater, Fla. He plans later on to remove the present buildings and erect a home.

MIAMI, FLA.—It is proposed by the Casa Grande Hotel Company, Miami, Fla., to erect as soon as funds can be gathered a \$1,500,000 hotel in Miami, Fla. Offices at 526 Guardian Building, Cleveland, Ohio, and 211 Twelfth Street, Miami, Fla.

PENSACOLA, FLA.—A new Presbyterian Church is to be built in Crestvia through the efforts of Rev. Mr. McIlwain of the Knox Presbyterian Church, Pensacola, Fla.

GEORGIA

SAVANNAH, GA.—The Foundation Co., Woolworth Building, New York, will develop a shipbuilding plant on the Savannah River, Savannah, Ga.

ILLINOIS

CHICAGO, ILL.—Geo. C. Nimmons, 122 South Michigan Avenue, Chicago, is preparing plans for additions to the factory of the Harrington & King Perforating Company, North Union Avenue, Chicago. Cost, \$90,000.

CHICAGO, ILL.—J. B. Martin, East Liverpool, Ohio, is architect for a \$90,000 Lutheran church to be erected in Chicago, Ill.

CLEARING, ILL.—A one-story plant is to be built for the Standard Steel Castings Company, Chicago, in Clearing, Ill. Cost, \$100,000.

DECATUR, ILL.—The Leader Iron Works, Decatur, Ill., contemplates erecting several new buildings. Bids have not yet been asked.

INDIANA

BICKNELL, IND.—Members of the First Methodist Episcopal Church in Bicknell, Ind., will erect a new church building to cost \$16,000.

ELKHART, IND.—A. H. Ellwood, Elkhart, Ind., will design plans for a new school building at Indiana and Francis Avenues, Elkhart. It will cost \$110,000.

EVANSVILLE, IND.—The Claremont School, on East Illinois Street, near Bartlett Avenue, Evansville, Ind., will be extensively altered. Auditorium, library and classrooms will be added. Clifford Shopbell, Furniture Building, Architect.

FORT WAYNE, IND.—A bakery is to be built by the Haffner Baking Company, Geo. Haffner, manager, Fort Wayne. It will cost \$40,000 and C. D. Cooley, Century Building, Pittsburgh, Pa., is the Architect.

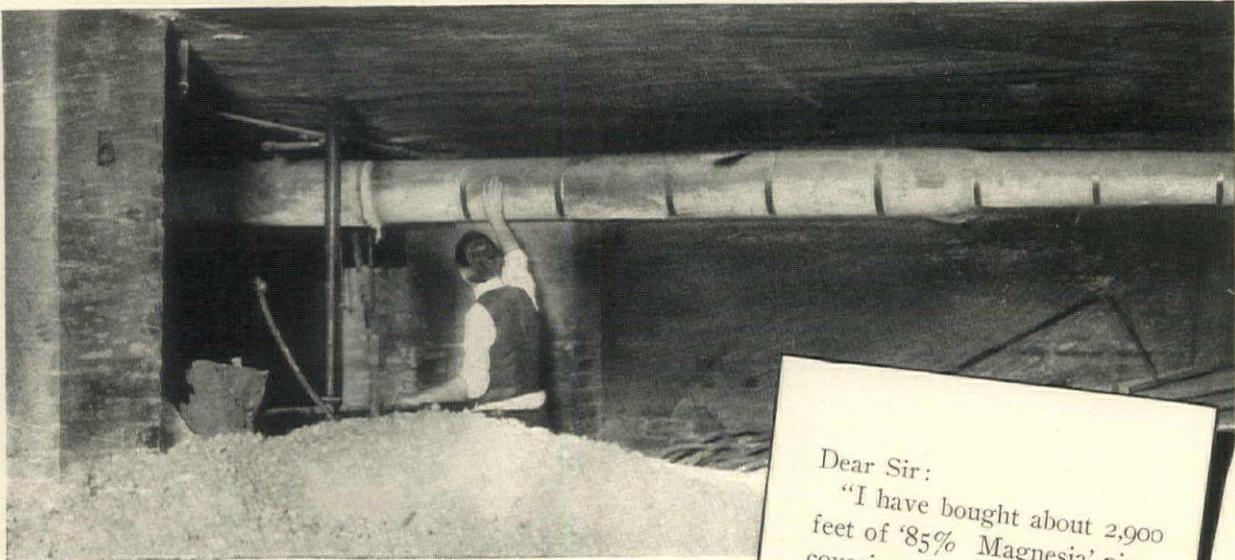
FORT WAYNE, IND.—A bank to cost \$15,000 will be erected in Wolcottville, Ind., for the Wildman State Bank, of which H. J. Wildman is president. Plans have been made by A. M. Strauss, Bank Building, Fort Wayne, Ind.

GREENCASTLE, IND.—The Indiana Portland Cement Company, Adam Beck, president, Greencastle, Ind., is having plans drawn for new works to cost \$1,000,000. F. L. Smidh, 50 Church Street, New York, is the engineer.

HAMMOND, IND.—The Republic Iron & Steel Company of East Chicago, near Hammond, Ind., has been wrecked by an explosion.

INDIANAPOLIS, IND.—Nicol & Dietz, Murdock Building, Indianapolis, are architects for a garage and auto salesroom for the McConaha Co., 11 South Fourth Street, Indianapolis. Cost, \$75,000.

TERRE HAUTE, IND.—Johnson & Miller, 105 South Seventh Street, Terre Haute, are in charge of plans for the improvement of the Kleeman Store at Sixth Street and Wabash Avenue, Terre Haute, Ind.



The Building was torn down but its 16-year-old Magnesia Pipe - Coverings were good enough to reapply

The photograph shows the scrap-heap of the demolished building and a portion of the "85% Magnesia" pipe-coverings still in perfect working order.

The letter quoted above was received a short time ago by one of the members of the Magnesia Association. Its story of Magnesia Durability will interest Architects and Engineers who want to specify the kind of insulation that is sure to last.

There's nothing strange in that story to a man who knows the qualities of "85% Magnesia." The test of time has proved that even over a long term of years "85% Magnesia" shows *no deterioration, no loss of efficiency.*

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Dear Sir:
 "I have bought about 2,900 feet of '85% Magnesia' pipe-coverings removed from the office-building at No. 7 Spruce Street, which is in course of demolition.
 "These coverings were installed in 1902, but are in good condition, and I would be glad if you can make an offer for them.
 "Yours very truly,

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IOWA

CHARLES CITY, IOWA.—Roman Catholic congregation in Charles City, Iowa, will build a school to cost \$40,000. Pastor, Father Convery.

NEW HAMPTON, IOWA.—C. E. Hughes, Charles City, Iowa, has drawn plans for a \$75,000 house for Dr. F. S. Feeney, New Hampton, Iowa.

PELLA, IOWA.—Warfield, Pratt, Howell Co., Des Moines, will spend \$100,000 for extensions to their factory in Pella, Iowa.

SIoux CITY, IOWA.—Davidson Bros., Sioux City, propose rebuilding their store at a cost of \$50,000. F. E. Colby & Son, Trimble Block, Sioux City, are drawing plans.

KENTUCKY

HENDERSON, KY.—A store and office building owned by Dr. J. H. Letcher, Henderson, Ky., will be remodeled from plans by Harry E. Loyle & Co., 40 Furniture Building, Evansville, Ind., at a cost of \$10,000.

LOUISIANA

BENSON, LA.—An appropriation of \$20,000 has been made for a new school building to be erected in Benson, La.

MARYLAND

BALTIMORE, MD.—The Gas & Electric Company, Baltimore, Md., will spend \$468,000 for a new gas tank for the Spring Garden section.

BALTIMORE, MD.—Plans are in course of preparation for extensions to the plant of the Maryland Bolt Works, Continental Trust Building, Baltimore.

BALTIMORE, MD.—Owens & Sisco, Continental Building, Baltimore, Md., have plans in progress for the Terminal Warehouse Company who will erect a building on Thames and Philpot Streets, Baltimore.

BALTIMORE, MD.—A. Lowther Forrest, Law Building, Baltimore, is preparing plans for Chas. G. Morton, who will remodel building at 215 St. Paul Street. Cost, \$10,000.

MASSACHUSETTS

BOSTON, MASS.—A. E. Bump, 60 N. Market St., Boston, Mass., is drawing plans for a packing house, which W. C. Derby Co., 622 East Thirty-ninth Street, New York, desires built.

BOSTON, MASS.—A library to cost \$250,000, chemical library, a gymnasium and other buildings are recommended for the Massachusetts Agricultural College, Boston. Payson Smith, State Commissioner of Education.

BOSTON, MASS.—Harrison H. Atwood, Dorchester, Mass., is architect for a \$90,000 school for Ashley Street, Boston.

BOSTON, MASS.—James E. MacLaughlin, 88 Tremont Street, Boston, is drawing plans for elementary and prevocational schools on Dearborn Street to cost \$100,000.

NEW BEDFORD, MASS.—Smith & Howland, Architects, Union and Pleasant Avenues, New Bedford, have plans for remodeling the old high school at a cost not to exceed \$55,000.

NEW BEDFORD, MASS.—An addition will be made to the factory of the Continental Wood Screw Company, 13 Hamilton Street, New Bedford, Mass.

SPRINGFIELD, MASS.—The St. George Greek Orthodox Church Society will build a church to cost \$100,000 in Springfield, Mass. M. Fousanis, rector. Architect, K. A. Kalfos, 200 Seventh Avenue, New York City.

WORCESTER, MASS.—The Osgood-Bradley Car Company, Worcester, Mass., intends to rebuild its office building recently destroyed by fire.

MICHIGAN

BATTLE CREEK, MICH.—The A. B. Steven Co., F. K. Berry, president, have commissioned E. W. Bump, Post Building, Battle Creek, Mich., to draw plans for a theatre, store and office on Main and Macauley Streets, whose execution will not exceed \$100,000.

CADILLAC, MICH.—H. H. Waterman, 10 South La Salle Street, Chicago, Ill., has plans in progress for a \$64,000 church for the Cong. Church. Rev. J. Turner, Cadillac, pastor. W. L. Sanders, chairman building commission.

DETROIT, MICH.—Plans are under way for a church to cost \$200,000 and to be erected in Detroit, Mich. J. B. Martin, East Liverpool, Ohio, Architect.

DETROIT, MICH.—Plans for a factory are completed by Smith, Hinchman & Grylls, Washington Arcade, De-

troit, Mich., to cost \$200,000. It will be part of the Detroit Shipbuilding Plant at Dequindre and St. Aubin Streets, Detroit.

MINNESOTA

DULUTH, MINN.—Croft & Boerner, Palace Building, Minneapolis, have been appointed by the Board of Education to plan a school to cost \$150,000.

IVANHOE, MINN.—J. A. Burner, McKnight Building, Minneapolis, is drawing plans for a court house for Lincoln County to cost \$100,000.

NEW ULM, MINN.—A city hall to cost \$50,000 will be erected in New Ulm, Minn., from plans prepared by Lyrie Chapman, Auditorium Building, Minneapolis.

ST. PAUL, MINN.—S. F. Kerfoot, president of Hamline University, Snelling and Hewitt Avenues, St. Paul, Minn., may be consulted with reference to a dormitory that is contemplated. F. H. Ellerbe, Endicott Building, St. Paul, is the Architect.

TYLER, MINN.—Tyler, Minn., will see the erection of a new school building to cost \$50,000. T. T. Fronlund, president of the school board.

TYLER, MINN.—C. H. Parsons, Phoenix Block, Minneapolis, is architect for a \$50,000 high school for Tyler, Minn.

WABASHA, MINN.—Sisters of the Sorrowful Mother will build an addition to a hospital in Wabasha, Minn., to cost \$65,000, from sketches outlined by E. Brielmaler & Sons, University Building, Milwaukee, Wis.

MISSOURI

CHARLESTON, MO.—A \$14,000 garage is being designed by M. E. Parlow, Cape Girardeau, Mo., for Paul B. Moore, Charleston, Mo.

ST. LOUIS, MO.—House and garage to cost \$20,000 will be built from plans by Link & Trueblood, Carleton Building, St. Louis, Mo. O'Neil Wiles Lumber Co., George Blackman, secretary, 1232 South Kingshighway, St. Louis, are the owners.

ST. LOUIS, MO.—The Southwestern Telephone Company, at Delmar and Lake Avenues, St. Louis, Mo., will spend \$85,000 for a new telephone exchange building.

MONTANA

BILLINGS, MONT.—J. M. Shoemaker is president of the Billings Meat Co., 116 North Twenty-seventh Street, Billings, Mont., which will build an abattoir to cost \$40,000.

BILLINGS, MONT.—The Grand Hotel Company, Billings, Mont., will spend \$1,000,000 for a new hotel. H. L. Stevens, 53 West Jackson Boulevard, Chicago, Ill., is the Architect.

BILLINGS, MONT.—Plans have been drawn by Weary & Alford, 1987 South Michigan Avenue, Chicago, for a bank and office building to be erected in Billings, Mont. R. J. Covert, president, Merchants' National Bank. Cost, \$300,000.

MILES CITY, MONT.—The Miles City Milling Company will incorporate with a capital of \$25,000, and will establish a flour mill at Sixth and Seventh Streets, Miles City, Mont.

NEBRASKA

OMAHA, NEB.—Salesroom and garage to be erected from plans by Paul V. Hylan, 29 E. Madison St., Chicago, will cost \$175,000. The occupant will be the Nebraska Buick Auto Co., Lee Hough, 1912 Farnum Street, Omaha, Neb.

NEW JERSEY

CAMP DIX, WRIGHTSTOWN, N. J.—A chapel and pastor's house will be built at Camp Dix, Wrightstown, N. J., for the Presbyterian Synod of New Jersey. Cost, \$25,000. Ludlow & Peabody, 101 Park Avenue, New York, are the Architects.

ELIZABETH, N. J.—The Linden Tanning Co., Elizabeth, N. J., will spend \$30,000 for a beam house, for which F. G. Noble and M. G. Klemmt, 142 Market Street, Newark, N. J., are drawing plans.

NEWARK, N. J.—A factory to cost \$185,000 will be built on Frelinghuysen Avenue, Newark, for the Diehl Mfg. Co., Trumbull Street, Elizabeth, N. J.

NEWARK, N. J.—The Butterworth-Judson Corporation, Avenue R, Newark, N. J., has secured a permit for a \$25,000 addition to its chemical works.

TRENTON, N. J.—Plans are in course of preparation for a power plant to be constructed in connection with the proposed new general hospital, of which Wm. A. Kleman, First National Bank Building, is Architect, in Trenton, N. J. \$15,000 will be spent.

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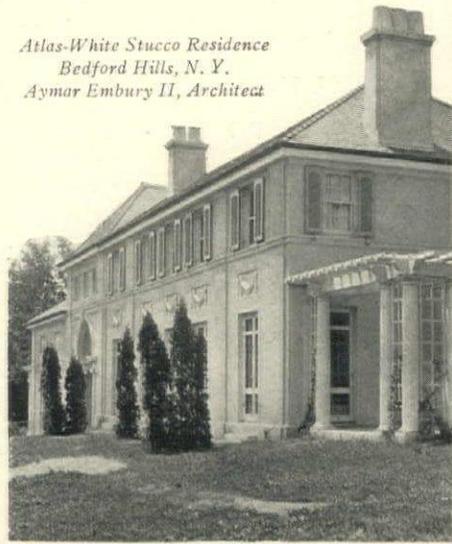
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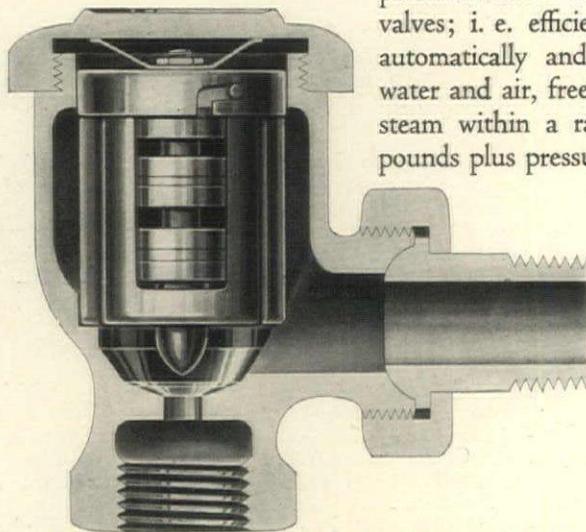


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As you will note in the sectional cut, a radical departure has been made in its mechanical design. Notice the wide open unobstructed passage for air and water, which minimizes the possibility of dirt lodging therein and interfering with its proper operation.

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NEW MEXICO

ROSWELL, N. M.—The New Mexico Military Institute at Roswell plans the addition of a new mess hall to cost \$75,000. Plans are being drawn by I. H. & W. M. Rapp Company.

NEW YORK

AUBURN, N. Y.—A telephone exchange building will be constructed at South Street, Auburn, N. Y., for the New York Telephone Company, 15 Dey Street, New York City.

BROOKLYN, N. Y.—The Freel Trust Co., 44 Court St., Brooklyn, will have a brick theatre built on Fulton Street, near Rockwell Place, Brooklyn, that will cost \$225,000. T. W. Lamb, 644 Eighth Avenue, New York, has prepared plans.

BROOKLYN, N. Y.—Bannister & Schell, 67 Wall Street, New York, are Architects for a Children's Court House which will be located in Brooklyn, N. Y., at 109 Schermerhorn Street. Cost, \$90,000.

BROOKLYN, N. Y.—Chas. Pfizer & Co. will construct a one-story boiler house at their works at 11 Bartlett Street, Brooklyn, N. Y. Cost, \$15,000.

BROOKLYN, N. Y.—Plans are under way for a three-story brick and limestone school to be erected at New Lots Road and Pennsylvania Avenue, Brooklyn, N. Y., at a cost of \$70,000. The structure is to be owned and occupied by the New Lots Talmud Torah Society.

HEMPSTEAD, L. I.—A town hall is proposed for Harper Park, Hempstead, L. I., which will cost about \$70,000. Steward Wagner, 7 East Forty-second Street, New York City, is the architect.

LONG ISLAND CITY, N. Y.—The Astoria Light, Heat & Power Company has filed plans for a new plant to be located on Winthrop Avenue, Long Island City, N. Y., and to cost \$20,000.

NEW ROCHELLE, N. Y.—Chas. T. Skillen, 30 Garden Street, New Rochelle, N. Y., has bought the Bartnett property on Roch Street, where a business building will be constructed. Mr. Skillen is manager of the Vacuum Compressed Air Company.

NEW YORK, N. Y.—S. Cohen, 32 Union Square, New York, is Architect for a \$15,000 garage to be constructed at Madison Avenue and Thirty-fifth Street, New York, for the Newat Realty Company, 200 Broadway.

NEW YORK, N. Y.—Ernest & Herman Levy, Nineteenth Street and Fourth Avenue, New York, are reported considering plans for a power plant to be built in connection with a proposed new silk mill on Purdy and O'Dell Streets. Cost, \$75,000.

NEW YORK, N. Y.—A. Freeman, 29 West Thirty-fourth Street, is Architect for the alteration of the store of A. Sulka & Co., 32 West Thirty-fourth Street, New York. Cost, \$15,000.

NEW YORK, N. Y.—The Frank Improvement Company, 303 Fifth Avenue, are Architects for remodeling a five-story house and store at 725 Seventh Avenue. Cost, \$9,750.

NEW YORK, N. Y.—The Bronx Catholic Big Brothers League will erect a building to cost \$350,000. J. K. Wheton, president.

NEW YORK, N. Y.—J. McE. Bowman, president Biltmore Hotel, 432 Madison Avenue, will build a twelve story garage at 323 East Forty-fourth Street, New York, to cost \$400,000.

NEW YORK, N. Y.—Fred F. French & Co., 299 Madison Avenue, New York, have plans for a house to be built on Riverside Drive and 158th Street, for Arthur W. Hay, 830 West 179th Street. Cost, \$210,000.

NEW YORK, N. Y.—Alterations costing \$16,000 will be made by H. I. Cobb, 527 Fifth Avenue, New York, Architect, to a restaurant at 23 William Street, for J. G. McCullough, 15 Broad Street.

NEW YORK, N. Y.—Robert M. Ewing, 101 Park Avenue, New York, is architect for 20 frame hospital buildings to cost \$150,000. Gun Hill Road and Bainbridge Avenue, 211th Street and Pntnam Place, New York, is the site. U. S. Army, Washington, will use the buildings.

NIAGARA FALLS, N. Y.—The National Carbon Company will spend \$40,000 on an addition to its factory in College Avenue, Niagara Falls, N. Y.

ROCHESTER, N. Y.—Grace Lutheran Church, at Niagara and Bay Streets, Rochester, N. Y., is raising \$45,000 for a new church. A site has been purchased at Clifford Avenue and Maniton Street. Rev. F. C. Martin, pastor.

UTICA, N. Y.—New York State has approved plans for a dormitory for a county jail in Utica.

NORTH CAROLINA

WILSON, N. C.—The Export Tobacco Company will build a \$30,000 storage and coopeage plant on Goldsboro Street, near Spruce, at Wilson, N. C.

NORTH DAKOTA

SISSETON, N. D.—Foss & Foss, Elbow Lake, Minn., will draw plans for a store for Stavig Bros. in Sisseton, N. D. Cost, \$40,000.

OHIO

BOWLING GREEN, OHIO.—Plans are in the making for a new Catholic church to be erected on South Summit Street, Bowling Green, Ohio. Father Goebel, pastor.

CINCINNATI, OHIO.—The new Unity Baptist Church will build a structure on Sixth and East Court Streets, Cincinnati, to cost about \$30,000.

CINCINNATI, OHIO.—Col. J. L. Rhinock is interested in the building of the New Palace Theater to be erected on Sixth Avenue, Cincinnati, Ohio.

CLEVELAND, OHIO.—Max Weis, Park Building, Cleveland, is to draw plans for the Congregation Shaaras Yankiff Synagogue at 7606 Cedar Avenue, S. E. Cost, \$20,000.

CLEVELAND, OHIO.—P. L. Cobb, engineer for the Cleveland Electric Illuminating Company, has filed plans for an addition to the present power station at 720 East Seventieth Street, Cleveland. The building will cost about \$1,000,000.

CLEVELAND, OHIO.—A garage and stores will be built for J. Babin, Williamson Building, Cleveland, at a cost of \$25,000. S. H. Weiss, Schofield Building, Architect.

COLUMBUS, OHIO.—Prof. Joseph N. Bradford, Architect, Ohio State University, is drawing plans for the Woman's Union to be erected on the campus. It will be planned largely for athletic work. Cost, \$150,000.

LAKESWOOD, OHIO.—Lakeswood, Ohio, is having preliminary plans drawn by E. A. Fisher, Architect, City Hall, for a city hall to be erected on Detroit Avenue at a cost of \$50,000.

ROCKY RIVER, OHIO.—The Riverside Saving & Loan Co. has acquired land on Blount Road and will proceed to build a \$50,000 bank on the site.

SPRINGFIELD, OHIO.—A storage house and power plant will be put up for the Robbins & Myers Company at Nelson Street, Springfield, Ohio, near its present factory. Cost, \$100,000.

YOUNGSTOWN, OHIO.—Chas. F. Owsley, Mahoning National Bank Building, Youngstown, Ohio, is the Architect for a municipal hospital.

OKLAHOMA

STROUD, OKLA.—Stewart & Wilderson, State Bank Building, Oklahoma City, have drawn plans for a \$50,000 high school, which the Board of Education will erect in Stroud, Okla.

OREGON

PORTLAND, ORE.—Folger Johnson, Oregon Building, Portland, has plans under way for a store and office building to be occupied by D. C. Williams of Klamath Falls.

PORTLAND, ORE.—J. V. Bennes, Chamber of Commerce Building, Portland, Ore., is to prepare plans for a garage building to be built at Tenth and Davis Streets for Sabbe Bros., Portland. Cost, \$26,000.

PENNSYLVANIA

ALIQUIPPA, PA.—The plant of the Russell Shovel Co. of Aliquippa, Pa., destroyed with a loss of \$250,000, will be rebuilt.

BELLEFIELD, PA.—The Wallace Apartment Hotel Company, Wilson S. Weir, president, will build a hotel in Bellefield, Pa., to cost \$825,000. The site chosen is Fifth Avenue and Craig Street, Bellefield, Pa.

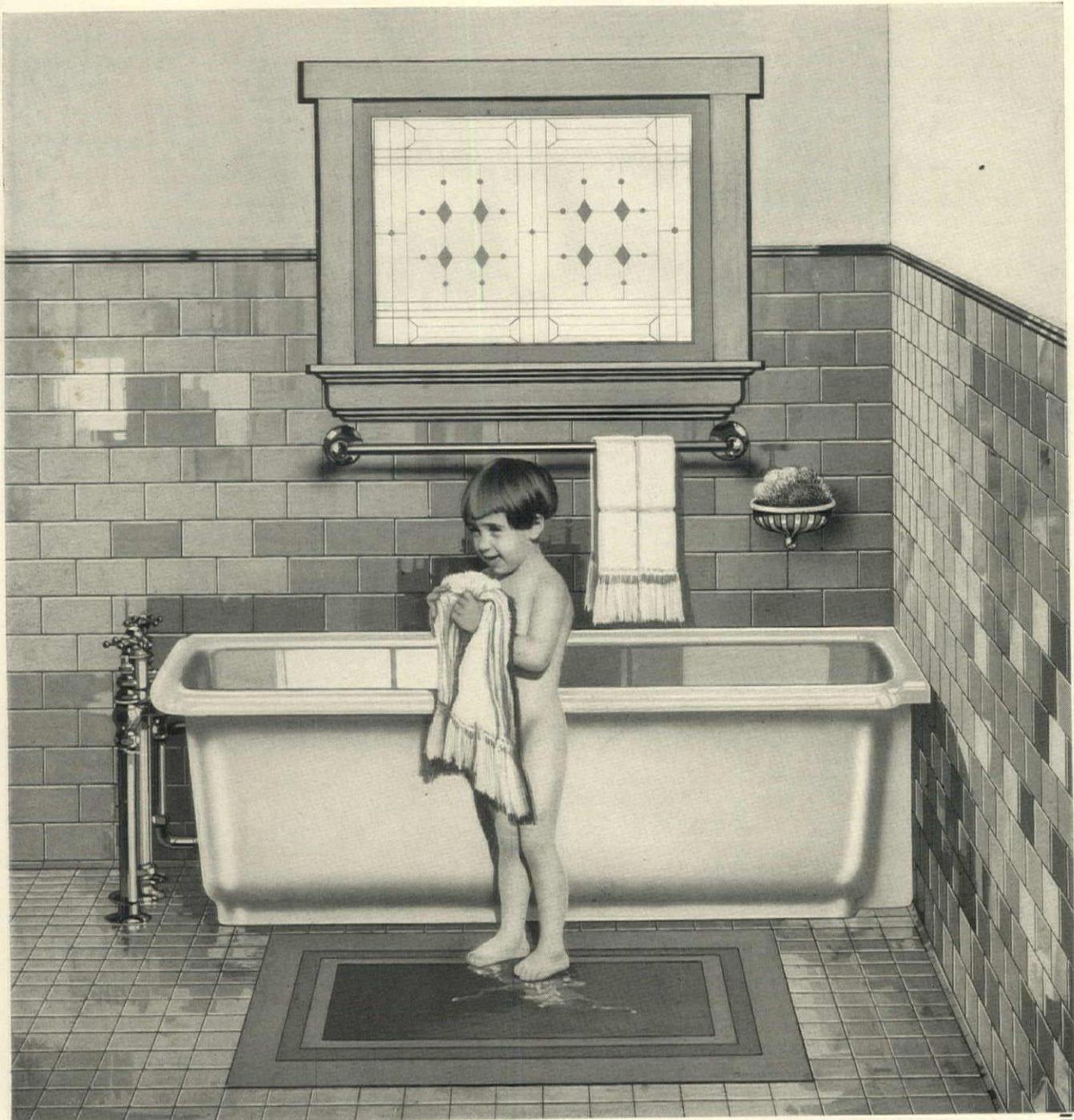
CHESTER, PA.—Ballinger & Perrot, Methodist Building, Philadelphia, have plans in progress for extensions to a hospital in Chester, Pa.

CHESTER, PA.—A large welding plant will be built by the Aluminum Brazing Company, 628 Penn Street, Chester, Pa., at Third and Tighman Streets.

CLIFTON HEIGHTS, PA.—The Kent Mfg. Company will spend \$50,000 for an electric power plant in Clifton Heights, Pa.

CROOKSTON, PA.—The Farmers State Bank will erect a new building in Crookston, Pa. Plans have been submitted by Brandt & Tyler of Lincoln, Pa.

DARBY, PA.—Garage, store and apartments to cost \$20,000 are being planned in the office of E. G. Wilson, 1208 Chestnut Street, Philadelphia, Pa.



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ERIE, PA.—It is reported that E. M. Statler, St. Louis, is contemplating the erection of a new hotel in Erie, Pa.

PHILADELPHIA, PA.—Andrew Sauer & Co., Philadelphia, have plans for a power house to be constructed for I. S. Leberman at Kensington, Philadelphia, to cost \$15,000.

TENNESSEE

NASHVILLE, TENN.—A bandstand to cost \$11,000 will be erected at the new East Park, Nashville, Tenn., from plans prepared by Donald W. Southgate, Arcade Building, Nashville, Tenn.

TEXAS.

DALLAS, TEX.—A \$500,000 mattress factory will be opened, in Dallas, Tex., by Tom B. Burnett. The site chosen is Arnold and Lamar Streets, Dallas.

DALLAS, TEX.—Designs have been accepted for an Insane Asylum to be raised at Wichita Falls, Tex.; \$375,000 appropriated. Page Bros., Austin National Bank, Austin, Tex., were the architects.

HOUSTON, TEX.—E. E. Sands, Houston, Tex., City Engineer, is drawing plans for a municipal fertilizer plant to be constructed there at a cost of about \$70,000.

LUFKIN, TEX.—The Lufkin Compress Company has been organized to erect a cotton compress in Lufkin, Tex. Cost, \$50,000. W. M. Glenn, president.

WACO, TEX.—An orphanage hospital will be erected in Waco, Tex., by the Methodists in that city. Ed. L. McCullough, secretary building committee, Central Texas Exchange National Bank, Waco.

VIRGINIA

LYNCHBURG, VA.—The First Aid Corporation has been organized in Lynchburg, Va., with a capital of \$100,000, to manufacture a first aid splint.

NORFOLK, VA.—Extensions and improvements to the post office in Norfolk, Va., are proposed. Probable cost, \$625,000.

NORFOLK, VA.—Mulvey & Parker of Norfolk, Va., have acquired property at Sixth and Naval Place, where apartments will be erected.

NORFOLK, VA.—The National Concrete Boat Company, Norfolk, Va., is considering the construction of a shipbuilding plant. F. D. Doty, secretary. Cost, \$50,000.

NORFOLK, VA.—The Chesapeake & Potomac Telephone Company will construct a large exchange building on Twenty-eighth Street, between Colonial and Debree Avenues, Norfolk, Va. M. H. Buehler, vice-president and general manager, New York.

WASHINGTON

SEATTLE, WASH.—The Port of Seattle Commission, Bell Street Dock, is contemplating an extension to the Spokane Street terminals. The building will cost \$40,000 and is to be used for the storage of salmon.

WATERVILLE, WASH.—Whitehouse & Price, Hutton Building, Spokane, Wash., are drawing plans for a garage and warehouse for the Waterville Hardware Company at Waterville, Wash.

WISCONSIN

BARABOO, WIS.—A. C. Clas, Colby-Abbott Building, Milwaukee, is drawing sketches for a bank and office building for the Bank of Baraboo, of which L. S. Van Orden is cashier. Cost, \$80,000.

EAU CLAIRE, WIS.—The Grand Commercial Hotel Company will spend about \$50,000 for a hotel in Eau Claire, Wis. Julius Kopplin, 950 Main Street, Eau Claire, interested.

MANAWA, WIS.—The Zions Evangelical Lutheran Church will erect a \$40,000 building in that place.

MILWAUKEE, WIS.—The Western Union Telegraph Company has taken out a permit for the expenditure of \$15,000 to remodel the Wells Buildings for its works.

MILWAUKEE, WIS.—A building to cost \$8,000 is to be erected by the National Distillery Company as an addition to its plant at Twenty-seventh and Grieb Streets, Milwaukee.

MILWAUKEE, WIS.—A. C. Clas, Colby-Abbott Building, Milwaukee, is preparing sketches for an aviary and aquarium to be erected in Washington Park and to cost \$65,000.

MILWAUKEE, WIS.—Miner R. Rossman, 424 Jefferson Street, Milwaukee, has plans in progress for an apartment for the Jefferson Realty Company to cost \$24,000.

MILWAUKEE, WIS.—Herman H. Bruns, 845 Twenty-sixth Street, Milwaukee, has been engaged by Rev. H.

A. Steege, 690 Thirty-third Street, pastor of Bethany Lutheran Congregation, to prepare plans for a church. Cost, \$40,000.

SHERWOOD, WIS.—De Long & Son, 822 College Avenue, Appleton, Wis., are planning a store and house for Mauer Bros., Sherwood, Wis. Cost, \$25,000.

WALES, WIS.—The State of Wisconsin has appropriated \$100,000 for an infirmary and laundry building to be erected in Wales, Wis. A. Peabody, Madison, is the State architect of Wisconsin, and will prepare plans.

WYOMING

CASPAR, WYO.—A hotel to cost \$360,000 is under consideration in Caspar, Wyo. The site proposed is Center Street, opposite the Midwest Hotel. Jeremiah Mahoney of Caspar interested.

FIRE LOSSES

Reports of fires published in this department include only cases in which the magnitude of losses sustained and the surrounding circumstances indicate the probability of restoration or reconstruction.

ALBANY, N. Y.—A new building to cost \$50,000 will be built by the Esco Electric Company at 368 Broadway, Albany, to replace that recently burned.

ASHLAND, ALA.—The Greisemer Graphite Co. plans to rebuild a mining plant near Ashland, Ala., recently destroyed by fire. Loss, \$200,000.

BOSTON, MASS.—Chas. J. Main of Boston is engineer in charge of plans for the rebuilding of mills owned by Wm. J. Dickey & Sons Company on the Patapsco River at Bella, Mass. Cost, \$150,000.

BOWIE, TEX.—The electric light and power plant of the Texas Light & Power Company, Bowie, Tex., which was recently burned causing \$8,000 damages, will be rebuilt.

CALVIN, N. D.—Fire destroyed Masonic Lodge Building, owned by Corinthian Lodge, in Calvin, N. D. Loss, \$12,000.

CANYON, TEX.—The electric plant of the Canyon Power Company, Canyon, Tex., recently destroyed by fire, will be rebuilt.

COUDERSPORT, PA.—The high school of Coudersport, Pa., has been destroyed by a fire, causing damages of \$50,000.

FAIRBURY, NEB.—A loss of \$150,000 was incurred by McConnell, Young & Co., Fairbury, Neb., whose store was recently burned.

FREMONT, NEB.—The house of J. J. Johnson, near Fremont, Neb., was burned at a loss of \$7,000.

GOLDEN VALLEY, N. D.—Fire caused a loss of \$25,000 to the electric light and flour mill of Golden Valley, N. D.

GOVERNEUR, N. Y.—N. W. Whitney, manager of the A. S. Whitney & Sons garage at Gouverneur, N. Y., lately destroyed by fire, will be rebuilt. The loss was \$100,000.

HERSHEY, PA.—Fire caused a loss of \$500,000 when one of the buildings of the Hershey Chocolate Company's plant in Hershey, Pa., was destroyed.

INDIANOLA, IND.—Fire destroyed the Administration Building of Simpson College, Indianola, Ind., entailing \$15,000 loss.

KINGSTON, OKLA.—The Kingston Ice & Light Company, Kingston, Okla., will rebuild its plant lately destroyed by an explosion with a loss of \$25,000.

MARMARTH, N. D.—The First National Bank and adjacent buildings in Marmarth, N. D., were destroyed by fire with \$90,000 damages.

MOBERLY, MO.—The West Park Southern Methodist Church in Moberly, Mo., has been destroyed by fire at a loss of \$150,000.

PHILADELPHIA, PA.—Wm. C. Furber, 418 Walnut Street, Philadelphia, is in charge of plans for the restoration of the building at 420 Sansom Street, Philadelphia, owned by Geo. H. Buchanan and recently destroyed by fire.

ROCHESTER, N. Y.—Fire caused a loss of \$30,000 in the Commercial Iron Works in Penn Yan, Yates County, N. Y.

ST. LOUIS, MO.—The All Saints' Catholic Church at 6301 Maple Avenue, St. Louis, Mo., just destroyed by fire, will be replaced by a new building. Rev. Joseph McMahon, pastor.



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- H. Bartholomew, Architect
- L. V. Wright, Contractor

Denver, Pa.

- S. L. Snyder, Contractor

Lancaster, Pa.

- A. A. Richter, Architect
- S. H. Bailey, Contractor
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Honey Brook, Pa.

- Estep, Estep & Schaub, Architects
- Gerhart & Patton, Contractors

Hershey, Pa.

- C. E. Urbon, Architect

Reading, Pa.

- Muhlenburg Bros., Architects
- W. H. Lee, Architect

Mount Joy, Pa.

- J. T. Snyder, Contractor
- A. A. Richter, Architect

Columbia, Pa.

- G. E. Paules, Architect and Contractor
- W. C. Zook, Contractor.

Lebanon, Pa.

- Hauer & Mowers, Architects
- A. A. Richter, Architect
- Beard Construction Co., Contractors
- W. A. Deitrich, Architect
- George A. Boyer, Architect

Marietta, Pa.

- G. E. Paules, Architect
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Asbestos Protected Metal Co.	21
Associated Tile Mfrs., The (e.f.w.).....	
Atlas Portland Cement Co.	11
Automatic Refrigerating Co. (e.f.w.)....	30

Barrett Co. (e.f.w.).....	
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Berger Mfg. Co., The.	20
Best Bros. Keene's Cement Co. (e.o.w.) ..	7
Bishopric Mfg. Co., The.	23
Bostwick Steel Lath Co. (e.o.w.).....	
Boyle, John, & Co., Inc.	24

Cabot, Samuel, Inc.	7
Cahill Iron Works, The.	13
California Redwood Assn.	
Campbell, Walter M.	
Carey, Philip, Co., The (e.f.w.).....	15
Carter, Ralph B. Co.	22
Chase & Co., L. C.	22
Cheney Bros.	
Clinton Wire Cloth Co.	21
Clow, James B., & Son (e.o.w.).....	
Corbin, P. & F.	21
Corrugated Bar Co.	40
Crampton-Farley Brass Co. (e.o.w.).....	25
Crittall Casement Window Co. (e.o.w.)....	29

Detroit Steel Products Co.	22
Dixon Crucible Co., Jos.	24, 25
Dunham, C. A., Co.	

Edwards Mfg. Co.	25
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Faber, Eberhard.	
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General Electric Co.	34
Gillis & Geoghegan (e.o.w.).....	
Glidden Varnish Co.	
Globe Automatic Sprinkler Co.	36

Hart & Hegeman Mfg. Co., The (e.o.w.)....	
Hart Mfg. Co. (e.o.w.).....	27
Hartmann-Sanders Co. (o.a.m.).....	23
Hartshorn Stewart Co.	
Hawley Down Draft Furnace Co.	22
Hemlock Manufacturers, The (o.a.m.)....	17
Higgins & Co., Chas. M. (e.o.w.).....	23
Hoffman Specialty Co.	11
Hydraulic Press Brick Co.	21
Hyland-Jenks Co.	

Imperial Paint Co. (e.f.w.).....	
Indiana Limestone Quarrymen's Ass'n.	

Jackson, Wm. H., Co. (e.o.w.).....	
Jenkins Bros.	22
Johns-Manville Co., H. W.	39

Kepler Glass Constructions, Inc.	21
Kimball Co. W. W.	21

Lupton's, David, Sons Co.	
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Magnesia Assn. of America (e.f.w.).....	9
McCray Refrigerator Co. (o.a.m.).....	
Merchant & Evans Co. (e.o.w.).....	24
Midland Terra Cotta Co. (e.o.w.).....	32
Mississippi Wire Glass Co.	26
Mitchell Tappan Co. (e.o.w.).....	22
Murphy Varnish Co.	26

National Building Granite Quarries Association, Inc.	23
National Kellastone Co., The.	20
National Metal Molding Co. (e.f.w.)....	
North Carolina Pine Association (o.a.m.)	
North Western Expanded Metal Co.	22
Northwestern Terra Cotta Co.	

Okonite Co. (e.o.w.).....	22
Otis Elevator Co., The.	23

Patching, John F., & Co. (e.f.w.).....	27
Patton Paint Co.	
Pennsylvania Cement Co.	
Permutit Co.	
Pierson U-Bar Co.	23
Pitcairn Varnish Co.	
Pittsburgh Lamp, Brass & Glass Co.	24
Pomeroy, S. H., Co., Inc.	25

Raymond Concrete Pile Co.	2
Richards-Wilcox Mfg. Co. (o.a.m.).....	
Rising & Nelson Slate Co.	7

Samson Cordage Works.	22
Society of Beaux Arts Architects.	22
Southern Pine Assn.	
Square D Company (e.o.w.).....	
Standard Oil Cloth Co., Inc., The.	33
Stanley Works.	31
Stearns & Co., E. C.	21

Thorp Fire Proof Door Co.	20
Trenton Potteries Co. (e.o.w.).....	
Trussed Concrete Steel Co.	29, 37, 38

United Lined Tube & Valve Co.	21
United States Rubber Co.	
University of Michigan.	22
University of Notre Dame.	22
U. S. Gutta Percha Co.	

Varon, D.	22
Vendor Slate Co., Inc. (e.f.w.).....	
Vonnegut Hardware Co.	20

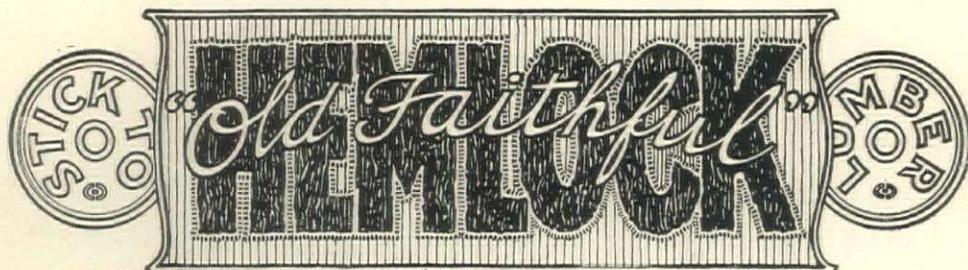
Weisz, G. A.	22
Western Brick Co. (e.o.w.).....	
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Higgins, Chas. M., & Co., 271 9th St., Brooklyn.

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Pomeroy Co., Inc., S. H., 30 E. 42d St., N. Y.

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PLASTER:

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National Kellastone Co., The, Chicago, Ill.

SPECIALTIES:

Trussed Concrete Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. Corner beads, "Kahn" curb bars, "Trus-Con" slotted inserts; "Kahn" adjustable inserts; "Trus-Con" National socket inserts; "Kahn" elastic filler and armor plates for expansion joints.

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National Kellastone Co., The, Chicago, Ill.

CONCRETE REINFORCEMENT

ENGINEERING:

Corrugated Bar Co., Buffalo, N. Y.

REINFORCEMENT:

American Steel & Wire Co., Chicago-New York.

Berger, The, Mfg. Co., Canton, Ohio.

Clinton Wire Cloth Co., Clinton, Mass.

Corrugated Bar Co., 402 Mutual Life Bldg., Buffalo, N. Y. "Corrugated" Rounds and Squares.

North Western Expanded Metal Co., 911 Old Colony Bldg., Chicago, Ill.

Trussed Concrete Steel Co., Dept. 68, Youngstown, Ohio. Representatives in principal cities. "Kahn" System reinforced concrete; "Kahn" bars; "Rib" bars; "Rib" lath; "Florestyles," "Floredome," etc.; flat and beamed ceilings of all types.

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DAMP-PROOFING

(See Water and Damp-proofing)

DAYLIGHTING

Berger, The, Mfg. Co., Canton, Ohio.

Keppler Glass Constructions, Inc., N. Y. C.

THIS department is intended to assist our subscribers in readily determining the names and addresses of manufacturers of products in which they may be interested together with brief data about their material.

The headings and sub-headings are arranged alphabetically and have been selected in accordance with the intent of meeting the architect's thought in preparing his specifications.

If the information desired is not found here, it will gladly be supplied by the Service Department of THE AMERICAN ARCHITECT.

DOORS AND TRIM

FIRE DOORS:

Merchant & Evans Co., 2035 Wash. Ave., Phila.

FIRE PROOF DOORS:

Thorp Fire Proof Door Co., 1600-1616 Central Ave., Minneapolis, Minn. Representatives in all principal cities. "Thorp-Richardson" fire proof metal covered doors and trim—all finishes—grained and plated. Bronze and copper entrance doors.

HOLLOW STEEL DOORS:

Interior Metal Mfg. Co., Jamestown, N. Y.; New York office, Singer Bldg. Hollow steel doors in all standard sizes.

STEEL ROLLING DOORS:

Edwards Mfg. Co., The, 319-349 Eggleston Ave., Cincinnati, O. Send specifications for estimate.

DUMB WAITERS

Sedgwick Machine Wks., 1126 Liberty St., N.Y.

ELECTRICAL EQUIPMENT AND SUPPLIES

CONDUITS AND FITTINGS:

National Metal Molding Co., 1111 Fulton Bldg., Pittsburgh, Pa. "NATIONAL" metal molding for surface wiring; "SHERADUCT" Sheradized and "ECONOMY" enameled conduit; "FLEXSTEEL" flexible conduit and armored cable and a complete line of fittings.

Youngstown (Ohio) Sheet & Tube Co. "Buckeye" rigid conduit. "Realflex" armored conductor.

COOKING APPLIANCES:

General Electric Co., Schenectady, N. Y.

LIGHTING SYSTEMS:

General Electric Co., Schenectady, N. Y.

Mathews Engineering Co., Sandusky, Ohio. 50 light—100 light full automatic systems.

RECEPTACLES:

Hart Mfg. Co., Hartford, Conn.; N. Y. C., Boston, Chicago, Denver, San Francisco, Detroit, Toronto.

SWITCHES:

Hart Mfg. Co., Hartford, Conn.; N. Y. C., Boston, Chicago, Denver, San Francisco, Detroit, Toronto. Push Button; Rotary and Snap; Remote Control; Hotel Door.

General Electric Co., Schenectady, N. Y.

Square D Company, 1400 Rivard St., Detroit, Mich. "Square D" steel enclosed switches.

WIRES AND CABLES (Insulated):

General Electric Co., Schenectady, N. Y.

Okonite Co., The, 501 Fifth Ave., N. Y. C. Cau-dee Potheads. "Mauson" and "Okonite" Tape.

ELEVATORS AND HOISTS

CONVEYORS:

Otis Elevator Co., 11th Ave. and 26th St., N. Y. C. Gravity spiral.

ELEVATORS:

American Elevator & Machine Co., Louisville, Ky.

Otis Elevator Co., 11th Ave. and 26th St., New York. Offices in principal cities of the world. Electric, hydraulic, belt and hand power, inclined freight elevators and escalators.

ELEVATORS (Hand Power):

Sedgwick Machine Wks., 1126 Liberty St., N. Y.

ELEVATOR CABLE:

American Steel & Wire Co., Chicago-New York.

HOISTS (Ash):

Otis Elevator Co., 11th Ave. and 26th St., N. Y. C. Automatic coal and ash hoists, blast furnaces and ship hoists.

FIREPROOFING MATERIALS

Johns-Manville, H. W., Co., N. Y. C.

CAGING OR FORMING:

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METAL LATH:

Berger, The, Mfg. Co., Canton, Ohio.

Corrugated Bar Co., 402 Mutual Life Bldg., Buffalo, N. Y. "Corr-Mesh" for walls, partitions, floors, roofs, suspended ceilings.

North Western Expanded Metal Co., 911 Old Colony Bldg., Chicago, Ill.

Trussed Concrete Steel Co., Dept. 68, Youngstown, O. Representatives in principal cities. "Hy rib," "Rib" lath; "Diamond Mesh" lath.

FIRE PROTECTION

AUTOMATIC SPRINKLER SYSTEMS:

Globe Automatic Sprinkler Co., 2051 Washington Ave., Philadelphia, Pa. Branch offices in principal cities.

FIRE EXIT DEVICES:

Corbin, P. & F., New Britain, Conn.

Vonnegut Hardware Co., Indianapolis, Ind. Von Duprin Devices.

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FLOORS

COMPOSITION:

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National Kellastone Co., The, Chicago, Ill.

CONCRETE FLOORS:

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FURNITURE AND DECORATIONS

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METAL:

Canton Art Metal Co., Canton, Ohio.

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GARDEN ACCESSORIES

Mathews Mfg. Co., The, Cleveland, O. Seats arbors, pergolas, gateways, etc., of wood.

GREENHOUSES

King Construction Co., No. Tonawanda, N. Y.
Pierson U-Bar Co., 1 Madison Ave., New York City. Greenhouses and conservatories for private residences and public institutions.

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Yale & Towne Mfg. Co., 9 E. 40th St., N. Y. C.

BUILDERS' HARDWARE:

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Stanley Works, The, New Britain, Conn.
Yale & Towne Mfg. Co., 9 E. 40th St., N. Y. C.

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CHAIN HOISTS:

Yale & Towne Mfg. Co., 9 E. 40th St., N. Y. C.

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Yale & Towne Mfg. Co., 9 E. 40th St., N. Y. C.

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Clow, James B., & Sons, Chicago, Ill.

CLOSETS:

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Clow, James B., & Sons, Chicago, Ill.

FURNACES:

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Clow, James B., & Sons, Chicago, Ill.

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PIPE (Steel):

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Youngstown Sheet & Tube Co., Youngstown, O.

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(See Elevators and Hoists)

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PLUMBING

(See Heating, Ventilation, Plumbing)

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<p>SAFETY TREADS Am. Mason Safety Tread Co., Lowell, Mass.</p> <p>SASH (See Window)</p> <p>SASH CORD Samson Cordage Works, 88 Broad St., Boston.</p> <p>SHEET METAL American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa. Merchant & Evans Co., 2035 Wash. Ave., Phila.</p> <p>FORMED PRODUCTS: American Sheet & Tin Plate Co., Frick Bldg., Pittsburgh, Pa. Berger, The, Mfg. Co., Canton, Ohio.</p> <p>METAL CEILINGS: Berger, The, Mfg. Co., Canton, Ohio. Canton Art Metal Co., Canton, Ohio.</p> <p>SHEETS (Protected): Asbestos Protected Metal Co., Pittsburgh. Sheets plain and corrugated protected with asphalt and asbestos.</p> <p>SKYLIGHTS Asbestos Protected Metal Co., Pittsburgh. "Waugh" puttyless skylight. Keppler Glass Constructions, Inc., N. Y. C.</p> <p>STAINS (See Paints, Varnishes and Stains)</p> <p>STONE GRANITE: National Building Granite Quarries Association, Inc., 33 State St., Boston, Mass.</p>	<p>STRUCTURAL STEEL PLATE WORK: Mitchell-Tappen Co., 17 John St., N. Y. C.</p> <p>PRESSED STEEL CONSTRUCTION: Berger, The, Mfg. Co., Canton, Ohio. "Metal Lumber." PRESSED STEEL JOINTS and structural members. Trussed Concrete Steel Co., Dept. 68, Youngstown, O. Representatives in principal cities. "Kahn" pressed steel beams, joists, studs, plates, etc.</p> <p>STUCCO AND WALL BOARD PLASTER BOARD: Bishop Mfg. Co., 744 Este Ave., Cincinnati, O. Bishop's Stucco or Plastic Board. The dove-tailed key locks the plaster. Made of creosoted lath, asphalt-mastic and heavy fibre board.</p> <p>STUCCO: National Kellastone Co., The, Chicago, Ill.</p> <p>TERRA COTTA TERRA COTTA (Architectural): Midland Terra Cotta Co., 1515 Lumber Exchange, Chicago, Ill. N. Y. Arch. Terra Cotta Co., Tel. Astoria 700.</p> <p>TILE (See Flooring and Roofing)</p> <p>VACUUM CLEANERS American Radiator Co., Chicago, Ill.</p> <p>VARNISHES (See Paints, Varnishes, Stains)</p> <p>VENTILATION (See Heating, Ventilation, Plumbing)</p>	<p>WATER AND DAMPPROOFING Cabot, Samuel, Inc., 141 Milk St., Boston. Corrugated Bar Co., Buffalo, N. Y.</p> <p>WALL BOARD (See Stucco and Wall Board)</p> <p>WELLS Carter, R. B., Co., 152 Chambers St., N. Y. C.</p> <p>WINDOWS, METAL Critical Casement Window Co., Detroit, Mich. Solid steel and bronze windows for office buildings, banks, public buildings, churches, university buildings, hospitals, residences, stores, factory offices, etc. Detroit Steel Products Company, Detroit, Mich. Thirty types and sixty sizes of Fenestra Solid Steel Windows ready for immediate shipment from Detroit. Certain types are also carried in the local warehouses in various parts of the country for quick shipment. Lupton's, David, Sons Co., Philadelphia, Pa. Pomeroy, S. H., Co., Inc., 30 E. 42d St., N. Y. Hollow metal fibre retardant windows in 27 standard types. Trussed Concrete Steel Co., Dept. 68, Youngstown, O. Representatives in principal cities. "United" steel sash in all types; horizontal and vertical pivoted sash; counterbalanced and counterweighted sliding sash; center pivoted and top hung continuous sash; steel and glass partitions; sliding and swinging doors; casement sash of all designs. Winslow Bros. Co., 4600 W. Harrison St., Chicago, Ill.</p> <p>WIRE GLASS Mississippi Wire Glass Co., 216 5th Ave., N. Y. C. Polished Wire Glass—"Romanesque," "Syenite," "Maze," "Pentecor," "Ribbed," "Rough," "Figured Wire Glass—" "Apex," "Romanesque," "Syenite," "Maze," "Florentine," "Figure No. 2," "Ondoyant," "Pentecor," "Ribbed," "Rough."</p> <p>WOOD HEMLOCK: Hemlock Manufacturer, The, 303 F. R. A. Bldg., Oshkosh, Wis.</p>
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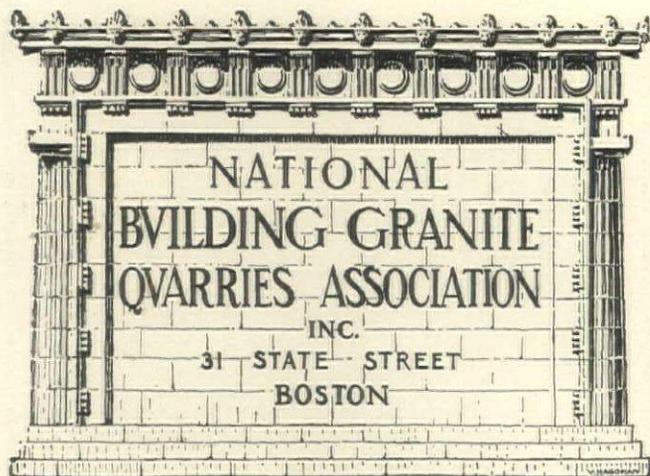
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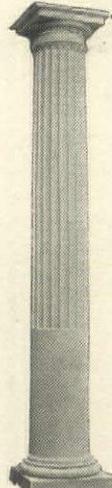


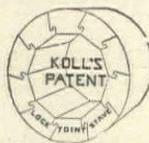
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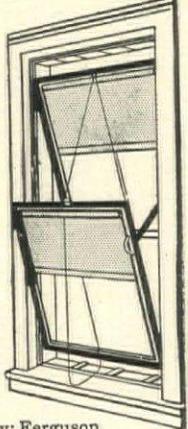
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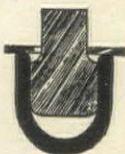


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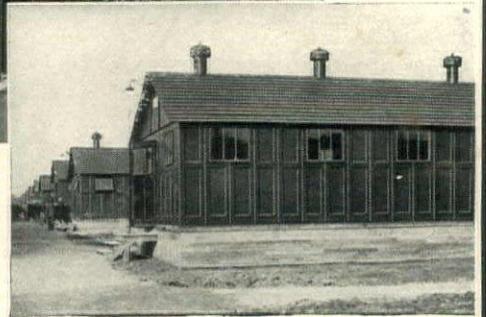
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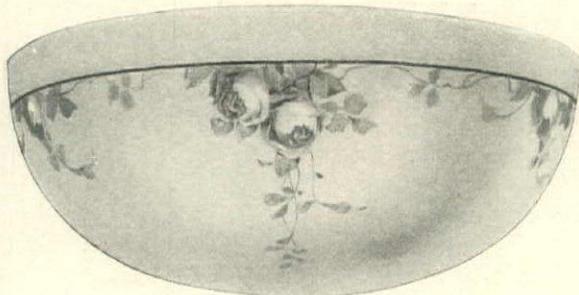
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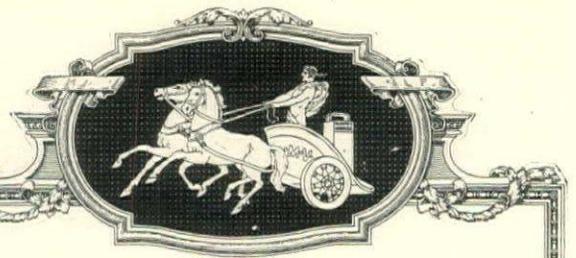
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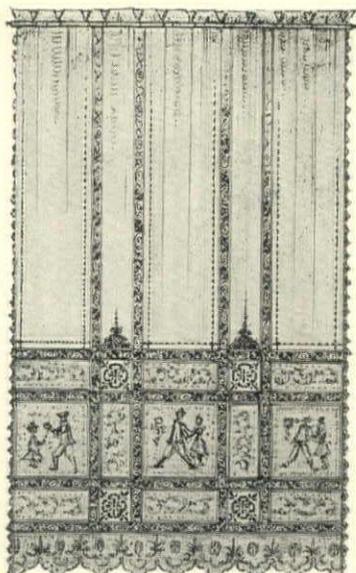


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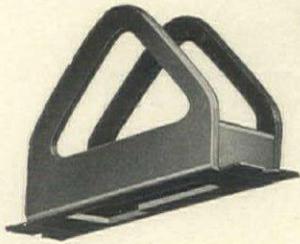
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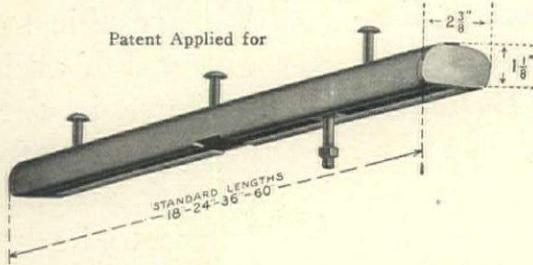
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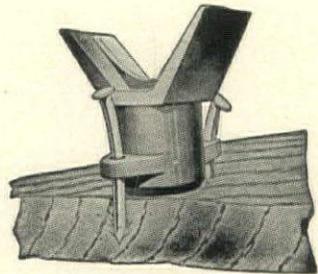
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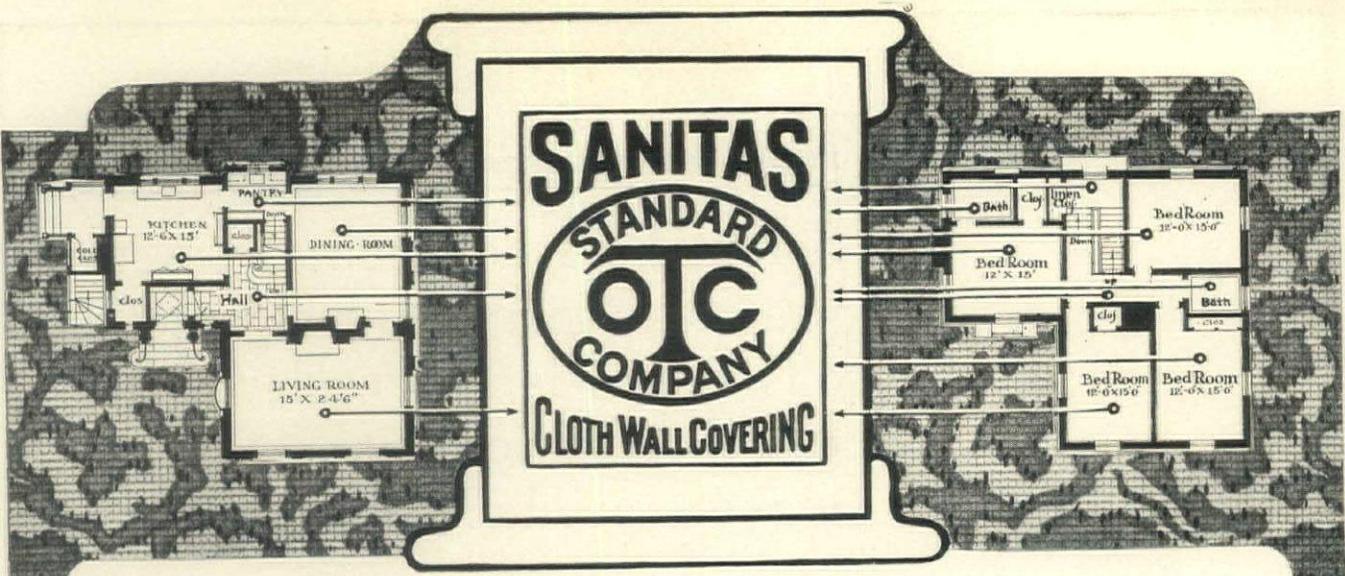
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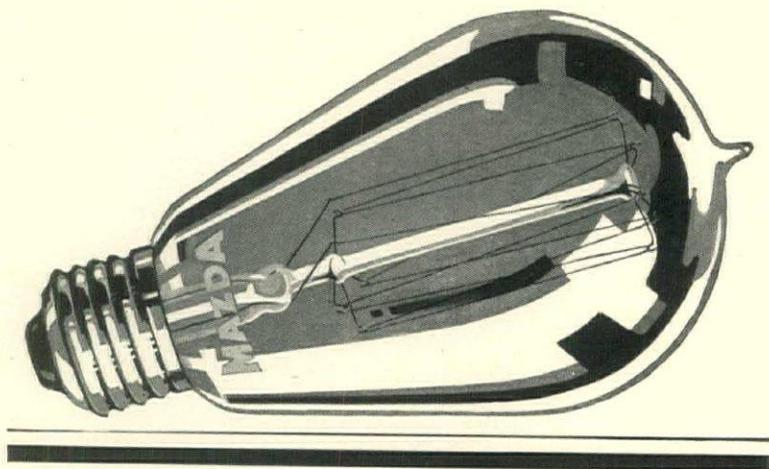
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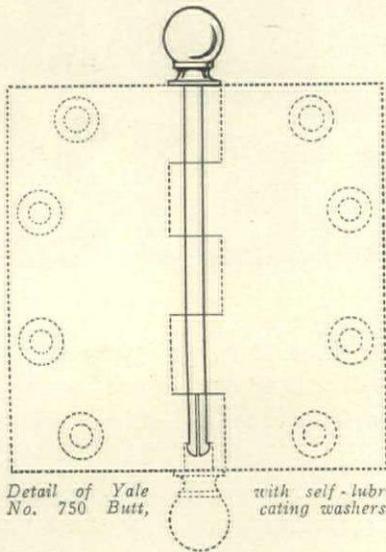
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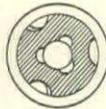
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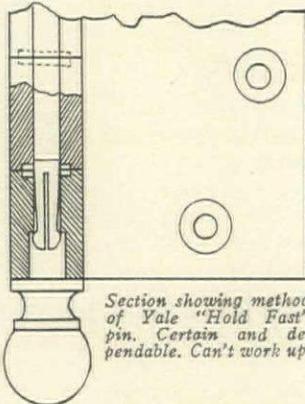
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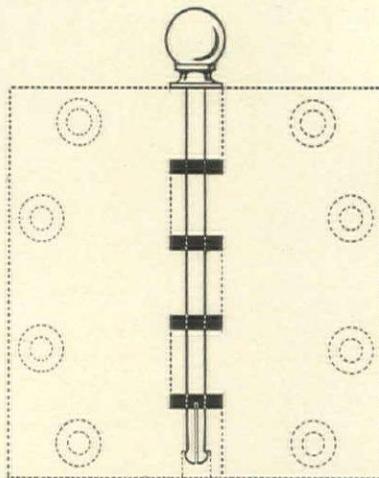
Detail of Yale No. 750 Butt, with self-lubricating washers.



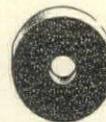
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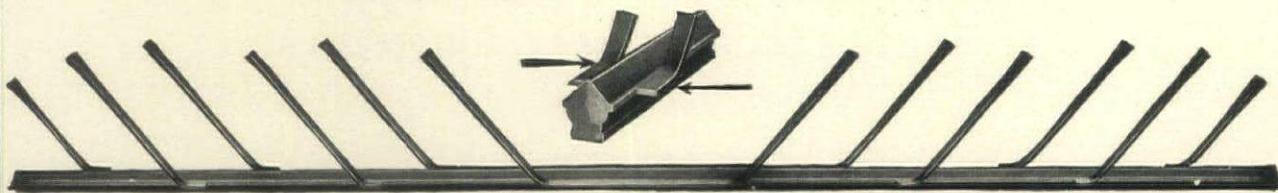
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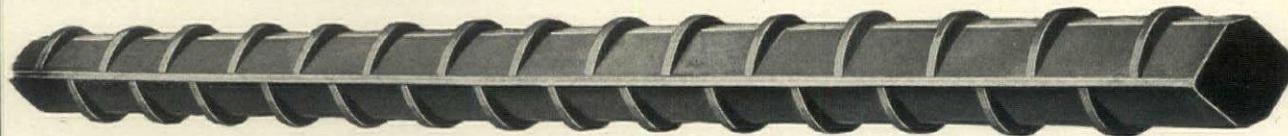
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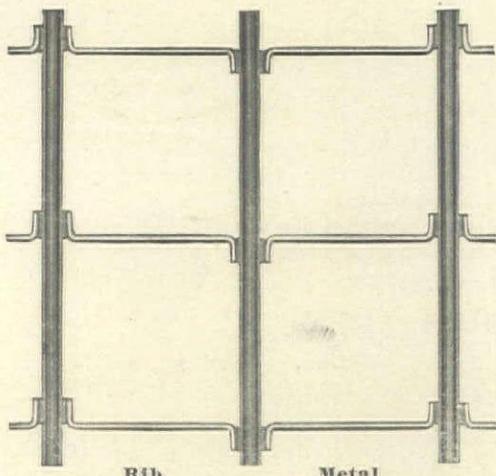
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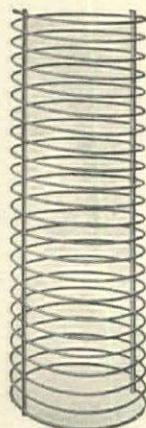


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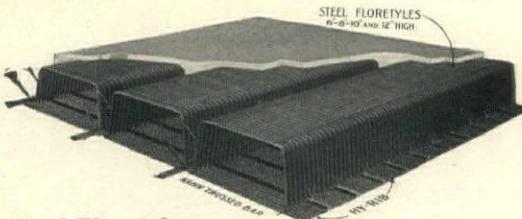


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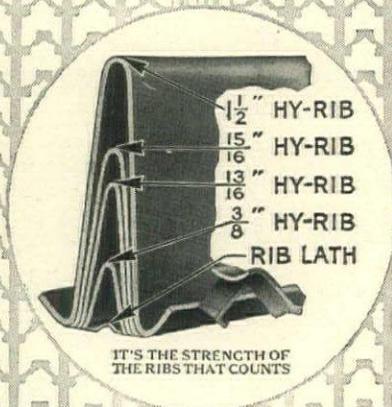
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blame it on someone's inflammable roof*

IN THE LAST FEW YEARS thousands of people of Atlanta, Baltimore, Salem and Paris looked helplessly on just such a sight—stood powerless while their homes, workshops and landmarks were eaten alive by the red scourge.

So long as we are human, carelessness, oversight and combustibles will prevail. So will fire. And while a single burned home or gutted factory is a severe loss to the individuals involved, the community fire is a real catastrophe. And it isn't an accident. It is the price charged by ignorance for a lesson in fire safety.

All such fires start small and spread large over the Inflammable Roof Route. Your home's protection from the community fire depends on the material fastened to its rafters. Your factory's chance in a conflagration depends on its roof material.

The modern roof has outgrown its

function as a weather protection—it must be a fire preventative as well—and this is a specification for Johns-Manville Asbestos Roofings, resistant to heat, weather, and time. This modern roof is one of the biggest single contributions to fire-safe construction, and explains why slowly but surely the fire peril is lessened and the day comes nearer when it will flicker out.

Safeguard your property with one of these Johns-Manville Asbestos Roofings—Asbestos Built-Up Roofing, Asbestos Ready Roofing, Corrugated Asbestos Roofing, Colorblende and Transite Asbestos Shingles.

H. W. JOHNS-MANVILLE CO.
NEW YORK CITY

10 Factories—Branches in 61 Large Cities



JOHNS-MANVILLE
Service in Fire Prevention

SPEED and **Economy** are necessary in connection with the construction of industrial buildings under present-day conditions.

Reinforced Concrete, making use largely of materials locally available and not requiring the employment of skilled mechanics, now difficult to secure, means maximum speed in erection. The use of reinforced concrete furthermore conserves those materials otherwise used in this class of buildings, vital in the prosecution of the war.

CORR-PLATE-FLOORS

are a type of flat-slab construction differing from others in that economy is secured through a scientific distribution of the reinforcement to secure uniform strength at all points. In addition, there is the economy due to saving in the height of the building for the same clear story heights, simplicity of form work and the placing of reinforcement and concrete.

Bulletins showing types of construction sent in response to requests on business letterheads.

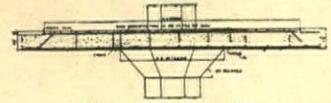
Corrugated Bar Company Mutual Life Bldg., Buffalo, N. Y.

Boston
Detroit

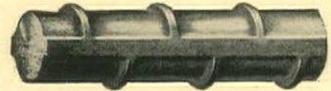
St. Louis
New York
Houston

Syracuse
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Atlanta

Philadelphia
St. Paul

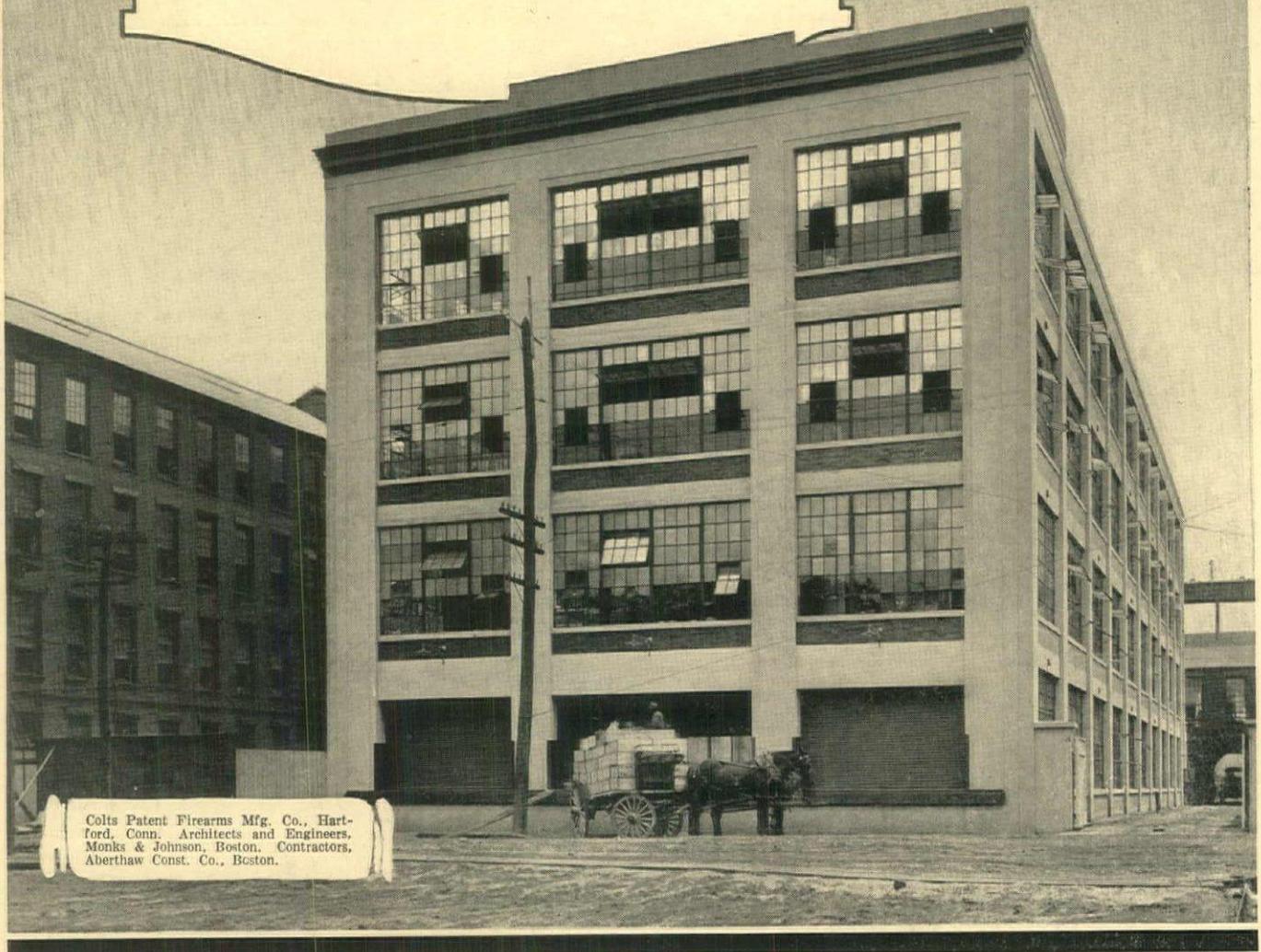


CORR-PLATE-FLOORS



Corrugated Bars

"They Can't Slip—See the Ribs"
Make Construction Permanent



Colts Patent Firearms Mfg. Co., Hartford, Conn. Architects and Engineers, Monks & Johnson, Boston. Contractors, Aberthaw Const. Co., Boston.