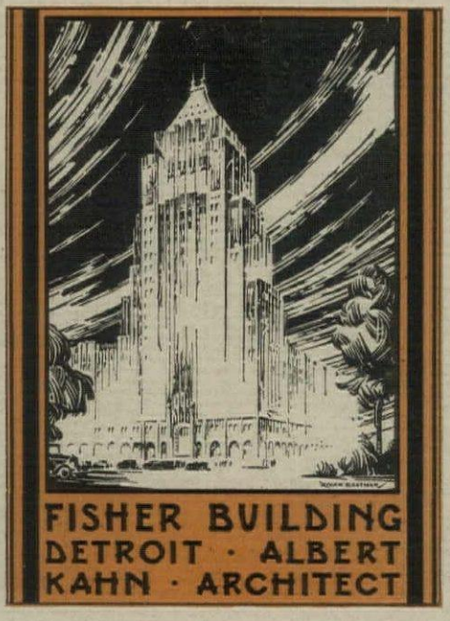
The AMERICAN ARCHITECT



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1876

February 20
1929

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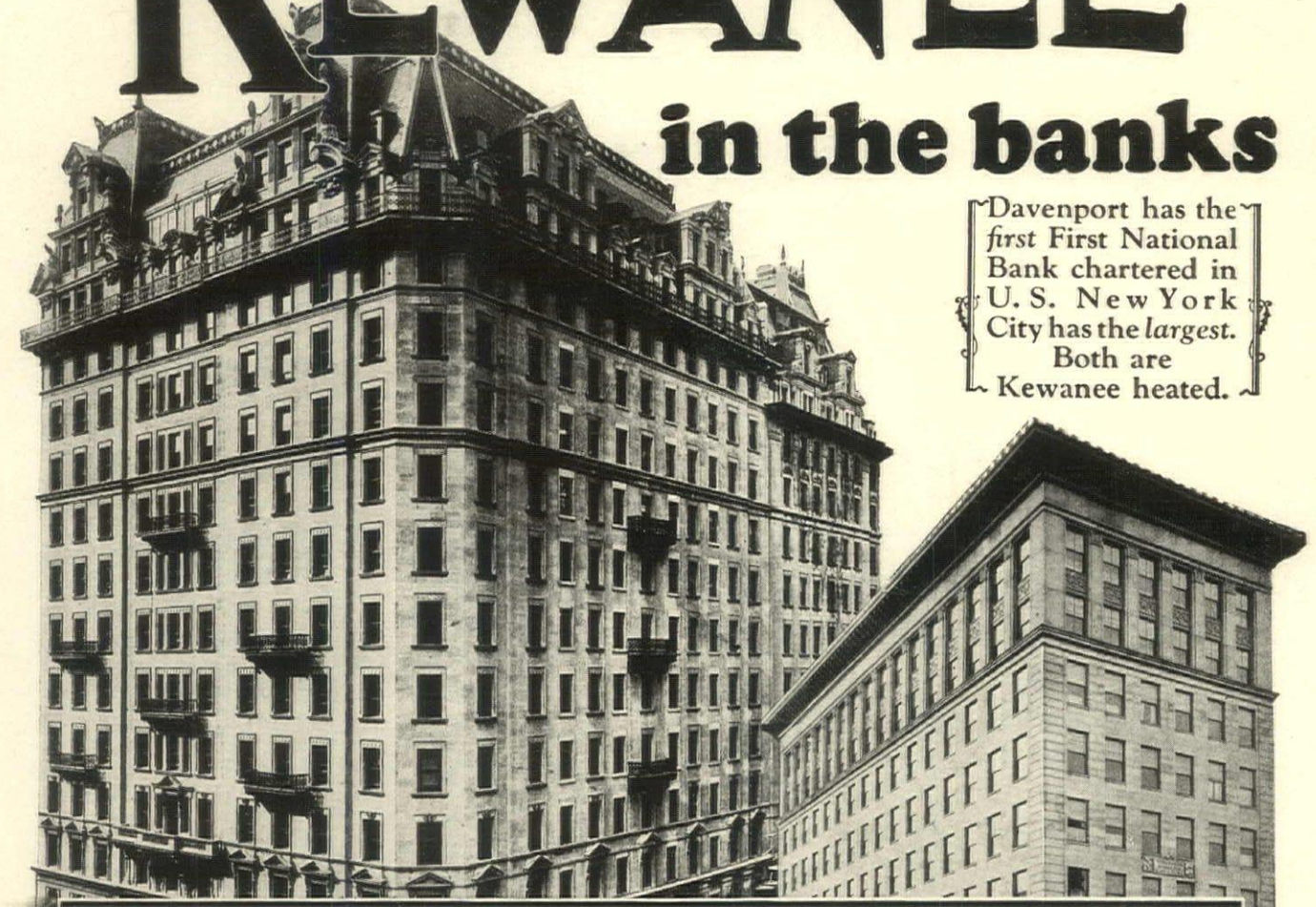
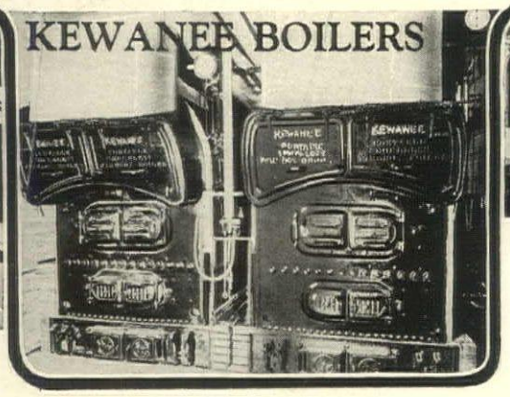
KEWANEE
in the banks

Davenport has the *first* First National Bank chartered in U. S. New York City has the *largest.* Both are Kewanee heated.

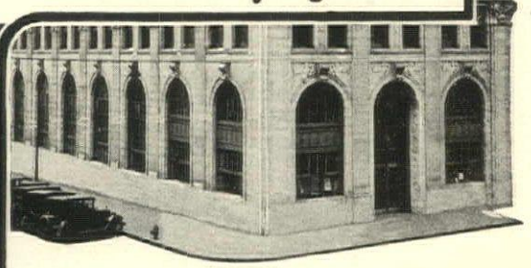


In the largest and in the very first

KEWANEE BOILERS



NATIONAL CITY BANK BUILDING, NEW YORK CITY. Architects, McKim, Mead and White. Heating Contractors, Baker, Smith & Co. Builders, Geo. A. Fuller Company. Five No. 322 Kewanee Portable Smokeless Boilers; one No. 313 Kewanee Portable Smokeless Boiler. 106,000 square feet total rated capacity.



FIRST NATIONAL BANK OF DAVENPORT. Architects, Childs & Smith. Heating Contractors, Ryan Plumbing & Heating Company. Two No. 317 Kewanee Portable Smokeless Boilers. 1,100,000 cubic feet contents; 12,598 square feet direct radiation; 645 square feet blast. Fan, 10,000 cubic feet per minute.

Kewanee is in hundreds of banks

A Kewanee Boiler in your building means money in your bank

KEWANEE BOILER CORPORATION *Kewanee, Illinois*

HISTORICAL NOTE: President Lincoln approved the National Bank Act February 25, 1863, and on the next day an application for a charter for the First National Bank of Davenport reached the Treasury Department in Washington. It was well along in the month of May before the articles of association, prepared in the Comptroller's office, were received in Davenport. On May 25 the subscription books for the new institution were opened, and in three days the capital stock of $100,000 had been subscribed. The bank began business June 29, 1863.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

An exterior view of St. Mary's Hospital, San Francisco, Calif. Equipped throughout with McCray Refrigerators

One of the Service Refrigerators

Where Refrigerators *Must be Dependable*

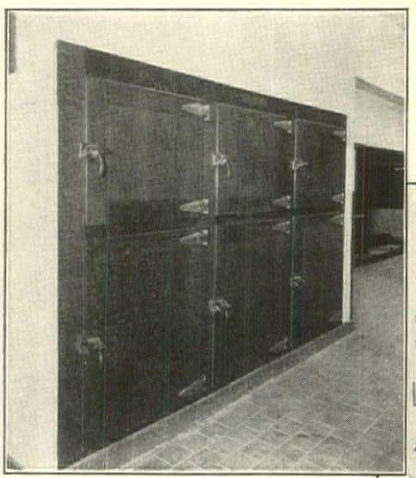
IN HOSPITALS, dependability is the first requirement of any equipment. Particularly is this true of the refrigerators, which have such a vital bearing on health.

This installation in St. Mary's, San Francisco, is typical of many by McCray, in hospitals and institutions throughout the country. For McCray refrigerators have proved, in forty years of service, to be thoroughly dependable, keeping foods pure, wholesome and tempting in their original freshness and flavor.

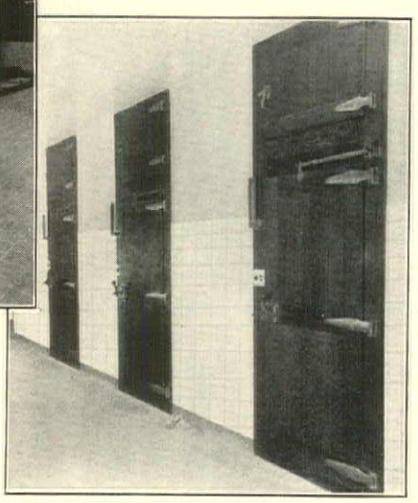
Architects appreciate the completeness as well as the dependability of McCray service. For McCray meets every refrigerator need, with stock models and built-to-order equipment. Our engineers gladly submit blueprints and specifications, based on the architect's rough sketch of floor plans or requirements.

Get our valuable portfolio on refrigeration, especially prepared for architects. It contains classified data on refrigerators of all types; A. I. A., file No. 32c. Send for your copy now.

McCray Refrigerators for Hospitals, Hotels, Institutions, Clubs, Restaurants, Food Stores, Florist Shops and Residences. For use with ice or ***any type of machine refrigeration.***



(Above)
Baker's and Pantry Refrigerators



(Right)
General Storage Refrigerators

McCRAY
REFRIGERATOR SALES CORPORATION
961 Lake St., Kendallville, Indiana
Salesrooms in All Principal Cities *(See Telephone Directory)*

WORLD'S LARGEST MANUFACTURER OF REFRIGERATORS FOR ALL PURPOSES

McCRAY REFRIGERATORS

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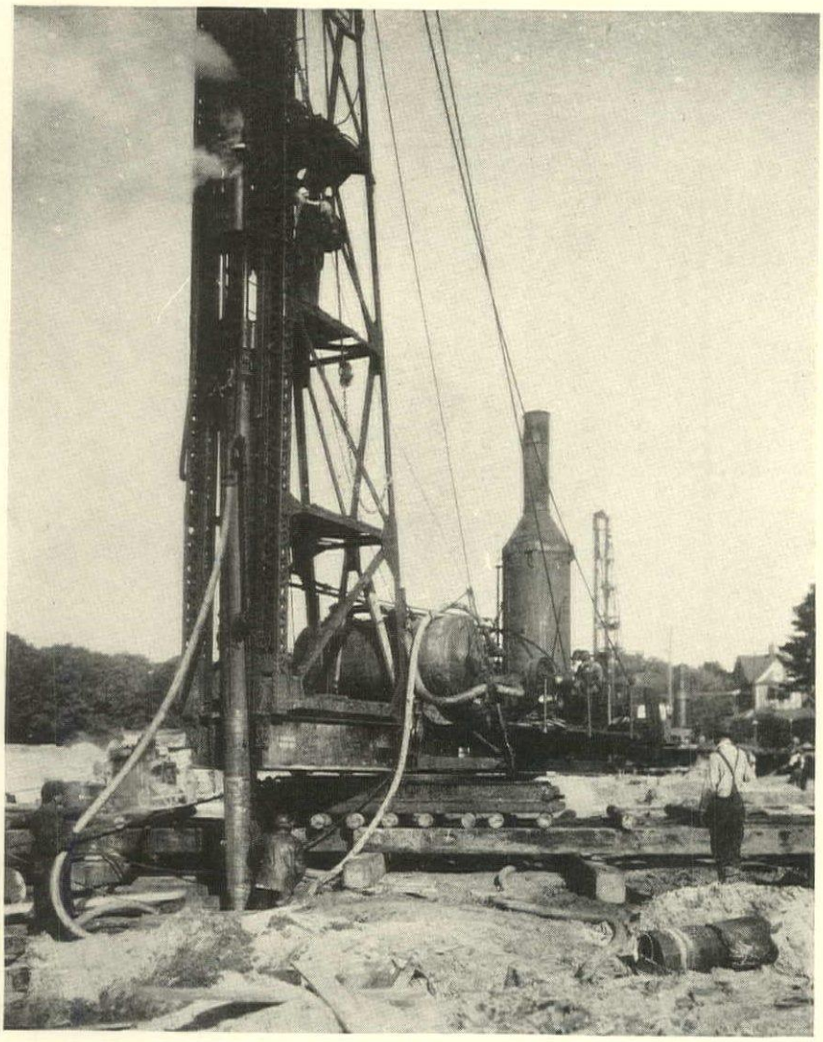
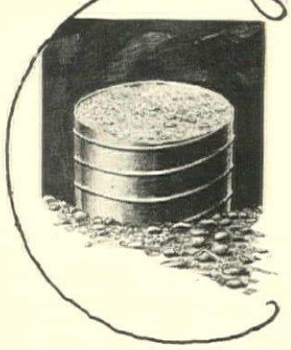


REMEMBER one thing—in many cases you cannot tell what will happen to an unprotected "green" concrete pile column in the ground. In the Raymond Method it is poured into a pressure-proof steel shell and that shell is left in the ground to protect it.



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Raymond Concrete Pile Co., Ltd., Montreal, Canada

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"A form for every pile A pile for every purpose"

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The AMERICAN ARCHITECT

Founded 1876

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CONTENTS

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There is sufficient Shevlin Pine to last for decades. You will find it smoothly milled, carefully seasoned and rigidly graded.

Leading lumber dealers can furnish five varieties: Shevlin Northern White Pine, Shevlin Pondosa Pine, Shevlin Norway Pine, Shevlin California White Pine and Shevlin California Sugar Pine.

Write for the booklet, "Specify Shevlin Pine."

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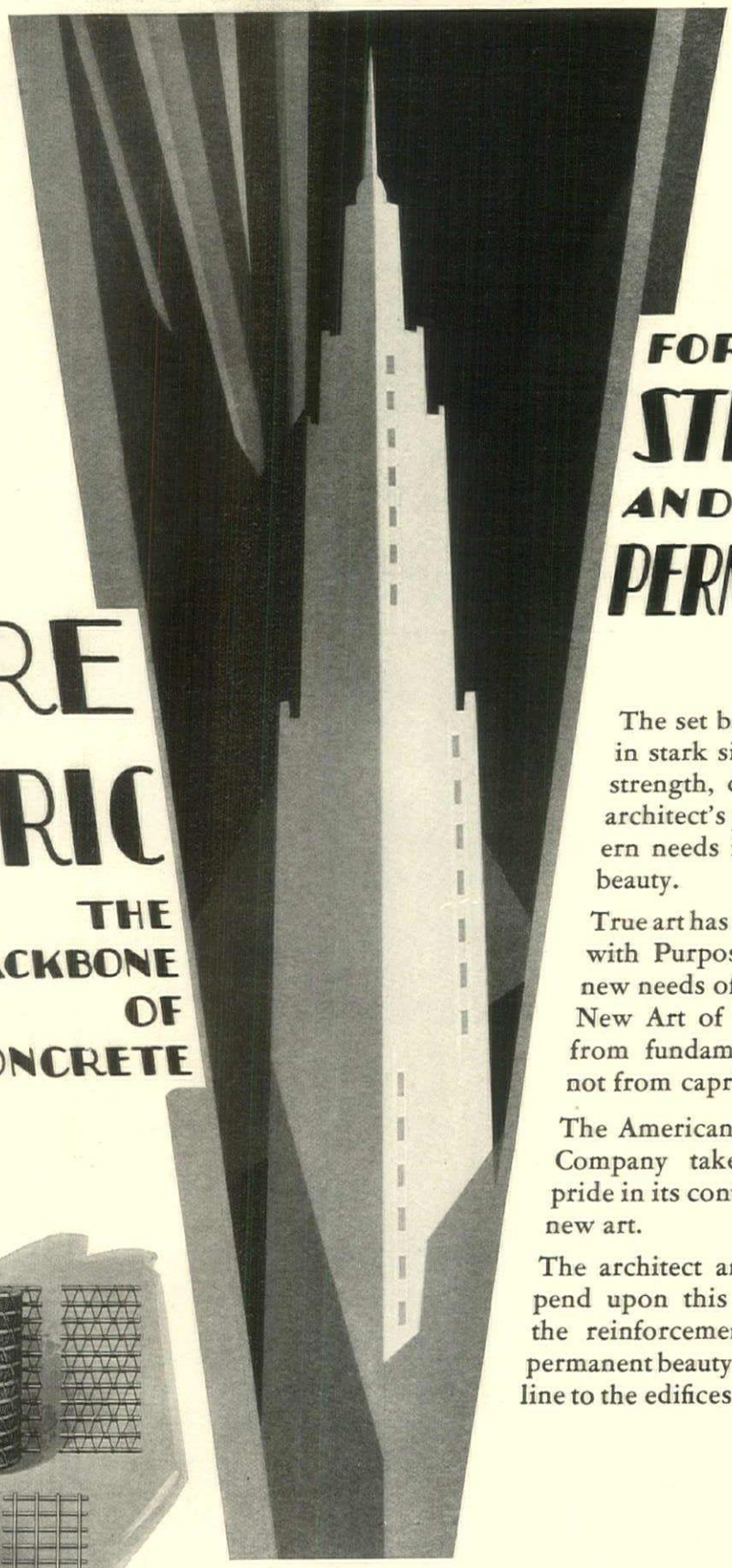
You may wish to save for your files this illustration of the graceful stairway in the Nickels-Sortwell House, a Pine home built in 1807 at Wiscasset, Maine.

AMERICAN STEEL & WIRE COMPANY
WIRE FABRIC



WIRE FABRIC
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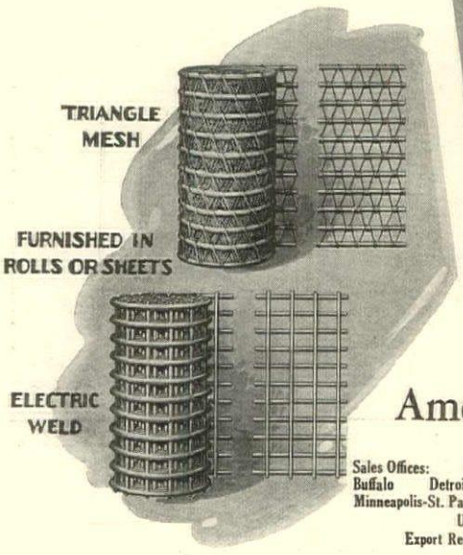
The set back skyscraper rising in stark simplicity, majestic in strength, demonstrates the architect's power to fulfill modern needs in forms of sincere beauty.

True art has always harmonized with Purpose. Thus from the new needs of today is born the New Art of today. It springs from fundamental necessity—not from caprice or fancy.

The American Steel and Wire Company takes a justifiable pride in its contribution to this new art.

The architect and builder depend upon this company for the reinforcement that gives permanent beauty of surface and line to the edifices they rear.



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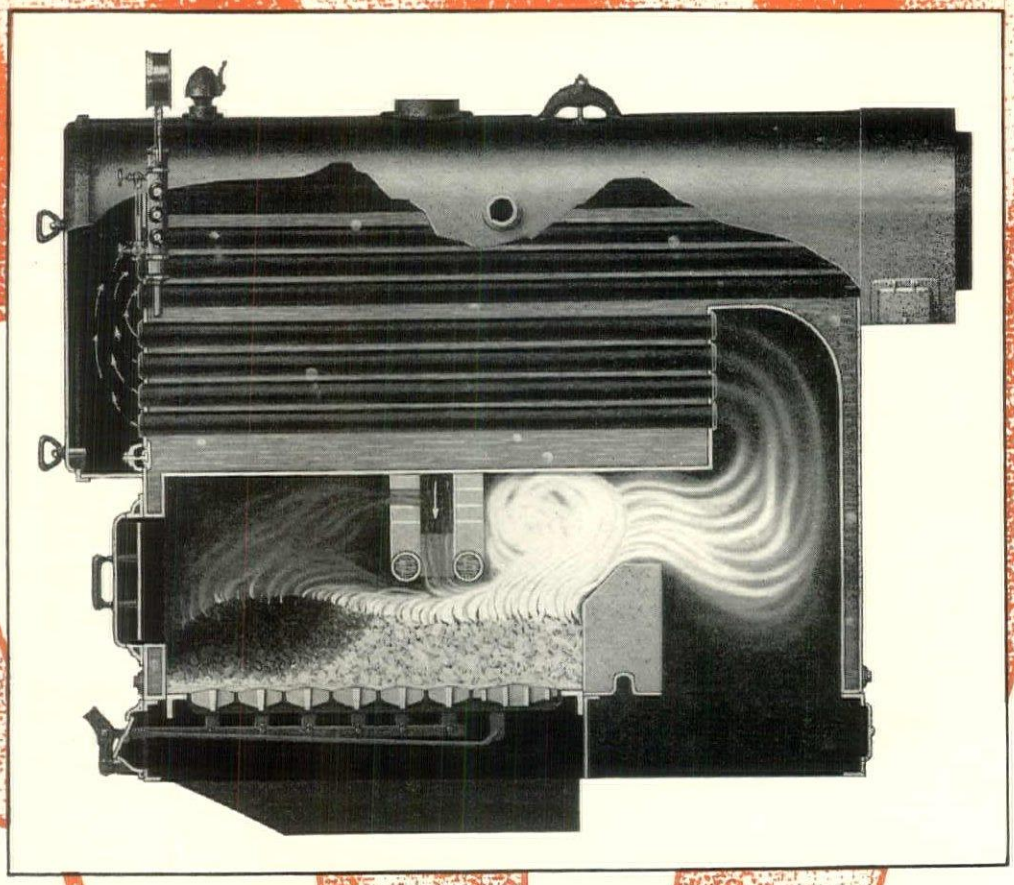
a NEW Smokeless Boiler!

by

HEGGIE-SIMPLEX

FOR DETAILS SEE NEXT PAGE



Heat—but No Smoke from Soft Coal

THE *new* Heggie-Simplex Smokeless Boiler burns the cheaper grades of soft coal efficiently, economically and in compliance with the most drastic smoke ordinances — without requiring especially trained firemen.

A special "carbureting chamber", made of *refractories*, introduces heated air over the fire (see arrow). It supplies the additional oxygen necessary to burn bituminous coal smokelessly, but which cannot be drawn through the fuel bed alone.

Intake doors on both sides of the boiler admit air into the "carbureting chamber". There it mixes with volatiles arising from the fresh fuel and is thoroughly heated by the *refractory* walls before passing down onto the fire. This inflammable mixture unites with the soot laden gases streaming under the chamber and is swept against the rear bridge wall. The turbulent whirlpool of flame which results, completely mixes and ignites all combustibles. The auxiliary chamber beyond the bridge wall provides the room essential to complete combustion. Thus, regardless of the amount fired, only smoke-free gases enter the flues.

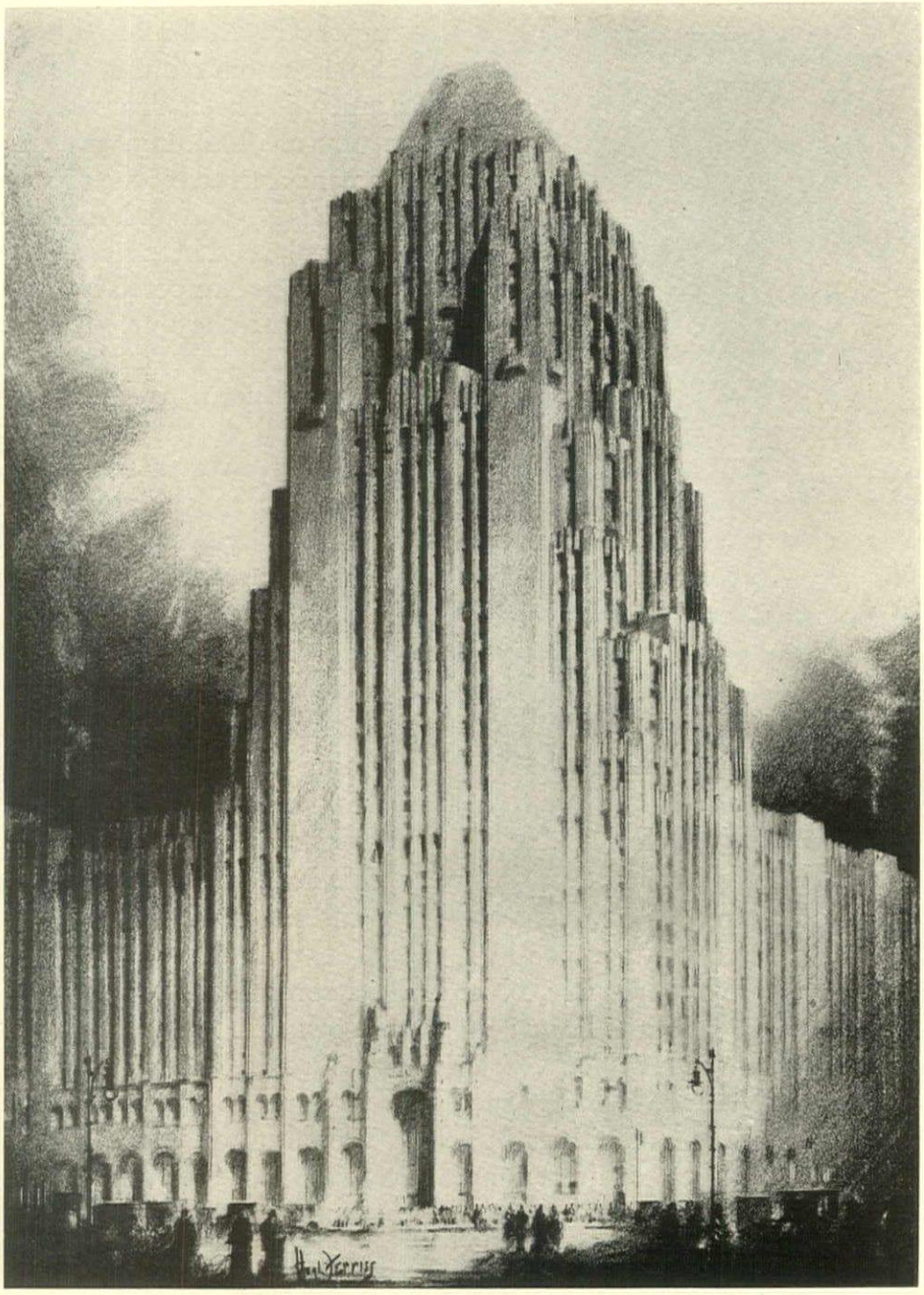
For descriptive folder write Heggie-Simplex Boiler Company, Joliet, Ill. Representatives in principal cities — telephone and address listed under "Heggie-Simplex Boilers."

HEGGIE-SIMPLEX

STEEL HEATING BOILERS

IN discussing the Fisher Building with Albert Kahn, he remarked that an unusual opportunity had been afforded him to design an unusual building, through the encouragement offered by the owners to use any materials he desired. Mr. Kahn further stated that he had been permitted to design a building unhampered by cost. By the same token, if the current issue of THE AMERICAN ARCHITECT has in it an element of the unusual, we must say that it is due not only to the numerous, out of the ordinary illustrative possibilities offered by the Fisher Building, but also to the ready cooperation given to the editorial department by Mr. Kahn and his organization. Much thought and effort were used to collect data and scattered notes relating to the building and its design. Access was given to the original working drawings and sketches from which the plates in this issue were made. Every facility was thus afforded us to make this issue a comprehensive description of the Fisher Building, and in so doing to make this issue of greater value to our readers. We take this opportunity of publicly thanking Albert Kahn, Inc., for the interest, enthusiasm and whole-hearted cooperation that made this issue possible. ☙ ☙ ☙ Some of the more important buildings and subjects which we are planning to illustrate in coming issues of THE AMERICAN ARCHITECT are The Film Center, New York, a commercial building designed by Buchman & Kahn; the New York Life Insurance Company Building, New York, Cass Gilbert, Architect; the new City Hall at St. Joseph, Mo., designed by Eckel and Aldrich; the New York Dock Trade Facilities Building, Brooklyn, of which Russell G. Cory was the Architect; and a group of photographs of landscape architecture to be shown in conjunction with a review of the forthcoming exhibition of the New York Society of Landscape Architects.

February 20, 1929 *The Publishers*



FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

From a drawing by Hugh Ferriss

THE AMERICAN ARCHITECT

February 20, 1929

The AMERICAN ARCHITECT

Founded 1876

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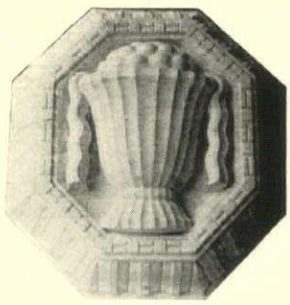


FISHER BUILDING

By ALBERT KAHN

IN designing the new Fisher Building, the architects were favored with an opportunity rare in many ways. The site selected for the building was on West Grand Boulevard, Detroit. It so happened that Second Boulevard has an offset at its junction with West Grand Boulevard, making it possible and highly desirable to place the main entrance and tower portion of the building directly on the axis of Second Boulevard, giving the structure the appearance of a terminal to this important thoroughfare. In the first sketches of the building, the tower portion was placed in the center of the facade. With further study of the problem, however, it became apparent that it would prove far more effective to place the tower off center but on the axis of Second Boulevard. The Fisher Building's commanding site is, therefore, an exceptionally happy one. It emphasizes the value in city planning, of providing occasional objective points and proper termini, as against the endless straight avenues and streets too common in practically every city in the United States.

What further made the opportunity a rare one were the facts that: first, the owners, imbued with a desire to erect a thoroughly high class building, did not make cost the prime consideration, they not only granted but encouraged the use of the finest materials throughout; second, by permitting the architects to engage the best talent as collaborators —the ablest of sculptors, modelers, decorators and craftsmen—the task was considerably lightened; and third, by selecting carefully the highest calibre of contractors, irrespective of their being low bidders, an all too rare condition was brought about in the construction of the building. Due to the hearty cooperation of owners, architects and contractors, the structure was completed in record time, with the quality of workmanship

MODELS OF SCULPTURED MOTIFS

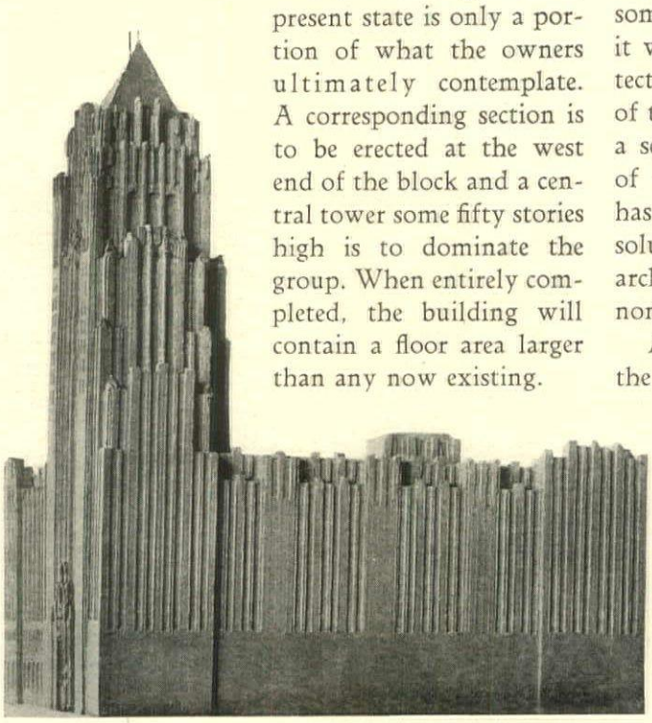
EAGLE MOTIF MODELED BY DI LORENZO
AT LEFT OF TITLE, "AMERICA"
AT RIGHT OF TITLE, "PLENTY"
MODELS BY PROFESSOR G. R. MAROTI

throughout of the highest. A bronze tablet now permanently placed on the wall of the arcade, bears evidence of the spirit which governed the erection of the building. The tablet reads as follows:

"Honor Alit Artes"

"In commemoration of the exemplary business ethics and zeal for fairness manifested by the Fisher Brothers and their associates in every relation with those who have striven in the creation of this building this tablet is presented by the Architects and all Contractors."

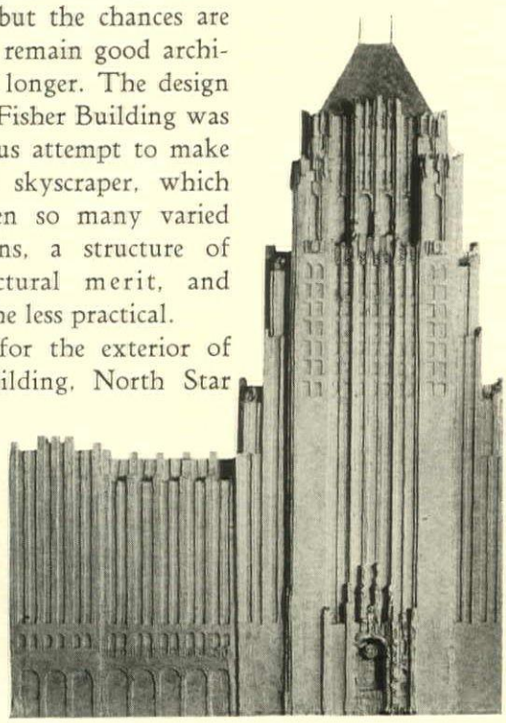
Even in earlier days, when specialization was not so general, the best results were obtained by concerted effort, through the collaboration of a group of able men. Today such collaboration is more necessary than ever. Without the assistance of men capable of executing what is in the mind of the directing architect, successful results are impossible. With the usual need for speed, so prevalent a condition in this country, the task of such assistants becomes more and more difficult; the greater, therefore, the credit due them when satisfactory results are achieved on a large project.



The building in its present state is only a portion of what the owners ultimately contemplate. A corresponding section is to be erected at the west end of the block and a central tower some fifty stories high is to dominate the group. When entirely completed, the building will contain a floor area larger than any now existing.

It became apparent in studying the exterior design that with the wall surface necessarily riddled with window openings any effect of solidity must be sought in the massing of planes, and grouping of openings, and interest must be created by the use of projecting and receding surfaces as well as in a picturesque skyline. Detail is then sparingly employed, but strong vertical lines play an important part in the design. While a new note is aimed at, this was considered much less important than that the composition be sane and the detail restrained. That modern work served for inspiration is not to be denied, indeed it is frankly admitted; but the radically different, exaggerated forms, so much used today, which suggest the seeking for originality for mere originality's sake, were carefully shunned. When all is said and done, only such work continues to satisfy that has for its root familiarity with, and study of, the best that has been achieved. If to this be added a certain amount of individuality and good taste, of which the designer must necessarily be possessed, if above all there is sincere effort, the result may not prove as striking or modernistic as some, but the chances are it will remain good architecture longer. The design of the Fisher Building was a serious attempt to make of the skyscraper, which has seen so many varied solutions, a structure of architectural merit, and none the less practical.

As for the exterior of the building, North Star



STUDY OF FISHER BUILDING DESIGN IN CLAY

MODELS BY DI LORENZO FOR PILASTER ORNAMENTS ARE SHOWN IN UPPER CORNERS OF PAGE

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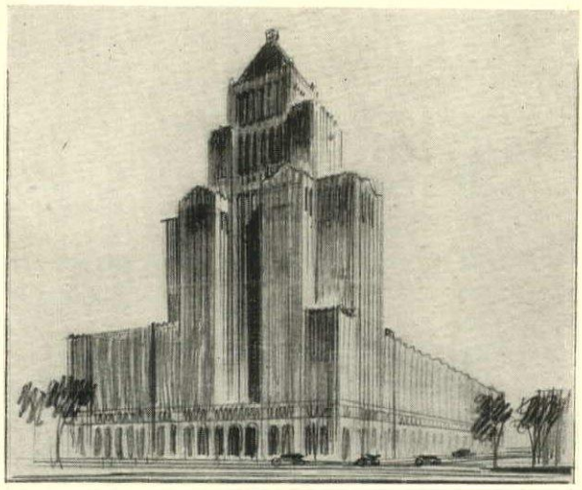

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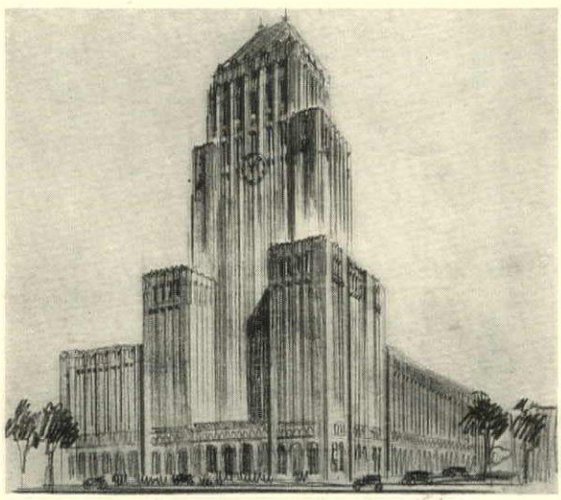

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A SERIES OF PROGRESSIVE SKETCHES SHOWING VARIOUS STAGES IN THE DEVELOPMENT OF THE DESIGN OF THE FISHER BUILDING, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS

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A SERIES OF PROGRESSIVE SKETCHES SHOWING VARIOUS STAGES IN THE DEVELOPMENT OF THE DESIGN OF THE FISHER BUILDING, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS

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A SERIES OF PROGRESSIVE SKETCHES SHOWING VARIOUS STAGES IN THE DEVELOPMENT OF THE DESIGN OF THE FISHER BUILDING, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS

polished granite from Minnesota was used for the three lower floors. Even the ornamental work is polished, whereby the contrast between polished and unpolished granite is avoided. Small parts of the granite ornaments are touched up with gold leaf which adds a certain sparkle. Beaver Dam marble was used for the superstructure. The roof of the tower is of semi-glazed dull green terra cotta with cresting and finials. Certain details of the roof have been gilded for decorative purposes.

Three stories of shops face both boulevards, opening also on to the arcades which parallel both West Grand and Second Boulevards and extend through the three floors. The shop windows on one side of this arcade are balanced by show cases, those on the opposite side to be used by the second and third floor shops. Above the shops are offices, opening from a central corridor. The office portion of the West Grand Boulevard section is restricted to general offices, while that facing Second Boulevard is reserved for doctors and dentists. Separate groups of elevators serve the two sections; the one is entered from West Grand, the other from Second Boulevard. In the upper floors of the tower section Messrs. Fisher have their own offices.

A garage facing Lothrop Avenue, housing about 1,000 cars, is attached to the office building and provided with entrances from every office floor. The plan of the garage is of a particular type which permits of parking cars without in any way blocking the travel lanes. An especially interesting feature in the construction of the garage is the banking of the ramps at the turns, the plan for which was scientifically determined by General Motors' engineers at their proving grounds where full size models were constructed for the purpose. The results have warranted the work and time spent.

A moving picture theatre seating twenty-eight hundred persons occupies the center portion of the lower part of the building. A section of the arcade, which connects with a special lobby opening off from Second Boulevard, is enlarged to serve as a

Photo by Drix Duryea

A BRIDGE IN THE ARCADE

lobby to the theatre. This lobby is treated with wall panels of Mexican onyx set within golden veined St. Genevieve, and bronze. The lighting fixtures in this lobby play an important part in the design and so does the modeled and painted ceiling done in gold, silver and blue. The design of the theatre itself was entrusted to Messrs. Graven and Mayger, architects.

A lavish use of marble has been made in the arcade extending to the third floor line, at which springs the barrel vaulted ceiling done in plaster and richly painted with decorations which, though of modernistic trend, are restrained, architectural, rich and colorful. A wealth of detail is employed which therefore invites more than passing examination. As yet, the lighting fixtures (greatly needed, and in process of manufacture) are missing. These fixtures will materially enhance the effect of the arcade, for they will lend a brilliance to the interior not attainable by mere indirect lighting.

It is thus with a sense of deep appreciation that here is recorded our firm's obligation to Professor Geza Maroti, of Budapest, who not only modeled the ornamental work about the main entrance but designed and supervised the color decorations in the arcade, and also in the banking room; to Thomas Di Lorenzo, of Detroit, who executed the latter in the record time of only two months; to Messrs. Ricci and Zari, of New York, who modeled the exterior ornaments, other than the main entrance doorway; to Anthony Di Lorenzo, of New York, who prepared the models for most of the exterior and interior ornamental bronze work; also to Corrado Parducci, of Detroit, who furnished models for some of the bronze and all of the plaster ornaments.

Reference has already been made to the splendid spirit of the entire force of contractors and employees, all of whom took such exceptional pride in their connection with the work. An especial word of commendation and appreciation is due the efforts of those who handled the work in the

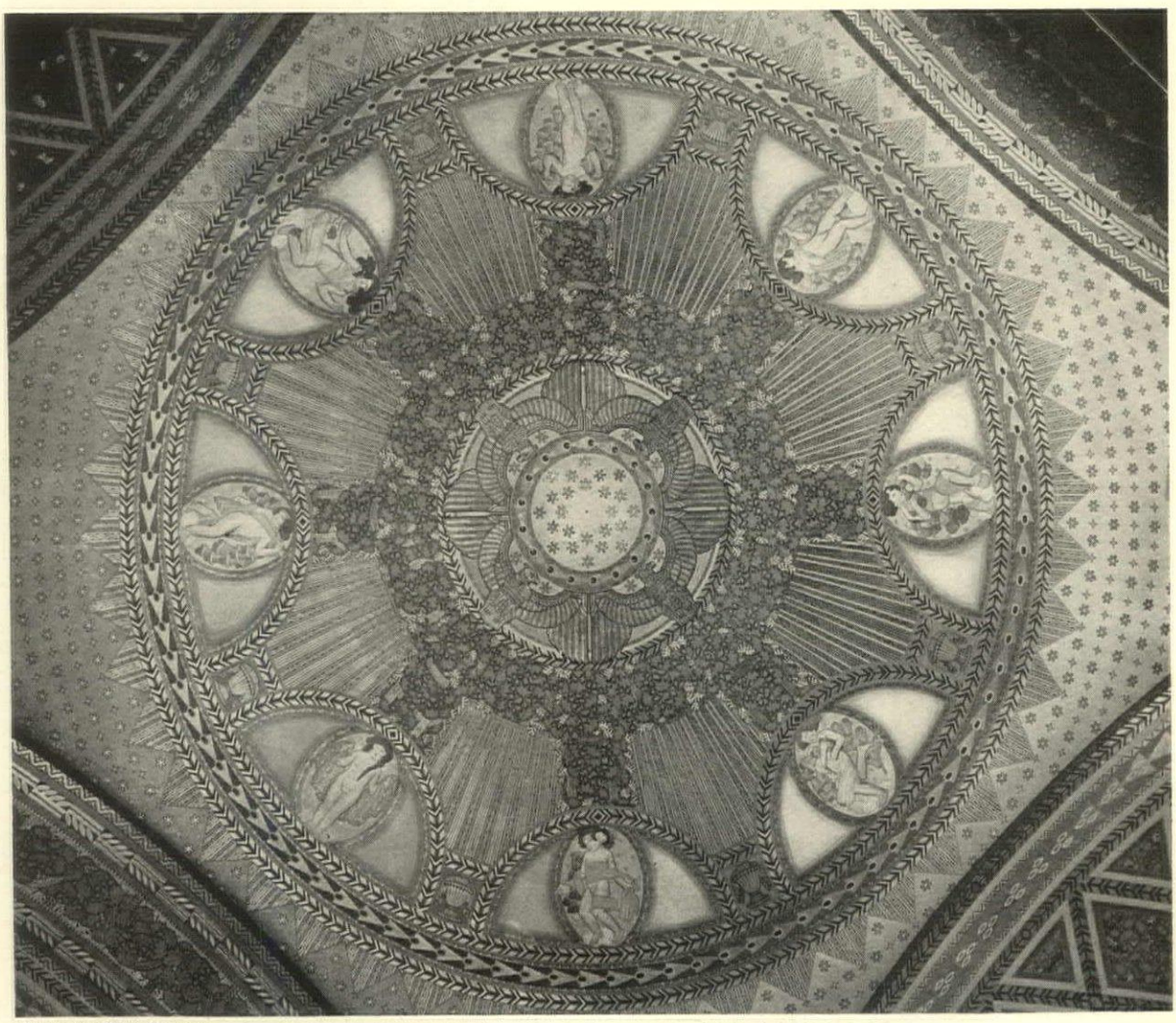
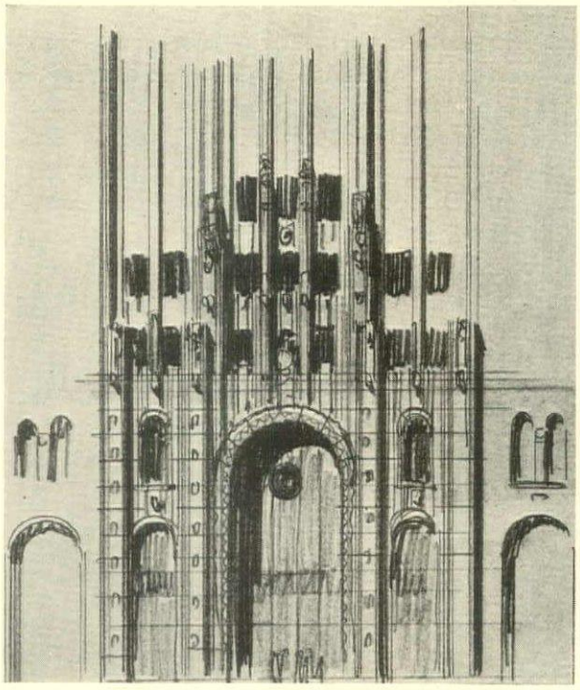
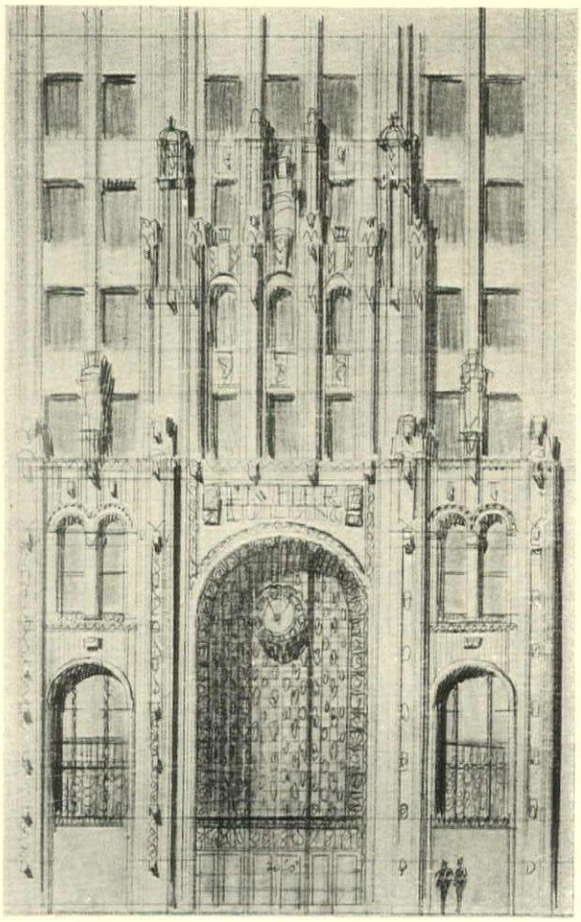
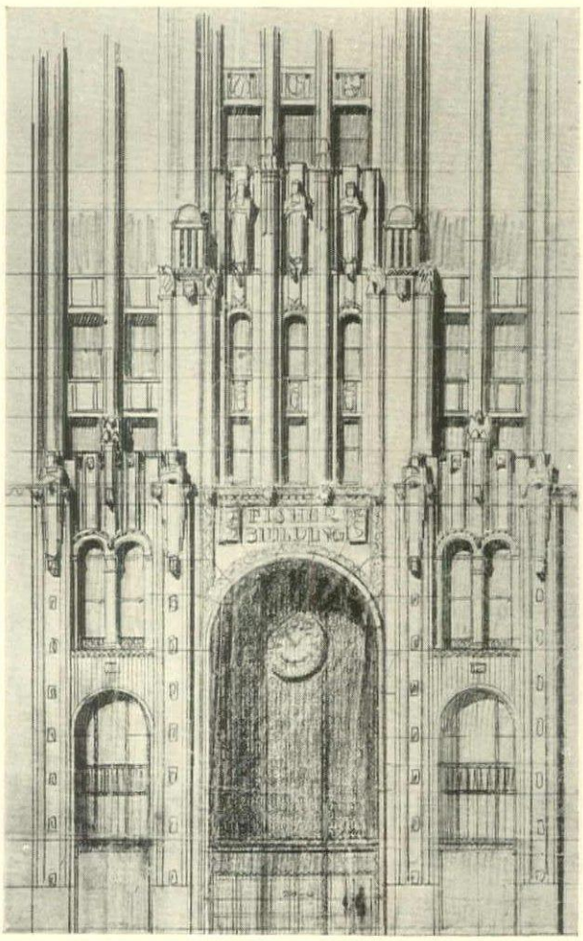


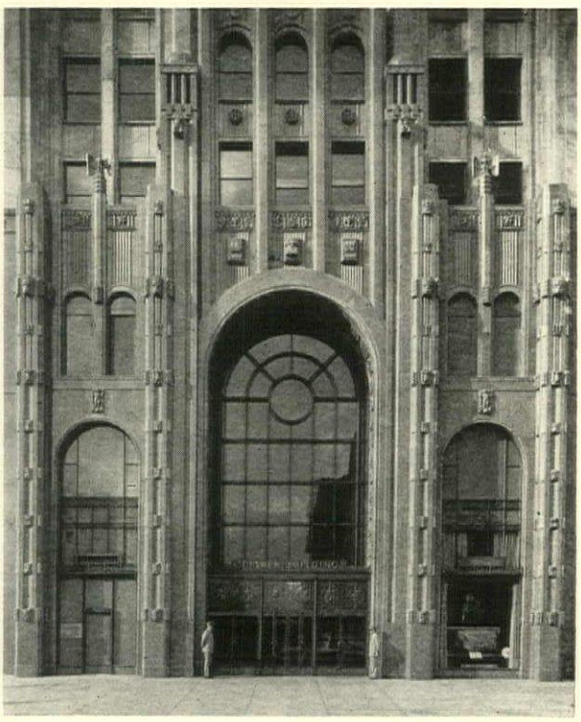
Photo by Drix Duryea

CEILING AT ARCADE INTERSECTION

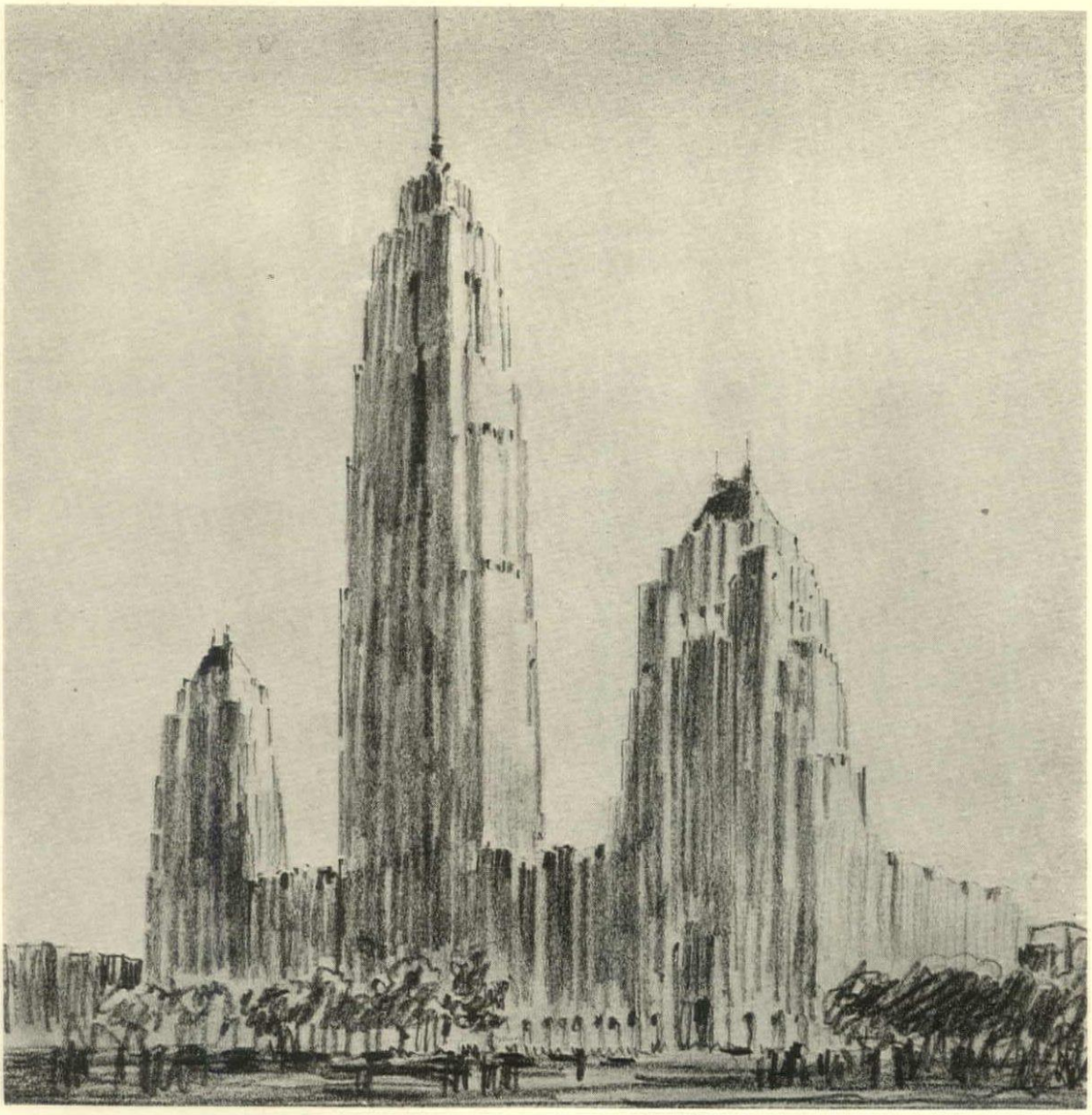


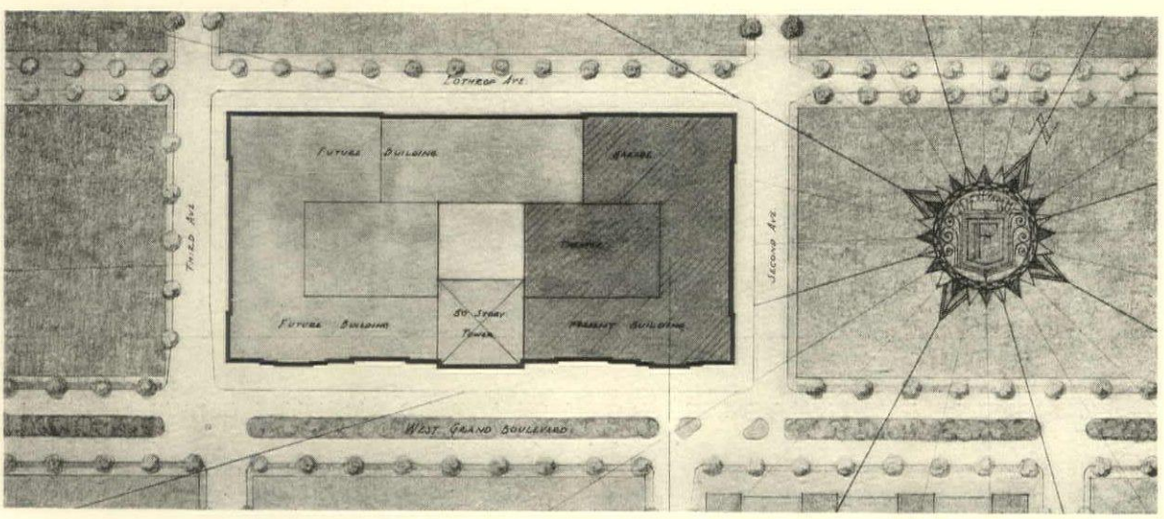






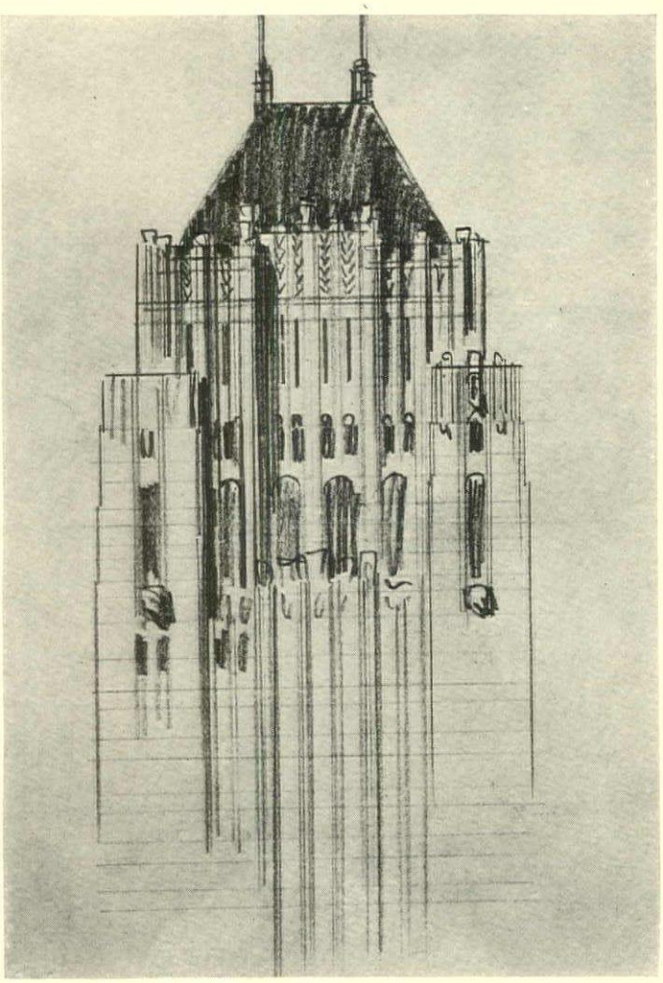
STUDIES AND FINAL DEVELOPMENT OF THE GRAND BOULEVARD ENTRANCE, FISHER BUILDING DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS





STUDY FOR THE ULTIMATE DEVELOPMENT OF THE FISHER BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

office of the architects and in the field, particularly to Robert Hubel in charge of exterior design, to Hugo Knapp in charge of interior design, to Robert Linton in the field and to the late Wayne Yates who had charge of the preparation of the working drawings. Nor must we fail in giving credit to the work of H. C. Blake, special engineer, and his corps of assistants whose efforts counted so much in the speed and efficiency with which the construction was carried through to completion.

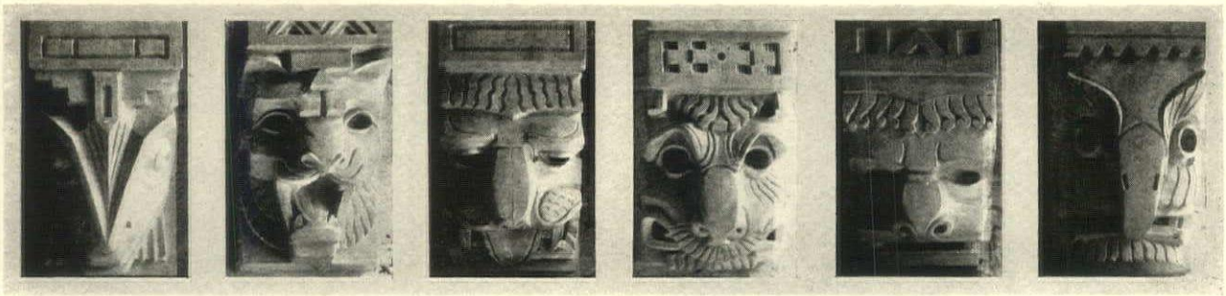


PRELIMINARY STUDY OF FISHER BUILDING

TO WAKE THE SOUL BY TENDER STROKES OF ART, TO RAISE THE GENIUS AND TO MEND THE HEART.

THE DRAMA'S LAWS THE DRAMA'S PATRONS GIVE; FOR WE THAT LIVE TO PLEASE MUST PLEASE TO LIVE.—*Johnson*

Inscription on arches at either end of the Fisher Theatre Arcade Foyer



A GROUP

OF PLATES ILLUSTRATING

THE FISHER BUILDING—DETROIT, MICHIGAN

ALBERT KAHN, INC.

Architects

Sculptured motifs shown at top of page are selected from a series of models by Ricci & Zari. The center and bottom models are selected from a group made by Di Lorenzo

Photo by Drix Duryea

FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

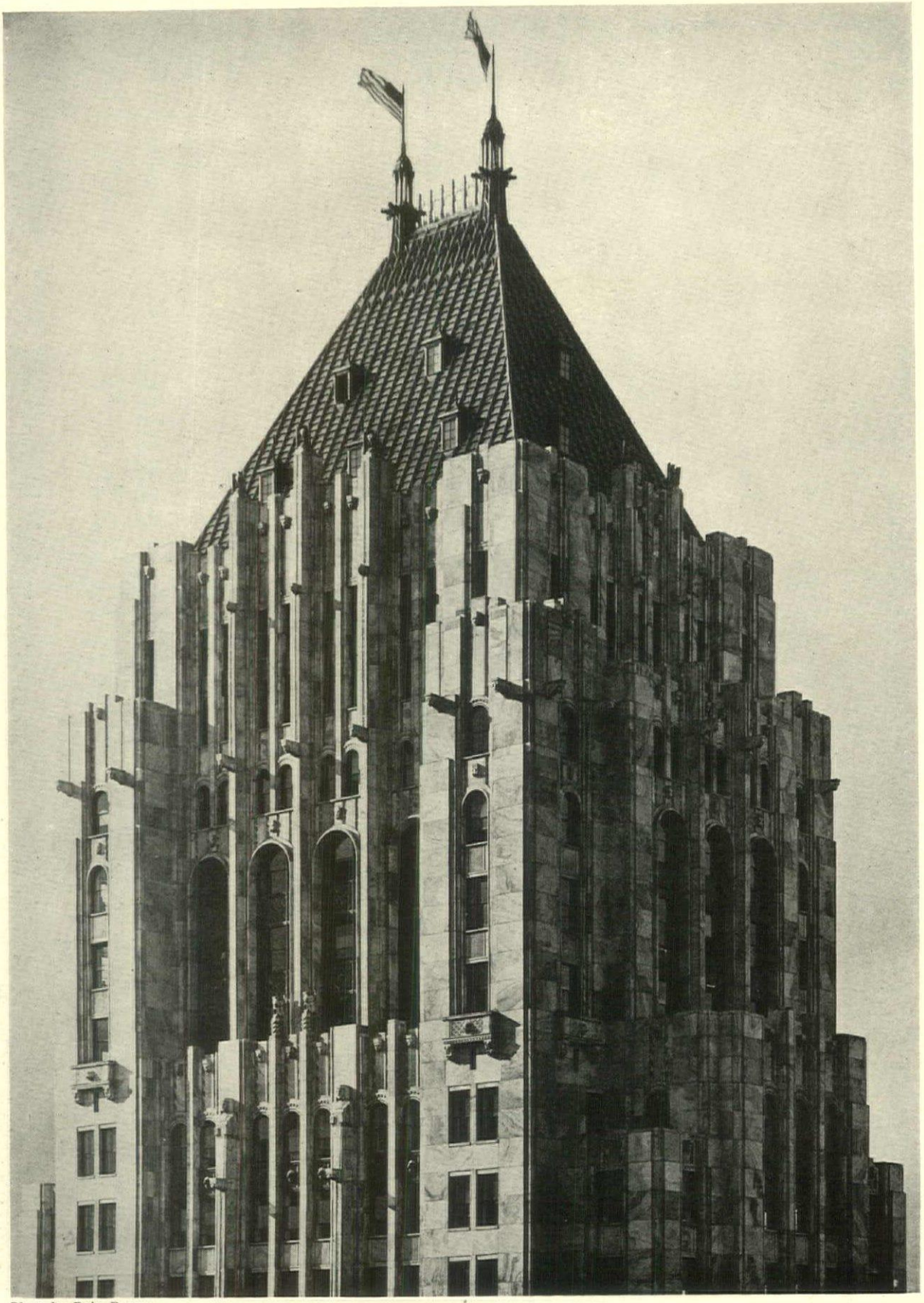


Photo by Drix Duryea

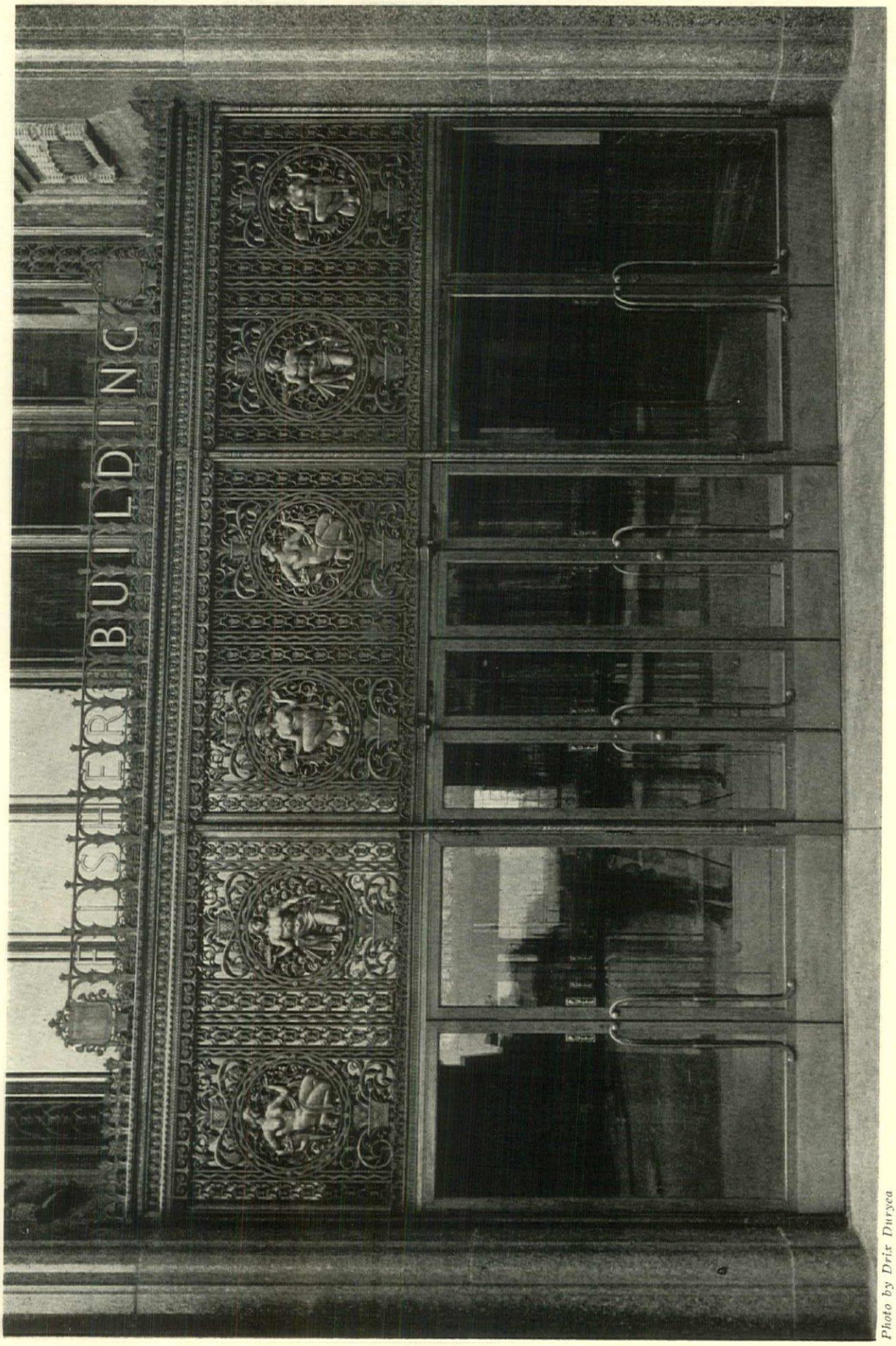
DETAIL OF TOWER, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

GRAND BOULEVARD ENTRANCE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



DETAIL OF GRAND BOULEVARD ENTRANCE, FISHER BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

Photo by Drix Duryea

SHOP WINDOW DETAIL, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

GRAND BOULEVARD ENTRANCE LOBBY AND ARCADE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

FIRST FLOOR ARCADE BETWEEN SHOPS AND THEATRE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

ARCADE AND THEATRE FOYER, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

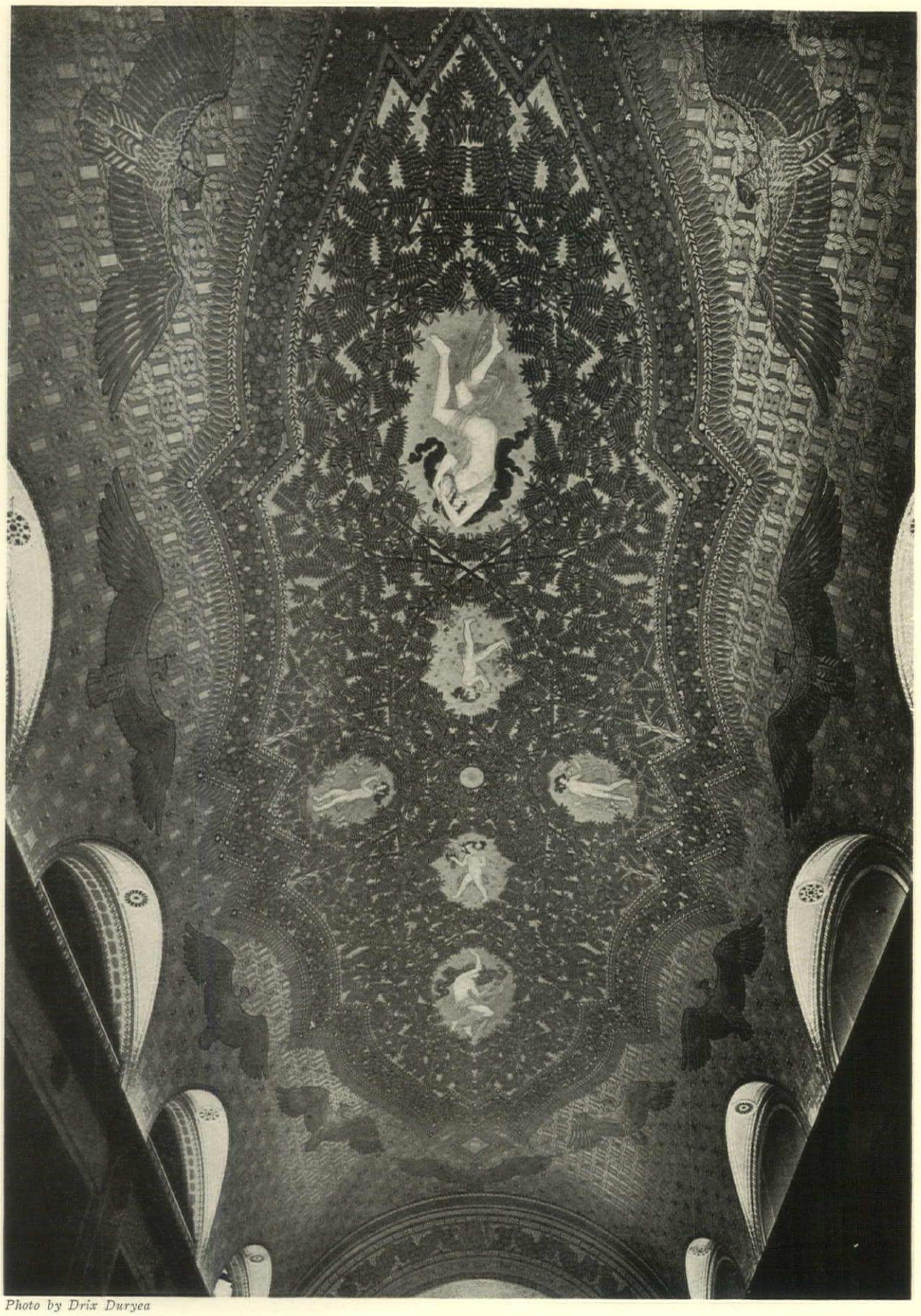


Photo by Drix Duryea

CEILING OF THEATRE ARCADE FOYER, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

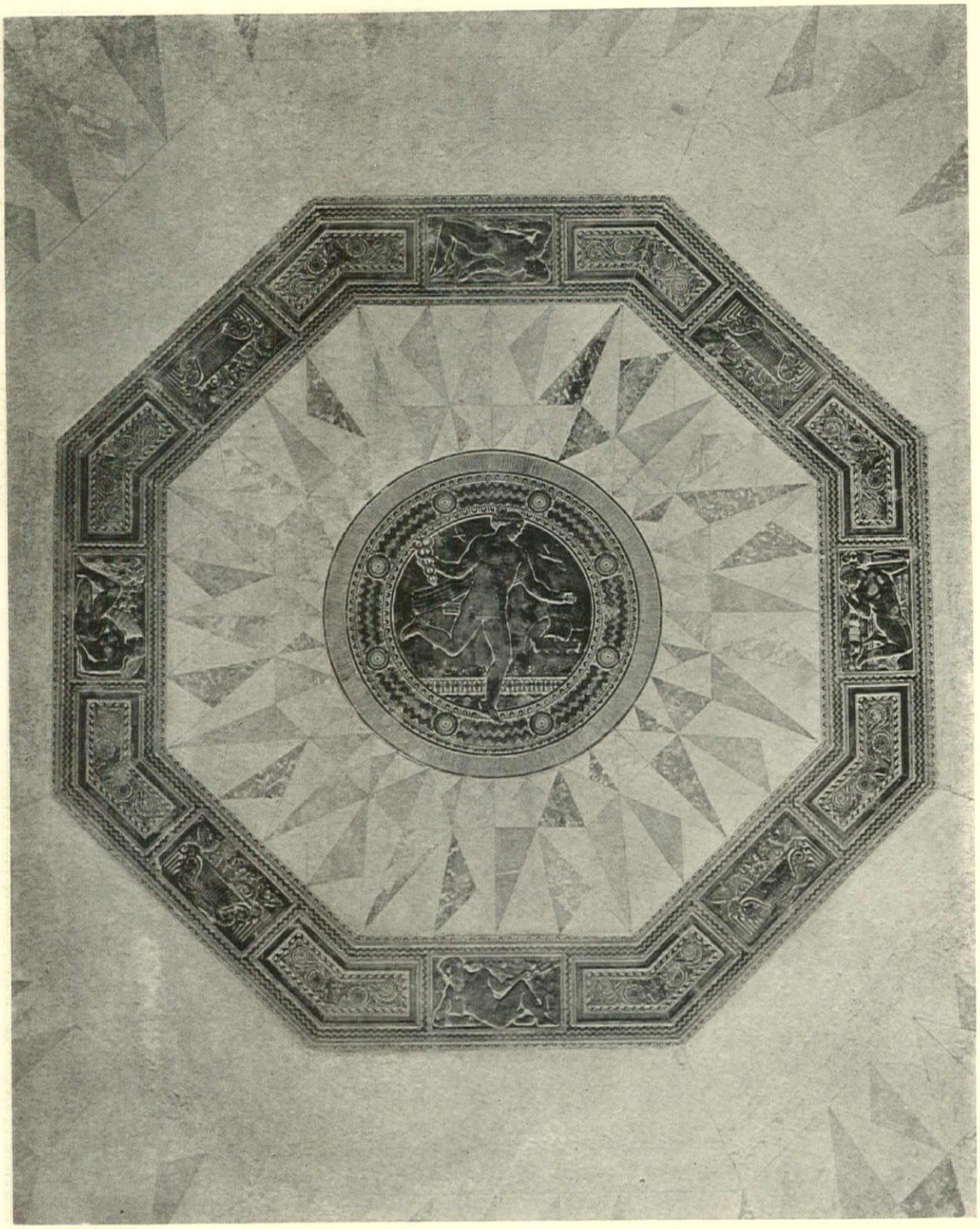


Photo by Drix Duryea

DETAIL OF FLOOR AT INTERSECTION OF ARCADES
FISHER BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

ARCADE DETAIL
FISHER BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

Photo by Drix Duryea

ELEVATOR LOBBY, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

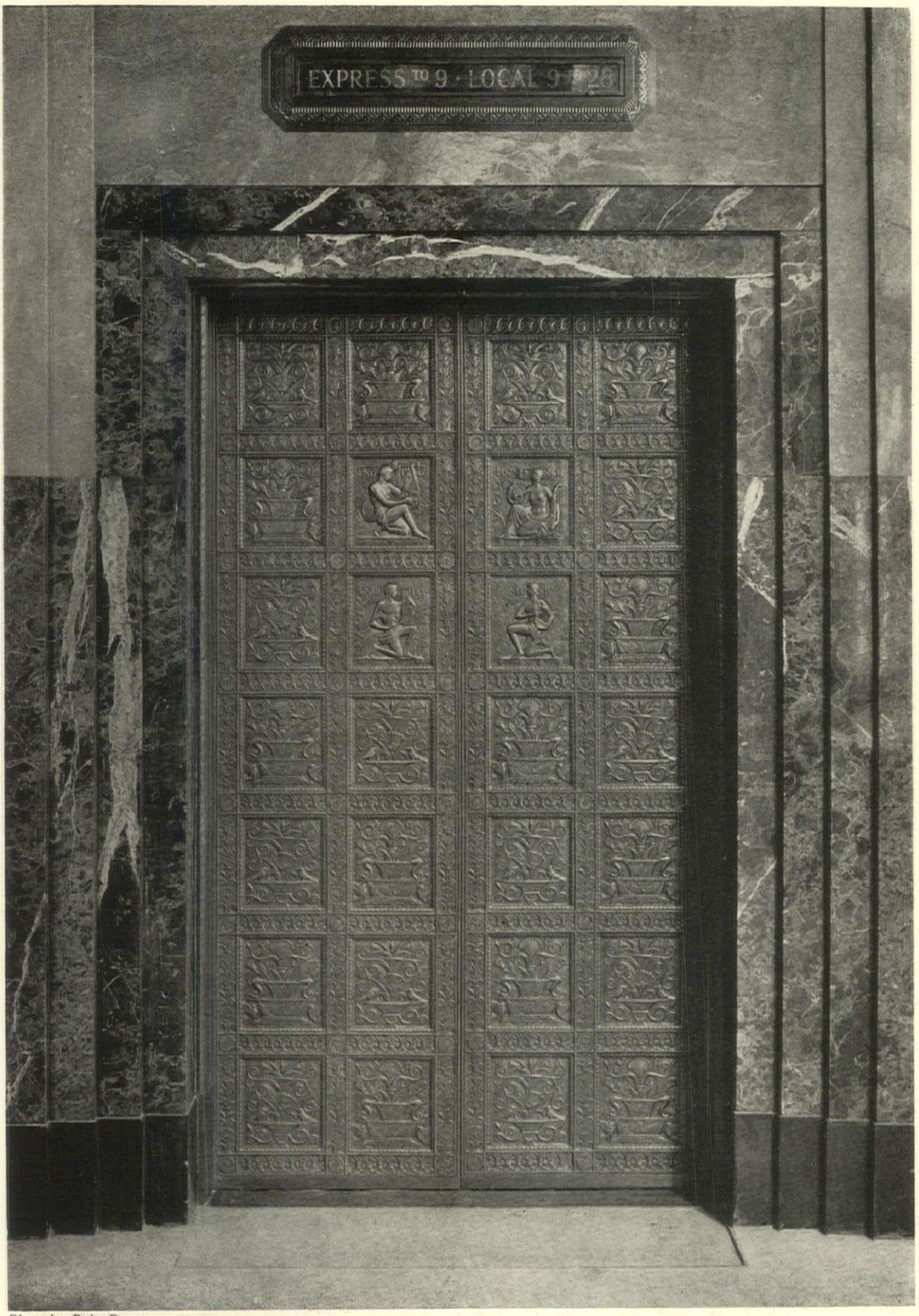
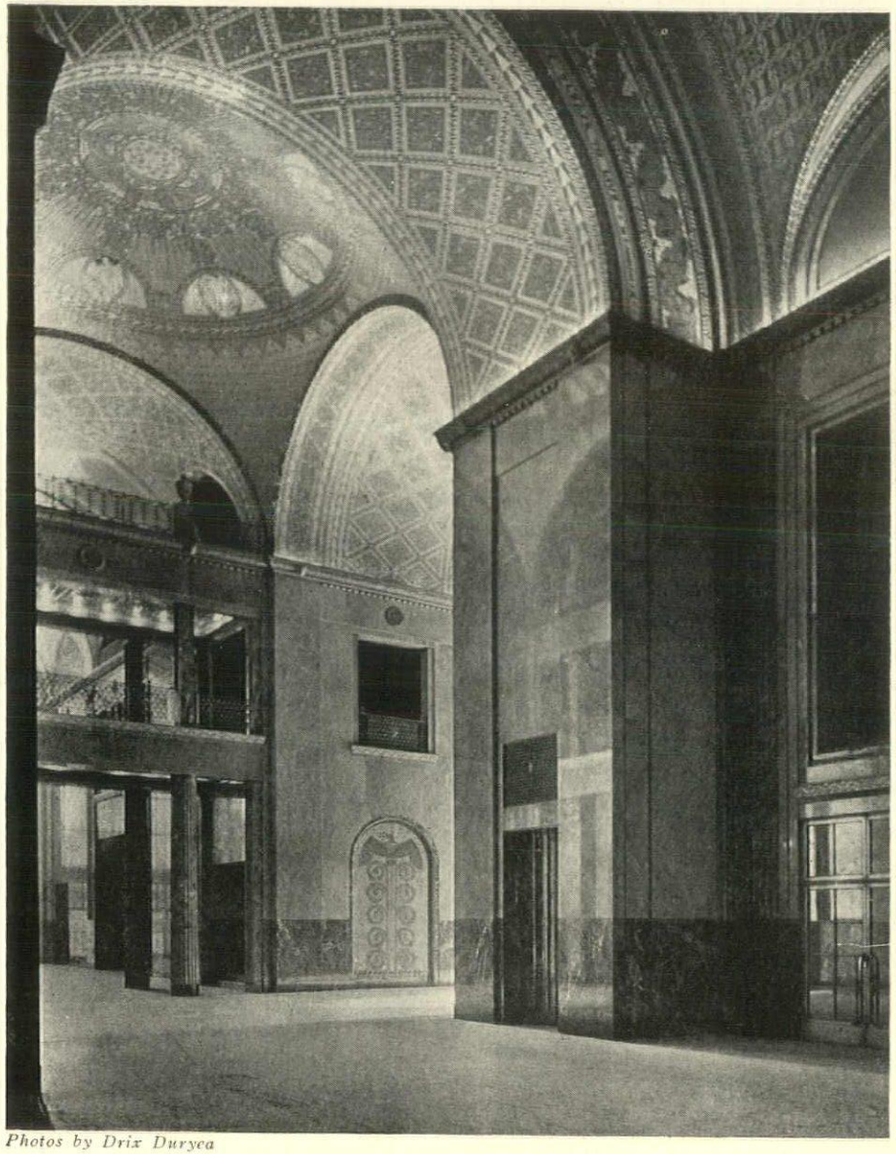
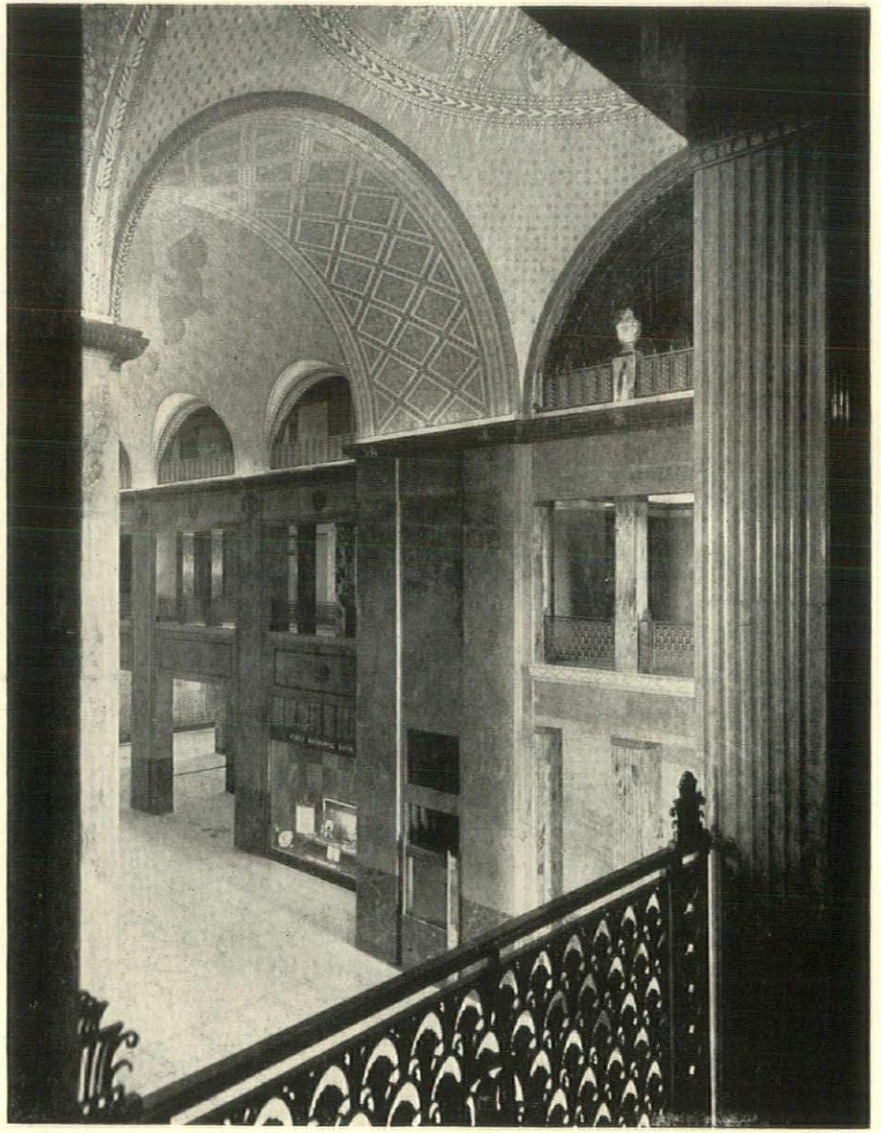


Photo by Drix Duryea

DETAIL OF ELEVATOR DOORS, FIRST FLOOR ARCADE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS





Photos by Drix Duryea

OPPOSITE SIDES OF ARCADE AT ARCADE INTERSECTION

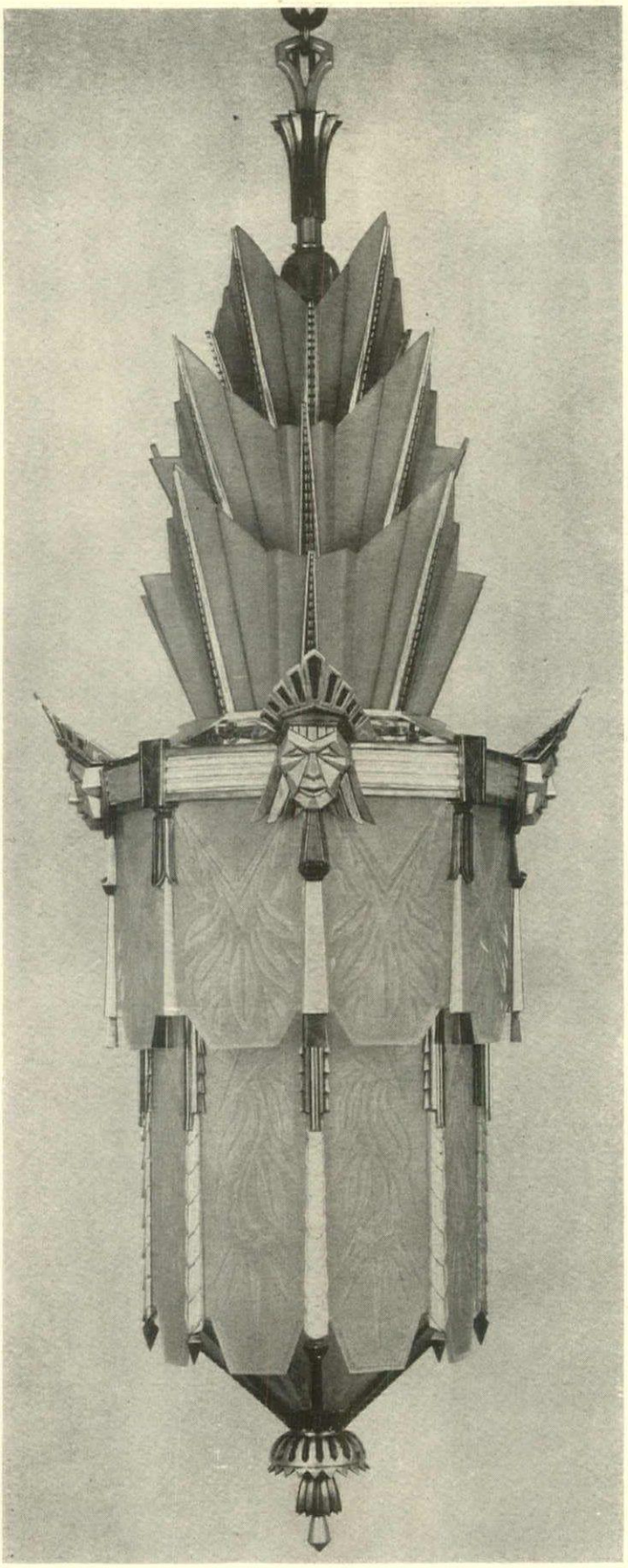
FISHER BUILDING, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS

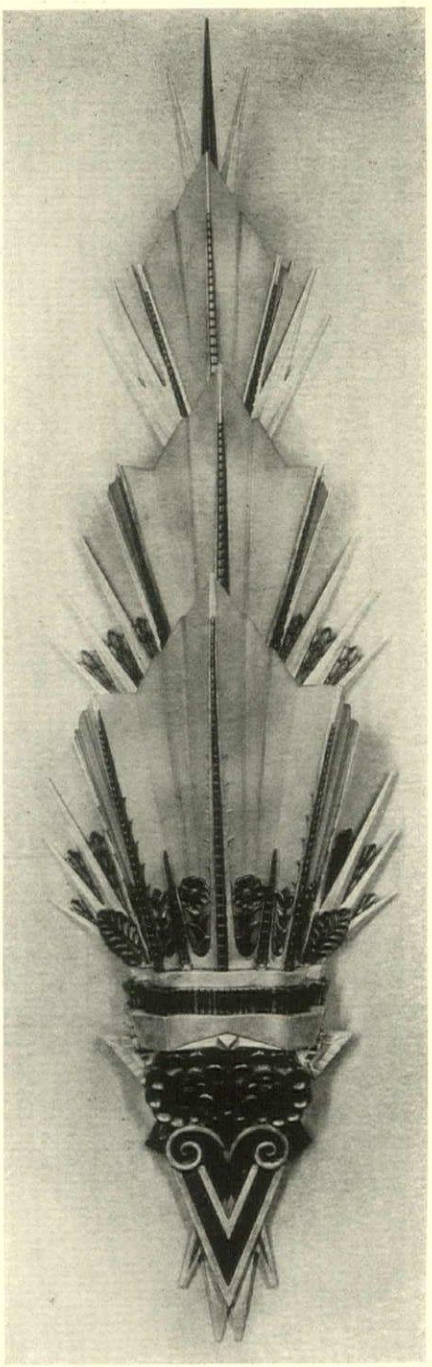
RADIATOR GRILLE IN GRAND BOULEVARD VESTIBULE

Photos by Dru Duryea

DOORS TO FREIGHT ELEVATOR AND JANITOR'S CLOSET

FISHER BUILDING, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS



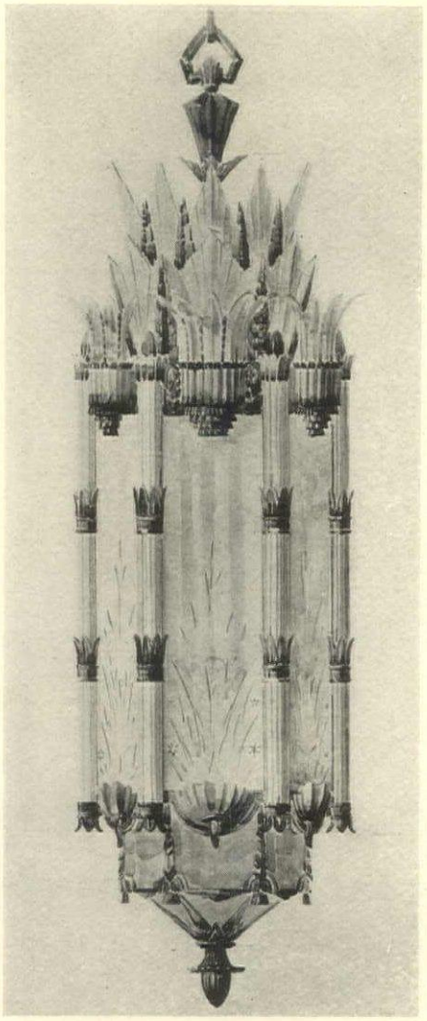


LIGHTING FIXTURES IN THE THEATRE LOBBY CONSIST OF FOUR HANGING FIXTURES MEASURING APPROXIMATELY FIVE FEET IN HEIGHT, AND COLUMN AND PILASTER FIXTURES APPROXIMATELY FOUR FEET IN HEIGHT. A HANGING FIXTURE IS REPRODUCED AT THE LEFT AND A WALL FIXTURE ABOVE

THE FIXTURES WERE DESIGNED BY EDW. F. CALDWELL & COMPANY

LIGHTING FIXTURES FOR FISHER BUILDING, DETROIT, MICH.

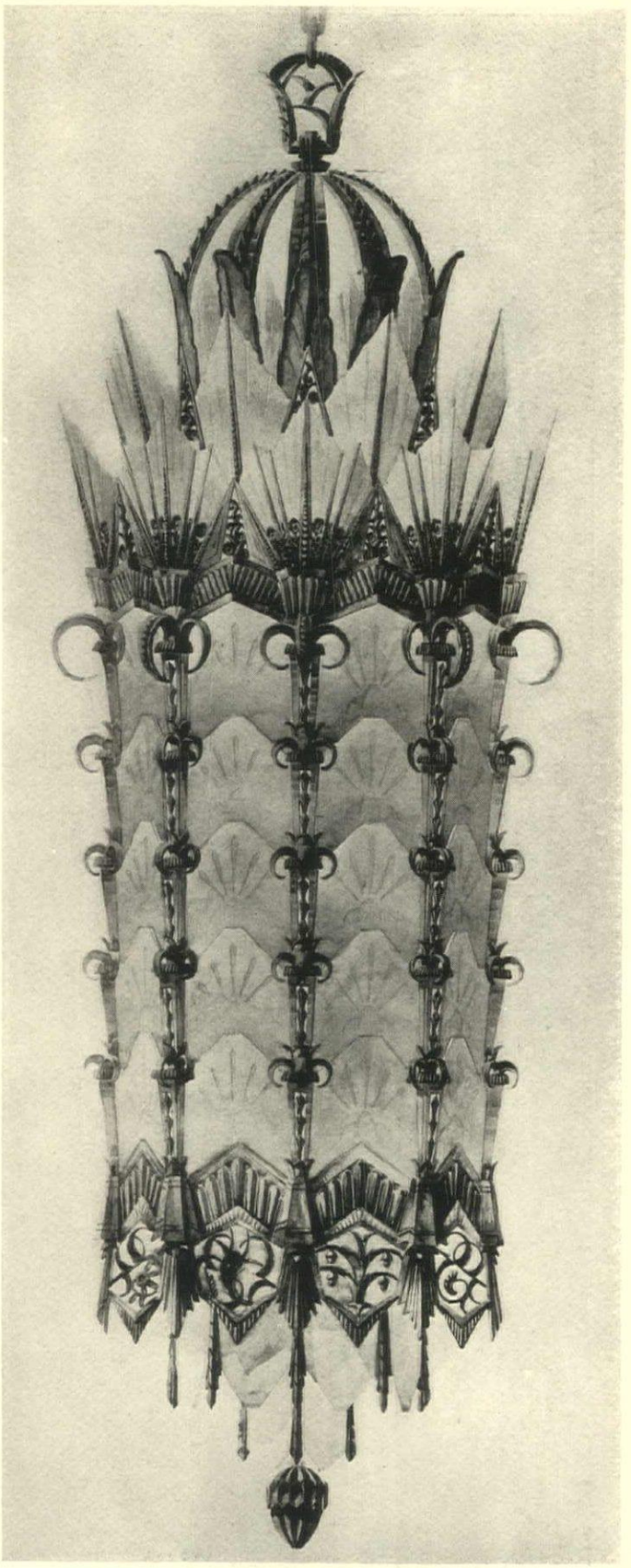
ALBERT KAHN, INC., ARCHITECTS



THE SKETCH OF A TYPICAL ARCADE HANGING FIXTURE IS REPRODUCED ABOVE. THESE FIXTURES ARE ABOUT NINE FEET SIX INCHES IN HEIGHT. AT THE RIGHT IS SHOWN A SKETCH OF A LARGE FIXTURE TO HANG IN THE CENTER OF THE ARCADE THEATRE FOYER. THIS FIXTURE MEASURES APPROXIMATELY TWELVE FEET HIGH. SIMILAR FIXTURES, BUT SMALLER IN SIZE, SURROUND THE PRINCIPAL FIXTURE IN THE FOYER.

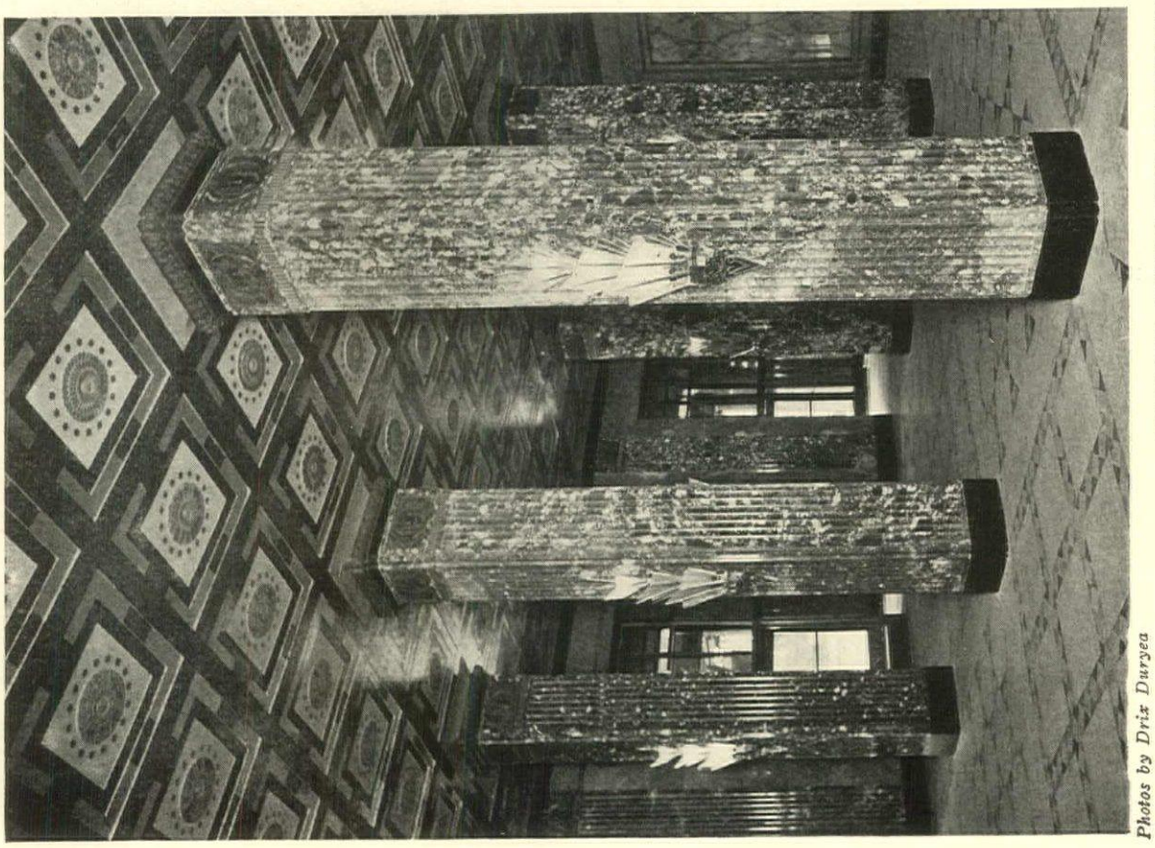
OWING TO THE SIZE OF THESE FIXTURES, ALUMINUM HAS BEEN EXTENSIVELY USED IN THEIR CONSTRUCTION. CERTAIN MOTIFS ARE EMPHASIZED BY BEING TOUCHED OFF IN COLOR OR IN GOLD. ALL THE GLASS SECTIONS ARE ETCHED, AND DELICATELY TINTED TO ACCENTUATE THE ORNAMENT

THE FIXTURES WERE DESIGNED BY EDW. F. CALDWELL & COMPANY



LIGHTING FIXTURES FOR FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

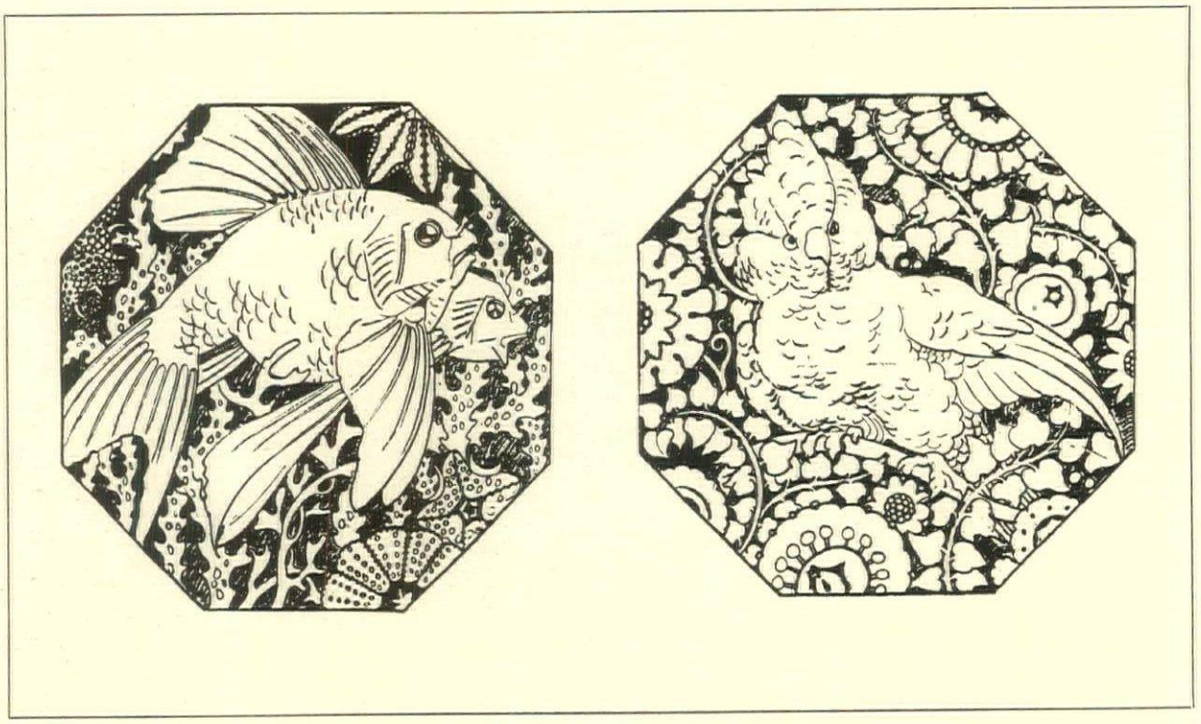


THEATRE LOBBY AND ENTRANCE, FISHER BUILDING, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS

Photos by Drix Duryea

Photo by White Studio

BANKING ROOM, FIRST NATIONAL BANK, FISHER BUILDING BRANCH, DETROIT, MICH.
ALBERT KAHN, INC., ARCHITECTS



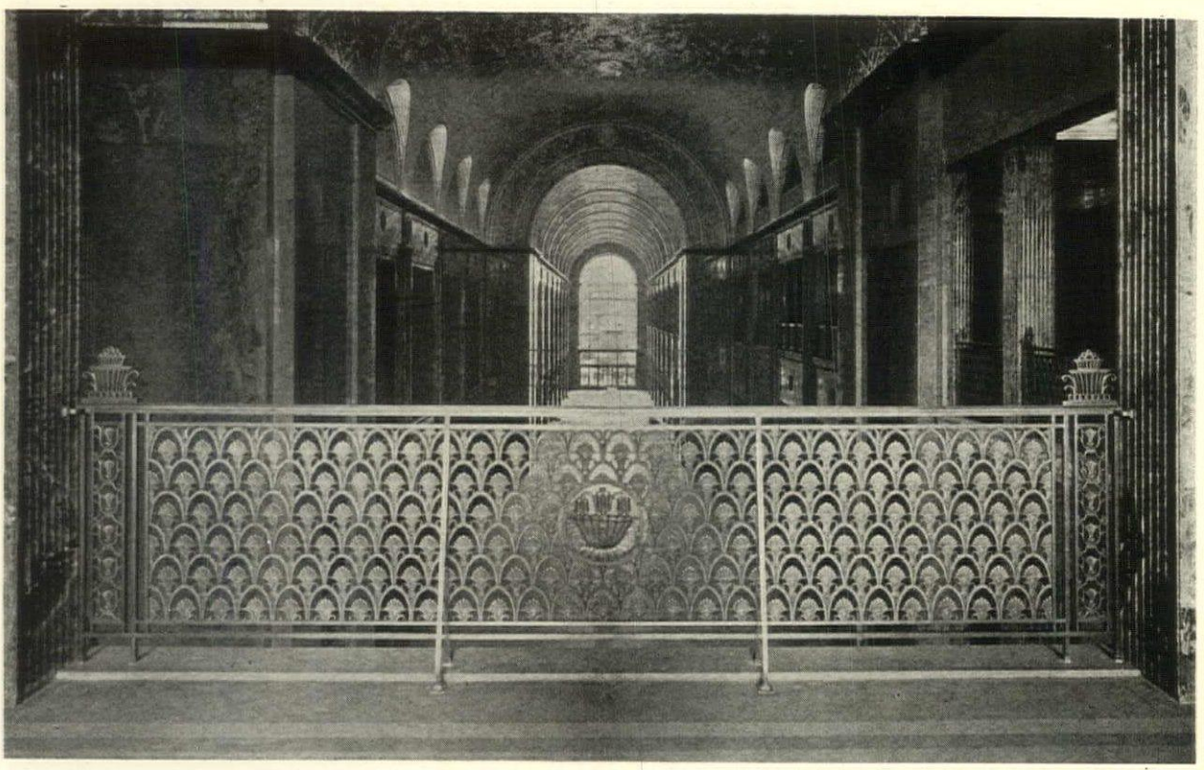
TWO OF A SERIES OF BRONZE INTAGLIO DESIGNS FOR ELEVATOR DOORS BY PROFESSOR MAROTI

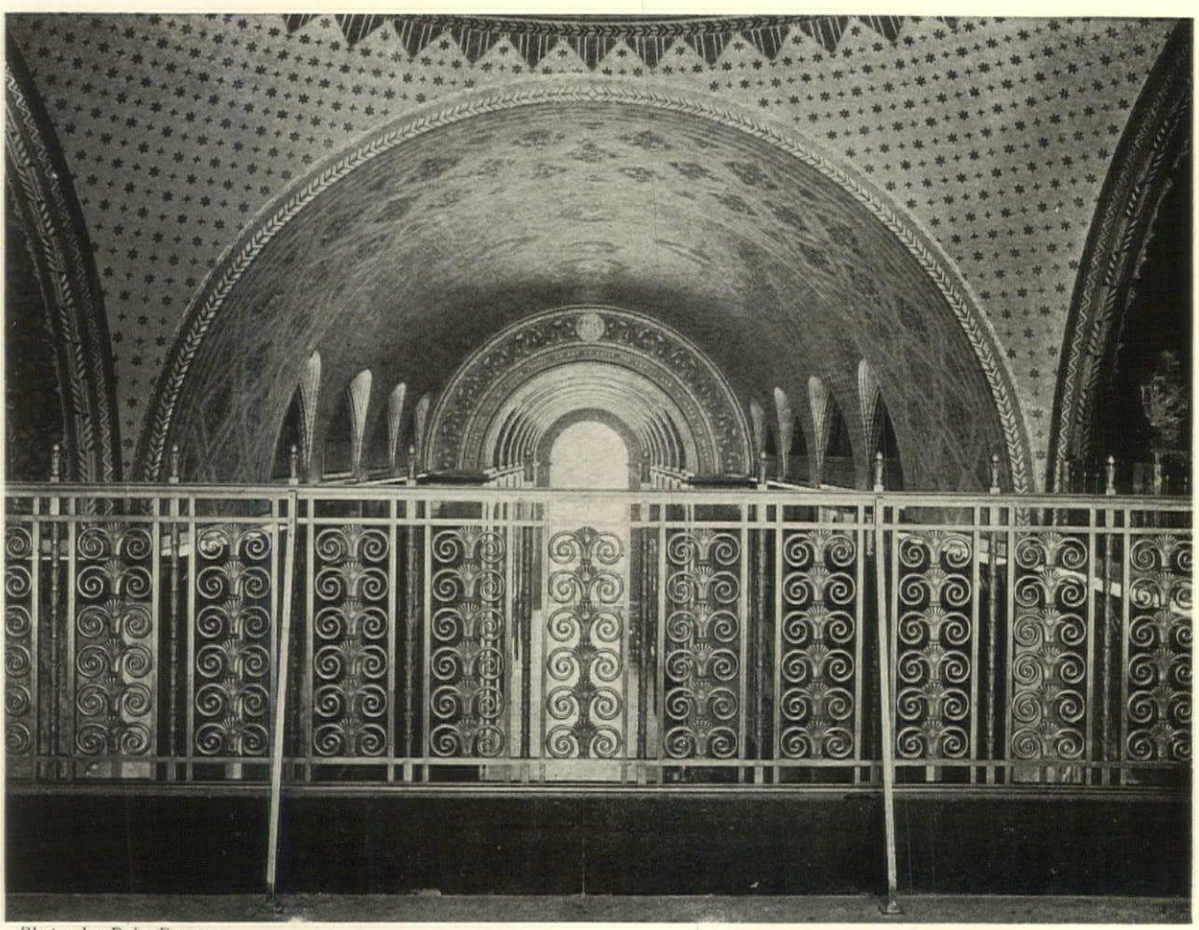
Courtesy Michigan Manufacturer and Financial Record

Photo by Drix Duryea

TYPICAL ELEVATOR LOBBY OF UPPER FLOORS, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS





Photos by Drix Duryea

ARCADE BRIDGE RAILS, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Photo by Manning Bros.

FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

ENGINEERING CONTRIBUTIONS TO THE DESIGN OF THE FISHER BUILDING

ALBERT KAHN, INC., *Architects*

J. MATTE, *Structural Engineer*
S. SAULSON, *Sanitary Engineer*
F. K. BOOMHOWER, *Chief Mechanical Engineer*
J. G. TURNBULL, *Electrical Engineer*

THE site occupied by the Fisher Building was covered by a few feet of top soil under which lay about 10 feet of hard, yellow clay. Below is a bed of blue clay about 130 feet thick, which decreases a little in hardness for about 30 feet as the moisture content increases and is constant in quality for the remainder of the depth. At a depth of 142 feet below the surface there is a bed of good hardpan, varying from 10 feet to 20 feet thick, and farther down are layers of gravel, hard blue clay and hardpan with occasional boulders, soapstone and soft limestone. Good limestone is found at a depth of 266 feet below the surface.

The garage, theatre and north wing of the office building are carried on spread footings. The tower and west wing are carried on open well caissons to hardpan at a depth of 142 feet below the surface, using a bearing value of 18,000 pounds per square foot. These foundations were carried down as a protection against future deep excavations for city subways and because the tower loads require a greater soil pressure than is allowable on clay.

The garage is a reinforced concrete structure with steel core columns; the other parts of the structure are of steel frame construction. To avoid columns in the first story shops and banking quarters, large areas of the 2nd and 3rd floors are hung from a system of girders at the 4th floor, supported on columns located so as not to interfere with the architectural features below.

The floors of the office building are of ribbed concrete, formed with removable metal pans. This had to be combined with solid slabs under service floor trenches where the offices are intended for medical occupancy, and also adjacent to all piers where stonework is carried by cantilever concrete brackets.

Special precautions were taken in supporting the exterior marble and granite and protecting it against cracks. The long, vertical stone mullions, which occur in each bay between windows, are reinforced with steel columns, clipped on to each spandrel beam and supported on deep girders at the fourth floor. At typical piers the floor slab is cantilevered out over the spandrel beams and the stone supported by shell angles carried by adjustable inserts set in the concrete. All stone is anchored back with brass tie rod. In the tower portion lead joints were placed in the stone work at each floor and in the remainder of the building at alternate floors.

The tower is covered with glazed tile wired to angles bolted on the face of precast concrete slabs. Each length of slab is supported top and bottom on horizontal "T" irons 3 feet apart. The "T" irons are bolted to steel rafters spaced about 4 feet 6 inches apart, following the roof slope.

Photo by Manning Bros.

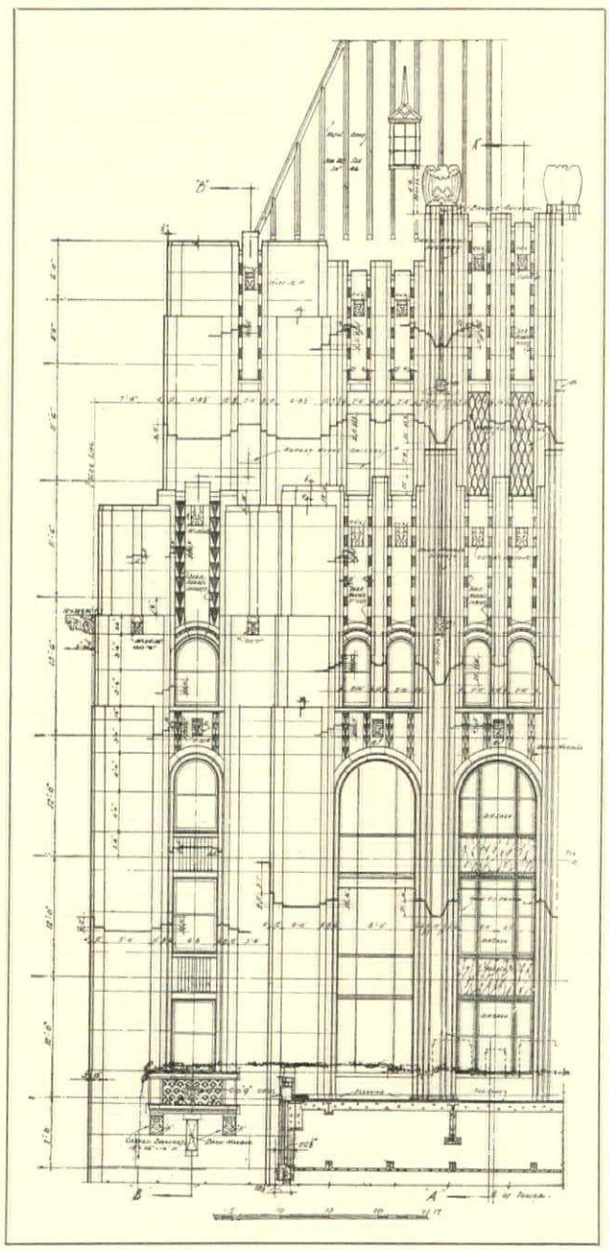
VIEW OF FISHER BUILDING FROM THE GENERAL MOTORS BUILDING

ALBERT KAHN, INC., ARCHITECTS

Balcony brackets shown in upper corners of this page modeled by Ricci & Zari

The wind bracing system for the tower is designed for 15 pounds per square foot wind pressure. Connections of beams and girders to columns in braced bents were made with top and bottom angles where these connections sufficed, and where beam moments were larger, with horizontal half sections of "I" beams with flange riveted to column and web to top or bottom flange of beam or girder. X-bracing and knee braces were found economical where they did not interfere with the architectural treatment.

Changes authorized after steel erection was under way were taken care of in the field. It was found that the least time was lost and the best results obtained by shipping new material to the building without shop fabrication, thus permitting cutting and arc welding in place on the job.



SECOND BOULEVARD SIDE OF TOWER ABOVE 22ND FLOOR

PLUMBING SYSTEM

The pumping equipment and water heaters of the Fisher Building are located in the sub-basement. Provision has been made in the piping and the arrangement of equipment for future pumps and heaters, and the machines installed at this time were selected with a view toward taking care of the ultimate load of the final development.

The machine room is connected by a tunnel under the basement floor to the base of the several pipe shafts which extend up through the building and connect to horizontal pipe spaces located above the 3rd and the 10th floors of the main section of the building, and above the 21st floor of the tower. In these horizontal pipe shafts all distributing mains are located.

The water supply for the building is divided into three systems. Water at city pressure supplies the 1st floor and basement fixtures. Another system of piping supplies all fixtures in the main section of the building from the 2nd to the 11th floors. The high pressure system supplies water to all fixtures and equipment in the tower above the 12th floor.

The hot water system is divided into two sections, corresponding to the medium pressure and high pressure cold water systems. The service to each of these systems is carried through economizers installed on the heating system condensate return line. From these economizers the water flows to instantaneous steam water heaters and then to the distributing mains. The hot water supply mains on the low pressure hot water system are installed in the pipe space above the 10th floor and a circulating main for the system is installed on the basement ceiling connecting to the base of all hot water supply risers. The distributing main on the high pressure hot water system is installed on the ceiling of the 28th floor with a circulating main in the pipe space above the 10th floor. Separate water heaters have been provided for the kitchen and basement cafeteria, for the barber shop and for the laundry, and a separate system of hot water piping has been provided for the garage.

The installation of a central station drinking water system was found to be uneconomical due to the large ground area of the building and individual systems have been installed feeding each vertical row of drinking fountains. Each of these systems consists of a small refrigerating machine, an open type water cooler and circulating pump located in the pipe space above each vertical group

of fountains. The machines for the fountains in the main section of the building are located in the 10th floor pipe space and the machines for the fountains in the tower are located in the pipe space on the 28th floor. An ozone sterilizer has been installed in the tower attic above the highest cooler tank which sterilizes all water used for drinking purposes.

The drainage system for the building is divided into four sections: sanitary, rain water, garage drainage and ejector systems. The sanitary and rain water systems, independent within the area of the building, are connected together just before joining the city sewer. Because of the extent of the system, connections have been made to the city sewer in two places. The ejector systems handle all sewage from the sub-basement and tunnel.

The garage drainage system is independent from the drainage system in the principal portion of the building and carries the waste from all floor drains and wash racks to a large steel settling tank suspended below the 2nd floor of the garage. This tank was designed to catch the mud and other heavy waste and permit it to settle out before the waste water is discharged to the sewer. The location and shape of the tank permits the driving of a dump truck underneath it and the dumping of the contents of the tank into the truck by opening a sludge gate.

All plumbing fixtures, where possible, were kept off the floor. The slop sinks throughout are recessed into the floor so that the rim projects only eight inches above the floor in order to permit of the convenient emptying of the mop tanks used in cleaning.

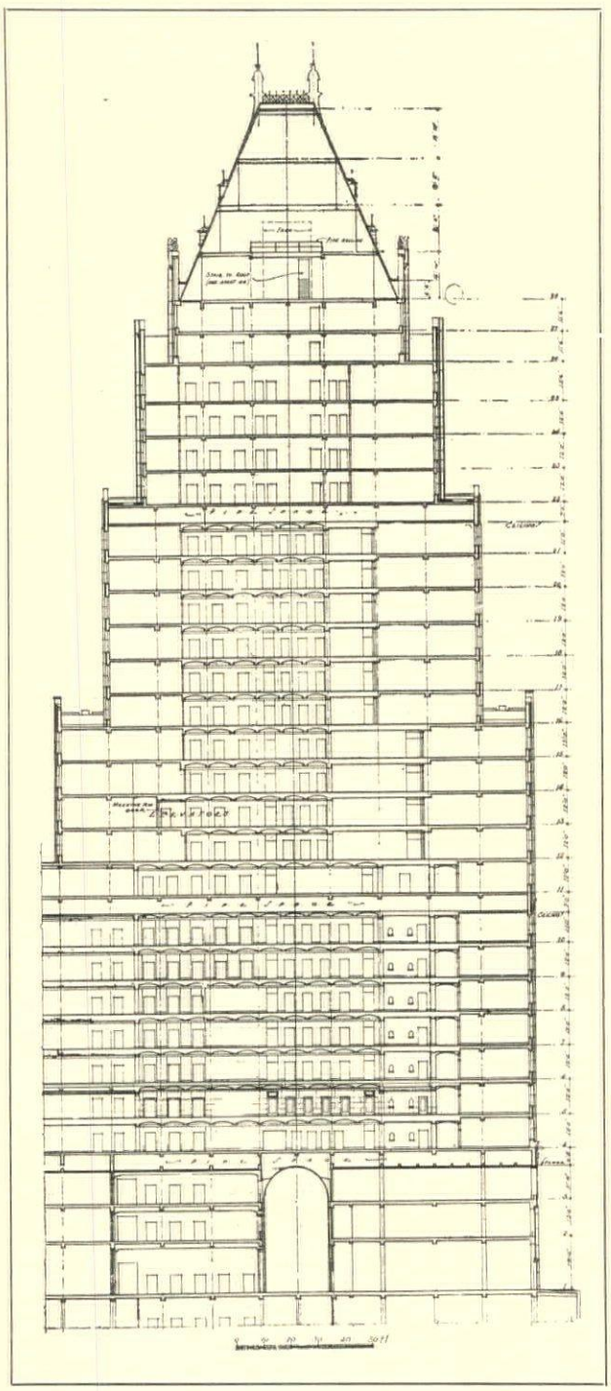
To provide for the needs of the tenants, special piping stacks were provided at each alternate corridor column throughout the building and at more frequent intervals in that wing of the building which was designed for the use of doctors and dentists. In the office section of the building this special piping consists of hot and cold water, waste and vent risers. In the medical wing of the building compressed air and gas risers were provided as well. All of these risers were equipped with tees above and below the floor, so located as to readily permit of the installation of fixtures. Fire standpipes, provided throughout the building, are fed by a fire pump installed in the machine room. At each floor on each standpipe riser is installed a hose rack with seventy-five feet of 1½ inch hose.

A very complete system of piping was installed on the top floor of the garage for washing cars. This consists primarily of high pressure pumps taking suction from especially designed tanks in which soap is dissolved, and delivering water through a hose atached to a swiveled overhead garage washer.

HEATING SYSTEM

The building is heated by a vacuum steam heating system supplied with steam from a central heating company's street mains.

A 16-inch service has been brought into the building which is of sufficient capacity to serve future, as well as present, units. Steam is delivered

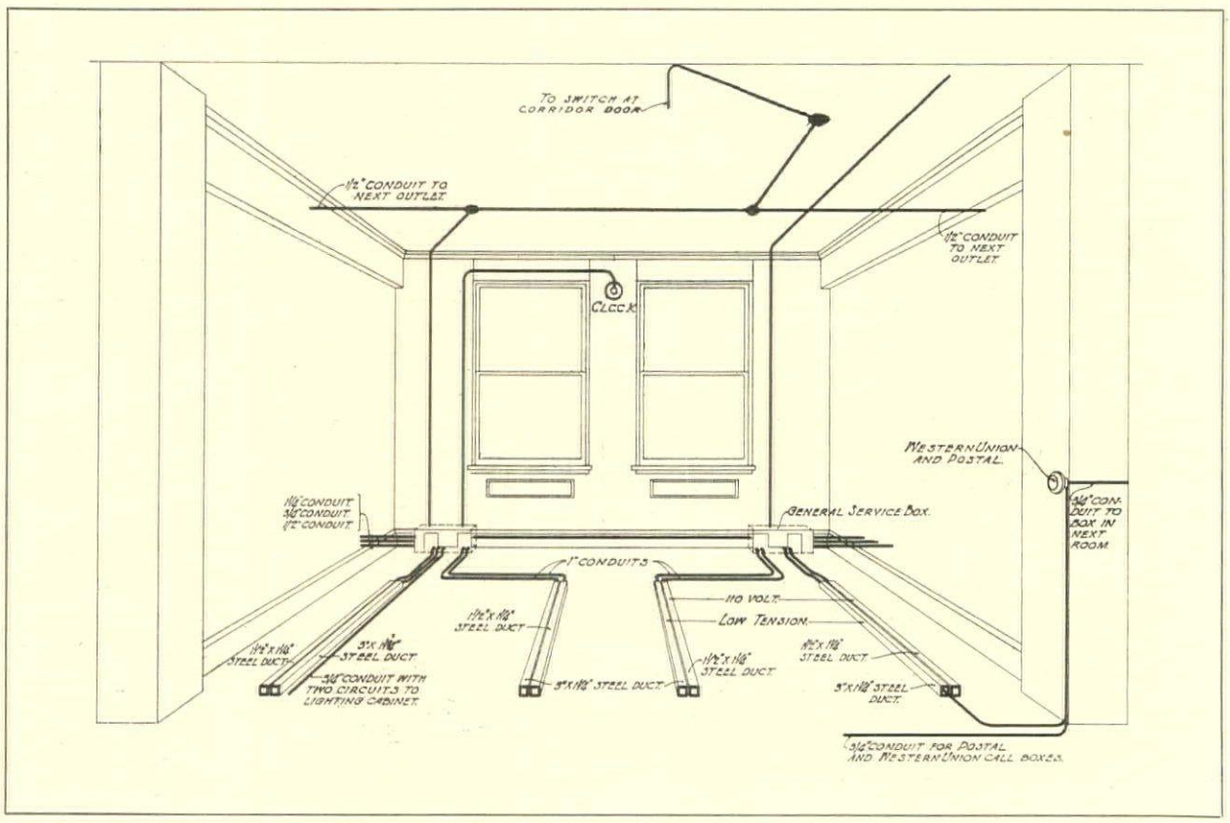


SECTION THROUGH TOWER LOOKING NORTH

into the building at approximately 15 pounds pressure and is reduced to the required pressure for heating. Separate systems have been provided to meet the varying needs of tenants and to limit the expansion of the risers in the building. A separate main has been provided for supplying the stores on the 1st floor, and an independent section of this main has been provided for the bank. Another system has been provided for the shops on the 2nd and 3rd floors, with a steam main installed in the pipe space above the 1st floor and the returns on the basement ceiling. The remainder of the main section of the building is fed from two systems; one for the office section and another for the professional wing, with the steam mains in the pipe space above the 10th floor and the returns collected in the pipe space above the 3rd floor. The tower is heated by a main located in the pipe space above the 21st floor feeding up to the radiators on the 22nd floor and above, and down to the radiators on the 12th to 21st floors, inclusive. The return mains for the radiators above the 22nd floor have been installed in the pipe space below this floor and return mains for the radiators on the lower section of the tower system have been installed in the pipe space above the 10th floor. Independent systems of heating and ventilating have been provided for the theatre and for the garage.

The return mains for these various systems are collected in the tunnel and carried back to the vacuum pumps in the machine room. The discharge from the vacuum pumps is connected through economizers on the domestic hot water supply system. A high pressure system of piping has been installed for supplying steam at service pressure to the laundry and kitchens.

A feature of the heating system is that all radiators are of copper and are concealed in the thickness of the wall. All radiators are controlled by direct control thermostatic valves with an extension handle for hand regulation.



ELECTRICAL INSTALLATION IN TYPICAL OFFICE

The garage is heated by means of unit heaters, a number of which are arranged with connections to the outside so they may supply air for ventilation when needed.

On each riser in the building, in addition to the customary hand valve, there has been installed a pneumatic valve controlled by means of an air switch located in the engineer's office in the machine room which permits the turning on and off, in groups, of these risers. This will permit heating small sections of the building when desired and will permit the control of the heating system to correspond with varying weather and wind conditions.

VENTILATION

The ventilating of the building is provided by forty motor driven multi-blade fans grouped in seven fan rooms. Separate fans are provided for each section of the building requiring ventilation at particular times. All air supplied to the building is filtered through self-cleaning automatic oil filters. Filters are also provided for the air exhausted from the kitchen and for the gases from the fireplace flues.

Ventilating units supplying the cafeteria, barber shop and bank area are equipped with air washers and cooling coils. The refrigerating equipment for the air cooling system consists of carbon dioxide compressors and auxiliaries located in the sub-basement. Provision has been made for recirculating a certain percentage of the air from the cafeteria, barber shop, bank and arcade, and ozonizers have been installed to partially revivify the air in these systems when operated for recirculation.

An extensive system of remote control has been provided for the ventilating system. Each fan motor, washer motor, coil valve, intake and discharge pump can be operated by a push button located at the fan unit or at a main control board in the engineer's office. Complete ventilating and air conditioning equipment maintains a uniform temperature in the theatre at all seasons of the year.

ELECTRICAL INSTALLATION

Primary service at 4,600 volts, three phase, 60 cycle, is purchased from the local power company, whose leads are extended from the street underground to the primary switch room, where it is metered and distributed to the various transformer banks. From the primary switches, cables in duplicate are extended underground and up through specially constructed shafts to each of the transformer banks. Transformers are located on the low sections of the roof. By so locating the transformers, a great advantage was obtained in that the large number of conduit runs so necessary to a building of this type were eliminated from the basement, thereby making this area desirable for rental space and utilizing the pipe space directly under that section of the roof for conduit run purposes; in addition, space in all pipe shafts was conserved and the area of the pipe shafts commonly used for conduit was made available for ventilation. Three transformers for power and three for light were provided at each bank. The power and lighting switchboards are located in a room adjoining the transformers so arranged as to require the shortest possible copper run. From the switchboard secondary feeders for both power and light are extended to the various load distributing centers and floors throughout the building.

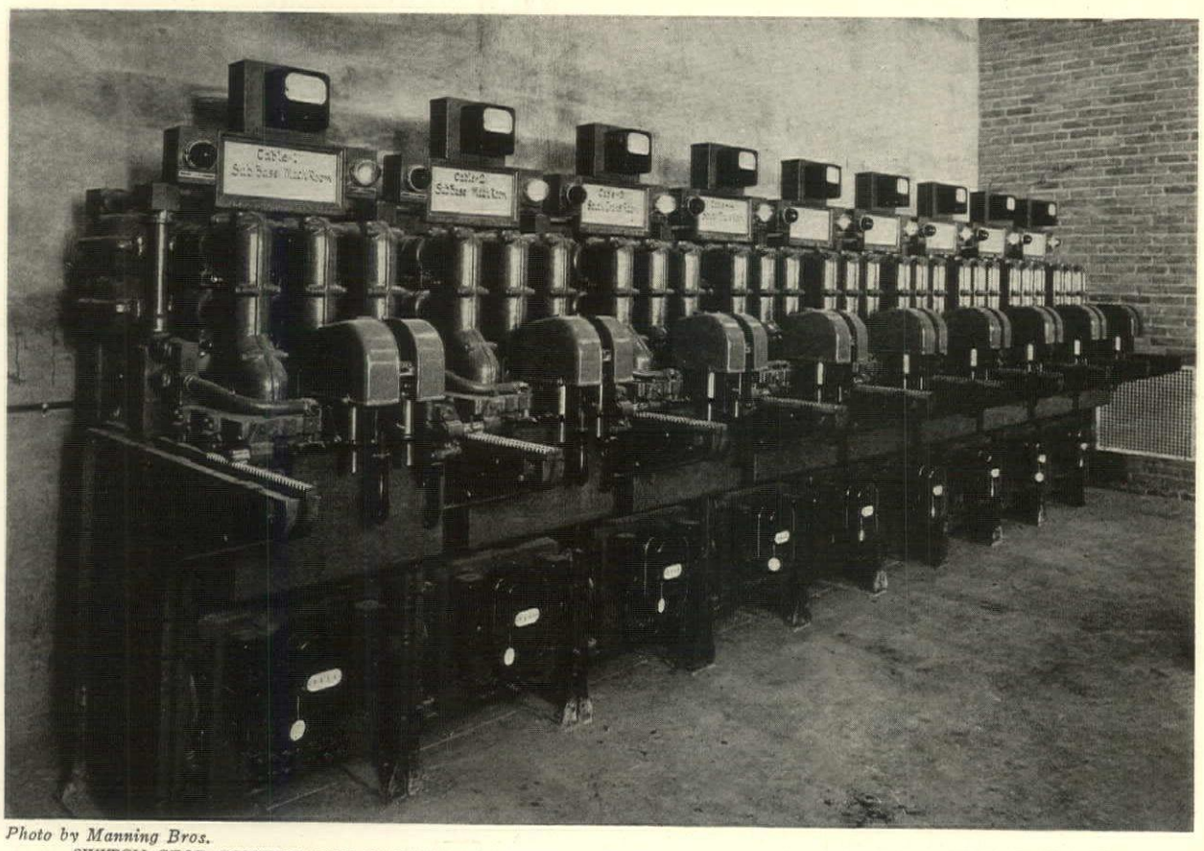


Photo by Manning Bros.

SWITCH GEAR CONTROLLING PRIMARY CIRCUITS. NOTE THAT ALL PARTS ARE COMPLETELY ENCLOSED

Apart from the special lighting, every effort was made to effect a typical layout that would be flexible enough to eliminate as far as possible changes in outlet locations to accommodate tenant layouts. This was accomplished by coördinating the layouts of the lighting conduits and outlets, the underfloor duct system and the service boxes in such a manner that any part, or the whole, might be used either for lighting, switch legs or special lights, or power outlets.

The cove lighting of the arcade and elevator lobbies is so designed and arranged that various degrees of intensity can be obtained, each cove being sectionalized and controlled by remote control switches at a control station.

The "flood lighting" consists of banks of projectors located in each of the "set-backs" of the tower section of the building. In all, about 550 specially designed projectors are used. The flood lighting units are automatically time controlled.

WATCHMEN'S AND FIRE ALARM SYSTEMS

Fire alarm and watchmen's stations are connected electrically to recording apparatus located in the supervisor's office. Signals for the fire alarm and watchmen's stations record on separate instruments; each fire alarm and watch box is so coded that the supervisor can recognize the exact location from which the signal is received. All stations are provided with telephones so that the watchman can communicate with the supervisor or the reverse. Fire alarms from any box in the building record in the supervisor's office and are not connected direct with the city system, but allow some discretion to the building management as to whether or not the city apparatus should be called. All watch boxes are equipped with pilot lamps for signalling the watchmen either individually or in groups from the supervisor's office. The recorders are of the punch tape type and are located in the supervisor's office on the 4th floor and the Chief Engineer's office in the basement.

TELEPHONE SYSTEM

The main telephone distributing power and battery room is located in the basement, from which underground conduit extends to the various risers and to points in the basement for extension to the future units.

The main distributing frame has twenty-seven verticals with a capacity of 15,000 pairs. Nine 4-inch ducts lead from the street to the frame rooms.

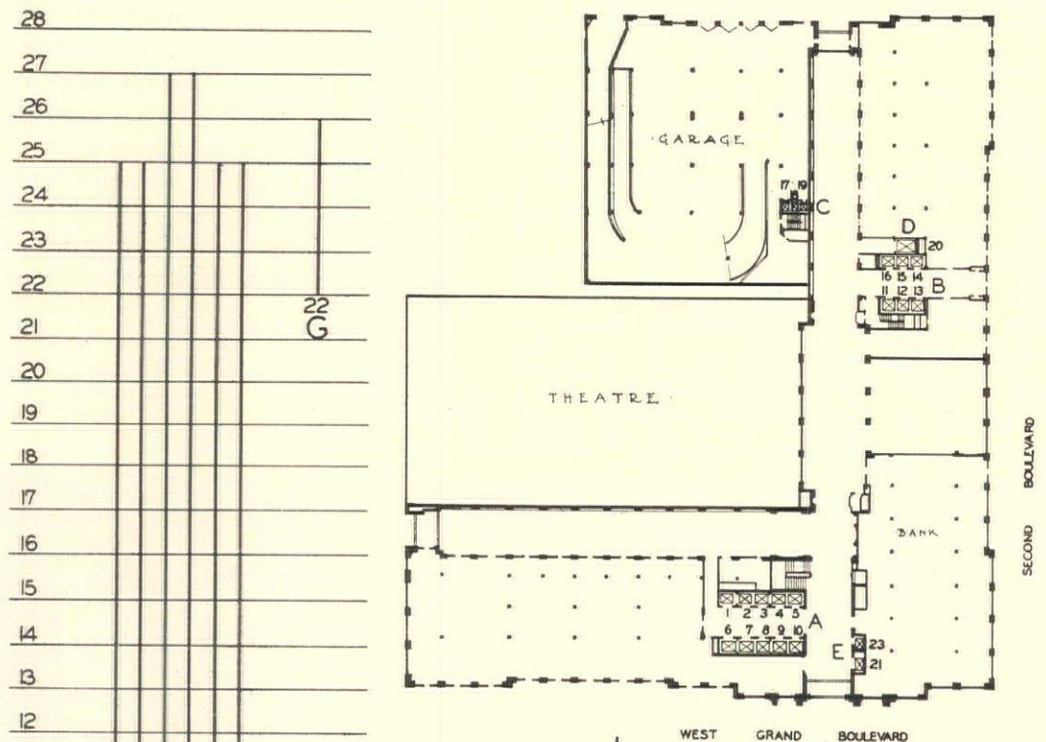
At present two 1200-pair underground cables connect the central office and the main distributing frame, making a total of 2400 service pairs, of which 500 are terminated on the frame and 1900 are spliced direct to the floor cross-connecting terminal as "direct feeders." This eliminates excessive jumpering or cross-connecting on the main distributing frame.

Provision has been made for the distribution of the local or office telephones through the system of underfloor ducts and general service box. The telephone strip cabinets are located above the service box and connected to it by means of rigid conduit. The underfloor duct system for telephones is entirely separate from the duct system for electric service. The utilization of the individual underfloor duct system and service box has eliminated all wall plugs, the carrying of wires in cross walls and the necessity of wire moulds. At the same time telephones may be placed where desired.

ELEVATOR EQUIPMENT

The signal equipment of the elevator installation includes the following features: a preregistered signal system which registers a signal to stop by means of a red bullseye light in the cab when the elevator is in motion—when the elevator is stopped and a call is registered two floors away in the direction of travel the same red light will indicate, and if one floor away a similar green light will indicate; up and down lanterns with single stroke bell at each floor above the first and an illuminated signal above each first floor door when the car is ready to receive passengers; and an automatic despatching system operated from a despatcher's desk. From this point the despatcher is given the location of each elevator, all floors at which calls have been registered and an indicator showing when an operator is using the by-pass or signal cutout switch. The despatcher can also cancel the calls for any elevator and increase or decrease its speed to meet schedule requirements, start or stop the motor generator set for any elevator motor, transfer signals from local to express or vice versa to elevators No. 3 or No. 8, or both. He may also telephone to any elevator cab, each pent house or chief engineer's office. The night service cars No. 3 and No. 8 are also so connected at night that the operator may telephone to any part of the building.

The call buttons in the elevator corridors constitute an unusual feature as they are mounted in an ornamental bronze standard, which is located centrally on the floor between the two banks of elevators, thereby making a minimum of travel for a waiting passenger after having given the signal.



FIRST FLOOR PLAN

ELEVATOR RISER DIAGRAM

Bank	Numbers	Number in Bank	Capacity, Pounds	Speed, Ft. per Minute	Car Size	Hoisting Machine	Current	Service	Note
A	1–10	10	3000	700	7′-4″ x 5′-10″	gearless	variable voltage from motor generator set	Tower section	
B	11–16	6	2800	500		gearless	variable voltage	Professional wing	
C	17–19	3	2000	500		gearless	variable voltage	Garage	Automatic push button
D	20	1	5000	450	5′-8″ x 12′-0″	gearless	variable voltage	Freight	
E	21–23	2	2900	150		geared two speed	alternating		
F	24–25	2						Bank, passenger and coin lift	Full automatic
G	22	1	1700	345		gearless	variable voltage	Private	

All power service to elevator equipment is 440 volts—3 phase—60 cycle—3 wire.

ELEVATOR INSTALLATION, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

Elevators Nos. 17, 18 and 19, located in the garage, are arranged so that if only one elevator is in service it will park at the 1st or 11th floor, as desired, and will respond to calls registered on intermediate floors. With two cars in service one will park at the 11th or top floor and the other will park at the 1st floor. When a call is registered at an intermediate floor, both cars will respond making a trip one way and park, remaining 180 degrees apart in the round trip cycle.

Each car, after parking or stopping at a terminal, will respond to a call stop at other floors where calls have been registered for passage in the direction of travel, the same as though being handled by an operator. Each of these cars may be isolated from its interconnection with the others and operated independently.

A position indicator is placed over each elevator door on the 1st floor. The doors are operated with side arm type pneumatic operators which operate as follows: when cars are standing or parked the car gate and the landing door will remain open until a call is registered. The gate and door will then close after which the car responds to the call and after reaching the floor both gate and door automatically open. After an adjustable time interval has elapsed the door and gate automatically close and the elevator will complete its trip.

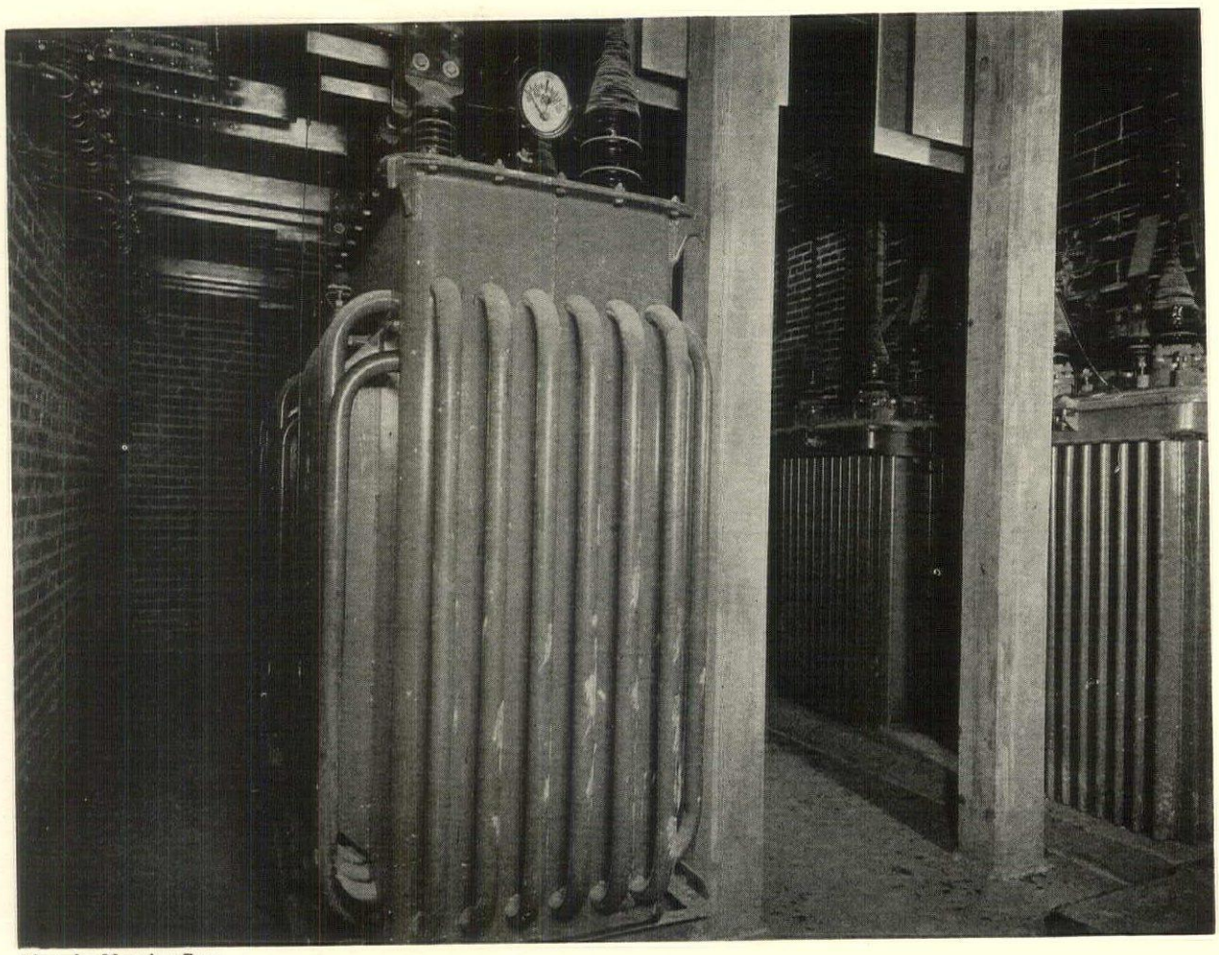


Photo by Manning Bros.

TRANSFORMER ROOM, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

EDITORIAL COMMENT

FIFTY years ago the proposal to build a boulevard around the City of Detroit, three miles from the City Hall, met with vigorous opposition because a vision of Detroit having a population of more than 150,000 seemed absurd beyond words. Less than forty years ago the boulevard—Grand Boulevard—became a reality as a gravel drive intended primarily for "gentlemen with fast horses and teams," in other words, a speedway for trotters and pacers. Today, Grand Boulevard and Second Avenue mark a new business center of Detroit.

Woodward Avenue, long a main thoroughfare to "uptown" Detroit, is paralleled by Second Avenue, hardly less important. Second Avenue has an offset at Grand Boulevard. The intersection of the two thoroughfares for this reason presented an unique building site that permitted the tower of the Fisher Building to be placed on the axis of the Second Avenue offset. The architects grasped the opportunity thus afforded to develop a type befitting so commanding a site.

From a distance, the Fisher Building looms skyward as a mass of masonry that is interesting in both mass and color. Upon more intimate observation the building presents a dignified composition as well. While one may assume that the facade is a gridiron of masonry and windows, the fact is not forced upon the observer, so skillfully has the handling of the exterior been accomplished.

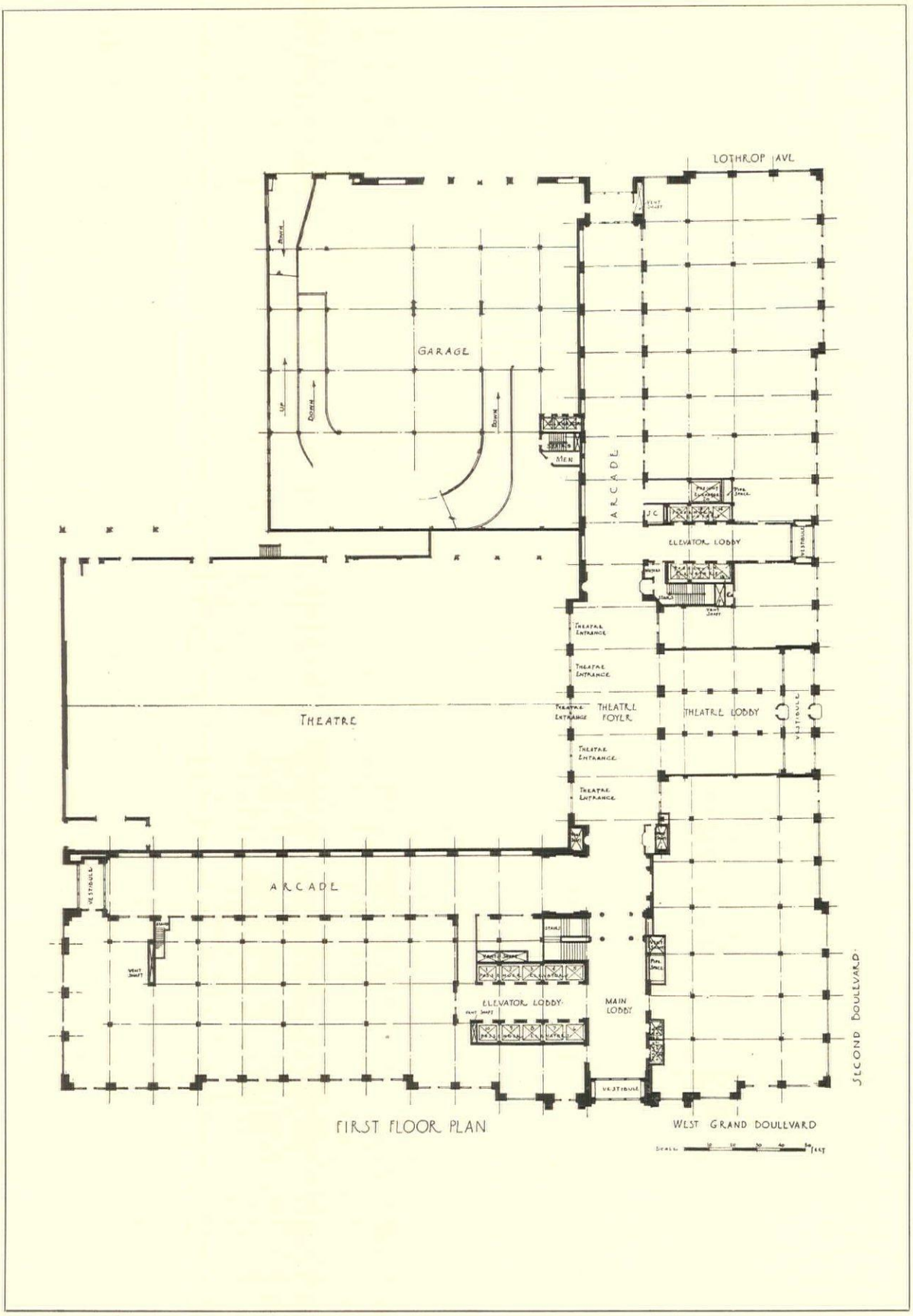
Unlike the average office building of monotonous flat wall surfaces and numerous windows of uniform size and spacing, the Fisher Building presents an example of a commercial structure wherein the window openings have been rationally grouped and the wall surfaces have been broken up into planes and panels with reason. Here one sees what is, after all, an enormous facade handled in a masterly way.

If the average building tells all its story at first glance, this building will bear looking at many times and yet leave room for further discoveries. As a reaction from the use of severely bald walls and mouldings, barren of interest to the eye, one gradually discovers that the vertical movement of the design has been accentuated by well disposed ornamental details. Not meaningless details for the sake of ornamentation, but forms that are not only symbolic but more or less essential to the composition or design as a whole. In the detail itself, one observes a remarkable variety that is indicative of the thoughtful attention that was put into its conception. If the design is full of interest, almost to overflowing, it is at once apparent that restraint has been a guiding hand. We question whether the most careful analysis of the design would disclose a serious error.

While the exterior cannot be said to lack color, it is gray and neutral when compared with the colorful treatment of the ground story arcade and theatre lobby and foyer. Without the restraint of cost limitations and given an opportunity to make use of numerous materials, it is an easy matter to obtain a bizarre and garrish result devoid of refinement and good taste. It is much to the credit of the architects that the result achieved in the Fisher Building possesses the quality of a beautiful painting secured through the judicious use of numerous colors and the combination of materials.

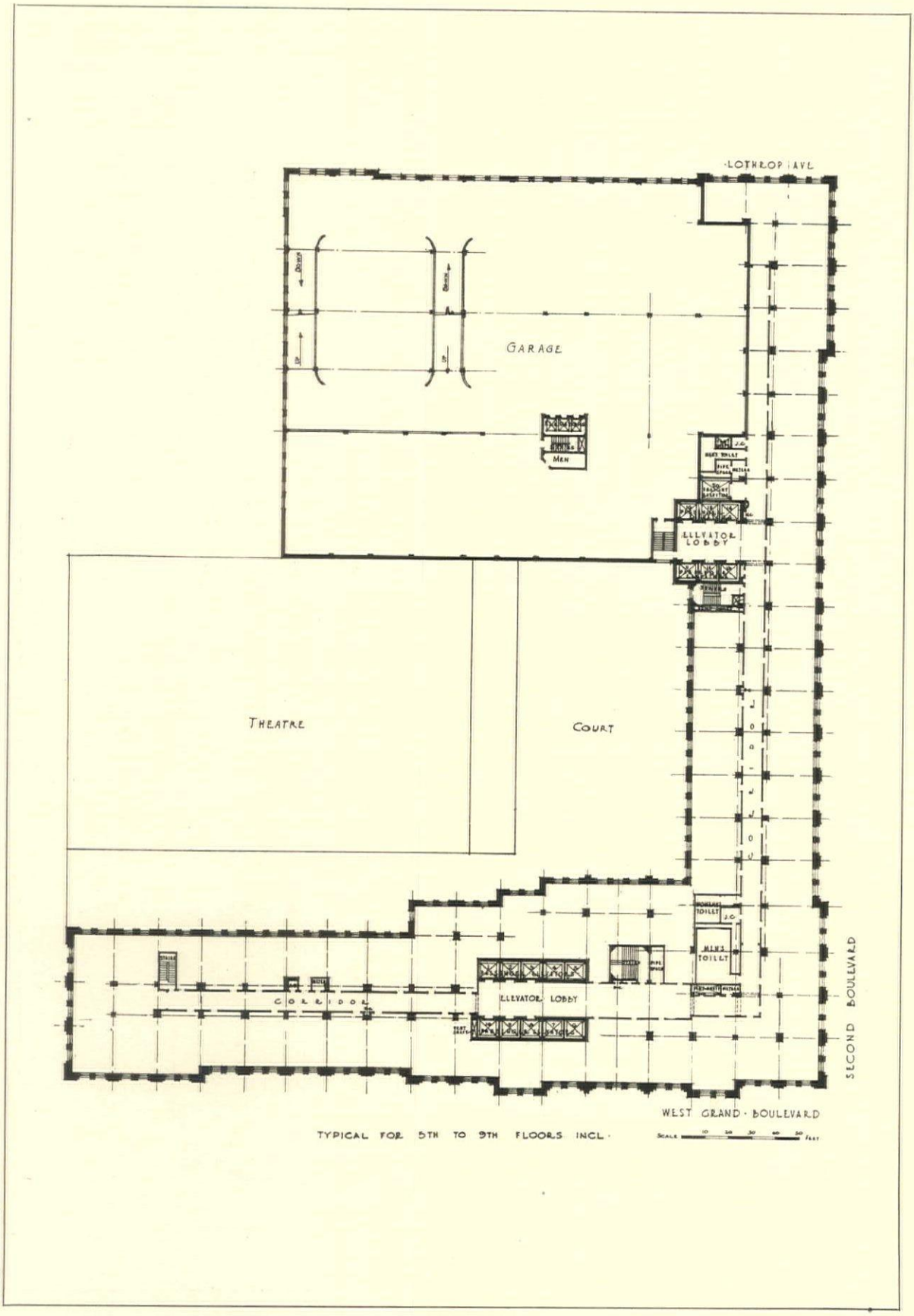
Impressed by the result obtained, we made inquiry as to what materials had been used and learned that the floor is of Travertine with inlays of various red, brown, yellow and green marbles: wall base–Belgium Black; wainscot–Pyrenees Black and White, Marion Gray and Darosa Vein; wall–St. Genevieve; and pilasters–Yellow Safra, Benou Jaune, Escalette, Escalette Breche, Breche Oriental, Darosa Vein, Light Famosa, Dark Famosa, Rouge Rojé and others of similar character. The theatre lobby has been treated with Belgium Black, Roman Breche and Onyx. The trim around elevator doors is Levanto marble. The ceiling in the vestibule is St. Genevieve marble; the main arcade, richly painted murals; theatre lobby, painted plaster panels; and elevator lobbies, gold leaf. Bronze has been discreetly used for elevator doors, pilaster caps, floor inserts, grilles and railings. The effect is decidedly pleasing to the eye, rich and warm, yet refined and knowingly handled in a simple, direct manner.

To erect a large office building in a newly developed business center was in a measure a pioneer adventure. The structure as completed at this time represents about one-third of the building ultimately contemplated. The present vision is a second unit duplicating the first and a large tower dominating the whole as the third unit. Either singly or as a part of a building to be, the Fisher Building is one of the outstanding buildings erected in 1928.



FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



FISHER BUILDING, DETROIT, MICH.

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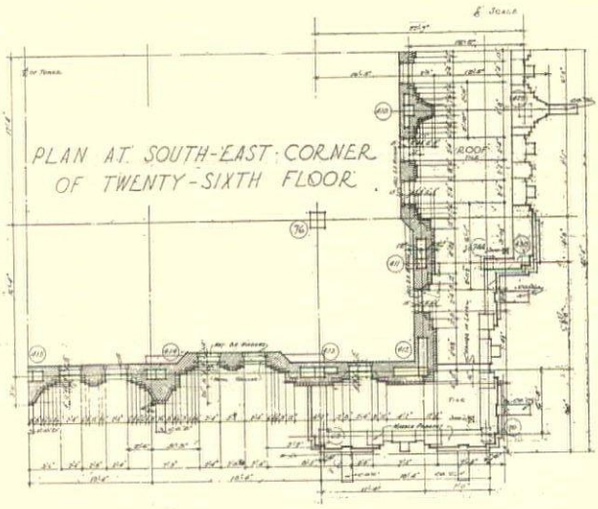
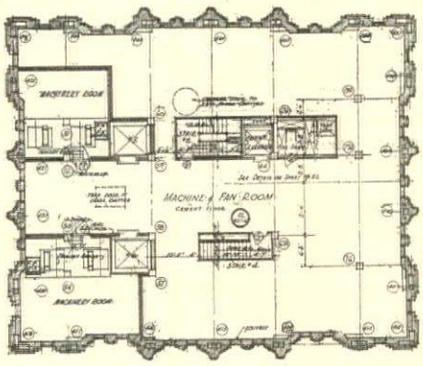
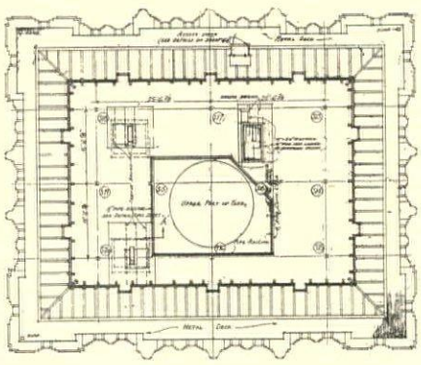
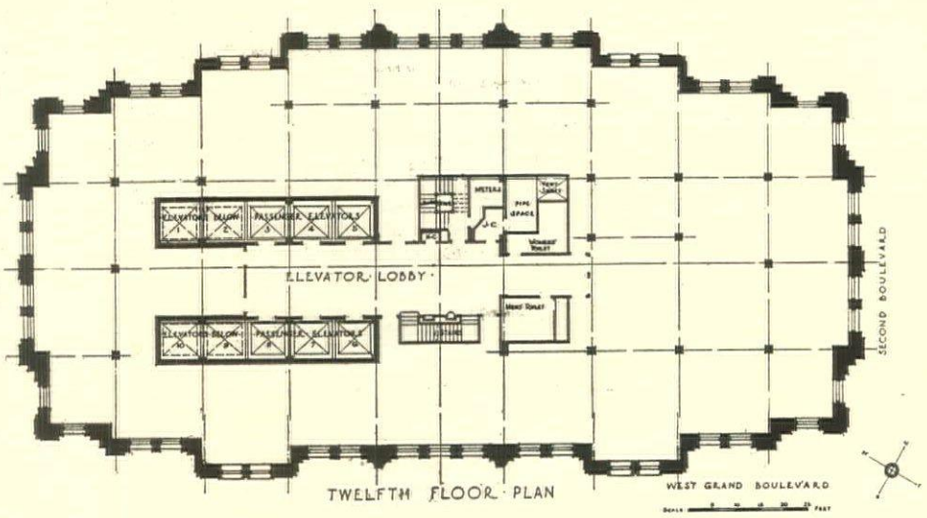




TWENTY-SEVENTH FLOOR PLAN



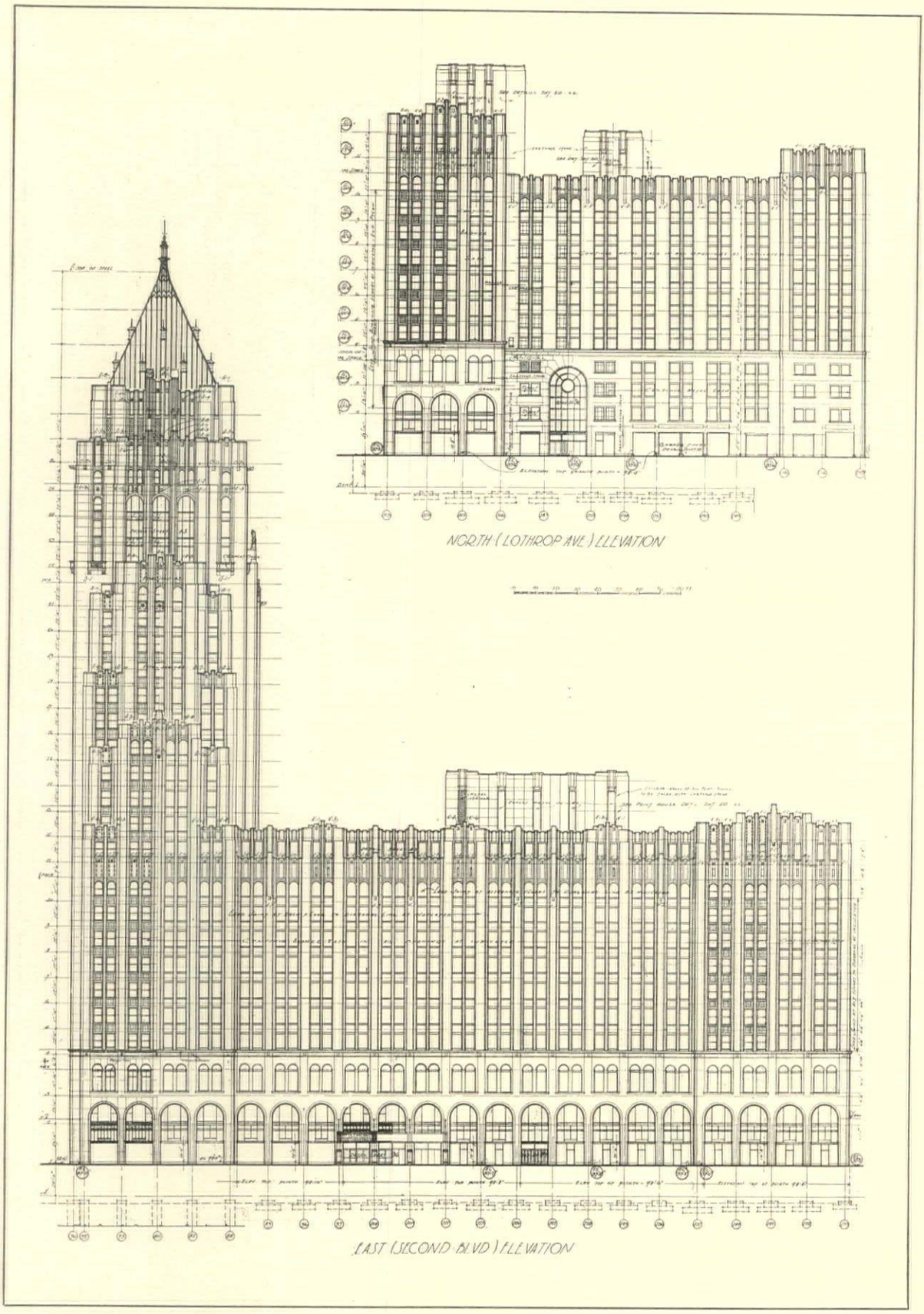
PLAN ABOVE PARAPET WALL



TWELFTH FLOOR PLAN

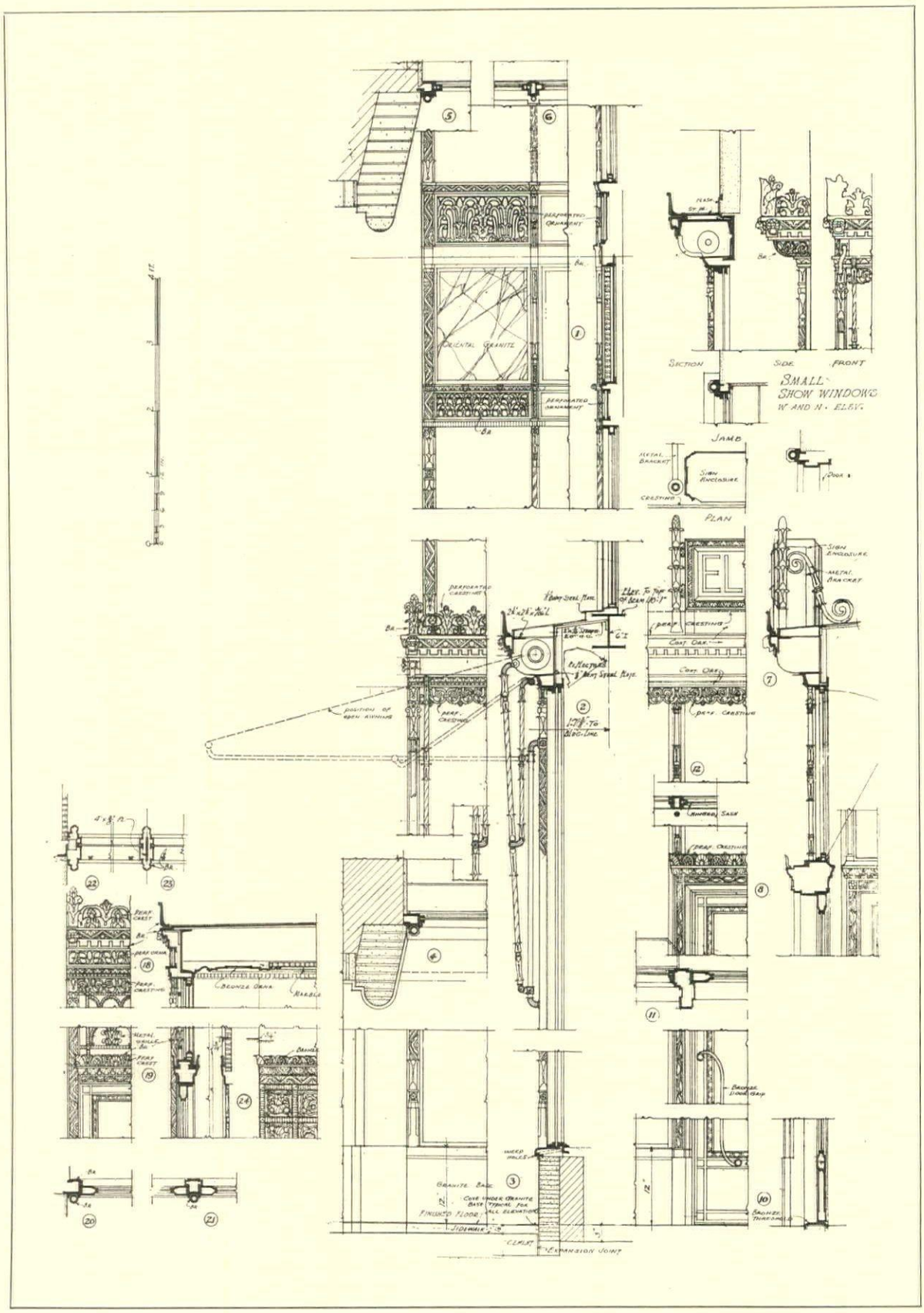
FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



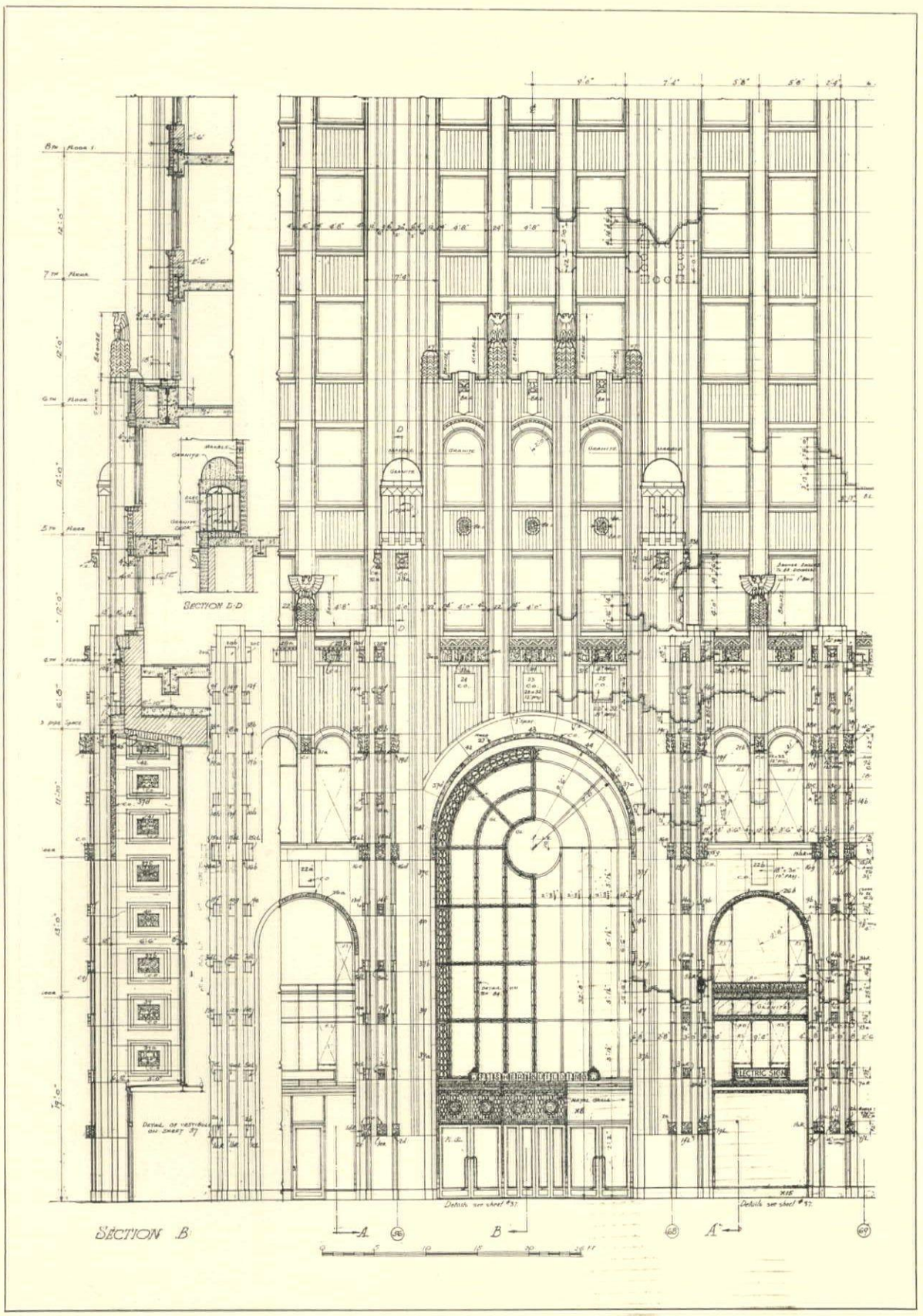
FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



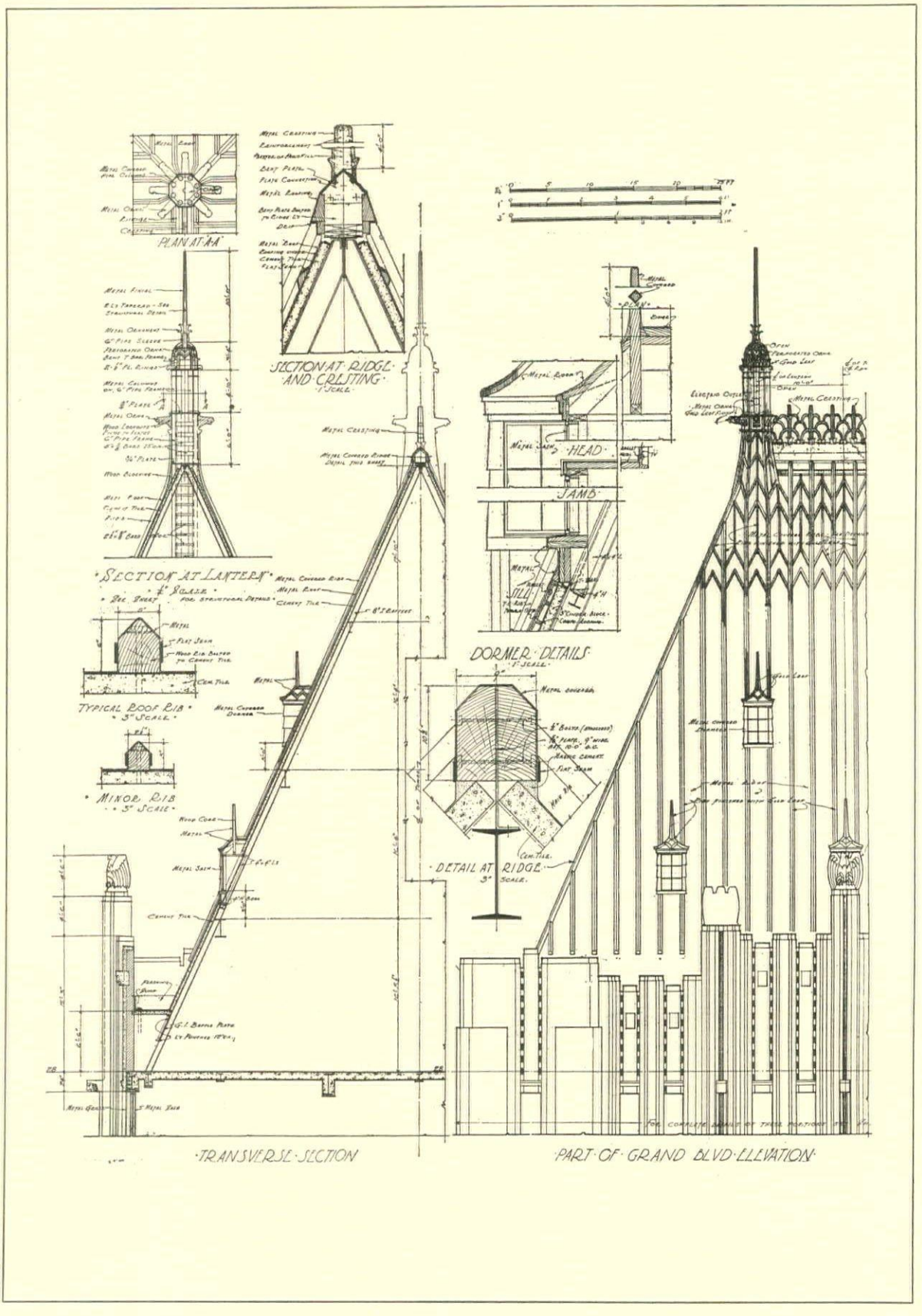
SHOP WINDOW DETAILS, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



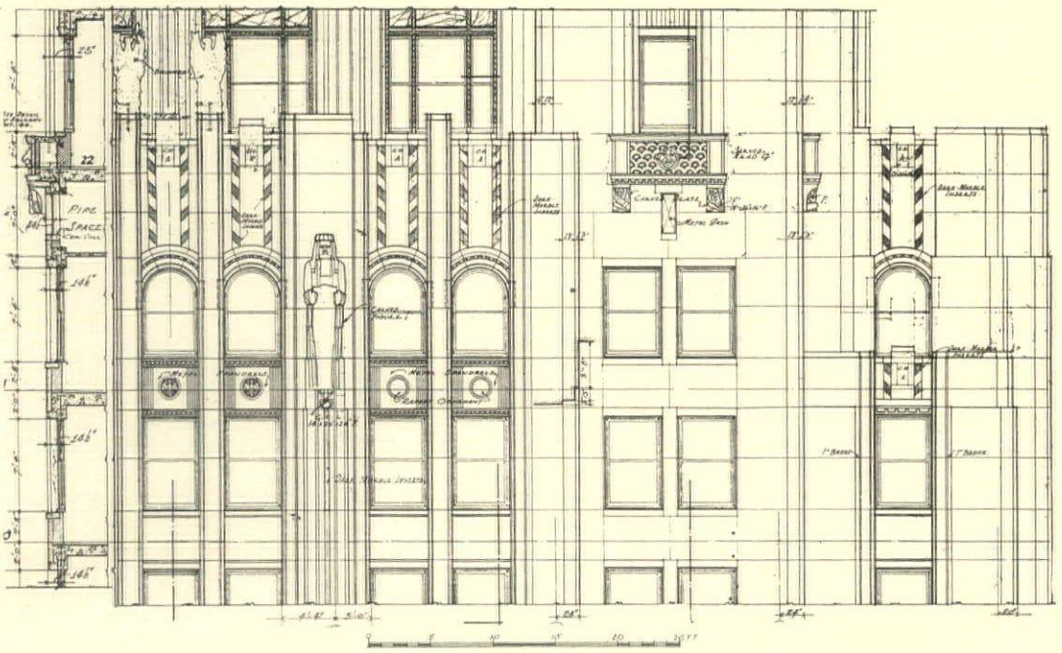
DETAIL OF GRAND BOULEVARD ENTRANCE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

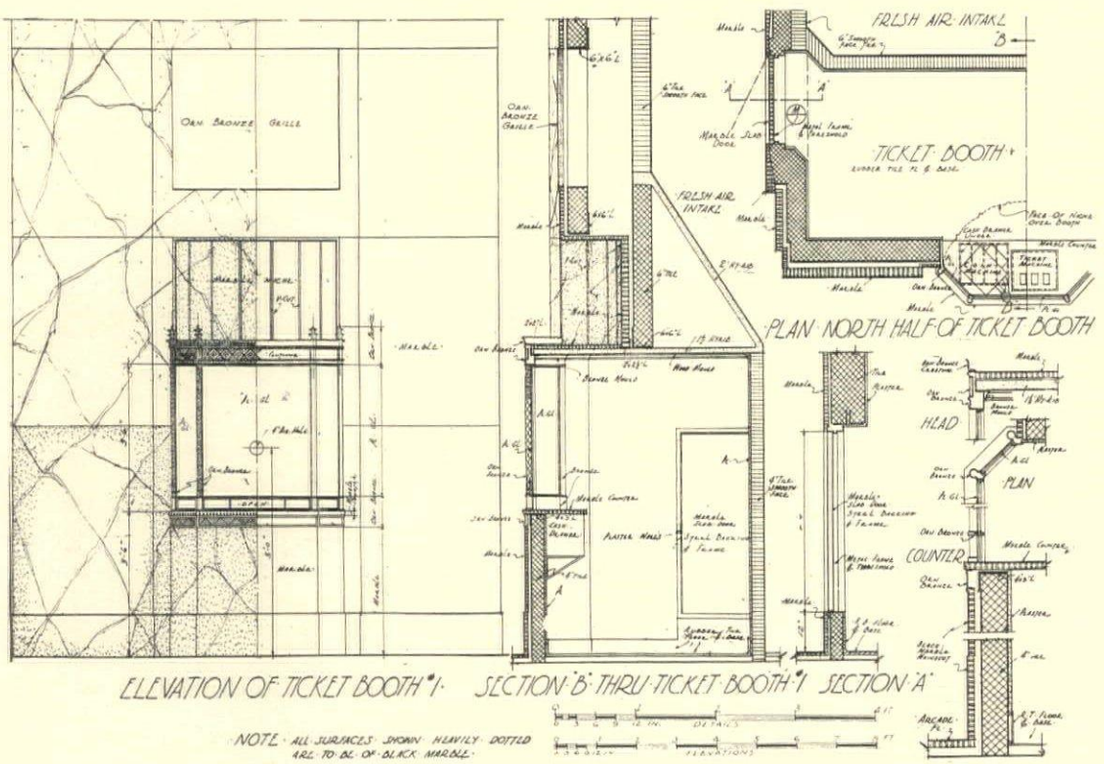


DETAILS OF TOWER ROOF, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

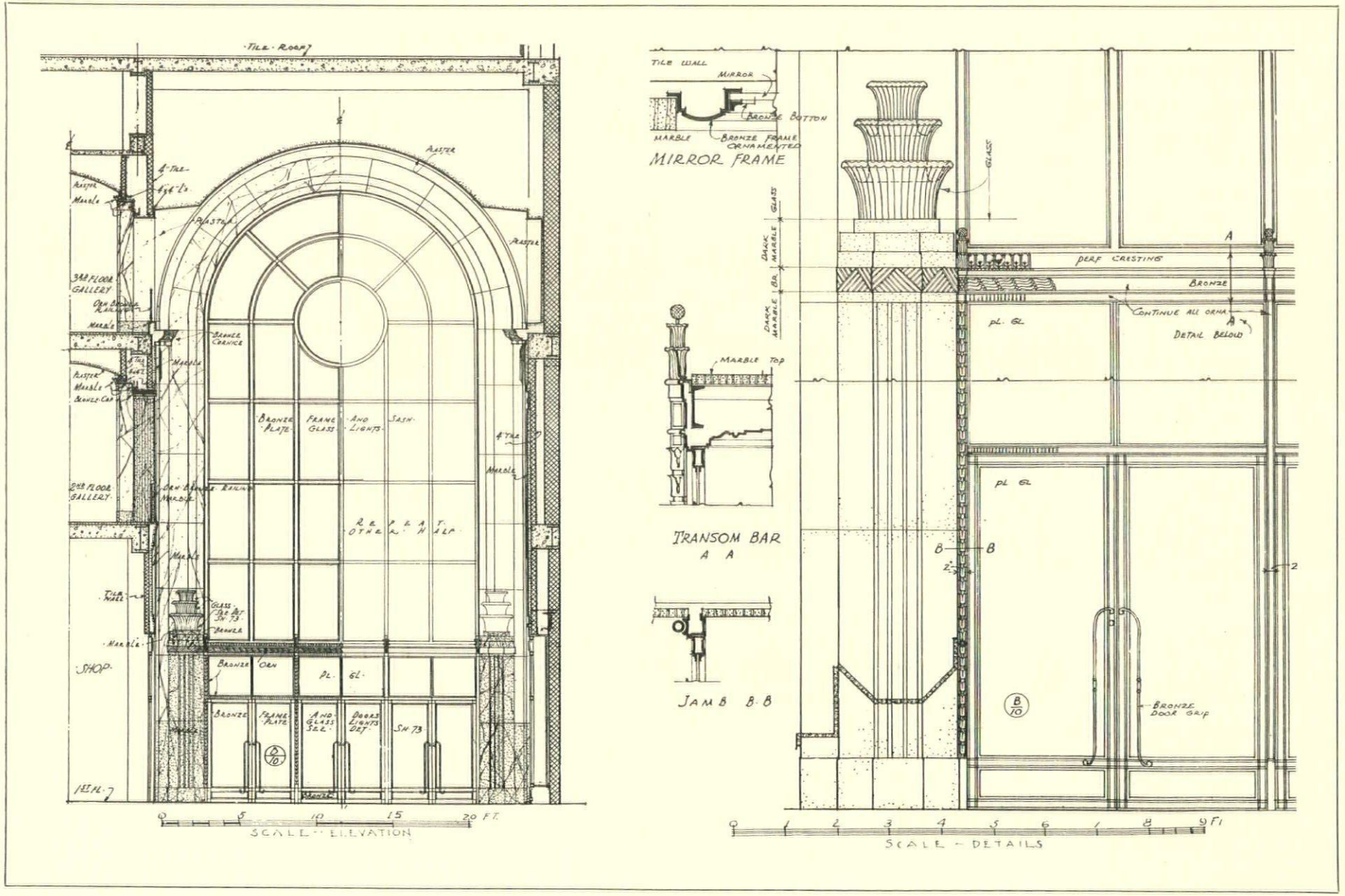


NORTH ELEVATION OF TOWER, 20TH TO 22ND FLOORS



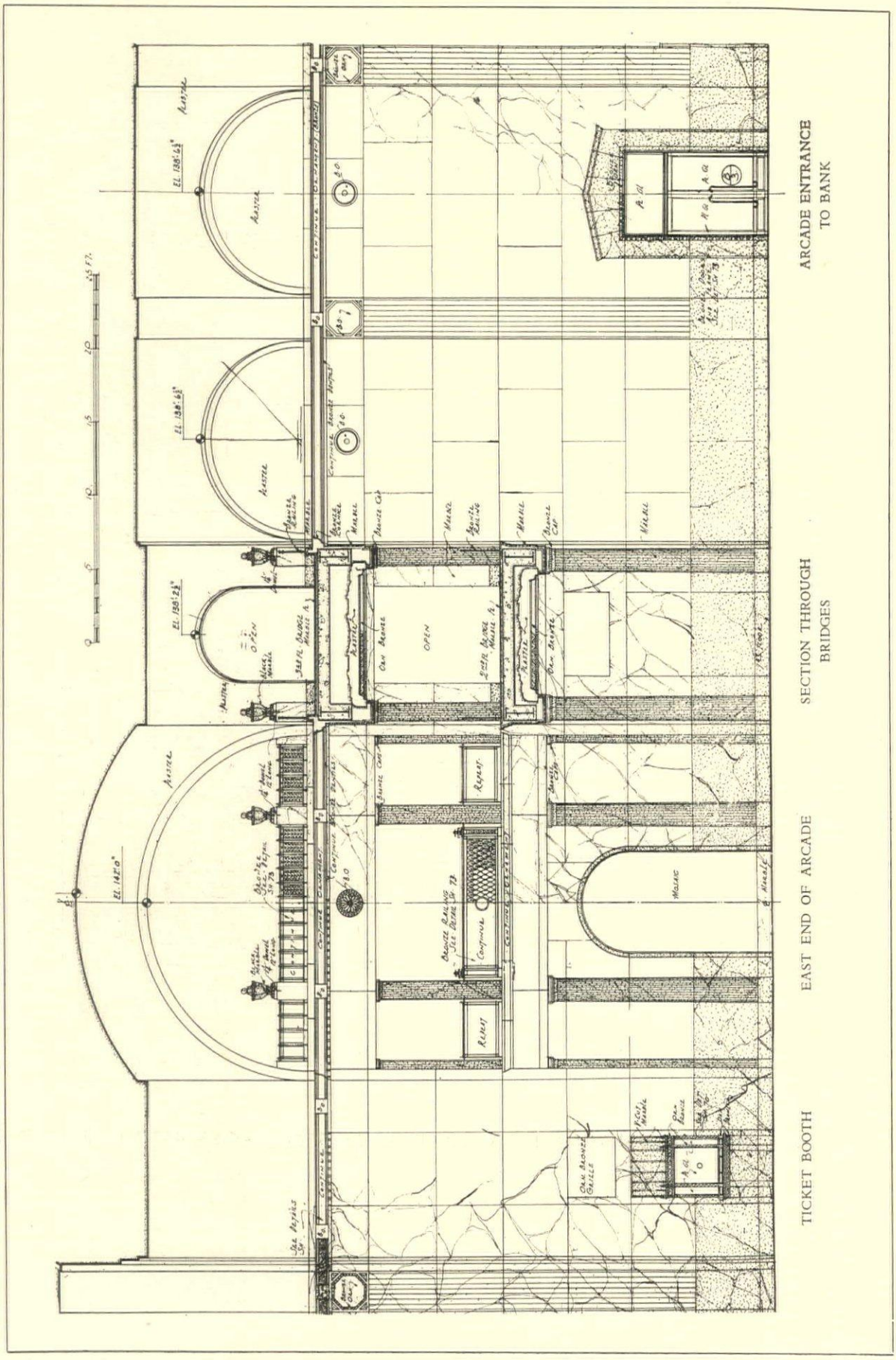
DETAILS OF THE FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



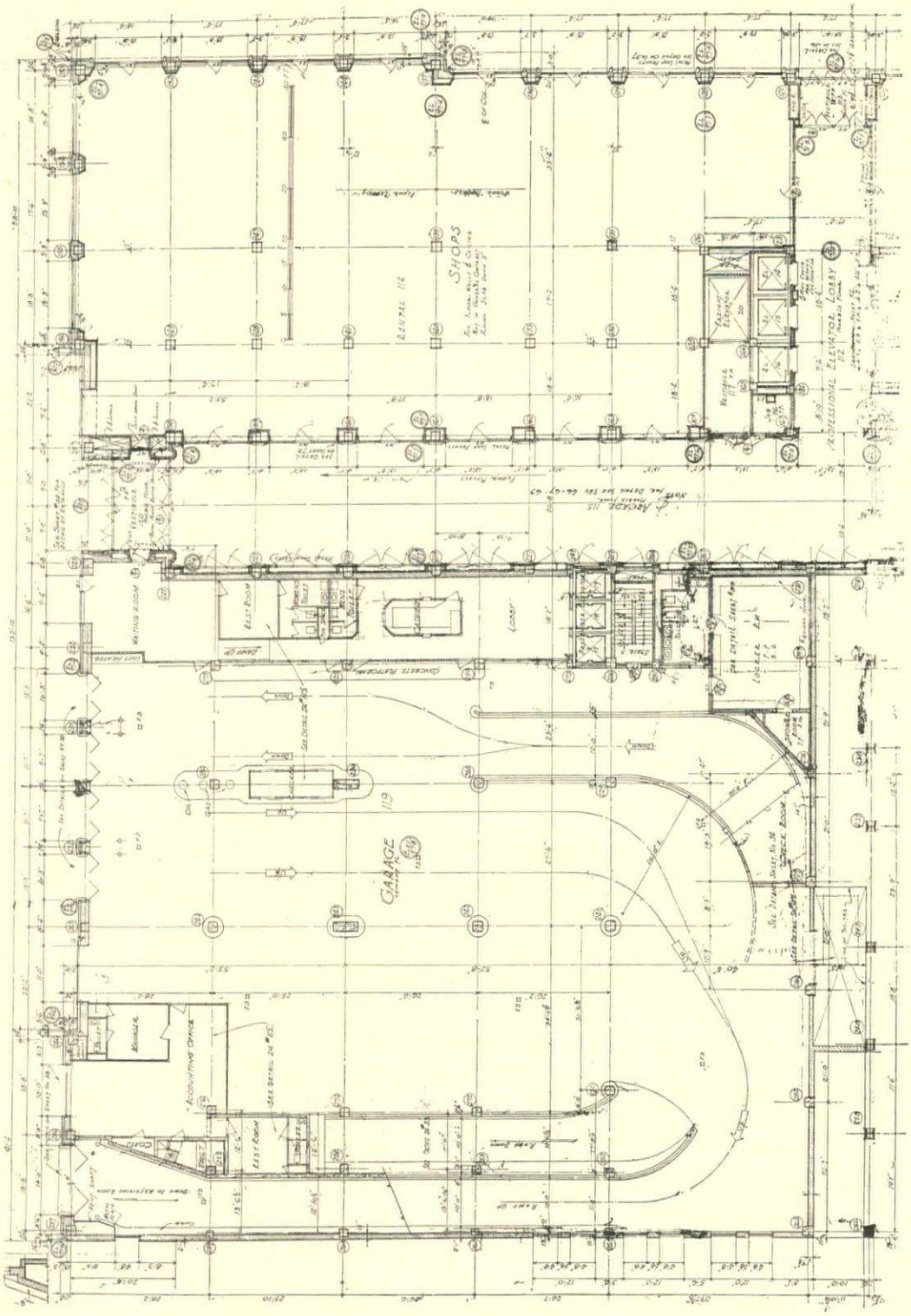
DETAILS OF WEST END OF ARCADE, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



EAST WALL, MAIN ENTRANCE LOBBY, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS



GARAGE FIRST FLOOR PLAN AND PORTION OF SHOPS, FISHER BUILDING, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS

FISHER BUILDING GARAGE

ALBERT KAHN, INC., *Architects*

EAGLES MODELED BY PROFESSOR G. R. MAROTI

THE Fisher Building garage is an eleven story structure, 150 x 160 feet, constructed as an integral part of the first unit of the Fisher Building. The garage will accommodate 1,100 cars, and is intended primarily as a convenience to the tenants of the office building. As a result entrance may be had to the garage not only from the street but from each floor of the office building as well.

In the design of this unit, every consideration was subordinated to convenience of operations. An interesting feature of the garage is the use of a double ramp system, to eliminate interference between up and down traffic. The banking of the ramps to facilitate the steering of cars moving at speeds between fifteen and thirty miles per hour was first calculated on a theoretical basis. A full size model was constructed in accordance with the theoretical calculations, on the proving grounds of the General Motors Company. A series of experiments were conducted on this model. The ramps as actually constructed are a combination of the theoretical calculations and the changes found desirable from actual tests on the model. Concrete beams and slabs are formed to follow the contours of the ramp. A minimum clear height of 8 feet 2 inches was obtained at all parts of the ramp.

Parking aisles are fifty-two feet wide from center to center of the columns. To keep the column sizes as small as possible, steel cores were used as reinforcement. The steel columns were furnished with steel brackets to carry the concrete beams. Holes were burned in the webs of the columns to obtain top and bottom continuity steel. The columns were erected in two or three story lengths, ahead of the concrete construction. No steel tie beams were used between columns.

The concrete floor arches span fifty-two feet, and are kept within a depth of thirty inches with a four-inch haunched slab and parallel beams spaced nine feet on centers. Due to the long span of the supported floor special provision was made in the spandrel beams to care for torsion stresses.

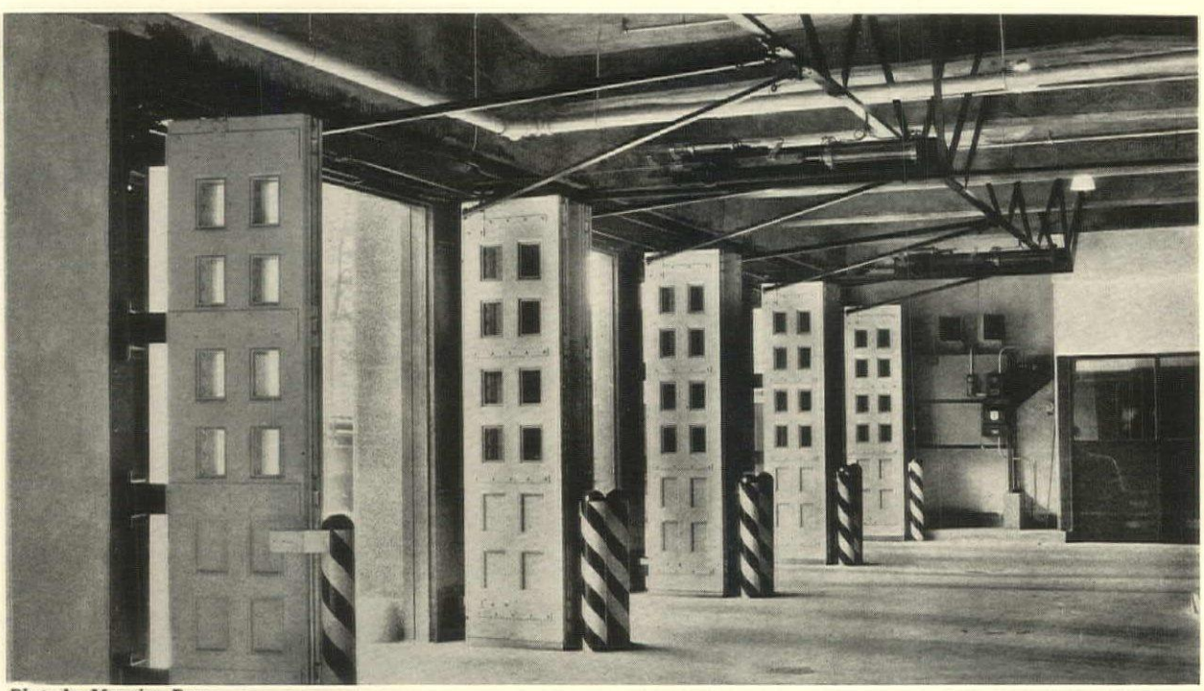


Photo by Manning Bros.

ENTRANCE DOORS SHOWING OPERATING GEAR OVERHEAD

A three story addition was added over a portion of the garage after the main building had been completed. To reduce the dead load of this construction, the concrete was mixed with a special aggregate, yielding a mix that is about two-thirds the weight of ordinary stone or gravel concrete, but having equal strength.

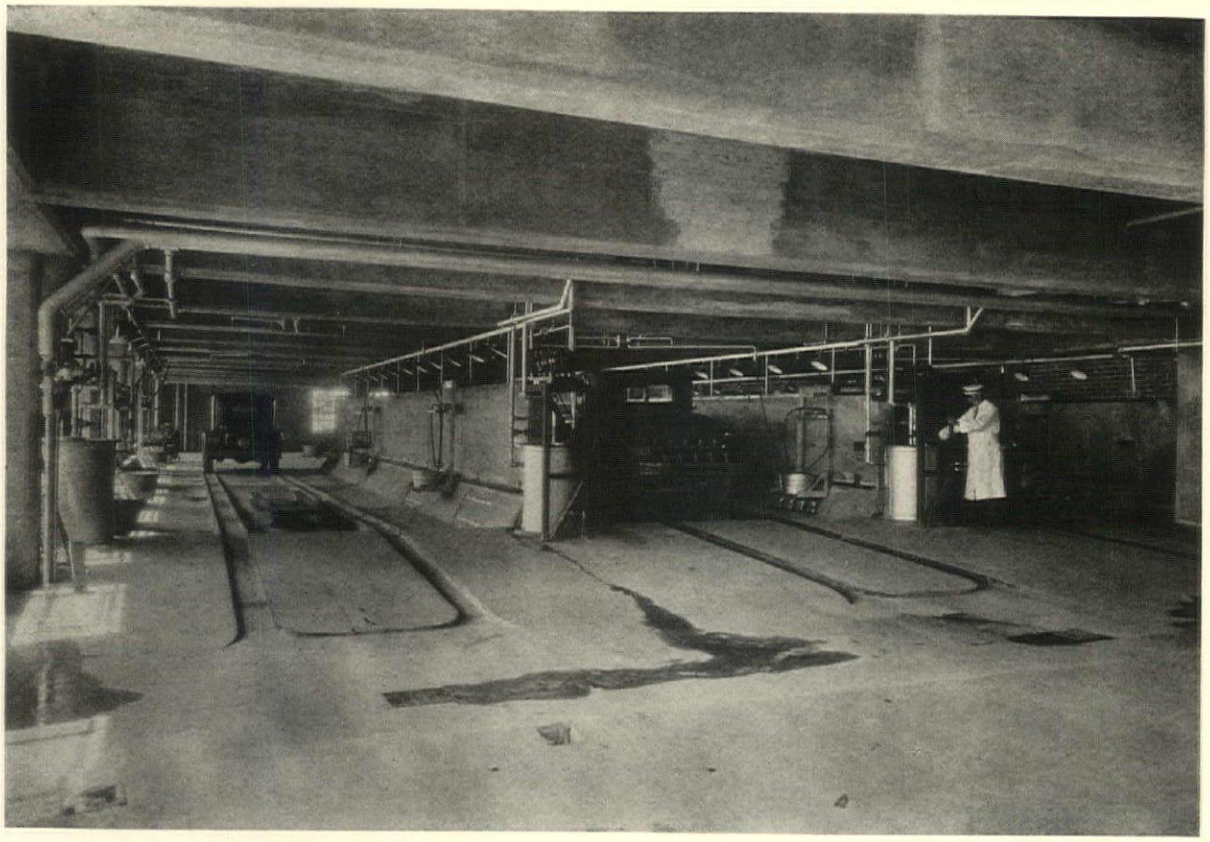
The concrete of the garage portion was poured in the coldest part of the winter. As soon as forms were up the area under the floor was inclosed with tarpaulins. An average temperature of 90° F. was maintained by the use of salamanders while pouring and for some time thereafter and the surface of the slab was protected with marsh grass covering.

The garage is sound-proofed from the remainder of the building with cinder block and other special insulating materials.

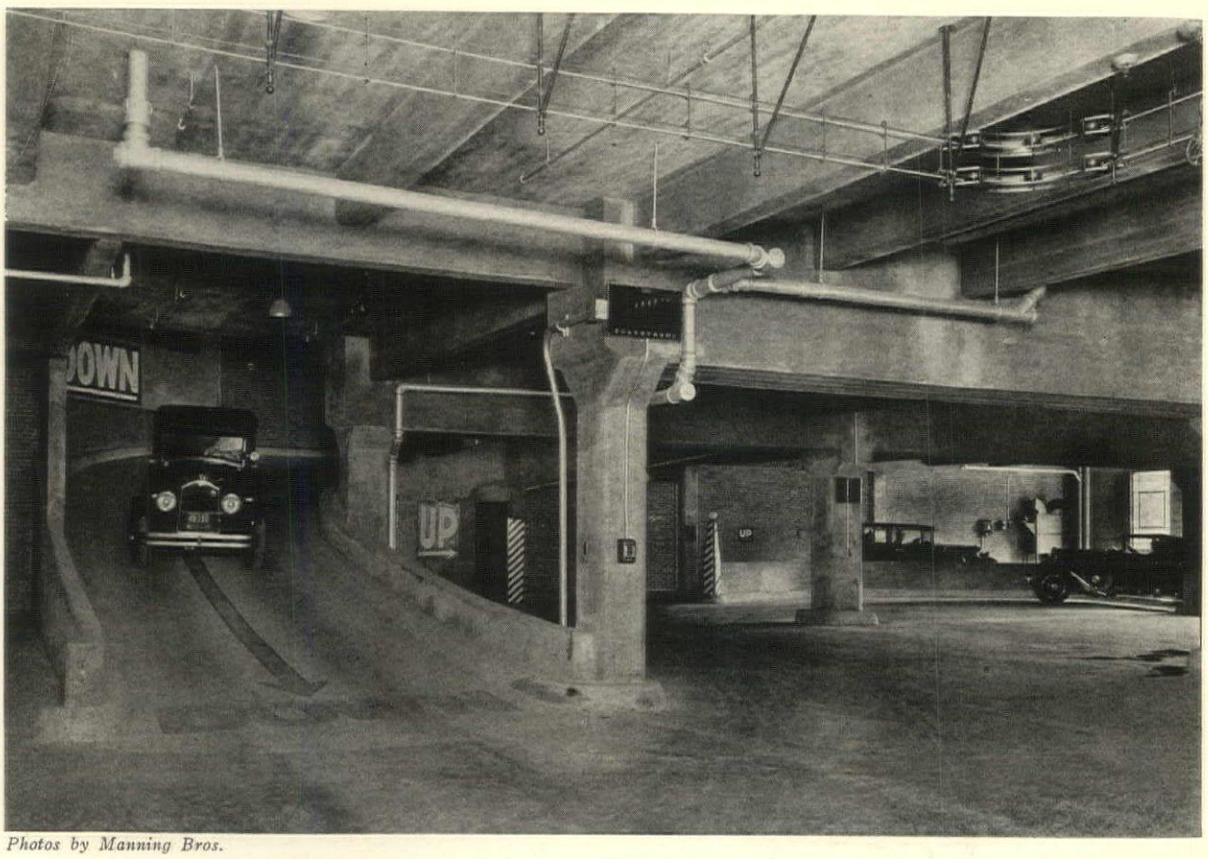
A pedestrian tunnel was built to connect the basement of the Fisher Building with that of the General Motors Building across the Grand Boulevard. It is 13 feet 4 inches wide and 9 feet 6 inches high. The 16-inch top slab is designed to support the pavement and the liveload due to an 18-ton truck. The 14-inch walls are reinforced to carry pavement and tunnel across future subway excavations with a minimum of shoring.

FISHER BUILDING STATISTICS

Office Building	11 stories
Tower	28 stories
Length on Grand Boulevard	323 feet
Length on Second Avenue	375 feet
Tower Height	442 feet
Foundations	
Depth below surface	142 feet
Excavation	98,000 cubic yards
Open Caissons	8,700 lineal feet
Gravel Used in Construction	20,000 cubic yards
Cement	41,000 barrels
Concrete Forms	46,000 sq. feet
Structural Steel	12,000 tons
Wind Bracing, Designed for	15 pounds per sq. ft. pressure
Garage	11 stories
Size	150 ft. x 160 ft.
Capacity	1,100 cars
Theatre (Graven & Mayger, Architects)	
Size	118 ft. x 214 ft.
Seats	2,800
Ventilating System	
Fans	40 motor driven
Refrigerating Plant	3 carbondioxide machines
Barber Shop, 20 tons capacity	Air cooled 7,900 cu. ft. per minute
Bank, 30 tons capacity	Air cooled 11,000 cu. ft. per minute
Cafeteria, 50 tons capacity	Air cooled 16,400 cu. ft. per minute
Water Supply	
City Pressure System	Two 300 gallons per minute centrifugal pumps to two 8 ft. diameter, 16 ft. long tanks on 13th floor
High Pressure System	Two 200 gallons per minute pumps to two 8 ft. diameter, 8 ft. long tanks in tower attic
Fire Pumps	Two in sub-basement
Tank	50,000 gallon gravity
Electrical Installation	
Total Connected Load	6,210 k. w.
Transformer Capacity	3,700 k. v. a.
Lighting Circuits	3,760
Lighting Outlets	9,785
Flood Lighting Projectors	550
Cove Lighting	2,600 feet
Cove Lighting Load	330,000 watts
Wire and Cable	1,375,000 feet
Conduit	600,000 feet
Underfloor Duct	148,000 feet
Pre-set Inserts	67,000
Primary Service	4,600 volts, three phase, 60 cycle
Telephone Installation	
Main Distributing Frame	15,000 pairs
Station Wire	8,000 feet
Various Sized Cable	38,750 feet
Cable Pairs	2,388,700 feet
Wire	4,777,400 conductor ft. or 905.35 miles
Under-floor Duct	145,000 feet
Inserts for 100 Pair No. 24 Gauge Cable	76,500
Conduit	50,000 feet
Distributing Cabinets in Riser Shafts	395



WASH RACKS, SHOWING MOVABLE WASHING EQUIPMENT ON OVERHEAD TRACK

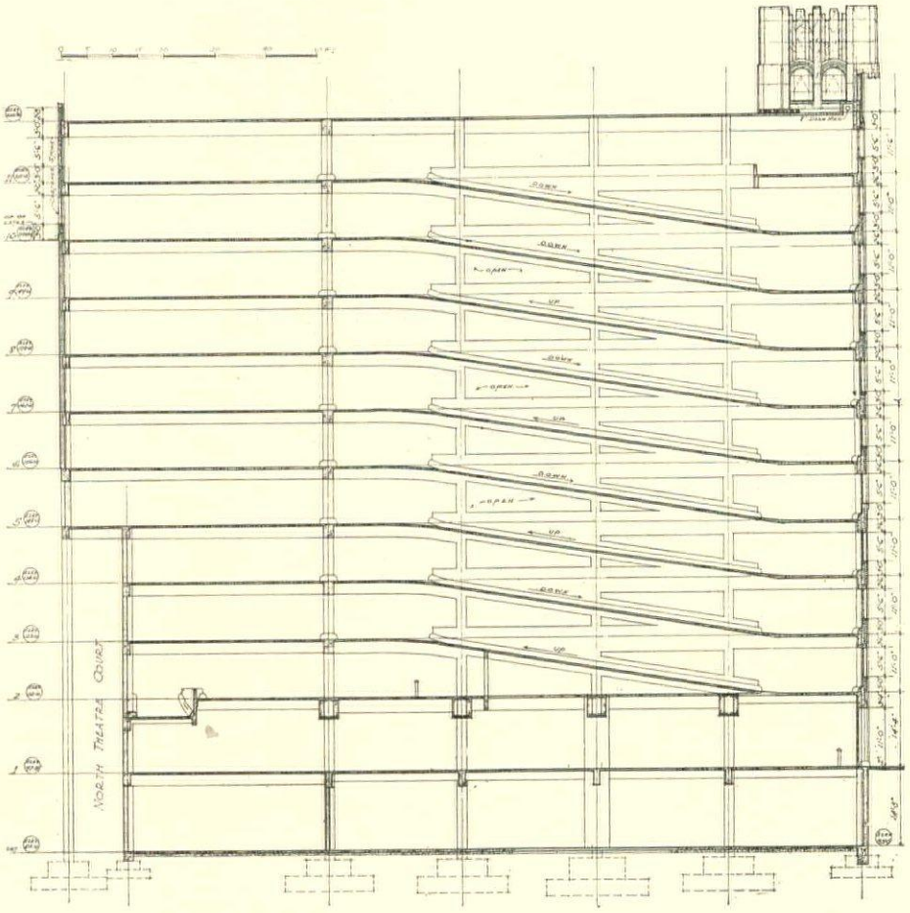


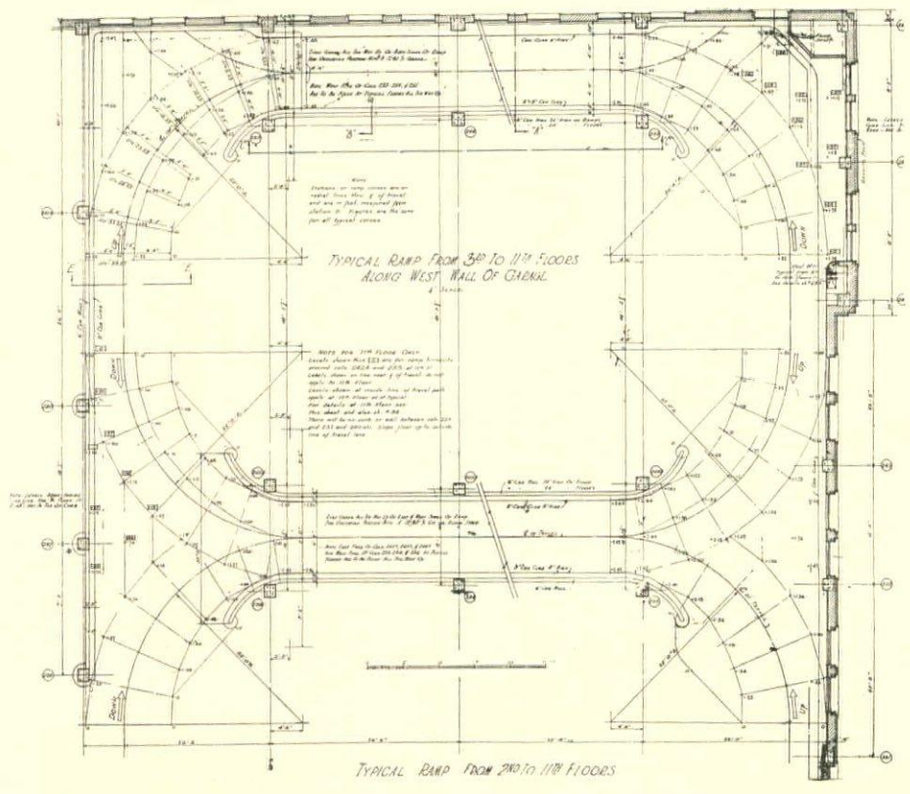
Photos by Manning Bros.

A DOUBLE RAMP SYSTEM ELIMINATES UP AND DOWN TRAFFIC INTERFERENCE

FISHER BUILDING GARAGE, DETROIT, MICH.

ALBERT KAHN, INC., ARCHITECTS





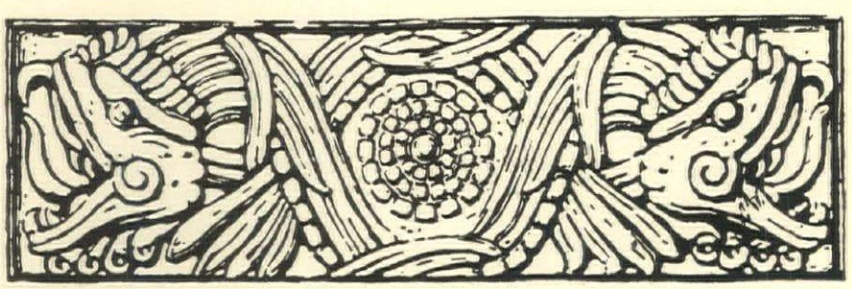
FISHER BUILDING GARAGE, DETROIT, MICH.—ALBERT KAHN, INC., ARCHITECTS

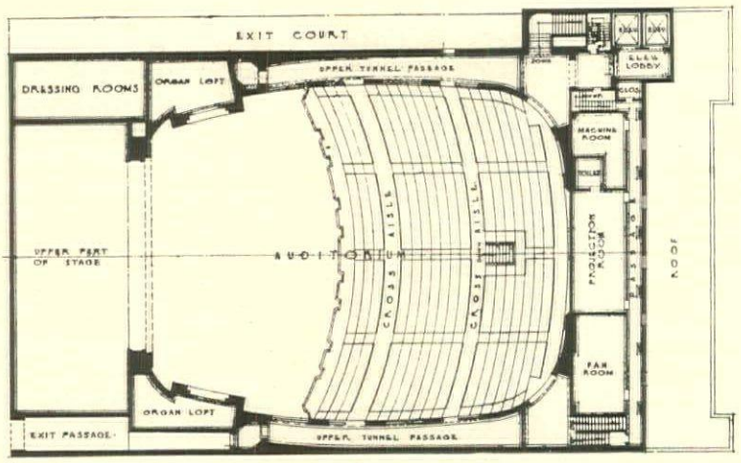
THE FISHER THEATRE

GRAVEN & MAYGER
Architects

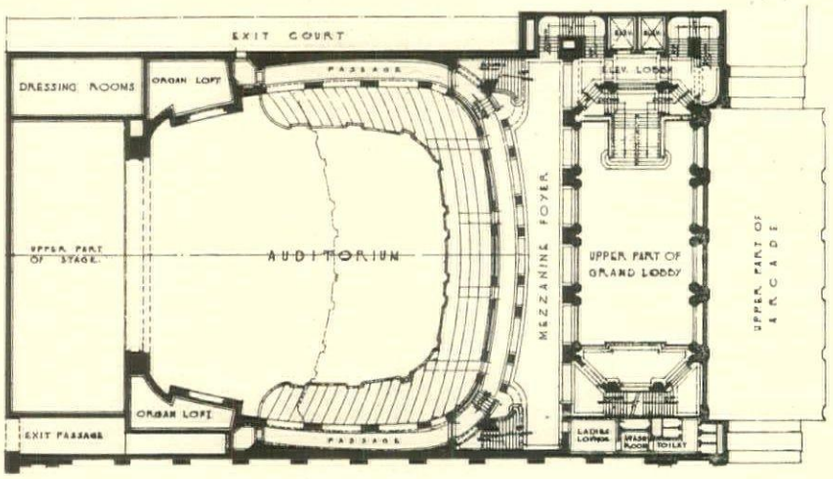
LEIBERMAN & HEIN
Engineers

In turning to the architecture of the Mayas, a particularly fruitful source of inspiration was found for designing the interior of the Fisher Theatre. The civilization of the Mayas existed from about 100 B. C. to 1600 or 1700 A. D. Existing records indicate that the Mayas enjoyed a highly developed civilization and they are the only ancient inhabitants of America who left behind them well developed architectural monuments. They are stated to have been "the only people on the American continents who developed an original system of beautifully designed hieroglyphics which were carved or painted on their temples, pyramids, palaces and monuments." The Mayas are also stated to have been "the greatest sculptors in ancient America." ☙ ☙ ☙ Art critics have placed Mayan sculpture among the world's greatest developments in plastic art. Paint played an important part in Mayan sculpture, the colors ranging through several shades of red, blue and yellows, and green, orange, brown, black and white. ☙ ☙ ☙ Carving, inlaid mosaics, textile weaving, metal working and pottery making may be included among the highly developed arts of this race. The Mayan religion, being polytheistic, offered numerous gods and goddesses as subjects for sculptors and carvers. ☙ ☙ ☙ This brief outline of the source from which the decorations in the Fisher Theatre are taken can only suggest the wealth of material through which the imagination of the designers could roam. ☙ ☙ ☙ The decorative panels bordering the proscenium arch are taken from the hieroglyphic symbols of the eighteen Mayan months. Two colossal human figures, copied from monuments at the Old Empire City of Quirigua, flank the proscenium. Above the organ screen, on either side, are representations in colored tiles of the so-called Great Turtle of Quirigua. The mezzanine columns in the lobby are reproductions of the Feathered Serpent columns found in the temples at Chichen Itza. Colors found in the Mayan palette have been freely used throughout the theatre.

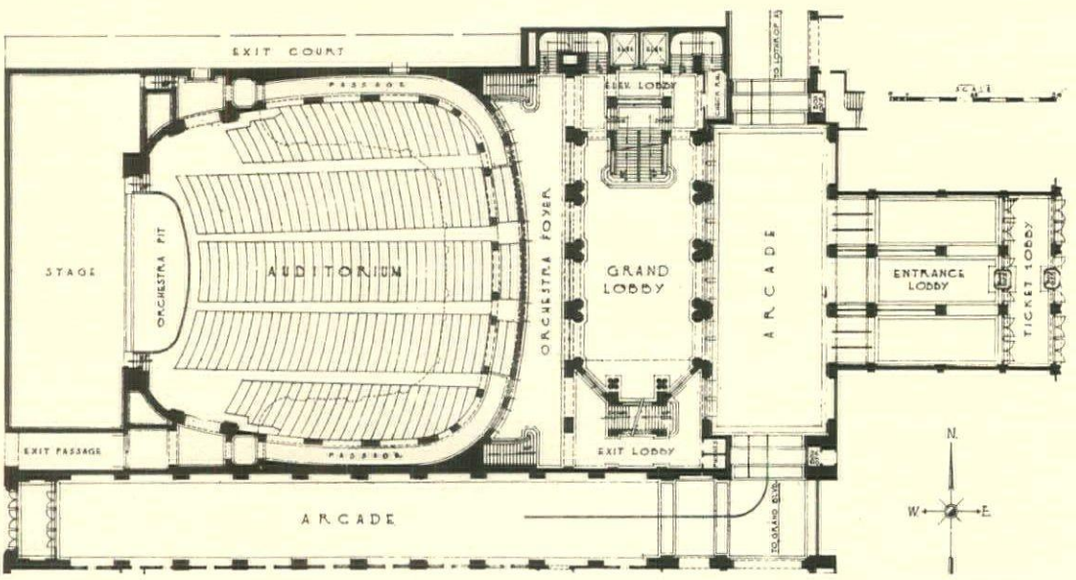




BALCONY PLAN

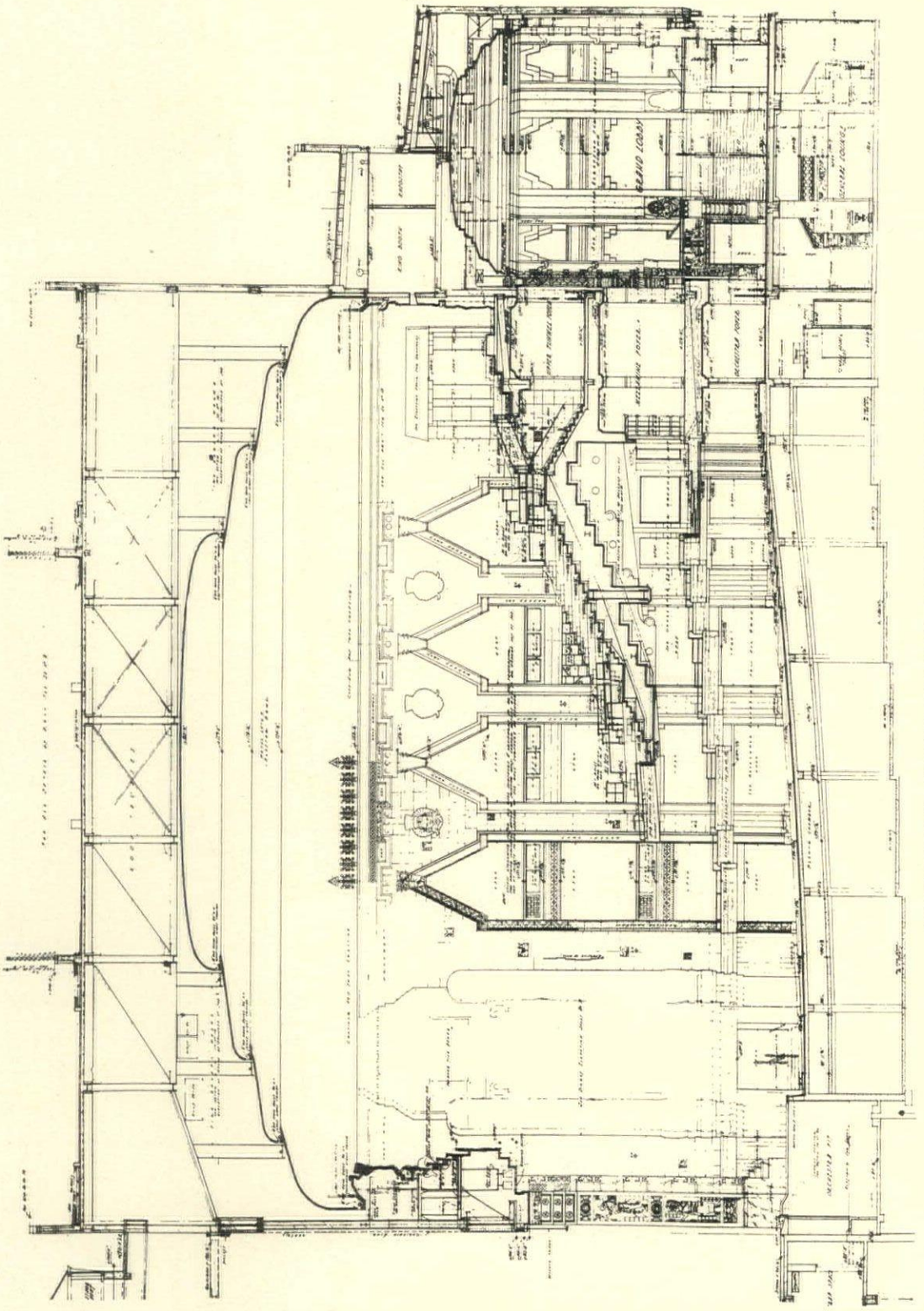


MEZZANINE FLOOR PLAN



ORCHESTRA FLOOR PLAN

FISHER THEATRE, DETROIT, MICH.—GRAVEN & MAYGER, ARCHITECTS



LONGITUDINAL SECTION THROUGH AUDITORIUM AND LOBBY

FISHER THEATRE, DETROIT, MICH.—GRAVEN & MAYGER, ARCHITECTS

Photo by Drix Duryea

AUDITORIUM DETAIL, FISHER THEATRE, DETROIT, MICH.

GRAVEN & MAYGER, ARCHITECTS

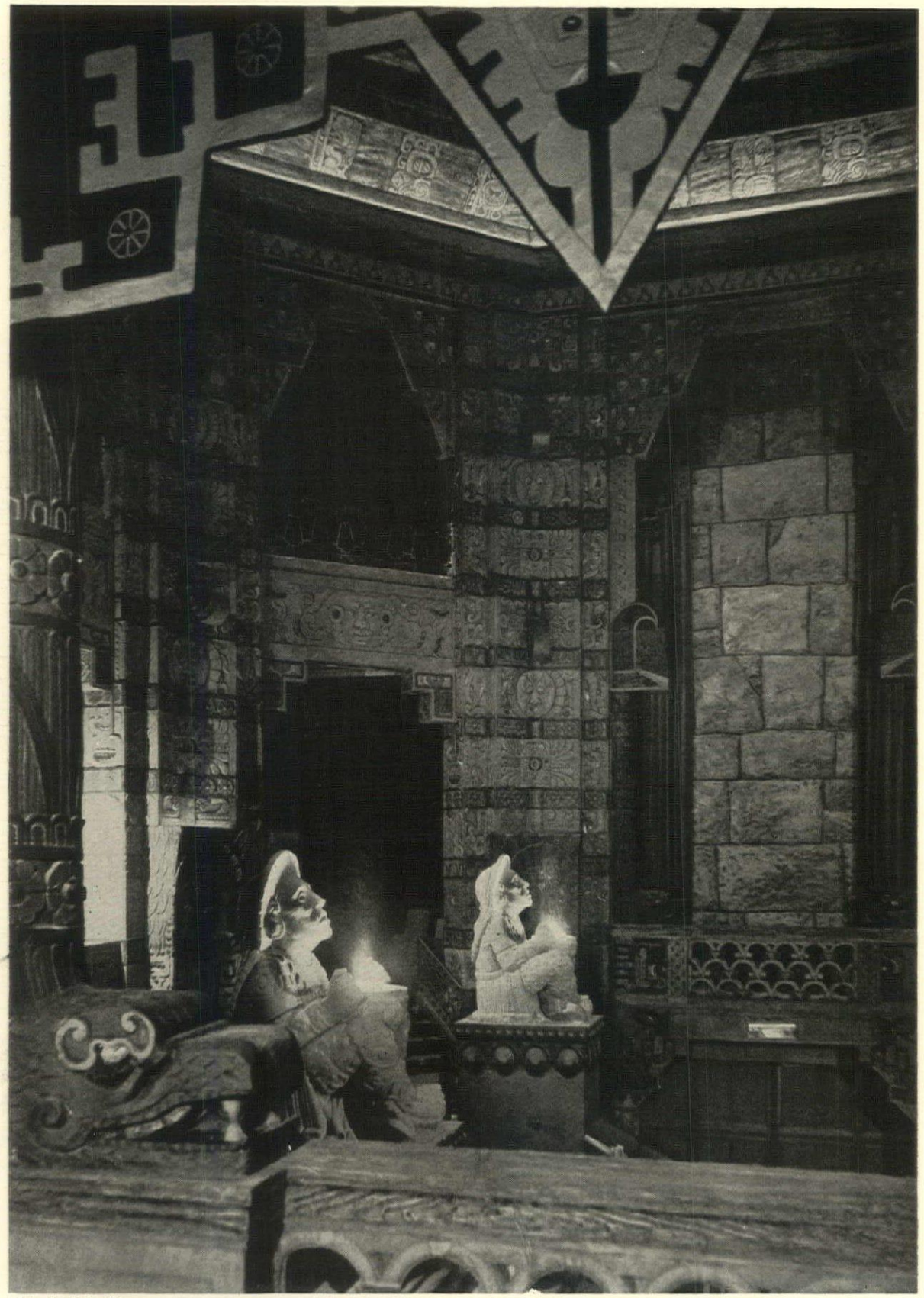
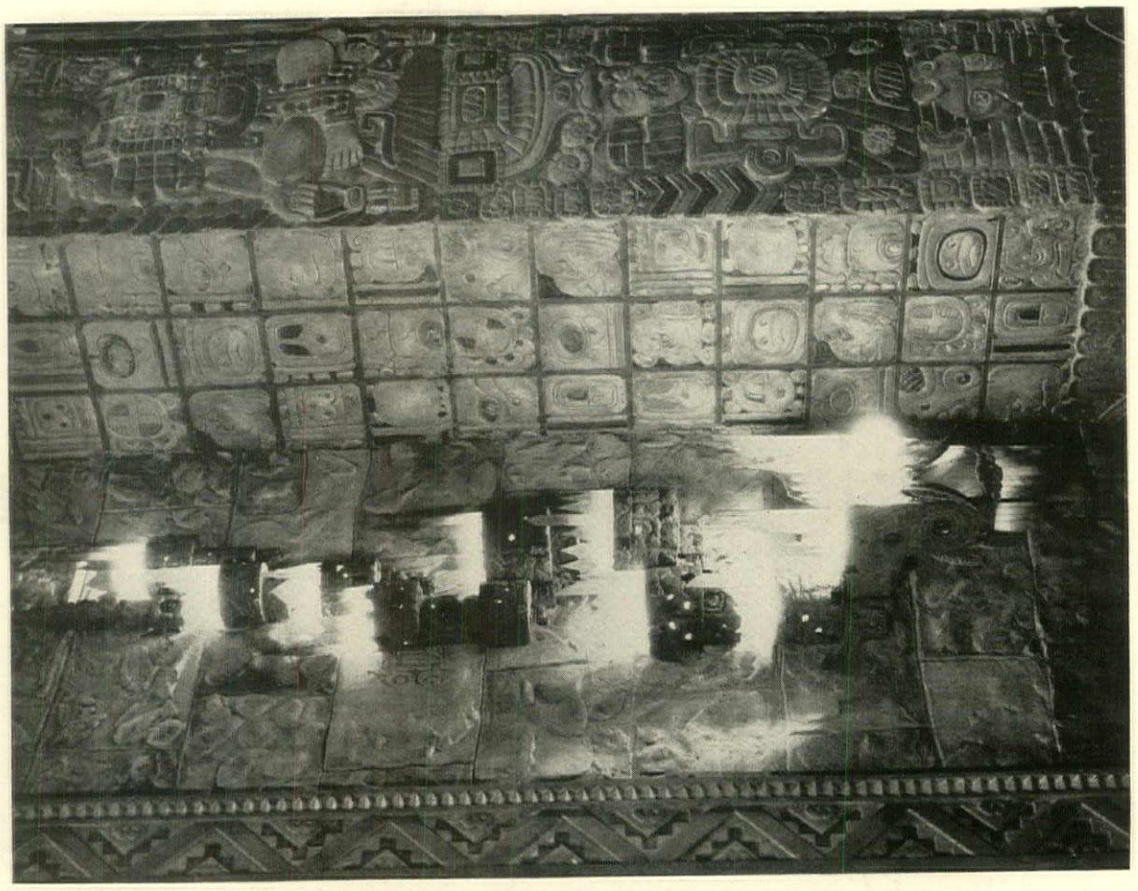
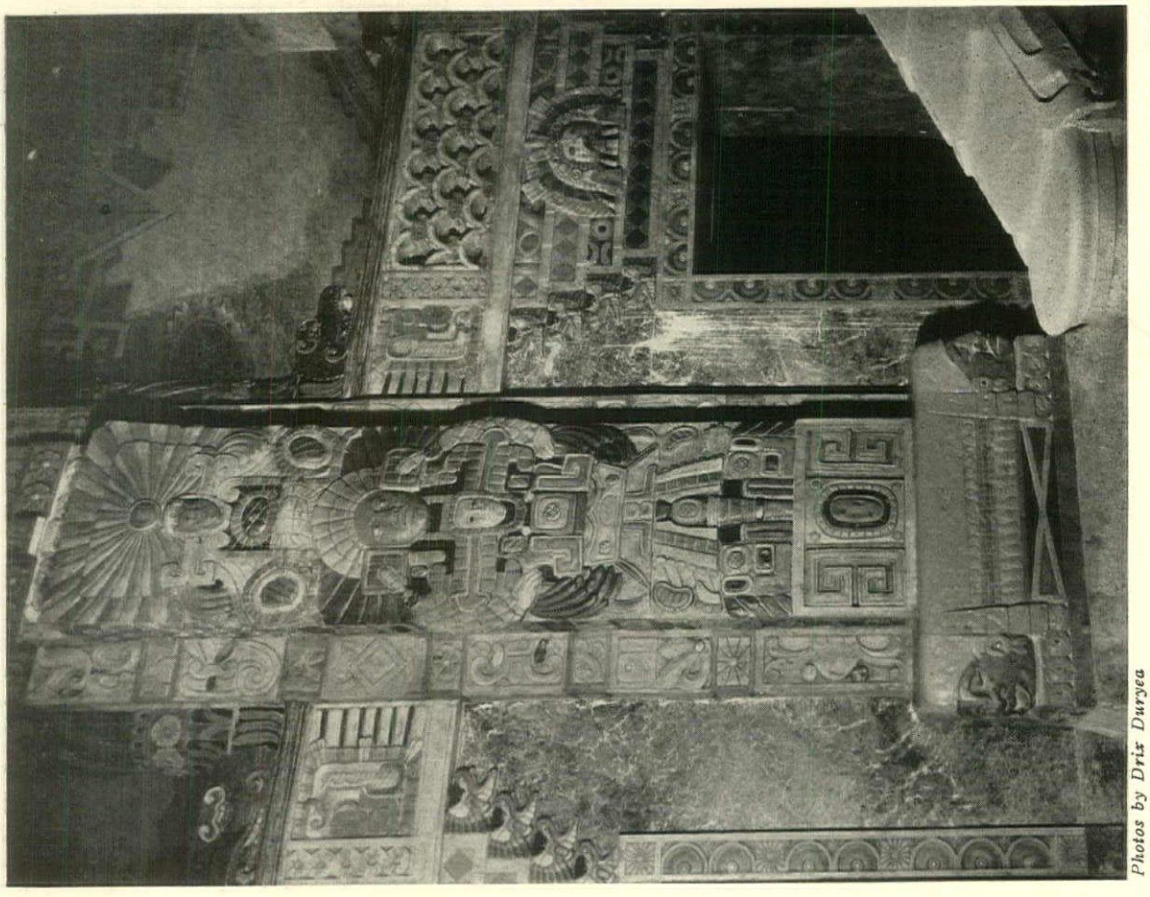


Photo by Drix Duryea

DETAIL OF THEATRE LOBBY AND BALCONY STAIRS, FISHER THEATRE, DETROIT, MICH.

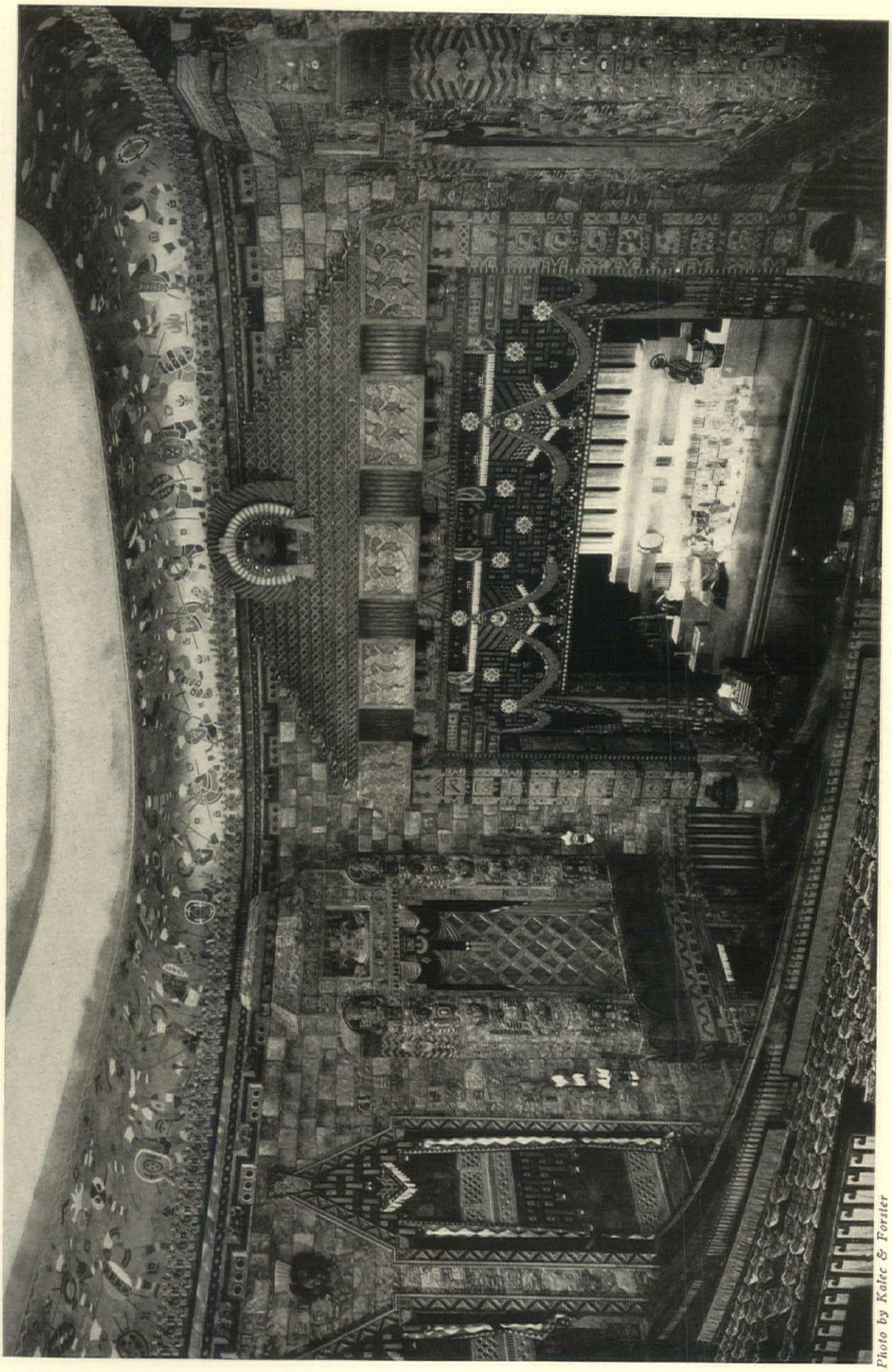
GRAVEN & MAYGER, ARCHITECTS





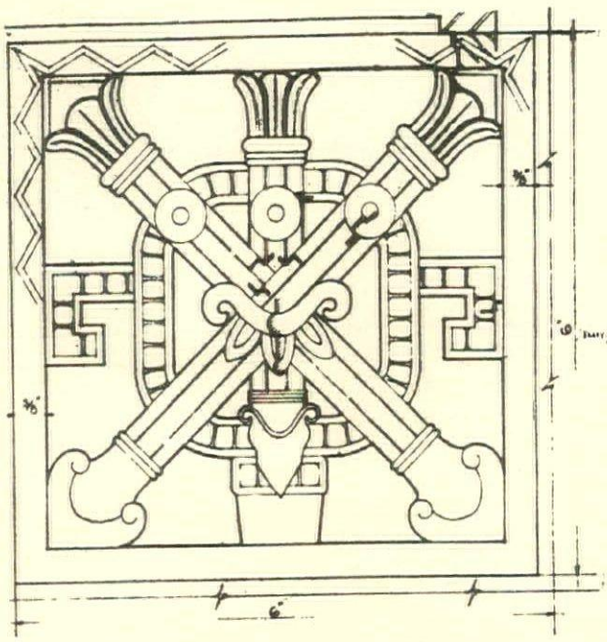
AUDITORIUM DETAILS, FISHER THEATRE, DETROIT, MICH.
GRAVEN & MAYGER, ARCHITECTS

Photos by Drix Duryea

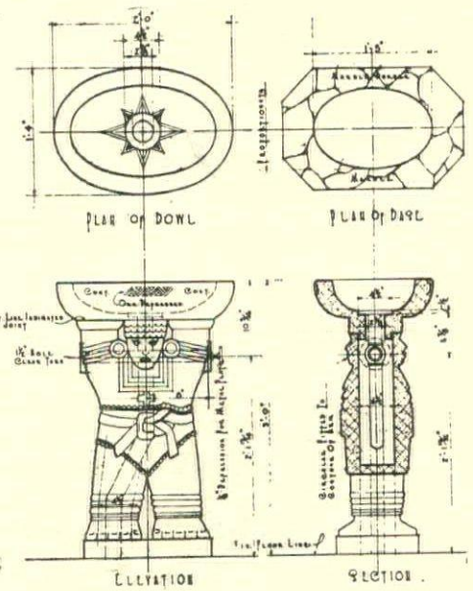


AUDITORIUM LOOKING TOWARD PROSCENIUM, FISHER THEATRE, DETROIT, MICH.
GRAVEN & MAYGER, ARCHITECTS

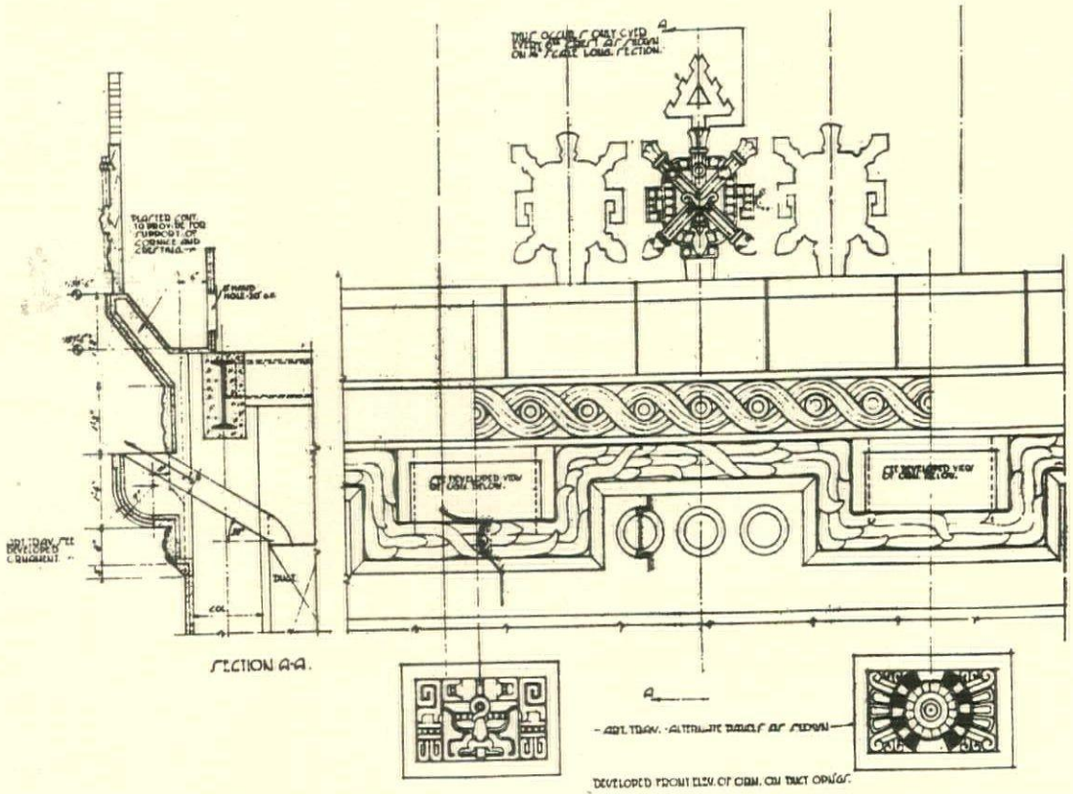
Photo by Kalec & Forster



CAST IRON RADIATOR GRILLE



TERRA COTTA DRINKING FOUNTAIN



AUDITORIUM CORNICE DETAILS

FISHER THEATRE, DETROIT, MICH.

GRAVEN & MAYGER, ARCHITECTS

SPECIFICATIONS

Communications relative to specifications addressed to THE AMERICAN ARCHITECT *will be answered, in the pages of this department, by H. R. Dowswell, of the office of Shreve & Lamb, Architects.*

THE New York Building Congress Standard Specifications for Masonry, Part B, presented in this issue, are the result of many conferences with leading authorities in New York City specializing in this division of the building industry. The standards finally adopted have been approved by the Committee appointed by the Mason Builders' Association of New York under the Chairmanship of Mr. Frederick T. Youngs. They should therefore assist in solving many of the difficulties which continually arise in the interpretation of Masonry Specifications. The successful use of these specifications, however, as in all other trade divisions, depends largely on the care with which Part A is written. These specifications are used to supplement Part A in the same manner as was outlined for Excavating in the January 5th issue.

Paragraph 5 specifically places the furnishing of scaffolding, hoisting and other equipment, required for the execution of Masonry work, in the work of this division. If the Architect wishes to modify this requirement it is merely necessary to enumerate, in Part A, the division under which such equipment is to be furnished.

Practice regarding the furnishing of materials for setting, parging and pointing Cut Stone varies with different offices. This item is left to be specified under Part A, the reference, in this specification, serving as a check for the specification writer.

The locating of slots, chases, recesses, et cetera, required to receive work of other trades, has frequently led to controversy. A blanket clause placing the entire responsibility upon the contractor for Masonry is manifestly unfair. Unfortunately general construction drawings all too frequently fail to indicate requirements in this regard and the Architect, rather than face a legitimate extra, falls back on a blanket clause. It is believed that the requirements of Paragraphs 6 and 7 are fair.

Paragraph 11 refers to the Specifications for Masonry & Concrete Materials printed in the February 5th issue. They should be carefully checked when writing Part A Specifications for Masonry and the correct paragraph references enumerated.

Many architects prefer to limit the choice of materials to products of certain manufacturers. This has been provided for under Paragraph 12, it being merely necessary to list the preferred products under Part A.

Cement mortar for brickwork is now practically standard practice. If, however, it is desired to vary this practice, Part A should specify the kind of mortar desired.

Paragraphs 14, 20, 21, 23, 24, 25, 26, 27, 33, 36, 40 and 48 all deal with items of work which vary in different types of buildings or with office practice. Part A should therefore specify the requirements in each case.

Paragraphs 45 and 46 covering "Patching" also deal with a much disputed item. This matter has been given a great deal of consideration and the paragraphs as written are considered fair.

A.I.A. DIVISION 5.

New York Building Congress Standard Specifications for MASONRY

PART B.

General Conditions.

1. GENERAL CONDITIONS OF THE CONTRACT of the American Institute of Architects, current edition, shall form a part of this Division together with the Special Conditions, to which this Contractor is referred. **General Conditions**

Arbitration Clause.

2. Any dispute or claim arising out of or relating to this Contract, or for the breach thereof, shall be settled by arbitration under the Rules of the Arbitration Court of the New York Building Congress or the American Arbitration Association and judgment upon an award may be entered in the court having jurisdiction. **Arbitration Clause**

N. Y. Building Congress Standard Specifications—MASONRY—*Continued.*

Scope.

Scope

3. The following requirements for Materials and Workmanship specify the required standards for all masonry work.
4. These requirements, however, form a part of the Contract only insofar as they describe items mentioned in Part A of this Division or as shown on the Contract drawings.
5. Except where otherwise definitely stated in Part A, this Contractor shall furnish, as part of this Contract, all scaffolding, hoisting and other equipment necessary for the performance of his work; also, when specified under Part A, this Contractor shall furnish to the Cut Stone Setting Contractor all materials required for setting, parging and pointing mortar in connection with Cut Stone and Manufactured Stone. (See Part A Specifications for Setting Granite, Cut Stone, Marble or Manufactured Stone, A.I.A. Division 8e and Part B Specifications for Masonry and Concrete Materials, A.I.A. Division 3 for requirements.)

Slots, Chases, Recesses, Etc.

Slots, Chases, Recesses, Etc.

6. This Contractor shall, as a part of his Contract, build all slots, chases, recesses or openings, required for the proper installation of the work of other trades, in the locations and to the dimensions indicated on the Contract drawings or in accordance with information furnished before the work, at the points affected, is laid out.
7. Subsequent cutting and fitting, due to incorrect or incomplete information, shall be executed by this Contractor, under written instructions from the Architect. Such work will be paid for as an addition to this Contract.

Building in Work.

Building in Work

8. This Contractor shall, as a part of his Contract, coöperate with the Contractors for Structural Steel, Architectural Iron and Bronze, Special Windows and Doors, Mechanical Trades, Rough and Finished Carpentry and other Contractors whose work is to be built into or set in conjunction with Masonry. All bedding required shall be executed by this Contractor, under the direction of the Contractor furnishing same.

Setting Cut Stone and Granite.

Setting Cut Stone and Granite

9. The furnishing and setting of Granite, Cut Stone, Marble and Manufactured Stone is included under another division. This Contractor, however, will be required to coöperate with the Contractor for that portion of the work and will be required to set and build in all sills, lintels and other detached granite, stone or marble occurring in walls faced with materials included in this Division.

Centers for Arches.

Centers for Arches

10. All arches, whether of common or face brick, are to be turned on centers. These centers will, unless otherwise definitely stated under Part A of this Division, be provided for under another division.

Materials.

Materials

11. Except as otherwise definitely specified herein all Masonry Materials shall conform to the requirements given under Part B Specifications for Masonry and Concrete Materials, A.I.A. Division 3.
12. Where, under Part A, the product of a particular manufacturer is called for, this shall be furnished. Where a manufacturer is not named, all materials, accepted for use on the work, shall be subject to the approval of the Architect where the Specifications so require.

Bricklaying.

Bricklaying

13. All brick, except face brick, shall be thoroughly wet before laying, except in freezing weather. Common brick shall be laid with a shove joint in full beds and be thoroughly slushed up with mortar at every course. Face brick shall be laid on full beds and have vertical joints completely filled with mortar. Unless otherwise specified under Part A, all brick, both common and face work, shall be laid in cement mortar.
14. Firebrick shall be laid in fire clay, unless otherwise noted under Part A.
15. All brickwork shall be built plumb, square and true to the dimensions shown and in bond as hereinafter specified. Brickwork and stonework must be thoroughly bonded or anchored together.
16. All brickwork shall be built tightly against columns, floor slabs, or other structural parts. Around window and door frames brickwork shall be kept back a sufficient distance to permit a caulked joint.
17. Where structural steel columns are indicated on the drawings to be fireproofed with brickwork, the brick shall be built closely against all flanges and webs with all spaces between steel and brickwork filled solid with cement mortar.
18. Steel beams, girders, channels, angles and other structural members imbedded in masonry which are not indicated to be entirely fireproofed with concrete, hollow tile or other fireproofing material, shall be thoroughly "buttered" with not less than a one-half (½) inch coat of cement mortar.

N. Y. Building Congress Standard Specifications—MASONRY—*Continued.*

Height of Courses.

19. Common brick shall be laid with joints not exceeding one-half (½) inch thick. Height of Courses
20. Exterior and Interior face brick shall be laid with joints of thickness stated under Part A of this Division.

Bond.

21. Common brick shall be laid five stretcher courses to one header course. Face brick shall be laid in bond stated under Part A of this Division. Provision, satisfactory to the Architect, shall in all cases be made for the bonding of face brick to the backing. Bond

Backing Cut Stone and Granite.

22. Brick backing of Granite, Cut Stone, Marble or Manufactured Stone shall be level with each horizontal course of stonework for a width sufficient to provide a full bearing for the next course. Where it is possible to do this without reducing the joints in brickwork below one-fourth (¼) inch in thickness, split courses will not be permitted. The brick backing shall follow closely the setting of Granite, Cut Stone, Marble or Manufactured Stone. Backing Cut Stone and Granite

Pointing.

23. Joints of all exposed exterior or interior common brickwork shall be neatly struck, unless otherwise specified under Part A. Pointing
24. Joints of all face brickwork shall be finished as required under Part A of this Division.

Arches.

25. Arches of common brick will be required over all openings in common brickwork, except where steel or reinforced concrete lintels are called for. All such arches shall be rowlock arches, segmental in form. Generally, one rowlock will be required for each twenty (20) inches in width of opening or fraction thereof. Radius of arches shall be equal to the width of the opening. Where arches are required in facebrick work they shall be as indicated on the drawings or as described in Part A of this Division. Arches

Rough Stone Masonry.

26. Shall be of the kinds called for under Part A of this Division. Where it is desired to show a finished or exposed face the stone shall be of such shapes and sizes as will produce the finished result indicated on the drawings, or illustrated by photographs bound with Part A or to conform to an accepted sample of existing work. Rough Stone Masonry
27. Unless otherwise stated under Part A, all rough stone masonry shall be set with cement mortar. All of the work shall be built plumb and true to the dimensions given, all stones fully bedded with joints and interstices completely filled with mortar. Walls shall be thoroughly bonded with bond stones at frequent intervals. In walls two (2) feet or less in thickness the bond stones shall extend entirely through the walls.

Setting Concrete Blocks, Concrete Tile and Hollow Tile.

28. Where Concrete Blocks, Concrete Tile or Hollow Tiles are used for exterior or party wall or pier construction all blocks and tile shall be set in cement mortar. The work shall be built plumb and true to the given dimensions, with tile or blocks set to bond and breaking joints in all cases. Where blocks or tile are set with cells horizontal they shall be set in a full bed of mortar, not exceeding one-half (½) inch in thickness, with vertical joints buttered full on walls and webs; where set with cells vertical the bearing members shall be buttered and vertical joints slushed full of mortar. Setting Concrete Blocks, Concrete Tile and Hollow Tile
29. Where blocks or hollow tile are specified under Part A, as backing for brick, or other material, the facing material shall be securely bonded to the backing. Where the facing consists of common brick or face brick laid with headers, the headers shall be bonded into the backing every fifth course of brick. Where headers or other bonding units are not permitted in the facing material, approved metal ties or other means of bonding, satisfactory to the Architect shall be furnished as specified under Part A.

Partitions.

30. All hollow tile for partition work shall be set in cement and lime mortar. The tile shall be set to bond, breaking joints in all cases. Where tile are set with cells horizontal they shall be set on full mortar beds not exceeding one-half (½) inch in thickness with vertical joints buttered full on walls and webs. Where set with cells vertical the bearing members shall be buttered and vertical joints slushed full of mortar. Partitions
31. When tile partitions are shown intersecting or abutting each other, they shall be regularly bonded, avoiding all continuous perpendicular joints. Where partitions intersect or abutt walls they shall be securely anchored with approved metal ties or otherwise satisfactorily keyed. The tile shall be carefully fitted around all door and window openings.
32. Where double partitions are indicated on drawings they shall be bonded together with cross walls of same material, spaced not more than ten (10) feet apart.

N. Y. Building Congress Standard Specifications—MASONRY—*Continued.*

33. Partitions shall rest on the floor arches, concrete fill or finished floor surfaces as noted under Part A and shall be tightly wedged against the arches or floor slabs above. Wedging shall be done with tile or slate wedges.

Furring.

Furring

34. Free standing tile furring shall in no case be less than three (3) inches in thickness.
35. All furring less than three (3) inches in thickness shall be securely anchored to masonry walls with approved metal anchors.

Floor Arches.

Floor Arches

36. Where hollow tile floor arches are called for they shall consist of side or end construction as stated under Part A and of the depths indicated on the drawings. Where the local Building Code specifies a minimum thickness for walls and webs of floor arch blocks such requirements shall be followed.
37. Skewbacks shall be carefully bedded in place against beams, using cement mortar.

Beam and Girder Fireproofing.

Beam and Girder Fireproofing

38. Where hollow tile beam and girder fireproofing is called for it shall consist of stock or special shapes necessary to fit the contour of the steel sections and provide the degree of fireproofing required by the local Building Code.
39. Soffit protection for beams and girders shall be secured in place with metal clips or other device approved by the Architect.

Column Covering.

Column Covering

40. Where hollow tile column covering is called for it shall be of thickness given under Part A or indicated on the Contract drawings. On exterior columns the tile shall be built as close as possible to the steel on both flanges and webs and have all space between tile and steel filled in solid with mortar or grout. Covering for interior columns shall be built close to the outer faces of the columns but space between tile and steel need not be filled unless so specified under Part A.
41. Column covering shall start on the top of the floor arches or slabs and be carried up to and be tightly wedged under the soffit of arches or slabs and beams above. Each course of tile shall be set breaking joint with the one below.
42. No piping shall be enclosed in the column covering, except electric or other conduits, which shall be erected before the column covering is set.

Gypsum Blocks.

Gypsum Blocks

43. Where Gypsum Blocks are specified they shall be set in mortar composed of gypsum and sand. The requirements in regard to bedding, joints, bonding, wedging and anchoring specified for hollow tile shall also govern the use of Gypsum Blocks.

Gene.al for all Masonry.

General for all Masonry

44. In warm weather, all bricks shall be thoroughly wet before laying. Neither bricks, blocks nor tile shall be set when the temperature is below twenty (20) degrees Fahrenheit without the Architect's permission. When permission is given it will be on the understanding that this Contractor provides a satisfactory method of heating materials before setting and protection of finished work against freezing.

Patching.

Patching

45. If, during construction, walls, partitions, or arches become displaced or damaged by this Contractor, or others under his control, this Contractor shall, without additional compensation, execute all patching and repairing necessary to leave the entire work in perfect condition.
46. Walls, partitions or arches displaced or damaged by Contractors over whom this Contractor has no control, shall be replaced or repaired by this Contractor under written instructions from the Architect. Such work will be paid for as an addition to this Contract.

Protection of Masonry.

Protection of Masonry

47. All cut stone and other work must be properly protected by this Contractor during the cleaning of the brickwork. Any stone discolored or stained on account of not being properly protected must be made good by this Contractor as a part of his Contract.

Cleaning.

Cleaning

48. Where so specified under Part A, all walls of common brick exposed on the exterior or forming finished interior surfaces shall be cleaned at the completion of the building.
49. All face brick at final completion, or when so directed by the Architect, shall be washed down, cleaned and pointed.

CURRENT NEWS

SETTING AND HARDENING IN PORTLAND CEMENT

PAPER No. 17 of the Portland Cement Association Fellowship at the National Bureau of Standards has recently come to our desk. It is a digest of the literature on the nature of the setting and hardening processes in portland cement, by R. H. Bogue. The purpose of the paper is "to set forth in a rational manner and in proper perspective the more significant contributions that have determined opinion on the nature of the processes which result in the setting and hardening of portland cement." Copies may be obtained on application to R. H. Bogue, Research Director, Portland Cement Association Fellowship, Bureau of Standards, Washington, D. C.

BUILDING CODE AND PLUMBING CODE TABULATION

THE Division of Building and Housing of the Department of Commerce has compiled a booklet from the answers to questionnaires sent to Building Inspectors, City Clerks and others whose information could be regarded as authentic, on the status of building and plumbing codes in cities of more than 10,000 population. The information given includes the dates of codes now in use, whether printed together or separately, by what agency the plumbing code is enforced, whether the building code is being revised, and the number of persons in building, plumbing and electrical departments. The list will be revised as it becomes necessary in order to make it of real value. Copies may be procured on request from The Division of Building and Housing, Department of Commerce, Washington, D. C.

SIMPLIFIED PRACTICE RECOMMENDATION

SIMPLIFIED Practice Recommendation R83-28 for "Kalamein Single-acting Swing Doors, Frames, and Trim" has recently been published by the Bureau of Standards of the Department of Commerce. The recommendation includes standardizations for four sizes of stock doors and five of semi-stock doors, with other details of description. In the booklet also is a list of manufacturers who have thus far accepted the standardization. Copies may be secured for five cents each by writing to the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

PRESENT HOME FINANCING METHODS

MANY families each year who undertake buying or building homes of their own find financing the most difficult problem, according to the Division of Building and Housing of the Department of Commerce, which has just issued the booklet, "Present Home Financing Methods." This booklet, which has been prepared with the cooperation of leading home financing agencies, is written to assist home buyers and home builders who have to borrow, and also for persons and organizations interested in improving local home financing facilities. Choosing a helpful home financing agency and a good plan of financing may save a family from much unnecessary expense, or even determine the success of the undertaking. In order to avoid costly mistakes a family, particularly if it has to borrow more than can be obtained on a first mortgage, needs to know something about the sources of home loans, and the types of services furnished by the agencies supplying them. "Present Home Financing Methods" describes the service rendered by building and loan associations, life insurance companies, savings banks, trust companies and other agencies which lend to home seekers, and also takes up second and third mortgages and the land contract method of purchase. It points out various pitfalls to be avoided, and gives much practical information, such as suggestions for use in applying loans. The appendix of the booklet explains in simple terms how answers to various other problems may be found by prospective borrowers who wish to compare different loan plans available to them.

BUREAU OF STANDARDS REPORT

THE annual report of the Director of the Bureau of Standards for the fiscal year ending June 30, 1928, has recently been published. It is a report of all branches of the work of the Bureau, and includes paragraphs on General Activities, Salaries, General Expenses, and thirty or more such topics as Radio Research, Investigation of Fire-resisting Properties, Utilization of Waste Products from the Land and Power-plant Equipment, and concludes with two pages of general recommendations. A copy of the report may be obtained for five cents from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

Johns-Manville Corporation

Announces

a new line of Built-up Roofing

BY the addition of a line of slag or gravel surfaced roofings to their well known smooth surfaced Asbestos built-up roofings, Johns-Manville Corporation is now in a position to offer to Architects and Contractors built-up roofings suitable to any type of building and to any condition.

Together with this addition to their line of roofings, Johns-Manville is also prepared to offer surety bonds guaranteeing the performance of these roofings when laid under the supervision of their inspectors. Depending upon the type of roofing used, and upon the conditions, these bonds run for periods of ten, fifteen and twenty years. In connection with the bonding of these built-up roofs, a periodic inspection service is also supplied.

As in the past, all Johns-Manville built-up roofs will be laid only by Roofing Contractors approved by Johns-Manville Corporation. This will insure to the Architects that the workmanship will be handled in a satisfactory manner, and that the proper specifications will be followed.

The Johns-Manville line of built-up roofings now includes the following: *Smooth surfaced Asbestos Roofings.* These can be laid on roofs of *any* pitch . . . Super Class A. Underwriters' Laboratories Classification. Bonded for twenty years. . . . Class A. Underwriters' Laboratories Classification. Bonded for fifteen years . . . *Combination roofing.* Can be laid on roofs of *any* pitch. Bonded for ten years . . . *Slag or gravel surfaced roofings.* These can be laid on any pitch up to six inches per foot. Bonded for ten years.

Architects are urged to avail themselves of the free services of Johns-Manville Architects' Service Section for consultation and assistance on all roofing problems. This service is offered to any who are using or considering the use of any Johns-Manville product.

JOHNS MANVILLE CORPORATION

Johns-Manville

BONDED ROOFS

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

COMMUNICATION RELATIVE TO THE N. Y. BUILDING CONGRESS SPECIFICATIONS

Editors, The American Architect
New York, N. Y.
Gentlemen:

The Standards Committee of the New York Building Congress are deeply gratified at the receipt of a communication from Mr. William A. Delano, President of the New York Chapter of the American Institute of Architects, advising of the acceptance, by the Chapter at its meeting on January 8th last, of the report of its Committee, appointed by Mr. H. Van Buren Magonigle, when President, to consider the Standard Specifications prepared by the Congress. Mr. Delano writes that:

> "The Committee of the New York Chapter of the American Institute of Architects, to whom the matter of the Standard Specifications of the New York Building Congress was referred, has gone over these specifications with a fine-tooth comb and finds them an admirable piece of work. This Committee recommends that every architect acquire a copy of these specifications because they will act as a guide toward clearer specification writing."

The members of the Committee of the American Institute of Architects are: John M. Montfort, Chairman, Office of Messrs. Buchman & Kahn; Bevan Jones, Office of Messrs. Voorhees, Gmelin & Walker; John A. Wetzel, Office of John Russell Pope; Frank W. Reynolds, Office of Thos. E. Murray, Inc.

The authorities are now complete. Standard Specifications are prepared and issued by the New York Building Congress; they are approved by Trade Boards where such exist in an industry; they are recommended for use by the New York Chapter of the American Institute of Architects. In printed form the Standard Specifications can be used as contract documents, as are the documents of the American Institute of Architects.

WILLIAM ARTHUR PAYNE
Chairman, Standards Committee
New York Building Congress

INTERIOR AND EXTERIOR WINDOW SILLS

EVERY so often some one prepares an informative booklet on building materials or equipment that is worth filing because of its practical value and the data it contains for the drafting room or specification writer. One of these prepared by the Structural Service Bureau for the Structural Slate Company has just come to our attention. It is entitled "Window Sills, Interior and Exterior." The text and illustrations will be found particularly valuable in connection with the use of slate for window sills. D. Knickerbacker Boyd of Philadelphia, consulting architect for the Bureau, wrote the introduction and, from the practical nature of the booklet, evidently directed or strongly influenced its preparation. In addition to detail drawings there is found a chapter on "Installation Data and Methods, Including Specifications." The chapter on slate finishes, illustrated with close-up detail photographs, should be found especially valuable. The booklet is 8½ x 11 inches in size, and contains 32 pages. Copies may be obtained through THE AMERICAN ARCHITECT Service Department.

LANDSCAPE ARCHITECTS' EXHIBITION

A NOTICE has been received, announcing that the Sixth Annual Exhibition of the New York Chapter of the American Society of Landscape Architects will open at the Arden Gallery, 460 Park Avenue, New York, on Monday, March 11th, 1929, and is scheduled to run approximately six weeks thereafter. THE AMERICAN ARCHITECT will publish a review of this exhibit in a forthcoming issue.

CORRECTIONS

IN the February 5, 1929, issue of THE AMERICAN ARCHITECT, we regret to say, there was an unusual number of mistakes, for which we ask our readers' kind indulgence. There were three omissions.

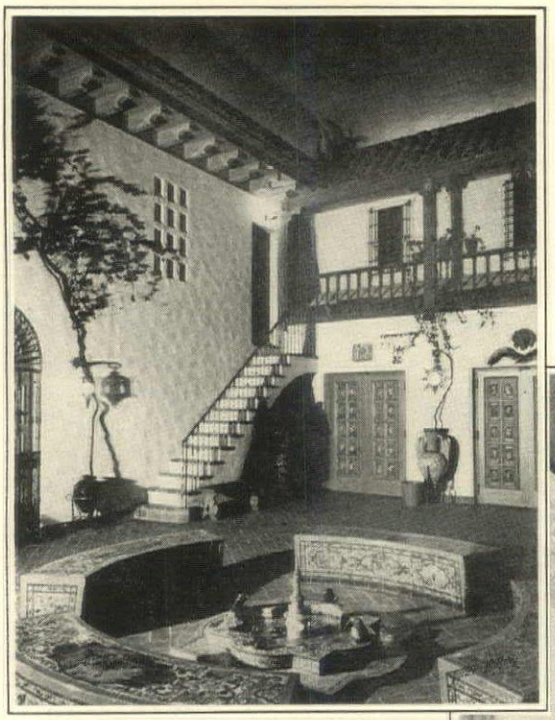
It should have been noted, with the names of Strickland, Blodget & Law, architects, that Dana B. Somes was associate architect of the Ashburton Apartments, Boston, Mass., featured on pages 151 and 152.

On page 173, where we showed the Main Lobby of the Shelball Apartments, Kew Gardens, N. Y. —Seelig and Finkelstein, architects—we should have included the name of Weinold Reiss, designer of interior architecture.

Credit should have been given John M. Howells and Raymond M. Hood, associated architects, on pages 176 and 177 devoted to the Apartment House at 3 East 84th Street, New York City. Only the name of Raymond M. Hood was mentioned.

WINTER CONSTRUCTION BULLETIN ISSUED

THE Philadelphia Building Congress has issued a bulletin that is convincing in pictures as well as text that the Winter Construction idea is well beyond a theoretical status. The title of the bulletin is "Year-round Construction Facts." The illustrations used are reproductions of buildings under construction in Philadelphia and its vicinity during the winter seasons of 1927 and 1928. Statistics are included giving the dates when the photographs were taken and the number of craftsmen then employed on the work. Arguments are also presented for the more extended practice of continuing construction work throughout the year to minimize unemployment and stabilize conditions in the industry. The Committee on Year-round Construction of the Philadelphia Building Congress is to be congratulated on the convincing manner in which it has presented the facts relating to this.



for Interior Beauty *and* Acoustical Effects *in the* Plaza Theater, Kansas City

Architects: Edward W. Tanner. Boller Bros., Associates
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THE Plaza Theater, Kansas City, an outstanding example of colorful and highly decorative Spanish and Italian architecture, offers convincing proof of the worthwhile results of quality materials plus master craftsmanship.

In this structure of beauty, E. J. Walter achieved the highest type artistry by the use of Blue Diamond lime mortar with BEST BROS. Keene's Cement. The acoustical effects are remarkable.

Mr. Walter, who has used BEST BROS. Keene's Cement on more than 100 large buildings, says: "From our experience we find that BEST BROS. Keene's Cement always produces the texture and color effects desired, and for ease of application and economy proves superior to other materials."

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INDIANAPOLIS AGREEMENT FOR APPRENTICES IN THE CARPENTRY TRADE

A BULLETIN recently released by the Indianapolis Building Congress announces that a Joint Committee on Apprenticeship Training in the Carpentry Trade has been organized. The Committee consists of three representatives of the employers of the carpentry trade and three representatives of the labor union. Harry E. Wood, Director of Vocational Education and Manual Training in the Indianapolis schools, is also a member of the Committee.

The Committee has had several meetings and adopted an agreement governing apprentices in the trade which has been officially approved by the Carpenters' District Council and the Associated General Contractors' Association of Indianapolis. This agreement provides for a four-year period of apprenticeship with a wage increase every six months; continuous employment of the apprentice and compulsory school attendance of two evenings a week; and a minimum and maximum age limit of seventeen to twenty-two years. The full term of apprenticeship is divided into eight periods of six months each, and the apprentice will receive his advanced rating upon the satisfactory completion of each period. At the successful completion of four terms of apprenticeship and school training apprentices will receive diplomas from the Indianapolis Building Congress at graduation exercises conducted by the Congress, the Board of Education and the Joint Committee, and will then become journeymen.

The action of the Indianapolis Building Congress in developing an apprenticeship system is commendable, for the future of building construction is largely dependent upon the training of men competent to carry on the work of the various trades.

TRAVELING FELLOWSHIP ANNOUNCED FOR UNIVERSITY OF MICHIGAN GRADUATES

GRADUATES of the College of Architecture of the University of Michigan, not over thirty years of age on the opening day of the competition, are invited to take part in the annual competition for the George G. Booth Traveling Fellowship in Architecture, which will be held during the two weeks beginning April 6th, 1929. The stipend is twelve hundred dollars.

Competitors may make their drawings at their present place of residence. Those intending to compete are asked to write as soon as possible to Professor Emil Lorch, College of Architecture, University of Michigan, Ann Arbor, Mich.

PRINCETON ANNOUNCES COMPETITION FOR DRAUGHTSMEN

TWO competitive prizes of eight hundred dollars each, in the School of Architecture, Princeton University, Princeton, N. J., are announced for the year 1929-1930. The prizes will be awarded to the winners of a competition in design to be held from May 20th to May 31st, 1929.

The purpose of these prizes is to place at the disposal of experienced draughtsmen of unusual ability an opportunity to complete their professional training by contact with the academic side of architecture, and the advantages to be had in the School of Architecture, the Department of Art and Archaeology, and the Graduate School, of Princeton University. The winners are exempt from tuition fees. This is the sixth year the prizes are given.

The competition is open only to men, unmarried, who are citizens of the United States and not under twenty-one or over thirty years of age on September 1st, 1929, and who will have been employed as draughtsmen in architects' offices for not less than three years. Applications must be filed on or before April 17th, 1929. Application blanks and regulations governing the competition and award may be obtained on request from the Director, the School of Architecture, Princeton University, Princeton, N. J.

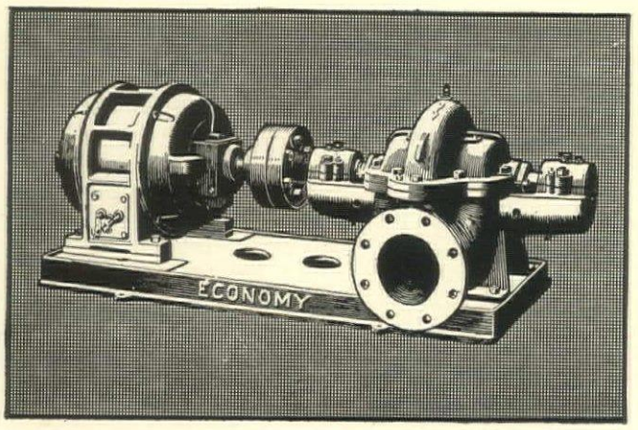
ON GOING TO ITALY

PAUL VALENTI, R.A.B.A., of the Washington University (St. Louis, Mo.) School of Architecture, will conduct a travel group on a visit to Italy, "for pleasure and cultural purposes."

Professor Valenti, largely as a result of long residence and study in Italy and because of professional connections there, is thoroughly familiar with the country generally and in particular with those innumerable objects of interest which Italy offers to connoisseurs and art lovers. Authorized by the Italian Government, which will coöperate to the end that American visitors in this group may profit in the highest degree, this trip presents many advantages, from the standpoint of education and economy, for those who desire to escape the standardized commercial tour. An extension of this trip through Western Europe has been arranged.

The sailing date is June 22nd, 1929, and the return is scheduled for September 16th. Those interested are advised to communicate with Prof. Paul Valenti, Department of Architecture, Washington University, St. Louis, Mo., for all particulars concerning itinerary options, fares and ships.

One Of A Broad Line Of Famous Pumps



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A recent improvement in design embodying the newest hydraulic development enables us to feature in this pump a new high efficiency.

An all around pump for water supply, brine circulation, hot water circulation, etc., thoroughly conventional in design but with many added refinements for longer life and greater satisfaction. It offers:

High efficiencies.

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Wearing rings flanged in both upper and lower half of case. No pins used.

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Economy Pumps

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PERSONALS

William C. Halbert, Jr., architect, announces that his office is now located at 202 North Avenue, New Rochelle, N. Y., instead of his former address at 11 North Avenue.

Howard Greenley, architect, of 129 East 54th Street, New York City, has virtually retired from active practice in architecture, and has requested manufacturers to remove his name from their lists.

Ernest G. Southey, architect, has moved his office from 983 Broad Street, Bridgeport, Conn., to The City National Bank and Trust Company Building, 955 Main Street (Room 906), Bridgeport, Conn.

Harold R. Smith, architect, announces the continuance of the office of T. MacLaren under the name of Harold R. Smith, successor to T. MacLaren, 320 Colorado Springs National Bank Building, Colorado Springs, Colorado.

On January 1st, 1929, Oren Thomas joined the firm of Proudfoot, Rawson & Souers. The new firm name is Proudfoot, Rawson, Souers & Thomas, and offices are located at 810 Hubbell Building, Des Moines, Iowa.

M. C. Parker, architect, announces that he has moved his office from 216 Hill Building, Santa Ana, Calif., to Room 15, First National Bank Building, Roswell, New Mexico, and would appreciate having manufacturers' catalogues and so forth addressed accordingly.

Thomas E. Murray, Inc., Designing and Consulting Engineers on power plant and industrial buildings, announce the removal of their New York offices from 55 Duane Street to 88 Lexington Avenue. They also announce the opening of a Detroit (Mich.) office in the Eaton Tower Building.

Horace W. Peaslee, architect, located at 1228 Connecticut Avenue, Washington, D. C., announces that both Miss Gertrude Sawyer, graduate of the University of Illinois and the Cambridge School of Architecture, and Joe Harry Lapish, graduate of George Washington University and Ecole des Beaux Arts, Fontainebleau, have become affiliated with him for the practice of architecture.

A LETTER

The Editor
The American Architect
My dear Sir:

My attention has been called to an article in your issue of December 20th, entitled "The Opportunity of the Architect."

I think this article comes at a time when many architects realize that functions they exerted in the past are being taken away from them and their position is becoming secondary in building operations. This article points one way in which the architect can increase his service to the community and, after all, it is only by thus increasing his ability to render service that he can advance his own position.

I can see great possibilities unfolding through a series of articles directed to this end and a great service rendered to the architectural profession.

The architect himself is not very readily responsive to efforts in his behalf. He is a high individualist. Nevertheless, I, for one, welcome such discussion and would be glad to see it continued and specific comments pointed out by which the architects could work together to advance their standing and serve the communities.

Yours very truly,
PERRY R. MACNEILLE.

New York.

CHICAGO ASSOCIATION OF CONSULTING ENGINEERS ELECTS OFFICERS

THE Chicago Association of Consulting Engineers, of 104 South Michigan Avenue, Chicago, at their Ninth Annual Meeting held January 21st, elected officers for the ensuing year as follows: Ernest V. Lippe, President; Rollo E. Gilmore, Vice-President; and H. L. Clute, Secretary-Treasurer. The retiring president was Irving E. Brooke. The Association consists of professional engineers engaged in mechanical, electrical and sanitary engineering who are not connected with the sale of equipment or apparatus.

CITY PLANNING ENABLING ACT

A STANDARD City Planning Enabling Act has recently been prepared by the Advisory Committee on City Planning and Zoning of the United States Department of Commerce. It contains a foreword by Herbert Hoover, recommending the act to cities and towns, and briefly indicating its value; a general statement of the need for such an act, with an explanation of its purpose; and provisions for municipal planning and planning commissions, subdivision control, buildings in mapped streets, and regional planning and planning commissions. Copies of the act may be secured for fifteen cents each from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

MODERN FLOORS IN MODERN ARCHITECTURE*

DIFFERENT! *Yet* United...

A cozy New England style cottage decorated in the quiet good taste of the period it typifies. And note how the Armstrong Embossed Floor in a rich terra cotta puts the decorations on friendly terms and binds both rooms into one large, very liveable area.

by color and pattern in these modern floors

EXAMINE the adjoining rooms shown in this picture. Naturally they differ in detail, yet both are the same in feeling . . . united by the element of color in the floors.

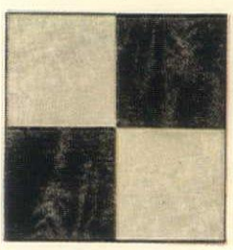
That is one of the most important functions of Armstrong's Linoleum Floors . . . to bind together adjoining rooms, not only harmonizing their decorations, but actually increasing their apparent size. Thus both living-room and dining-room gain by using the same Armstrong pattern in both.

Aside from their beauty and their economy, Armstrong's Linoleum Floors offer the practical advantage of easy cleaning-care. Accolac, by the new Armstrong process, seals the pores of the linoleum preventing dust and grit from grinding in.

Send today for free quality samples of these floors which show this new labor-saving Accolac process surface. Armstrong Cork Company, Linoleum Division, Lancaster, Penna.

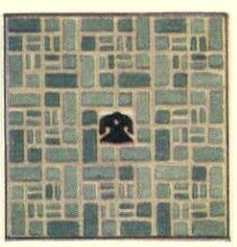
Look for the CIRCLE A trade-mark on the burlap back

**This is No. 5 of a series of color-plates illustrating "Modern Floors in Modern Architecture." The complete set of six will be sent to any architect upon request.*



Armstrong's Handmade Marble Inlaid No. 70

Armstrong's Embossed Tile Inlaid No. 6032



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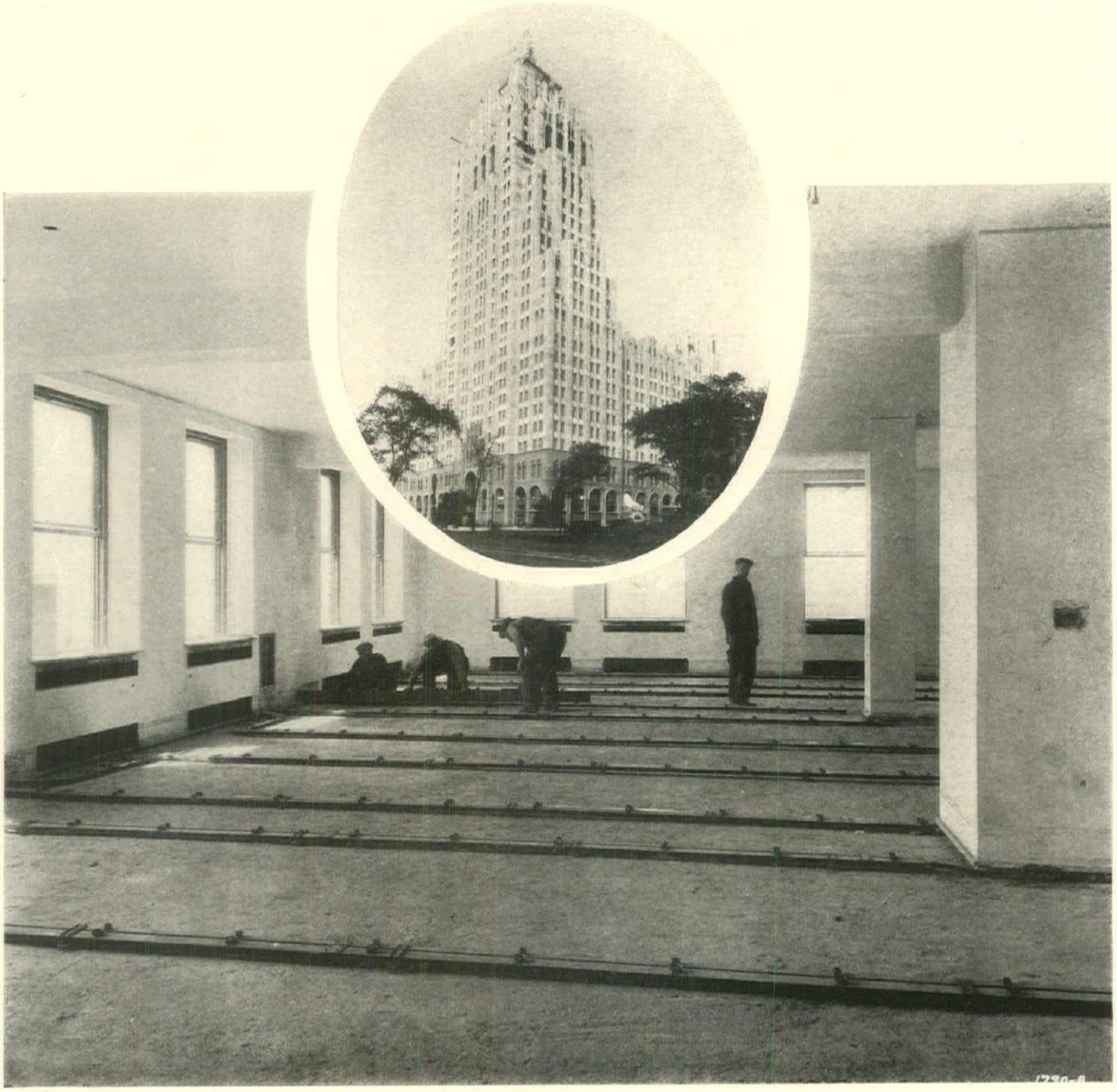

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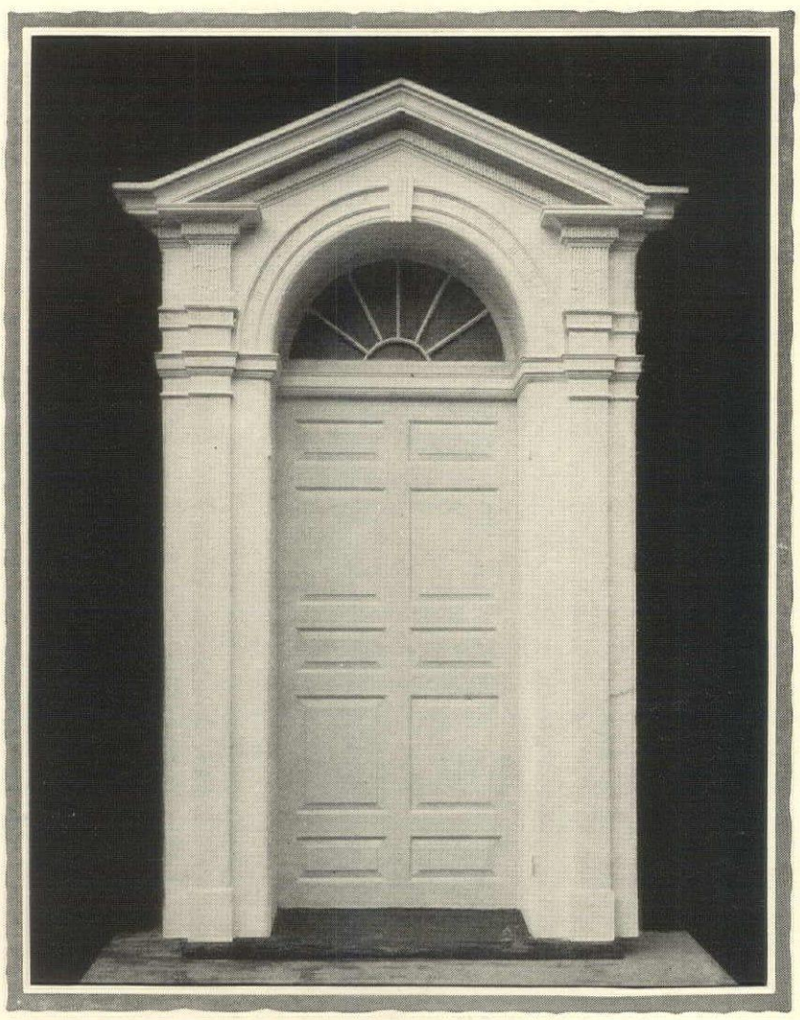
The old RUNYON HOUSE

was vibrant with patriotism and joy...

"...It was one of the early anniversaries of the Declaration of Independence. And at the old Runyon House had gathered nearly every person of consequence in Trenton to rejoice over the blessings of independence.

Truly the ballroom on this notable evening presented a brilliant picture. Laughter, music, dancing, powdered and pompadoured gentlemen bowing deeply to beruffled beauties. A spirit of fine patriotism and joy was everywhere....."



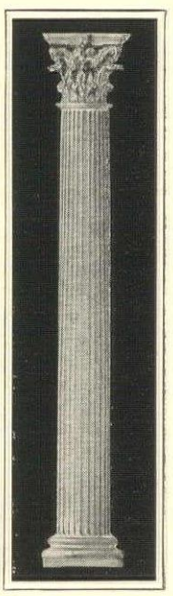
Above is the entrance to the old Runyon House, Trenton, New Jersey, which may today be seen at the Metropolitan Museum.

IN THESE TWO INTERESTING BOOKLETS, YOU WILL FIND CORRECT COLONIAL ENTRANCES AND COLUMNS FOR ANY COLONIAL HOME OR OTHER BUILDING.

Hartmann-Sanders has recently published two booklets that will interest those who design homes and other buildings in the historic Colonial tradition.

The booklets illustrate a notable group of entrances and columns of authentic early American inspiration ... many being almost exact duplicates of famous originals now on display in the Metropolitan Museum.

The booklets tell how Hartmann-Sanders entrances and columns are finely hand wrought by skilled craftsmen who understand from long years of experience every artistic detail.



Write for the booklets, no charge, of course. Hartmann-Sanders Co., Dept. W, 2154 Elston Avenue, Chicago. Eastern Office and Showroom: 6 East 39th Street, New York City.

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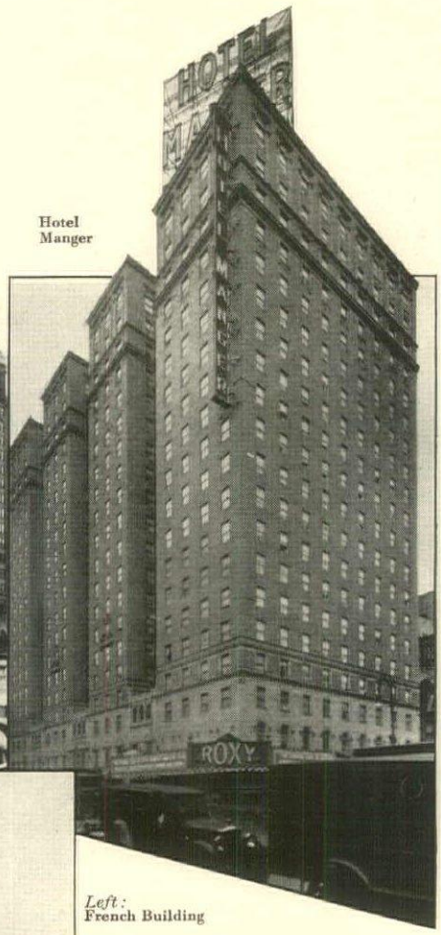
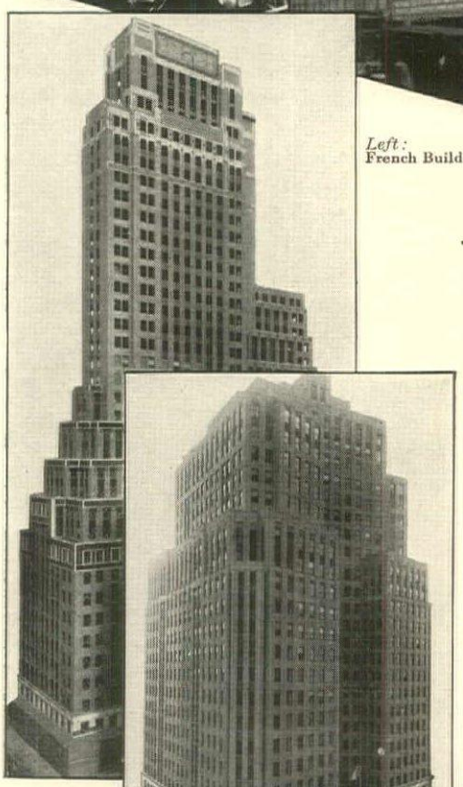
Sherry-Netherland Hotel



Hotel Manger

Two of the apartment houses in the Tudor City development



Left: French Building

General Motors Building

–and hundreds of others

Office and bank buildings, hotels, apartments, theatres, hundreds of buildings of every type in New York City, expressing both the new and the traditional in architectural ideas, have one highly important attribute in common—they have Bethlehem Wide-Flange Structural Shapes in their steel framework.

In New York City, where the skyscraper has reached such a high stage of development, the high quality and economy in weight and cost of fabrication of "Bethlehem Sections" were promptly recognized, when these Sections were introduced, years ago.

Bethlehem Sections readily lend themselves to every type of construction.

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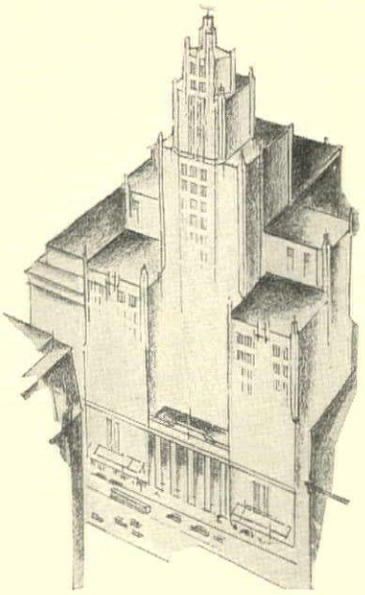
"You can't save money by skimping on pipe!"



"Mr. Camp, I confess I never viewed the matter quite in that way before. If the useful life is doubled, as it seems likely to be from our investigation, of course the economy is plain enough. Still, I wonder if the owners of buildings will appreciate it?"

"And by my reckoning, Mr. Camp, wrought iron would give you about double service, but it would double your cost, too. So, since we have to trim wherever we can, I think we'd better use cheaper pipe."

"Wrought Iron would double *one small item* of your cost, possibly. But it would double the *life* of your whole pipe job, too. Wrought iron doesn't really cost double; but suppose it did. Remember that nine tenths of your cost in such a case goes for labor, fittings, incidentals, and overhead. Only one-tenth actually goes for pipe. What we need to consider is that *on our complete installation the extra cost* of wrought iron pipe *wouldn't be more than 5%*. If you can make the whole system last twice as long for that small difference, you're serving the best interest of your client, aren't you?"

"Offhand. I don't expect they will. But I think they'll agree with us after we show them the facts. Anyhow, if we make the right recommendation and give sound reasons for it, nobody can turn it down and then blame us for the outcome. Untimely pipe failures, by the way, are mighty unpleasant occurrences, and frightfully expensive, I've learned. So let's stick to the wrought iron specification."

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It is a complete cost analysis of a large variety of pipe systems and dispels the fallacy that genuine wrought iron pipe is too costly to use. A copy will be mailedgladly on request.

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GENUINE WROUGHT IRON

To the left
Altar and Reredos
with Last Supper carving

Chancel and Sanctuary
First English Evangelical
Lutheran Church
Palmer Square, Chicago
Granger and Bollenbacker, *Architects*

"THE TRUE WORK OF ART IS BUT A SHADOW OF THE DIVINE PERFECTION"

—*Michael Angelo*

To the architect "American" craftsmen in wood bring more than skillful execution of design and careful rendering of detail. Artists in soul and spirit, they express in wood a pulsing reality of hand and cabinet art, so earnestly desired by every architect. Such results are obtained only where mechanical equipment and morale of personnel approaches perfection. Faith in these facts is one reason why architects can come to "American" craftsmen with highest expectations.

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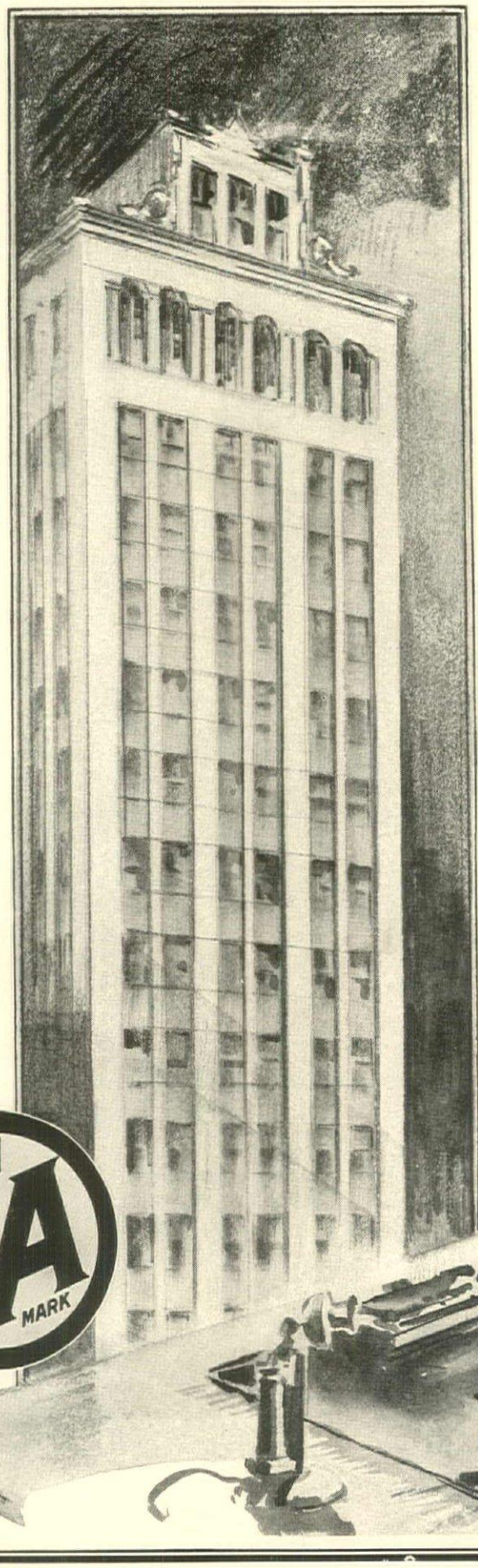
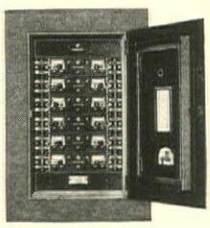


Visualizing your building from the plans before you, think awhile on the panelboard question. All makes of panelboards are not alike and cannot give the same service.

Decide now the length of good life without maintenance you want the panelboards to have. Choose now your service requirements and consider safety. With (FA) Panelboards and switchboards you can *know* these things, yet their high quality standard will not add to your costs.

A good start is an (FA) estimate giving the right price first, promptly. A price that is based on known costs, a full value for your panelboard dollar.



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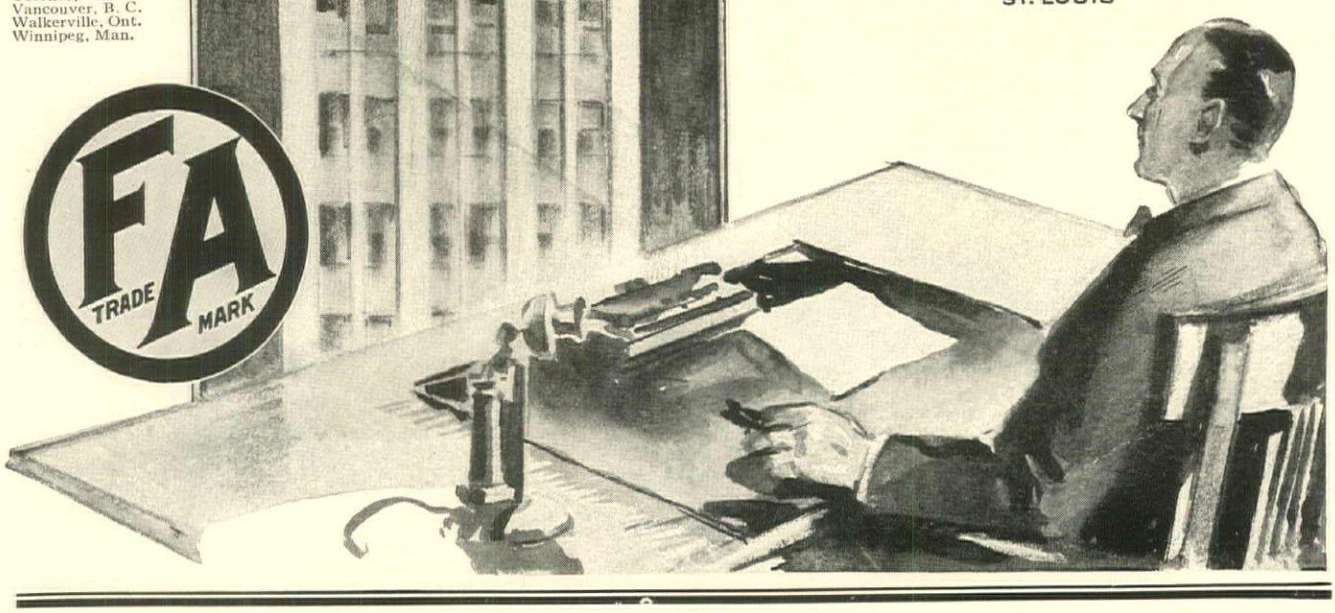

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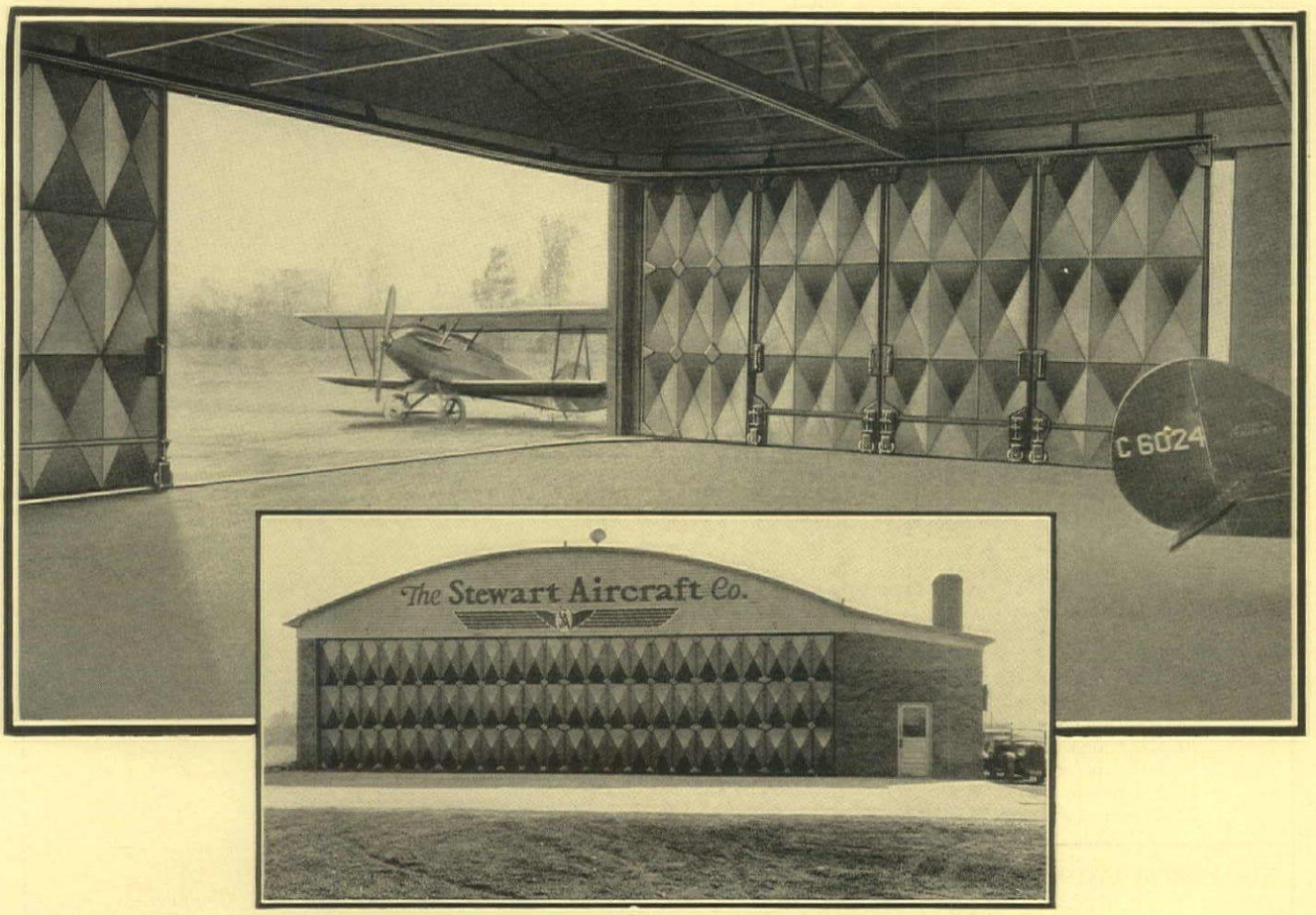

There's an R-W Way for *every* doorway

The hangar of the Stewart Aircraft Company at the Cleveland Municipal Airport has a storage capacity of 10 planes. The doorway of the hangar is 56 ft. wide by 13 ft. 9 in. high.

When Richards-Wilcox engineers were called in to solve the doorway problem for this large opening, they installed 8 all-steel doors. They operate on curved floor rails which permit the doors to slide back to either side, allowing a full width unobstructed opening without center posts.

The top of the doors are guided by ball-bearing rollers between two channel irons. The whole weight of the doors—approximately 3 tons—is carried on R-W ball-bearing rollers running on floor rails firmly imbedded in concrete. The ball-bearing rollers give perfect balance to the doors and make one-man operation easy.

The Richards-Wilcox all-metal construction assures a door that will not warp or swell because of rain, snow, and freezing weather.

Richards-Wilcox all-metal doors and door hardware are not just so much hardware and material. Behind every installation are Richards-Wilcox engineers, who design doorway equipment to function efficiently, economically, and without trouble.

If you have a doorway problem an R-W doorway engineer will be glad to talk it over with you. There's an R-W Way.

Richards-Wilcox Mfg. Co.

"A Hanger for any Door that Slides."

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REFERENCE LIST OF BUSINESS LITERATURE

A Service arranged for the use of the Architect, Specification Writer and Architect Engineer

THIS list of the more important business literature of Manufacturers of building material and equipment is published each issue. Any of these publications may be had without charge, unless otherwise noted, by applying to The American Architect, 235 East 45th Street, New York, or obtained directly from the manufacturers. Either the titles or the numbers may be used in ordering.

Arranged according to the Standard Construction Classification adopted by the American Institute of Architects.

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I Plans and Designs.

II General Catalogs.

III Financing of Enterprises.

1. PREPARATION OF SITE

2. EXCAVATION

3. MASONRY MATERIALS

The Carney Company, 714 Builders Exchange, Minneapolis, Minn.

1486. *A Remarkable Combination of Quality and Economy.* Booklet sets forth the advantages of Carney Cement for brick and tile mortar. Specifications are included. A. I. A. File No. 3a4. 20 pp. Illustrated. Size, 8½ x 11 in.

The Genfire Steel Co., Youngstown, Ohio.

941. *Fireproof Handbook.* 64 pp. Size, 8½ x 11 in. Illustrated. Gives methods of construction, specifications, data on Herringbone metal lath, steel tile, Trussit solid partitions, steel lumber, self-centering formless concrete construction.

942. *Hardening and Dustproofing New or Old Cement Floors.* Gives methods for both metallic and chemical hardening. Form A-541.

Louisville Cement Co., Inc., Louisville, Ky.

311. *Brixment, the Perfect Mortar.* The reading of this little book gives one a feeling that definite valuable information has been acquired about one of the oldest building materials. Modern science has given the mason a strong water-resisting mortar with the desirable "feel" of the best rich lime mortar. 16 pp. Illustrated, in colors. Size, 5½ x 7¾ in.

1395. *Brixment.* Booklet describes Brixment, a mason's cement, and its use. Chemical analysis, tests, partial list of buildings in which Brixment has been used and architects specifications are included. A. I. A. file No. 3a 4 pp. Size, 8½ x 11 in.

4. CONCRETE AND MONOLITHIC CONSTRUCTION

Blasteel Manufacturing Company, Kansas City, Mo.

1438. *Spearpoint Giant Floor Clips.* Circular A illustrates and describes the construction and application of Spearpoint floor clips for securing floor sleepers to concrete slabs. A. I. A. File No. 4h. 4 pp. Illustrated. Size, 8½ x 11 in.

Concrete Engineering Co., Omaha, Neb.

347. *Handbook of Fireproof Construction.* An illustrated treatise on the design and construction of reinforced concrete floors with and without suspended ceilings. The Meyer Steel-form Construction is emphasized and tables are given of safe loads for ribbed concrete floors. 40 pp. Illustrated. Size, 8½ x 11 in.

Genfire Steel Co., Youngstown, Ohio.

1264. *GF. Steel-Tile.* An economical system of floor construction. Booklet sets forth the advantages of GF Steel-Tile floor construction and includes tables for designing and building steel-tile floors, and complete specifications. 32 pp. Illustrated. Size, 8½ x 11 in.

1265. *Self-Sentering and Trussit.* Booklet devoted to self-sentering, a combined form and reinforcement for floors and roofs and Trussit reinforcement for solid partitions and curtain walls with erection details and specifications for use in walls, ceiling, roofs and floors. 48 pp. Illustrated. Size, 8½ x 11 in.

Milwaukee Corrugating Company, Milwaukee, Wisconsin.

1411. *The Milcor Manual. Catalog No. 20c.* Data book on Milcor materials and methods including engineering tables, details, specifications and general information regarding Milcor stayrib and Netmesh expanded metal lath, "expansion" corner bead and casings, steel domes, channels and other fire-resisting building products. 68 pp. Illustrated. Size, 8½ x 11 in.

Mitchell-Tappen Co., 15 John Street, New York City.

1469. *Standardized Metal Caging for Reinforcing Concrete Soffit Fireproofing.* Bulletin No. 21 contains useful data on Standardized Metal Caging (S.M.C.). Folder covers advantages, estimating, size required and directions for applying S. M. C. to beams, channels and columns. A. I. A. File No. 4f. 4 pp. Illustrated. Size, 8½ x 11 in.

Portland Cement Association, 33 West Grand Avenue, Chicago, Ill.

636. *Design and Control of Concrete Mixtures.* Booklet T-12 describes concrete mixtures by different methods, and includes a treatise on the factors essential to the economic production of concrete of proper strength and durability. 32 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

317. *Truscon Floortyle Construction—Form D-352.* Contains complete data and illustrations of Floortyle installations. 10 pp. Illustrated. Size, 8½ x 11 in.

5. BRICK WORK

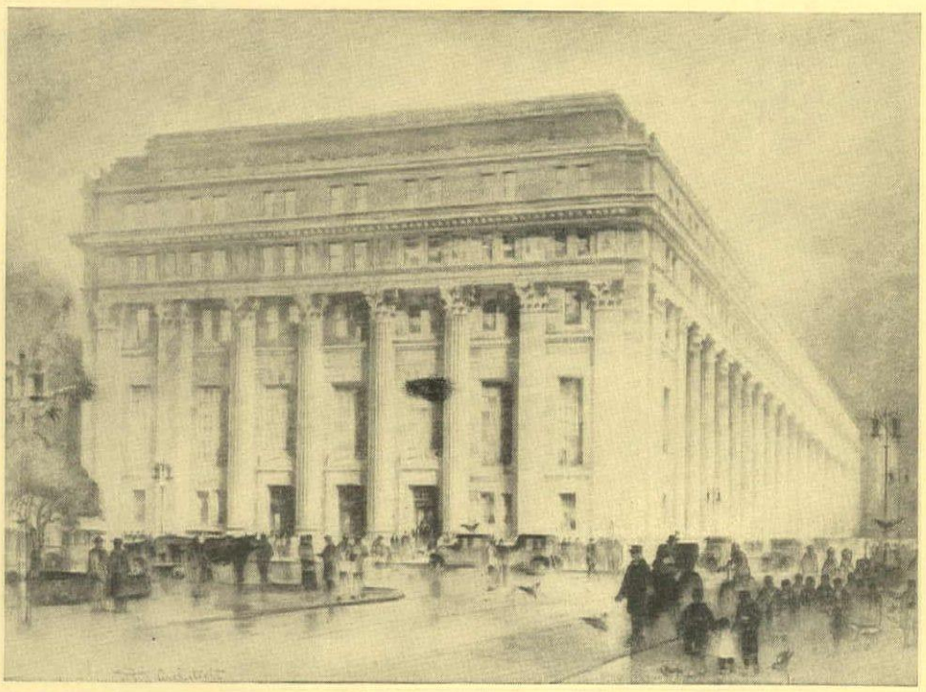
Atlantic Terra Cotta Co., 19 W. 44th Street, New York City.

1580. *Chimney Pots* is a booklet containing colored illustrations of chimney pots hand-made by the Atlantic Terra Cotta Company. Specifications and details of fireplace constructions are included. 16 pp. Size, 8½ x 11 in.

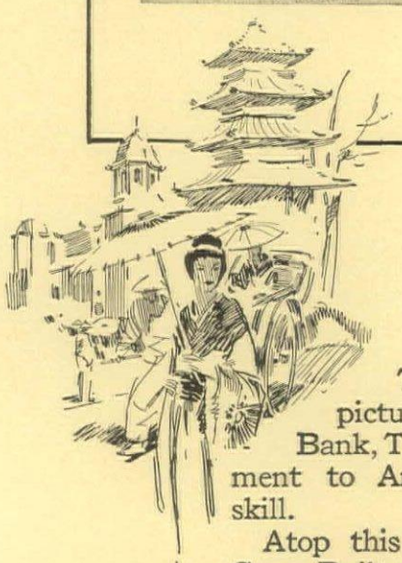
Colonial Fireplace Co., 4603 Roosevelt Road, Chicago.

1582. *Blue Print—Fireplace Detail.* Shows correct formation of fireplace throat, fire shelf, flue, etc. Indicates common errors that ruin a fireplace, shows how to avoid them. Full information—Colonial Fireplace Damper. 8 pp. Folds to size 8½ x 11 in.

5241 miles *from* San Francisco



The Mitsui Bank, Tokyo, Japan
Trowbridge & Livingston, Architects



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The stately structure pictured above is the Mitsui Bank, Tokyo, Japan—a monument to American architectural skill.

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REFERENCE LIST OF BUSINESS LITERATURE—Continued

5. BRICK WORK—Continued

Common Brick Manufacturers Assn., Guarantee] Title Bldg., Cleveland, Ohio.

1528. *Skintled Brickwork.* Booklet contains suggested use of brick to secure interesting and unusual effects. A volume of practical information of interest to architects on the use of common brick. 15 pp. Illustrated. Size, 8½ x 11 in.

Old Virginia Brick Company, Salem, Virginia.

1424. *The True Moulded Old Virginians.* Folder illustrates and describes hand moulded old Virginia brick and includes a reply card for obtaining miniature sample bricks. 4 pp. Illustrated. Size, 8½ x 11 in.

1436. *F. F. Vees or Controlled Distorts.* Folder describes F. F. Vees brick that are similar to klinker brick, being irregular in shape and possessing a wide variation in color range due to burning. Typical walls built of F. F. Vees are shown. 4 pp. Illustrated. Size, 8½ x 11 in.

6. FOUNDATIONS

Raymond Concrete Pile Co., 140 Cedar St., New York City.

156. *Raymond Concrete Piles—Special Concrete Work.* A booklet with data concerning the scope of the Raymond Concrete Pile Co., for special concrete work. It classifies piles, showing by illustration, text and drawings the relative value of special shape and manufacture of piles. It gives formulae for working loads, and relative economy. 60 pp. Size, 8½ x 11½ in.

7. WATERPROOFING AND DAMPPROOFING

The Philip Carey Co., Lockland, Cincinnati, Ohio.

1035. *Carey Waterproofing and Dampproofing Specifications.* A valuable file of eleven specifications for waterproofing and dampproofing various type of structures with different conditions. 44 pp. Illustrated. Size, 8 x 10¼ in.

Genfire Steel Co., Youngstown, Ohio.

1263. *GF Waterproofing Handbook.* Seventh edition, describes effective and economical methods for waterproofing concrete and all forms of masonry with GF waterproofings; the use of GF preservatives for protecting finished surfaces against water, weather and stains; and the use of compounds for bonding new concrete to old. Specifications and estimating data included. 72 pp. Illustrated. Size, 8½ x 11 in.

Johns-Manville Corp., 292 Madison Ave., New York City.

1548. *Waterproofing.* Catalog contains information regarding waterproofing and dampproofing materials for many purposes, as well as specifications. 24 pp. Illustrated. Size, 6 x 5 in.

Sommers & Co., Ltd., 342 Madison Ave., New York City.

1118. *Permantite Liquid Waterproofing* for making concrete and cement mortar permanently impervious to water. Also circulars on floor treatment and cement colors. Complete data and specifications. Sent upon request to architects using business stationery. Circular size, 8½ x 11 in.

L. Sonneborn Sons, Inc., 114 Fifth Ave., New York City.

891. *Dampproofing and Waterproofing. Floor Treatments.* Bulletins of specification data for dampproofing structures and for floor hardening and coloring. Sent on request on business stationery. In folders. Size, 8½ x 11 in.

8. STONE WORK

The Georgia Marble Co., Tate, Ga.

1396. *Georgia Marble.* Architects' Service Catalog. A comprehensive book describing the production of marble from quarry to building. The results of laboratory tests. Detail drawings and photographs of prominent buildings, architects' standard specifications, and plates showing colors and finishes available in Georgia marble are included. A. I. A. File No. 8Bl. 68 pp. Illustrated. Size, 8½ x 11 in.

Indiana Limestone Company, 1317 Tribune Tower, Chicago, Ill.

845. *School and College Buildings, Vol. 6, Series B.* A profusely illustrated booklet showing the use of Indiana Limestone in a large number of educational buildings of all kinds and types and in all parts of the United States. 80 pp. Illustrated. Size, 8½ x 11 in.

Indiana Limestone Company, Architects' Service Bureau. P. O. Box 308, Bedford, Ind.

1241. *Indiana Limestone Specification Manual.* This is Vol. III, Series "A-3." Service publication on Indiana Limestone, containing Specifications and Supplementary Data relating to best methods of specifying and using this stone for all building purposes. It can be obtained from a Field representative of the company or by direct request from architects written on his letterhead. 84 pp. Size, 8½ x 11 in.

9. ARCHITECTURAL TERRA COTTA

Midland Terra Cotta Company, Chicago, Ill.

1429. *Standardized Terra Cotta.* A portfolio of plates illustrating entrances, architraves, lintel and band courses, sills and ashlar, cornice and belt and many other items made of terra cotta in standard shapes and sizes. 17 plates of detail drawings. Size, 9¾ x 14½ in.

National Terra Cotta Society, 19 West 44th St., New York City.

664. *Standard Specifications.* Contains complete detailed specifications for the manufacture, furnishing and setting of terra cotta, a glossary of terms relating to terra cotta and a short form specification for incorporating in architects' specification. 12 pp. Size, 8½ x 11 in.

1397. *Building Floodlighting and Its Possibilities with Terra Cotta.* In addition to illustrating night views of prominent buildings floodlighted, three carefully prepared articles by illuminating engineers are given. 16 pp. Illustrated. Size, 8½ x 11 in.

The Northwestern Terra Cotta Co., 2525 Claybourn Ave., Chicago, Ill.

96. *Architectural Terra Cotta.* A collected set of advertisements in a book, giving examples of architectural terra cotta, ornamental designs and illustrations of examples of facades of moving-picture, houses, office buildings, shops, vestibules and corridors in which Northwestern Terra Cotta was used. 78 pp. Size, 8½ x 11 in.

10. BLOCK CONSTRUCTION

11. PAVING

12. ROOFING, SHEET METAL AND SKYLIGHTS

John Boyle & Co., Inc., 112-114 Duane St., New York City.

212. *Boyle's Bayonne Roof and Deck Cloth.* List B-93. A prepared roofing canvas guaranteed waterproof for decks and the roofs and floors of piazzas, sun-parlors, sleeping porches, etc.

The Edwards Manufacturing Co., Cincinnati, Ohio.

1356. *Edwards Sheet Metal Products Catalog No. 7b.* A complete catalog of sheet metal building materials including various types of roofing, gutters and conductors, doors and windows, skylights and ventilators and many other products. General illustrations, descriptions, detail drawings and specifications are included. A. I. A. File No. 12. 184 pp. Illustrated. Size, 9¼ x 12 in.

Johns-Manville Corp., 292 Madison Ave., and 41st St., New York City.

1274. *Johns-Manville Service to Industry.* A comprehensive catalog of various types of roofing for all forms of construction. Details of wall, floor and ceiling insulation; asbestos wood for fireproof construction; waterproofing, etc. 300 pp. Illustrated. Size, 8½ x 11 in. Also Booklet on Asbestos Shingles. 24 pp. Illustrated. Size, 8½ x 11 in.

Mohawk Asbestos Slate Co., Inc., Utica, N. Y.

1582. *Tapered Asbestos Shingles.* Catalog in colors. Illustrated. Gives specifications and method of application. A. I. A. File No. 12F1. 12 pp. Size 8½ x 11 in.

Rising and Nelson Slate Company, 101 Park Ave., New York City.

496. *Tudor Stone Roofs.* This leaflet discusses colors and sizes of Tudor hand-wrought slates; deals with the service given to architects and tells how the material is quarried for each product after careful drawing and specifications are prepared in co-operation with architects. Special grades are described in detail and illustrations are given of buildings with Tudor slate roofs. Contains also specifications of laying slate. 4 pp. Illustrated. Size, 8½ x 11 in.

571. *Tudor Stone Roofs.* A brochure describing the 7 special grades of Tudor Stone and the 7 grades of commercial slate produced by this company with illustrations of many structures on which it has been used. 28 pp. Illustrated. Size, 6 x 9½ in.

Truscon Steel Company, Youngstown, Ohio.

1176. *Truscon Roofs (Steeldeck) "Ferrodeck" and "I-Plates" Types.* Booklet illustrating and describing the construction of "Steeldeck" roofs for any type of building. The application of insulation and waterproofing is shown. Specifications for roofs constructed of Ferrodeck or I-Plates are also included. 8 pp. Illustrated. Size, 8½ x 11 in.

1231. *Copper Bearing Steel Resists Corrosion.* By Robert D. Snodgrass, Consulting Engineer. A treatise containing facts, figures and photographs showing the rust resisting properties of steel containing a percentage of copper. Booklet No. 679 will be sent to those interested upon request. 16 pp. Illustrated. Size, 8½ x 11 in.

13. STRUCTURAL STEEL AND IRON

Bethlehem Steel Co., Bethlehem, Pa.

1173. *Bethlehem Structural Shapes. Catalog S-27.* Handbook containing complete information on Bethlehem sections, dimensions, weights, and safe load tables for beams, girders and columns. This handbook also contains much valuable engineering data useful in the design of structural steel buildings. 372 pp. Illustrated. Size, 4½ x 7 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

13. STRUCTURAL STEEL AND IRON—Continued

Bethlehem Steel Co., Bethlehem, Pa.

1517. *Steel Joists and Stanchions for Dwellings, Apartment Houses, etc.* Catalog S-28 contains tables of weights and dimensions, properties, safe loads and spacing of joists. Other valuable information useful in structural engineering is included. 72 pp. Illustrated. Size, 4 x 6½ in.

Carnegie Steel Company, Pittsburgh, Pa.

1336. *Carnegie Beam Sections.* Handbook contains profiles, dimensions and properties and safe load tables for new series, Carnegie Structural Steel beams and column sections. A hand book of value to architects and engineers designing structural steel. 170 pp. Illustrated. Size, 5 x 8 in.

1443. *Carnegie Beam Sections. Additions to New Series.* Booklet contains profiles, properties and safe loads for additions to new series Carnegie structural steel beams and column sections. The new series contains additions and modifications that have been found of advantage to users of Carnegie beam sections. A. I. A. File No. 13. 20 pp. Illustrated. Size, 5 x 7½ in.

Genfire Steel Co., Youngstown, Ohio.

945. *The Steel Lumber Handbook.* Full details on steel lumber floor construction with tables and drawings. Size, 8½ x 11 in.

1460. *Steel Joists.* Catalog describes T-Bar and Plate Girder Joists, giving their advantages, construction details, tables of safe loads for various spacings, and specifications. A. I. A. File No. 13g. 40 pp. Illustrated. Size, 8½ x 11 in.

Macomber Steel Co., 10th and Belden Ave., Canton, Ohio.

1546. *Roof Purlin Construction.* An eight-page folder containing designing data and standard specifications. A. I. A. File No. 13G. 8½ x 11 in.

1547. *Roof Trusses.* An eight-page folder containing designing data and standard specifications. A. I. A. File No. 13-I. 8½ x 11 in.

14. MISCELLANEOUS STEEL AND IRON

Consolidated Expanded Metal Co., Wheeling, W. Va.

1579. *Frame Bar Catalog No. 126* is a brief reference for architects in specifying Steelcrete Frame—Bar Window, door, transom and skylight guards for public buildings, factories and homes. Booklet prepared for filing illustrates various uses of Steelcrete Frame Bar. 14 pp. Size, 8½ x 11 in.

H. W. Covert & Co., 243 East 44th St., New York City.

774. *Fireplace and Flue Construction.* A treatise explaining the elements of fireplace construction with details and dimensions and description of dampers and other accessories. 12 pp. Illustrated. Size, 8½ x 11 in.

The Genfire Steel Co., Youngstown, Ohio.

1266. *Architectural Details of GF Steel Windows,* steel lintels, steel doors and mechanical operators. Book of working details, notes, sizes and specifications. 62 pp. Illustrated. Size, 8½ x 11 in.

1267. *GF Steel Standard Casement Windows.* 1926 edition, architectural details, sizes and specifications for standard steel casement windows that can be combined to fill any size opening. Valuable information for the drafting room. A. I. A. File No. 16e. 16 pp. Illustrated. Size, 8½ x 11 in.

1268. *GF Standard Industrial Doors and Frames.* Catalog of standard stock size doors and frames for industrial and commercial buildings. 6 pp. Illustrated. Size, 8½ x 11 in.

The Safety Stair Tread Co., Wooster, Ohio.

828. *The Wear on Stairs.* A catalog describing the properties of white brass, brass and black safety treads for stairs. 12 pp. Illustrated. Size, 3½ x 9¼ in.

829. *Wooster Safe Groove Tread.* Catalog describing safe groove treads and thresholds and security nosings, made of white brass, brass and black steel. 4 pp. Illustrated. Size, 8½ x 11 in.

15. ORNAMENTAL METAL WORK AND PHYSICAL PROPERTIES OF METALS

American Brass Co., Main Office, Waterbury, Conn.

139. *Illustrated Pamphlets.* Describes the use and adaptability of Extruded Architectural Shapes, Benedict Nickel, Brass and Copper Pipe in Iron Pipe sizes for plumbing installations. Size, 8½ x 11 in.

16. FIRE RESISTING DOORS, WINDOWS AND TRIM

Crittall Casement Window Co., Detroit, Mich.

672. *Crittall Universal Casement, Catalog No. 22.* Contains complete description, photographs, specifications and details of steel casement windows for banks, schools, residences, churches, hospitals, set directly into masonry and with auxiliary frames. 76 pp. Illustrated. Size, 9 x 12 in.

Crittall Casement Window Co., Detroit, Mich.

1169. *Crittall Standardized Casements, Catalog No. 1-26.* For architects, A. I. A. File No. 16e1. An attractively prepared book of details, specifications and descriptive data on standard size and section steel casements. 32 pp. Illustrated. Size, 8½ x 11 in.

Dahlstrom Metallic Door Co., Jamestown, N. Y.

674. *Architectural Catalog.* Illustrated catalog showing styles and types of Dahlstrom Standard Construction Hollow Metal Doors and Trim. Conduo-Base, etc. Also various types of frames, jamb construction and architectural shapes. 178 pp. Illustrated. Size, 8½ x 11 in. in looseleaf.

Genfire Steel Co., Youngstown, Ohio.

1525. *Genfire Casements and Basement Windows, Model No. 5.* Architectural details, 1928 edition, No. 600-1. Booklet for the files, contains descriptions of superior features; specifications; tables of stock and standard sizes; full size and half size details of sash and frames, installation details, hardware, and suggested provision for screens. A. I. A. File No. 16e. 16 pp. Illustrated. Size, 8½ x 11 in.

David Lupton's Sons Company, Philadelphia, Pa.

1585. *Lupton Pivoted Windows.* Catalog No. 12 describing Pivoted Windows, Operating Device and Commercial Steel Doors. Gives full description, details and specifications. A. I. A. File No. 16E1. 40 pp. Size 8½ x 11 in.

Macomber Steel Co., 10th and Belden, N. E., Canton, Ohio.

1581. *Massillon Picoted Steel Windows and Stock Size Steel Doors.* Catalog giving designing data and erection details. A. I. A. File No. 16E. 8 pp. Size 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

796. *Fire Doors and Hardware. Catalog No. A-25.* A catalog of standard, approved tin-clad fire doors, steel frames, automatic door hangers, tracks and fixtures; also hinges, locks and accessories. Details, dimensions and installation diagrams. 96 pp. Illustrated. Size, 8½ x 11 in.

Truscon Steel Co., Youngstown, Ohio.

348. *Truscon Steel Sash.* This handbook has been prepared for detailers and specification writers. The descriptions are clear and the details are complete. 80 pp. Illustrated. Size, 8½ x 11 in.

1235. *Truscon Solid Steel Double Hung* (counter weighted) *Windows.* Booklet describes the features of Model "A" Truscon solid steel double-hung window, illustrates typical installations, gives detail drawings of window and installation, drafting room standards and specifications. A. I. A. File No. 16e1. 24 pp. Illustrated. Size, 8½ x 11 in.

1363. *Truscon Drafting Room Standards, 4th Edition.* Detail drawings for installations, sections, standard sizes and specifications for various types of steel windows, doors and mechanical operators. Booklet No. 717 will be found of value in the drafting room. A. I. A. File No. 16e. 128 pp. Illustrated. Size, 8½ x 11 in.

1577. *Truscon Double Hung Windows.* An illustrated booklet containing drafting room standards and detail drawings. A. I. A. File No. 16e. 30 pp. Size, 8½ x 11 in.

The United Metal Products Co., Canton, Ohio.

968. *Architects' Handbook.* A very fine catalog of hollow metal doors, metal partitions, metal bucks and jambs, metal conduo-base, and metal mouldings. 108 pp. Illustrated. Size, 8½ x 11 in.

17. SPECIAL DOORS AND WINDOWS

Irving Hamlin, 1500 Lincoln St., Evanston, Ill.

735. *The Evanston Sound-Proof Door: also The Hamlinized Folding Partitions.* A circular explaining the construction of a sound-proof door and folding partitions hermetically sealed against odors, dust, light, weather and air, especially adapted to music schools, hospitals, etc. 8 pp. Size, 8½ x 11 in.

907. *The Evanston Sound-Proof Door.* A catalog giving details and hardware equipment of sound, odor, dust and air-proof doors for hospitals and music schools. Also Hamlinized folding partitions for Churches, Sunday Schools and Public Schools. 10 pp. Illustrated. Size, 8½ x 11 in.

David Lupton's Sons Co., Philadelphia, Pa.

1575. *Lupton Residence Casements of Steel.* Catalog describing a line of solid steel windows and hardware. Contains details of installation and specifications. 24 pp. Size, 8½ x 11 in.

18. VAULTS AND SAFES

19. CARPENTRY

E. L. Bruce Co., Memphis, Tenn.

1559. *Style in Oak Floors.* Booklet describing Cellized Oak Floors, with laying instructions. 15 pp. Size, 6 x 9 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

19. CARPENTRY—Continued

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

1330. *Cabot's Creosote Stained Shingles.* Booklet contains description, approximate and comparative costs, data on covering fastening, suggested specifications and details for the use of Cabot's Stained Shingles. A. I. A. File No. 19d1. 16 pp. Illustrated. Size, 8½ x 11 in.

Chamberlin Metal Weather Strip Co., Inc., Detroit, Mich.

1466. *Chamberlin Details for Wood Sash and Doors.* A booklet of Chamberlin Weather Strip Details including a description of equipment, their adaptation and selection, scale and full size details for double-hung and casement sash, austral windows, transoms, and outside doors. Specifications are given. A. I. A. File No. 19e14. 50 pp. Illustrated. Size, 8½ x 11 in.

1467. *Chamberlin-Simpson Roll Screen Details* for Outswinging Casement Windows. Booklet prepared for filing illustrates and describes Chamberlin-Simpson Roll Screens. Details, specifications, and installation data are included. A. I. A. File No. 19e15. 12 pp. Illustrated. Size, 8½ x 11 in.

1468. *Details and Specifications* for calking with Chamberlin Plasti-Calk. Folder contains details, specifications and other valuable data on the calking of window frames. A. I. A. File No. 19e16 4 pp. Illustrated. Size, 8½ x 11 in.

Hartmann-Sanders Company, 6 East 39th St., New York City.

334. *Catalog No. 47.* Illustrating Kell's Patent Lock Joint wood stave columns for exterior and interior use. 48 pp. Illustrated. Size, 7½ x 10 in.

Hyde Murphy Company, Ridgeway, Pa.

F1304. *Better Business Homes with Takapart.* Catalog describing Takapart partitions. Contains detail drawings and specifications. Illustrated. A. I. A. File No. 19e62. 32 pp. Size, 8½ x 11 in.

Edwin A. Jackson & Bro., Inc., 50 Beekman St., New York, also Lexington Ave., at 65th St., New York City.

90. *Wood Mantels. Portfolio.* Wood mantel designs of various types and openings, giving dimensions, projections and showing fireplace grate designs. Size, 9 x 6¼ in. 32 pp.

Maple Flooring Manufacturers Assn., 332 South Michigan Ave., Chicago, Ill.

1483. *The New Color Enchantment in Hard Maple Floors.* Booklet illustrating in color the use of maple flooring in houses with reproductions of possible color effects through the use of various stains applicable to maple flooring. Technical information on characteristics of maple flooring, grading rules, standard sizes, estimating, uses of different grades and directions for laying are included. A. I. A. File No. 19e9. 20 pp. Illustrated. Size, 8½ x 11 in.

G. E. Walter, 157 East 44th Street, New York City.

1167. *Duretta.* Booklet describing Duretta, a fireproof composition with which carved woodwork and metal can be faithfully imitated. Illustrated with examples of executed doors, panelling, mantels and grills. 16 pp. Illustrated. Size, 5¾ x 8¼ in.

Watson Manufacturing Co., Jamestown, N. Y.

737. *Watson Insect Screens.* Reprint of space in Sweet's Catalog giving illustrations and detailed data for the use of architects. 21 pp. Illustrated. Size, 8½ x 11 in.

West Coast Lumber Trade Ex. Bureau, Longview, Washington.

1496. *Western Red Cedar "The Enduring Wood of the Ages."* Booklet describes the advantages of Western Red Cedar and its numerous uses in building construction. Technical data is included. 24 pp. Illustrated. Size, 8½ x 11 in.

Western Pine Manufacturers Association, Portland, Ore.

1296. *Bingo of Flathead.* A dog's story of Pondosa, the Pick o' the Pines, a narrative that gives the reader a comprehensive idea of Pondosa Pine from forest to finished lumber. The intermediate steps in the production of lumber are briefly told in an interesting manner. 16 pp. Illustrated. Size, 6 x 9 in.

20. FURRING AND LATHING

American Steel & Wire Company, Continental & Commercial National Bank Bldg., Chicago, Ill.

1148. *Stucco Houses Reinforced with Triangle Mesh Fabric.* Booklet contains information on triangle mesh fabric, hints on stucco construction, stucco qualities, plans and perspectives of stucco houses etc. 20 pp. Illustrated. Size, 6 x 9 in.

Concrete Engineering Co., Omaha, Neb.

346. *How to Use Ceco Lathing Materials.* An illustrated treatise on the use of expanded metal lath. Contains construction details and complete specifications with sample piece of lath in pocket on cover of book. 16 pp. Illustrated. Size, 8½ x 11 in.

Genfire Steel Co., Youngstown, Ohio.

944. *The Herringbone Book.* A complete treatise on the use of metal lath in all types of construction. Size, 8½ x 11 in.

Truscon Steel Company, Youngstown, Ohio.

316. *Hy-Rib and Metal Lath.* Tables, general data and illustrations of Hy-Rib and metal lath constructions. 6 pp. Illustrated. Size, 8½ x 11 in.

1576. *Truscon Metal Lath Book.* Very complete booklet on the uses of metal laths, Hy-Rib accessories and metal trim, with specifications and general data. 92 pp. Illustrated. Size, 4½ x 7¼ in.

21. PLASTERING

The Best Bros. Keene's Cement Co., Medicine Lodge, Kansas.

1329. *Best Bros. Keene's Cement.* Booklet contains statement as to the advantages, grades and uses of Best Bros. Keene's Cement, specifications, data on quantities and the painting or enameling of Keene's cement. A booklet of practical value. 24 pp. Illustrated. Size, 5 x 9 in.

Louisville Cement Co., Speed Bldg., Louisville, Ky.

1560. *Brixment for Stucco.* Folder describing Brixment and its uses. Contains estimating table and specifications. A. I. A. File No. 21 D1. 5 pp. Size, 8½ x 11 in.

Portland Cement Association, 33 West Grand Ave., Chicago, Ill.

1110. *Portland Cement Stucco.* Book for architects' files, illustrating in color various stucco finishes with description; steps required to obtain these finishes are illustrated. Specifications for Portland cement stucco, recommendations on design and construction. Notes on prepared stucco, color materials, overcoating old houses and construction details. 64 pp. Illustrated. Size, 8½ x 11 in.

22. MARBLE, SLATE AND STRUCTURAL GLASS

The Vitrolite Company, 133 West Washington St., Chicago, Ill.

1493. *Vitrolite Fixtures.* Loose leaf catalog illustrated in color, contains general descriptive data on Vitrolite and its adaptability for use in connection with counters, soda fountains, tables, etc., for restaurants, barber shops, butcher shops, bakeries, hospitals, schools, etc. 60 pp. Illustrated. Size, 8½ x 11 in.

23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES

Armstrong Cork Company, Linoleum Division, Lancaster, Pa.

1194. *Enduring Floors of Good Taste.* Armstrong's linoleum for all types of buildings, description and illustration in both black and white and in color. Information on how to choose linoleum, how to lay linoleum and proper care after laying. Typical patterns reproduced in color. 48 pp. Illustrated. Size, 6 x 9½ in.

1314. *Armstrong's Linoleum Floors.* Fifth Edition, March, 1927, completely revised. Linoleum gauges and weights, tests for judging the quality of linoleum, complete specifications, color plates of typical designs and list of representative installations are given. Booklet is contained in filing folder indexed A. I. A. File No. 23j. 40 pp. Illustrated. Size, 8½ x 11 in.

Blasteel Mfg. Company, Kansas City, Mo.

1498. *Recessed Brass Binding Bar.* Circular C describes and illustrates method of laying linoleum, rubber tile or composition flooring where a recess is formed in concrete, terrazzo, etc., to receive the applied covering. The top of the bar serves as a screed for finishing the outside border and the recessed shoulder furnishes a screed for the inside fill for making a close, neat and dirt-proof joint. 4 pp. Illustrated. Size, 8½ x 11 in.

Bonded Floors Co., Inc., Kearny, N. J.

1531. *Specifications Resilient Floors.* Specification book giving descriptions of, and competitive specifications for, various types of resilient floors, such as cork composition tile, marble-ized tile, cork tile and linoleum. Data on colors, sizes and thicknesses, and installation details are included. Volume is indexed for convenient use. 48 pp. Illustrated. Size, 8½ x 11 in.

1532. *Analyzing the Problem of Resilient Floors.* A series of five booklets, analyzing the problem of resilient floors, including tables of relative importance of various characteristics of finished floors. Each booklet covers a separate type of building. The series includes schools, stores, clubs, hotels, hospitals and offices. A. I. A. file No. 23j. Each booklet 8 pp. Illustrated. Size, 8 x 10½ in.

1533. *Gold Seal Battleship Linoleum.* Booklet describing and giving data on Gold Seal Battleship Linoleum—a "Bonded Floor." 12 pp. Illustrated. Size, 6 x 9 in.

1534. *Gold Seal Marble-ized Tile—A Bonded Floor.* Booklet contains a description and gives advantages of Gold Seal Marble-ized Tile. Color illustrations are included. 12 pp. Illustrated. Size, 6 x 9 in.

1535. *Gold Seal Treadlite Tile—A Bonded Floor.* Description and illustration of Gold Seal Treadlite Tile are included between the covers of this interesting booklet. 12 pp. Illustrated. Size, 6x9 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES—Continued

The Mosaic Tile Co., Zanesville, Ohio.

1488. *Colored Tiles.* Booklet contains illustrations in color showing uses of color in tile work using Mosaic Faience, Ironstone, Granitex and Mosaic "All-Tile" Accessories. Specifications for obtaining the effect indicated in the illustrations are given. Typical Mosaic Satin Matt color panels are included. 20 pp. Illustrated. Size, 8½ x 11 in.

1500. *Mosaic Floor Tile.* Catalog No. 4 contains standard and suggested floor designs made in ceramic tiles. Illustrations are in color and the color numbers by which any pattern may be specified, are included. 90 plates. Illustrated. Size, 5½ x 8½ in.

1501. *Wall Tile Trimmers.* Catalog No. 3—loose leaf catalog—showing standard sizes and shapes of glazed and unglazed wall tile trimmers (base, caps, corners, etc.), 63 plates. Illustrated. Size, 5½ x 8½ in.

Zenitherm Company, Inc., Newark, N. J.

1302. *Zenitherm Floors.* Booklet describes and illustrates the use of Zenitherm as a flooring material for use in various types of buildings. The qualities and properties of Zenitherm are set forth in the text. Zenitherm is a material suitable for interior or exterior use. Data on colors and standard sizes, and a partial list of architects who have specified Zenitherm are included. A. I. A. File No. 23g2. 14 pp. Illustrated. Size, 8½ x 11 in.

1303. *Zenitherm Walls.* A booklet giving a comprehensive idea of the outstanding qualities of Zenitherm as a building material, particularly for walls. Direction for erecting, and other data are included. Partial list of installations is included. A. I. A. File No. 23g2. 22 pp. Illustrated. Size, 8½ x 11 in.

24. PLASTIC FLOORS

Franklin R. Muller, Inc., Waukegan, Ill.

242. *Asbestone Flooring Composition.* A book describing uses of and giving specifications and directions for Composition Flooring, Base, Wainscoting, etc. Illustrated. Size, 8½ x 11 in.

25. PAINT, PAINTING AND FINISHING

Samuel Cabot, Inc., 141 Milk St., Boston, Mass.

341. *Cabot's Old Virginia White and Tints.* Describes a specially prepared "flat" white which architects say gives "the whitewash white effect." Also describes tints perfectly flat in tone, giving the "pastel effect." Used on wood, brick, stone, and stucco. 16 pp. Illustrated. Size, 4 x 8¼ in.

342. *Cabot's Creosote Stains.* Description of a standard stain for shingles, siding, boarding and timbers, with covering capacity and specifications. 16 pp. Illustrated. Size, 4 x 8½ in.

The Genfire Steel Co., Youngstown, Ohio.

1269. (a) GF Floor Enamel. (b) GF Protective Coatings. (c) GF Cement Paint. Folders contain data, specifications and estimating information for GF technical paints. Each folder 4 pp. Size, 8½ x 11 in.

The Glidden Company, Cleveland, Ohio.

419. *Architectural Specifications Book*—8½ x 10¾ in. 32 pp. Containing complete architectural specifications and general instruction for the application of Glidden Paints and Varnishes, including Ripolin. Directions for the proper finishing of wood, metal, plaster, concrete, brick, and other surfaces, both interior and exterior, are included in this specification book.

Marb-L-Cote, Inc., 400 North Michigan Ave., Chicago, Ill.

1510. *Walls of Interest and Charm.* Folder describes and illustrates the use of Marb-L-Cote as a wall finish as proof against crumbling, cracking or peeling. 8 pp. Illustrated. Size, 3½ x 6 in.

1511. *An Interior Finish Unequalled for Beauty and Enduring Economy.* An illustrated folder describing "Marb-L-Cote" for every type of interior. 6 pp. Illustrated. Size, 3½ x 6¼ in.

1512. Folder gives directions for the use of Marb-L-Cote, with instructions for mixing and applying. Illustrations showing how Marb-L-Cote is applied are also included. A. I. A. File No. 29b29. 4 pp. Illustrated. Size, 8½ x 11½ in.

The Muralo Company, Inc., 570 Richmond Terrace, Staten Island, N. Y.

1286. *Mural-Tex.* Folder describing the use of Mural-Tex a plastic composition designed to produce textured wall surfaces in color and high and low relief. Mural-Tex is a dry powder, mixed with cold water on the job. 8 pp. Illustrated. Size, 3½ x 6¼ in.

1287. *Muralo.* Series of folders describing Muralo Wall Coating, Muralo Wall Size, Muralo Patching Plaster, Muralo Relief Compound, Muralo Relief Bulb, Indeliblo Weather-resisting Cold Water Paint, King's Perfected Cold Water Paint, Salamander Fireproof Cold Water Paint, Cyclo Painting Machines. Color samples where applicable are included. Each folder 3½ x 6 in.

1352. *Mural-Tex for the Rich Mellow Beauty of Plastic Textured Walls.* Attractively prepared booklet on the subject of wall textures and the use of Mural-Tex for wall decoration and surface texture. 16 pp. Illustrated. Size, 8½ x 11 in.

National Lead Company, 111 Broadway, New York City.

1344. *Standard Specification for the Use of Red-Lead Paint.* A valuable booklet for the specification writer covering the use of red-lead paint. A. S. T. M. and government specifications for linseed oil, drier, turpentine and red-lead are included. A. I. A. File No. 25a23 or 25c3. 22 pp. Size, 7½ x 10⅝ in.

L. Sonneborn Sons, Inc., 114 Fifth Ave., New York City.

892. *Interior and Exterior Painting and Structural Painting.* Bulletins of specifications for interior and exterior paints, and paints for structural work, technical paints and roof protection. Sent on request on business stationery. In folders. Size, 8½ x 11 in.

Toch Brothers, 443 Fourth Ave., New York City.

1417. *Technical Paints and Waterproofing Compounds.* A hand book describing the use of R. I. W. waterproofing compounds, dampproofing coatings, steel preservative paints, concrete and masonry finishes and other R. I. W. products. Color ranges are included. 38 pp. Size, 4½ x 7½ in.

26. GLASS AND GLAZING

Detroit Show Case Co., Detroit, Mich.

78. *Details.* Sheets of full size details of "Desco" awning transom bar covers, sill covers, side, head and jamb covers, ventilated hollow metal sash and profile of members showing complete "Desco" construction No. 926 Details, 8½ pp. full size details.

1368. *Desco Metal Store Fronts.* Catalogue No. 627 contains illustrations, detail drawings of metal sections, installation details and suggested designs for show window layouts to meet different conditions. A. I. A. File No. 26b1. 40 pp. Illustrated. Size, 8½ x 11 in.

Mississippi Wire Glass Co., 220 Fifth Ave., New York City.

1015. *Mississippi Service.* A complete catalog illustrating the wire glass products and their adaptability for various uses. Technical data and sizes. 32 pp. Illustrated. Size, 4 x 8½ in.

Zouri Drawn Metals Co., Chicago Heights, Ill.

1581. *Store Fronts by Zouri.* Catalog giving valuable information for architects. Contains de aits and specifications as well as recent installations. 32pp. A. I. A. File No. 26b1.

1583. *The Business of Buying A Store Front.* Catalog in color giving designs of various types of Store Fronts. Contains complete detailed drawings. Catalog contains 32 pages with 9 sheets of details. Size, 8½ x 11 in.

27. HARDWARE

American Steel & Wire Company, Continental & Commercial National Bank Building, Chicago, Ill.

1147. *Nails, Staples, Etc.* With a manual of carpentry. Valuable information on nails, sizes, quantity and various types of nails manufactured for different purposes; also staples, wire, fence wire, fasteners, etc. A book for the files. 60 pp. Illustrated. Size, 6 x 9 in.

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

1283. *General Catalog No. 27.* Listing and illustrating builders' hardware, revised to conform with products now being manufactured. Certain articles have been eliminated and others have been added. This is a valuable hardware reference book. 486 pp. Illustrated. Bound in board covers. Size, 8½ x 11 in.

1561. *Colonial and Early English Hardware.* Catalog showing reproductions of historic originals and design based upon wrought iron hardware precedent, made in rustless metal reproducing the surface and color of the wrought iron originals. Latches, knobs, handles, knockers, hinges, key plates and other articles for doors, windows, shutters and cupboards are illustrated by dimensioned sketches. A. I. A. File No. 273. 48 pp. Illustrated. Size, 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

897. *Special Purpose Hinges, Catalog No. 42.* Devoted exclusively to special purpose hinges for every purpose. Hinge problems solved by Engineering Department, catalog sent on request. 26 pp. Illustrated. Size, 8½ x 11 in.

939. *Big Door Hardware Catalog No. 41.* This catalog describes a complete line of hardware and hangers for accordion, parallel sliding, vertical bi-folding and other types for large openings in round houses, freight houses, shipping rooms, mills and warehouses. Also overhead trolley equipment. 24 pp. Illustrated. Size, 8½ x 11 in.

940. *Sliding and Folding Partitions Door Hardware. Catalog No. 40.* A complete line of hardware for partition doors of all kinds and for all places. Description, details and directions for ordering. 32 pp. Illustrated. Size, 8½ x 11 in.

988. *Singleknob Garage Door Controller.* Catalog describing garage door operator by which one or both of a pair of doors can be opened and held in that position. 4 pp. Illustrated. Size, 8 x 11 in.

Samson Cordage Works, Boston, Mass.

586. *Samson Sash Cord.* Specifications and condensed description. of Samson spot window sash cords. Samson mahogany wire center sash cord and accessories. 24 pp. Illustrated. Size, 3½ x 6¼ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

27. HARDWARE—Continued

Sargent & Company, New Haven, Conn.

1145. *Sargent Locks and Hardware* 1926 *Catalog.* Fully illustrates Sargent finishing and builders' hardware, locks, butts, bolts, trim, etc. Book contains much valuable data and detail drawings for standard hardware. 534 pp. Illustrated. Size, 9 x 12 in.

The Oscar C. Rixson Co., Chicago, Ill.

1459. *Improved Mechanisms in Builders' Hardware.* Catalog No. 2. A complete catalog with details of Single Acting and Double Acting Overhead and Floor Checks and Hardware Specialties, including transom operators, friction hinges, and bolts. 57 pp. Illustrated. Size, 6 x 9 in.

The Stanley Works, New Britain, Conn.

495. *Stanley Detail Manual.* A catalog in looseleaf binder, consisting of five sections on Butts, Bolts, Blinds and Shutter Hardware. Stanley Garage Hardware, Screen and Sash Hardware. Detail drawings are given, showing clearances and other data needed by detailers. 116 pp. Illustrated. Size, 7½ x 10½ in.

Vonnegut Hardware Co., Indianapolis, Ind.

747. *Von Duprin Self-Releasing Fire Exit Latches, Reference Book—No.* 240. A complete catalog with details of the working part of these latches, handle bars, door holders and accessories. Dimensions and installation direction. 96 pp. Illustrated. Size, 8½ x 11 in.

28. FURNISHINGS

American Seating Company, 40 E. Jackson Blvd., Chicago, Ill.

1405. *School Furniture and Equipment.* Catalog No. 59. Various types of school desks and chairs are illustrated and described. This catalog includes furniture for the classroom, assembly room or auditorium, teachers' rooms, library, kindergarten, domestic science and manual training departments. Window shades, window guards, school bells, drinking fountains, blackboards and numerous other items designed especially for use in school buildings are included. 80 pp. Illustrated. Size, 8½ x 11 in.

1565. *School Furniture.* Catalog No. 260 describes the various kinds of adjustable steel desks and seats necessary for proper school seating, including kindergarten, auditorium; also assembly portable types. 48 pp. Illustrated. Size, 8½ x 11 in.

Frederic Blank & Company and Salubra Company, 40 East 34th Street, New York City.

1464. *Countless Strokes of a Scrubbing Brush*—and still it shows no wear. Folder describes the advantages of Salubra, a washable wall covering. A partial list of hotels in which Salubra has been used is included. 4 pp. Size, 8½ x 11 in.

1465. *Salubra.* Sample book of designs of Salubra Washable Wall Covering. This book includes fifty of the 1,000 patterns or color combinations manufactured. Size, 9 x 10 in.

The Columbus Union Oil Cloth Co., Columbus, Ohio.

1374. *Wall-Tex-Permanent Wall Covering.* Folder illustrates two patterns of Wall-Tex, an oil coated fabric for walls, and reproduces two letters of recommendation from architects. 4 pp. Illustrated. Size, 8½ x 11 in.

1578. *The Modern Trend in Wall Coverings.* Wall-Tex permanent wall coverings is fully described in the folder with data on durable wall fabric, room measurements and number of rolls required. Actual samples are enclosed with illustrated folder. Size, 3¼ x 6 in.

W. L. Evans, Washington, Indiana.

F1305. *Evans Vanishing Door.* Catalog describing a modern economical method of wardrobe construction. Contains full information and detail drawings. Illustrated. A. I. A. File No. 28B33. 48 pp. Size, 8½ x 11 in.

Hardwick & Magee Company, 650 W. Lehigh Ave., Philadelphia, Pa.

1542. *Wilton Rugs.* Color plates of Wilton rugs in various sizes and shapes. Excellent in design, shape and color. 36 plates in color.

Kent-Costikyan, 585 Fifth Ave., New York City.

954. *The House of Kent-Costikyan.* A booklet describing the various types and grades of carpets and rugs, including antique rugs of the Ispahan and Kuba types, in the extensive stocks of this company. 16 pp. Illustrated in color. Size, 5½ x 8 in.

The B. L. Marble Chair Co., Bedford, Ohio.

1393. *Business Chairs.* Catalog No. 33. A comprehensive volume illustrating chairs, lounges and other furniture especially designed for office furnishings. Material and overall sizes of pieces are given in connection with the illustrations. Separate catalogs of school chairs and Windsor chairs are available. 72 pp. Illustrated. Size, 9 x 12 in.

Watson Manufacturing Co., Jamestown, N. Y.

788. *Watson Metal Office Furniture.* Catalog describing steel furniture for offices, banks and public buildings. Installations illustrated. 55 pp. Illustrated. Size, 8½ x 11 in.

29. PLUMBING

W. D. Allen Mfg. Co., 566-570 West Lake St., Chicago, Ill.

1130. *Allen on Fire Protection.* A. I. A. File No. 29e2. Folder containing data, specifications, detail drawings and dimensions of hose cabinets designed for various types of equipment. Catalog includes notes on underwriters' requirements, hose racks, valves, couplings, details of fire pump and single standpipe system, etc. A valuable book of practical information for architects' files. 24 pp. Illustrated. Size, 8½ x 11 in.

American Brass Co., Waterbury, Conn.

862. *Brass Pipe for Water Service, Publication B-1.* A compilation of data on corrosion of various kinds of pipe and the value of Anaconda Brass Pipe for permanent service, also comparative cost estimates. 31 pp. Illustrated. Size, 8¼ x 11 in.

A. P. W. Paper Company, Albany, N. Y.

1434. *Onliwon Toilet Paper Cabinets.* Filing card with index tab covering Onliwon recessed and surface type toilet paper holders and surface type paper towel cabinets. Various type are shown with details and dimensions. 2 pp Illustrated. Size, 9 x 11½ in.

The Beaton & Cadwell Mfg. Co., New Britain, Conn.

813. *"Genuine" Perfection Line. Catalog No.* 7. A catalog describing a complete line of Simplex Flush valves, automatic air valves, floor and ceiling plates, towel bars, pipe hangers and accessories. 90 pp. Illustrated. Size, 4 x 6 in.

A. M. Byers Company, Pittsburgh, Pa.

679. *What is Wrought Iron? Bulletin* 26-*A.* Contains the definition of wrought iron, methods of manufacture, chemical and physical characteristics; advantages of wrought iron as a pipe material; service records from old buildings equipped with Byers Genuine Wrought Iron Pipe. How to tell the difference between iron and steel pipe. 40 pp. Illustrated. Size, 8 x 10¼ in.

680. *The Installation Cost of Pipe. Bulletin* 38. Contains cost analysis of a variety of plumbing, heating, power and industrial systems, with notes on corrosive effects in different kinds of service. 32 pp. Illustrated. Size, 8 x 10¾ in.

Crampton Farley Brass Co., 221 Main St., Kansas City, Mo.

194. Several pamphlets describing various types of floor and areaway drains. Size, 3½ x 6¼ in.

The Duriron Co., Dayton, Ohio.

1309. *Duriron Drain Pipe and Fittings. Bulletin No.* 134-*B.* Bulletin describing the physical properties, details and specifications for drain pipe and fittings which are non-corrosive to acid, alkali and other chemical wastes of industrial plants, laboratories, hospitals and colleges. 20 pp. Illustrated. Size, 8¼ x 11 in.

Economy Pumping Machinery Co., 122 North Curtis St., Chicago, Illinois.

1312. *Economy Centrifugal Double Suction Pumps and Economy Horizontal Split Case Multi Stage Centrifugal Pumps.* Two booklets giving details of construction, capacities, and other technical data. 12 pp. and 4 pp. Illustrated. Size, 8½ x 11 in.

1313. *Economy Centrifugal Sump Pumps* for automatic ejection of seepage and sewage. Bulletin No. 407 briefly describes the construction and installation of Economy sump pumps. Suggested specifications and technical data are included. 16 pp. Illustrated. Size, 8½ x 11 in.

Hess Warming & Ventilating Co., 1207 to 1229 South Western Avenue, Chicago, Ill.

860. *Hess Snow-White Steel Cabinets and Mirrors.* A catalog with details of construction, dimensions, weights and prices of Snow-White steel cabinets of various styles and mirror access doors and frames to pipe shaft. 16 pp. Illustrated. Size, 4 x 6 in.

National Tube Company, Pittsburgh, Pa.

1419. *The Protection of Pipe Against Internal Corrosion.* "National" Bulletin No. 3. A comprehensive treatise on the subject of internal corrosion of pipe and its prevention. 20 pp. Illustrated. Size, 8½ x 11 in.

1420. *"National" Pipe for Plumbing and Heating.* "National" Bulletin No. 19. This bulletin describes the manufacture and characteristics of "National" pipe. Chapters are also devoted to the specific advantages of "National" pipe in plumbing systems. Other chapters cover an outline of the corrosion of metals and practical means of preventing internal corrosion of piping and major considerations in the installation of general plumbing systems. Standard specifications for "National" pipe, standard dimensions and engineering data are included. This is a valuable booklet for filing. 52 pp. Illustrated. Size, 8½ x 11 in.

The Permutit Company, 440 Fourth Ave., New York City.

105. *Permutit (Water Rectification Systems).* Illustrated booklet. Describes all methods of softening water, including the original Zeolite process. For homes, hotels, apartment houses, swimming-pools, laundries, and industrial plants. 32 pp. Size, 8½ x 11 in.

Reading Iron Co., Reading, Pa.

1112. *Handbook and Price List* of Reading Wrought Iron Pipe and Fittings. Tables of sizes and other data including specifications. 50 pp. Illustrated. Size, 5 x 7 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

29. PLUMBING—Continued

Reading Iron Co., Reading, Pa.

1113. *Reading Wrought Iron Pipe.* In the making and in service. Bulletin No. 1. Booklet covering historical data, manufacture of Reading pipe, advantages of wrought iron pipe, uses of wrought iron pipe, model specifications. Reading Iron Co. guarantee and mill specifications for wrought iron standard pipe. 32 pp. Illustrated. Size, 8½ x 11 in.

1520. *Taber Standard Sewage Pumps.* Circular SEW-628 illustrates and describes Taber Single and Duplex sewage pumps. Detail drawings showing installation requirements. Specifications and rating tables are given. A. I. A. File No. 29c2. 4 pp. Illustrated. Size, 8½ x 11 in.

Taber Pump Co., Buffalo, N. Y.

1487. *Taber Midget Sump Pump.* Bulletin M2-327 describes a new product made as a companion to No. 1 Table Midget Sump Pump, but of lower cost. Specification, capacity and installation data are given. 6 pp. Illustrated. Size, 3½ x 6¼ in.

Thomas Savill's Sons, Hancock and Huntingdon Sts., Philadelphia, Pa.

1456. *How Do You Buy Faucets?* Folder illustrates various types of "Savill" faucets. List prices are included. 4 pp. Illustrated. Size, 8½ x 11 in.

The Vitrolite Company, 133 West Washington St., Chicago, Ill.

1494. *Vitrolite Toilet Compartments and Sanitary Construction.* Booklet prepared for filing contains detail drawings, technical data and suggestive specifications for the designing and detailing of toilet compartments, urinals and shower stalls of Vitrolite. 16 pp. Illustrated. Size, 8½ x 11 in.

The Whitlock Coil Pipe Co., Hartford, Conn.

1046. A looseleaf folder of water storage heaters, preheaters, water treatment, details and sales manual. 16 pp. Illustrated. Size, 8½ x 11 in. Bulletins, looseleaf, details and data water heaters and fuel oil heaters. 52 pp. Illustrated. Size, 5½ x 8½ in.

30. HEATING AND VENTILATING

American Gas Products Corp., 376 Lafayette St., New York City.

1238. *Live in the House that Gas Heats.* Booklet describes Ideal Gas boilers, made in various sizes from 225 sq. ft. to 8,000 sq. ft. steam rating or 375 to 13,000 sq. ft. hot water rating. Ratings, dimensions and assembly drawings are included. 8 pp. Illustrated. Size, 8½ x 11 in.

American Radiator Co., 40 West 40th St., New York City.

1513. *How Shall I Heat My Home?* A concise and instructive discussion of the various methods of home heating. 16 pp. Illustrated. Size, 5¾ x 8½ in.

Bayley Blower Company, 732 Greenbush St., Milwaukee, Wis.

1479. *Aerovane Blowers.* Catalog No. 32 contains descriptions, dimensions and capacities of all types of Aerovane Blowers. Valuable data for heating and ventilating engineers. 34 pp. Illustrated. Size, 8½ x 11 in.

1480. *Plexiform Fan.* Catalog No. 26 contains complete descriptions and illustrations of "Plexiform" multiple blade type fans and blowers. Engineering data includes capacities, dimensions, and other valuable information. 110 pp. Illustrated. Size, 8½ x 11 in.

Buckeye Blower Co., Columbus, Ohio.

960. *Heatovent System. Bulletin No.* 123. Illustrating individual heating and ventilating units for schools and places of public assemblage. Engineering data, details and specifications. 14 pp. Illustrated. Size, 8 x 10½ in.

Buffalo Forge Company, 490 Broadway, Buffalo, N. Y.

976. *Fan Engineering.* An engineering handbook in three parts: Physical properties of air, heat and humidity; air movement for heating, ventilation, forced draft, etc.; performance tables and general information concerning standard apparatus for fan work; appendix, tables. 610 pp. Illustrated. Size, 4¼ x 7 in. Price, $4.00.

1491. *Carrier Air Washers* for simple, efficient and inexpensive regulation of temperature, humidity and cleanliness of the atmosphere. Folder No. 2487 contains a general description of the design and construction of the Carrier Air Washer. 4 pp. Illustrated. Size, 8½ x 11 in.

Burnham Boiler Corporation, Irvington, N. Y.

800. *Letters To and Fro.* A booklet which explains the difference between steam, hot water and vapor systems of heating and the relative cost of each. Questions, answers and boiler data. 24 pp. Size, 7 x 10 in.

The Duriron Company, Dayton, Ohio.

1009. *Duriron Ventilating Fans and Hoods. Bulletin No.* 140. Bulletin describing a line of electrically driven exhaust fans for use with acid and other corrosive fumes in industrial plants and laboratories. Also non-corrosive equipment for laboratory hoods. 20 pp. Illustrated. Size, 8½ x 11 in.

The Frost Manufacturing Co., Galesburg, Ill.

1143. *Ross Steel Boilers, Catalog 4A.* Describes Ross steel boilers for steam or hot water heating, smokeless for coal or oil burning. Dimensions and data for boilers of steam ratings from 400 to 27,000 square feet, or hot water 640 to 43,200 square feet. 16 pp. Illustrated. Size, 6 x 9 in.

1144. *Frost Boilers, Catalog No.* 172. Illustrates and describes frost horizontal tubular boilers for 100 and 150 pounds working pressure. Details, measurements and tables of brick quantities required for setting. 32 pp. Illustrated. Size, 8½ x 11 in.

Gillis & Geoghegan, 535 West Broadway, New York City.

1394. *The G & G Telescopic Hoist* for ash removal and handling material between floors. Filing folder and booklet containing general description of electric and hand power telescopic hoists, details, specifications and other data. A. I. A. File No. 30i1. 24 pp. Illustrated. Size, 8½ x 11 in.

Hart & Cooley Mfg. Co., New Britain, Conn.

1550. *H. & C. Wrought Steel Warm Registers.* Catalog No. 28 covers complete line of H. & C. warm air registers, and includes descriptions, illustrations, tables of sizes and price list. 66 pp. Size, 8¾ x 10¼ in.

Heggie Simplex Boiler Co., Joliet, Ill.

1070. *Catalog No.* 26. Heggie Simplex Electric Welded Steel Heating Boilers. Descriptive illustrations and detailed data on size, ratings, etc. 22 pp. Illustrated. Size, 8½ x 10¼ in.

Hess Warming and Ventilating Co., 1207-1229 South Western Ave., Chicago, Ill.

178. *Modern Furnace Heating.* An illustrated book on the Hess Welded Steel Furnaces, Pipe and Pipeless, notes for installation, sectional views, showing parts and operations, dimensions, register designs, pipes and fittings. 48 pp. Size, 6 x 9½ in.

Illinois Engineering Co., 21st St., Racine Ave., Chicago, Ill.

1280. *Vapor Details Bulletin* 22. A concise and simple explanation of True Vapor Heat, describing Illinois Heating Systems and Vapor Specialties. Contains a great deal of Engineering information with detail sheets relative to the installation of Heating Systems in various types of office and residential buildings. It also gives standards for computing radiation and boiler sizes compiled by the Standardization Committee of the Chicago Master Steamfitters' Association. A. I. A. File No. 30c2. 24 pp. Illustrated. Size, 8½ x 11 in.

1281. *Illinois Engineering Company Bulletins.* Bulletin 14, Steam Heating Specialties; 45, Non-Return Valves; 103, Pressure Reducing Valves; 203, Back Pressure and Relief Valves; 33, Eclipse Steam Traps; 53, Separators, Oil and Steam; 703, Eclipse Pump Governors, Balanced Valves. Number of pages varies. Illustrated. Size, 8½ x 11 in.

Johnson Service Company, 149 Michigan St., Milwaukee, Wis.

391. *The Regulation of Temperature and Humidity.* A description of the Johnson System of temperature regulation and humidity control for buildings; showing many kinds of thermostatic appliances for automatically maintaining uniform temperature. 63 pp. Illustrated. Size, 8½ x 11 in.

392. *Johnson Electric Thermostat, Valves and Controllers.* A catalog of devices mentioned in the title. 24 pp. Illustrated. Size, 3½ x 6 in.

Kewanee Boiler Corporation, Kewanee, Ill.

840. *Kewanee Boilers.* Catalog 78, Firebox Boilers; Catalog 79, Power Boilers; Kewanee Boilers in Omaha Schools. Complete details, dimensions, setting diagrams, designing data, specifications and accessories. 52, 34 and 16 pp. Illustrated. Size, 6 x 9 in.

841. *Kewanee Radiators and Equipment.* Catalog No. 77, Radiators. Catalog 75, Water Heating Garbage Burners. Tobasco Water Heaters and Tanks of all kinds; Selecting the Heating Boiler. Complete details, dimensions, setting diagrams. Designing data and specifications. 24, 30 and 16 pp. Illustrated. Size, 6 x 9 in. and 5 x 8 in.

1551. *Kewanee Steel Boilers.* Catalog No. 84a. Details, dimensions, setting diagrams, designing data and specifications. A. I. A. File No. 30C1. 16 pp. Illustrated. Size, 6 x 9 in.

Milwaukee Corrugating Company, Milwaukee, Wis.

1413. *Milcor Furnace Pipe and Fittings, Stove Pipe and Elbows.* Catalog No. 25. A reference book on Milcor single and double furnace wall-pipe and complete line of simplified fittings, furnace accessories, registers and faces. Catalog includes diagrams of 24 typical problems, standard code for warm air furnaces for residences and other valuable data on warm air heating. 56 pp. Illustrated. Size, 8½ x 11 in.

Modine Manufacturing Co., Racine, Wis.

1348. *Thermodine Unit Heater.* Catalog No. 127 contains complete information, details of construction, dimensions, piping arrangements, capacities, and architectural and engineering data on the Thermodine Unit Heater. 24 pp. Illustrated. Size, 8½ x 11 in.

1543. *Thermodine Cabinet Heater.* Catalog No. 327 contains details, dimensions and capacities of the Thermodine Cabinet Heater. 12 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

30. HEATING AND VENTILATING—Continued

The Herman Nelson Corporation (formerly Moline Heat), Moline, Ill.

411. *Univent Ventilation. Architects' and Engineers' Edition.* A scientific treatise on ventilation for schools, offices and similar buildings; with 40 pages of engineering data on ventilation for architects and engineers. 72 pp.

1115. *Invisible Radiator, Herman Nelson.* Book descriptive of the Herman Nelson Invisible Radiator which can be installed in any ordinary wall or partition without special construction. Illustrated in color; 16 pp. Size, 8½ x 11 in. Booklet of mechanical data showing method of installation, tables of standard sizes, square feet, radiation equivalent, etc., of the Invisible Radiator for steam, vacuum and vapor systems. 24 pp. Illustrated. Size, 6 x 9¼ in.

New York Blower Co., 3159 Shields Avenue, Chicago, Ill.

1211. Type ME fan. Catalog No. 100 illustrates and describes type ME air moving apparatus. This catalog contains dimensions and capacity of various size fans and includes specifications and other valuable engineering data. 32 pp. Illustrated. Size, 8½ x 11 in.

1212. *Comet Unit-Heaters.* Bulletin No. 85. Folder contains general description, dimensions, general data and capacities of Comet Unit-Heaters. 4 pp. Illustrated. Size, 8½ x 11 in.

Pacific Steel Boiler Corporation, Waukegan, Ill. Bristol, Pa.

1071. *Bulletin SC-28.* Descriptive illustrations and specifications. Pacific Direct Draft and Up Draft Smokeless Boilers; Bulletin OF-28 covers Pacific Oil Fired Boilers; Bulletin RT-27 Pacific Steel Residence Boilers; and DD-27 Pacific Down Draft Boilers.

1410. *An Actual Operating Test on Pacific Rear Oil-Fired Boilers.* Booklet describes and gives the results of test of Pacific Rear oil-fired boiler conducted on an installation in the Mark Hopkins Hotel, San Francisco, Cal. 8 pp. Illustrated. Size, 8½ x 11 in.

Peerless Unit Ventilation Co., Inc., Skillman Ave. and Hulst St. Long Island City, N. Y.

1048. *Peer Vent Heating and Ventilating Units.* Feb. 1928. Booklet descriptive of Unit heating and ventilating units, mechanical features and advantages. Directions for laying out unit systems, complete engineering data and details of standard units. 52 pp. Illustrated. Size, 8¼ x 10¾ in.

Rome Brass Radiator Corporation, 1 E. 42d St., New York City.

1367. *The Robras 20-20.* Booklet describes the development and construction of the Robras 20-20 brass radiator. 12 pp. Illustrated. Size, 4 x 9 in.

1449. *Within the Walls.* Catalog describes Robras radiators, 20-20s which may be put in the walls, out of sight. Used with steam, vapor or hot water heating systems. Catalog describes method of installation. Size, 9 x 4 in. Illustrated. 12 pp.

B. F. Sturtevant Co., Hyde Park, Boston, Mass.

1084. *Multivane Fans. Catalog No. 271.* A. I. A. File No. 30d1. Catalog gives dimensions, capacities, horse-powers, performance tables, specifications and detail description of Multivane fans. Design No. 3. 96 pp. Illustrated. Size, 8½ x 11 in.

1584. *Sturtevant Tempervane Industrial Heating Units.* Catalog No. 363 contains valuable information with tables and graphs. Illustrated. A. I. A. File number 30F1. 44 pages. Size 8½ x 11 in.

Tuttle & Bailey Manufacturing Co., 441 Lexington Ave., New York City.

1450. *Registers, Grilles and Radiator Cabinets.* Eightieth Annual Catalog, complete for architects and engineers. Finishes, descriptions, sizes, specifications and other valuable data are included in this catalog which is intended for reference and filing. A. I. A. File No. 30e. 82 pp. Illustrated. Size, 8½ x 11 in.

31. ELECTRICAL WORK

Frank Adam Electric Co., St. Louis, Mo.

1361. *Panelboards and Cabinets.* Catalog No. 40. Contains list prices and illustrations of a complete line of one and two fuse type panelboards and steel box cabinets, including meter control panelboards. Other electrical equipment is also shown and described. A. I. A. File No. 31c3. 72 pp. Illustrated. Size, 7¼ x 10¼ in.

1567. *The Control of Lighting in Theatres.* A book describing means for complete control of lighting the stage, auditorium and other parts of theatres, with distribution schedules and specifications. A. I. A. File No. 31c2. 66 pp. Size 8½ x 11½ in.

Enameled Metals Co., Pittsburgh, Pa.

584. *Pittsburgh Standard Rigid Conduit.* A catalog describing patented thread protected enameled conduit and galvanized conduit with specifications and useful wiring data. 31 pp. Illustrated. Size, 6¼ x 9½ in.

The Frink Co., Inc., 24th St. and 10th Ave., New York City.

150. *Light Service for Hospitals. Catalog No. 426.* A booklet illustrated with photographs and drawings, showing the types of light for use in hospitals, as operating table reflectors, linolite and multilite concentrators, ward reflectors, bed lights and microscopic reflectors, giving sizes and dimensions, explaining their particular fitness for special uses. 12 pp. Size, 7 x 10 in.

218. *Picture Lighting. Booklet No. 422.* A pamphlet describing Frink Reflectors for lighting pictures, art galleries, decorated ceilings, cove lighting, the lighting of stained glass, etc., and containing a list of private and public galleries using Frink Reflectors. 24 pp. Illustrated. Size, 5¼ x 7 in.

219. *Frink Reflectors and Lighting Specialties for Stores. Catalog No. 424.* A catalog containing a description of the Frink Lighting System for Stores; the Synthetic System of Window Illumination; and a number of appliances to produce the most effective lighting of displayed objects. 20 pp. Illustrated. Size, 8 x 11 in

220. *Frink Lighting Service for Banks and Insurance Companies, Reflectors. Catalog No. 425.* A very interesting treatise on the lighting of offices; with details of illustrations and description of lamps and reflectors. Contains a list covering several pages of banks using Frink Desk and Screen Fixtures. 36 pp. Illustrated. Size, 8¼ x 11 in.

The Edwin F. Guth Co., St. Louis, Mo.

1186. *Aglite and Guthlite.* Folders describing and illustrating the Guthlite Super-Illuminator and Aglite Porcelain Enameled Illuminators. Each folder A. I. A. File No. 31f23. 4 pp. Illustrated. Size, 8½ x 11 in.

1471. *Architectural Catalog No. 19,* contains 32 pages in colors illustrating fixture installs and 80 pages illustrating lighting fixtures suitable for hotels, banks, public buildings, theatres, schools, parks, hospitals, residences, etc. A. I. A. File No. 31f23. 112 pp. Illustrated. Size, 8½ x 11 in.

1573. *Guth Lighting Equipment.* Catalog No. 18, bound, illustrating lighting fixtures suitable for public buildings, hotels, banks, hospitals, schools, residences, etc. A. I. A. File No. 31f23. 32 pp. Illustrated. Size, 8½ x 11 in.

The Hart & Hegeman Mfg. Co., 342 Capitol Ave., Hartford, Conn.

1587. *Fine Switches and Wiring Devices.* Catalog T contains complete information on H. & H. switches, sockets, receptacles and wiring devices. A valuable reference book for the architects building material library. 120 pp. Illustrated. Size, 8½ x 10 in

1588. *Atop the Style Trend in Wall Plates.* One sheet illustrating and describing the new H & H art plates, hand etched on heavy brass for switch and convenience outlet cover plates. A. I. A. File No. 31c7. 2 pp. Size 8½ x 11 in.

Kanne & Bessant, 211 East 45th St., New York City.

1294. *Lamps and Shades.* Catalog illustrates reproductions of early American pewter lamps adapted to modern use. Catalog also includes other early American types for both table and floor. In brass, iron and glass. Supplement to Catalog No. 10 includes other lamps and shades, sconces, fire screens and andirons. Overall dimensions of fixtures and lamps are given. Catalog 8 pp.; supplement 20 pp. Illustrated. Size, 6 x 9 in.

Kliegl Bros., 321 West 50th Street, New York City.

1084. *Kliegl Theatrical, Decorative and Spectacular Lighting. Catalog M.* Description of complete line of lighting specialties and lighting effects for stages, etc. Catalog includes stage equipment, exit signs, aisle and step lights, dimmers, switchboards and other special lighting apparatus. 128 pp. Illustrated. Size, 7¾ x 10½ in.

New York Telephone Company, New York, N. Y.

F-1306. *Planning for Telephones in Buildings.* A particularly well done book containing valuable information for architects which should be helpful in planning for adequate telephone service. Contains details and illustrations. A. I. A. File No. 31i5. 73 pp. Size, 8½ x 11 in.

Stromberg-Carlson Telephone Mfg. Co., Rochester, N. Y.

304. *Inter-Communicating Telephone Systems. Bulletin No. 1017.* A pamphlet giving just the information required for the installation of inter-communicating systems from 2 to 32 stations capacity. 15 pp. Illustrated. Size, 7¾ x 10 in.

Youngstown Sheet and Tube Co., Youngstown, Ohio.

1017. *Electrical Conduit.* Circular giving complete data about Buckeye Rigid Conduit and Realflex Flexible Steel Armored Cable with specifications. 6 pp. Illustrated. Size, 8½ x 11 in.

32. REFRIGERATION

Frick Company, Waynesboro, Pa.

1290. *Ice and Frost.* Series I, No. 4. Enclosed type Ammonia Compressors and Refrigerating Equipment. A brief outline of the advantages and uses of modern mechanical refrigeration. A few installations of Frick equipment are illustrated. 48 pp. Illustrated. Size, 6 x 9 in.

1502. *Frick Refrigeration.* Ice and Frost Bulletin No. 118-A illustrates and describes Carbon-Dioxide refrigerating equipment for hotels, apartment houses, hospitals, office buildings, etc. 8 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

33. ELEVATORS AND ACCESSORIES

Kimball Bros. Co., Council Bluffs, Iowa.

742. *Kimball Straight Line Drive Elevators.* A complete catalog of passenger, freight and garage traction elevators, push button elevators, dumbwaiters, sidewalk and ash hoist elevators. 36 pp. Illustrated. Size, 8½ x 11 in.

Otis Elevator Co., 260 Eleventh Ave., New York City.

651. *Otis Geared and Gearless Traction Elevators.* Leaflets describing all types of geared and gearless traction elevators with details of machines, motors and controllers for these types. Illustrated. Size, 8½ x 11 in.

1562. *Escalators.* A comprehensive catalog describing and illustrating the use of escalators for supplementing elevator service in department stores, also for subways, railroad stations and other locations. 32 pp. Illustrated. Size, 8½ x 11 in.

Richards-Wilcox Mfg. Co., Aurora, Ill.

795. *"Ideal" Elevator Door Hardware. Catalog No.* 37. A catalog showing hangers for every type of elevator doors hand operated. interlocking door controllers, bar locks and accessories. 56 pp. Illustrated. Size, 8½ x 11 in.

Sedgwick Machine Works, 159 West 15th St., New York City.

1341. *Sedgwick Dumb Waiters and Elevators.* Catalog P contains valuable information, standard sizes, installation details and other data on hand power dumb waiters, fuel and log lifts, freight elevators, invalid elevators, automobile elevators and sidewalk elevators. Experience of nearly 35 years in the design, manufacture and installation of hand power dumb waiters and elevators for all purposes has been drawn upon in the compilation of this catalog. 32 pp. Illustrated. Size, 8½ x 11 in.

A. B. See Electric Elevator Co., 52 Vesey St., New York City.

169. Photographs and description in detail of elevator equipment manufactured by the A. B. See Electric Elevator Co. Size, 6 x 8 in.

Storm Mfg. Company, 40-50 Vesey St., Newark, N. J.

1503. *Elevators and Dumbwaiters.* A series of bulletins describing various types of machines. No. 17 "H" machines for handpower elevators, No. 18 "N" machines for dumbwaiters, No. 19 "P" machines for automatic dumbwaiters, No. 22—sidewalk elevators, No. 16—F. & W. machines for electric dumbwaiters, No. 21—hospital elevators and dumbwaiters. 30 pp. Illustrated. Size, 6 x 9 in.

34. POWER PLANT

35. EQUIPMENT, STATIONARY

Alberene Stone Co., 153 West 23rd St., New York City.

1221. *Alberene Stone Laboratory Equipment* for Industrial, Educational and Research Institutions. Loose leaf catalog illustrating and describing tables, sinks, flooring and trim, fume hoods, baths and tanks, etc. Practical details and standard specifications are included. 8 pp. Illustrated. Size, 8½ x 11 in.

American Seating Co., 14 E. Jackson Boulevard, Chicago, Ill.

1563. *Furnishings for Modern Churches.* A portfolio containing a number of illustrations showing chancel furnishings, pew seatings and special pieces in loose leaf form, with file folder. A. I. A. No. 35A42—35A41—28B11. Size, 8½ x 11 in.

American Stove Co., St. Louis, Mo.

1050. *Handbook on Gas Ranges for Architects and Builders.* A practical book of data on gas ranges and pipe sizes for the files of the architect and specification writer. 32 pp. Illustrated. Size, 8¾ x 11¼ in.

Champion Dish Washing Machine Co., 15th & Bloomfield Sts., Hoboken, N. J.

1499. *Dishwashing Mathematics*—Figure Facts on Dishwashing. Booklet contains information and make up sheet for arriving at cost of dishwashing. Various types of machines are illustrated and described. 16 pp. Illustrated. Size, 3¼ x 6¼ in.

R. W. Clark Mfg. Co., 4311 Ravenswood Ave., Chicago, Ill.

1151. *Clark Directories and Bulletin Boards.* A. I. A. File No. 35n3. Interchangeable letter equipment for office building directory, hotel, bank, apartment and public building directory and bulletin boards. Booklet ready for filing contains detail drawings with dimensions and specifications for various styles and sizes of bulletin and directory boards. 8 pp. Illustrated. Size, 8½ x 11 in.

J. C. Deagan, Inc., 189 Deagan Bldg., Chicago, Ill.

783. *Deagan Tower Chimes.* Describing the important features of Deagan Tower Chimes and including information concerning the space requirements and construction required for installing chimes in towers and belfries. 8 pp. Size, 8½ x 11 in.

W. F. Dougherty & Sons, Inc., 1009 Arch St., Philadelphia, Pa.

1433. *Food Service Equipment.* A complete catalog of kitchen and restaurant equipment. A valuable reference book for those interested in equipping hospitals, hotels, clubs, schools and industrial plants. 210 pp. Illustrated. Size, 8½ x 11 in.

The G&G Atlas Systems, 545 West Broadway, New York City.

1398. *The G&G Atlas Pneumatic Tube System.* Series of folders illustrating and describing the installation and uses of G&G Atlas pneumatic tube systems in various types of buildings. These include among others The Halle Bros. Co., Cleveland, The Stevens Hotel, Chicago, and The New York World. Each 2 pp. Illustrated. Size, 8 x 11¼ in.

Kerner Incinerator Co., 641 E. Water St., Milwaukee, Wisc.

1199. *Garbage and Waste Disposal for Apartment Buildings.* Folder describes principle and design of Kernerator chimney-fed Incinerator for apartments aad list of illustrations.

1202. *The Sanitary Elimination of Garbage and Household Waste* Folder contains complete information on the Kernerator for residences. 8 pp. Illustrated. Size, 8½ x 11 in.

1564. *Incinerators (Chimney Fed)* Catalog No. 17, Architects' and Builders' Edition. Describes the Kernerator chimney fed incinerators for residences, apartments, hospitals, schools and institutions. Gives design, general information and working data. Also standard layout sheet. 20 pp. Illustrated. Size, 8½ x 11 in.

National Stove Co., Division of American Stove Co., Loraine, Ohio.

506. *Catalog No.* 94. *Second Edition.* A catalog of Direct Action Gas Ranges equipped with Lorain Oven Heat Regulator.

Quick Meal Stove Co., Division of American Stove Co., St. Louis, Mo.

595. *Catalog No.* 131. A catalog of gas (also combination of coal and cook stoves; gas boilers, soldering furnaces, cake bakers, hot plates, water heaters, gas heaters for rooms. Lorain Oven Heat regulations, etc. 56 pp. Size, 6 x 9 in.

Skinner Organ Company, 677 Fifth Ave., New York City.

1484. *The Skinner Residence Organ.* Booklet describes and illustrates the Skinner Ten Stop Residence Organ for manual, semi-automatic or full automatic operation. Illustrations have been selected from numerous installations that show various conditions. 48 pp. Illustrated. Size, 8¼ x 11¼ in.

The Spencer Turbine Co., Hartford, Conn.

1239. *Spencer Central Cleaning Systems.* Vacuum cleaning apparatus for all purposes. Booklet completely describes the Spencer System of vacuum cleaning. A large number of buildings using this system are illustrated. 32 pp. Illustrated. Size, 8½ x 11 in.

36. CONSTRUCTION PLANT

37. INSULATION

Armstrong Cork & Insulation Co., 24th St. and Allegheny River, Pittsburgh, Pa.

1273. *Armstrong's Cork Board Insulation for Walls and Roofs of Buildings.* Ready to file catalog prepared and edited by the Architectural Council of Minneapolis, containing complete information on cork board insulation, arranged especially for the use of the specification writer and drafting room. A valuable reference volume. A. I. A. File No. 37b4. 66 pp. Illustrated. Size, 9¼ x 11¾ in.

1455. *Roof Insulation—Efficiency—Economy and Practicability.* No. 5 of a series of folders relative to the desirability and use of Armstrong's cork board for Roof Insulation. This is an interesting series containing data on the subject of roof insulation. 6 pp. Illustrated. Size, 8½ x 11 in.

The Philip Carey Co., Lockland, Cincinnati, Ohio.

379. *Pipe and Boiler Coverings. Catalog* 1362. A catalog and manual of pipe and boiler coverings, cements, etc. Contains a number of valuable diagrams and tables. 71 pp. Illustrated. Size, 6 x 9 in.

Johns-Manville Corp., 292 Madison Ave., and 41st St., New York City.

1276. *Johns-Manville Service to Industry.* Catalog contains valuable data on all forms of insulation, packings, steam traps, high temperature cements, brake blocks, linings, flooring, roofing asbestos specialties, waterproofing and dampproofing, also general technical data. 300 pp. Illustrated. Size, 8½ x 11 in. Also A Representative Installation of the Johns-Manville Underground System of Insulation. Booklet. 20 pp. Size, 8½ x 11 in.

MacAndrews and Forbes Co., 200 Fifth Avenue, New York, N. Y.

F-1306. *Maftex Manuel.* A practical and complete reference guide for those interested in the effectiveness, economy and application of insulating material. 64 pp. Illustrated. Size, 8½ x 4in.

The Insulite Company, Minneapolis, Minn.

1477. *Roof Insulation and Prevention of Condensation with Insulite.* Filing folder containing chapters on roof insulation, the advantages of using Insulite, analysis of a typical roof, technical data on insulating against heat transmission and prevention of condensation. Specifications for Insulite roof insulation are included. A. I. A. File No. 37a1. 16 pp. Illustrated. Size, 8½ x 11 in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

37 INSULATION—Continued

The Insulite Company, Minneapolis, Minn.

1478. *Specifications and Details on the Use and Installation of Insulite,* for plaster base, sheathing, wall board, exterior finish, acoustical correction and sound deadening. Booklet prepared for filing illustrates the various uses of Insulite. Valuable for drafting room and specification writer. A. I. A. File No. 37a1. 16 pp. Illustrated. Size, 8½ x 11 in.

38. LANDSCAPE

Erkins Studios, 254 Lexington Ave., New York City.

1473. *Garden Furniture in Pompeian Stone, Lead, Terra Cotta and Marble.* Booklet illustrates Vases, Pedestals, Sundials, Fonts, Fountains, Tables, Benches, Balustrades, Well Heads, Gazing Globes and Pergolas. 20 pp. Illustrated. Size, 8 x 11 in.

H. A. Robinson & Co., Inc., 128 Water St., New York, N. Y.

1431. *En-Tout-Cas Fast Drying Tennis Courts.* Booklet illustrates several tennis courts and describes the En-Tout-Cas method of tennis court construction. Tennis court fittings are also illustrated and described. 16 pp. Illustrated. Size, 8¼ x 9½ in.

39. ACOUSTICS

Johns-Manville Corp., 292 Madison Ave., New York City.

1277. *Architectural Acoustics.* Treatise on the correction of architectural acoustics in churches, schools, hospitals, office buildings and other places. 24 pp. Illustrated. Size, 6 x 9 in.

40. REGULATIONS

I PLANS AND DESIGNS

American Face Brick Association, 1754 People's Life Bldg., Chicago, Ill.

155. *The Home of Beauty.* A booklet containing fifty prize designs for small brick houses submitted in national competition by architects. Texts by Aymar Ambury II, Architect. Size, 8 x 10 in. 72 pp. Price, 50 cents.

Truscon Steel Company, Youngstown, Ohio.

318. *Truscon Standard Buildings. Form D-398.* Describes Truscon Standard Steel Buildings, with diagrams, illustrations of installations, descriptive matter and list of users. 48 pp. Illustrated. Size, 8½ x 11 in.

II GENERAL CATALOGS

American Lead Pencil Co., 220 Fifth Ave., New York City.

268. *Booklet C-20. Venus Pencil in Mechanical Drafting.* An interesting illustrated booklet showing the possibilities of the Venus Drawing Pencil for drafting. Size, 6 x 9 in.

Johns-Manville Corporation, New York City.

752. *Johns-Manville Service to Industry.* A complete catalog of Asbestos Roofings, Heat and Electric Insulations, Waterproofing, Industrial Flooring, etc. Complete details and specifications. Valuable reference book for architects. 260 pp. Illustrated. Size, 8½ x 11 in.

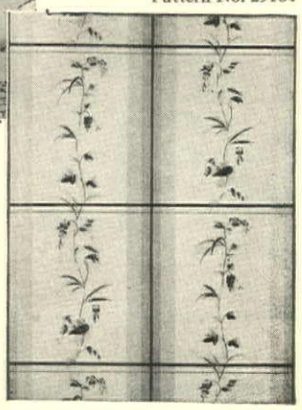
A. Wyckoff & Sons Co., Elmira, N. Y.

397. *Wyckoff Wood Pipe. Catalog No. 42.* A description of machine-made woodstave pipe and Wyckoff's express steam pipe casing. Contains also a number of pages of useful formulas and tables for hydraulic computation. 92 pp. Illustrated. Size, 6x9 in.

Pattern No. 29138

Pattern No. 29093

Pattern No. 29147



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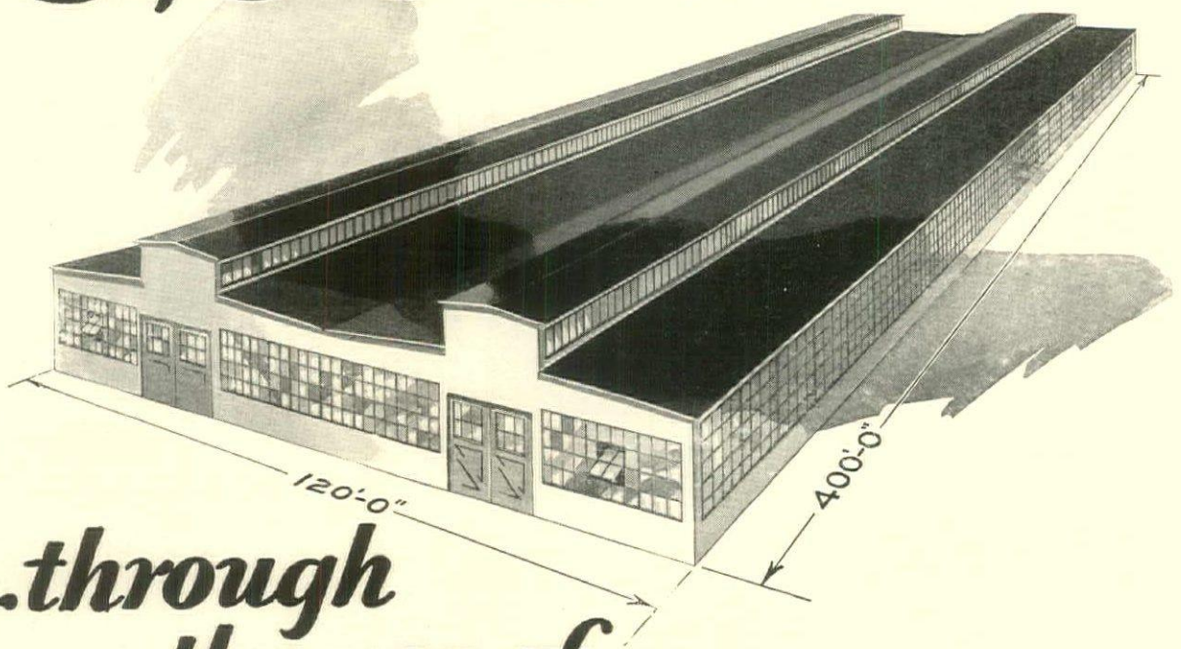

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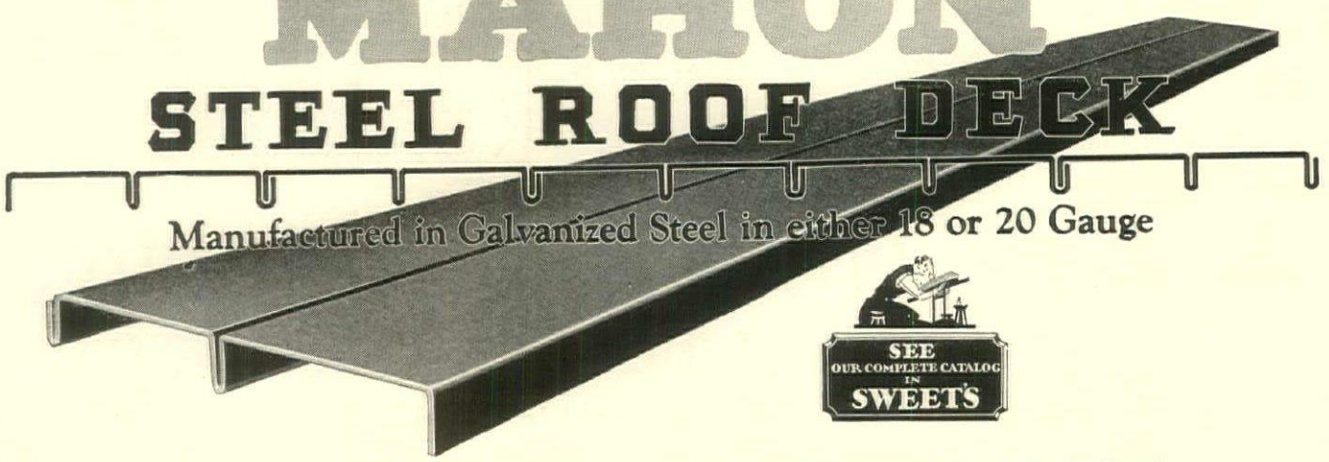

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in the
Fisher Building
Detroit, Mich.

Albert Kahn, Inc., *Architects*
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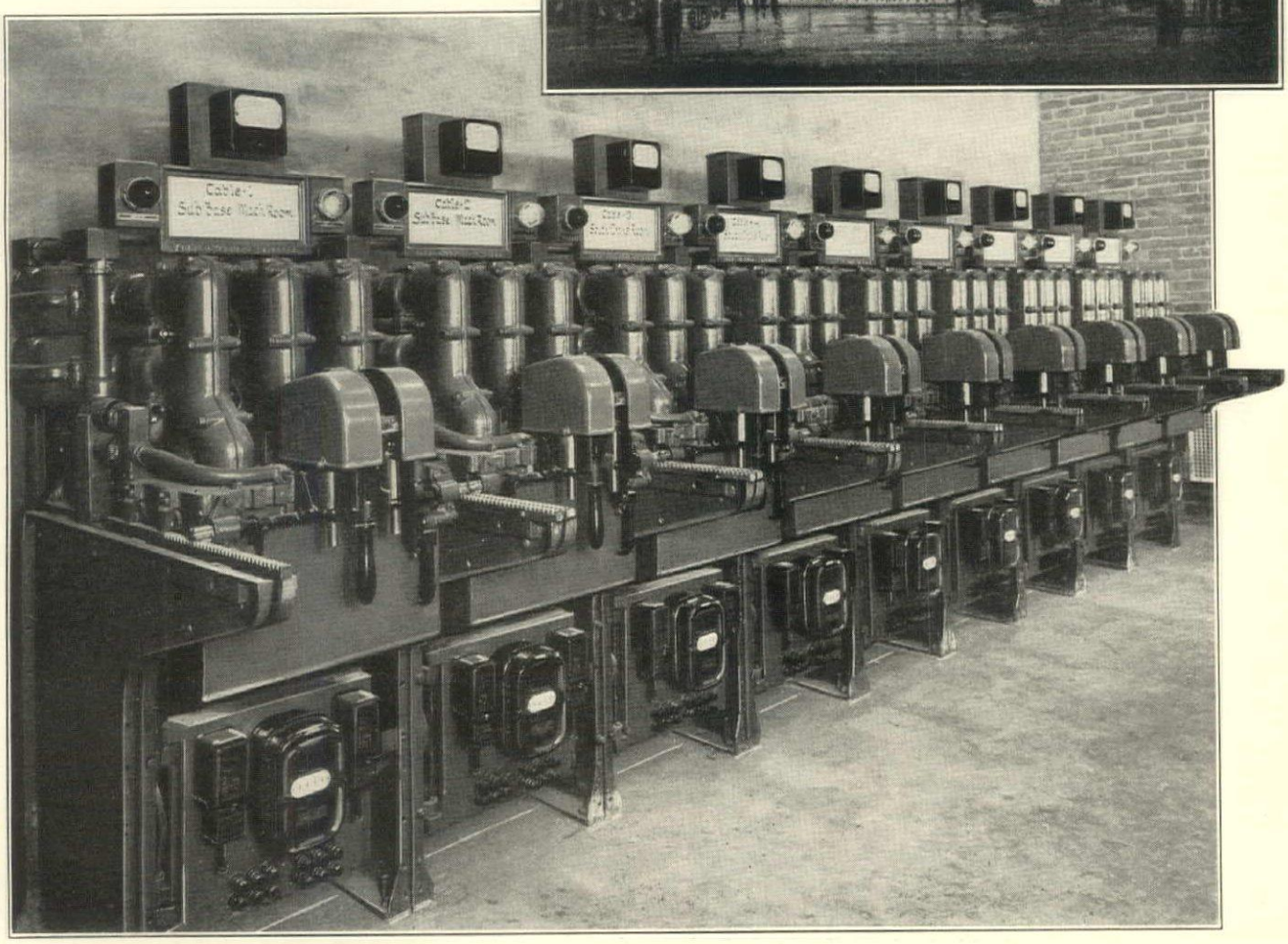
J. Livingston Co., Inc., *Elect. Contrs.*

In consideration of space conservation, safety to employees, ease of installation, and reliability, Allis-Chalmers Reyrolle Armorclad Switchgear was installed in this most modern office building.

9 Type "2C", 300 Amp., 7500 Volt Units



ALLIS-CHALMERS MANUFACTURING CO.
MILWAUKEE, WIS. U.S.A.

Specifications of most products advertised in THE AMERICAN ARCHITECT appear in the Specification Manual

[MARSHALL FIELD AND COMPANY, CHICAGO. *Corridor floor of Stedman Tile laid in 1926. Dark red, gold, cream, and green are used with black in a way that maintains the original color richness and dignity under continuous foot traffic.*]

PLEASE examine these three tiles. The color tones appear to float one above another, giving a sense of depth, perspective—a three-dimension color value that makes each tile a revelation.

We have just issued a new catalog, with panels in full color This book reveals the secret of Stedman Tile quality, in appearance and resistance to wear. May we send you a copy?

Each tile reveals new beauty~

A natural intermingling of harmonious color grain *that cannot be imitated*—this is Stedman Rubber Tile. Its distinctive beauty is due to our filament reinforcement, in which millions of short cotton fibre, each practically invisible, control the interflow of the colored compounds, resulting in a depth, richness and refinement of color grain that has made Stedman Rubber Tile the truly Modern Floor.

Modern also in its ability to grow old gracefully. Stedman Tile actually improves with use.

Turn to the rubber tile floor for beauty, foot comfort, and durability—to Stedman Rubber Tile for the ultimate in all of these qualities.

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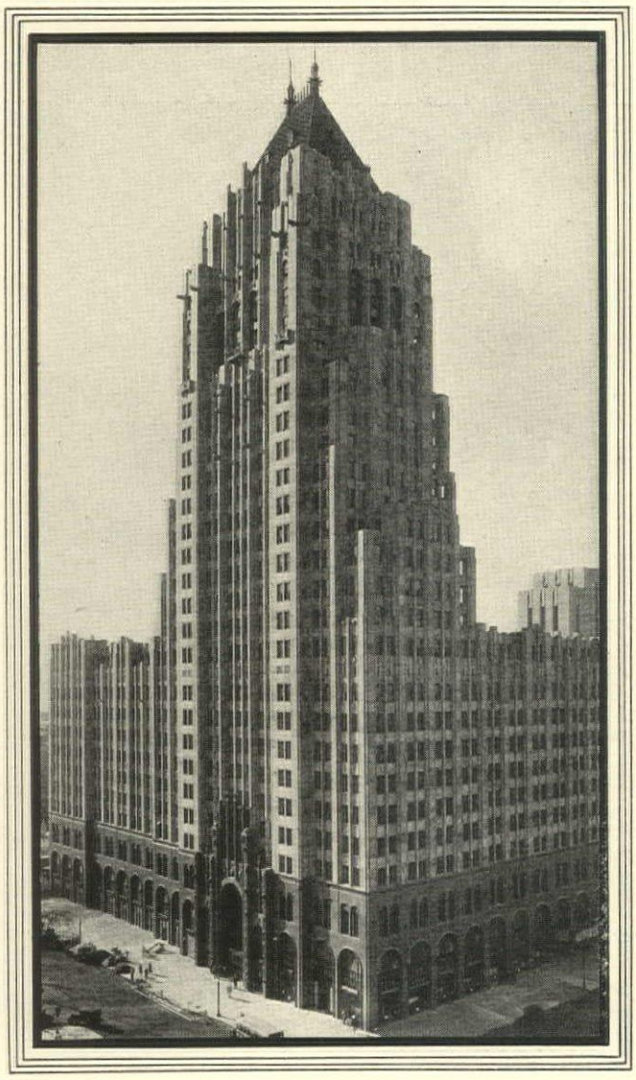
The recently completed Fisher Building, Detroit, Albert Kahn, Inc., Architects, and the Theatre, which is a part of the building, Graven & Mayger, Architects, are equipped throughout with Sargent Hardware.



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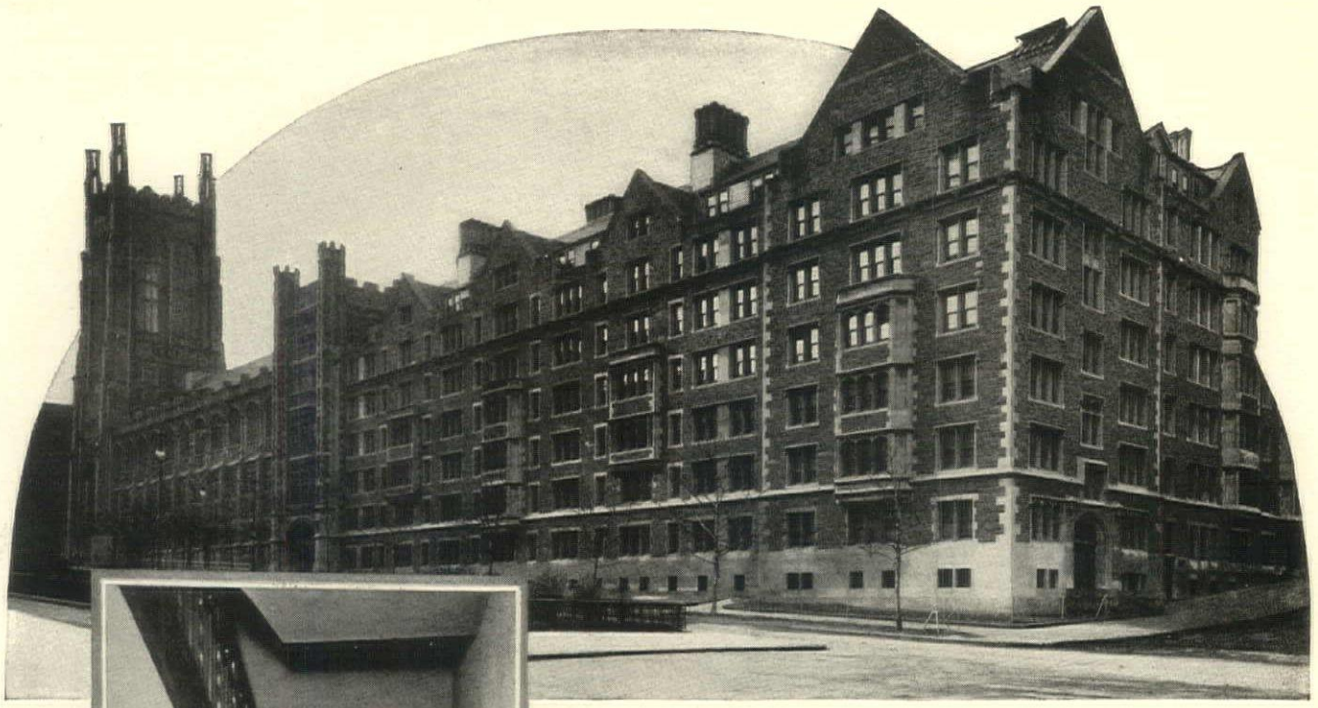

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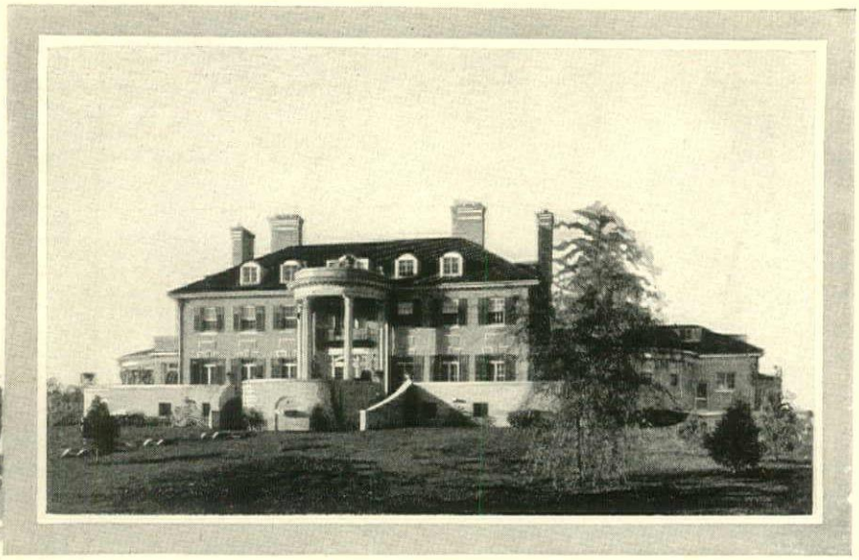

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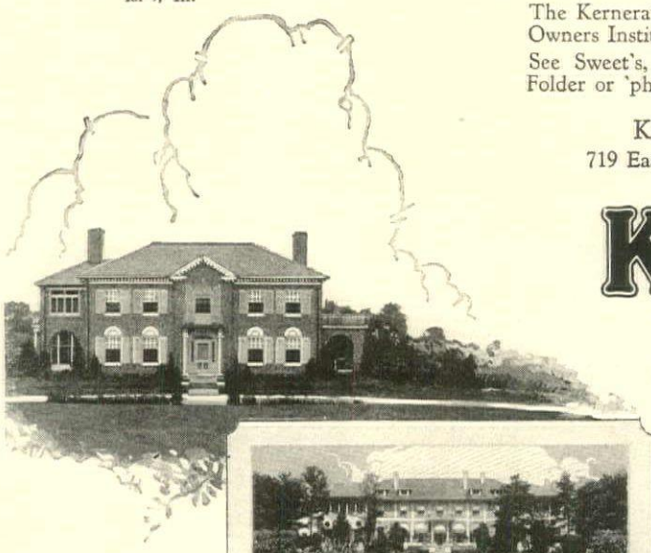

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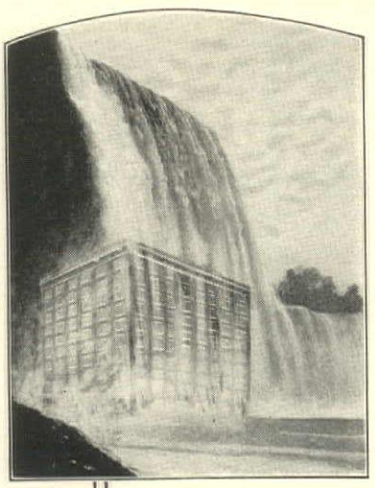

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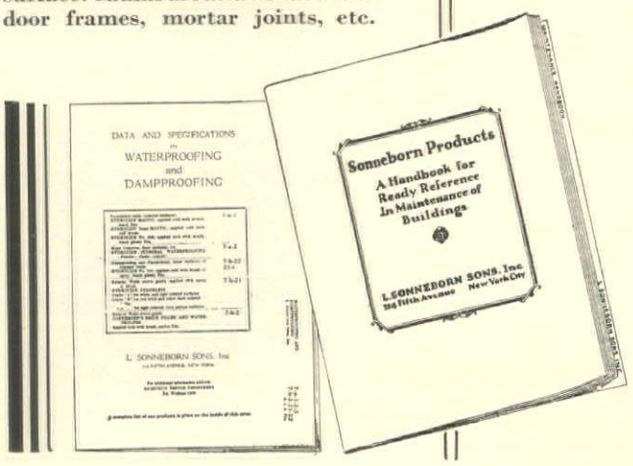

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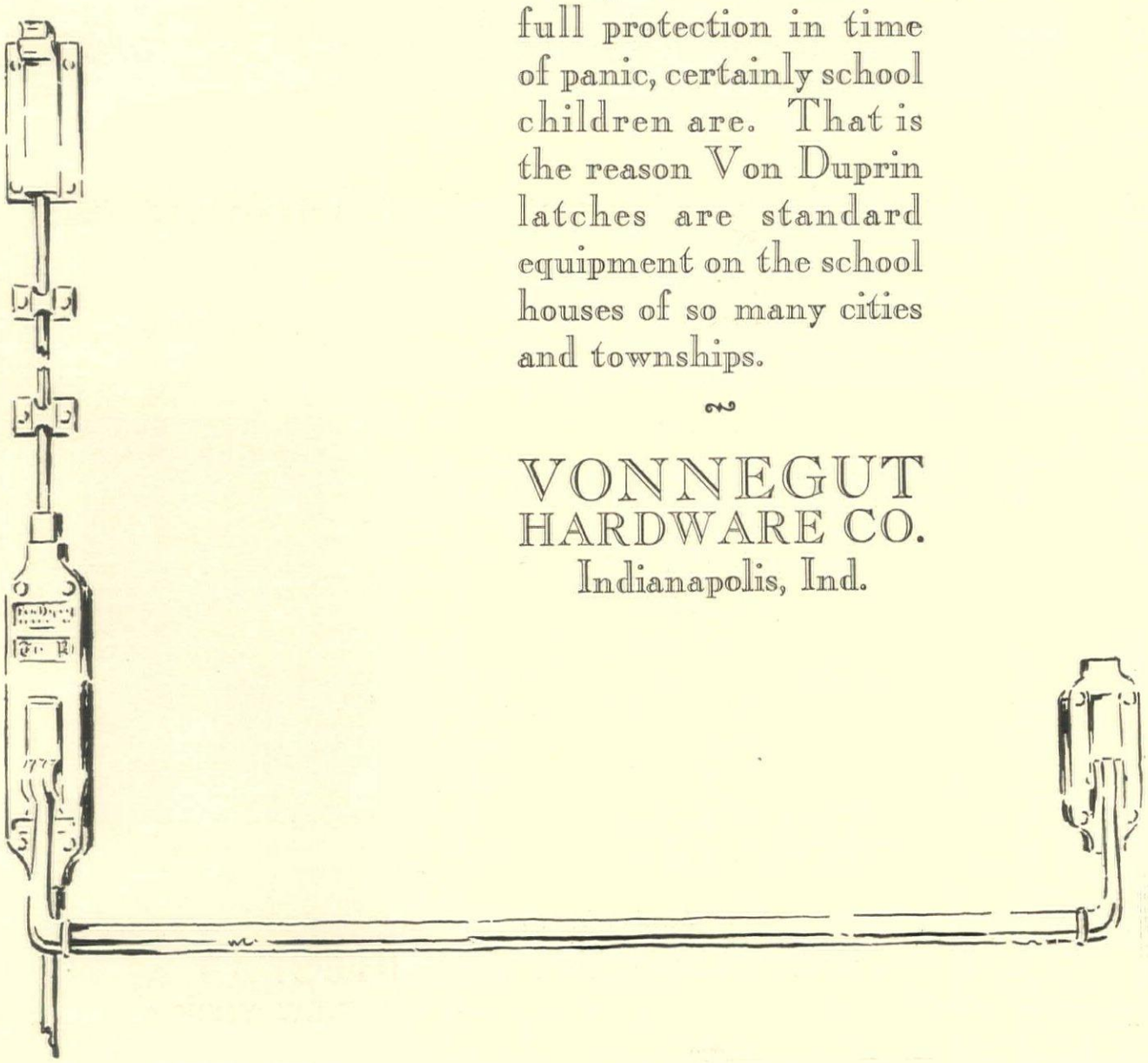

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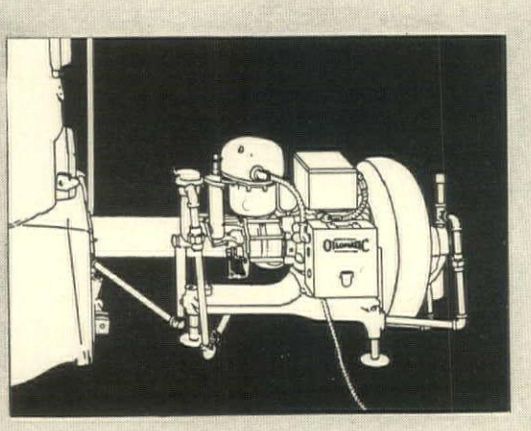

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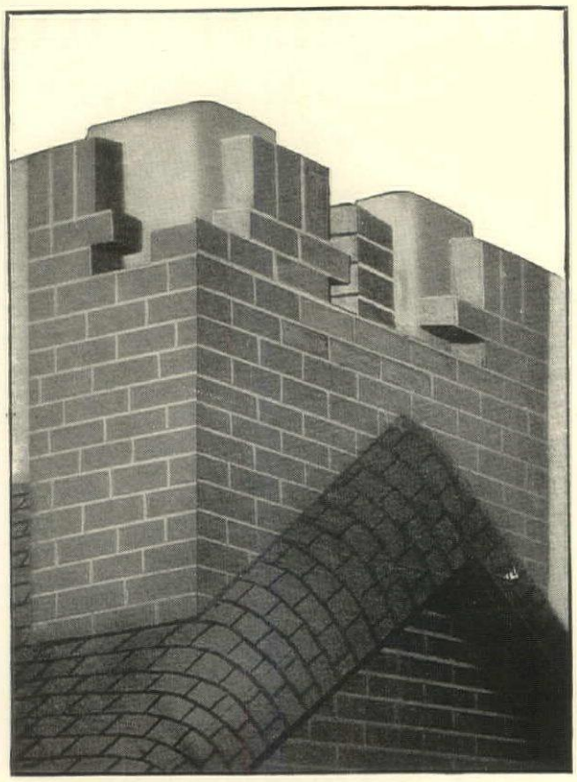

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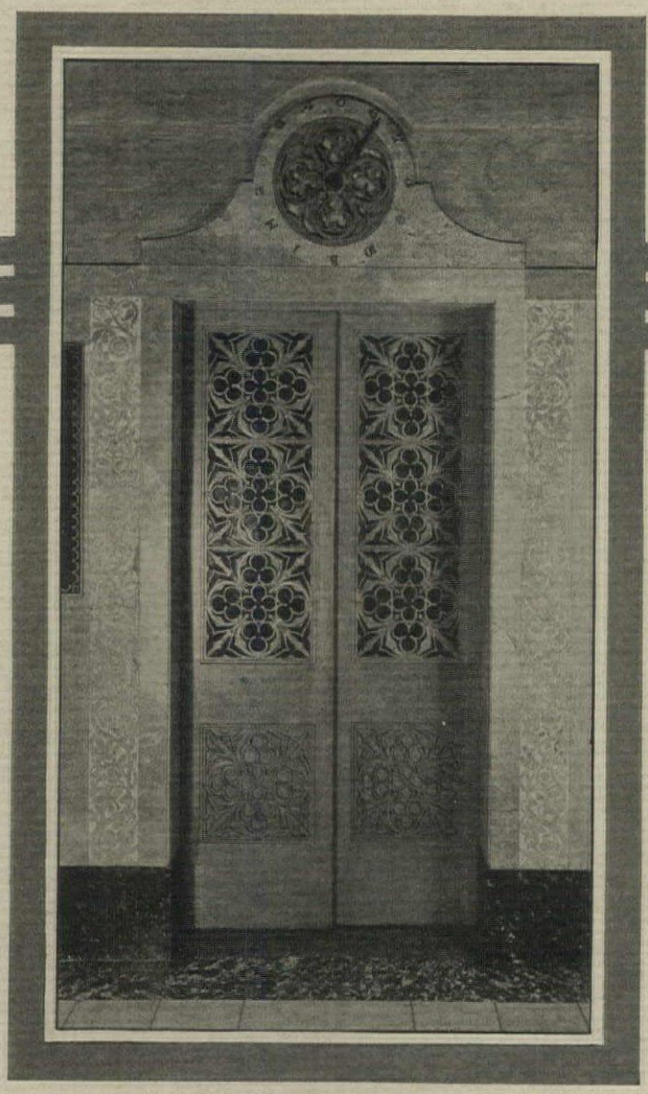

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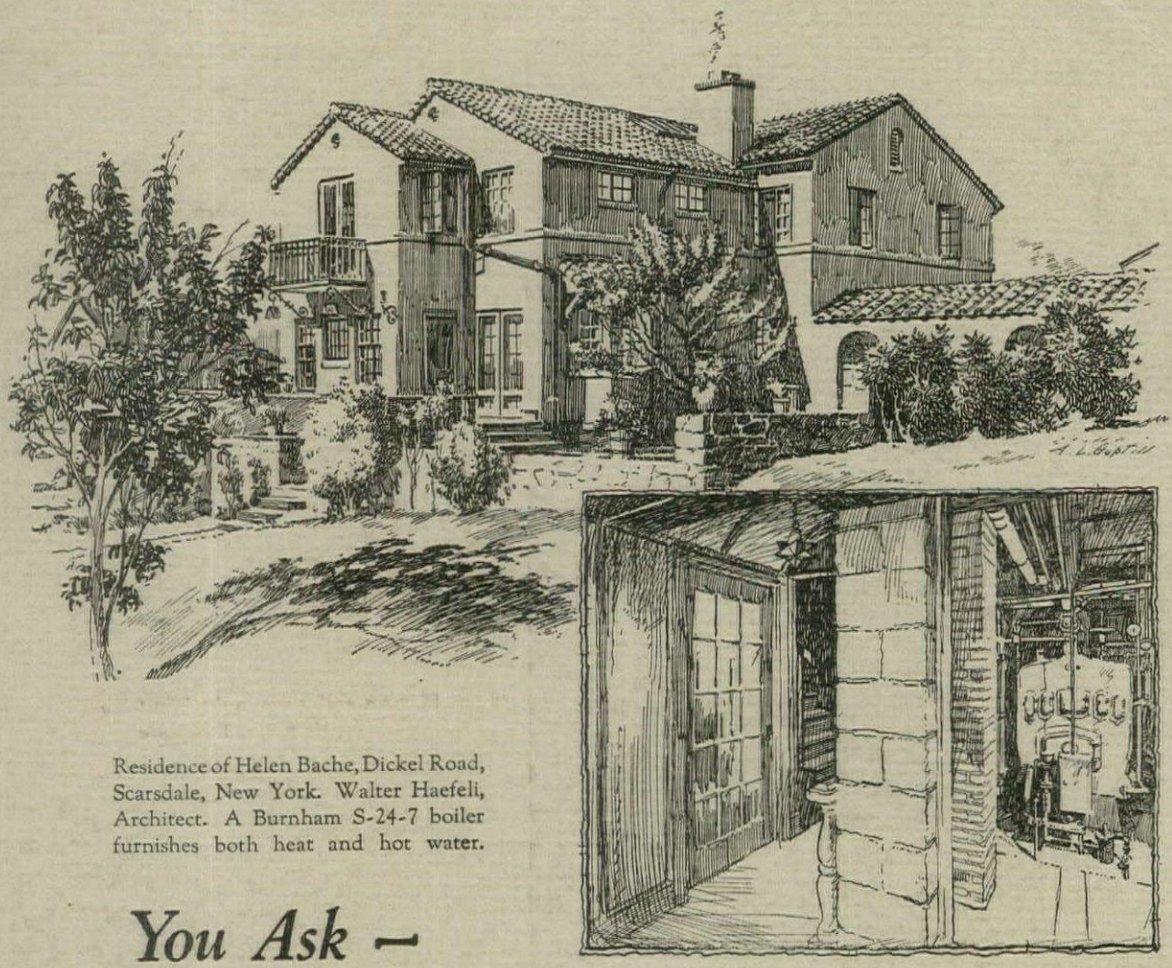

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