

The AMERICAN ARCHITECT



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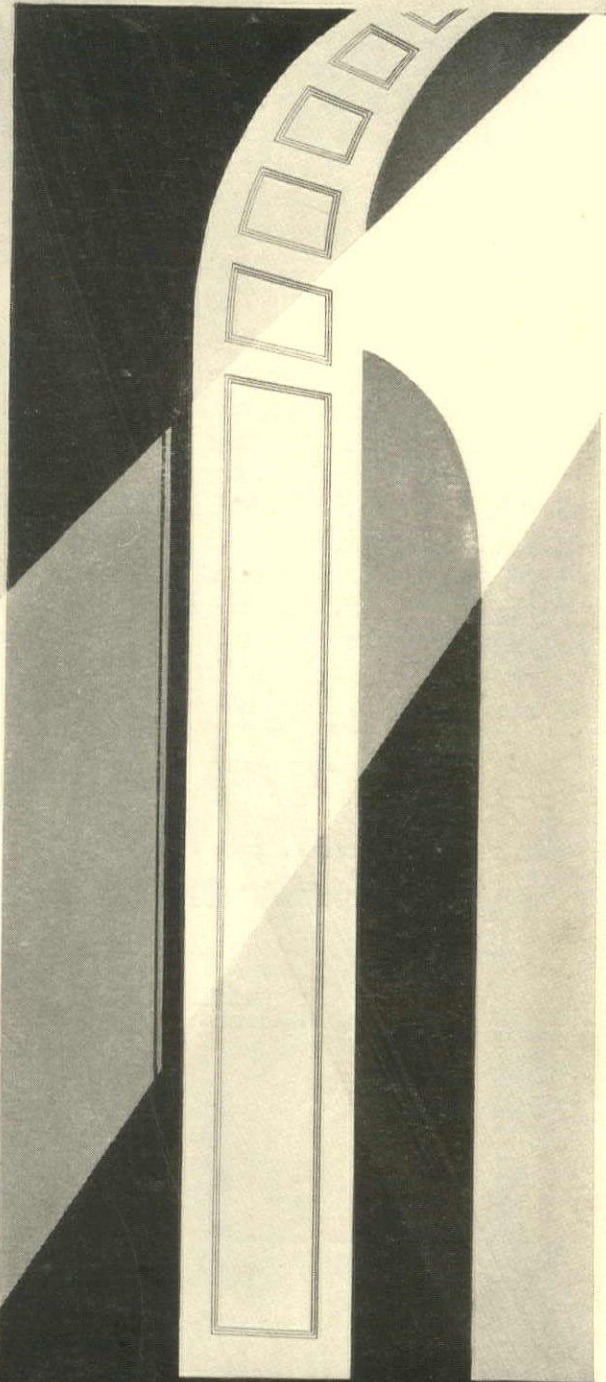
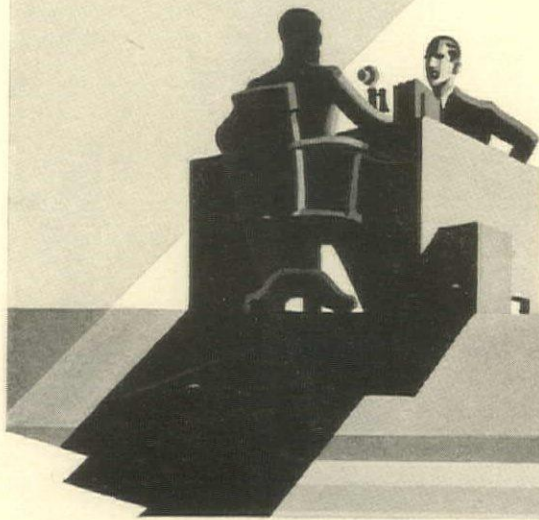
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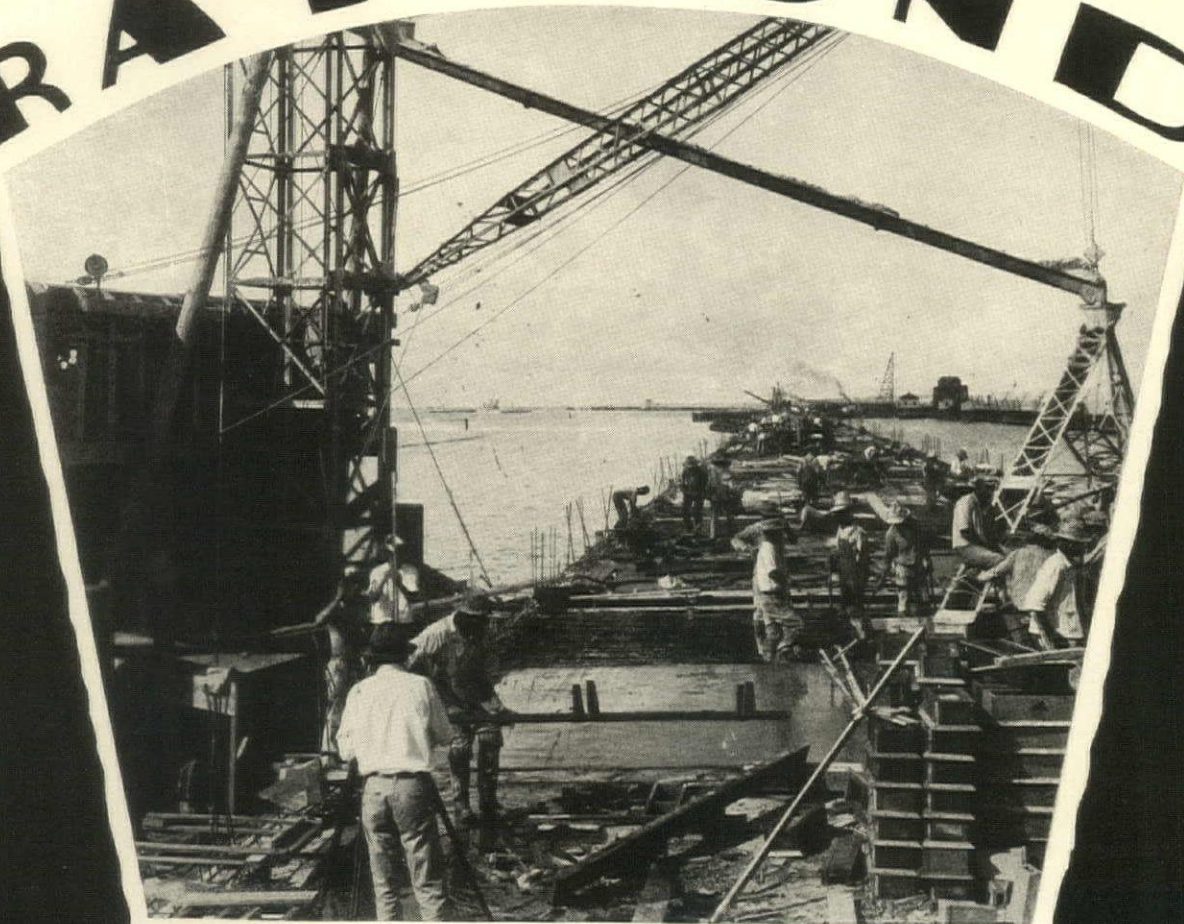
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The AMERICAN ARCHITECT

Founded 1876



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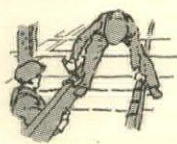
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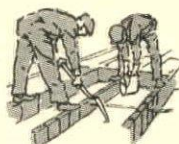
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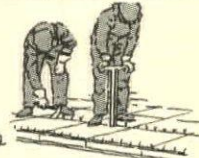
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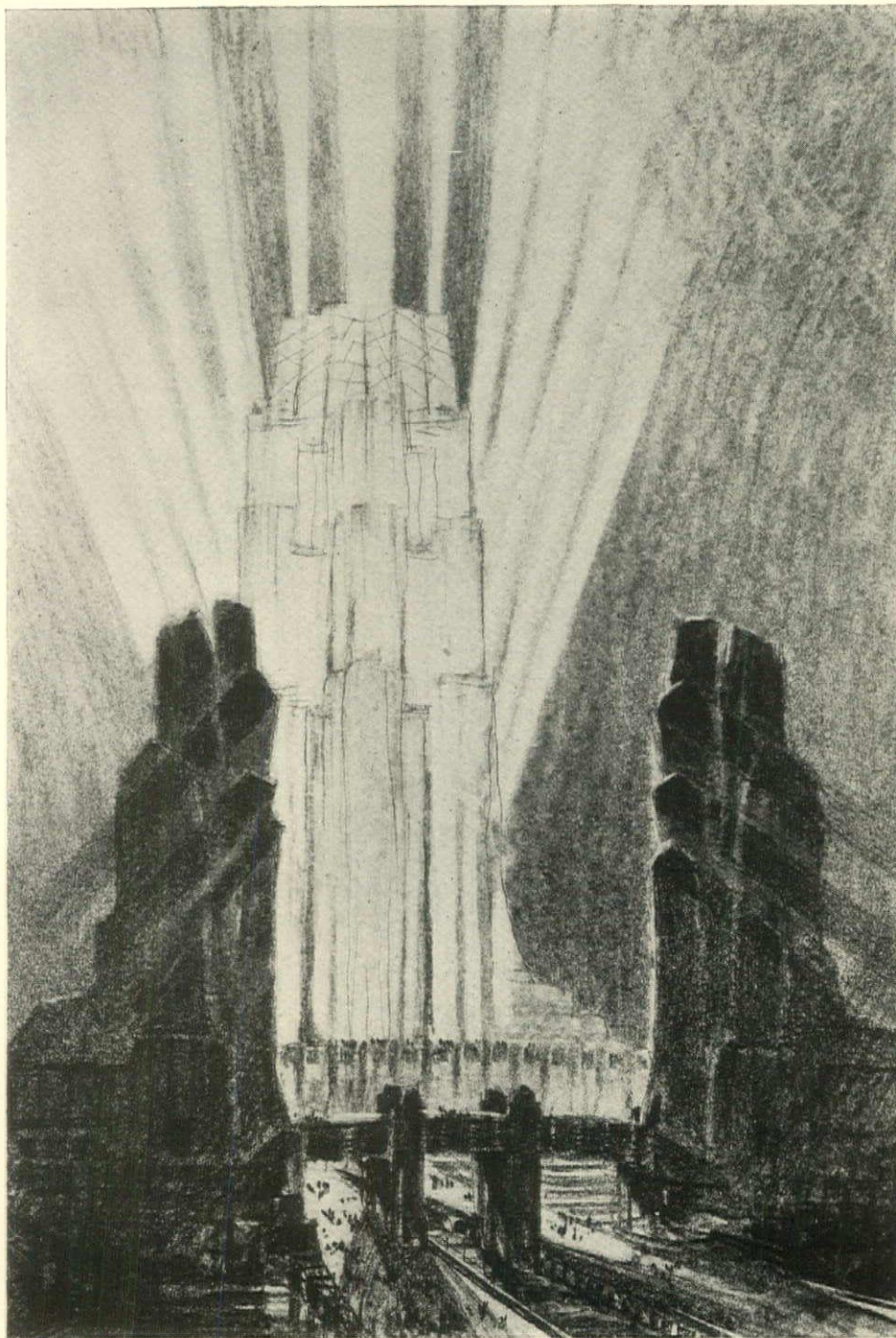
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THE influence of the Chicago World's Fair of 1893 on the architecture of the United States is too well known to require more than passing mention. While it does not necessarily follow that the World's Fair to be held in Chicago in 1933 will produce the same reaction, there is reason to believe that it will have an important bearing on the future of architecture not only in America, but perhaps throughout the world. It is understood that the Board of Architects are approaching the architectural development of the Fair and its buildings in a manner free from adherence to tradition, a spirit which leads us confidently to expect that the result will sound the modern keynote of our future architecture. The importance of the 1933 Chicago World's Fair in the advancement of architecture, we believe, can not be over-estimated. We, therefore, take pleasure in presenting in this issue an authoritative article by Dr. Allen D. Albert outlining the proposed plans of the Architectural Commission, and reproductions of various preliminary studies made by members of the Commission. The attention of our regular readers does not need to be called to the policy of THE AMERICAN ARCHITECT to publish outstanding buildings promptly and well in advance of other architectural publications. To list these buildings would be a monotonous recital of what the majority of our readers know. For the benefit of our more recent subscribers we desire to state that this well established policy will be pursued in the months to come, and that they may expect to receive twice each month a magazine that not only presents illustrations of an inspirational nature but news of the profession and building industry that is in effect an architectural cross-section of our times.

April 5, 1929

The Publishers



CHICAGO WORLD'S FAIR IN 1933

COMPOSITION OF BRIDGE, VERTICAL MASSES AND MOVING SIDEWALK

RALPH T. WALKER, ARCHITECT

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THE ARCHITECTURE OF THE CHICAGO WORLD'S FAIR OF 1933

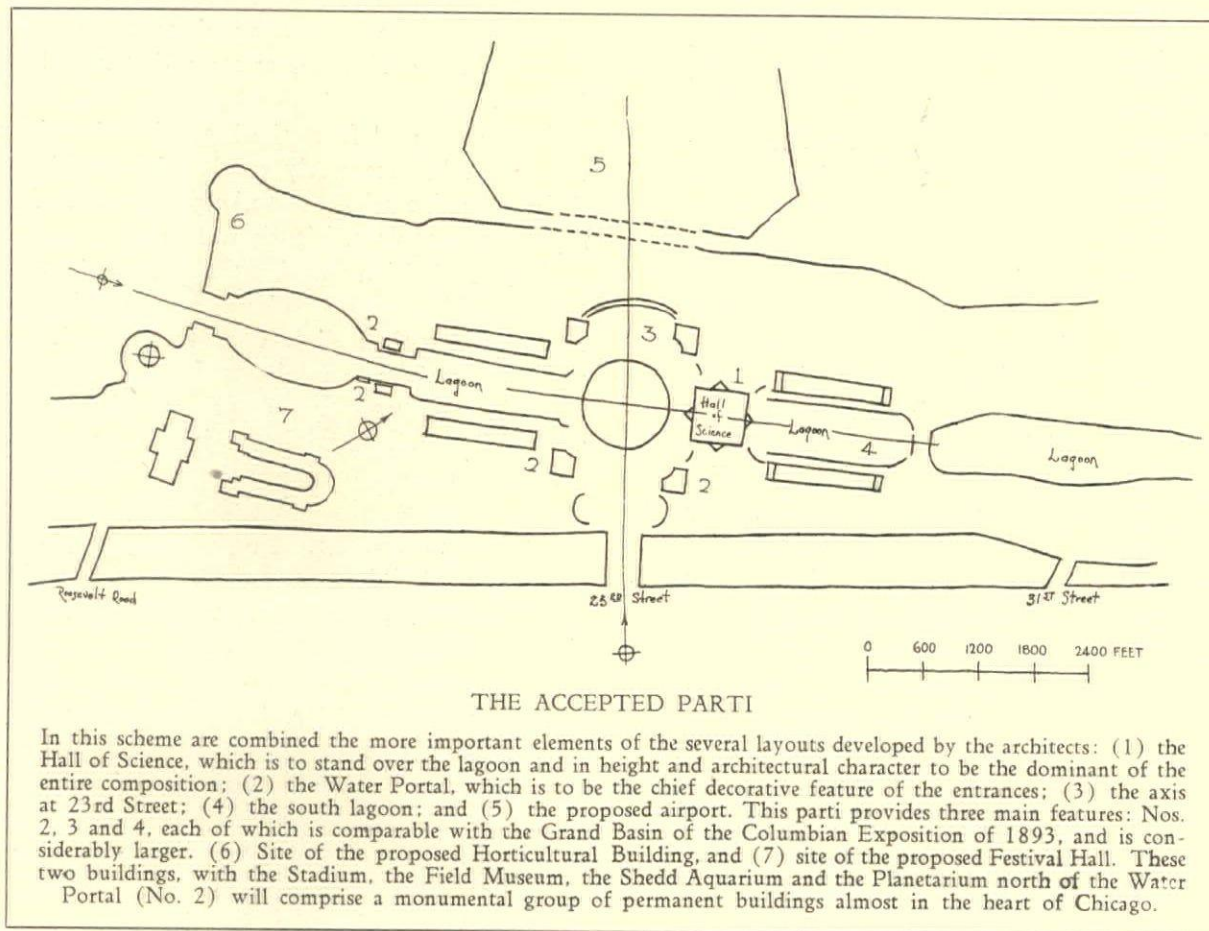
By ALLEN D. ALBERT, Sc.D.

Honorary Secretary of the Architectural Commission

THE studies for the new Chicago World's Fair of 1933 have now progressed so far as to warrant the expectation of a distinctive and significant product. President Rufus C. Dawes and his associates of the Board of Trustees have been greatly influenced in the plan for this new exposition by the architectural success of the World's Columbian

Exposition held in this same city a generation ago. Their objective has been this: That, as the World's Fair of 1893 opened the way to a great architectural advance, this similar architectural enterprise should be designed to favor a corresponding service in this later day.

The trustees met and selected, for the architec-



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tural management of the exposition, men with a sufficient knowledge of the difficulties which have developed in other American World's Fairs. They provided for a wide range of ability and against any possible local partiality by choosing first five commissioners from outside the Chicago area. These were: Harvey Wiley Corbett, New York, who has served as Chairman of the Commission since its organization; Arthur Brown, Jr., San Francisco; Paul P. Cret, Philadelphia; Raymond M. Hood, New York; and Ralph T. Walker of New York. These five men, on their own motion, increased the number of commissioners to eight and invited Edward H. Bennett, Hubert Burnham and John A. Holabird to serve from Chicago.

The Commission has had four sessions, three in Chicago and one in New York. This statement of plans was adopted at the first of these sessions:

"The architecture of the buildings and of the grounds of the Exposition of 1933 will illustrate in definite form the development of the art of architecture since the great Fair of 1893, not only in America, but in the world at large. New elements of construction, products of modern invention and science, will be factors in the architectural composition. Artificial light, the tremendous progress of which has astonished all designers in recent years, will become an inherent component of the architectural composition. The extraordinary opportunities of the site for the use of water as an intrinsic element of the composition will be developed to the maximum.

"The architecture of the world is undergoing a great change. It has shown those signs that indicate the birth of a great fresh impulse. The architects of the Chicago World's Fair Centennial Celebration of 1933 intend that the buildings of the Fair shall express the beauty of form and detail of both the national and international aspects of this new creative movement."

The site for the new exposition consists of a long strip mainland shore line, beginning with the 287 acres of Grant Park and including some 312 acres down to 39th Street, together with a strip of islands of 711 acres area reaching from the south end of Grant Park along the shore line beyond 39th Street. The mainland ground is all "made" and about 70 acres of the island.

All of the land is under the jurisdiction of the South Park Board of Chicago, a fact which gives

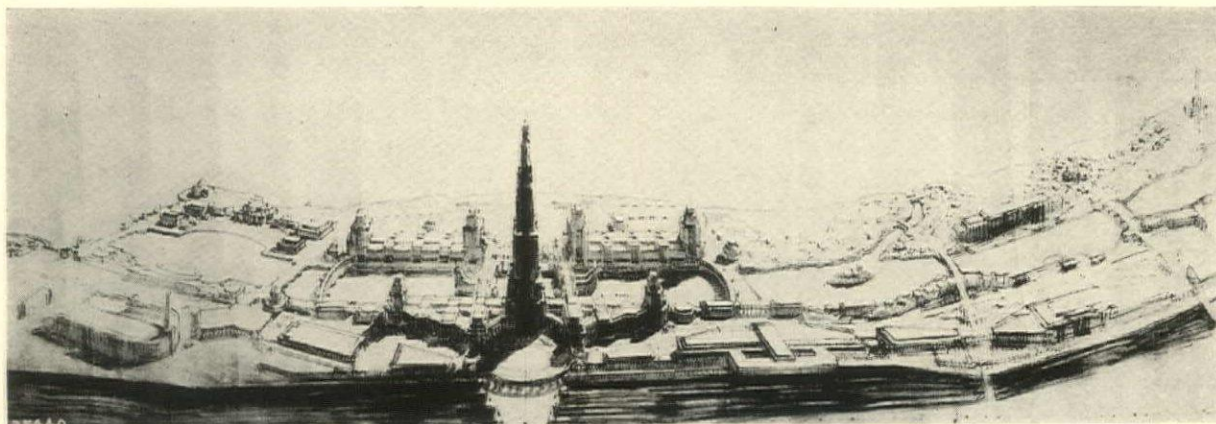
the architects freedom from the somewhat antiquated conditions of the Chicago building code. The South Park Board has provided the exposition with a plot plan showing the islands as one continuous stretch of land, leaving to the Commission the opportunity to provide for shallow canals and to shape the main lagoon between the island and the mainland. The waters of Lake Michigan are tideless and the only special provision which must be made as to bulkheads is that the wind sometimes moderately heaps up the waters. All of this has the effect of giving to the architects of the new enterprise an exceptional opportunity to make use of lagoons, canals, pools and other forms of water in planning the site and buildings of a great modern international exposition.

The Commission attacked the problem with regard to the service to be rendered first. The estimated average daily attendance is given as about 400,000 with an estimated peak daily attendance of 1,500,000. About half of the attendance is expected to enter at the north gates across from Grant Park, the remainder to be divided between an entrance at 23rd Street where there is a mound affording a commanding approach to the grounds, and at 31st, 35th and 39th Streets to the south. The total unloading capacity at the gates, including street cars, busses, taxi cabs and privately owned automobiles, is calculated as somewhat near 175,000 an hour.

It was assumed from the beginning that fountains must be extensively employed not only for their decorative value but to keep the water of the lagoons and pools sufficiently in motion.

An early decision was that the exhibits should be compressed into as small a land area as would prove feasible rather than allow them to spread. To accomplish this the Commission faced the question of exhibits on more than one floor. Although the trade fairs of Europe almost invariably provide displays on more than one floor of combustible buildings, the practice in World's Fairs has been to limit them to a ground floor and a gallery while planning the buildings in many cases with a height more than enough to provide two floors. The decision to employ more than two floors gave new weight to the argument in favor of buildings which should be technically and dependably fireproof. This decision has another consequence in requiring the architects to face the objection that exhibit space above the ground floor would be hard to fill.

As it proved, this objection was met by the planning of the Commission to reduce almost to the vanishing point the familiar detriment of World's Fairs in the form of foot weariness. The



LATER PLAN WITH DOMINANT AT HEAD OF 23RD STREET AXIS

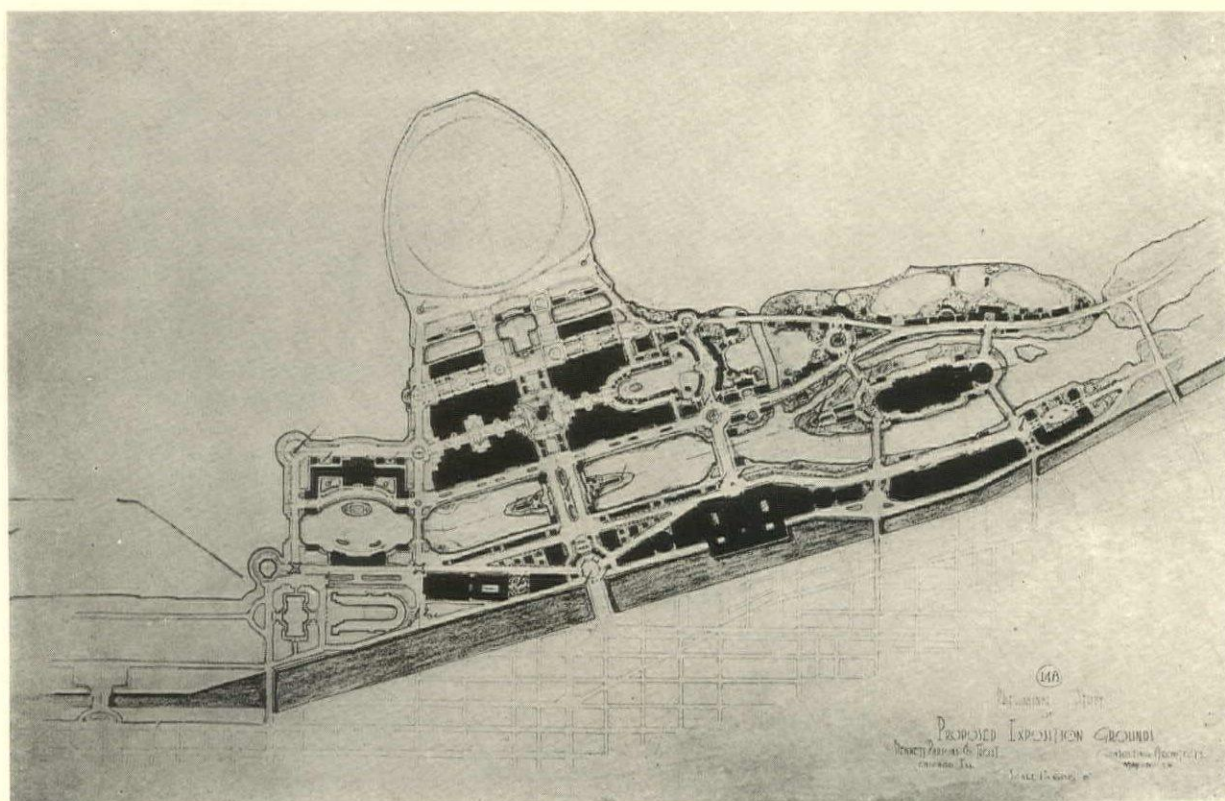
EDWARD BENNETT, ARCHITECT

Commission was of opinion from the beginning that visitors were to progress through the grounds on moving sidewalks, the fastest to be provided with seats, to be located either on the roofs of the buildings or within the buildings on one of the upper floors. This conveyance would start from the elevated street level at the 23rd Street entrance and access to it would be provided from the other lower entrances and at many places within the buildings in the form of escalators. The water should be used as a means of transportation on the lowest level with water taxis and barges like those

on the Seine. The movement of craft on the water was to be developed for an effect of carnival color and liveliness.

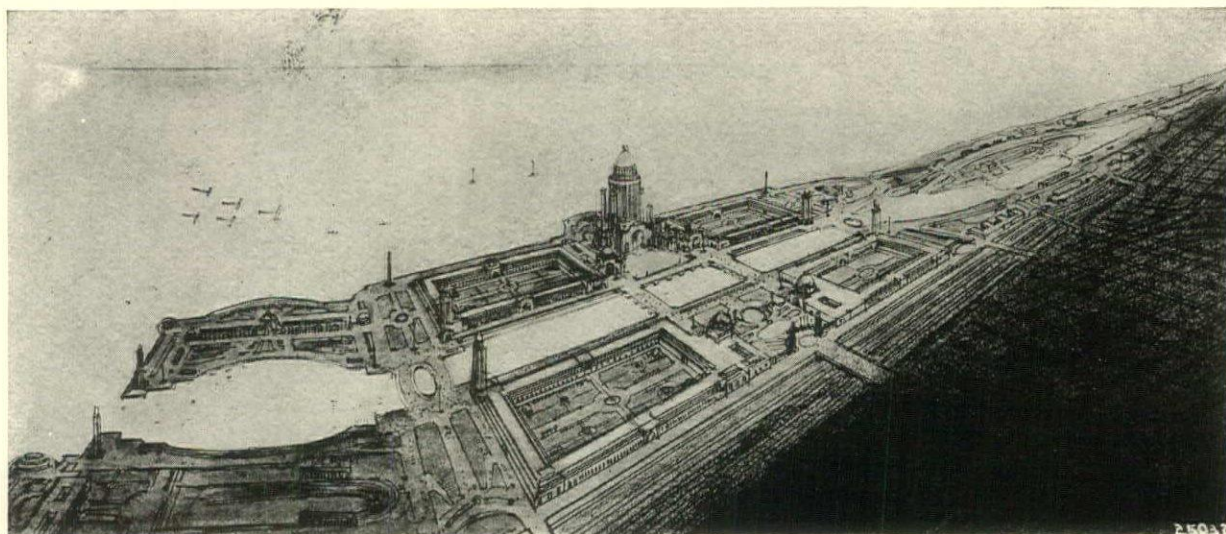
With these conditions operating to control the designers, the members of the Commission agreed furthermore that the new materials available and new methods of construction put upon them the responsibility of making the composition as dramatic an illustration of their new opportunity as possible.

The discussions as to the general ground plan and the general character of the buildings have been



EARLY STUDY WITH MAJOR BUILDINGS EAST OF LAGOON AND TRANSVERSE AXIS AT 23RD STREET

EDWARD BENNETT, ARCHITECT



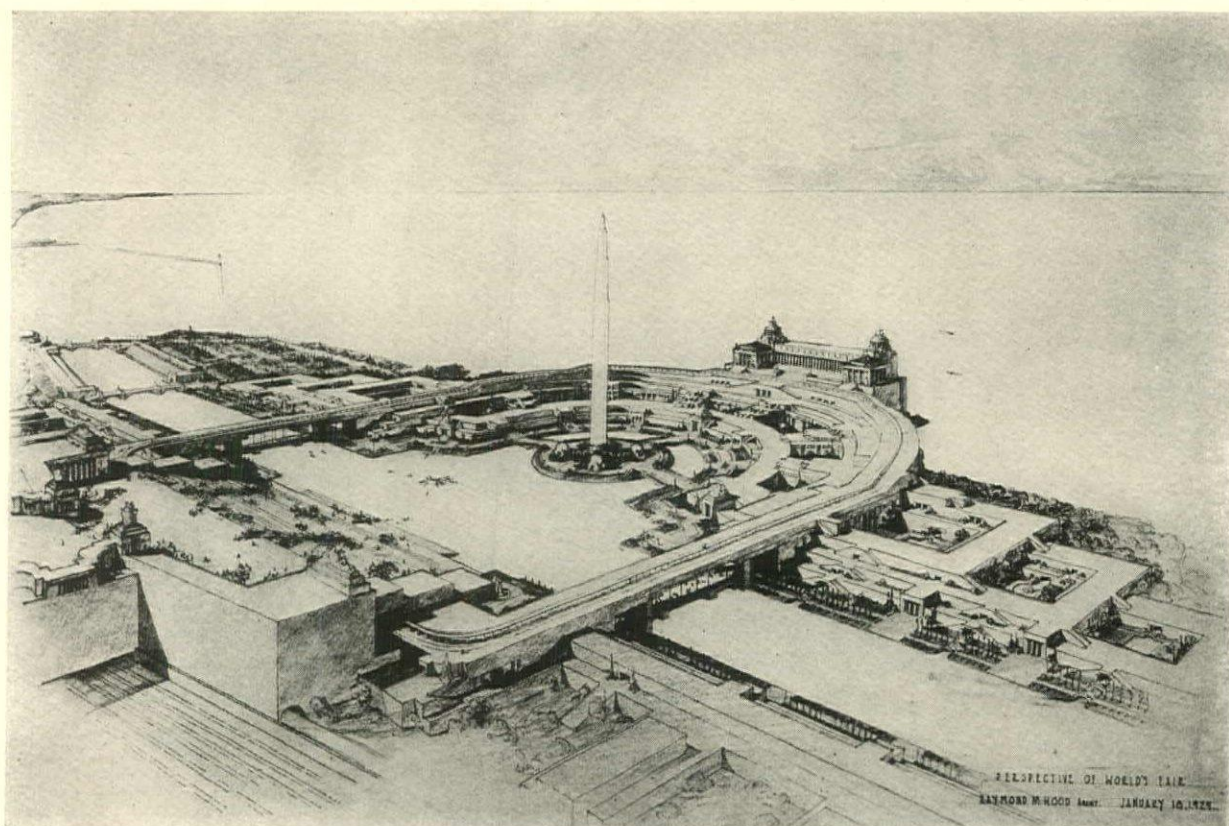
PLAN WITH DOMINANT AT FOOT OF 23RD STREET AXIS

ARTHUR BROWN, ARCHITECT

based upon a series of plans submitted by Mr. Bennett. Each member of the Commission has given freely to the discussion every idea that occurred to him, and the aggregate of such ideas has been regarded as a common fund against which each commissioner could draw at will; and in the long discussions of the four meetings, while each of the eight has contended for his own idea with vigor

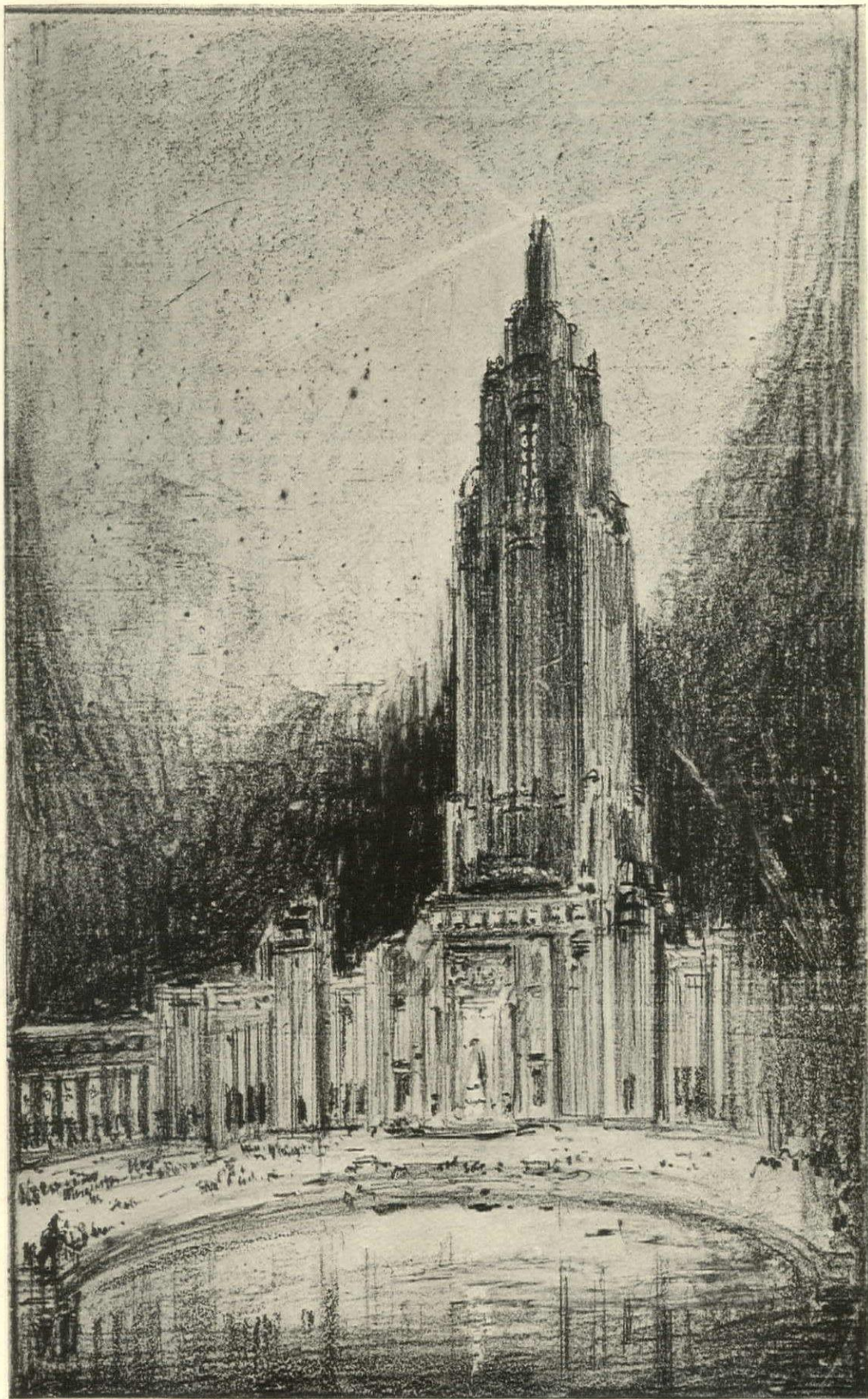
and persistence, it is yet true that they have in the manner of the finest sportsmanship given and yielded their best thought only for the merit of the ultimate solution.

The studies submitted in the second meeting were regarded by the commissioners as developments, but rather traditional developments, of the best World's Fairs planning of earlier years. As

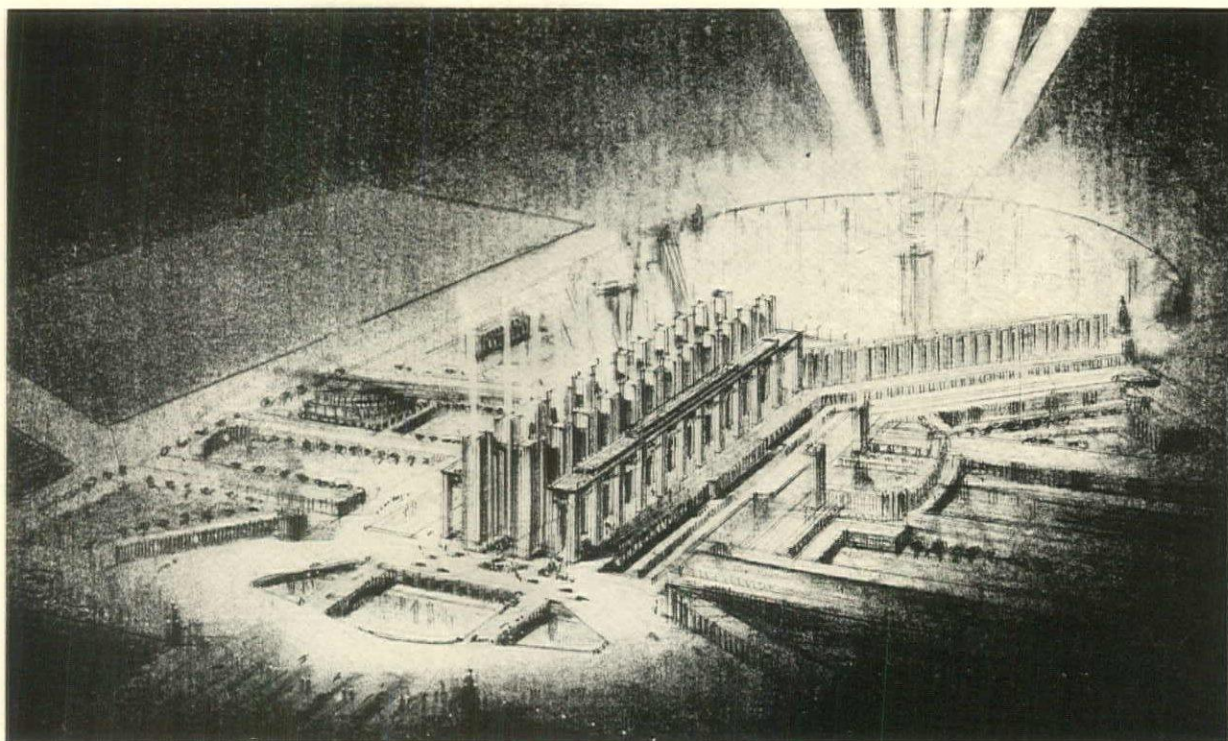


PERSPECTIVE OF AMPHITHEATRE WITH COLUMN AS DOMINANT AND ARRANGEMENT OF MOVING SIDEWALKS

RAYMOND M. HOOD, ARCHITECT



STUDY OF CENTRAL BUILDING AND TOWER
HUBERT BURNHAM, ARCHITECT



SUGGESTION OF A HALL OF SCIENCE AS A DOMINANT LOCATED AT THE NORTH END OF THE LAGOON

JOHN A. HOLABIRD, ARCHITECT

Mr. Holabird, in discussing the "parti," stated:

"People would expect something entirely different from their general life. Everyone looking at the 'parti' and the grouping of the buildings must know, on first view, that we are the greatest nation of builders that ever existed. People do not come to see the exhibits. The Commission must work from that point of view. The attraction is primarily in the lay-out and the buildings. It is necessary that the visitors get a most tremendous impression.

"What we must try to do is to create something different. I do not know how to do it. We have the materials and the ability to do something different and we must utilize them.

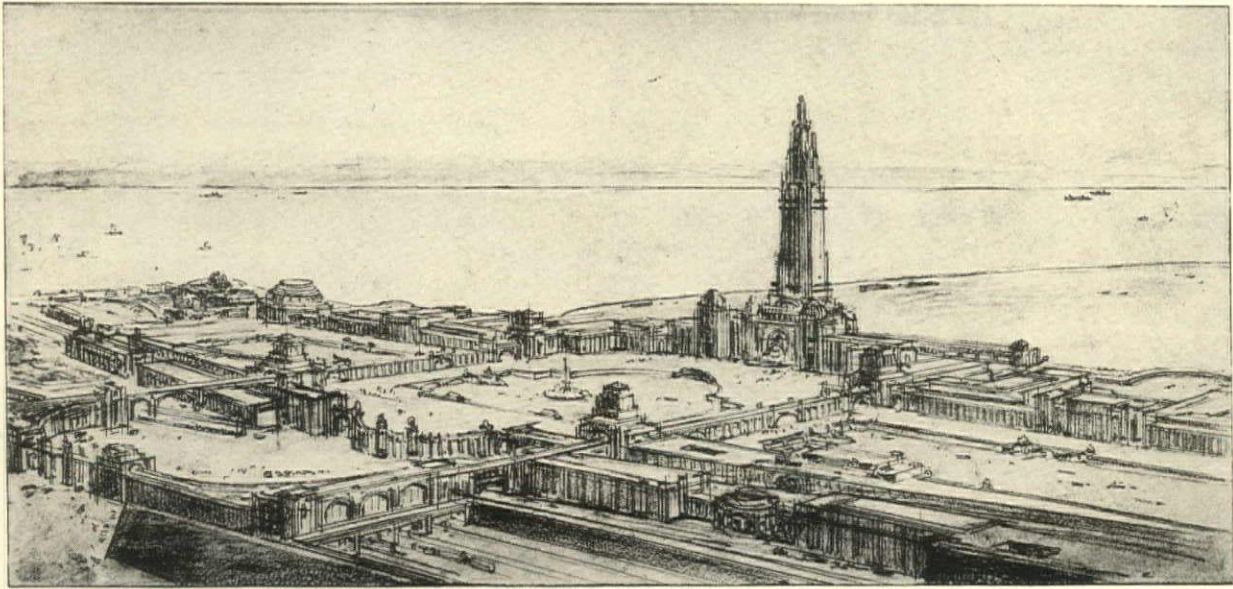
"For one thing we have an opportunity to go up in the air. I do not know that verticality will solve the problem of providing something different, but it might. Whatever we do we ought not to hesitate to reach out into the dramatic if it is at all possible to do it."

His associates agreed with him, arguing, however, that the "something different" must grow out of the new displays, the new materials avail-

able, the possibilities of the site, and the new methods of construction,—that it should be a product of the problem rather than of an ambition simply to achieve "something different." In this Mr. Holabird acquiesced heartily.

From this point in the discussion the commissioners tended to three or four rather different arrangements of their materials. One group would make dominant a magnificent water portal at the north, possibly bridging over the lagoon and providing a monumental stairway above the water. Another argued that the area was too great to be treated as one composition and that it should be divided into sections, using 23rd Street as one of the demarcations. A third group believed that the dominant should be a building or a tower located at the intersection of the lagoon as the main axis and an extension of 23rd Street as a minor axis. The fourth idea was that of an amphitheatre formed by the main buildings with a great plaza at the back.

These differing interpretations of the problem brought the men together for their fourth meeting which was held in New York February 1st with such clearly opposed conceptions that it was difficult to foresee any adjustment of them to each other. The advocates of the dominant at the north presented very dramatic renderings in support of their view. Other architects will understand how



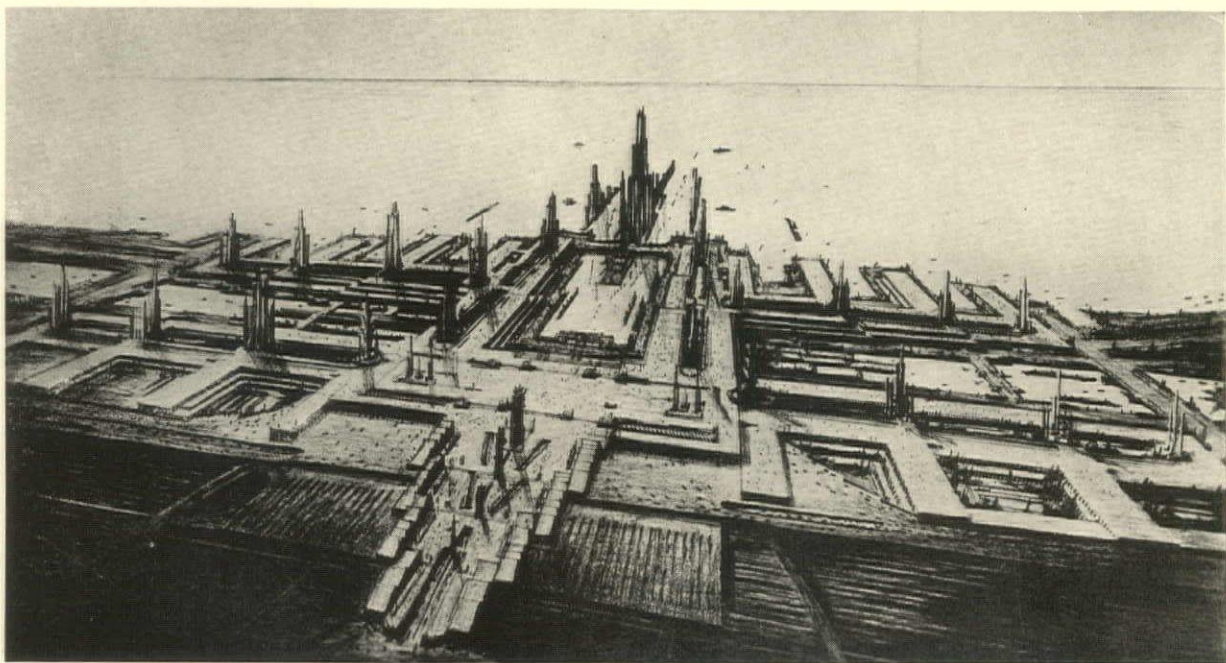
GROUP CENTERED ON 23RD STREET AXIS TOGETHER WITH SUGGESTED ARRANGEMENT OF MOVING SIDEWALKS
HUBERT BURNHAM, ARCHITECT

readily these differing conceptions were nicknamed. That of the great portal to the north became the "vestibule design"; that of the amphitheatre around a plaza was dubbed "the hole"; that of an amphitheatre with a great construction in the middle became "the cork." That of the three separate sections was "the chain."

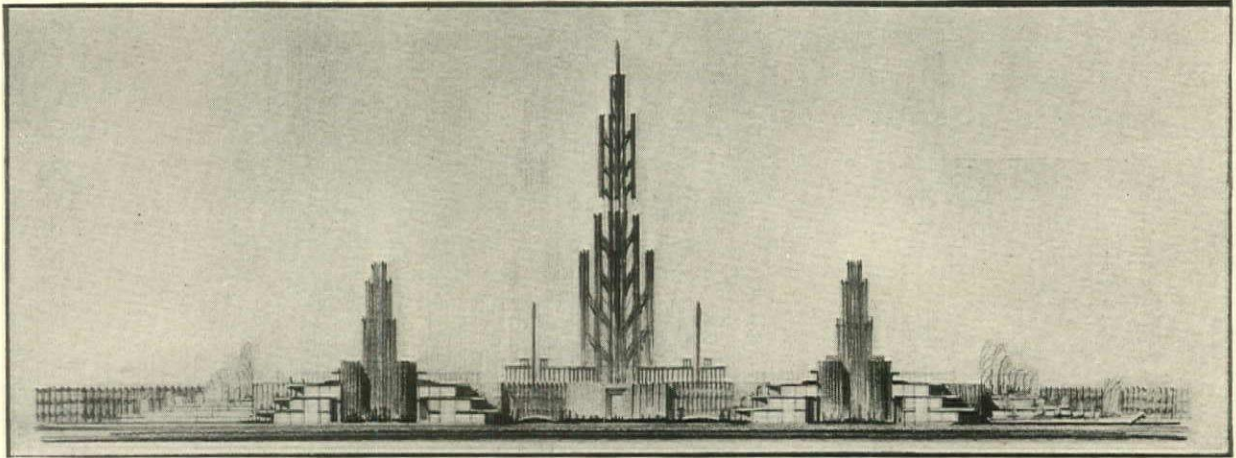
Other commissions have many times reflected such differing opinions. Here the saving factor was that each of these eight men, practitioners of a great profession, was aiming not at the acceptance of his

own designs but at the best possible employment of a superlative opportunity for the good of the profession. At dinner that evening someone proposed they should see how far they could agree; and by that process they moved forward into the discovery that the best elements of all four ideas could be put together to comprise a solution which every man of the eight accepted whole-heartedly as the best general plan which had been developed.

They put Mr. Brown, the next morning, at a drawing board with a piece of tracing paper over



SUGGESTION OF TERRACES AND ROOF PLAZA WITH VERTICAL ORNAMENTATION
HARVEY WILEY CORBETT, ARCHITECT



SUGGESTION OF VERTICAL ORNAMENTATION

HARVEY WILEY CORBETT, ARCHITECT

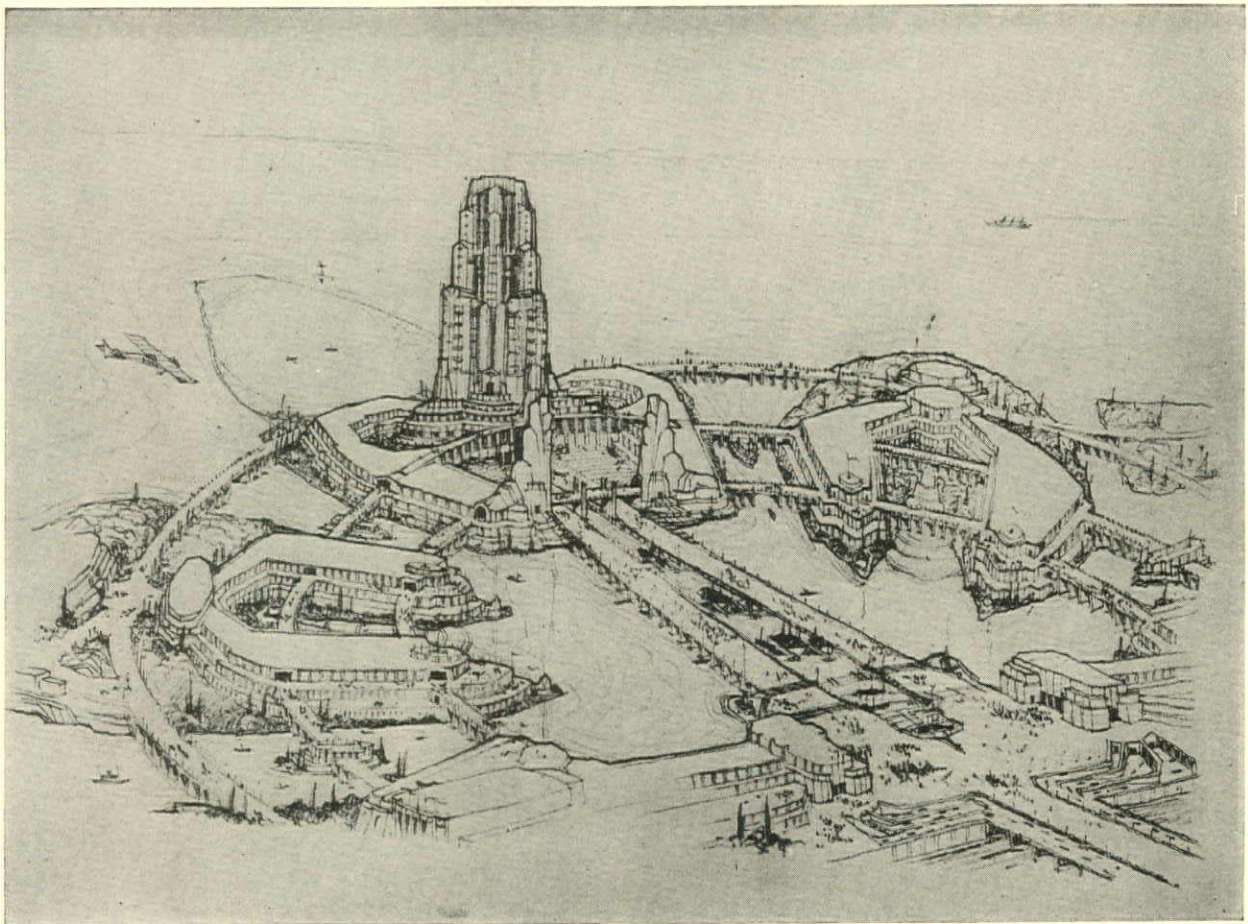
the plot plan provided by the South Park Board. Step by step they voted what should be done.

First, they agreed that there should be a truly magnificent water portal to the north, but that the dominant should be a building near the intersection of the 23rd Street axis and the main lagoon.

Second, they agreed that the 23rd Street axis

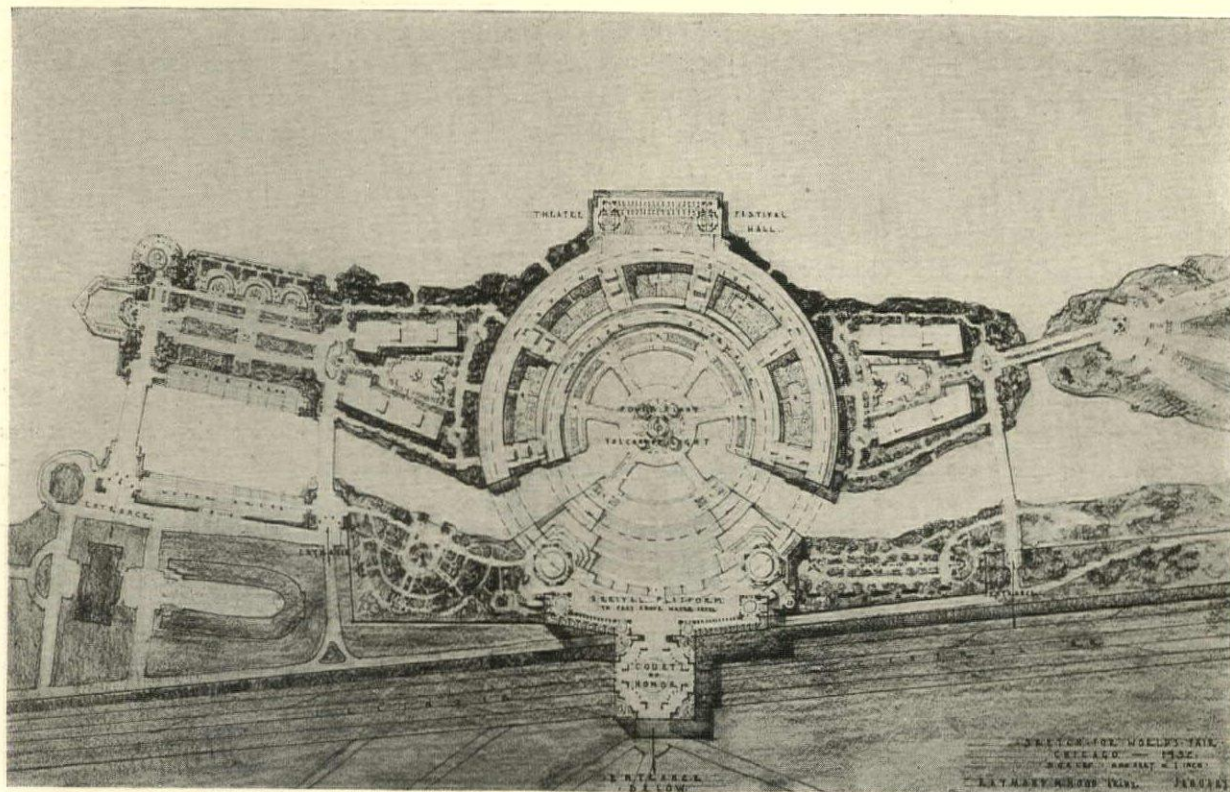
should be treated so as to provide an adequate setting for the dominant construction; that in turn this dominant construction should be the Hall of Science, and that it should stand across the lagoon just south of the intersection of the two axes.

In its turn this made possible a treatment of the lagoon south of the dominant building so that it



A STUDY OF TERRACES AND MOVING SIDEWALKS IN AN AMPHITHEATRE PLAN

RALPH T. WALKER, ARCHITECT

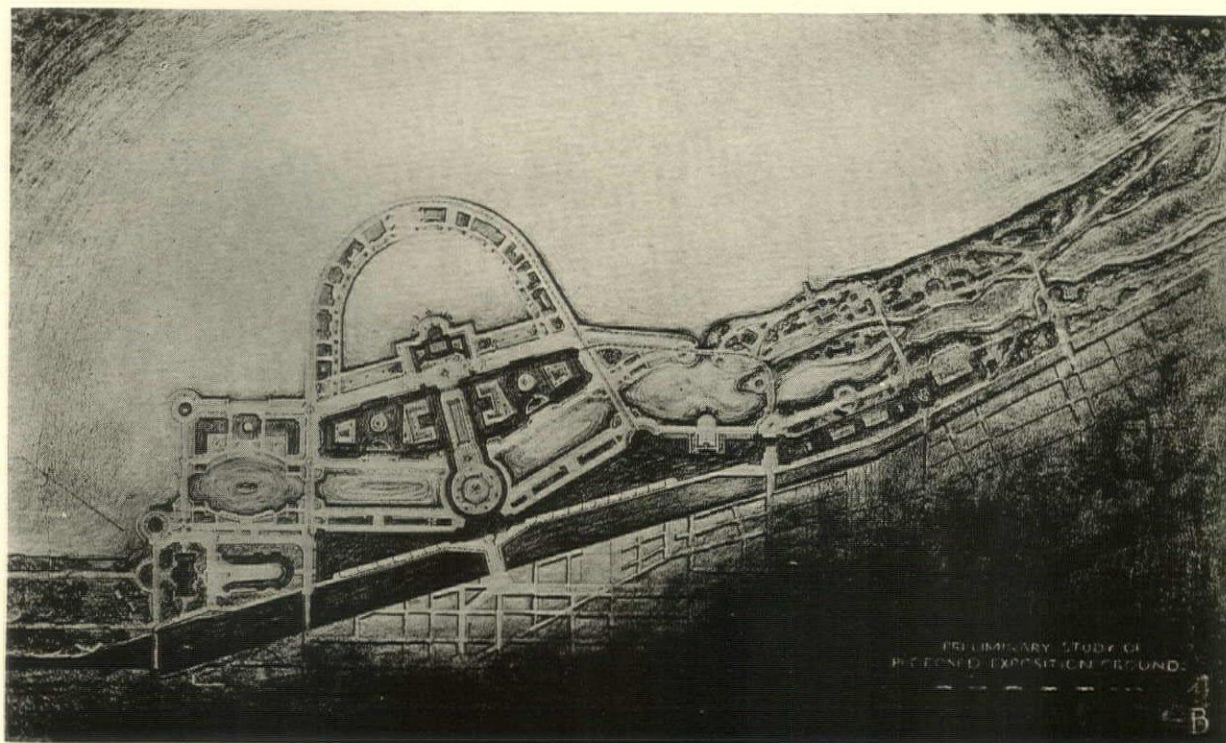


PROPOSED AMPHITHEATRE OF BUILDINGS AND PLAZA
RAYMOND M. HOOD, ARCHITECT

should correspond to the lagoon on the north and yet present a decidedly different effect.

The blueprints of Mr. Brown's drawing dis-

closed many advantages for the new plan. Thus, there are to be three vistas, each one of which has possibilities like those of the Grand Basin in the



A COMBINATION OF A BLOCK-BUILDING PLAN AND AN AMPHITHEATRE PLAN
PAUL P. CRET, ARCHITECT

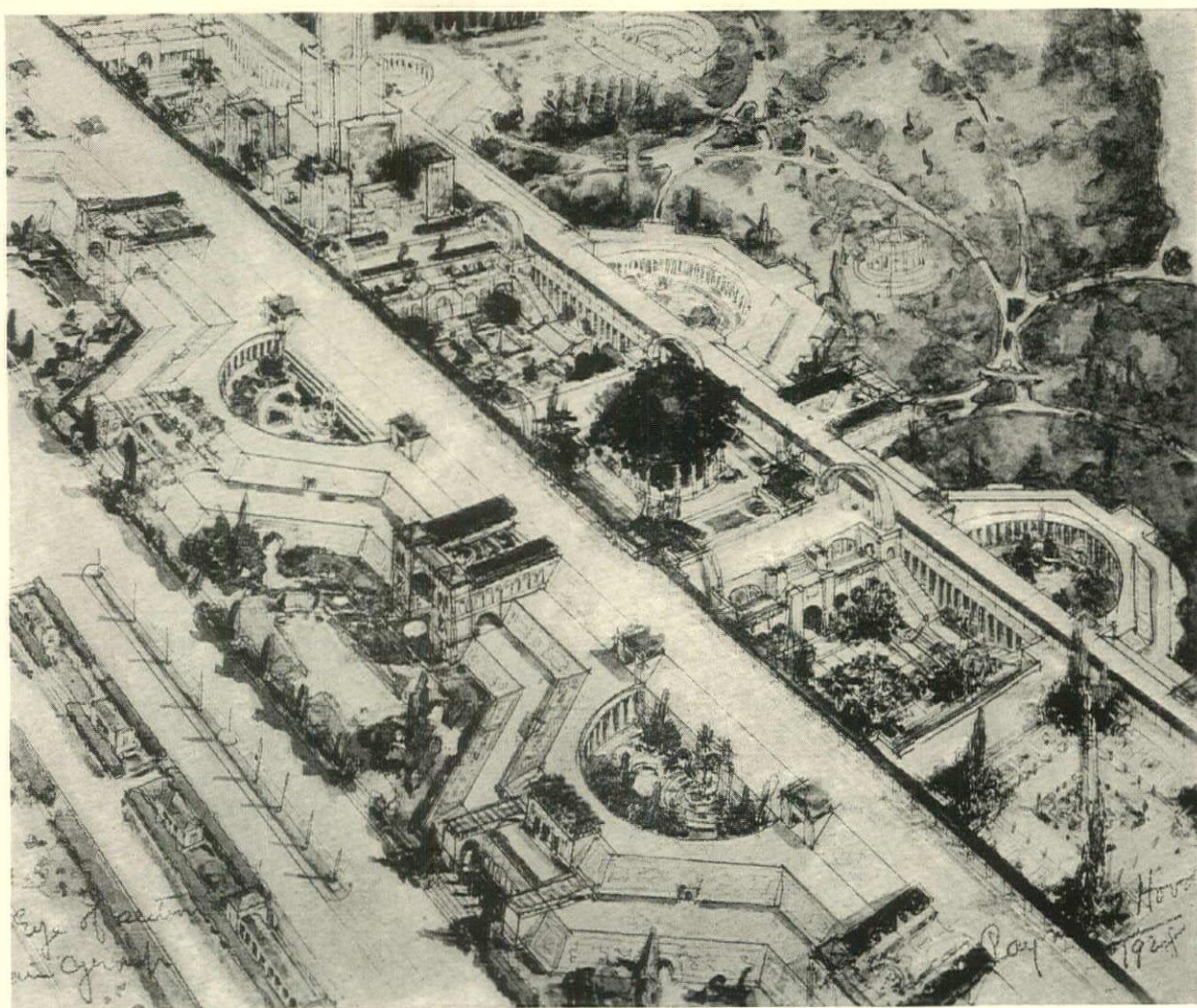
PAUL P. CRET, ARCHITECT

World's Fair of 1893. Again, the new plan fairly meets the difficulty of locating an airport which Chicago proposes in the general vicinity of the World's Fair site. The architects would have it situated at the end of the 23rd Street axis and, since the surface was to be sward rather than concrete or cinders, it was agreed that the airport could be made a significant feature of the vista from the 23rd Street entrance.

Norman Bel Geddes was invited to participate in the discussions at the New York meeting and, along with Hugh Ferriss, was elected a "consultant" of the Commission. The former suggested such an arrangement of the terraces of the buildings, particularly those grouped around the Hall of Science near 23rd Street, that the visitors in their movement from level to level and from building to building would be part of a dramatic, living composition. He proposed further that the airport and the site of the Fair should be separated from each other

by a shallow canal and that this canal should be designed to accommodate a restaurant and other small buildings facing away from the airport and toward the Fair, by which device he believed it would be possible to reduce the interference of lights on the airport with the illumination of the exposition grounds. Between the great plaza in front of the Hall of Science and the airport it was suggested that a terrace and other provision should be made for the accommodation of throngs assembled to view the ceremonies in the central plaza.

The commissioners are to meet in Chicago April 29th. They will then produce their several sketches in development of the accepted "parti." In the manner of architects of this later day they feel, however, that the great difficulty has now been met. They have a plan which provides for the service and convenience of the patrons of the exposition with inherent possibilities of beauty challenging the abilities of the best designers they can find in all the world.



BIRD'S EYE VIEW OF SECTION OF MAIN GROUP

RAYMOND M. HOOD, ARCHITECT

CONTACT!

THE CHALLENGE OF A PILOT TO HIS MECHANIC HAS A MEANING
FOR MODERN ARCHITECTURE

By WYATT BRUMMITT

CONTACT?" calls the mechanic, after he has turned the propeller over slowly, to build up compression in the cylinders of the engine.

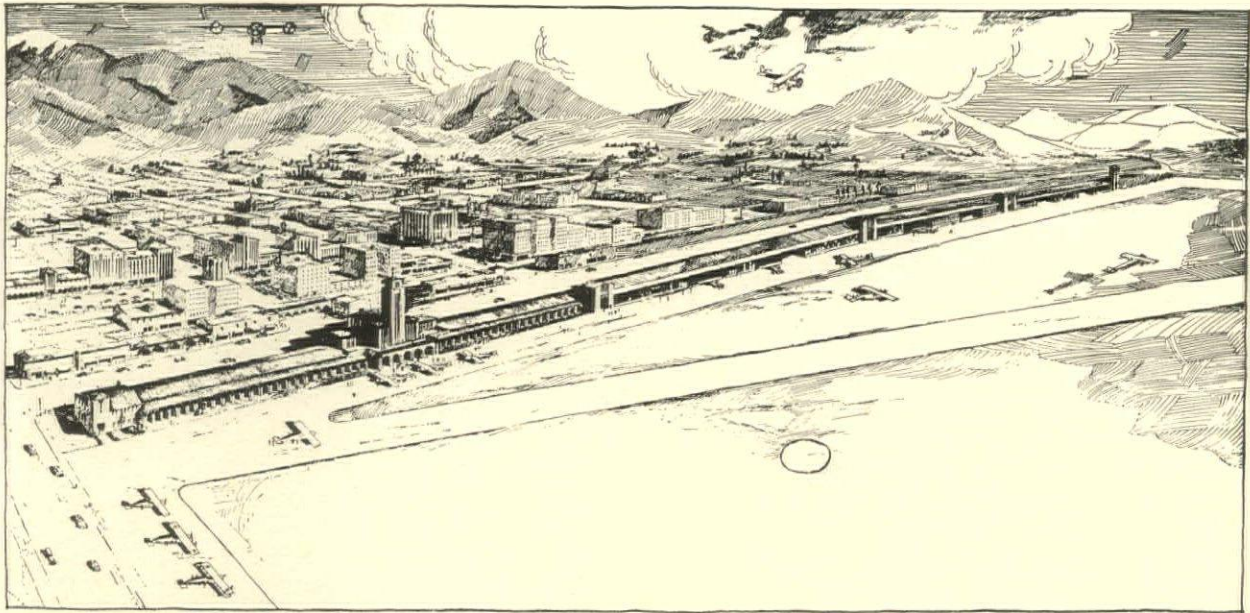
"Contact!" replies the pilot and turns the ignition switch on his instrument board.

And then the mechanic swings the propeller, a

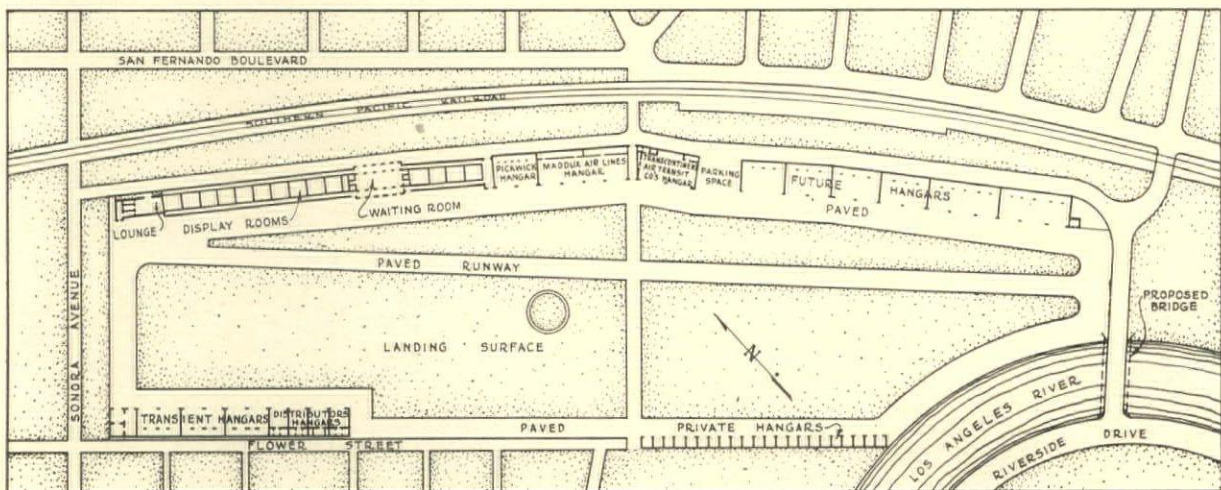
spark spits into the pent-up gas in a cylinder head—and the motor starts.

It is the time-honored ceremony of starting an airplane, a rite filled with all the eager zest of flight.

But it has a meaning, too, for architects and architecture.



GENERAL VIEW OF THE AIR TERMINAL AS IT WILL BE EVENTUALLY DEVELOPED



PLAN OF THE GRAND CENTRAL AIR TERMINAL, GLENDALE, CALIF.

H. L. GOGERTY, ARCHITECT; C. C. SPICER, ENTREPRENEUR

Here is aviation, the most completely modern of modern institutions. It is bound to no architectural traditions. It is free to express itself in absolutely new terms and forms. And its architectural possibilities are as colorful and abundant as the most swashbuckling architect could desire.

If architecture misses the appeal of aviation, if aviation's challenge of "Contact!" goes unanswered,

aviation will go ahead, served on the ground only by glorifications of the squalid shacks and sheds in which it has grown up.

New materials, filled with strength, beauty and infinite usefulness, are at architecture's command. New designs, new forms and new meanings await architecture's interpretation.

Contact!



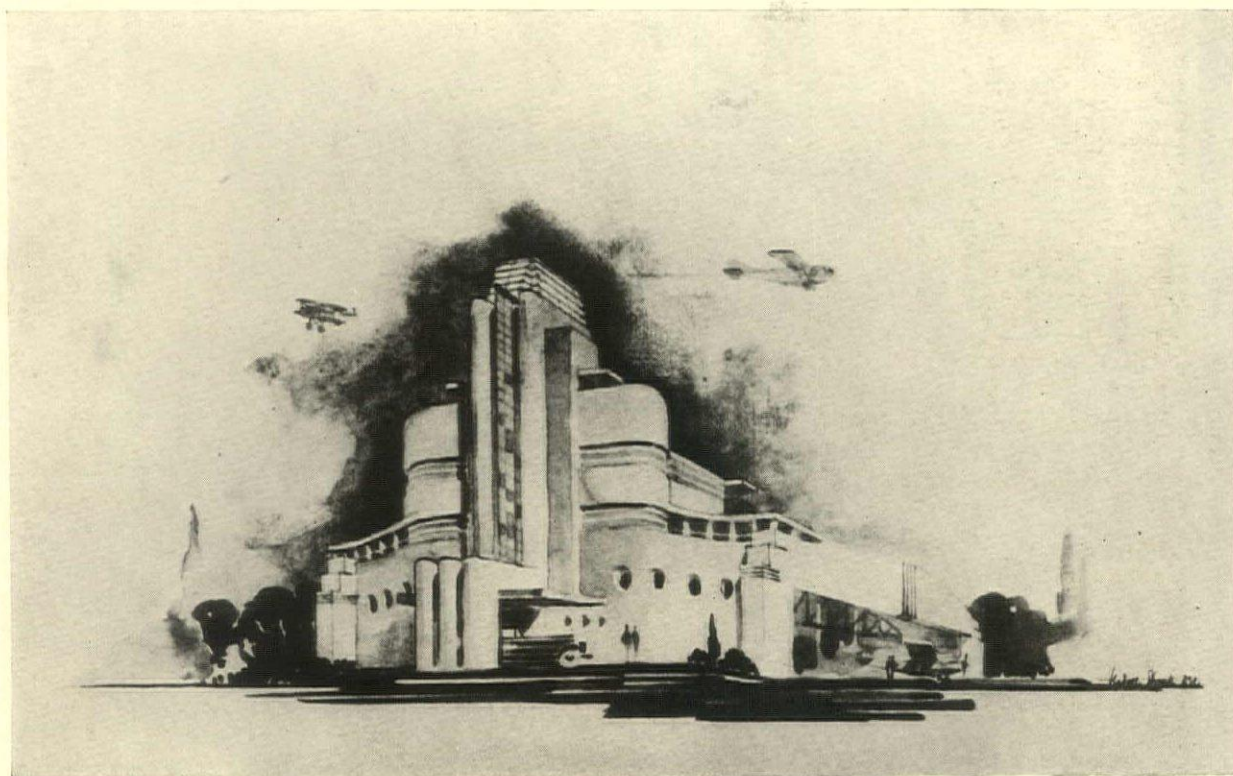
GENERAL ADMINISTRATION BUILDING, GRAND CENTRAL AIR TERMINAL, GLENDALE, CALIF.
TO BE BUILT ON THE SITE MARKED "WAITING ROOM" ON THE PLAN—H. L. GOGERTY, ARCHITECT

AIRPORT AT TULSA, OKLA.

JESSE L. BOWLING and ISADORE SHANK, *Architects*

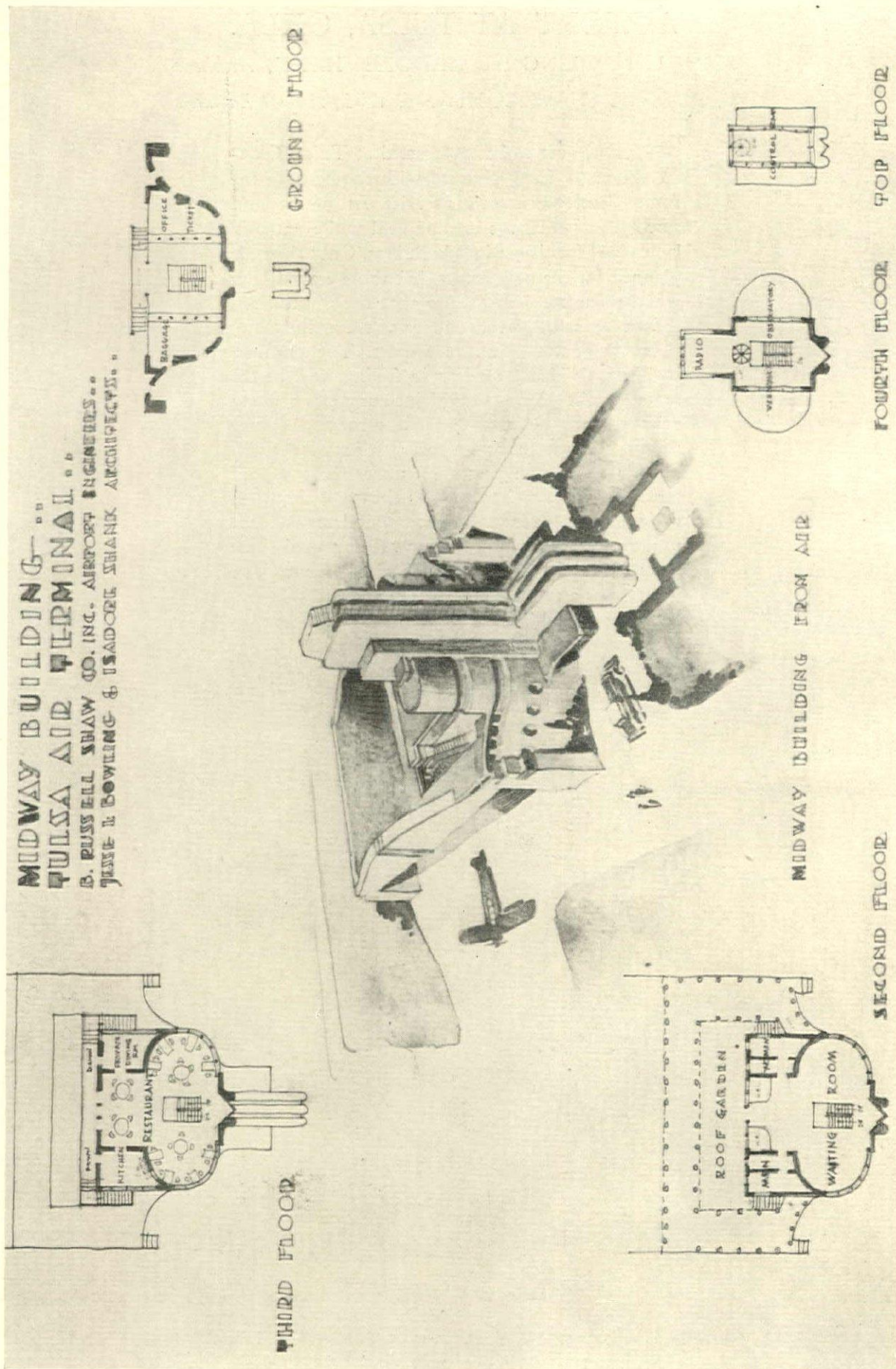
B. RUSSELL SHAW COMPANY, INC., *Airport Engineers*

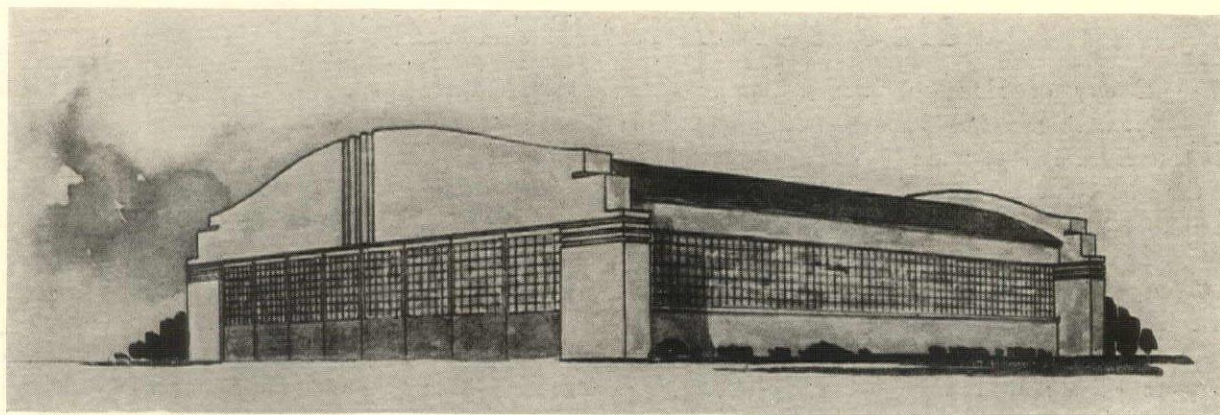
THE airport to be constructed at Tulsa, Oklahoma, is being planned with thought for the future development of air service. All of the land surrounding the large landing field will eventually be utilized for the various buildings. Only three are planned for the near future, but those erected later will be similar in design; so that the illustrations shown herewith give a fair idea of the architectural character of the complete airport. The terminal building, decidedly modern in feeling, will be the center of the group. It will include among many other rooms a ticket office, waiting rooms, baggage rooms, a restaurant and a roof garden. Planes will be able to take on passengers under the wings of the building. The hangar here shown is simple in design, and large enough to accommodate easily the number of planes that are now being used. The scheme for the pilot house is also shown. The building is a two story structure and includes several bedrooms, library and reception hall. The plan of the field, the layout of the buildings and all of the details have been worked out with a view to convenience of passengers and crews.



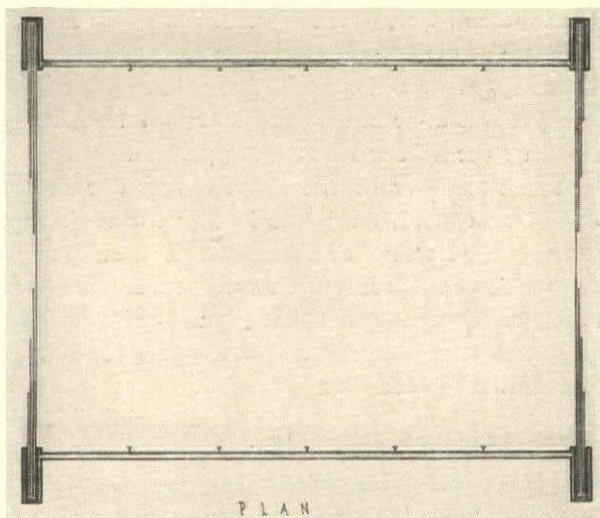
PERSPECTIVE OF MIDWAY BUILDING, TULSA AIR TERMINAL

JESSE L. BOWLING AND ISIDORE SHANK, ARCHITECTS





TYPICAL HANGAR TO BE ERECTED AT THE TULSA AIR TERMINAL, TULSA, OKLA.
THE DESIGN FOLLOWS MODERN LINES IN KEEPING WITH ITS MODERN PURPOSE



PLAN

THIS IS THE FIRST OF A SERIES OF HANGARS TO BE ERECTED FROM TIME TO TIME AS THE NEED JUSTIFIES. THE BUILDING WILL BE OF STONE AND STEEL FIRE-PROOF CONSTRUCTION

BUILDINGS TO BE ERECTED AT THE TULSA AIRPORT
TULSA, OKLAHOMA



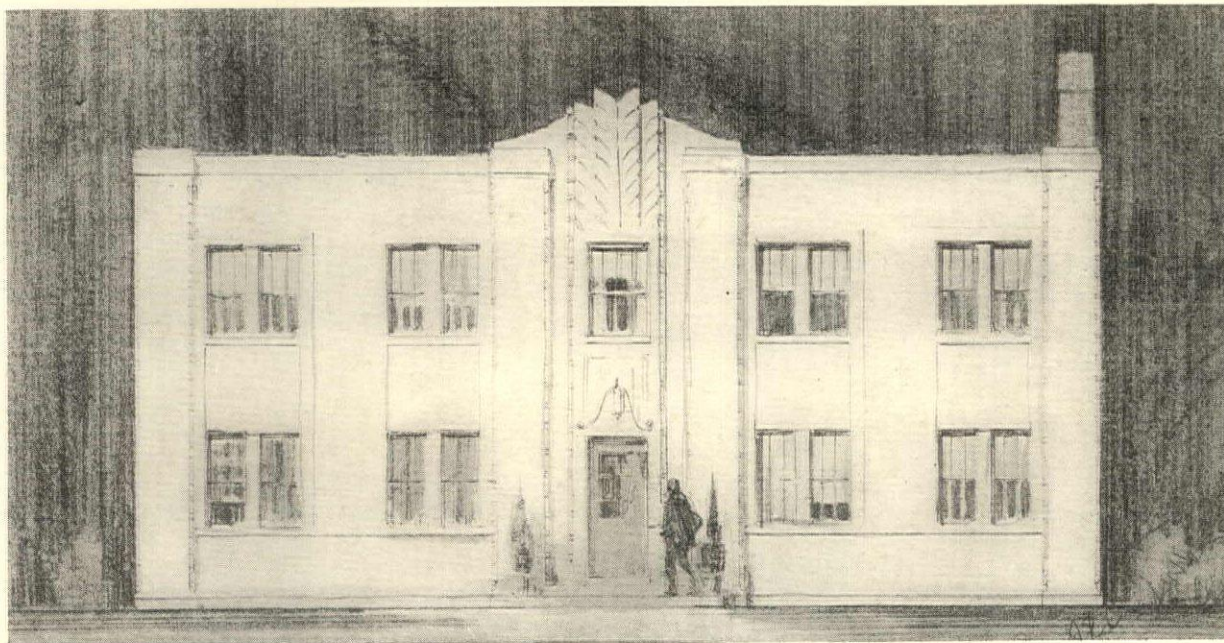
JESSE L. BOWLING AND ISADORE SHANK, ARCHITECTS



B. RUSSELL SHAW COMPANY, INC., AIRPORT ENGINEERS



BELOW IS SHOWN THE FINAL STUDY OF THE PILOTS' QUARTERS. THE BUILDINGS SHOWN HERE WILL BE ERECTED IN THE SOUTHWESTERN CORNER OF THE FIELD. PRESENT PLANS PROVIDE THAT ADDITIONAL BUILDINGS WILL BE LOCATED ALONG THE WESTERN SIDE OF THE FIELD AS NEEDED



HOUSTON AIRPORT HANGARS

THE city of Houston, Texas, has recently erected three large hangars at its airport for the convenience of its flying guests. The hangars are of the all-metal type, corrugated iron sheeting being used to cover the arc welded steel super-structure, rendering the hangars absolutely fireproof.

After estimates had been received on various types of construction, the Houston Airport Corporation awarded the contract for the erection of fireproof hangars of arc welded steel construction. The greater rigidity and strength of this type of construction, coupled with its low cost, were the deciding factors that caused the awarding of such a contract. The lowest bid submitted for wood constructed hangars was 25% higher than the figure for arc welded steel construction and the lowest estimate based on riveted steel construction was 40% higher.

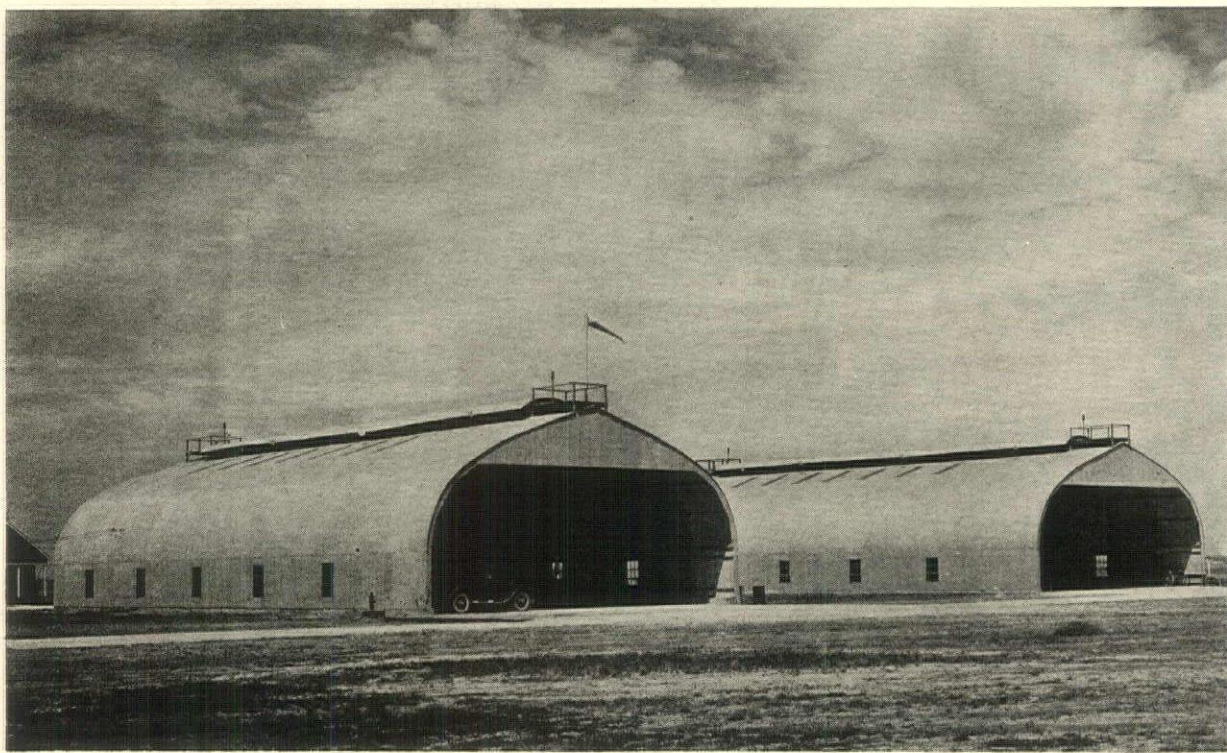
Though these hangars were the first to be built employing the new method of construction, ample proof of the greater rigidity and strength of arc welded steel fabrication was offered the owners, in the large commercial and industrial buildings which have been erected in various parts of the country and whose steel framework has been entirely arc welded. The success of the new process in the structural field is attested by its increasingly rapid growth.

The three hangars, two of which are shown in

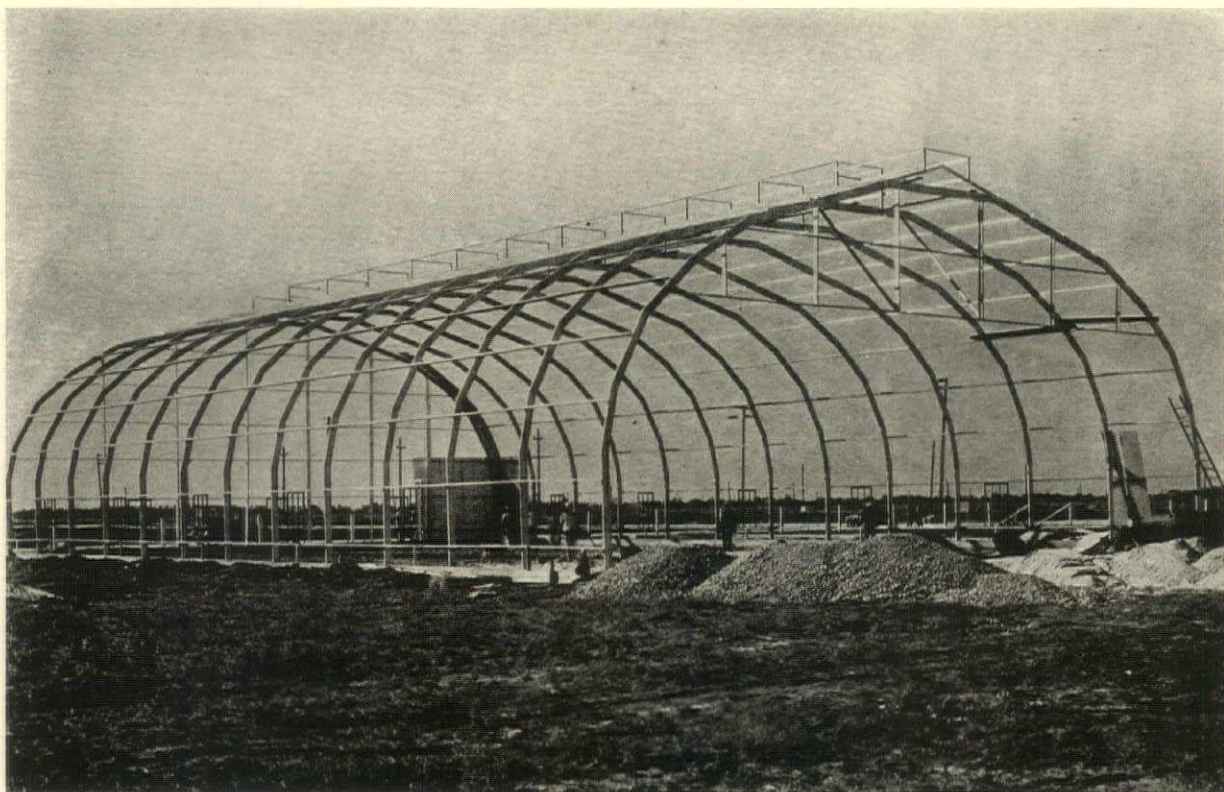
Figure 1, are typical, being 75 feet wide, 125 feet long and approximately 50 feet high. The arches are made up from channel shape sections cut to form the arch when butted end to end and welded together. The entire fabrication of the arches was completed on the ground, an arch being raised into position and held in place by the welding of the channel purlins to the arches. The framework of one hangar is shown in the process of erection in Figure 2. The columns at the closed end are also channel sections. The framework of the monitors is composed of angles and channels. The completed arc welded steel framework of one of the hangars is shown in Figure 3. The steel sash in the sides and end wall were arc welded in place; in fact, there are no bolts or rivets in the framework of the three hangars. All the fabricating work on the three hangars was done in the field, all connections being made by the electric arc welding process.

The simplicity of the novel design due to the elimination of all trusses and other forms of roof bracing is an economic factor which should favor arc welded steel construction for future hangars. Another advantage of this design, due to its clear ceiling, is its practicability for hangars for blimps and similar lighter-than-air crafts.

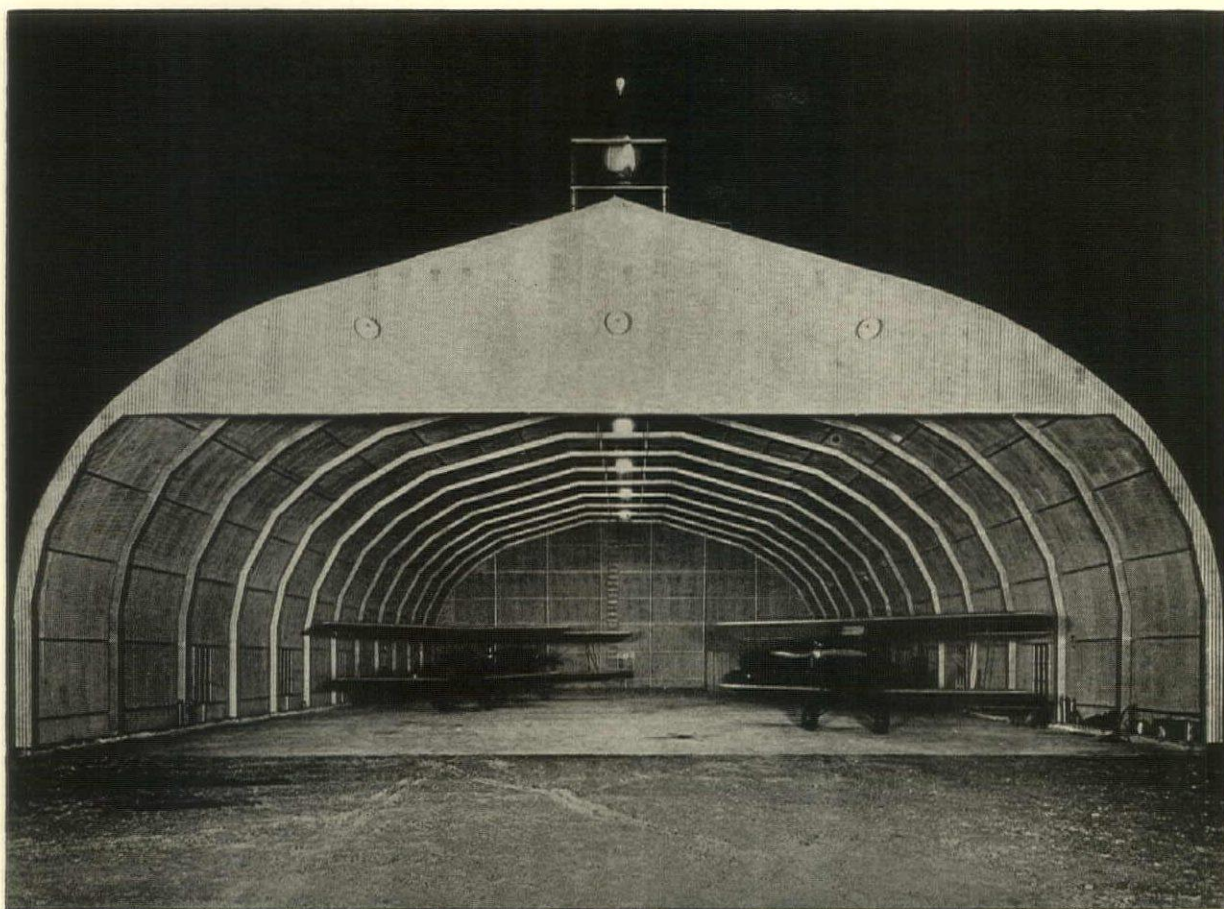
Credit should be given the C. J. Frankel Company for the unique design of the hangars and for the efficiency with which the structures were erected.



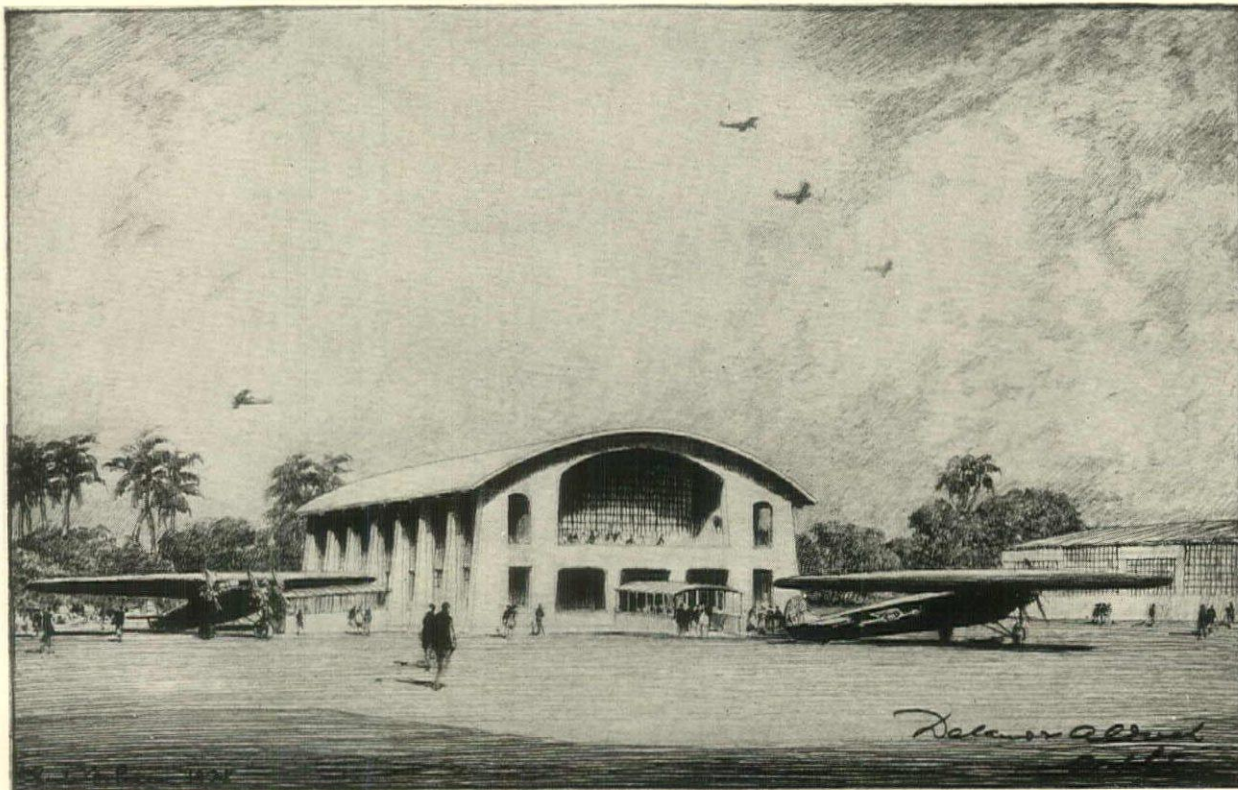
STEEL HANGARS, HOUSTON AIRPORT, HOUSTON, TEXAS



THE STEEL SUPERSTRUCTURE

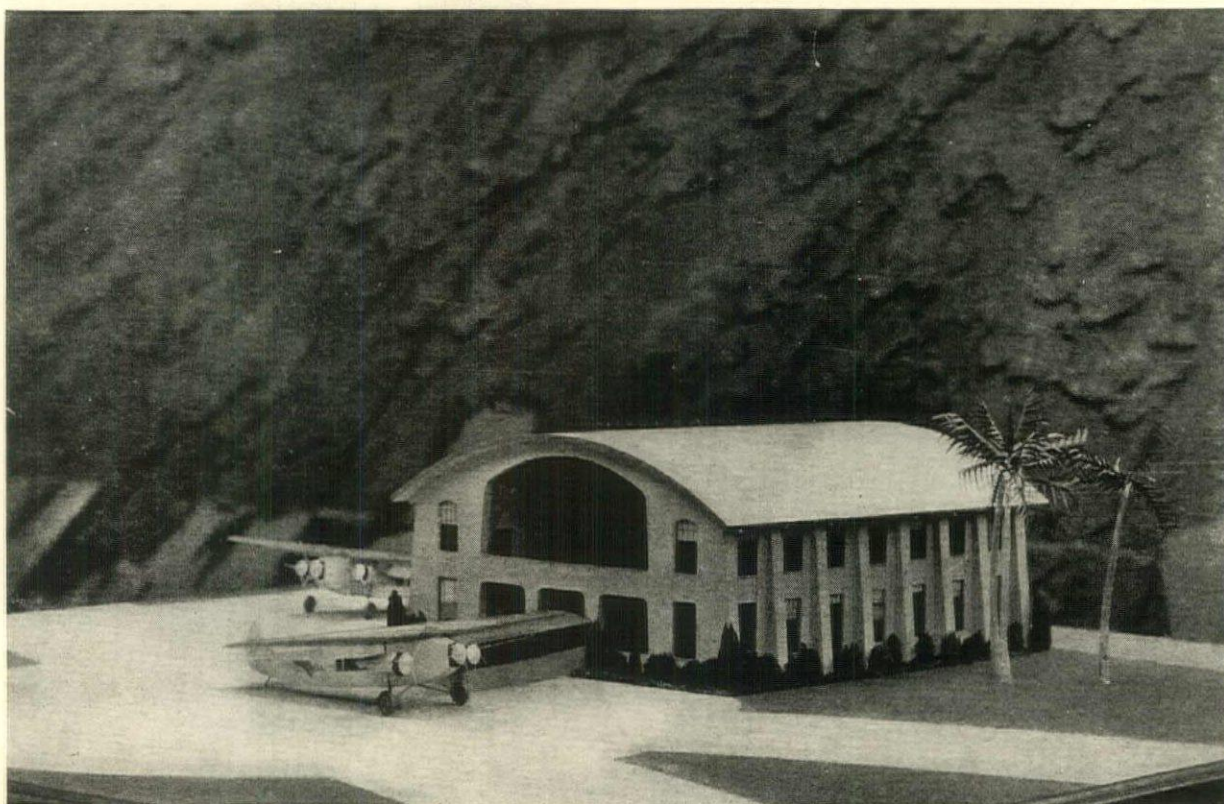


INSIDE OF HANGAR, HOUSTON AIRPORT, HOUSTON, TEXAS



THE ARCHITECTS' PERSPECTIVE

From the drawing by Chester B. Price



MODEL OF MIAMI PASSENGER TERMINAL OF THE PAN-AMERICAN AIRWAYS, INC., MIAMI, FLA.

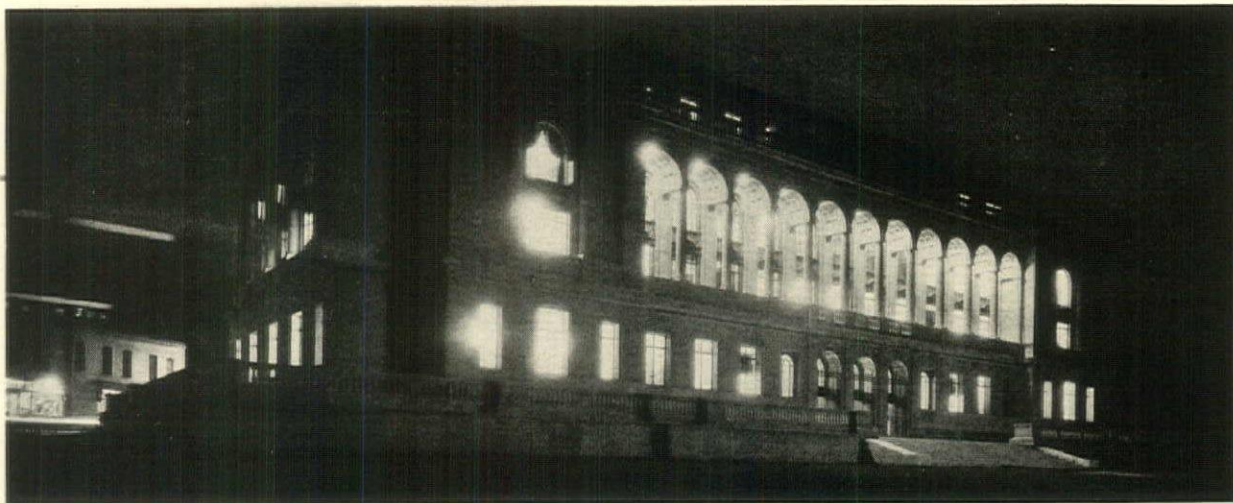
DELANO & ALDRICH, ARCHITECTS

NEW CITY HALL, ST. JOSEPH, MISSOURI

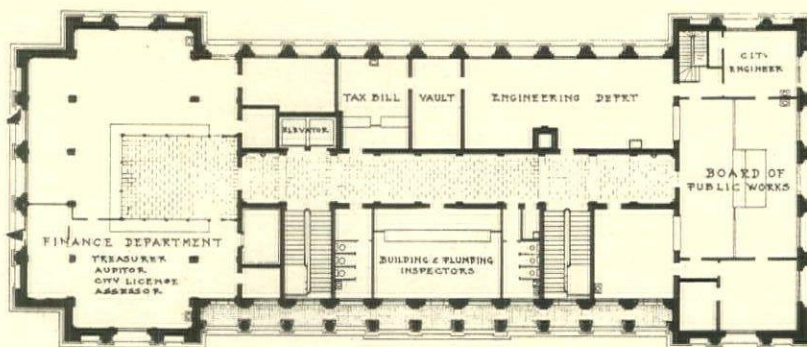
ECKELL & ALDRICH, *Architects*



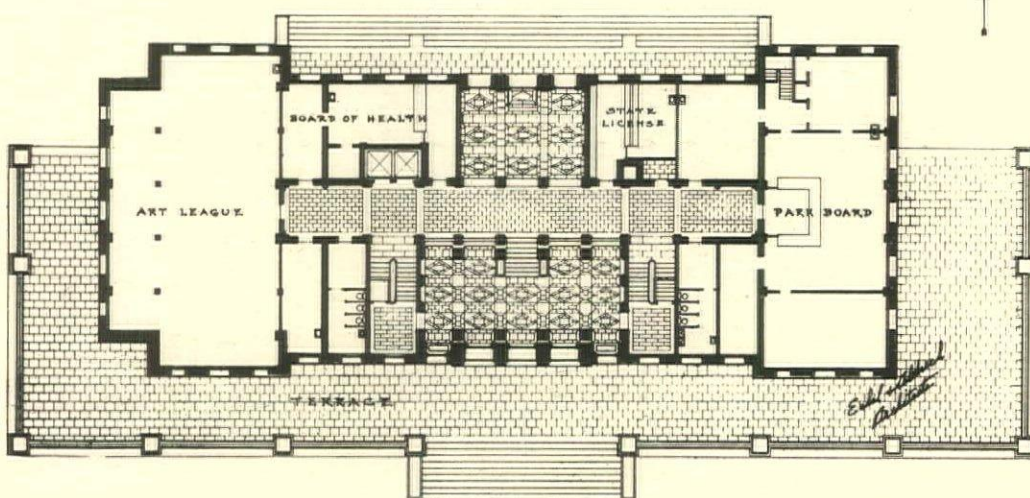
DETAIL OF ENTRANCE
SOUTH FACADE



THE BUILDING ILLUMINATED AT NIGHT



FIRST FLOOR PLAN



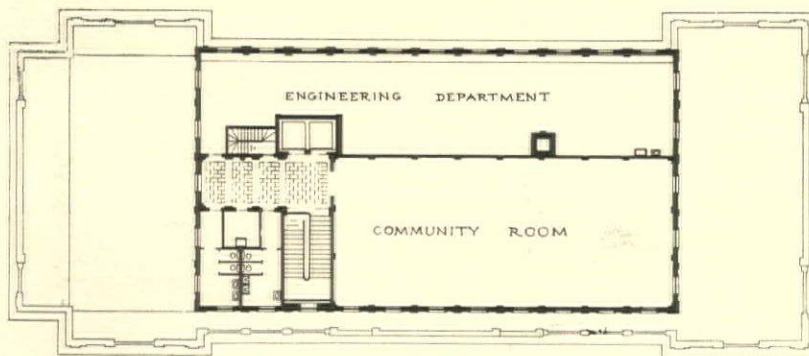
GROUND FLOOR PLAN

CITY HALL, ST. JOSEPH, MISSOURI

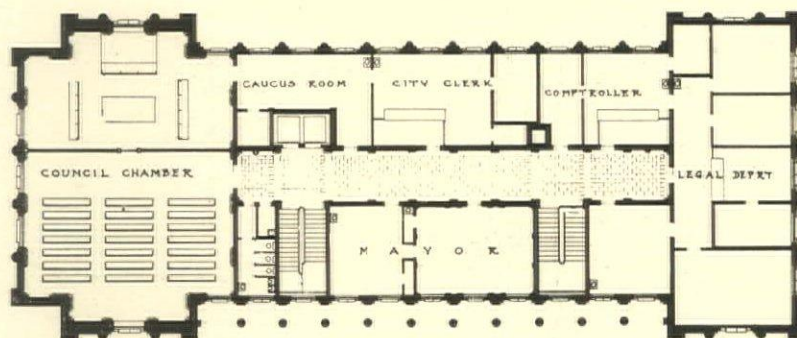
ECKEL & ALDRICH, ARCHITECTS



ELEVATION DRAWING TO SCALE



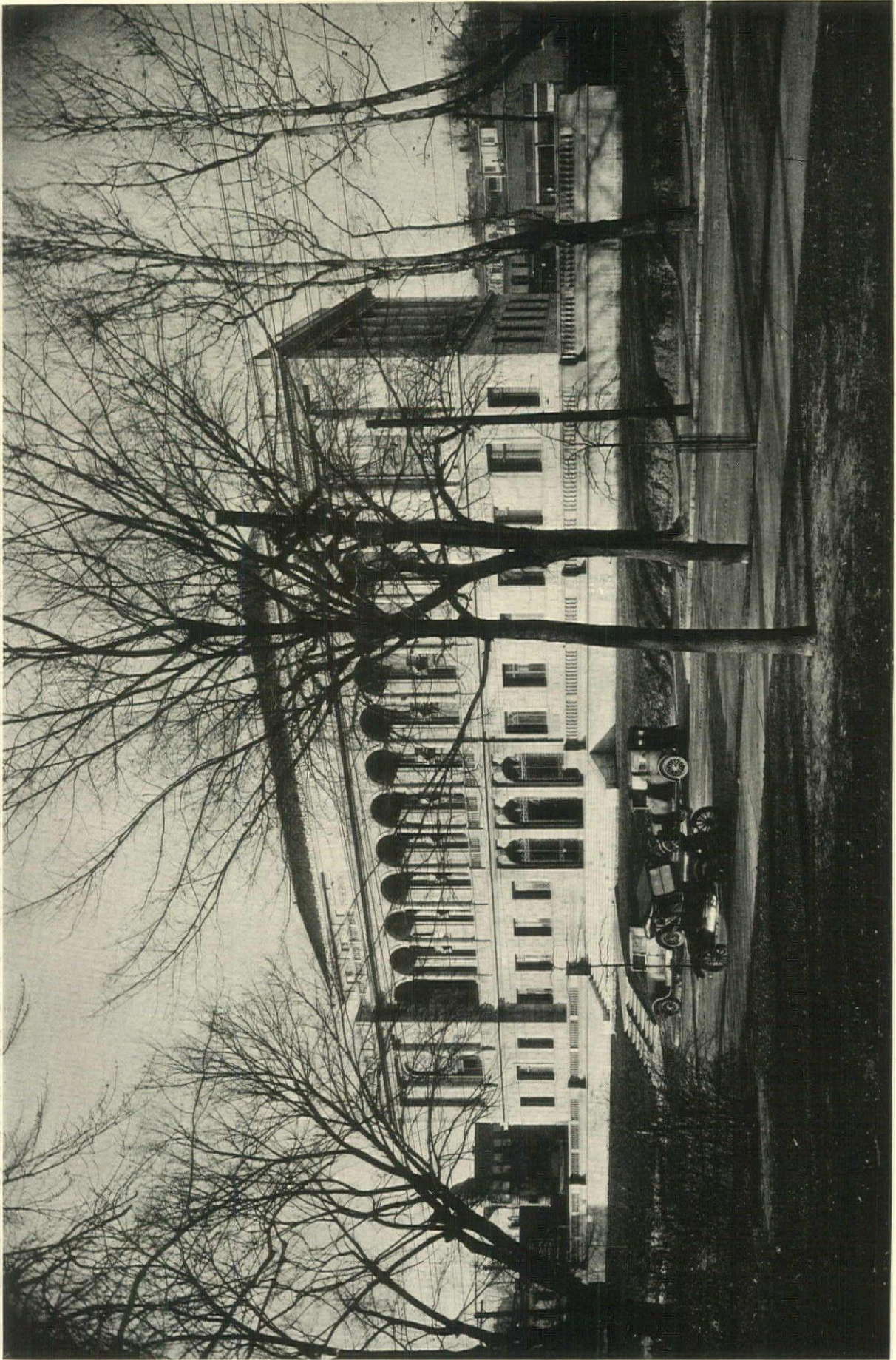
THIRD FLOOR PLAN



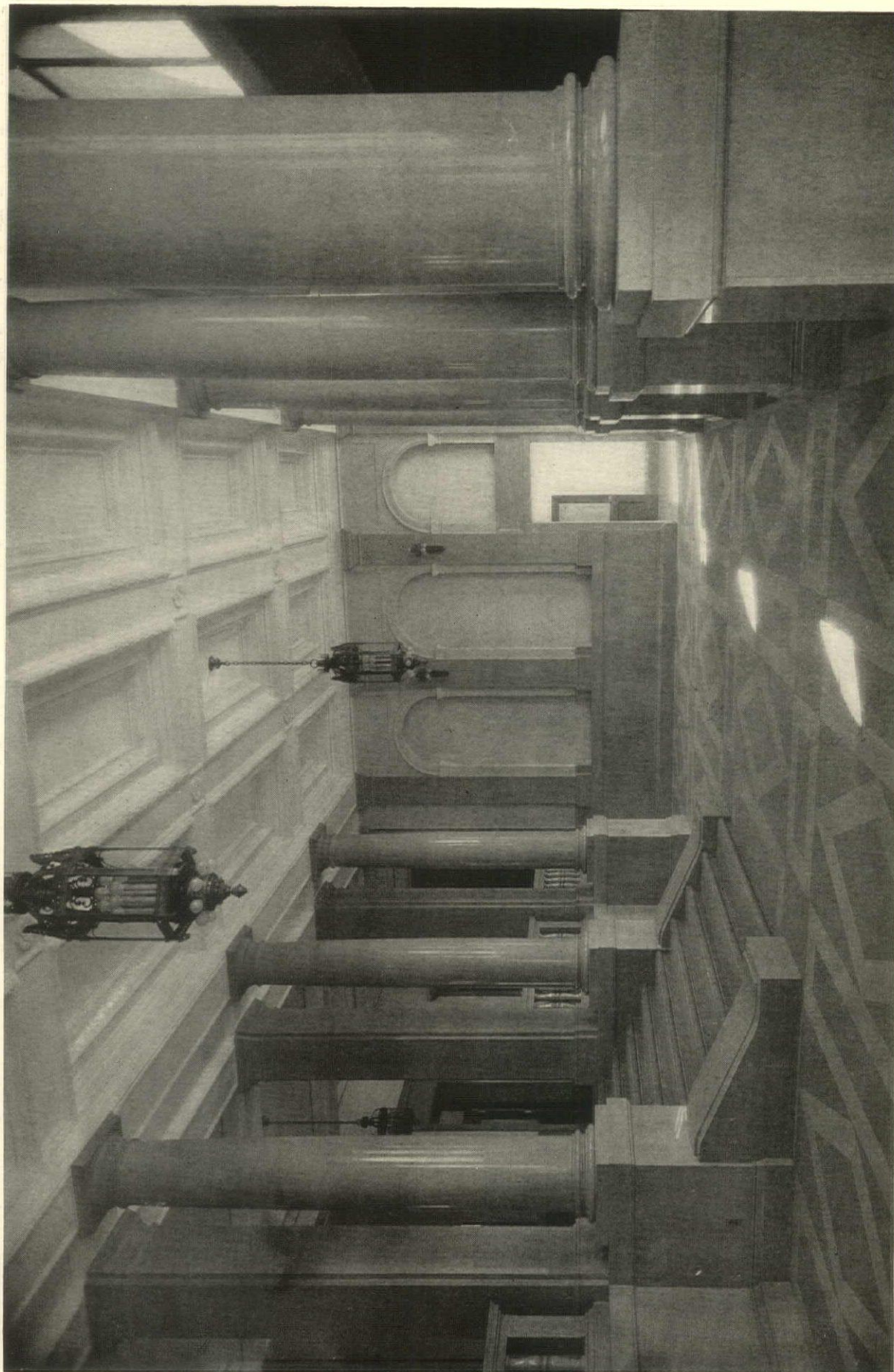
SECOND FLOOR PLAN

CITY HALL, ST. JOSEPH, MISSOURI

ECKEL & ALDRICH, ARCHITECTS



SOUTH FACADE, CITY HALL, ST. JOSEPH, MISSOURI—ECKEL & ALDRICH, ARCHITECTS



MAIN ENTRANCE LOBBY, CITY HALL, ST. JOSEPH, MISSOURI—ECKEL & ALDRICH, ARCHITECTS



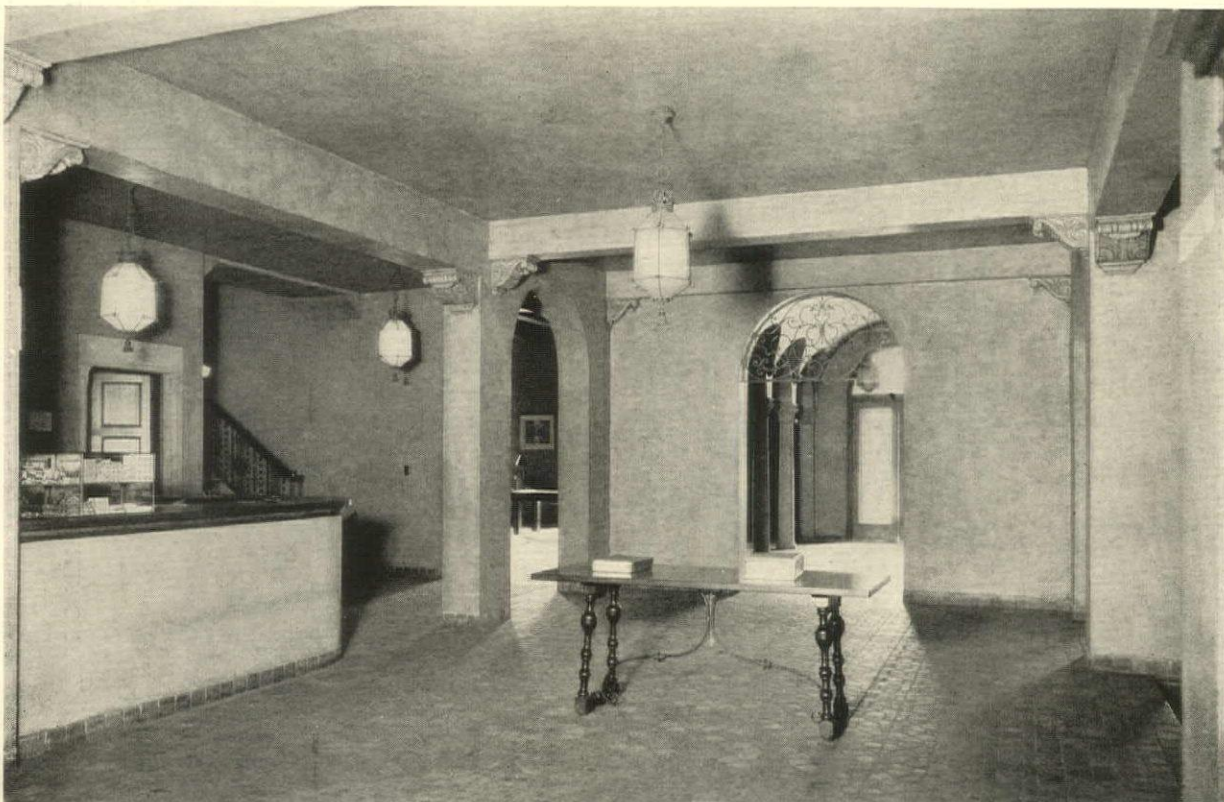
MAYOR'S OFFICE



COUNCIL CHAMBER
CITY HALL, ST. JOSEPH, MISSOURI
ECKEL & ALDRICH, ARCHITECTS

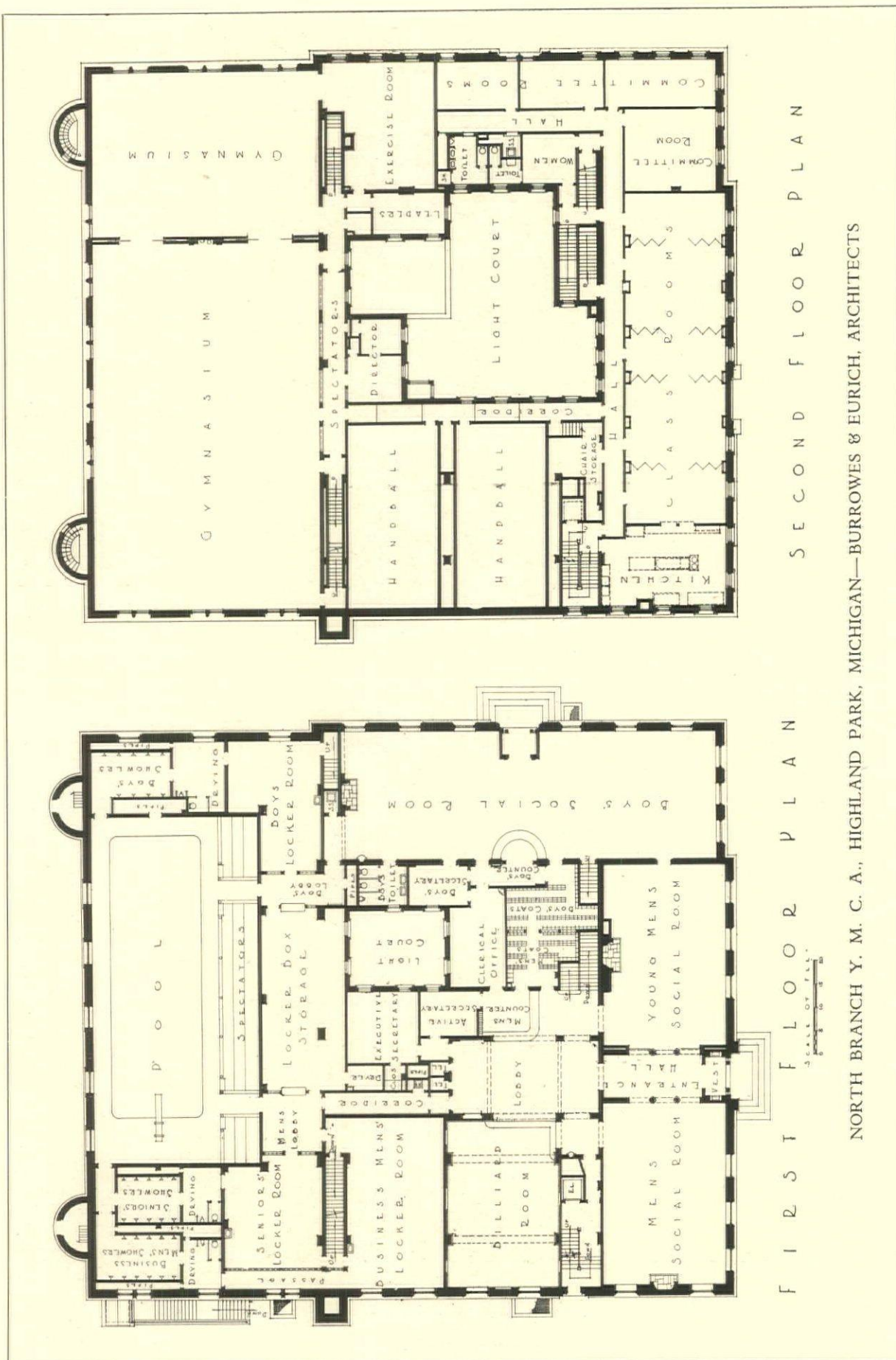


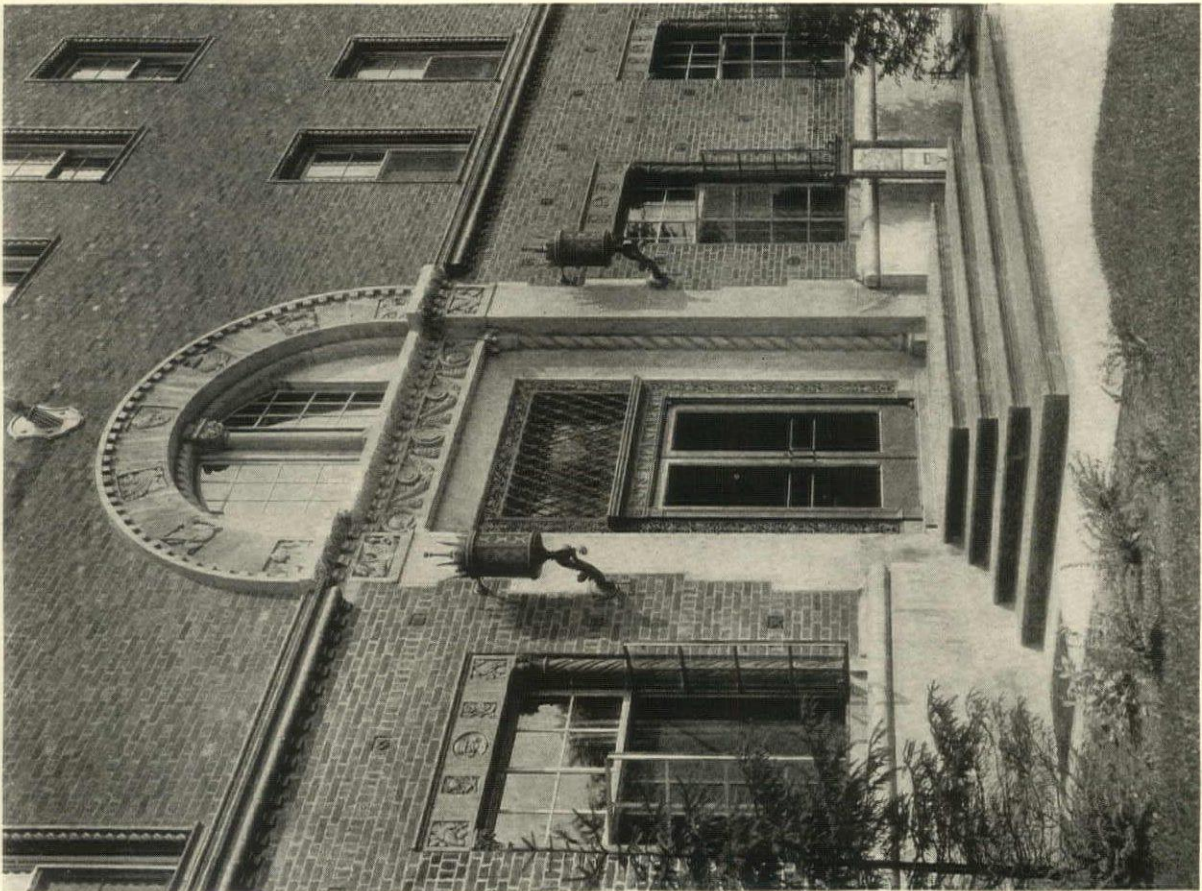
GENERAL VIEW OF EXTERIOR



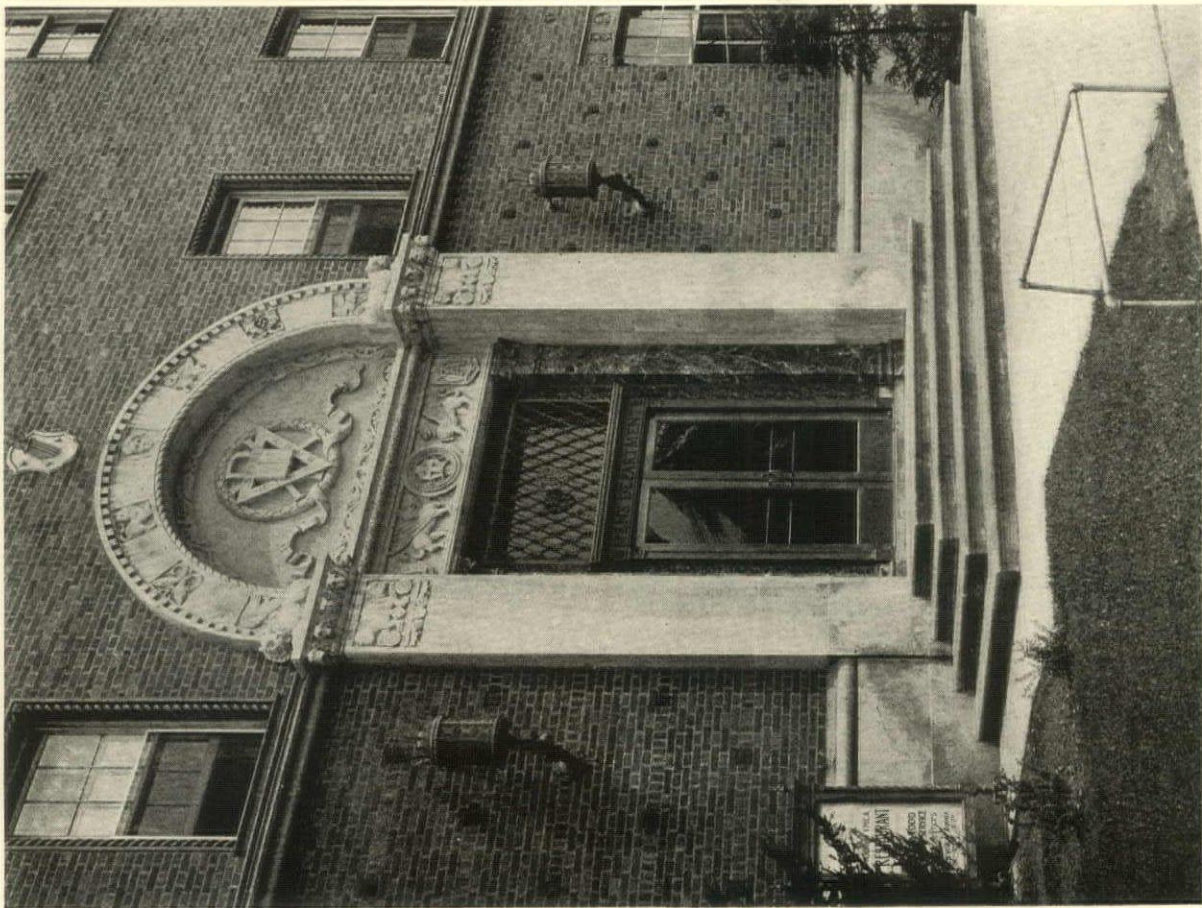
LOBBY

NORTH BRANCH YOUNG MEN'S CHRISTIAN ASSOCIATION, HIGHLAND PARK, MICH.
BURROWES & EURICH, ARCHITECTS

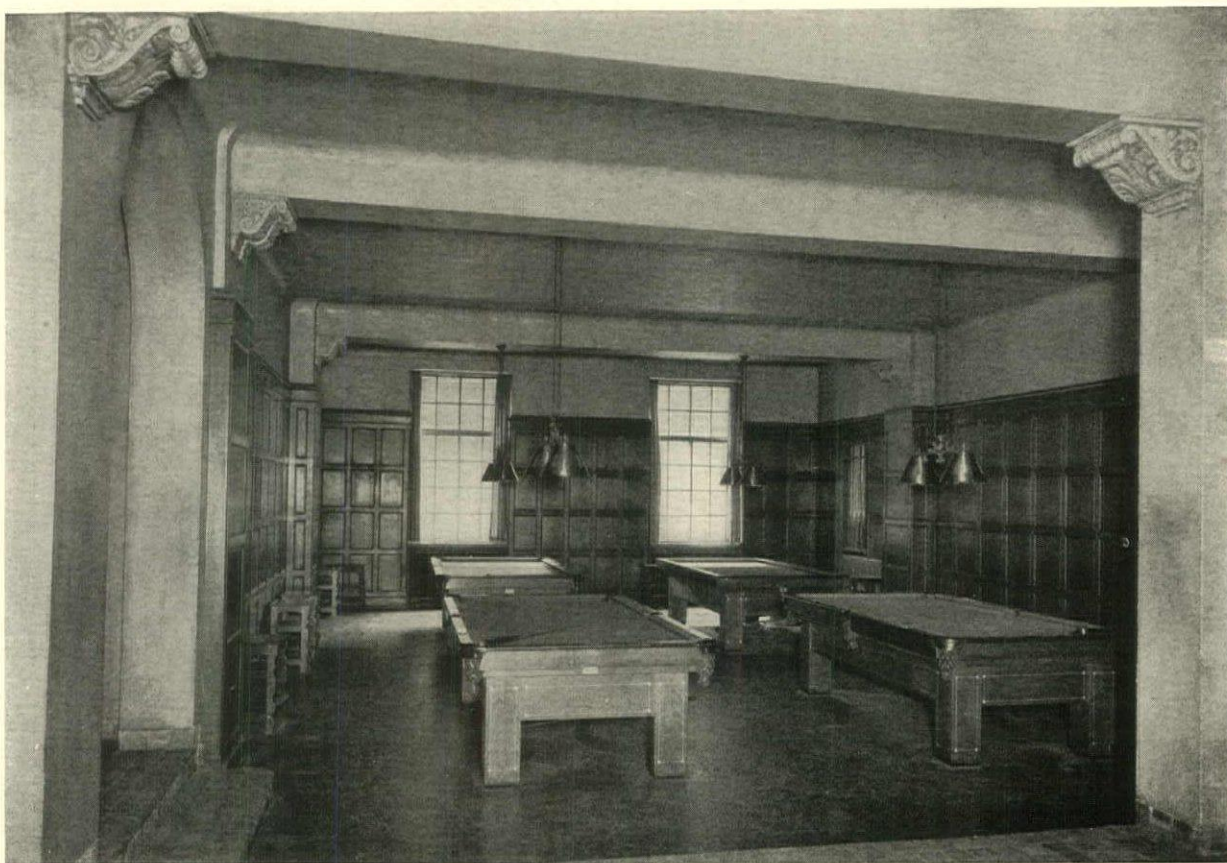
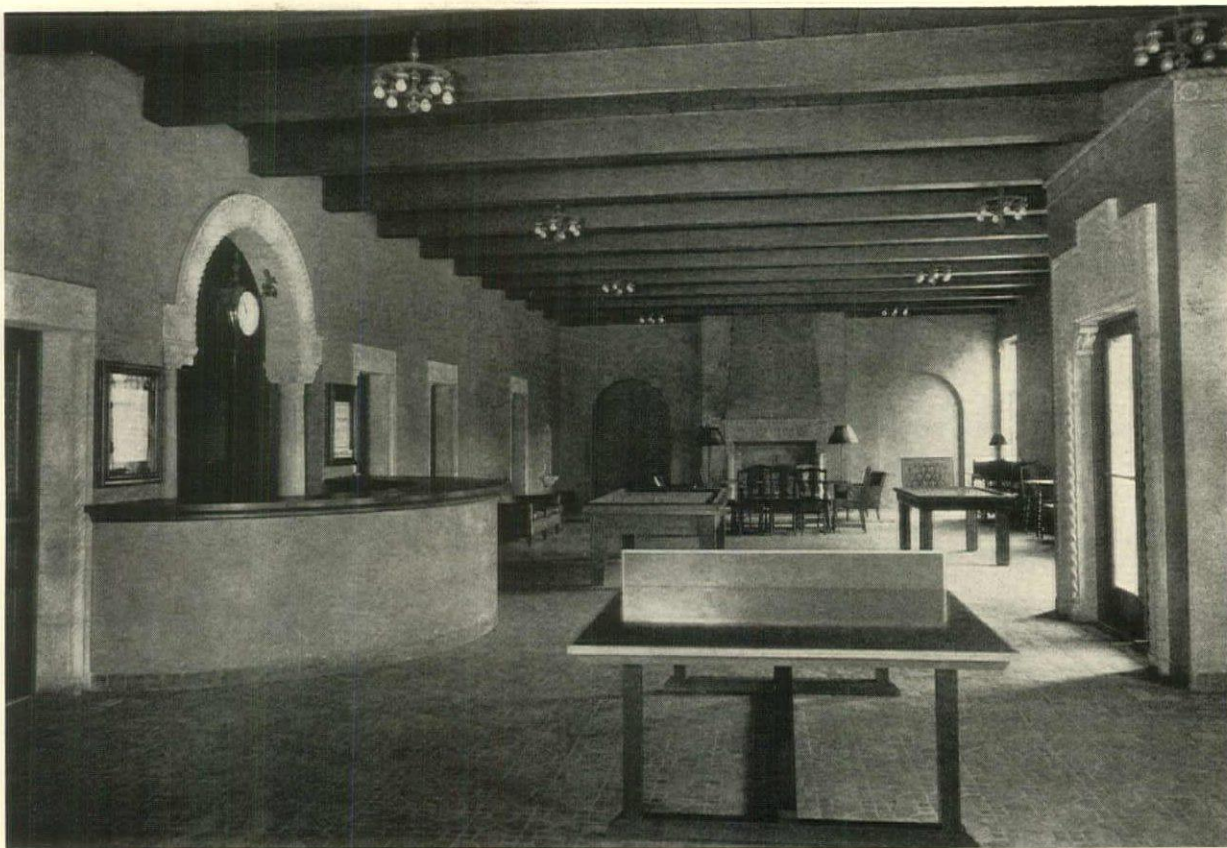




BOYS' ENTRANCE
NORTH BRANCH Y. M. C. A., HIGHLAND PARK, MICHIGAN—BURROWES & EURICH, ARCHITECTS



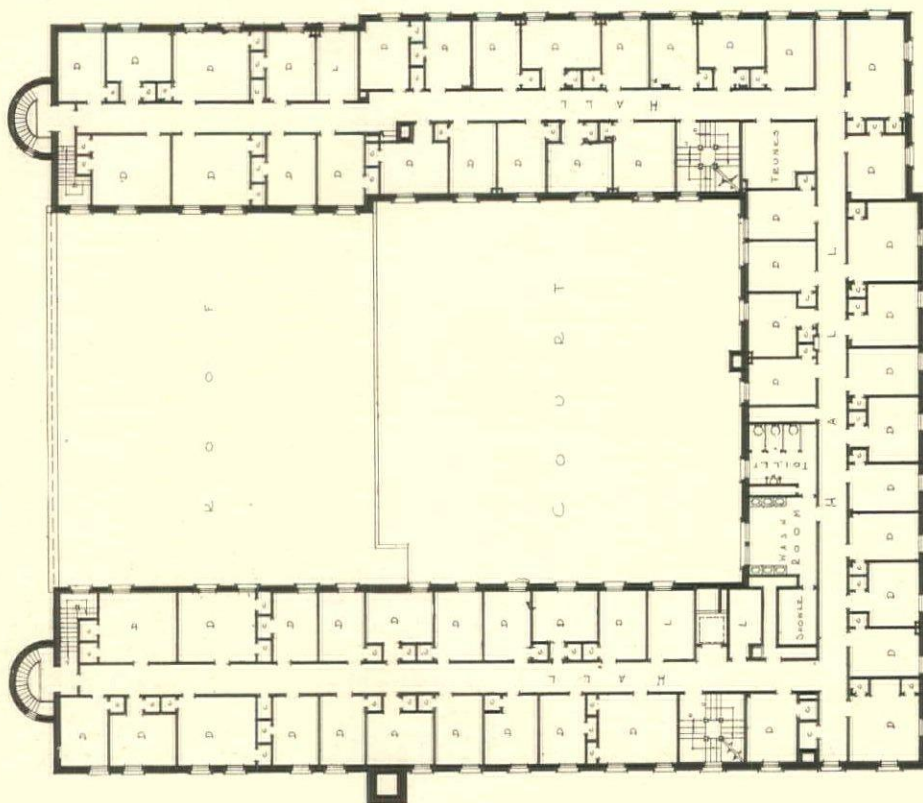
MEN'S ENTRANCE
NORTH BRANCH Y. M. C. A., HIGHLAND PARK, MICHIGAN—BURROWES & EURICH, ARCHITECTS



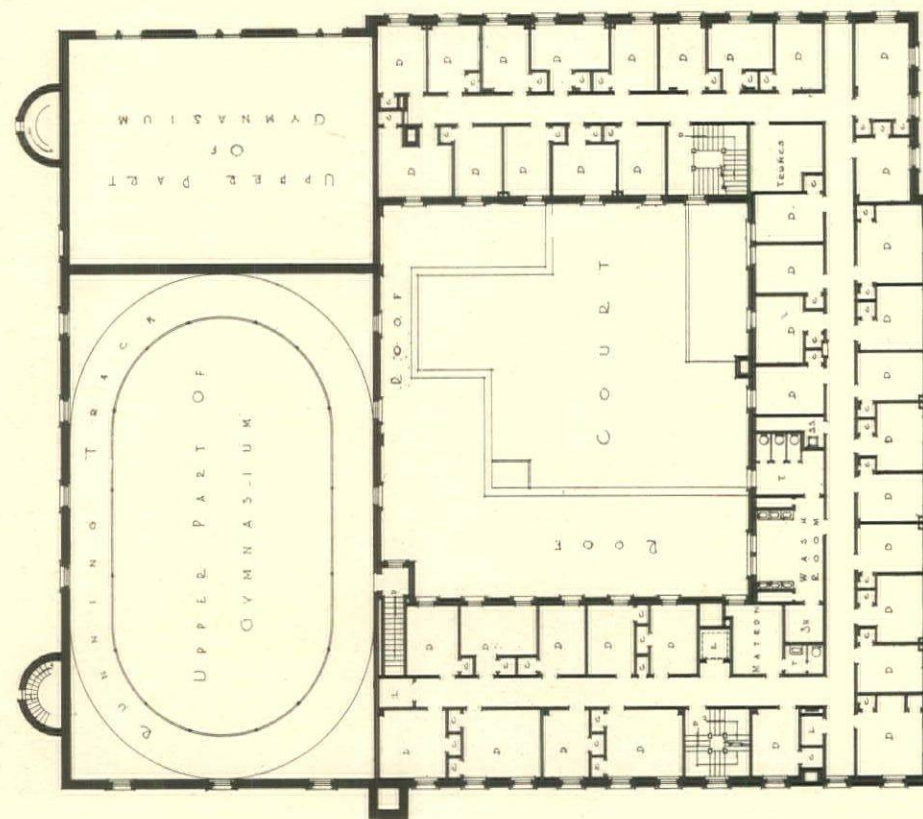
NORTH BRANCH Y. M. C. A., HIGHLAND PARK, MICHIGAN—BURROWES & EURICH, ARCHITECTS
ABOVE, BOYS' GAME ROOM; AND BELOW, BILLIARD ROOM



NORTH BRANCH Y. M. C. A., HIGHLAND PARK, MICHIGAN—BURROWES & EURICH, ARCHITECTS
ABOVE, BOYS' SOCIAL ROOM; AND BELOW, MEN'S SOCIAL ROOM



FOURTH FLOOR PLAN
FIFTH FLOOR SIMILAR



THIRD FLOOR PLAN

NORTH BRANCH Y. M. C. A., HIGHLAND PARK, MICHIGAN—BURROWES & EURICH, ARCHITECTS

ST. STEPHEN'S CHURCH, BOSTON, MASS.

PERRY, SHAW & HEPBURN, *Architects*



Photo by Weber



Photo by Weber

ST. STEPHEN'S CHURCH, BOSTON, MASS.

PERRY, SHAW & HEPBURN, ARCHITECTS



Photo by Weber

ST. STEPHEN'S CHURCH, BOSTON, MASS.

PERRY, SHAW & HEPBURN, ARCHITECTS

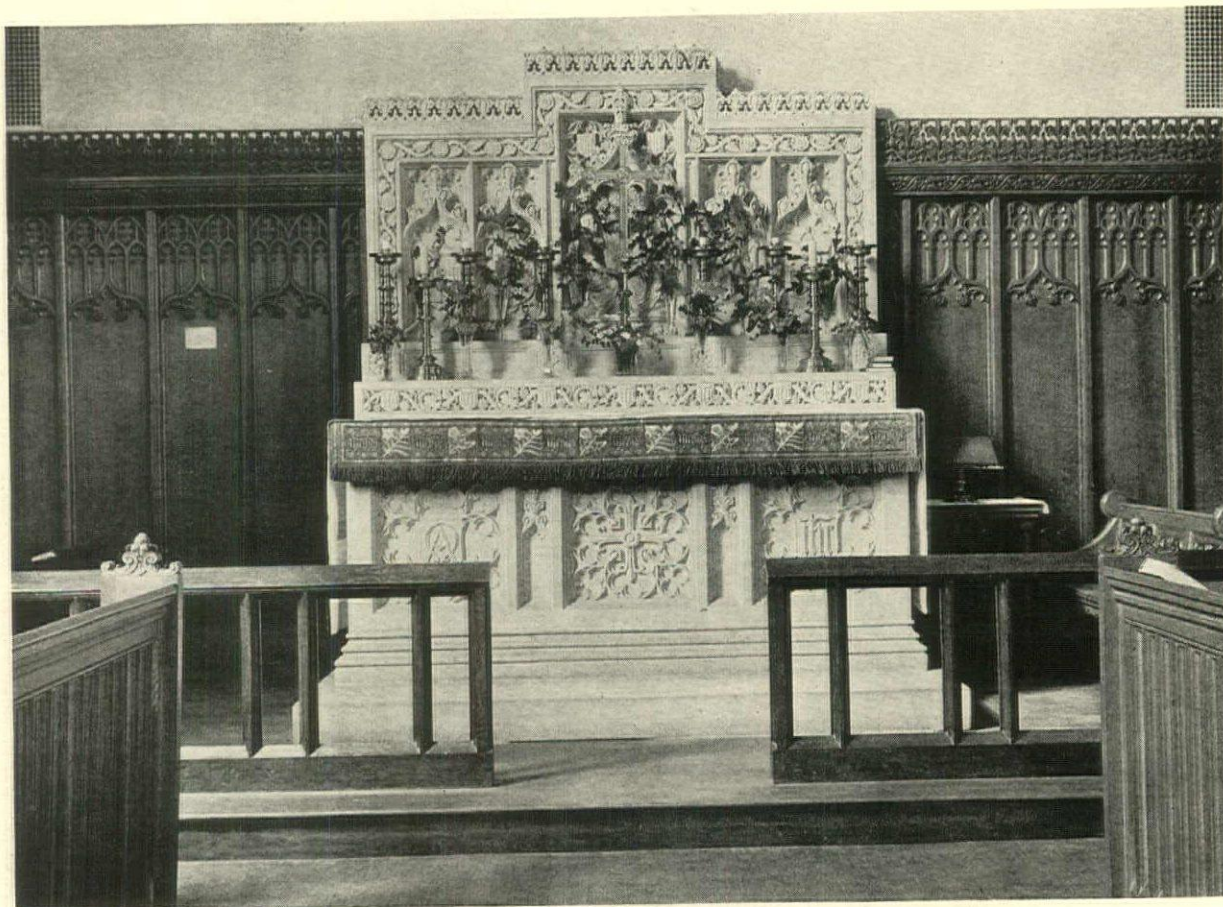
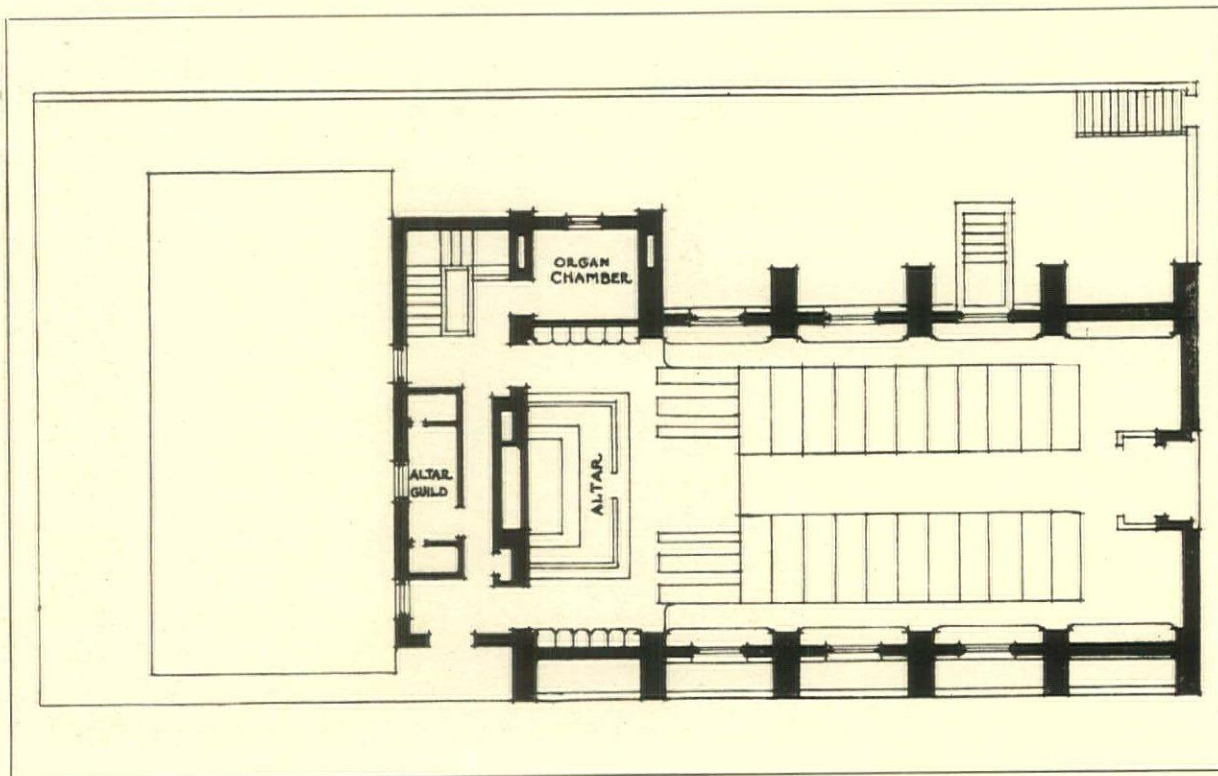


Photo by Weber

THE ALTAR. TAKEN FROM THE OLD CHURCH, WAS DESIGNED BY R. CLIPSTON STURGIS, ARCHITECT



ST. STEPHEN'S CHURCH, BOSTON, MASS.

PERRY, SHAW & HEPBURN, ARCHITECTS

A SUCCESSFUL ALTERATION JOB

ALTERATION work has many perplexing angles. One of these is the matter of cost, for it is often found more expensive to alter an old building than it would be to build a new one. Another difficulty is to create a satisfactory and interesting design for that part of the building which is to be altered and yet retain unity and harmony in the complete composition.

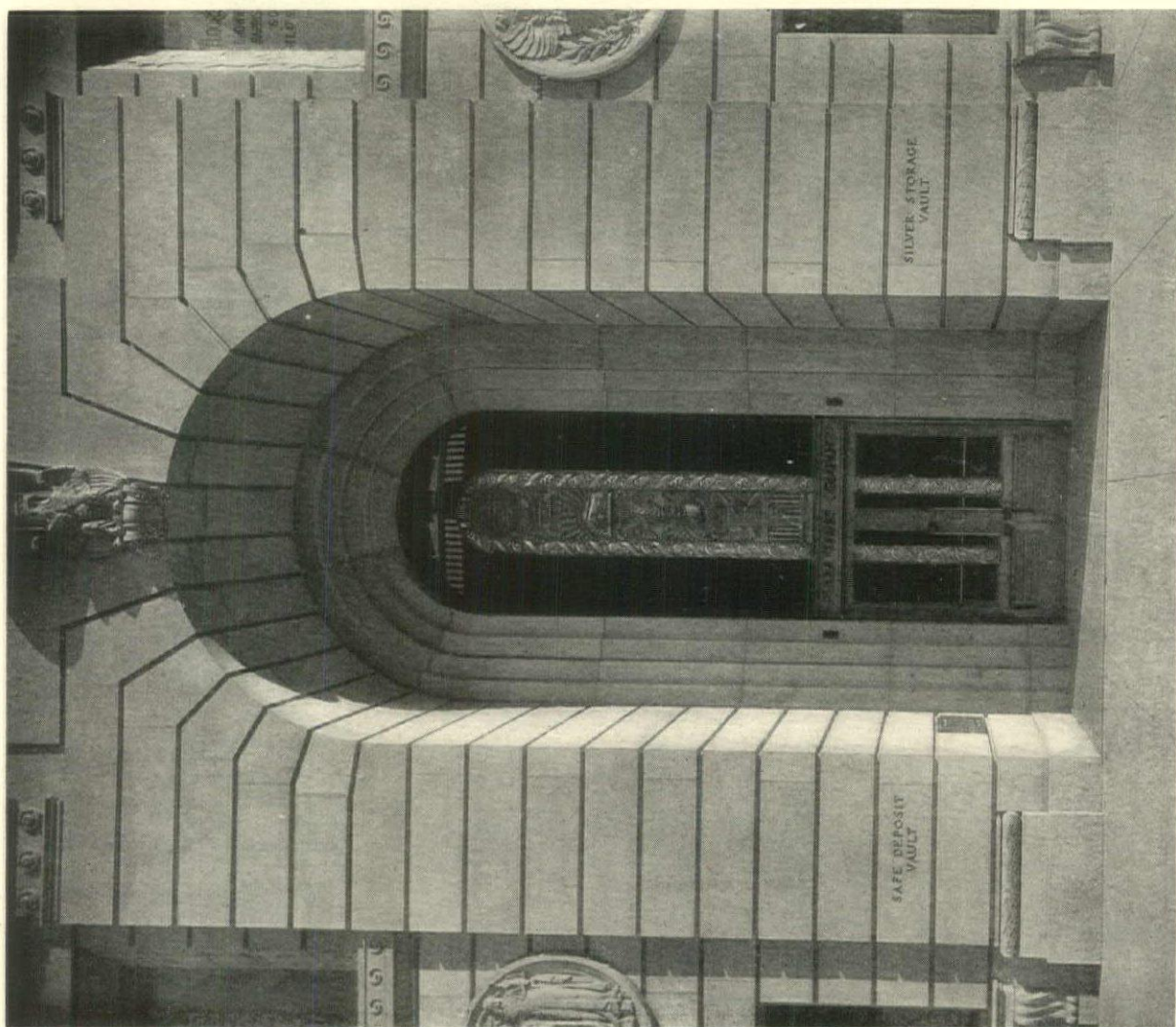
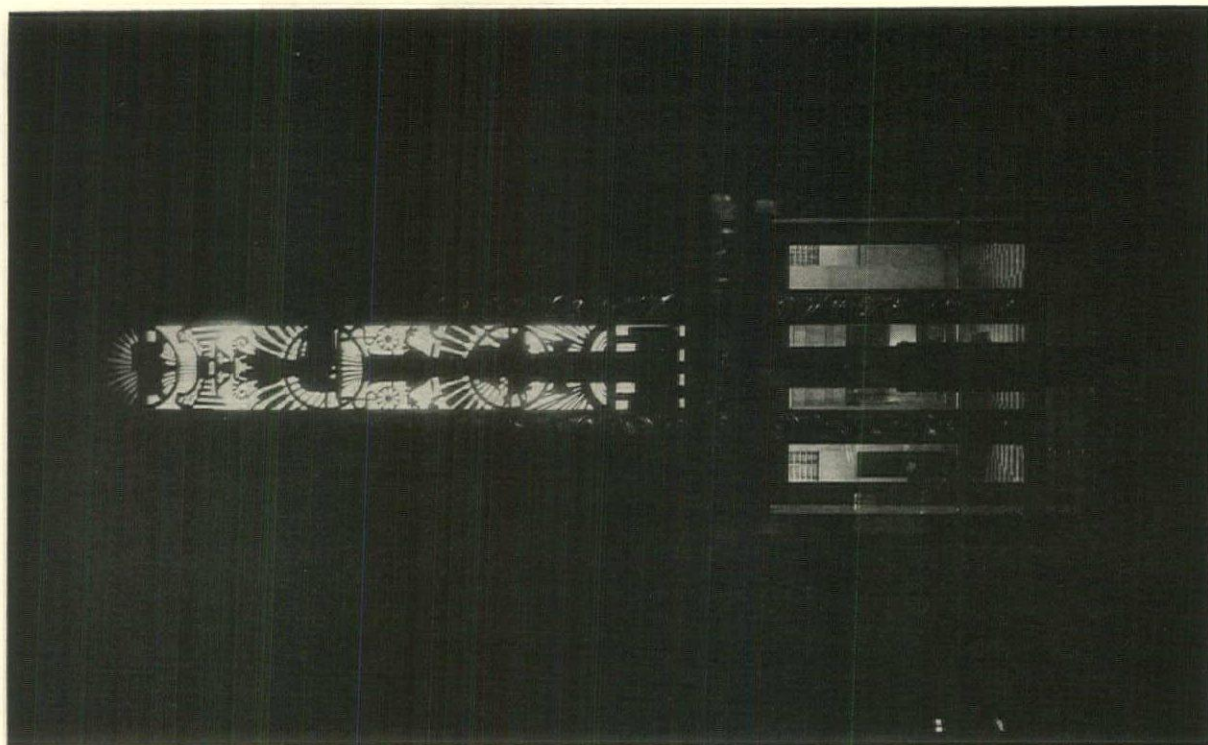
In designing a facade for the Plaza Trust Company, New York, the architects, Helmle, Corbett & Harrison, were confronted with a problem which offered many complications. The bank had taken the first two floors of an old corner building, eight stories high, which in its design was lacking in any peculiar marks of individuality. The architec-

tural treatment of this portion of the building terminated in a classic cornice supported by pilasters. The entrance to the building proper, with its surrounding treatment, was left intact, while the entire front beyond this point to the base of the cornice was removed with the exception of the corner pilaster. The entrance to the bank was made the center of interest and the circular headed opening was flanked on either side by pilasters of lines similar to those already existing. The bronze doors, and grille above set in deep reveal, were given a distinctive decorative quality. Ornament was introduced on the facade in keeping with the spirit of the bronze work and yet of such a character as to harmonize with the lines of the existing work



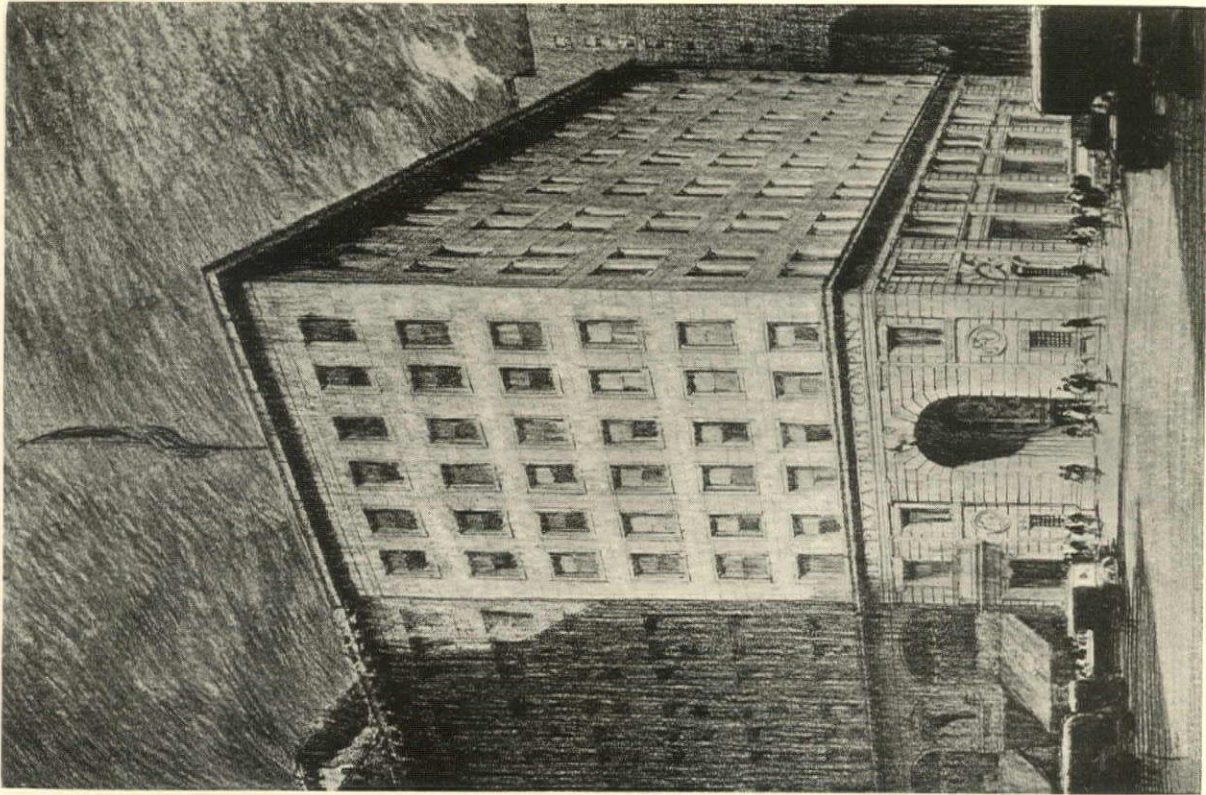
Photo by Gillies

PLAZA TRUST COMPANY, NEW YORK
HELMLE, CORBETT & HARRISON, ARCHITECTS



DETAIL OF ENTRANCE TO BANK BY DAY AND BY NIGHT
PLAZA TRUST COMPANY, NEW YORK—HELMLE, CORBETT & HARRISON, ARCHITECTS

Photos by Gillies



ARCHITECTS' PERSPECTIVE SHOWING ALTERATIONS
From the drawing by Chester B. Price

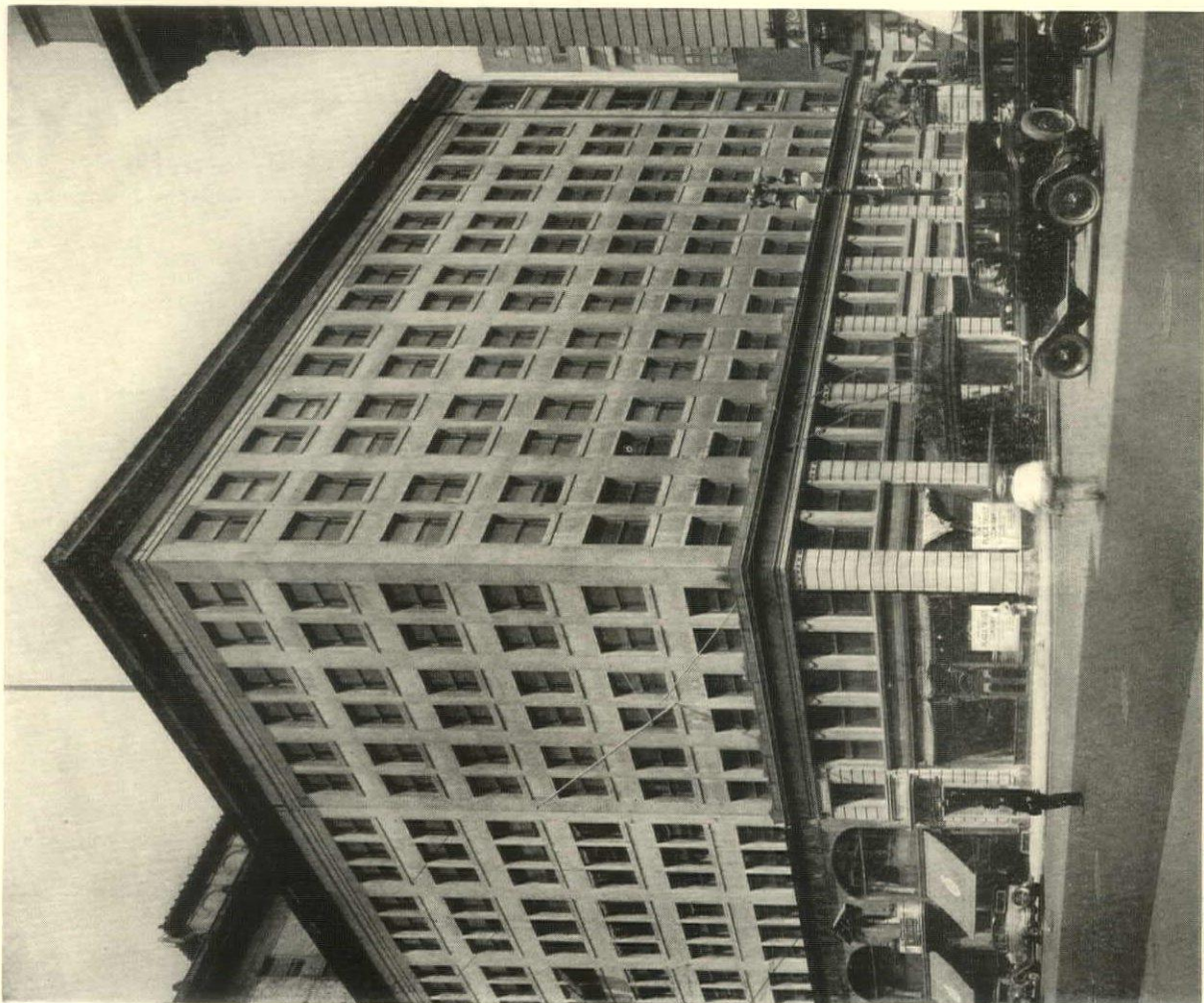


Photo by Brown Bros.

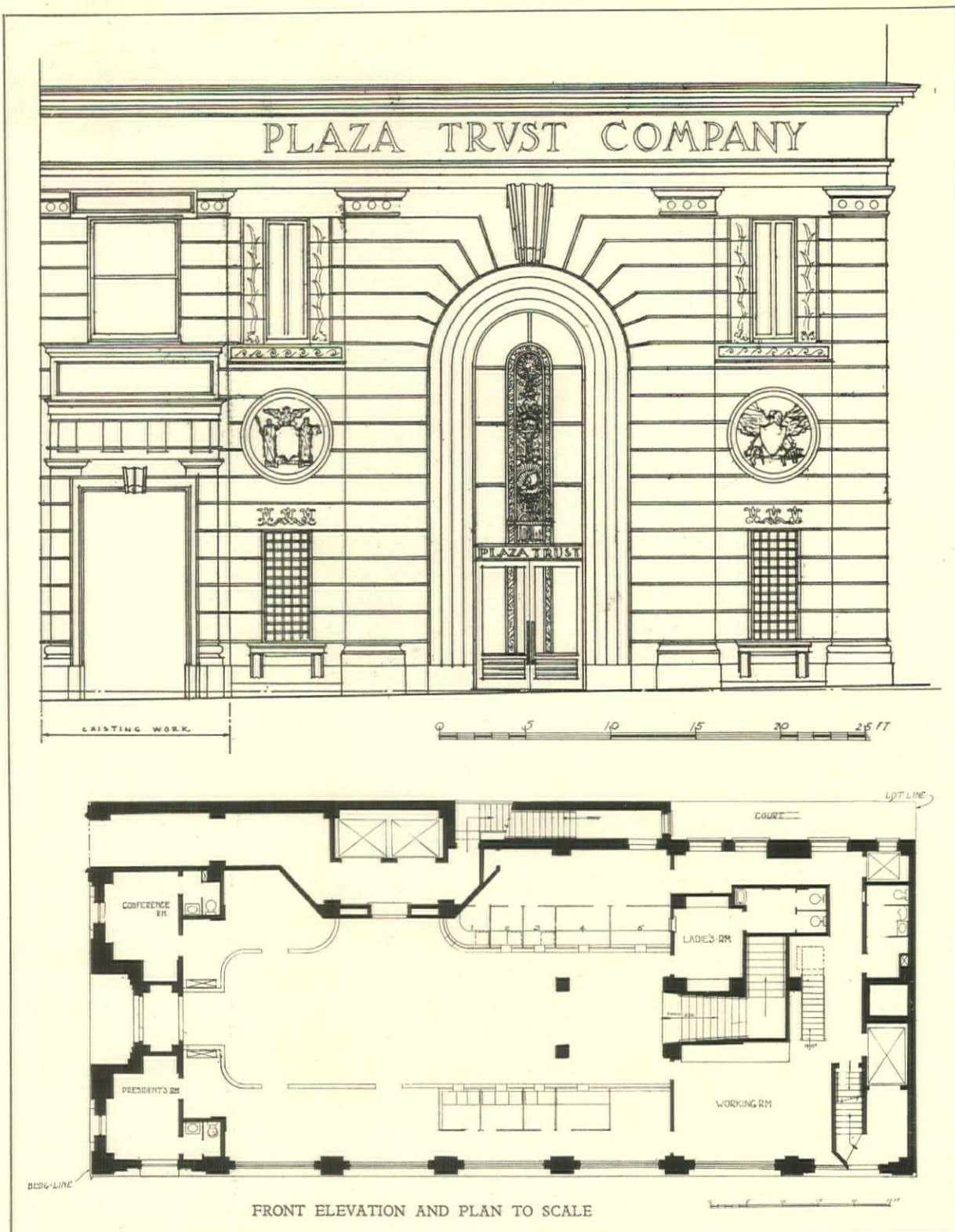
THE OLD BUILDING BEFORE ALTERATIONS WERE MADE

PLAZA TRUST COMPANY, NEW YORK—HELMLE, CORBETT & HARRISON, ARCHITECTS

which was retained. The windows that were introduced were aligned with the existing openings in the stories above.

The final result attained is peculiarly successful.

The facade has a modern character in keeping with the service which the bank renders, and yet that part of the old building which has remained intact in no way seems out of place or objectionable.



PLAZA TRUST COMPANY, NEW YORK
HELMLE, CORBETT & HARRISON, ARCHITECTS



INTERIOR ARCHITECTURE



AN APPLICATION OF THE MODERN THEORY

By Andrew L. Henkel



THE prime factor in the newer school of architecture is Function. Given a definite problem, the adherents to this school believe that the solution must lie, first, in a resolution of the problem into its fundamental elements from the point of view of function, and second, in a coördination of the demands of these elements into a simple and complete unit. The æsthetics, they claim, are inherent in the result.

Without wasting words in arguments either pro or con, this theory was put into practice in planning the office of George Enzinger, president of the Olson and Enzinger Advertising Agency, Milwaukee, Wis. The fundamental soundness or weakness in the functional theory as it is brought out by this particular problem, therefore, can best be judged by the results.

In planning Mr. Enzinger's office, the first task, according to theory, was to determine as accurately as possible the occupant's work and habits. This was done by consulting his secretary, and a routine was worked out which conformed closely enough to his daily schedules for 350 working days to warrant using it as a definite requirement of the problem. Thus, the client's needs were the real basis for working out the problem, not decorative picturesqueness alone as in many of the so-called "period" offices. In this way the office equipment was made to fit the demands of

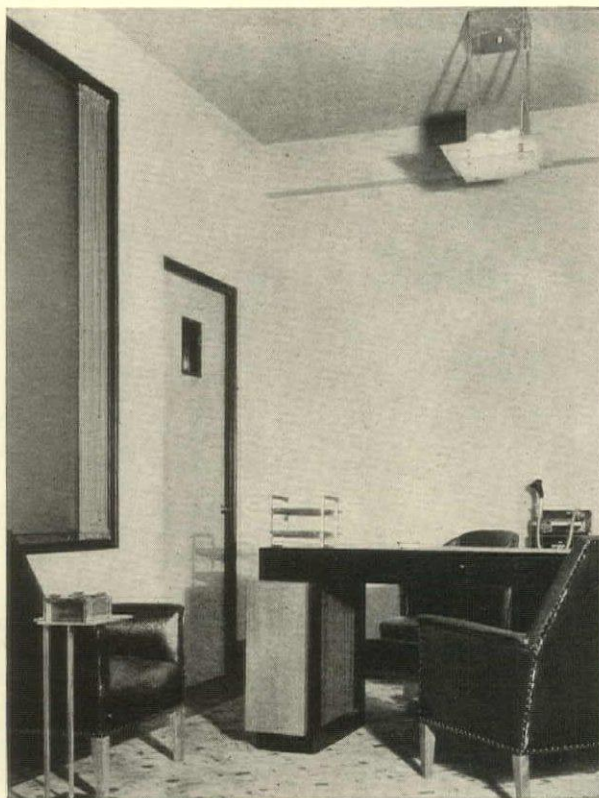
the work and the man; not the man and the work to fit the office equipment.

The desk, the most important piece of furniture in this case—hence the motive of the room—was designed in an L shape, the longer element serving for conference purposes and the shorter for personal business. The chair was placed in the angle, so that the executive had only to swing in his chair to turn from his letters to his client. Thus, behind his desk at all times, the executive was enabled to meet his appointments and carry on his personal business from two separate points without doing more than to turn in his chair.

As the central point in the design, the desk determines the minor units. All functions revolve around it. The chairs, the ash trays, the lighting fixtures, the position of windows, the arrangement of drapes—all these details are made to conform to this central unit.

Thus at no point in the room is either executive or visitor embarrassed by faulty disposition of chairs, inability to make himself heard, annoying high lights or shadows, or made uncomfortable by any of the usual irritations inherent in designs ignoring the demands of comfort and function.

This theme of comfort was further carried out in the color scheme of the room. Four values of chrome green were used on the ceiling and walls. This color is yellow-green and its psychological



CORNER IN AN EXECUTIVE'S OFFICE
THE PROBLEM IN DECORATION WAS WORKED OUT SOLELY
ON THE BASIS OF THE CLIENT'S NEEDS

effect is one of cheerfulness and peace. The surface texture of the walls was such as to maintain a liveliness of light and color without creating distracting high lights. Monotony was relieved by deeper values in window and door frames. These accents are echoed in the color scheme used in the furniture so that the feeling of movement of color is through space and not one of surface decoration. Thus demands of æsthetics are satisfied directly through the satisfaction of the demands of function.

This is typical of the aims of the modern theory of function, the fundamentals of which are—

First: simplicity

Second: continuity of line such as is found in the stream line of modern motor car bodies

Third: plain surfaces

Fourth: admission of structural necessity

Fifth: dramatization of the intrinsic beauty of materials—textile, wood, stone, metal or glass

Sixth: the achievement of the maximum convenience

Industry is the keynote of modern civilization.

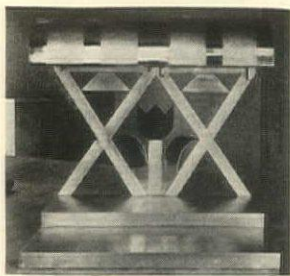
Modern theories based upon function are an expression of its significance as well as they are an expression of demand for speed, efficiency and flexibility. In architecture the quantum of interest is achieved by the grouping and proportion of rooms and furniture to satisfy these demands.

And beauty? Le Corbusier answers, "This is an imponderable which cannot function except in the actual presence of its primordial bases: the reasonable satisfaction of the mind (utility and economy); after that, cubes, spheres, cylinders, cones, etc. (sensorial). Then . . . the imponderable, the relationships which create the imponderable; this is genius, inventive genius, plastic genius, mathematical genius, his capacity for achieving order and unity by measurement and for organizing, in accordance with evident laws, all those things which excite and satisfy our visual senses to the fullest degree."

In the attitude of a student I have accepted the teachings of Le Corbusier in an effort to solve the problem presented here.



GENERAL VIEW OF EXECUTIVE'S OFFICE
THE L-SHAPED DESK IS A FEATURE OF THE SCHEME

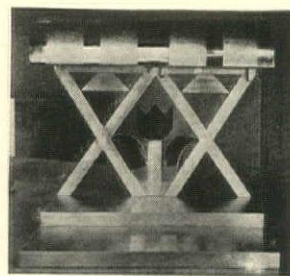


THE MODERN STYLE

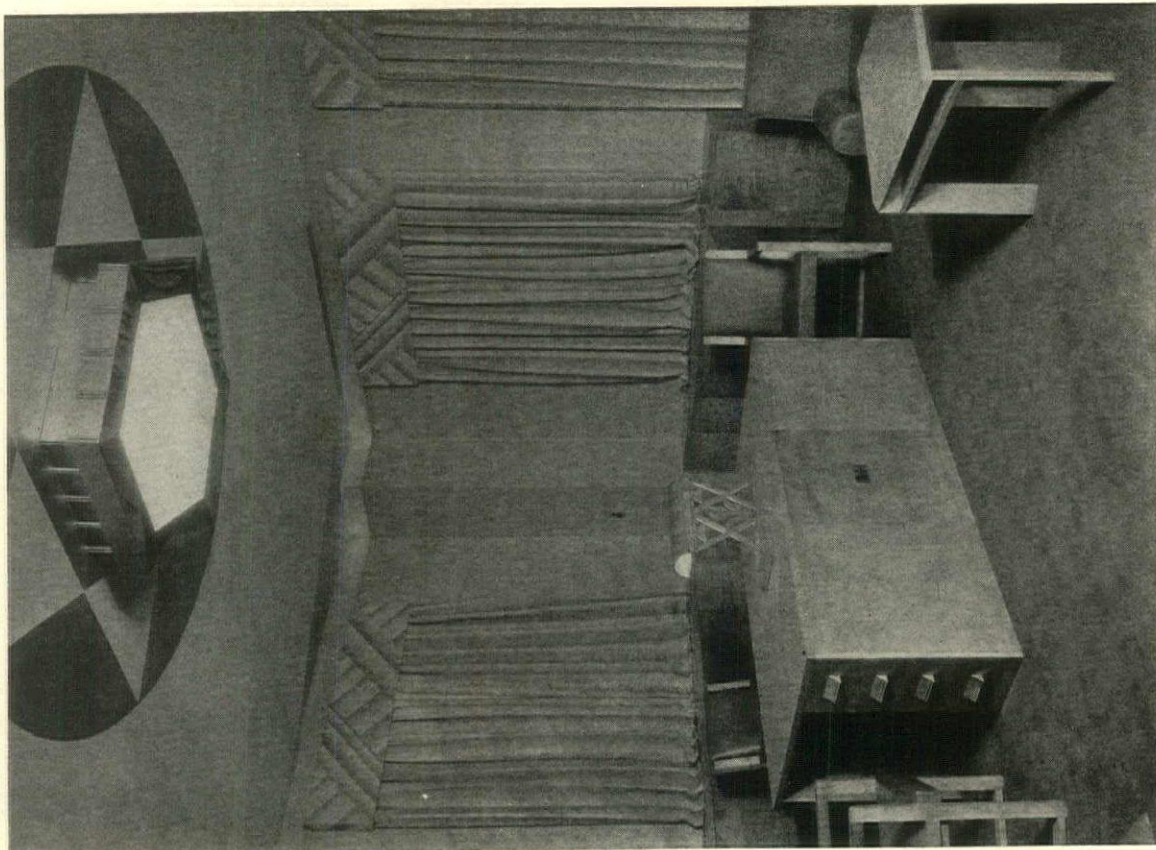
REFLECTED IN THE DESIGN OF THE
OFFICES OF

RUDOLPH MOSSE, INC., NEW YORK

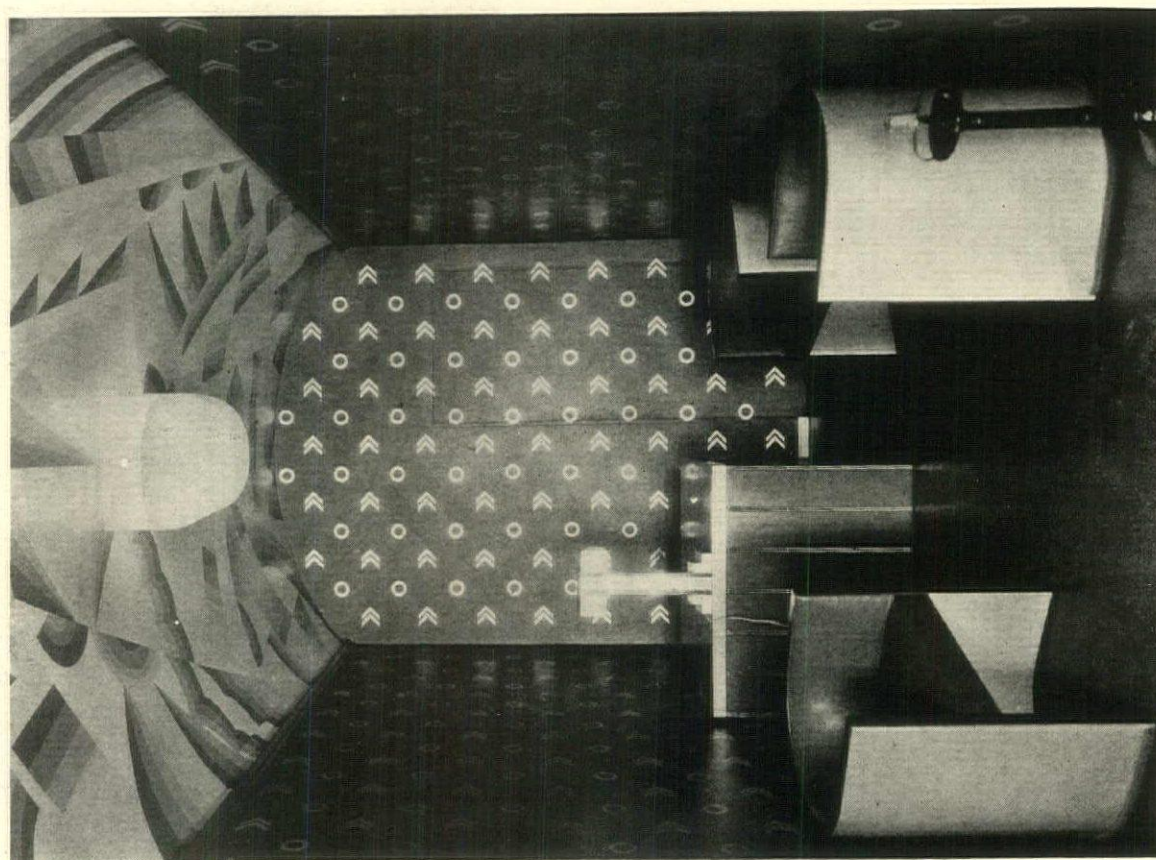
WINOLD REISS, *Interior Architect*



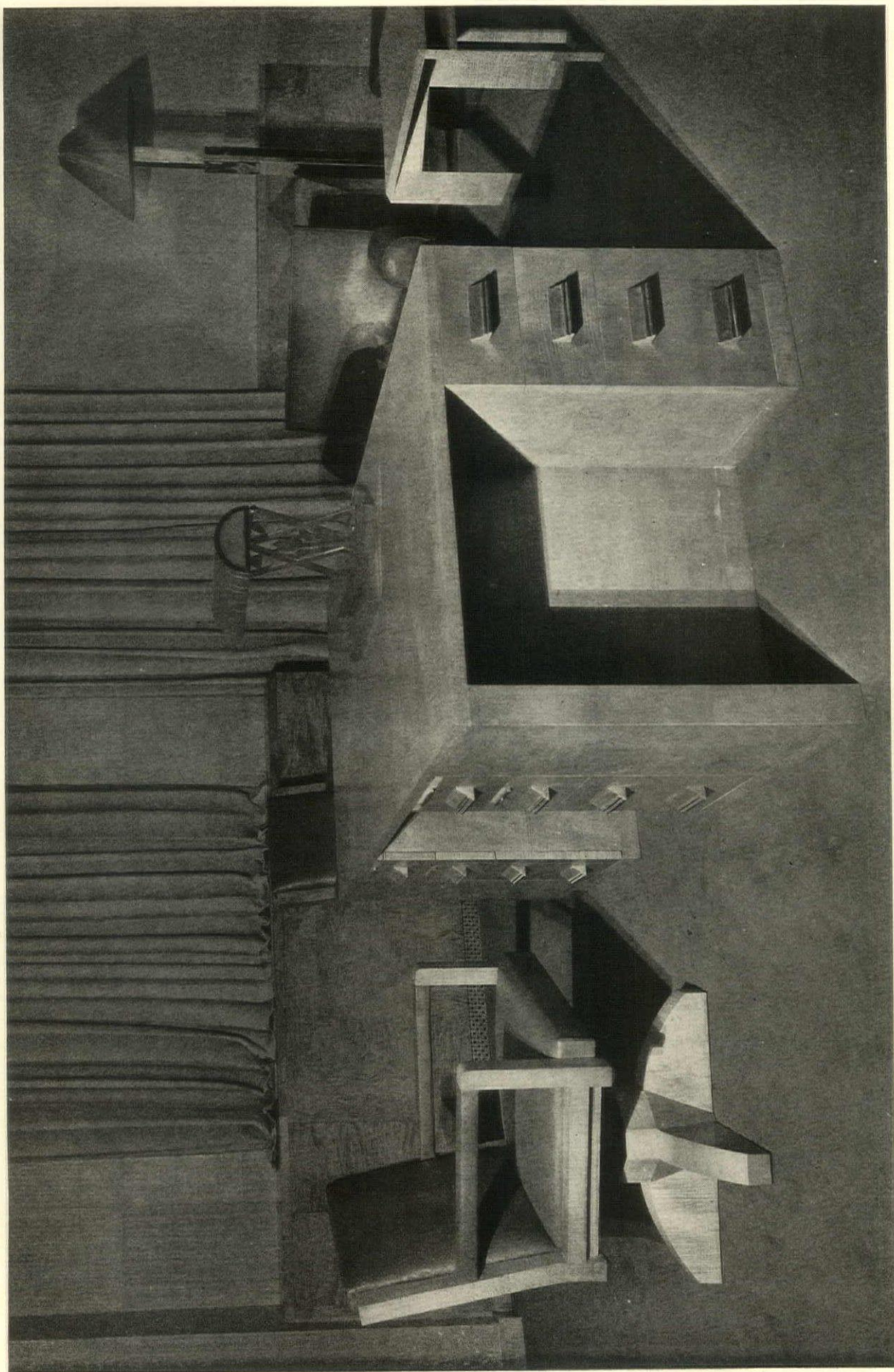
THE CONFERENCE ROOM. LACQUERED PAPER IN BEIGE TONES COVERS THE WALLS, THE CARPET IS DEEP ORANGE,
THE FURNITURE IS UPHOLSTERED IN SIENNA



A CEILING FIXTURE OF GEOMETRIC LINES LIGHTS THE OFFICE
NEW YORK—WINOLD REISS, INTERIOR ARCHITECT

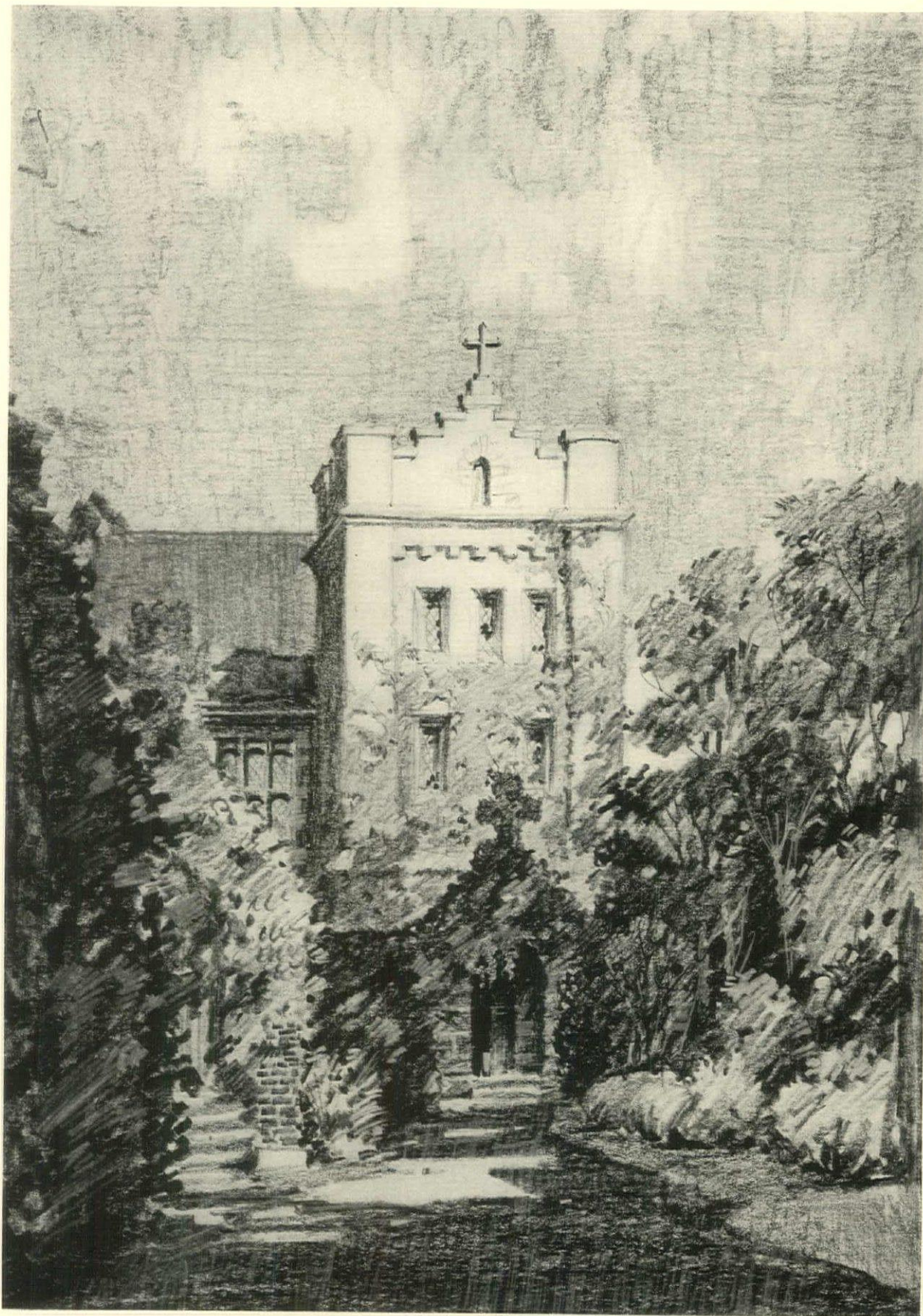


THE WALLS OF THE RECEPTION ROOM ARE STENCILED
THE OFFICES OF RUDOLPH MOSSE, INC., GRAYBAR BUILDING, NEW YORK



THE OFFICES OF RUDOLPH MOSSE, INC., GRAYBAR BUILDING, NEW YORK—WINOLD REISS, INTERIOR ARCHITECT

A MODERNISTIC VERSION OF THE SWIVEL CHAIR IS THE NOTE OF DOMINATING INTEREST IN THIS OFFICE



EPISCOPAL CHURCH, HADDONFIELD, N. J.

From the original drawing by Geo. C. Sponsler, Jr.



EDITORIAL COMMENT



ARCHITECTURAL PUBLICITY

ONE of the New York newspapers has recently inaugurated a policy of devoting a page of its Sunday edition to the subject: "The American House and its Setting." This page is under the surveillance of a member of the New York Chapter of the A.I.A., with the Public Information Committee of the Institute acting in an advisory capacity.

The general procedure is to have some one architect of the metropolitan district submit an article on types of domestic architecture, accompanied by illustrations of his own work, and this article is supplemented by one dealing with landscape architecture and interior decoration.

The article on this page in one of the recent issues of the paper stated that the best results were obtained by a client working out a rough plan of the first and second floors of the house to suit his individual needs and later turning these over to an architect to be put into workable shape. He goes on to state that, up to this stage, no consideration need be given to the site. In fact he suggests that, after the preliminary plans have been drawn, it is time enough then to go out and find a site to suit the house.

We cannot get up much enthusiasm over such publicity as this. This page, we judge, is intended to arouse the interest of the prospective home builder in good architectural design and to encourage the services of an architect no matter how small the house may be.

The Institute would do well to give all the publicity it can to such a policy, but we question very much if the majority of the members of the architectural profession will agree with the procedure of designing the house first and then going out to find the site to suit it.

While on this subject of publicity, we call attention to another article which appeared in another newspaper recently which made a feature of the fact that the architectural profession, during one year, receives \$80,000,000 in fees. This would seem to be bad enough in itself, but further on we read that 10% of this \$80,000,000 is wasted by those of the profession who are the recipients.

We wonder what the Institute is coming to

when it broadcasts such information as this in the guise of architectural publicity.

This journal and, we think it is safe to say, all other professional architectural journals in this country, are doing all in their power to encourage the services of architects. We pounce on any magazine which makes a practice of selling plans and specifications by the yard.

In abiding by such a policy, as we have done during our entire existence of over 50 years, we feel, and always have felt, that the architects of the country in a body are with us and appreciate our efforts.

Without stepping on any one's toes, we now make so bold as to express ourselves as opposed to the type of publicity which the Institute is now fostering.

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A FIVE YEAR COURSE IN ARCHITECTURE

ON the editorial page, in the issue of January 20th, we published a letter from Frederic Child Biggin, Dean of the School of Architecture of Alabama Polytechnic Institute, relative to increasing the course in architectural schools to five years. Professor Goldwin Goldsmith, of the School of Architecture, University of Texas, has given expression to his ideas on the subject and they are printed here in full.

"Schools or departments of architecture may be divided into three classes by the length of their curricula—four, five and six years. As with other professional courses the four year curriculum is found to be inadequate. Law and medicine have been forced to increase to five and six years and it is generally recognized that six years, during which the A.B. degree is attained in four, is the time necessary for the proper granting of the Bachelor's degree in these subjects.

"Architecture, as a professional subject, is tending toward this same lengthening of the course. It has been handicapped by its greater kinship to business. Its method of doing business on a percentage basis has made its recognition as an art and a profession more difficult. The better architects in the profession realize that success necessitates a

better grounding in the fundamentals of design and construction and a broader culture than can be acquired in the four years of the ordinary course in an architectural school. The schools themselves have long recognized this fact.

"Three prominent schools of architecture, two in the East and one on the Pacific Coast, require six years for the degree in architecture, granting the A.B. degree at the end of the first four years. This does not mean, however, that the holder of an A.B. can enter these schools and secure his degree in architecture in two years more. The work in architecture begins in the early years of the course and the A.B. degree is secured with architecture as the major subject. To this condition all schools of architecture should possibly aspire.

"Perhaps working toward this end, certainly with the realization that four years is not sufficient, a number of architectural schools and departments have increased the length of the course to five years. In doing this they have not all increased the amount of work required 25 per cent of the work formerly given in four years. Many of the four year schools require as high as 140 credit hours in the four year curriculum, or 35 credit hours for each of the four years. In going to the five year basis the increase is usually an additional 20 hours, making 160 for the five years, or even less. A few require more.

"In making this increase the additional work may be equally divided between technical and cultural subjects or an even greater proportion of the latter. Certainly the schools are stressing the need for a broader education for the architect. It must be granted that many of the so-called technical subjects in architecture are also cultural. The handicap for many architectural students lies in the lack of a cultural background in early environment and secondary school preparation.

"A few years ago the schools of engineering, through an important society, discussed the proposition that all engineering courses be increased to five years. Had the architectural departments been wide awake at that time they might have done much toward securing their own desired increase. For the present such an increase has been decided in the negative by the engineering schools, and this fact will tend to hold down the length of the

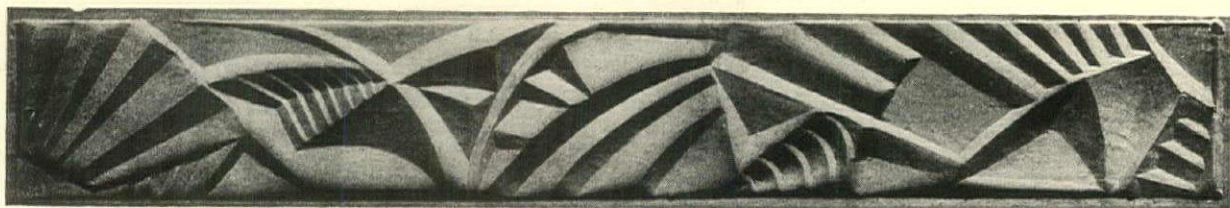
course in architecture in those departments allied to schools of engineering.

"The solution, of course, for these departments would be to separate from the engineering schools, but in many cases this would not be possible, and in some not wholly desirable. In some schools the number of students in architecture and architectural engineering together is about one-third of the total number of students in the engineering school. Unless the total number is large, to separate into two schools would mean two weaker schools in the university and greater expense of maintenance. Generally, in the state schools, the students in the department of architecture are about equally divided between the two options; and the engineering school would protest against conceding the architectural engineers to the school of architecture at the time of separation.

"There would be the further question of whether or not the course in architectural engineering should be lengthened to five years with the architects or kept at four years with the other engineering courses. This would be more easily settled under complete separation of architecture from the engineering school with, of course, the retention of the architectural engineers by the separate school of architecture.

"A desirable aim would be to develop the department of architecture into a school of architecture and allied arts, or into a school of fine arts. Both of these have been done. But in the state schools, supported by legislative appropriations, architecture is often looked upon by the legislators, many of whom are not deeply interested in the arts, more as a practical engineering subject than as one of the fine arts, despite the efforts of the department faculties to raise it to the latter status.

"As a practical solution the department of architecture, which is now only a department in an engineering school, might well work for the comparative independence to be attained through at least a partial recognition of its individuality by becoming an entity in a School of Engineering and Architecture, with the privilege of lengthening its curriculum to five years, leaving to the future the question of whether it can or should achieve the distinction of complete freedom as a full fledged professional school on a six year basis."





OLD SHOP AT PROVINCETOWN, CAPE COD, MASS.

WORKING PHOTOGRAPHS—SERIES II

FROM THE ORIGINAL NEGATIVE BY DWIGHT JAMES BAUM, ARCHITECT



OLD MILL AT CHATHAM, CAPE COD, MASS.

WORKING PHOTOGRAPHS—SERIES II

FROM THE ORIGINAL NEGATIVE BY DWIGHT JAMES BAUM, ARCHITECT

ENGINEERING AND CONSTRUCTION

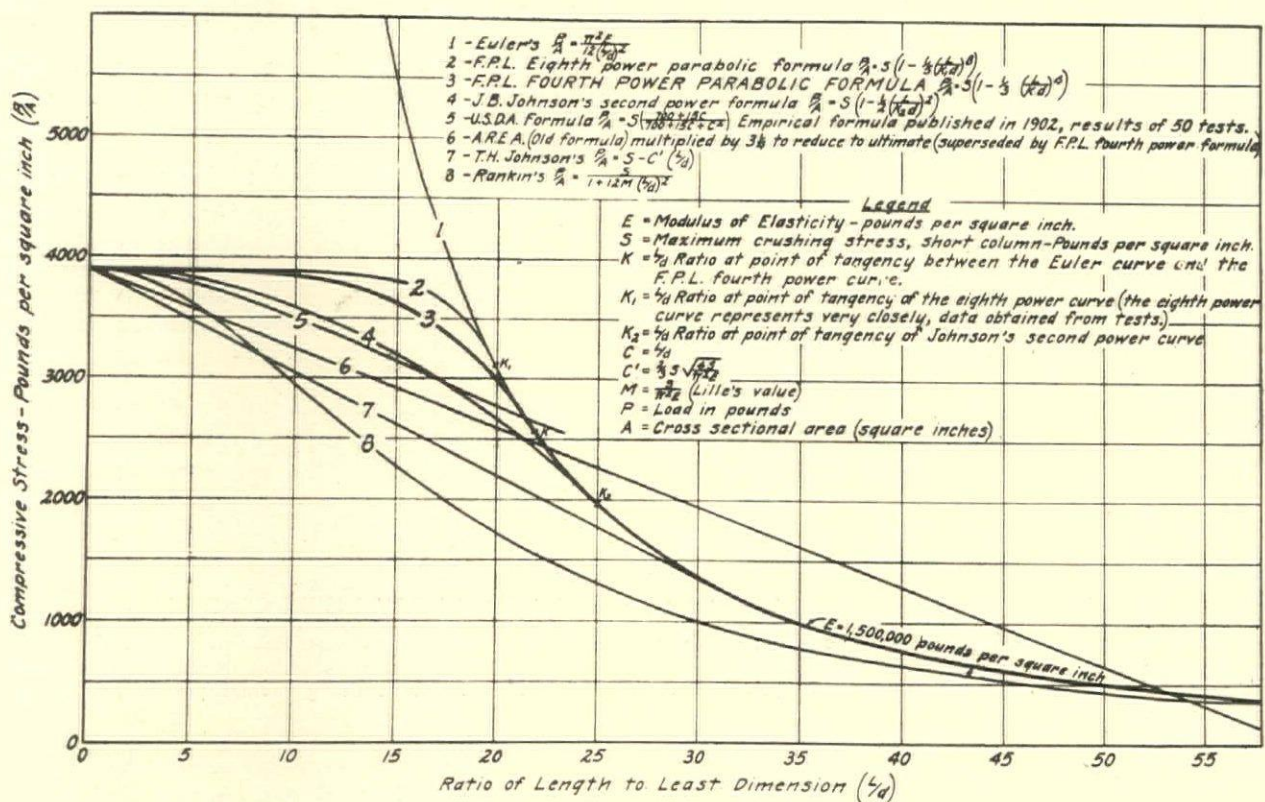
THE FOREST PRODUCTS LABORATORY FORMULA FOR COMPUTING COLUMN STRENGTH

A NEW and simple formula for computing the strength of wooden columns commonly used in buildings, bridges, and other structures has been worked out by the Forest Products Laboratory, U. S. Forest Service.

In order that the type of column to which the formula applies may be understood, it should be stated that for building purposes three types of columns are recognized, namely: long columns, which depend for their strength on stiffness; short columns, which depend for their strength on crushing strength in direction of length; and intermediate columns, which depend on a combination of stiffness and crushing strength. The new formula applies to intermediate columns, those used

most frequently in structural work. The application of the formula to structural timbers was demonstrated in a test of southern yellow pine and Douglas fir timbers.

Since both stiffness and crushing strength enter into calculations of the strength of intermediate columns, values for both these properties must be known in order to determine the necessary size of intermediate columns. The Forest Products Laboratory (Madison, Wis.) has prepared tables which give values for the safe crushing stress, modulus of elasticity (measure of stiffness), and also for K , for most of the commercial species. The values for K represent the slenderness ratios (length to least dimension) below which the formula



COLUMN FORMULAS

NOTE THAT THE EIGHTH POWER CURVE BECOMES TANGENT TO THE EULER CURVE AT A POINT FOUR-FIFTHS OF THE COMPRESSIVE STRESS OF THE TIMBER, OR, IN OTHER WORDS, IT ASSUMES A FIBER STRESS AT ELASTIC LIMIT OF 80 PER CENT. OF THE COMPRESSIVE STRESS OF THE WOOD. THE FOURTH POWER CURVE ASSUMES AN ELASTIC LIMIT STRESS OF TWO-THIRDS THE MAXIMUM COMPRESSIVE STRESS. THE EIGHTH POWER CURVE FITS THE TEST DATA BETTER THAN ANY OF THE OTHER CURVES REPRESENTED, BUT THE USE OF THE FOURTH POWER CURVE IS RECOMMENDED BECAUSE IT TAKES INTO ACCOUNT MORE ADVERSE CONDITIONS OF USE THAN THE EIGHTH POWER

Species	Modulus of elasticity ¹	Grade ²	Value of K	When slenderness ratio $\frac{L}{d}$ is														
				Short columns:														
				12	14	16	18	20	22	24	26	28	30	35	40	45	50	
Pounds per square inch																		
Ash, commercial white	1,500,000	Select	23.7	1100	1076	1055	1023	978	913	827	714	608	524	457	336	257	203	164
	1,500,000	Common	26.5	880	868	857	840	818	784	740	682	607						
Aspen and largetooth aspen	900,000	Select	23.0	700	682	668	645	612	566	505	428	365	315	274	201	154	122	99
	900,000	Common	25.7	560	551	544	532	515	492	460	418							
Basswood	900,000	Select	23.0	700	682	668	645	612	566	505	428	365	315	274	201	154	122	99
	900,000	Common	25.7	560	551	544	532	515	492	460	418							
Beech	1,600,000	Select	23.4	1200	1172	1148	1112	1061	988	888	761	649	559	487	358	274	216	175
	1,600,000	Common	26.2	960	946	933	915	889	852	801	734							
Birch, yellow and sweet	1,600,000	Select	23.4	1200	1172	1148	1112	1061	988	888	761	649	559	487	358	274	216	175
	1,600,000	Common	26.2	960	946	933	915	889	852	801	734							
Cedar, Alaska	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Cedar, western red	1,000,000	Select	24.2	700	686	674	656	629	592	542	476	405	350	304	224	171	135	110
	1,000,000	Common	27.1	560	553	547	538	524	505	479	445	402						
Cedar, northern and southern white	800,000	Select	24.5	550	540	530	516	496	468	430	381	324	280	244	179	137	108	88
	800,000	Common	27.3	440	435	430	423	412	398	378	353	320						
Cedar, Port Orford	1,200,000	Select	23.4	900	879	861	834	796	741	666	571	487	419	365	268	206	162	132
	1,200,000	Common	26.2	720	709	700	686	667	639	600	551							
Chestnut	1,000,000	Select	22.7	800	779	762	734	694	638	564	476	405	350	304	224	171	135	110
	1,000,000	Common	25.3	640	629	620	606	586	557	519	468							
Cottonwood, eastern and black	900,000	Select	23.0	700	682	668	645	612	566	505	428	365	315	274	201	154	122	99
	900,000	Common	25.7	560	551	544	532	515	492	460	418							
Cypress, southern	1,200,000	Select	21.2	1100	1063	1030	981	909	810	679	571	486	419	365	268	206	162	132
	1,200,000	Common	23.7	880	861	843	818	781	729	658								
Douglas fir (western Washington and Oregon)	1,600,000	Select	23.7	1175	1149	1127	1093	1045	975	882	761	649	559	487	358	274	216	175
	1,600,000	Common	27.3	881	870	861	847	826	795	757	706	640						
Douglas fir (dense)	1,600,000	Select	22.6	1285	1250	1221	1177	1113	1024	903	761	649	559	487	358	274	216	175
	1,600,000	Common	24.9	1060	1041	1025	1000	964	914	845	756							
Douglas fir (Rocky Mountain type)	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Ela, rock	1,300,000	Select	21.1	1200	1158	1122	1067	988	877	734	618	527	454	396	291	223	176	142
	1,300,000	Common	23.6	960	939	920	892	852	795	718								
Ela, slippery and American	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Fir, commercial white	1,100,000	Select	25.4	700	689	678	664	641	611	569	515	446	385	335	246	188	149	121
	1,100,000	Common	28.4	560	554	549	542	530	515	493	465	430						
Gum, red, black, and tupelo	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Hemlock, eastern	1,100,000	Select	25.4	700	689	678	664	641	611	569	515	446	385	335	246	188	149	121
	1,100,000	Common	28.4	560	554	549	542	530	515	493	465	430						
Hemlock, western	1,400,000	Select	25.3	900	885	872	852	823	783	728	658	567	490	426	313	240	189	153
	1,400,000	Common	28.3	720	712	706	696	680	660	632	595	549	489					
Larch, western	1,300,000	Select	22.0	1100	1068	1041	999	937	851	737	618	527	454	396	291	223	176	142
	1,300,000	Common	24.6	880	863	849	828	798	752	694	617							
Maple, sugar and black	1,600,000	Select	23.4	1200	1172	1148	1112	1061	988	888	761	649	559	487	358	274	216	175
	1,600,000	Common	26.2	960	946	933	915	889	852	801	734							
Maple, red and silver	1,100,000	Select	23.8	800	782	768	746	712	666	604	524	446	384	335	246	188	149	121
	1,100,000	Common	26.6	640	631	623	612	594	572	540	498							
Oak, commercial red and white	1,500,000	Select	24.8	1000	982	967	943	908	860	795	709	608	524	457	336	257	203	164
	1,500,000	Common	27.8	800	790	783	771	753	728	695	650	595						
Pine, southern yellow	1,600,000	Select	23.7	1175	1149	1127	1093	1045	975	882	761	649	559	487	358	274	216	175
	1,600,000	Common	27.3	881	870	861	847	826	795	757	706	640						
Pine, southern yellow (dense)	1,600,000	Select	22.6	1285	1250	1221	1177	1113	1024	903	761	649	559	487	358	274	216	175
	1,600,000	Common	24.9	1060	1041	1025	1000	964	914	845	756							
Pine, northern white, western white, western yellow, and sugar	1,000,000	Select	23.4	750	733	718	695	663	617	555	476	406	350	304	224	171	135	110
	1,000,000	Common	26.2	600	591	583	572	556	532	500	459	405						
Pine, Norway	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Redwood	1,200,000	Select	22.2	1000	972	947	910	856	781	679	571	486	419	365	268	206	162	132
	1,200,000	Common	24.8	800	786	773	754	726	688	636	567							
Spruce, red, white, and Sitka	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Sycamore	1,200,000	Select	24.8	800	786	774	753	726	688	636	566	486	419	365	268	206	162	132
	1,200,000	Common	27.8	640	632	627	617	602	582	556	522	476						
Tamarack	1,300,000	Select	23.1	1000	976	955	923	877	817	726	618	527	454	396	291	223	176	142
	1,300,000	Common	25.8	800	788	777	761	737	706	660	602							

¹ The modulus of elasticity values given are the averages for the species.
A factor of three has been applied to these values in obtaining the safe working stress for long columns.

SAFE WORKING STRESSES FOR TIMBER COLUMNS USED IN DRY INSIDE CONDITIONS

The table contains safe working stresses for rectangular columns for three conditions of use, and various $\frac{L}{d}$ ratios from 12 to 50. The stresses apply to two grades of material, Select and Common. The values in the table were obtained by the use of the Forest Products Laboratory fourth power parabolic formula and the Euler formula for long columns, pin-end conditions.

The F.P.L. fourth power
parabolic formula:

$$P = S \left\{ 1 - \frac{1}{8} \left(\frac{L}{Kd} \right)^4 \right\}$$

The Euler formula:

$$P = \frac{0.274 E^2}{\left(\frac{L}{d} \right)^2}$$

LEGEND
P = load in lbs.
A = section area, sq. ins.

S = comp. parallel stress, lbs. per sq. in.
L = unsupported length, ins.
d = least dimension, ins.

E = mod. elas., lbs. per sq. in.
K = constant for given species, grade and condition of service

The stresses have a factor of safety of 4 based on the average crushing stress for short columns and a factor of 3 based on the average modulus of elasticity of the species.

With any given species the modulus of elasticity is the same for the two grades and three conditions of use since the influence of moisture and defects on modulus of elasticity is relatively small. Therefore, as an Euler column, each species has for a given $\frac{L}{d}$ a single stress for both grades and the three conditions of service.

Round Columns.—The values in the table may be applied to round columns by reducing the cross-sectional area of the column to an equivalent square timber, "d" the side of the square being taken as seven-eighths of the diameter, measured one-third the length from the small end. The crushing stress at the small end must not exceed the allowable stress for a short column.

applies. For greater ratios the Euler formula should be used.

The load-carrying capacity of a long column is dependent upon its stiffness and its cross-sectional dimensions may therefore be determined by the well known Euler formula, $\frac{P}{A} = \frac{0.274E}{\left(\frac{L}{d}\right)^2}$.

If the slenderness ratio $\left(\frac{\text{length}}{\text{least dimension}} \text{ or } \frac{L}{d}\right)$ of a column is 11 or less, the column is considered as short. The size of a short square column required to support a given load is found by dividing the load by the allowable crushing stress of the material, and extracting the square root to find d , the side of the column.

The Forest Products Laboratory formula, it should be understood, applies to intermediate columns, which are the ones most frequently used in structural work. The formula is as follows:

$\frac{P}{A} = \left[1 - \frac{1}{2} \left(\frac{L}{Kd}\right)^4\right]$, in which P =load in pounds; A =cross-sectional area in square inches; S =maximum crushing stress (pounds per square inch) or, in case of working loads, the safe stress, for short columns; L =unsupported length in inches; K is a constant, depending on modulus of elasticity and crushing strength, for the given species, grade, and condition of service; and d =least dimension in inches.

Intermediate columns range from an $\frac{L}{d}$ of 11 to an $\frac{L}{d}$ equal to K , above which a column is classed as a long column.

As an example of the use of the formula, suppose that it is desired to determine the size of columns necessary to support the floor girder in a dwelling or store building.

The wood to be used is western hemlock, common grade. The safe crushing stress (that is, the allowable stress for short columns) when used in dry locations is 720 pounds per square inch, and the value of K is 28.3, as shown in the tables of safe working stresses.

Assume a load of 20,000 pounds and the length of the column 9 feet (108 inches). First compute for a square column.

$$\text{The formula } \frac{P}{A} = S \left[1 - \frac{1}{2} \left(\frac{L}{Kd}\right)^4\right] \quad (1)$$

is solved as follows:

Substituting d^2 for A ,

$$\frac{P}{d^2} = S - \frac{SL^4}{3K^4d^4} \quad (2)$$

multiplying through by d^4 ,

$$Pd^2 = Sd^4 - \frac{S}{3} \left(\frac{L}{K}\right)^4 \quad (3)$$

transposing and dividing by S ,

$$d^4 - \frac{P}{S}d^2 = \frac{1}{3} \left(\frac{L}{K}\right)^4 \quad (4)$$

completing the square,

$$d^4 - \frac{P}{S}d^2 + \left(\frac{P}{2S}\right)^2 = \left(\frac{P}{2S}\right)^2 + \frac{1}{3} \left(\frac{L}{K}\right)^4 \quad (5)$$

extracting the square root,

$$d^2 - \frac{P}{2S} = \pm \sqrt{\left(\frac{P}{2S}\right)^2 + \frac{1}{3} \left(\frac{L}{K}\right)^4} \quad (6)$$

transposing and extracting the square root,

$$d = \sqrt{\frac{P}{2S} + \sqrt{\left(\frac{P}{2S}\right)^2 + \frac{1}{3} \left(\frac{L}{K}\right)^4}} \quad (7)$$

Substituting in equation (7) the values for P , S , and K as previously given,

$$d = \sqrt{\frac{20,000}{1440} + \sqrt{\left(\frac{20,000}{1440}\right)^2 + \frac{1}{3} \left(\frac{108}{28.3}\right)^4}}$$

Solving, $d=5.49$, the side of the square column.

Since the nominal 6 by 6-inch column (American Lumber Standards) when surfaced is actually $5\frac{5}{8}$ by $5\frac{5}{8}$ inches, the 6 by 6-inch column would be the smallest one that could be used under the circumstances. Obviously a 5 by 5-inch column, the next lower size, would be too weak to use.

If some other form of rectangular column is desired, it is necessary to know either the ratio of least dimension to width or the least dimension. In varying widths of columns of the same thickness it is evident that the load is proportional to the width. Therefore, if the ratio is known, multiply the load by this ratio, substitute the result for P in equation (7), and solve as shown for the square column. If the least dimension is known, equation (1) may be written

$$\frac{P}{bd} = S \left[1 - \frac{1}{2} \left(\frac{L}{Kd}\right)^4\right]$$

Substitute the known value of the least dimension for d in this equation and solve for b , the greater dimension.

In computing the size of a round column required, solve first for a square column. The diameter of the round column will be one-eighth greater than the side of the square column. This diameter must be taken at a point one-third of the length of the column, measured from the small end. The unit compressive stress, $\frac{P}{A}$, on the small end should also be computed, as the small end area is often the controlling factor in determining the safe load which the column may sustain. If the unit stress thus obtained exceeds the allowable crushing stress for short columns of the given species, then a column of greater diameter must be used.

An interesting discovery made in connection with the formula test was that of the influence of knots on the strength of long columns. It has been quite generally recognized for many years that knots have little influence on the stiffness of timbers. Since the long column is dependent upon stiffness for its strength it follows that knots have little effect on strength of long columns. This was borne out by the tests of the formula.

WHAT HAVE ARCHITECTS TO GAIN BY COÖPERATION?

By F. S. LAURENCE, *Executive Secretary, the Producers' Council*

A GREAT deal has been going the rounds of the profession lately in the way of opinion on the value of closer coöperation between the architect and the manufacturer of materials used in building.

Much of this has been opinion for, and some of it opinion against, the growing tendency represented in the question. That such a tendency exists there can be no question, for people otherwise would not be talking and writing so much about it.

The divergence of opinion one hears expressed appears due to differences in the understanding held of what is meant by "coöperation," "manufacturers' collaboration," etc. Just what do these terms imply?

If either term means that the manufacturer shall assume some of the architect's proper functions as a designer of buildings, certainly there is no gain to be seen in any such tendency. Unfortunately, enough of just this sort of thing has been developing lately to give complete color of reason to the idea that this is what closer relations with the producer means to the architect. And it is true that some in the profession of architecture appear not averse to divesting themselves of everything in the way of detail study and drafting which the manufacturer, contractor or sub-contractor can be induced to load himself with, until in such cases the architect has become a mere broker for creative work by others.

On that conception it might be remarked in passing that the mechanical science of certain trades makes this necessary to a large degree. Plumbing, heating and electrical installations require layouts based on actual manufacturing knowledge, but the furnishing of these by each trade, for its own installations purely, is a very different matter than the assumption of a general engineering or architectural function in plans covering other features of construction or finish.

Undoubtedly there have been instances of such trespass offered as an inducement to obtain business by various producers of materials which enter more completely into the aesthetic results of design, and, possibly, some architects are too ready to farm out their own functions in this way. But even here better results to the client may sometimes follow and the ethics of professional practice be completely observed by this practice. Knowledge of the peculiar technique of certain arts is a prerequisite to

intelligent treatment of detail therein—metal work, glass and ceramics, to say nothing of remoter touches in finished architectural effects. For, as someone has said elsewhere, a building is built to be occupied and whatever enters into the necessities of occupancy comes under the purpose for which it is built and that purpose and its accomplishment is architecture.

But the subject nowadays does not end with these admissably proper exceptions in the practical and aesthetic aspects of design. Building work has become so complex, and practical features so much a matter of specialized science, that one might well question how much is left to the architect after all, when all these diverse problems have been properly worked out by competent specialists.

Well, there is coördination, for one thing, all the way through from design to the work of erection. Coördination, first, for beauty, that compelling and necessary condition, if the result is ultimately to pay, in the growth of public taste, which is steadily keeping pace with the spread of public education. Can beauty be envisioned and given successful expression otherwise than by detachment from the commonplace in interest and aspiration?

The answer would seem to be in what constitutes beauty in any given time or age. In architecture is it not, when all is said, that condition under which the eye is satisfied by the sense of graceful sufficiency to purpose of the building erected, and of its appropriate treatment in terms of material under the known characteristics of the medium used?

Is not a modern building, say a skyscraper, the embodiment of a highly pulsating, organized, correlated life, a practical enterprise bespeaking executive grasp, direction and control in its very creation as well as operation? And is not the measure of its beauty, ultimately, the degree to which the sense of the beholder is satisfied that the whole thing is working smoothly and went up smoothly and gracefully to its appointed purpose?

Right here is where the value of coöperation comes in for the architect. It is not alone in the technical problems to be met and mastered. The business man or group contemplating such a structure inevitably associates, with the conditions which spell beauty, the human qualities of the man who designed it and carried it through to completion. The man who is financing it knows from his own executive experience that a satisfying func-

tional result is the product of a high degree of coördination. That coördination is an attribute of leadership and he knows that this leadership is not attained in the aloofness of professional seclusion, but is born in the sweat of effort in the marketplace among men, working with them in a common purpose and by the means by which every leader in these days must rise—by humanly appealing qualities, readiness to accept coöperation, absence of snobbish superiority, generous understanding, sympathy toward and ability to inspire effort in others; fairness, force, decision and the strength which is unafraid of cordial intercourse with all classes of men.

How can these qualities be cultivated in a shell? And what, in any event, has it all to do with the problem of bringing before a prospective client the reputation for this sort of proficiency? Is not this entirely a question of former clients' testimony? Not wholly. The "grapevine telegraph" exists in the building world today as it did in earlier days in another relation. Reputation travels by word of mouth and the manifestation of characteristic qualities is nowhere more constant and far reaching in its possible effects than in the daily relations of the architect and the men who serve him with work and materials. Many of these are men of widespread financial interests outside their own immediate business. Glance over the list of directors and stockholders in almost any bank or loaning institution which projects some notable improvement and see how many friends one as an architect *might* have. Failure to recognize some name unknown to you, but to whom you may be known, quite indifferently, may be due to your never having taken the trouble to meet and know personally the men at the head of the enterprises serving you and to have imbued them or their subordinates with a more cordial view of your competence.

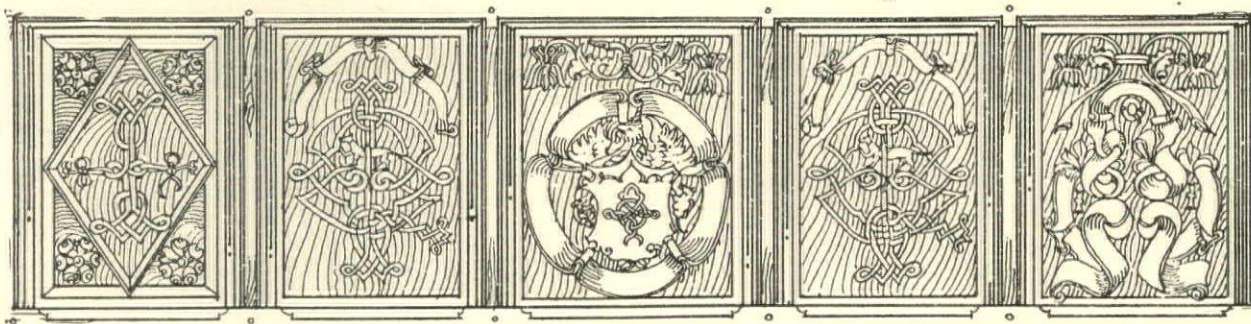
Is this introducing too venal a touch? No more than Henry Ford did when he sprang the astounding doctrine, since accepted by other industrial leaders, that higher wages to labor meant more business and profit for everybody through the increased purchasing power conferred on labor as a customer of business. The parallel may well apply

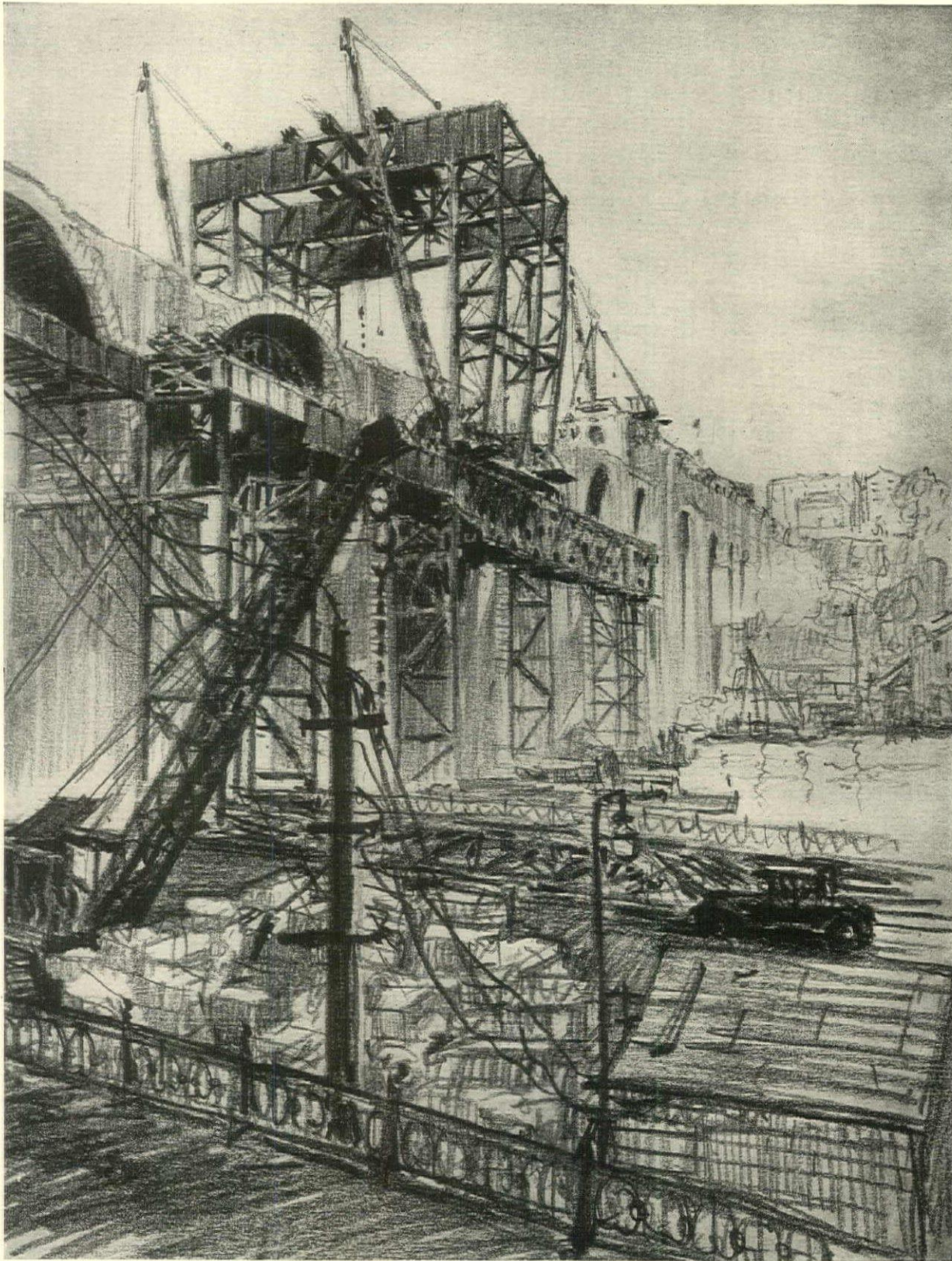
by substituting for "wages" the word coöperation," for "labor" the word "producer," and for "more business and profit" the phrase "more opportunity for professional success."

But, someone may ask, does the architect not already coöperate with the manufacturer wholeheartedly and completely? Assuredly, in many cases, and most splendidly. By far the large majority shows this disposition in specific matters and questions which call for it. Yet there remains in the general attitude of the profession, as a profession, and sometimes in the attitude of the individual, the suggestion of an aristocratic distinction of interest from that of the common herd which does not sit well with the necessities of leadership in a democratic age. The World War ended that in respect to the prestige and leadership of more than one class or profession. The architect as a leader will not survive any conception of him as working in an atmosphere of aristocratic detachment.

What the architectural profession can best do, to achieve that commanding position in our national life which the splendid character of its purpose and personnel deserve, is to come down from the heights of Olympus and walk more with the people it must lead—which include producers of material—learning to know better and to sympathize more with their problems and to impart to them a better understanding of their own. This, which is perhaps a matter partly of the more open door in office policy, is also one of group coöperation in the various ways which exist for this outside the architect's office where the maintenance of some privacy is necessary if the creative mind is to function at all. Producers are coming more and more to recognize that and to seek ways in which this privacy may be respected while meeting the somewhat desperate necessity of having their own work and aims better understood.

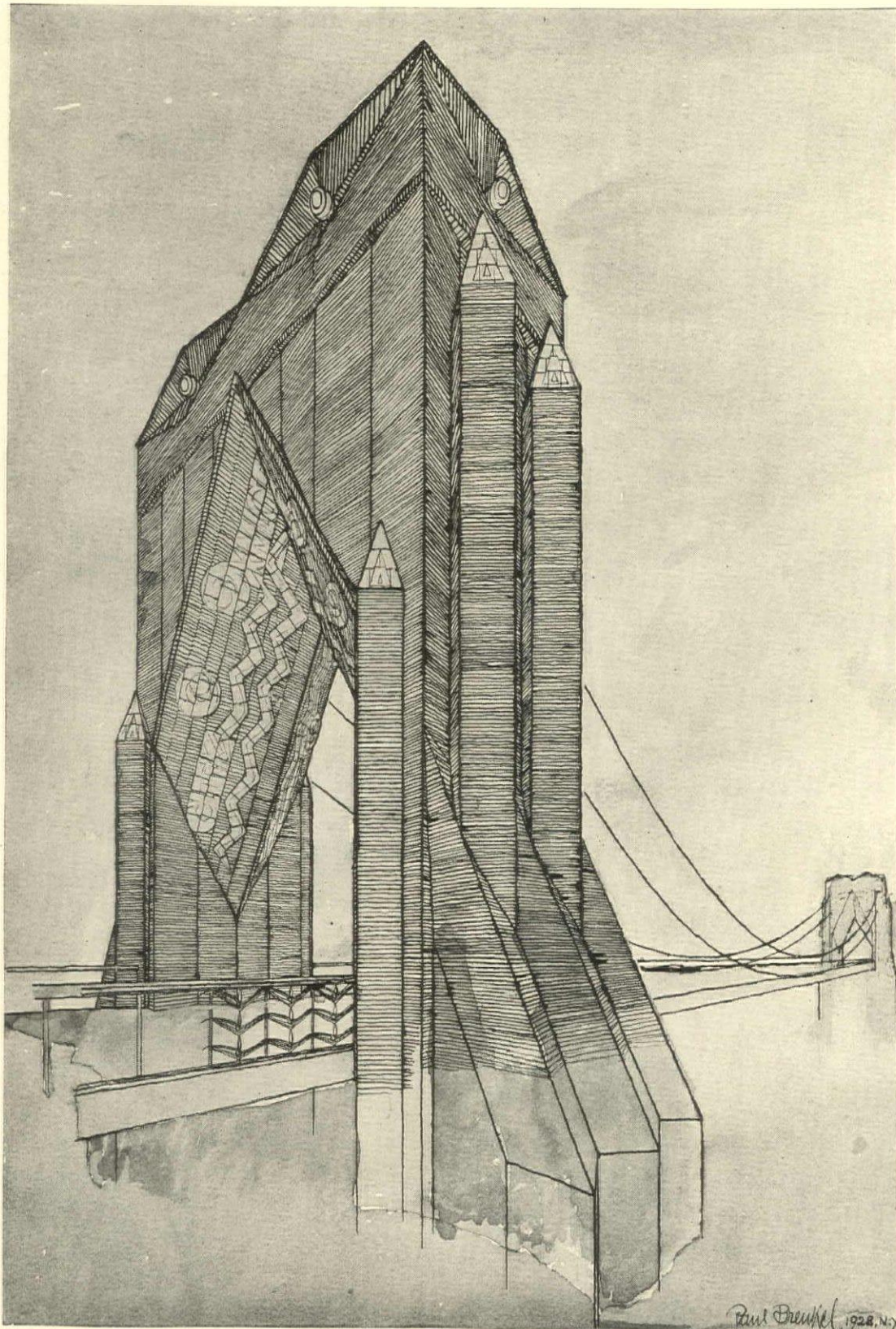
There seems plenty of reason for hoping that the present tendency of architects and manufacturers to coöperate more closely will continue. We are all in the boat together and anything that architect and producer can do by pulling together in closer sympathy and understanding means more for both, and for the public a finer, more meaningful architecture.



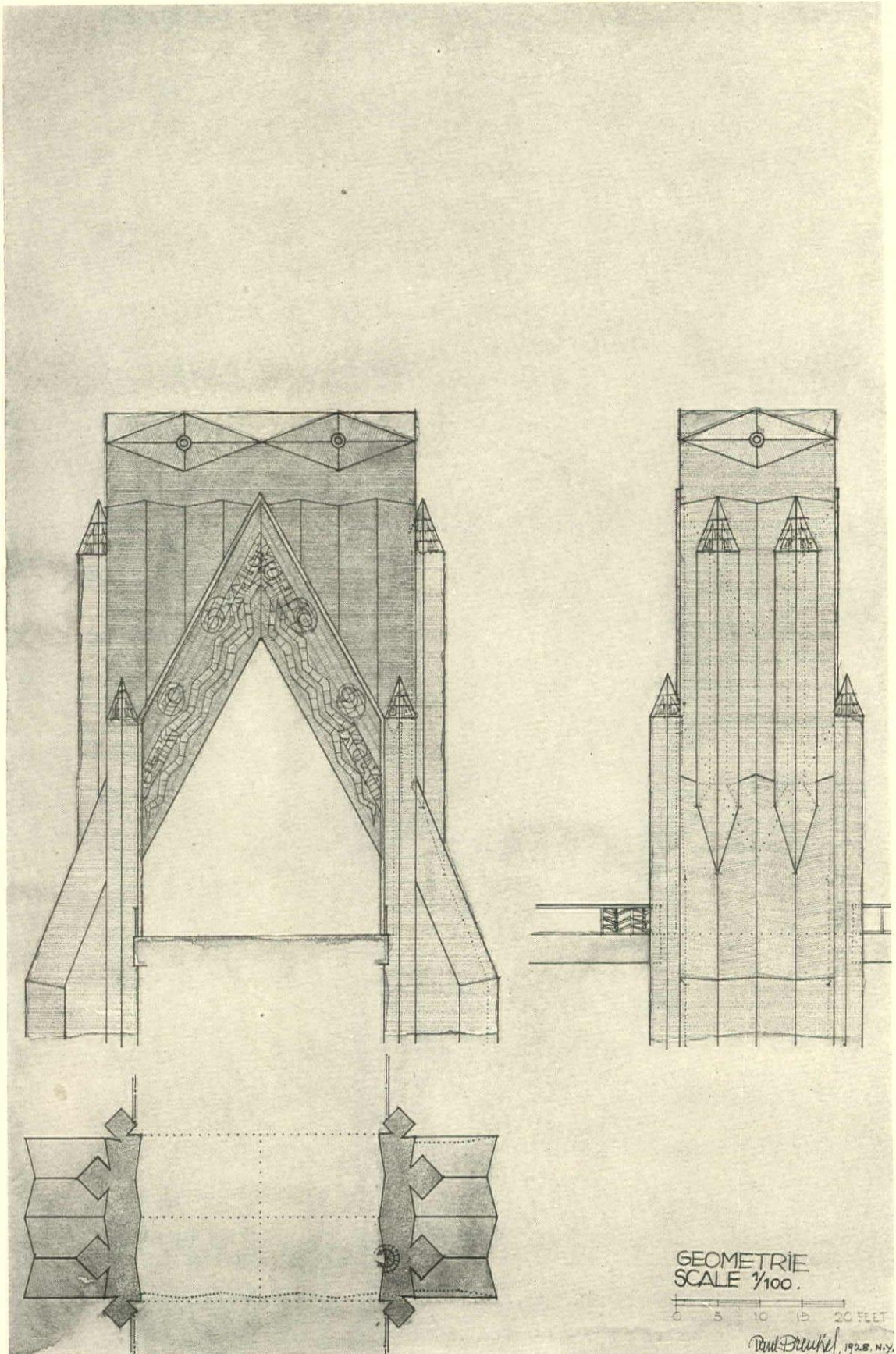


HIGH BRIDGE, NEW YORK

E. P. CHRYSTIE

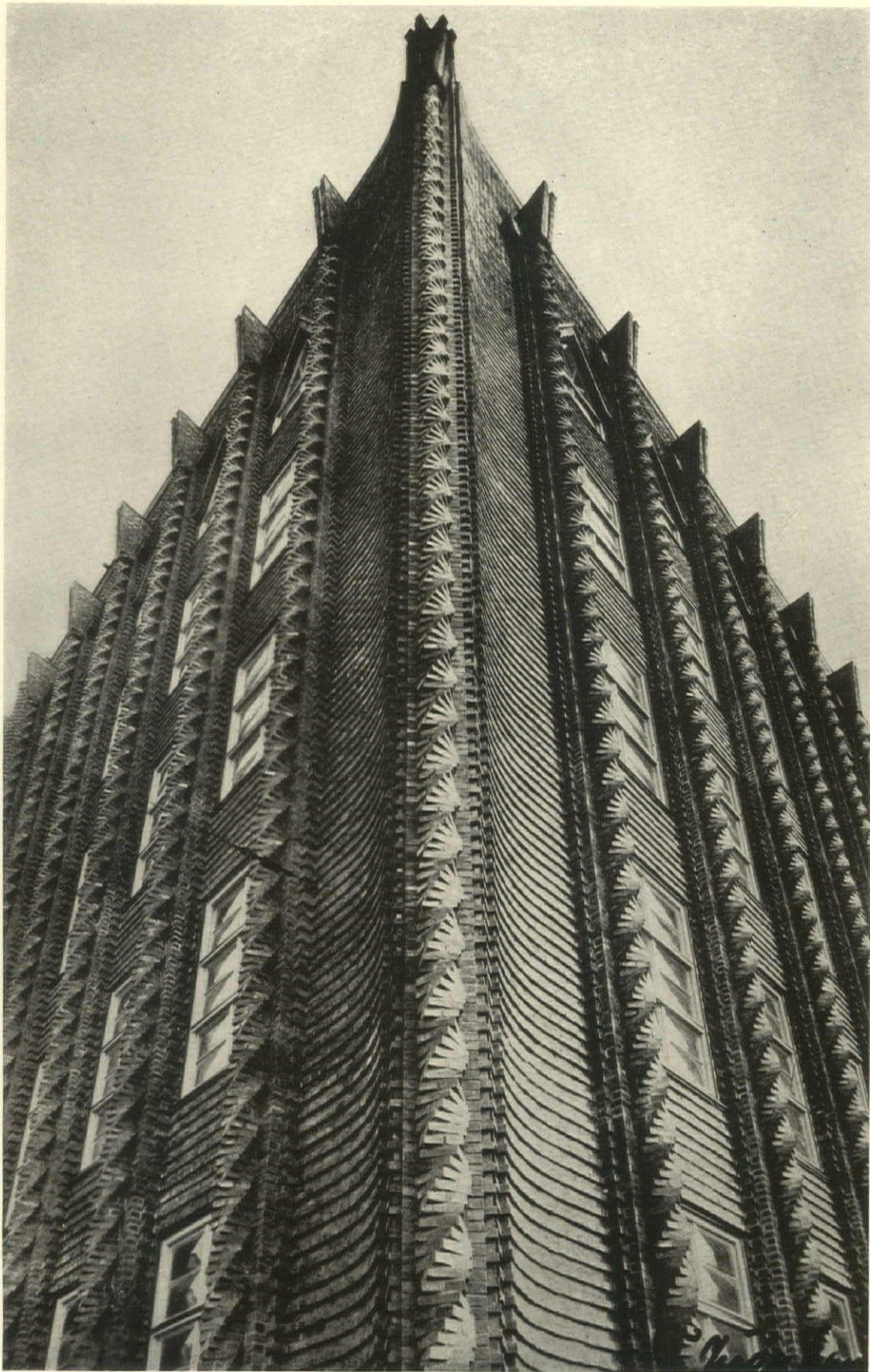


PERSPECTIVE OF BRIDGE-HEAD IN MODERN STYLE
DESIGNED BY PAUL BRENKEL



BRIDGE-HEAD IN MODERN STYLE OF ARCHITECTURE

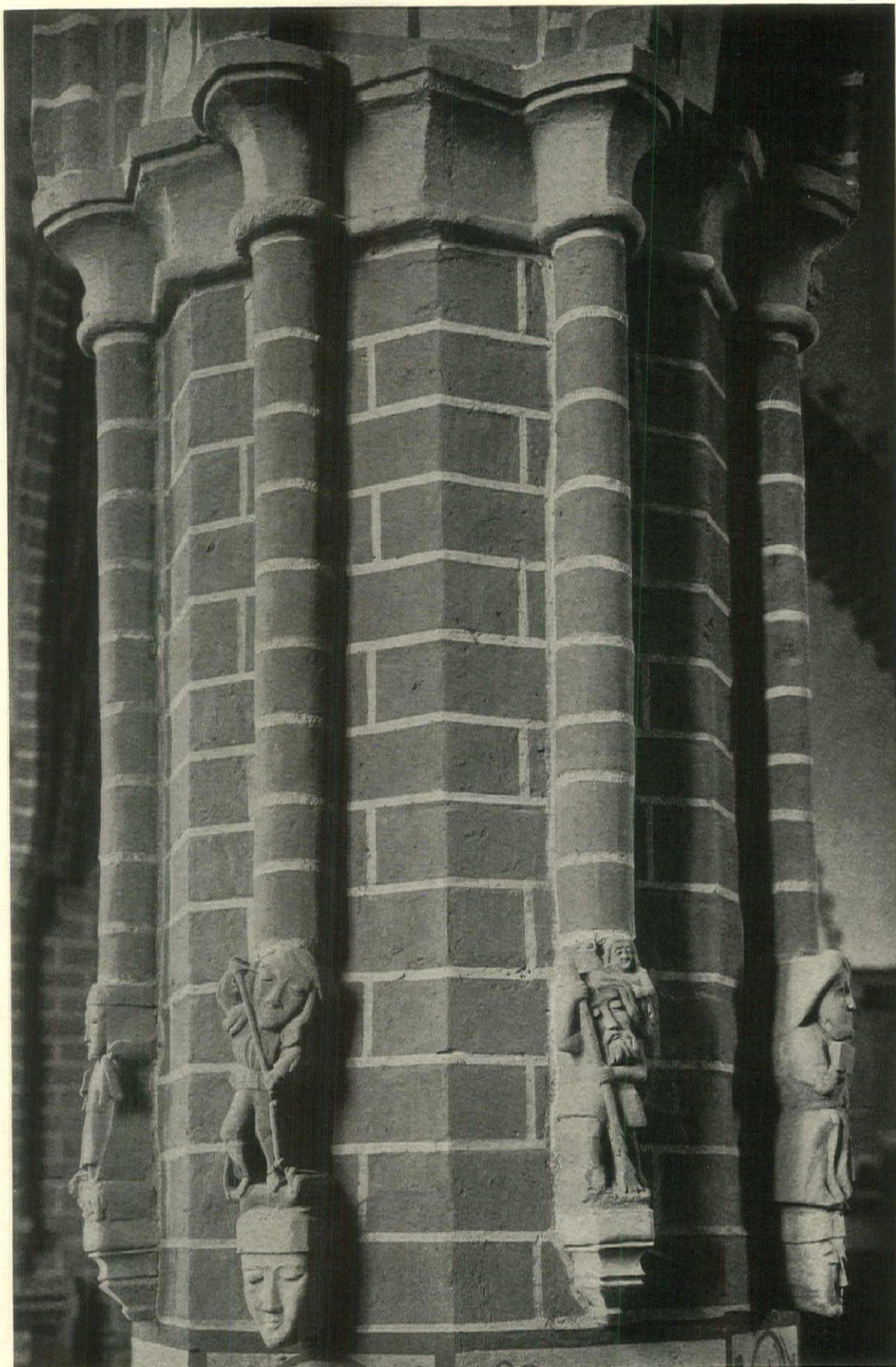
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Courtesy Staatliche-Bildstelle

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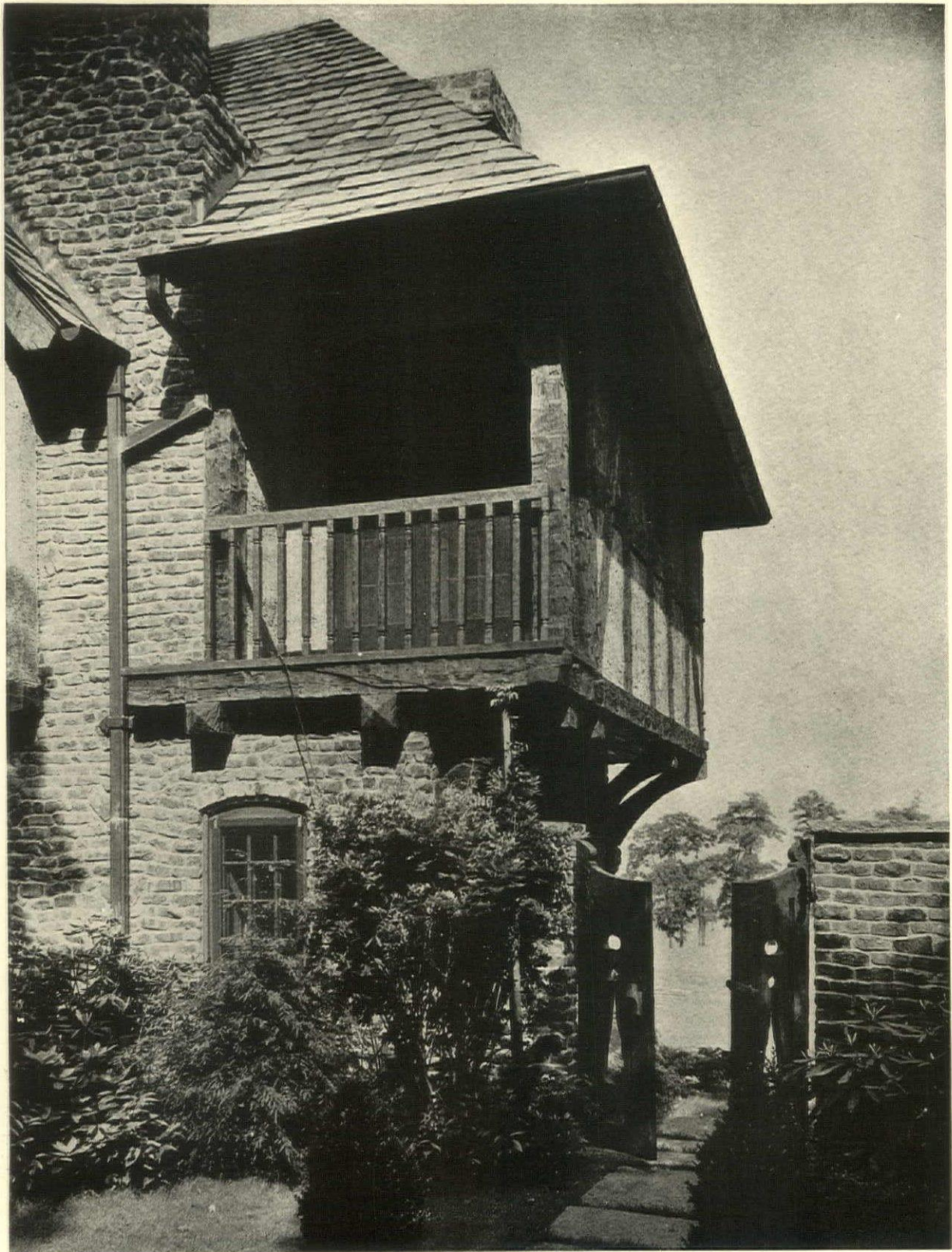


Photo by Gottscho

THE HOUSE OF THOMAS A. O'HARA, KING'S POINT, LONG ISLAND, N. Y.

JULIUS GREGORY, ARCHITECT

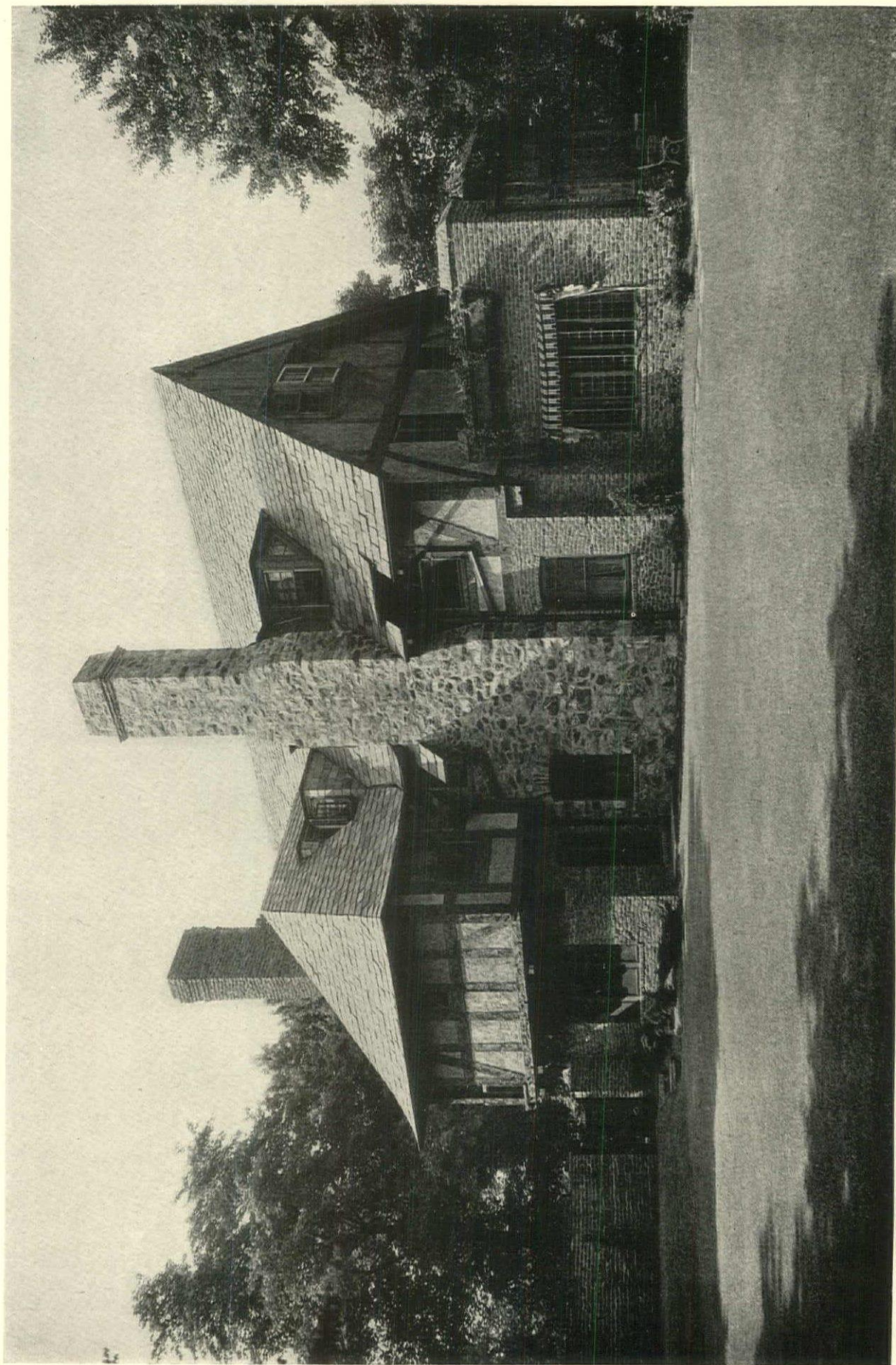


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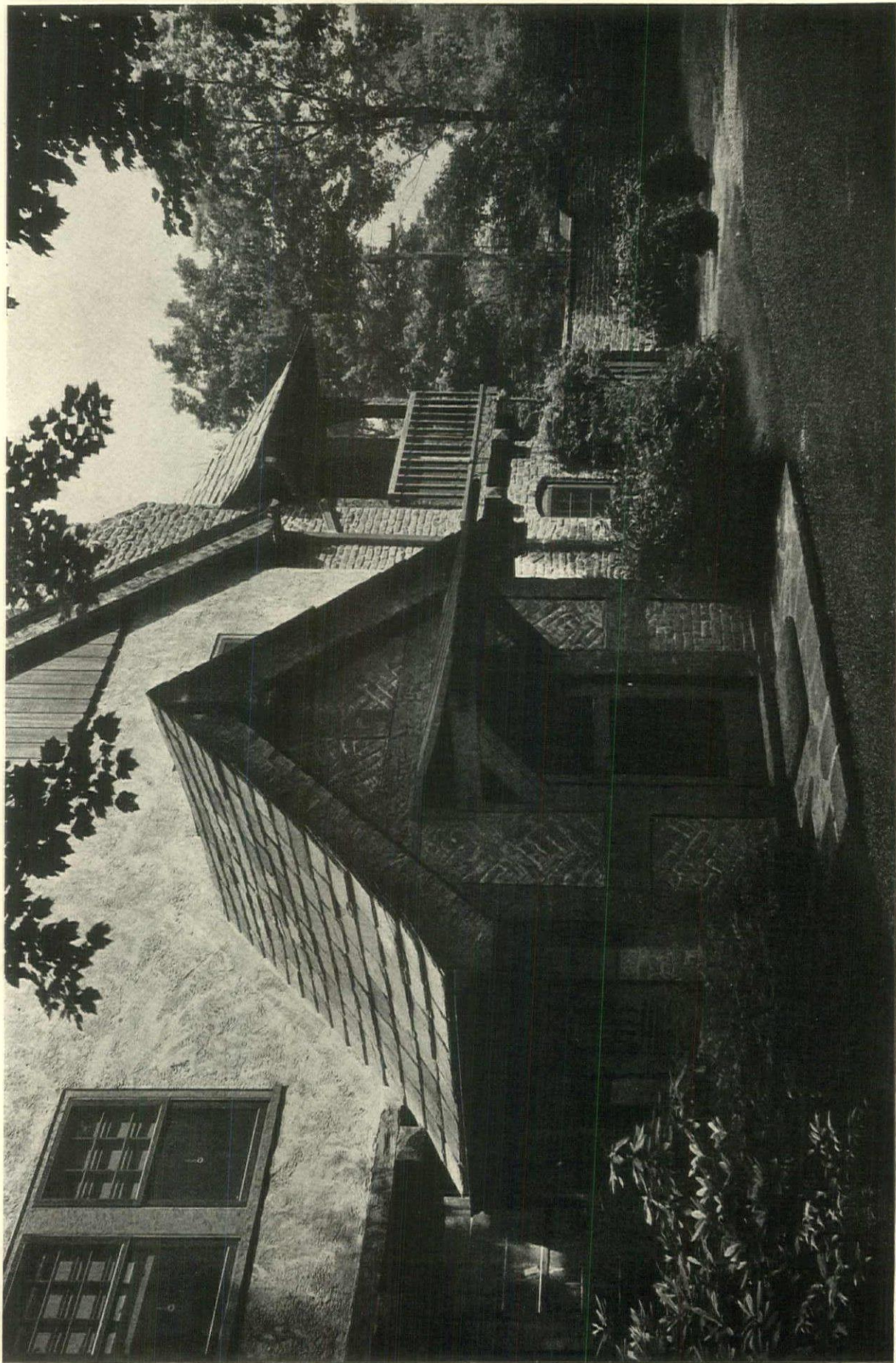


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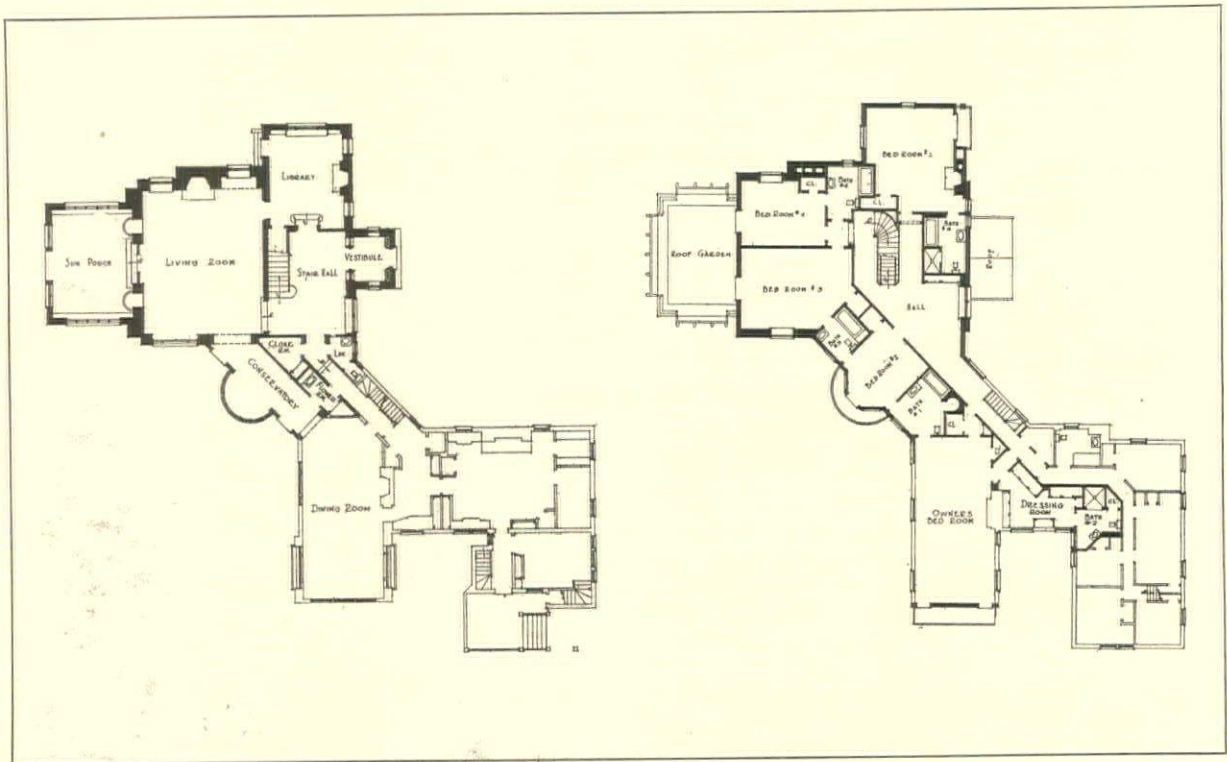
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THE HOUSE OF THOMAS A. O'HARA, KING'S POINT, LONG ISLAND, N. Y.
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Photo by Gottscho

THE MIRRORED BATH ROOM



THE HOUSE OF THOMAS A. O'HARA, KING'S POINT, LONG ISLAND, N. Y.

JULIUS GREGORY, ARCHITECT



SPECIFICATIONS

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



THE manufacture, fabrication and erection of structural steel have probably become more standardized than of any other material entering into building construction. The Standard Specifications of the American Society for Testing Materials for Structural Steel for Buildings fully covers the manufacture of steel and the rules and practices of the American Institute of Steel Construction clearly set forth requirements governing the furnishing, fabrication and erection except where unusual design features call for special conditions. The New York Building Congress Standard Specifications for Structural Steel, Part B, has accordingly been written so as to incorporate the American Society for Testing Materials specifications and the rules and practices of the American Institute of Steel Construction with provision for such modifications as may be demanded by local Building Code requirements. These specifications and rules and practices are now so well known that it was considered unnecessary to reprint them except where amplification seemed necessary. In such cases quoted portions appear within quotation marks.

The specifications and rules and practices above referred to do not, however, sufficiently establish the relation of the Architects' or Engineers' drawings to the work, nor the Contractors' responsibility in the preparation and submission of shop drawings. Paragraphs 5 to 17, inclusive, cover these items in detail.

Paragraph 21, under "Inspection and Testing," leaves the requirements in regard to mill, shop and field inspection to be set forth under Part A. These should be clearly and definitely stated.

Paragraphs 26 to 54, inclusive, describe requirements which have become practically standard practice, but were not covered under the rules of practices of the American Institute of Steel Construction.

The kind and quality of paint for Structural Steel cannot be standardized, not because information is lacking, but because there are more opinions on this subject than there are paints. Paragraphs 55 and 65 therefore leave the Architect and Engineer free to choose. Part A should definitely state the kind and grade of material required.

A.I.A. DIVISION 13.

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New York Building Congress Standard Specifications for STRUCTURAL STEEL

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 in relation 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

Scope.

3. The rules and practices as adopted by the American Institute of Steel Construction, as standard for the industry, current edition, shall govern all conditions for the furnishing, fabrication and erecting of Structural Steel except where, under Part A of this specification, other requirements are specifically mentioned, and subject to the additional requirements specified hereinafter. Portions within quotation marks are reprinted from the Standard Specification for Structural Steel for Buildings as adopted by the American Institute of Steel Construction. Scope

New York Building Congress Standard Specifications—STRUCTURAL STEEL—*Continued.*

4. These rules and practices, however, form a part of the Contract only insofar as they describe the items mentioned in Part A of this specification, or as shown on the accompanying Structural Steel Contract drawings. These specifications are to be supplemented by the Building Code of the community in which the work is erected. The requirements of such code, where in excess of the specified requirements, shall be complied with the same as if specifically noted in these specifications.

Drawings.

5. The Contract drawings indicate the general arrangement and dimensions of the structural iron and steel. In general, the structural drawings are made to scale, but scale dimensions shall not be used. If all the distances and dimensions required are not given in figures, they shall be obtained from the Architect and/or Consulting Engineer. If any inconsistencies or disagreements are found, they shall be immediately referred to the Architect and/or Engineer. Drawings
6. This Contractor shall, in all cases, furnish the exact sections, weights and kinds of material called for, and must follow the exact details, methods and instructions called for by these specifications and the accompanying drawings, to their full extent and purpose, unless otherwise agreed in writing.
7. Substitution of other shapes of equivalent strength and no greater dimensions than those shown on the drawings will be allowed, subject to the approval of the Architect and/or the Engineer.
8. Until mill orders are placed, the Architect and/or Engineer reserves the right to change the sections and sizes of material shown on the plans to others of equivalent weights without affecting the conditions of the Contract or the cost of the work, provided the character of the work is not materially changed.

Shop Drawings.

9. This Contractor shall prepare and submit to the Architect and/or Engineer, in triplicate, prints of erection plans and checked prints of all detail shop drawings. These drawings will be checked by the Architect and/or Engineer, and one print of each returned, either for correction, or with his general approval. Shop Drawings
10. When corrections are required, these shall be made and prints in triplicate again submitted.
11. Each erection plan shall bear the number of the floor. All erection plans and detail drawings shall bear the name and location of the building, the name of the Architect, Consulting Engineer, General Contractor and Structural Steel Sub-Contractor. Each drawing shall be dated and shall bear the name of each correction or revision.
12. The Architect's approval will cover the location of steel members in relation to walls, partitions and openings and the general design, only, of details.
13. Where Architect's and/or Engineer's corrections, in the opinion of this Contractor, affect the strength of any member, connection or other detail, this Contractor shall call the Architect's and/or Engineer's attention to it in writing, so that the condition may be modified.
14. This Contractor alone shall be responsible for correctness of fit or strength of details.
15. The omission from Contractor's shop drawings of any material shown on Contract drawings, or called for in the specification, shall not relieve this Contractor from furnishing same, or money equivalent, even though the Architect and/or Engineer has returned such drawings as approved.
16. After final approval, this Contractor shall furnish the Architect and/or Engineer one set of erection drawings on cloth and with additional prints for the use of his inspector. When prints are required for the use of other trades, they shall be furnished, by this Contractor, at the cost of reproduction.
17. When requested, this Contractor shall also, as a part of this Contract, furnish the Architect and/or Engineer with duplicate copies of all order sheets and material and shipping bills.

Material.**Steel Shapes:**

18. "Structural Steel shall conform to the Standard Specifications of the American Society for Testing Materials for Structural Steel for Building, Serial Designation A 9-21, as amended to date." Material
19. Where stock material is approved for use it shall conform to the requirements set forth in Section 5 (a) of the Code of Practice of the American Institute of Steel Construction.

New York Building Congress Standard Specifications—STRUCTURAL STEEL—*Continued.***Cast Iron:**

20. All structural cast iron shall be made of tough grey iron and shall be free from cold-shuts or blow holes, true to the pattern and of workmanlike finish.

Inspection and Testing.

21. Inspection and testing of steel and cast iron, consisting of mill, shop and field, will be required only as called for under Part A. **Inspection and Testing**
22. Where Structural Steel is taken from stock, this Contractor, if required by the Architect and/or Engineer, shall certify that the material conforms to the requirements given under Paragraph 19.
23. In addition to furnishing test specimens and other data and facilities, this Contractor shall allow, in his proposal, cash allowance per net ton called for under Part A. This cash allowance shall be expended at the discretion of the Architect and/or Engineer, any unexpended portion reverting to the owner.
24. "Material or workmanship not conforming to the provisions of this Specification shall be rejected at any time defects are found during the progress of the work."
25. "The Contractor furnishing such material or doing such work shall promptly replace the same."

Workmanship.

26. Unless otherwise specified under Part A, all workmanship shall be in accordance with the "Standard Specifications for Structural Steel for Buildings," Section 20, and the "Code of Standard Practice," Section 5, adopted by the American Institute of Steel Construction, current edition, and the following clauses. **Workmanship**

Column Bases.

27. "The top surface of all column bases or slabs shall be planed for column bearing." **Column Bases**
28. Where rolled slabs, 4" and over in thickness, have a bearing on steel, they shall be planed on bottom as well. Those under 4" in thickness shall be straightened before milling of the top surface.
29. "Machine finished surface shall be protected against corrosion" as specified under Part A.

Columns.

30. All ends of columns shall be milled at right angles to the axis of the column. **Columns**
31. Where the metal of one section does not secure complete bearing on the section below, one of the sections shall be reinforced so that complete bearing is secured.
32. Where seat and top angles are provided on columns, the clear distance between the seat and top angles shall not exceed one-quarter of an inch ($\frac{1}{4}$ " plus the depth of the beam. Where wind bracing is required, no clearance over the depth of the beam will be permitted. Beam seats shall be clipped so as to remain within the fireproofing of the beams and columns.

Girders.

33. All girders shall have riveted shear connections. Where specified under Part A, all members and the members into which they frame shall have their field connections sub-punched and reamed to a metal template. **Girders**

Separators.

34. Separators shall be furnished where indicated on Contract drawings. **Separators**

Framing Connections for Beams.

35. Where one beam frames into another, standard framing connections shall be used. These framing connections shall be equal to those shown on the latest edition of the Hand Book of the American Institute of Steel Construction, current edition, unless the local Building Code requires an excess, which shall then be followed. **Framing Connections for Beams**
36. "Full provision shall be made for stresses caused by eccentric loads."

Bearing Connections.

37. In all cases when the loads are transmitted from one member to another by direct bearing, the details shall be made so that one bearing surface shall come directly over the other. All wall bearing beams shall have standard bearing plates and anchors. **Bearing Connections**

Clip Angles to Support Masonry.

38. Wherever spandrel beams do not extend by the face of columns, clip angles to support masonry must be provided by this Contractor. Clip angles shall also be provided to support masonry at any other points shown on the Contract drawings. **Clip Angles to Support Masonry**

New York Building Congress Standard Specifications—STRUCTURAL STEEL—*Continued.***Holes for Anchors, Ducts and Pipes.**

39. Anchors required in connection with the work of other trades will, unless specifically called for under Part A, be furnished under another division. This Contractor, however, will be required, as a part of the Contract, to provide any holes in Structural Steel work necessary for their installation and also for pipes and ducts when shown on Contract drawings; provided correct information regarding location of such holes is furnished not later than the date upon which framing diagrams are finally approved.
40. Where such holes are larger than two inches (2") in diameter, the surrounding material shall be properly reinforced, provided correct information regarding location of such holes is furnished not later than the date upon which framing diagrams are finally approved.

**Holes for
Anchors, Ducts
and Pipes****Erection.**

41. "The frame of all steel skeleton buildings shall be carried up true and plumb and temporary bracing shall be introduced wherever necessary to take care of all loads to which the structure may be subjected, including erection equipment and operation of same. Such bracing shall be left in place as long as may be required for safety." It shall finally be removed by this Contractor as part of his equipment.
42. "As erection progresses the work shall be securely bolted up to take care of all dead load, wind and erection stresses."
43. "Wherever piles of material, erection equipment or other loads are carried during erection, proper provision shall be made to take care of stresses resulting from the same."
44. "No riveting shall be done until the structure has been properly aligned."
45. "Rivets driven in the field shall be heated and driven with the same care as those driven in the shop."

Erection**Hoisting Machinery.**

46. Hoisting machinery and other equipment such as compressor, boilers or engines shall be in all cases located so that smoke and other products of combustion will not injure any of the work of this or other contracts.

**Hoisting
Machinery****Field Connections.**

47. The following field connections shall be riveted unless otherwise specified under Part A:—
- All column connections.
 - All connections of beams and girders framing into columns.
 - All beam and girder connections within three (3) feet of column centers.
 - All beams framing into plate girders and connection of girders to girders.
 - All beams and girders carrying walls or tanks or beams supporting offset columns or elevator machinery.
 - All members forming cantilever construction.
48. Unless otherwise stated under Part A, all other connections may be bolted. After the nuts are screwed up tightly, the threads must be nicked to prevent the heads from loosening.
49. Where riveting is called for, but conditions make it impossible to drive rivets, bolts may be used. This shall only be permitted after the matter has been brought to the Architect's and/or Engineer's attention, and their approval has been secured. In such cases the number of holes provided for the connection shall be increased twenty per cent over the requirements specified for field rivets. This Contractor shall be guided by the above in preparing details and erecting this work.
50. Electric or other welding will only be permitted where specifically stated under Part A, or where the written permission of the Architect and/or Engineer is obtained.

**Field
Connections****Bearing Plates.**

51. Steel bearing plates shall be provided by this Contractor for all beams resting on masonry. Bearing plates generally shall be of standard sizes listed in Steel Manufacturer's Hand Books for the various sections, unless otherwise indicated on drawings. Where conditions require special sizes, these shall be furnished.

**Bearing
Plates****Lintels.**

52. This Contractor shall furnish all lintels over masonry openings where shown on Contract drawings or listed in schedules accompanying Contract drawings. These lintels shall be of angles or built up of beams, angles and channels as indicated, and will be loose unless otherwise shown.

Lintels

New York Building Congress Standard Specifications—STRUCTURAL STEEL—*Continued.*

Setting Bases, Bearing Plates and Lintels.

53. Unless otherwise specified under Part A, all grillages, cast bases, or billets shall be set by this Contractor, but will be grouted in under another division.
54. Bearing plates and loose lintels will be set by the Contractor for Masonry.

**Setting Bases,
Bearing Plates
and Lintels**

Painting.

55. All steel work, including cast iron and cast steel, except steel to be encased in stone concrete, shall be thoroughly cleaned of all loose scale, rust, oil and dirt and painted "shop" and "field" coats, using materials as called for under Part A.
56. All painting must be done on dry surfaces and, unless protected, shall not be executed in wet, damp or freezing weather.
57. The paint shall be thoroughly worked into all joints and open spaces.
58. Parts, not in contact but inaccessible after assembling, shall be properly protected by paint. Surfaces to be riveted in contact need not be painted.
59. After the work has been erected and riveted, all parts where paint has been rubbed off shall be repainted and all field rivets and bolts painted, using the paints specified for the shop coat.
60. When this last thoroughly dries, all exposed surfaces of the entire structural steel work shall be given a heavy field coat of paint of the kind noted under Part A.

Painting

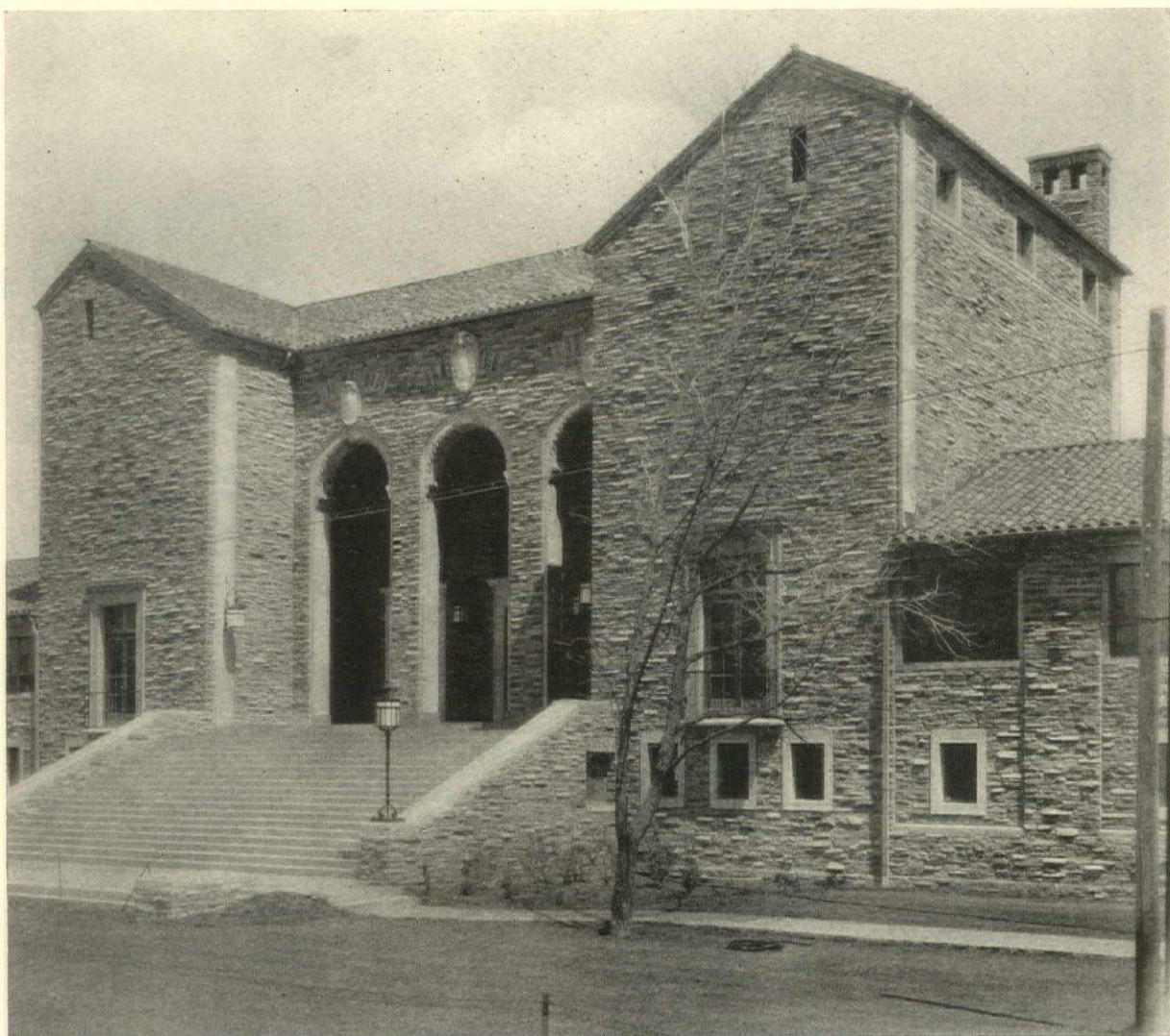


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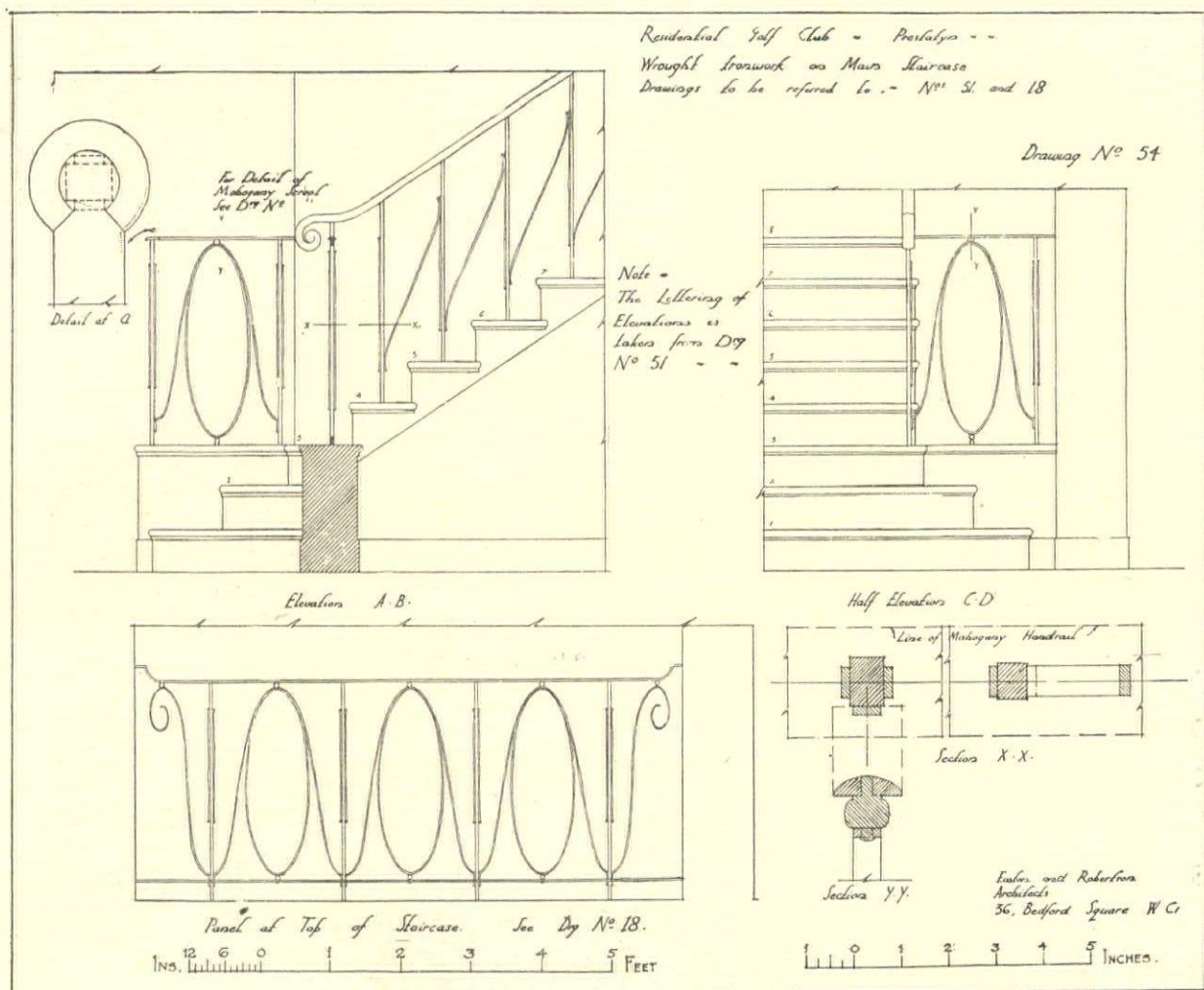
MODERN ARCHITECTURAL DETAILS

DRAWINGS of architectural details always have an appeal as drawings, as well as a record of what has been, or what is to be done. English details of work, old or new, are always particularly interesting in these respects. The English draftsman has a bent for making details that are well drawn and, as a result, are clear and readily understood, and that are good to look at.

For all of these reasons we welcome the opportunity of examining first-hand a recent volume of modern architectural details. The book is really a portfolio of eighty loose plates of photographs and working drawings contained in board covers. The details given cover a wide variety of subjects from altar crosses, "cinema" details, exterior doors, fireplaces, garden details, gates, and interior doors to iron work, shop fronts, stair cases and windows. The subjects have been apparently selected with

care, and names of many prominent British architects are noted as designers of the buildings from which the features shown have been taken—Sir Edwin Lutyens, Sir Giles Gilbert Scott, Basil Oliver, L. Edmund Walker and Henry M. Fletcher are among the outstanding names that are listed. A brief description of the feature illustrated, covering the materials, finish or unusual conditions that influenced the design, is given in connection with each subject. The inclusion of descriptions is commendable, since it helps the reader to better understand the drawing, color scheme and the designer's point of view or limitations of the problem. These details will be found a valuable addition to any architectural library.

Modern Architectural Details. London: The Architectural Press (9 Queen Anne's Gate, Westminster, S. W. 1). 80 plates, size 9 x 12½ inches. 12s. 6d. New York: William Helburn, Inc. (15 East 55th Street). \$5.00 net.



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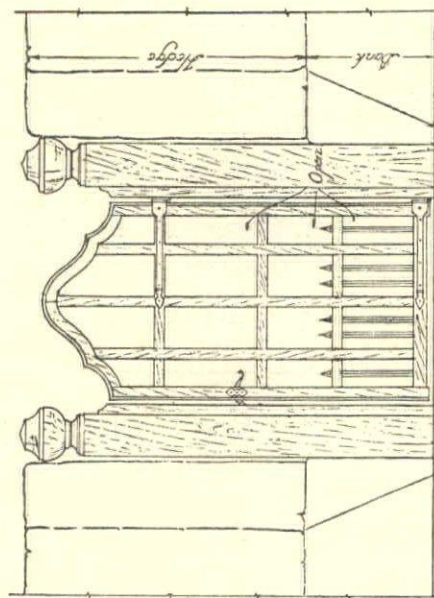
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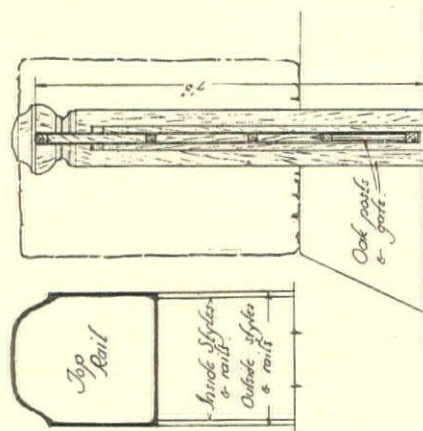
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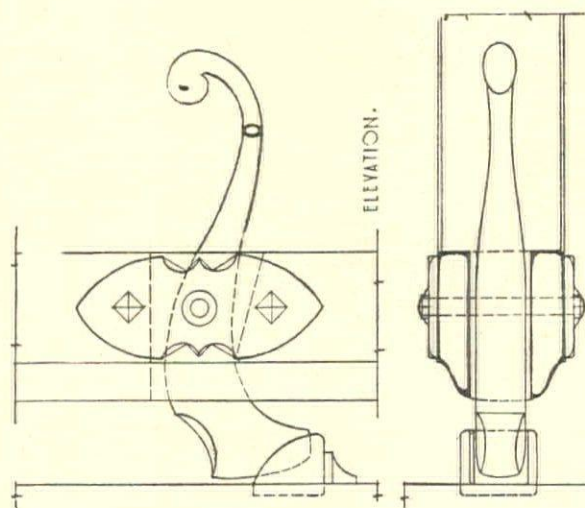
Details of Front Entrance Gate.



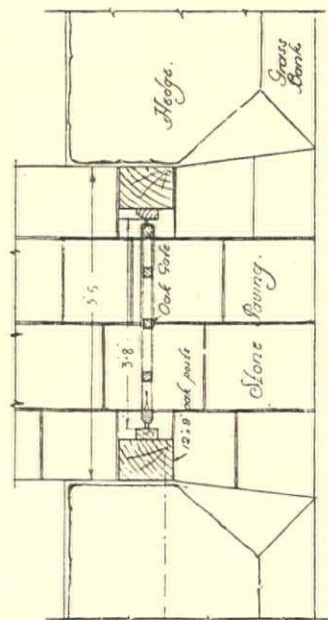
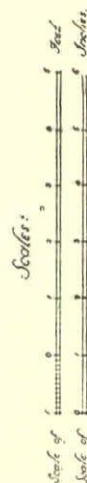
ELEVATION.



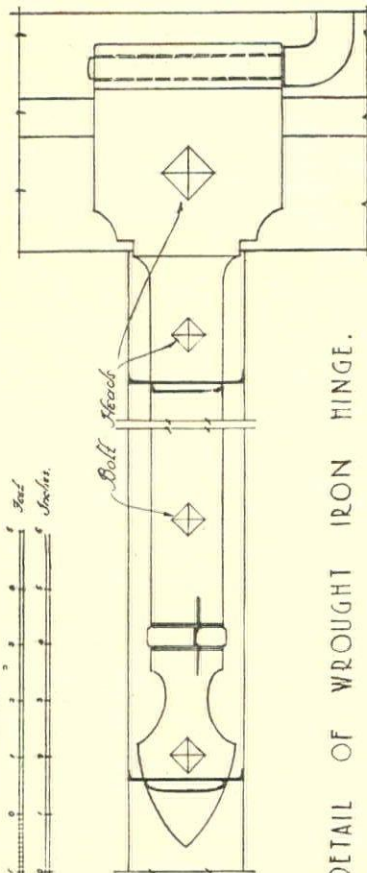
SECTION



DETAILS OF WROUGHT IRON LATCH.



Drawing No. 20442.



TERRA COTTA

for

LOW FIRST COST

Minimum of Upkeep

Maximum of Return

*T*ERRA COTTA emphasizes beauty of design and increases rental demand.

Terra Cotta needs but the very occasional repointing of joints for its upkeep.

Terra Cotta affords color, texture and form without limitation,—yet its first cost is surprisingly low.

Any Terra Cotta Manufacturer in the National Society is glad to intelligently cooperate with Architects.

NATIONAL TERRA COTTA SOCIETY
19 WEST 44TH STREET
NEW YORK, N. Y.

(On behalf of the Terra Cotta Manufacturers throughout the United States)

CURRENT NOTES

DECLARATION AGAINST PRICE CUTTING

THE practice of price cutting is an economic evil which has proved seriously injurious in many lines of industry.

The Reading Iron Company, recognizing that this practice disorganizes and demoralizes the business not only of the manufacturer but also of other distributors, has announced its policy with respect to the resale prices of its goods, which declares that the company refuses to make further sales to any distributor who fails to observe the minimum resale price. Their legal right to declare and enforce this policy is based on a decision of the United States Supreme Court which holds that a manufacturer "may withhold his goods from those who will not sell them at the prices which he fixes for their resale."

A CREDIT CORRECTION

AMONG the outstanding buildings of architectural merit that have been erected in Chicago in recent years few have greater interest than the University of Chicago Chapel, Bertram G. Goodhue, and Bertram G. Goodhue Associates, architects.

An illustration of the chapel was used in connection with an advertisement of the Johnson Service Company of Milwaukee, in THE AMERICAN ARCHITECT issue of February 5, 1929. The description of the chapel credited the design and supervision of the structure to Bertram G. Goodhue. This statement was not entirely correct. A correct statement of the facts appears in the advertisement of the Johnson Service Company in the current issue. Mr. Goodhue was commissioned to design the chapel in 1918, but, due to his untimely death in 1924, did not live to see the project under construction. Before construction was begun the University conferred with the Bertram G. Goodhue Associates, who had undertaken to carry on and complete Mr. Goodhue's work, and certain modifications were made in Mr. Goodhue's original design. The chapel as built is from the drawings prepared by the Bertram G. Goodhue Associates following this conference with the University and further study of the building.

We are very glad to make a statement of the situation and to give the architects due credit.

ARMSTRONG CORK COMPANY MOVES OFFICES

AN announcement has been received from the Armstrong Cork Company stating that the offices of all its divisions will be consolidated at Lancaster, Pa., effective April 1st, 1929. This involves the removal from Pittsburgh of the general office of the Company and all executive offices of the Armstrong Cork Company, Cork Division, and of the Armstrong Cork & Insulation Company, with the exception of the Purchasing Department, which will remain in Pittsburgh. Communications are to be addressed to Lancaster after April 1st.

A.I.A. CONVENTION

THE dates of the Sixty-second Convention of the American Institute of Architects are April 23rd, 24th and 25th in Washington, and April 26th in New York. Headquarters in Washington will be the Mayflower Hotel. The annual meeting of the Producers' Council, affiliated with the American Institute of Architects, will be held on April 22nd in Washington.

The principal theme of the Convention will be "The Development of the National Capital." The Convention reports of the Committee on Public Works—Milton B. Medary, of Philadelphia, Chairman—and of the Committee on the National Capital—Horace W. Peaslee, Chairman—will be read. The opening ceremony of the evening session at the Corcoran Gallery of Art on April 23rd will be the presentation of the Gold Medal award to Milton B. Medary. This will be followed by the opening of an exhibition of drawings and models showing the development of the Plan of Washington to date, including some of the new buildings now under way in The Triangle.

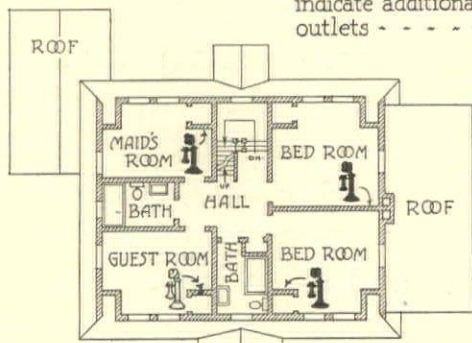
On the third day, April 25th, the Convention will adjourn to meet in New York the next morning. It is planned that April 26th will be devoted largely to the Forty-fourth Architectural and Allied Arts Exposition of the Architectural League. The Convention will be concluded with a dinner, under the joint auspices of the Institute and the Architectural League, to be held at the Hotel Roosevelt, New York, April 26th, 7:30 P. M. The dinner will be followed by a dance at the Architectural League Club House, 115 East 40th Street, to which all delegates, their wives and guests will be invited.



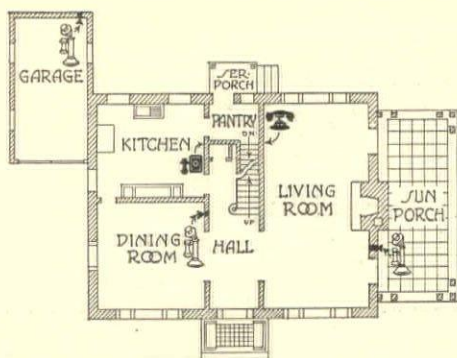
Convenient . . . Modern . . . Smart Telephone Outlets in nearly every Room



Outline telephones indicate additional outlets - - - -



SECOND FLOOR



FIRST FLOOR

The new way is to plan complete telephone arrangements in advance . . . for appearance, comfort, and efficient service

1 1 1

THINGS which are convenient, modern and smart appeal to architects. They know the value of providing those little touches which make a home more livable and more attractive, without adding greatly to its cost.

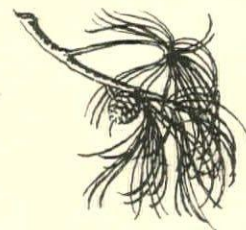
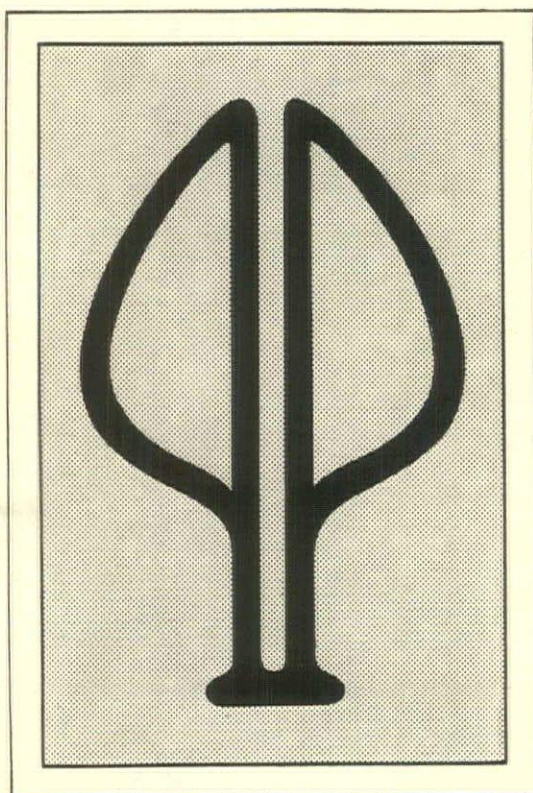
Complete telephone arrangements . . . telephone outlets in nearly every room, for ease in placing and answering calls . . . form the new conception of convenience that is meeting with favor everywhere.

Architects are finding it desirable to plan for these arrangements in advance. Provision is made in the plans and specifications for conduits, protector cabinets, telephone cabinets, service entrances and other facilities. Improved appearance is thus obtained and additional telephones can readily be placed, when desired, at convenient locations.

Architects are recognizing the advantages of having homes completely equipped with telephone service; including such auxiliary equipment as arrangements for intercommunication among the household telephones: switches for temporarily disconnecting the servants' telephone: portable telephones for plugging into jacks at appropriate places: auxiliary bells, lights and other signaling devices for special uses.

If you have not yet received your copies of the two booklets, *Planning for Home Telephone Conveniences*, and *Planning for Telephones in Buildings*, or if you desire additional information, it is suggested that you communicate with the Business Office of your local Bell company.





There may be a new *architecture*, but Pondosa Pine remains the same useful wood

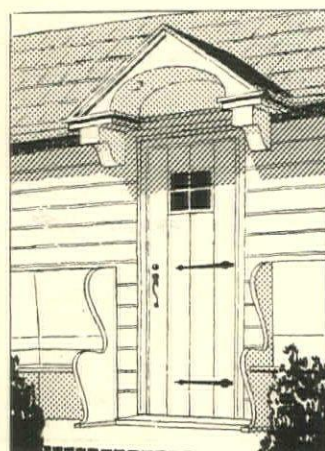
AMERICA is evolving its own architecture. Architects are no longer satisfied to restate the ideas of their predecessors. New forms are being created; details and designs improved. Yet with all this change, nothing can replace good wood for finishing purposes.



Wherever a soft-wood finish is required, you can trust your reputation to Pondosa Pine. Doors and sash of this good wood stay snug and true. Sidings

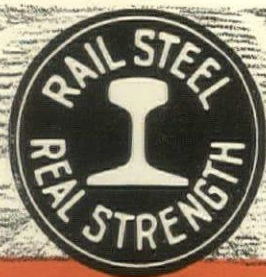
and baseboard remain firm and tight. Used for stairways, mouldings, built-in features, and all interior trim, Pondosa gives years of splendid service. The finish keeps smooth and even; few repaintings will be necessary. Continual use will have little effect on Pondosa.

There is an abundant supply of Pondosa Pine, trade-marked at the mills to protect you. Western Pine Manufacturers' Association, Portland, Oregon.



Pondosa Pine 
The Pick o' the Pines

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



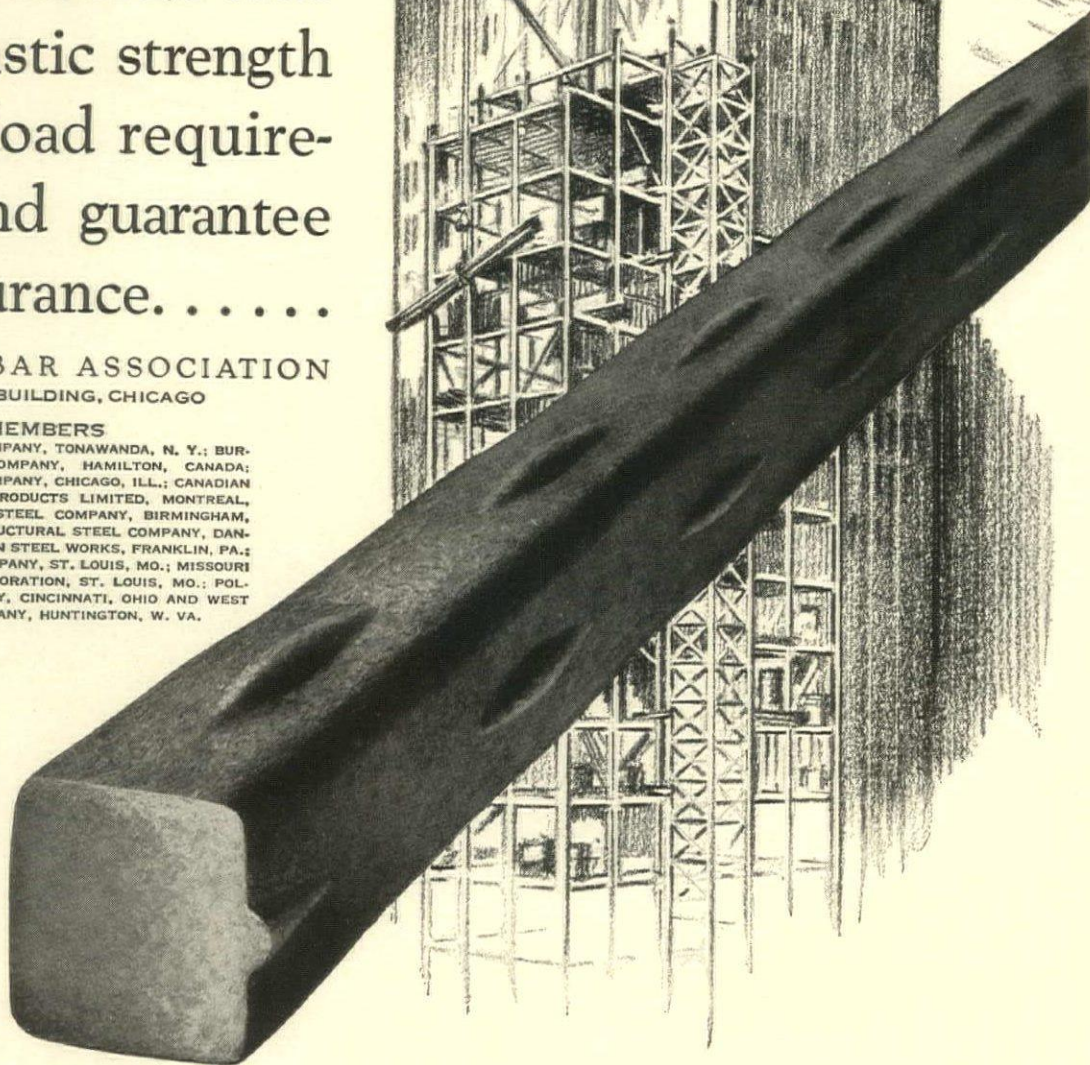
twenty tons for endurance

IN each square inch of rail steel 20 tons of its elastic strength exceed load requirements and guarantee real endurance.

RAIL STEEL BAR ASSOCIATION
BUILDERS BUILDING, CHICAGO

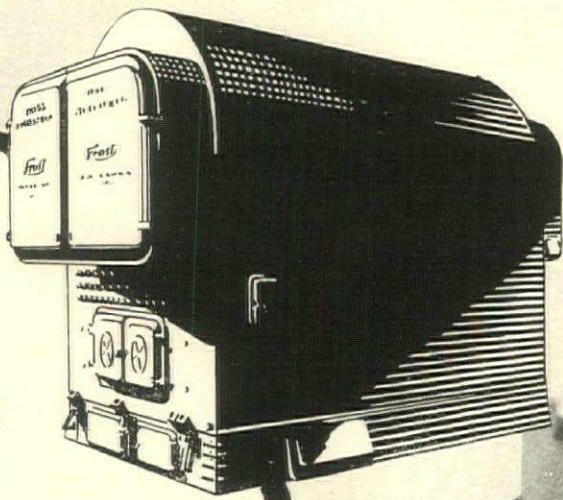
MEMBERS

BUFFALO STEEL COMPANY, TONAWANDA, N. Y.; BURLINGTON STEEL COMPANY, HAMILTON, CANADA; CALUMET STEEL COMPANY, CHICAGO, ILL.; CANADIAN TUBE AND STEEL PRODUCTS LIMITED, MONTREAL, CANADA; CONNORS STEEL COMPANY, BIRMINGHAM, ALA.; DANVILLE STRUCTURAL STEEL COMPANY, DANVILLE, PA.; FRANKLIN STEEL WORKS, FRANKLIN, PA.; LACLEDE STEEL COMPANY, ST. LOUIS, MO.; MISSOURI ROLLING MILL CORPORATION, ST. LOUIS, MO.; POL-LAK STEEL COMPANY, CINCINNATI, OHIO AND WEST VIRGINIA RAIL COMPANY, HUNTINGTON, W. VA.



RAIL STEEL
for concrete reinforcing

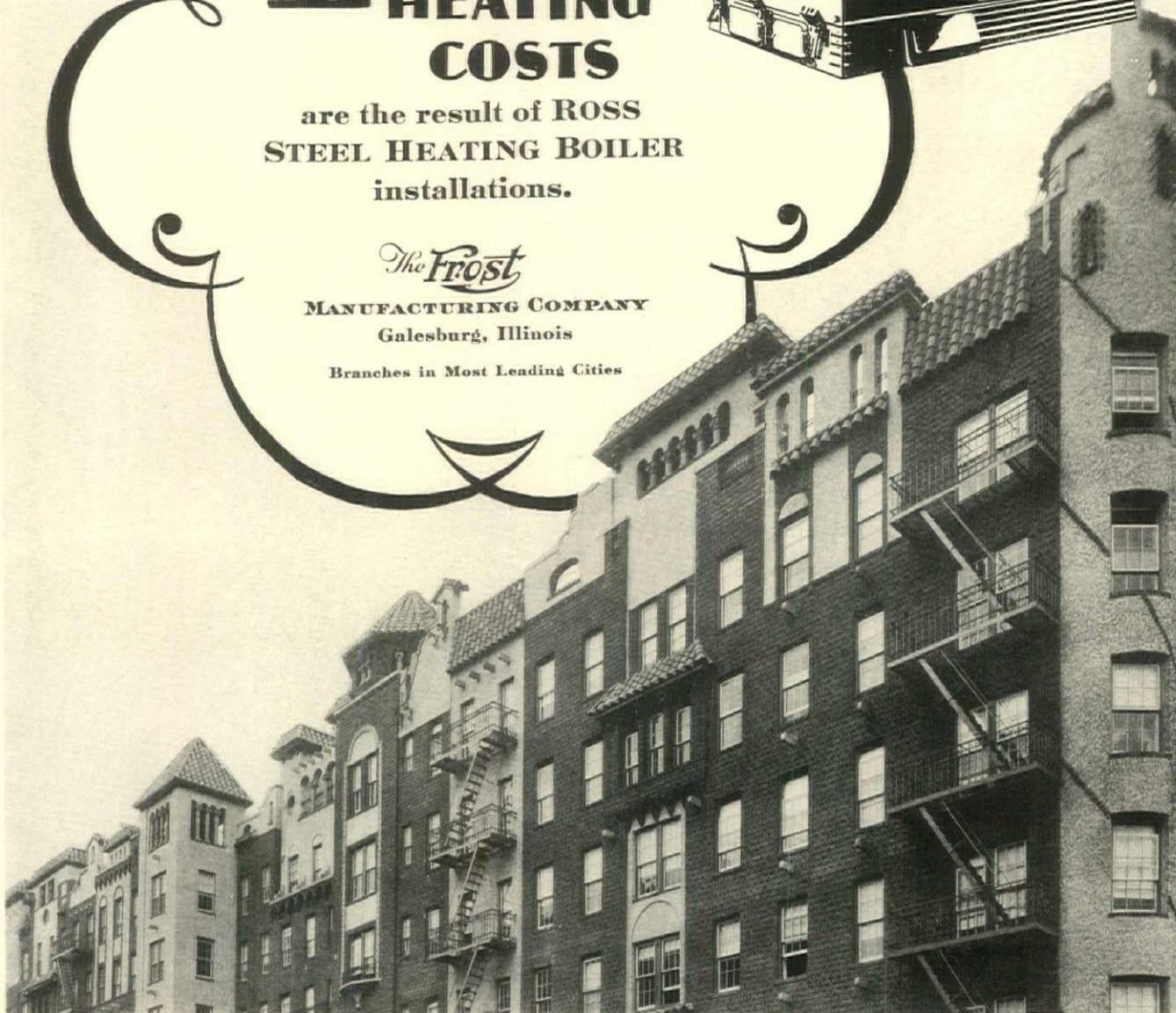
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**LOWER
HEATING
COSTS**

are the result of ROSS
STEEL HEATING BOILER
installations.

The Frost
MANUFACTURING COMPANY
Galesburg, Illinois
Branches in Most Leading Cities



ROSS STEEL BOILERS



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The Lincoln Building, New York City.
Another 100% Youngstown Pipe and
Youngstown Buckeye Conduit job.

Architect, J. E. R. Carpenter—Associate Architects,
E. J. Willingale, Kenneth B. Norton, Wm. Harmon
Beers—Consulting Engineer, Clyde R. Place—
Builder, Dwight P. Robinson & Co., Inc.

No Sounder Specification Can Be Written!

THE NAME YOUNGSTOWN
on Pipe or Sheets and "Youngs-
town Buckeye" on Conduit is a
safeguard of quality and a symbol
of lasting service. Leading architects
and engineers have found through
wide experience that no sounder
specification than Youngstown can
be written.

In thousands of buildings Youngs-
town pipe is proving its permanence
in plumbing, heating, sprinkler and refrigeration systems;
Youngstown Buckeye Conduit is demonstrating its lifetime
protection to electrical wiring; and Youngstown steel sheets
are giving abundant evidence of lasting serviceability on all
types of sheet metal work.

Every district sales office of The Youngstown Sheet & Tube
Company is a "service station" for Architects and Engineers,
where an experienced steel-trained counsellor will be found
anxious to serve you—without obligation.

THE YOUNGSTOWN SHEET AND TUBE COMPANY

*One of the oldest manufacturers of copper-bearing steel, under
the well-known and established trade name "Copperoid".*

General Offices—YOUNGSTOWN, OHIO

DISTRICT SALES OFFICES

ATLANTA—Healey Bldg.

BOSTON—80 Federal St.

BUFFALO—Liberty Bank Bldg.

CHICAGO—Conway Bldg.

CINCINNATI—Union Trust Bldg.

CLEVELAND—Union Trust Bldg.

DALLAS—Magnolia Bldg.

DENVER—Continental Oil Bldg.

DETROIT—Fisher Bldg.

KANSAS CITY, MO.—

Commerce Bldg.

MINNEAPOLIS—Andrus Bldg.

NEW ORLEANS—Hibernia Bldg.

NEW YORK—30 Church St.

PHILADELPHIA—

Franklin Trust Bldg.

LONDON REPRESENTATIVE—The Youngstown Steel Products Co.,

Dashwood House, Old Broad St., London, E. C. England

PITTSBURGH—Oliver Bldg.

SAN FRANCISCO—

55 New Montgomery St.

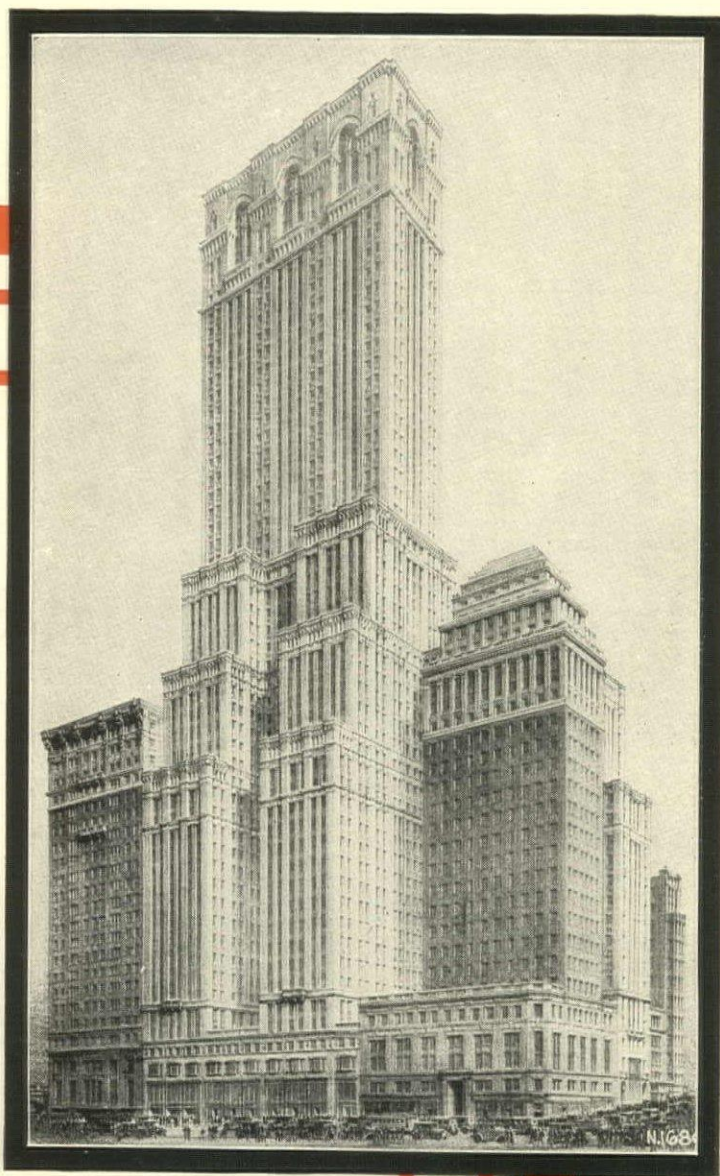
SAVANNAH—M and M T Terminals

SEATTLE—Central Bldg.

ST. LOUIS—Shell Bldg.,

13th and Locust Sts.

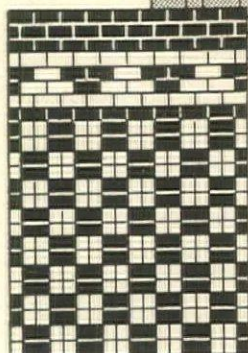
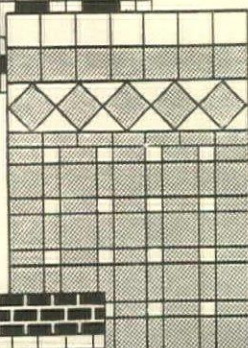
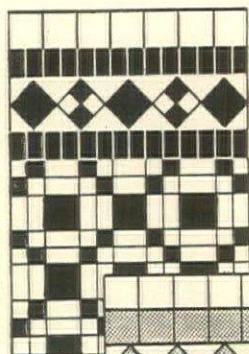
YOUNGSTOWN—Stambaugh Bldg.



PIPE SHEETS CONDUIT
YOUNGSTOWN

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Attractiveness of stores increased by MOSAIC TILES



Above are shown three patterns of Mosaic Aven-tine Ceramics for floors. The specifications are: (Top) Border No. 1789-A; Body No. 1790-A. Sizes: $2\frac{3}{16}'' \times 2\frac{3}{16}''$; $2\frac{3}{16}'' \times 1\frac{1}{16}''$; $1\frac{1}{16}'' \times 1\frac{1}{16}''$. Colors: Black and Celadon. (Middle) Border No. 1845-A; Body No. 1800-A. Sizes same as above. Colors: Celadon and Cream. (Bottom) Border No. 1732-A; Body No. 1733-A. Size: $1\frac{3}{16}'' \times 3\frac{3}{4}''$. Colors: Dark Blue and White. Write for folder, "Modern Effects in Aven-tine Ceramics."

MOSAIC

The name "Mosaic" is stamped on all products of The Mosaic Tile Company, which include ceramic mosaics, vitreous, semi-vitreous, wall and faience tiles, as well as "All-Tile" bathroom accessories. The word "Mosaic" should be used in writing tile specifications.



IN drawing up plans and specifications for stores and other places of business, the outstanding advantages of real tiles—Mosaic Tiles—are rightly to be considered as a highly important factor of construction.

Mosaic Tiles are ideal material for store fronts, display windows, as well as floors and walls of the interior. Ceilings are often lined with tiles. They are used many times for counters, display cases, refrigerators and other locations. In fact, the range of applications is extremely wide.

The effects to be produced with Mosaic Tiles are also practically limitless. The architect may work out his own designs. Color schemes and treatments of great variety are to be secured, because of the large number of sizes, kinds and colors in which Mosaic Tiles are obtainable.

The beauty, high quality, permanence, and easy cleaning properties of Mosaic Tiles make them favored for store use. We will gladly furnish further information and our Design Department is ready to supply ideas and suggestions.

THE MOSAIC TILE COMPANY
Makers of Fine Ceramic Tiles

504 Coopermill Road, Zanesville, Ohio

NEW YORK

LOS ANGELES

CHICAGO

SAN FRANCISCO

ST. LOUIS

MOSAIC TILES

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*Residence, Detroit, Michigan
Beckett & Akitt, Architects*

Tudor Stone Roofs.

Tudor Stone Roofs harmonize because, in every instance, they are especially designed for the building upon which they are to be

laid. Our Architects' Service Department cooperates with the architect in the development of roofing plans.

Rising and Nelson Slate Company

WEST PAWLET, VERMONT

Architects' Service Department: 101 Park Avenue, New York City

CHICAGO

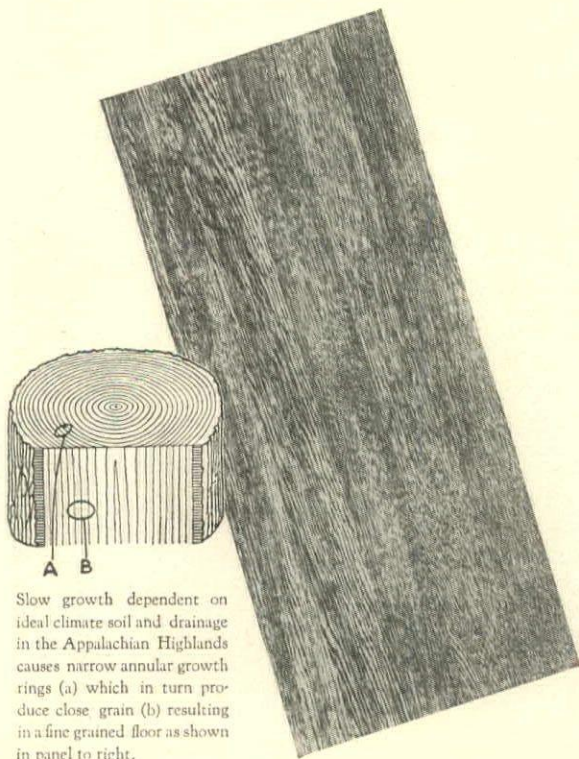
DETROIT

PHILADELPHIA

BOSTON

RITTER FLOORING

*Manufactured Exclusively from
Appalachian Oak*



Slow growth dependent on ideal climate soil and drainage in the Appalachian Highlands causes narrow annular growth rings (a) which in turn produce close grain (b) resulting in a fine grained floor as shown in panel to right.



Fast growth causes wide annular growth rings (c) which in turn produce open grain (d) resulting in a flashy grained floor as illustrated in panel to right.

Of course
you specify first grade
--- but what brand?

Do you realize that a vast difference exists between the First Grade oak flooring of one manufacturer and the First Grade of another? The beauty of oak is a result of the conditions under which the trees are grown. Where the trees grow slowly, steadily and uniformly, oak lumber of close-knit grain and velvet-like texture is obtainable. And conversely, where the tree growth is rapid, the lumber naturally reflects this condition in a wide flashy grain and coarse texture.

Then how can an architect be sure of getting the qualities he desires in the First Grade? There's but one answer -- Always specify oak flooring manufactured of oak grown in the Appalachian Highlands where conditions are ideal for slow uniform growth.

The W. M. Ritter Lumber Company is America's largest producer of Appalachian Oak. In every stage of its manufacture Ritter Oak Flooring is checked and rechecked to maintain its exclusive standard of quality.

Therefore in addition to specifying grade, remember to specify "Ritter." It's the safe way of assuring yourself of the best!

W. M. RITTER LUMBER COMPANY
Columbus, Ohio

MADE in THE APPALACHIANS from APPALACHIAN OAK only

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





Concealed *Circulair* Heat conserves floor space . . . *enhances beauty*

THE modern trend in building design—both residential and commercial—demands the conservation of every available inch of floor space. That is why the bulky heating fixtures of yesterday are giving way to the *concealed heater of tomorrow*.

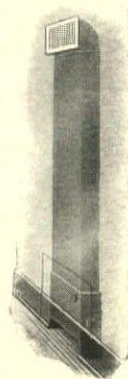
Circulair Heat in addition to being completely concealed offers a further advantage of harmonizing with any architectural

design or interior treatment. It permits the full use of all wall space for the placement of fixtures or furnishings.

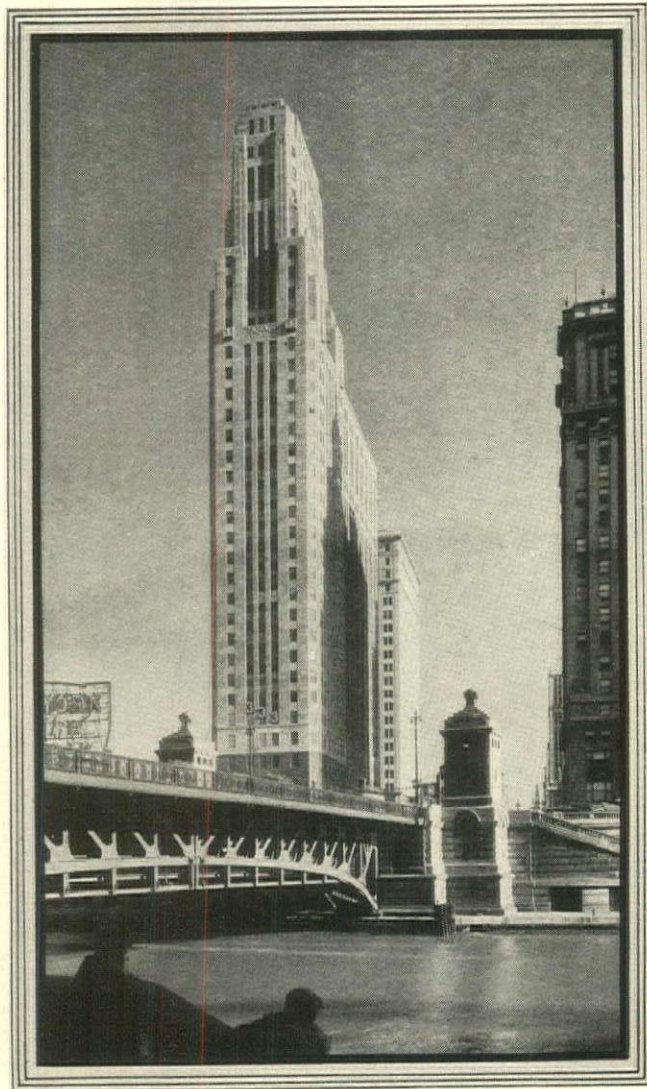
Full description of this *new* mode of heating—new only in the method by which well known heating principles have been combined and applied to create an entirely new conception of uniform warmth and comfort—together with engineering data and photographs of many installations are contained in the New Circulair Catalog No. 9A. You should have a copy in your file.

Circulair **HEAT**

CIRCULAIR HEAT, *Incorporated*
205 Central Avenue, Louisville, Kentucky



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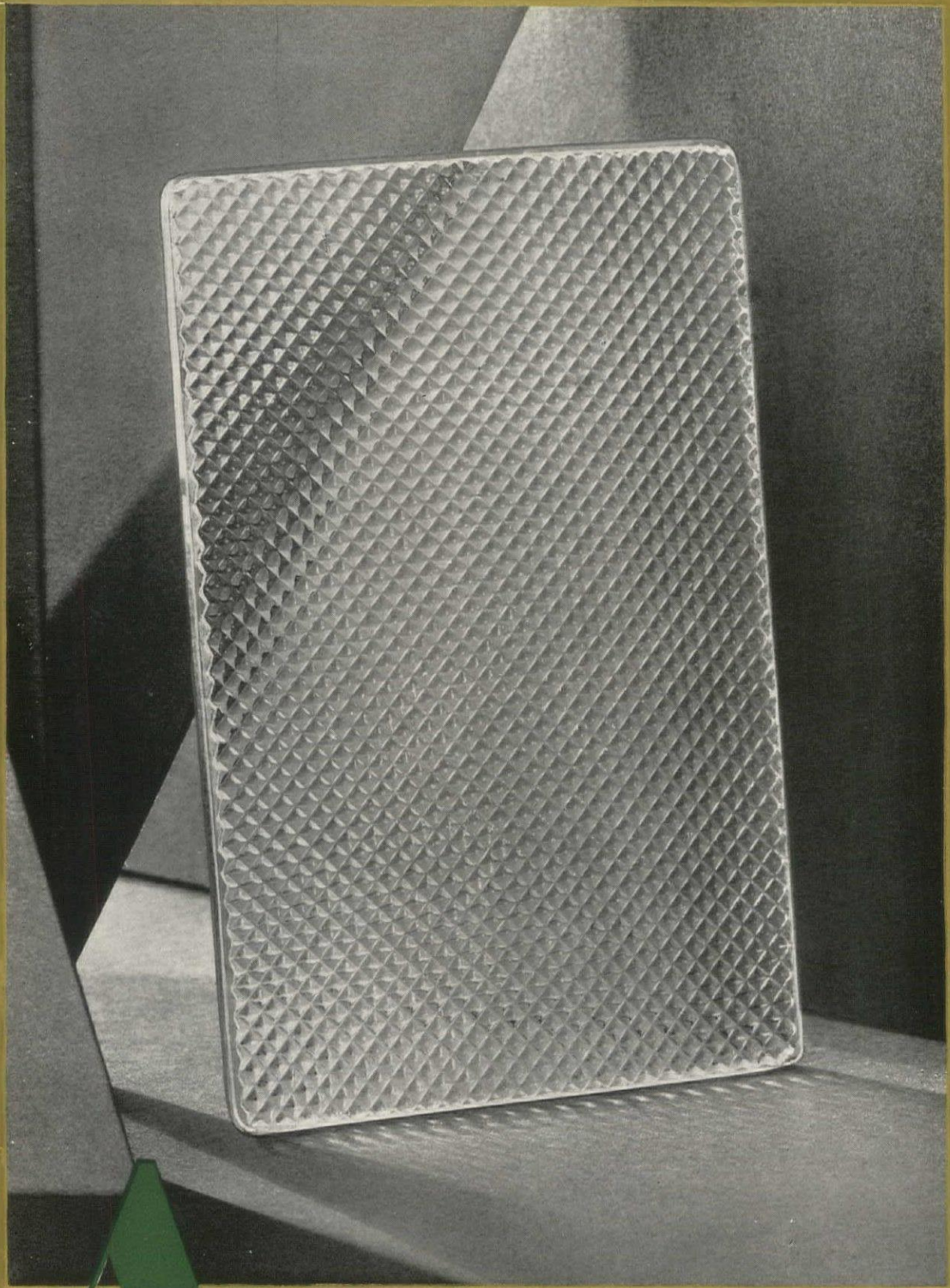
SARGENT HARDWARE
throughout in 333 North Michigan Avenue
 "An outstanding construction of the year"

"ONE of the three most notable buildings erected in 1928"—this is the rating given to No. 333 North Michigan Avenue, in Chicago, Holabird & Roche, architects. This towering skyscraper expresses the most modern ideas in building construction. Every detail combines graceful strength and permanent utility.

Sargent Hardware was used throughout. Every piece is of solid brass or bronze—sure and smooth in operation, and lasting. The beauty of design conforms closely with the general decoration plan. The entire equipment is a reflection of the last word in hardware manufacture. Sargent & Company, New Haven, Connecticut; 94 Centre Street, New York City; 150 N. Wacker Drive (at Randolph), Chicago, Illinois.

SARGENT
 LOCKS AND HARDWARE

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



AUROLA

A MISSISSIPPI GLASS *(See next page)*

LOCKS AND HARDWARE

BEAUTY *and* EFFICIENCY

make this glass ideal for partitions

AURORA is a quality glass with a simple prismatic design scientifically cut to provide an efficient distribution of light. The simplicity and brilliancy of its design make Aurora an ideal glass for doors and partitions in modern office buildings. Its appearance spells good taste and its design makes for effective illumination. Aurora, plain or polished, may be obtained from your glass distributor.

AURORA

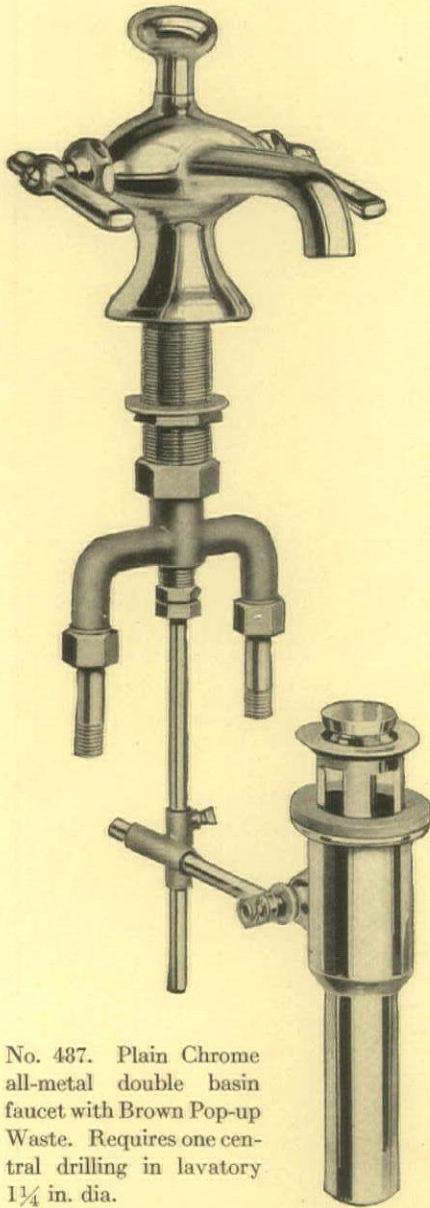
is one of the many patterns of figured glass (polished or plain) illustrated and described in the new catalog that has been issued by the Mississippi Glass Company. This catalog contains much information which will be found useful when choosing the proper style of glass to obtain a desired effect. A copy will be mailed upon request to those interested in making a more efficient use of glass.

MISSISSIPPI GLASS COMPANY

220 FIFTH AVE., NEW YORK

CHICAGO • ST. LOUIS

Craftsmanship in Plain Chrome No. 2



No. 487. Plain Chrome all-metal double basin faucet with Brown Pop-up Waste. Requires one central drilling in lavatory $1\frac{1}{4}$ in. dia.

A very attractive faucet with wide appeal because, being centered on lavatory, it allows maximum space thereon for toilet articles, besides insuring greater beauty, less work, more sanitation.

Here is a striking example of our new Plain Chrome line—the No. 487 all-metal double basin faucet with Brown pop-up waste.

It's one of a group of 10 lavatory fixtures in the new round pattern. It was designed as a companion line to Art Chrome because many people will prefer it to the octagonal or angular style. Lower finishing costs allow us to price it very attractively.

You can have every confidence in introducing Plain Chrome Chicago Faucets to your clients, because the line is "right" in every respect. The design is new, attractive, beautiful; the construction is all-metal; the chromium finish assures life-long service and life-long lustre; the standardized removable unit is as easily renewed as an electric bulb; the price is reasonable. You will make no mistake in specifying Plain Chrome Chicago Faucets exclusively. They have no equal.

Plain Chrome Chicago Faucets are made in 24 styles for sinks, lavatories, bathtubs and showers. Write for full particulars.

THE CHICAGO FAUCET CO.

2700-22 No. Crawford Ave.

CHICAGO, ILL.

CHICAGO FAUCETS

3 Lines - New Art Chrome - New Plain Chrome - Nickel Plated, China Trim

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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.

- | | |
|--|--|
| 1. PREPARATION OF SITE. | 23. FLOOR AND WALL TILE, LINOLEUM AND ACCESSORIES. |
| 2. EXCAVATION. | 24. PLASTIC FLOORS. |
| 3. MASONRY MATERIALS. | 25. PAINT, PAINTING AND FINISHING. |
| 4. CONCRETE AND MONOLITHIC CONSTRUCTION. | 26. GLASS AND GLAZING. |
| 5. BRICK WORK. | 27. HARDWARE. |
| 6. FOUNDATIONS. | 28. FURNISHINGS. |
| 7. WATERPROOFING AND DAMPROOFING. | 29. PLUMBING. |
| 8. STONE WORK. | 30. HEATING AND VENTILATING. |
| 9. ARCHITECTURAL TERRA COTTA. | 31. ELECTRICAL WORK. |
| 10. BLOCK CONSTRUCTION. | 32. REFRIGERATION. |
| 11. PAVING. | 33. ELEVATORS. |
| 12. ROOFING, SHEET METAL AND SKYLIGHTS. | 34. POWER PLANT. |
| 13. STRUCTURAL STEEL AND IRON. | 35. EQUIPMENT, STATIONARY. |
| 14. MISCELLANEOUS STEEL AND IRON. | 36. CONSTRUCTION PLANT. |
| 15. ORNAMENTAL METAL WORK AND PHYSICAL PROPERTIES OF METALS. | 37. INSULATION. |
| 16. FIRE RESISTING DOORS, WINDOWS AND TRIM. | 38. LANDSCAPE. |
| 17. SPECIAL DOORS AND WINDOWS. | 39. ACOUSTICS. |
| 18. VAULTS AND SAFES. | 40. REGULATIONS. |
| 19. CARPENTRY. | |
| 20. FURRING AND LATHING. | I PLANS AND DESIGNS. |
| 21. PLASTERING. | II GENERAL CATALOGS. |
| 22. MARBLE AND SLATE. | 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

Cement-Gun Company, Inc., Allentown, Pa.

1030. *Gunite Bulletins.* A series of bulletins describing the adaptability of gunite, cement-gun product, for a wide range of construction and replacement work of all kinds. Illustrated. Size, 6½ x 9¾ 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.

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

1469. *Standardised 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.

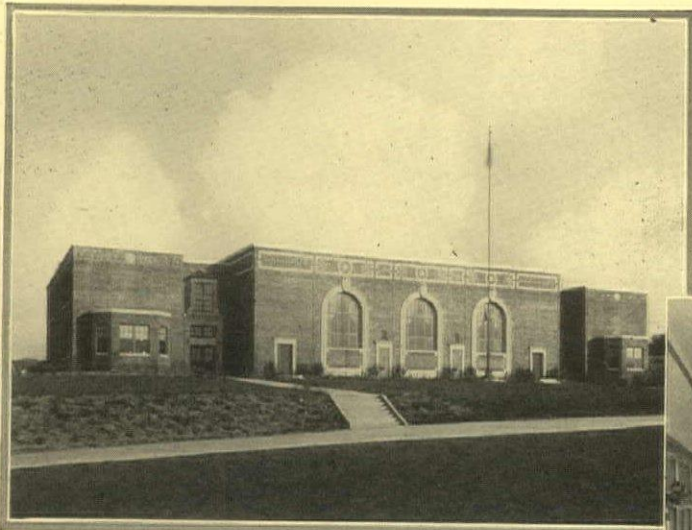
1580. *Chimney Pots* is a booklet containing colored illustrations of chimney pots hand-made by the Atlantic Terra Cotta Company. Specifications and details of fireplace constructions are included. 16 pp. Size, 8½ x 11 in.

Colonial Fireplace Co., 4602 Roosevelt Road, Chicago, Ill.

1585A. *Portfolio of fireplace designs.* Wood mantel bases, brick, tile and marble mantels. Separate plates from actual photographs. 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.



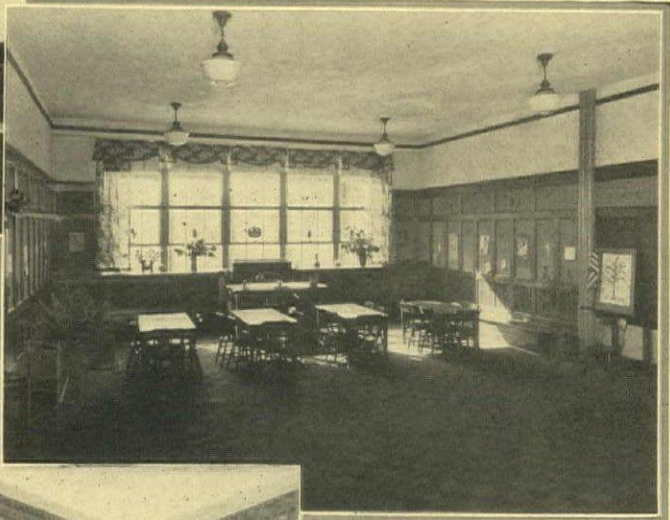
Front Elevation, H. V. Hotchkiss School

Architect: M. M. Konarski, Akron, Ohio

Heating Contractor:

Zindle Plumbing & Heating Co., Akron, Ohio

Akron, Ohio also,
installs Buckeye Heatovens
in its New School Buildings,
to insure
Controlled Ventilation



Kindergarten Room
Spicer School,
Akron, Ohio

Architect: M. M. Konarski,
Akron, Ohio

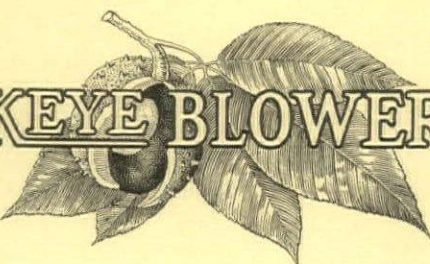
Heating Contractor:
Zindle Plumbing &
Heating Company,
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Spicer School,
Akron, Ohio

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Data Book
on request*



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SAN FRANCISCO

SEATTLE
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YOUNGSTOWN

CANADIAN
OFFICES
TORONTO, ONT.

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

REFERENCE LIST OF BUSINESS LITERATURE—Continued

5. BRICK WORK—Continued

Old Virginia Brick Company, Salem, Virginia.

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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11\frac{1}{2}$ in.

7. WATERPROOFING AND DAMPROOFING

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

340. *Cabot's Waterproofing Specialties*. Describes Dampproofing, Clear Brick Waterproofing and Clear Cement Waterproofing with specifications and covering data. 12 pp. Illustrated. Size, 4×9 in.

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, $8 \times 10\frac{1}{4}$ 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, $8\frac{1}{2} \times 11$ 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, 6×5 in.

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

1118. *Permanite 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, $8\frac{1}{2} \times 11$ 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 upon request on business stationery. In folders. Size, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ in.

9. ARCHITECTURAL TERRA COTTA

Midland Terra Cotta Company, Chicago, Ill.

1429. *Standardised 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, $9\frac{1}{2} \times 14\frac{1}{2}$ 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, $8\frac{1}{2} \times 11$ in.

854. *Color in Architecture*. A revised and permanently bound book with 12 color plates, illustrating early Italian and modern uses of polychrome terra cotta in building construction. Sent free to architects, draftsmen, schools and libraries, requesting same on business letterheads. 64 pp. Illustrated. Size, $9\frac{1}{2} \times 12\frac{1}{4}$ 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, $8\frac{1}{2} \times 11$ in.

10. BLOCK CONSTRUCTION

11. PAVING

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

1146. *Wire Reinforcing Fabric* in the construction of concrete roads and pavements. Data and specifications of value in the design and construction of concrete roads. 48 pp. Illustrated. Size, 6×9 in.

12. ROOFING, SHEET METAL AND SKYLIGHTS

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, $9\frac{1}{2} \times 12$ 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, $8\frac{1}{2} \times 11$ in. Also Booklet on Asbestos Shingles. 24 pp. Illustrated. Size, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ in.

Elising 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, $8\frac{1}{2} \times 11$ 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, $6 \times 9\frac{1}{2}$ in.

Truscon Steel Company, Youngstown, Ohio.

1176. *Truscon Roofs (Steeldeck) "Ferrodect" 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 Ferrodect or I-Plates are also included. 8 pp. Illustrated. Size, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $4\frac{1}{2} \times 7$ in.

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, $4 \times 6\frac{1}{2}$ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

13. STRUCTURAL STEEL AND IRON—Continued

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 & Belden Aves., Canton, Ohio.

1544. Massillon Bar Joists and Massillon Nailor Joists. Two valuable folders showing safe loading tables and standard specifications. A. I. A. File No. 13G. 8 pp. each. Size, 8½ x 11 in.

1545. Bank Vault Reinforcing. An eight-page folder containing designing data and insurance rating. A. I. A. File No. 18. Size, 8½ x 11 in.

Rivet Pipe Steel Co., Cleveland, Ohio.

F-1310. T-Bar R. G. Truss Steel Joists. Catalog describing an economical method of floor and roof construction. Contains details, dimensions and safe load tables as well as specifications. A. I. A. File No. 13g. 16 pages. Size, 8½ x 11 in.

14. MISCELLANEOUS STEEL AND IRON

Blasteel Manufacturing Company, Kansas City, Mo.

1440. Blasteel Ankortite Floor Joiner, Brass Threshold Plates. Circular P illustrates and describes the Ankortite floor joiner for use as a permanently secure threshold in either bullnose or flat top style for abutting floors, and Blasteel standard threshold plates in plain or corrugated design and various widths. A. I. A. File No. 14b53. 2 pp. Illustrated. 8½ x 11 in.

1441. Stair Nosings and Linoleum Bindings. Circular illustrates and describes polished brass or white metal stair nosings for wood, cement, or marble treads, various styles of Blasteel beveled brass binding strips for linoleum floors and recessed brass binding bar for binding linoleum, rubber tile or other applied floor covering where an offset is provided in the concrete or terrazzo to receive the applied material. Dimensions and method of application are shown. 4 pp. Illustrated. A. I. A. File 28i4. Size, 8½ x 11 in.

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.

1596. Steelcrete Frame Bar Window Guards. Catalog No. 126. A brief helpful reference for architects in preparing specification for Window, Door, Transom and Sky-light Guards. 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.

1319. Evidence. Some Supreme Court decisions showing the legal aspect of injuries received through falls on stairways. Leaflet also contains list of advantages of Wooster Safe-Groove Treads, and names and addresses of well known users. A. I. A. File No. 14d1. 4 pp. Illustrated. Size, 5½ x 8½ in.

1322. Wooster Safe-Groove Stair Tread for schools, office buildings, hotels, factories, railways, hospitals, etc. Folder illustrates and describes Wooster Safe-Groove Stair Treads. Installation details are included. A. I. A. File No. 14d1. 4 pp. Illustrated. Size, 8½ x 11 in.

15. ORNAMENTAL METAL WORK AND PHYSICAL PROPERTIES OF METALS

16. FIRE RESISTING DOORS, WINDOWS AND TRIM

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. 16el. 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 conduso-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, astral 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 Plastic 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 6½ 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, 5½ x 8½ 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

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.

Milwaukee Corrugating Company, Milwaukee, Wis.

1414. *Milcor Reinforcing Rib Lath*. Catalog No. 20d. A technical data book for architects and engineers featuring Milcor metals and materials for fire-resisting reinforced concrete construction referring especially to Milcor ¾-inch stayrib No. 3 reinforcing lath. Engineering data including table of safe loads are included. 16 pp. 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 7½ 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.

Milwaukee Corrugating Company, Milwaukee, Wis.

1416. *Modern Modes in Better Plastering*. Attractively prepared booklet illustrating practical application of various plaster textures with a treatise on better plastering methods. 32 pp. Illustrated. 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

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

1220. *Alberene Stone Toilet Partitions*. Shower compartments and stair treads and landings. Loose leaf catalog sheets containing information on characteristic features of the material, notes on assembly of units, standard details and specifications, and partial list of installations. 8 pp. Illustrated. Size, 8½ x 11 in.

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.

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. *Facts You Should Know About 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. *Sealex Battleship Linoleum*. Booklet describing and giving data on Sealex Battleship Linoleum—a "Bonded Floor." 12 pp. Illustrated. Size, 6 x 9 in.

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

1535. *Sealex Treadlite Tile—A Bonded Floor*. Description and illustration of Sealex Treadlite Tile are included between the covers of this interesting booklet. 12 pp. Illustrated. Size, 6 x 9 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 E. Muller, Inc., Waukegan, Ill.

242. *Asbestos 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

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 10½ 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.

1508. *Marb-L-Cote for Beautiful Textured Walls*. Booklet describes "Marb-L-Cote." Illustrations are given showing different rooms done in this material, with instructions telling how various textures are obtained. 16 pp. Illustrated. Size, 4½ x 6½ in.

1509. Architects' Specification sheet for Marb-L-Cote Textural Wall Finish, gives information regarding the preparation of surfaces before using Marb-L-Cote and the application of same. A. I. A. File No. 25-B-29. 1 page. Size, 8½ x 11 in.

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

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

1364. *Mural-Text for Textured and Relief Decoration*. Direction folder and architects' short form specifications. Complete directions for preparation of various backing surfaces and application of Mural-Text. A. I. A. File No. 25b29. 6 pp. Size, 8½ x 11 in.

National Lead Co., 111 Broadway, New York City.

1343. *Standard Specification for the Use of White-Lead Paint*. A valuable booklet for the files containing standard painting specifications and A. S. T. M. and government specifications for linseed oil, drier, turpentine and white-lead. A. I. A. File No. 25a21 or 25c. 32 pp. Size, 7½ x 10½ 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.

Newman Mfg. Co., Norwood Sta., Cincinnati, Ohio.

F-1311. *Newmanco Bronze Store Fronts*. An Architect's folder containing full size details and scale elevations. 10 pages. A. I. A. File No. 2631. Size 9 x 12 in.

Zouri Drawn Metals Co., Chicago Heights, Ill.

1571. *Store Fronts by Zouri*. Catalog giving valuable information for architects. Contains details 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.

1593. *Store Fronts by Zouri*. Catalog containing much information of value to architects. Elevations, specifications and detail drawings, nine of the details being full size. Illustrated. 32 pp. A. I. A. file No. 26 bl. 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.

The Oscar C. Elson 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.

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 Smith & Egge Mfg. Co., Bridgeport, Conn.

773. *Chains. Catalog A-1*. Describing the "Giant Metal," "Red Metal" and Steel Sash Chains made by this company with strength, size and weight data. Also illustrating cable chains, plumbers, chains and other special chains. 24 pp. Illustrated. Size, 6 x 8½ 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 Co., 14 East Jackson Blvd., Chicago, Ill.

867. *Church Furniture*. Three catalogs illustrating church seating furniture, chancel furniture and Sunday School furniture. 48, 32 and 24 pages. Illustrated. Size, 8½ x 11 in.

869. *Assembly Chairs*. Three catalogs illustrating all types of portable and fixed assembly chairs and seats, including tablet arm chairs, for all kinds of places and uses. 32, 16 and 33 pp. Illustrated. Size, 6 x 9 in.

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

1464. *Counless 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 Isphahan 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, 8½ x 11 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 10¼ in.

The Durlon Co., Dayton, Ohio.

1309. *Durlon 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, 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.

1421. *Corrosion of Hot-Water Piping "National"*. Bulletin No. 2. This bulletin contains a large amount of technical data on the subject of corrosion of hot water piping. 24 pp. Illustrated. Size, 8½ x 11 in.

1422. *Characteristics and Advantages of "National" Pipe*. "National" Bulletin No. 1. This bulletin contains chapters on the characteristics, chemical and physical properties, tests and inspections and advantages of "National" pipe in specific industries. A short history of pipe and early methods of manufacture is included. 44 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.

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.

Taber Pump Company, Buffalo, New York.

1472. *Taber Standard Sump Pumps for Drainage Water and Sewage*. Bulletin No. 120-B. Description includes dimensions of standard sizes, capacity and installation details. Suggested specifications are given. A. I. A. File No. 29cl. 6 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.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

29. PLUMBING—Continued

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.

United States Ozone Co. of America, Scottdale, Pa.

1594. *A series of nineteen bulletins of interest to architects and engineers.* These bulletins give comprehensive information regarding Ozone and Electrolytic Water Purification and Machinery as well as Ozone Air Conditioning Equipment. These bulletins contain engineering data, details and tables. 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

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

1481. *Turbo Atomizer and Air Conditioner.* Bulletin No. 25 illustrates and describes the Turbo Air Washer for cleaning, cooling, tempering, humidifying and dehumidifying air. Valuable technical data and specifications are included. Partial list of installations is given. 32 pp. Illustrated. Size, 7¾ x 10½ in.

1482. *Chinook Heaters.* Bulletin No. 30 describes the construction, operation and application of Chinook Heaters for ventilating systems, with illustrations of typical installations, tables, diagrams, and methods of calculations. A reference book for heating, ventilating and drying engineers. 88 pp. Illustrated. Size, 7¾ x 10½ in.

Buckeye Blower Co., Columbus, Ohio.

960. *Heatopent 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.

1592. *Announcing the new "900" series Buckeye Heatopent.* Catalog of real value to Architects and Engineers fully describing the Unit System of Heating and Ventilating. Contains details, Engineering data and Specifications. Illustrated. 24 pp. A. I. A. file No. 30 d 11. Size, 8½ x 11 in.

Buffalo Forge Company, P. O. Box 985, Buffalo, N. Y.

1489. *"Buffalo" Conoidal Fans.* Catalog No. 422 contains illustrations and detail descriptions of Duplex and Turbo Conoidal Ventilating Fans. Specifications and dimensions are given. 24 pp. Illustrated. Size, 8½ x 11 in.

1490. *Multi-Rating Tables and Dimensions of Buffalo Duplex and Turbo Conoidal Fans.* Catalog No. 426 presents specifications and tables of capacities, pressures, speeds and horsepowers of Buffalo Duplex Conoidal and Turbo Conoidal Fans. Tables are so arranged that complete information concerning fans of every size is readily available. 56 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 Durlon Company, Dayton, Ohio.

1009. *Durlon 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.

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

1310. *Economy Centrifugal Vacuum-Boiler Feed Pumps.* Technical description of Economy boiler feed pumps with suggested specification and partial list of installations. 12 pp. Illustrated. Size, 8½ x 11 in.

1311. *Economy Pumps and Receivers.* Bulletin describes briefly a line of electric pumps and receivers for various conditions and pressures. Sizes, capacities, installation data, and suggested specifications are given. 16 pp. Illustrated. Size, 8½ x 11 in.

Electrol, Inc., St. Louis, Mo.

F1308. *Heating—Oil Burners.* Catalog containing a summary of approved practice in the application of automatic oil heating to the modern building. Contains graphs, details, dimensions, capacities and specifications. 24 pages. A. I. A. File No. 30g 1. Size, 8½ x 11 inches.

The Frost Manufacturing Co., Galesburg, Ill.

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.

1598. *Ross Steel Boilers.* Catalog No. 7-A describes Ross Steel Boilers for steam and hot water heating, smokeless for coal or oil burning. Dimensions and data for boilers of steam ratings 800 to 3500 square feet or hot water from 1280 to 5600 square feet. 16 pages. Illustrated. Size, 8½ x 11½ in.

Gills & 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 10½ 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 10½ 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.

S. T. Johnson Company, Oakland, Calif.

F-1307. *Oil Burning Equipment.* Loose leaf folder giving information regarding the Johnson line of oil burners. Contains tables and details. Illustrated. 80 pages. Size, 8½ x 11 inches.

Kewanee Boiler Corp., Kewanee, Ill.

771. *Kewanee Power Boilers.* Catalog No. 79. A complete description of brick set horizontal tubular power boilers with full and half front settings. Also smokeless tubular boilers, with drawn draft furnace and steel casing. Also steel portable locomotive boilers, grates, breechings, cast-iron fronts, air receivers, storage tanks and accessories. 34 pp. Illustrated. Size, 6 x 9 in.

884. *Kewanee Firebox Boilers, Water Heaters, Tanks and Garbage Burners.* General Catalog No. 80. This catalog gives capacities, dimensions and selling data for firebox, boilers, portable and power boilers, and water heaters, garbage burners, tanks, radiators and breechings. 24 pp. Illustrated. Size, 8½ x 10½ in.

Modine Manufacturing Co., Racine, Wis.

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

1543. *Thermodyne Cabinet Heater.* Catalog No. 327 contains details, dimensions and capacities of the Thermodyne 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 9½ 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, 8½ 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.

1203. Unit Ventilators, Design 2. Catalog No. 344. Complete description of the Sturtevant Unit Ventilator for schools, etc., and the design of unit systems of heating and ventilating. Specifications and details are included. A. I. A. File No. 30d1. 20 pp. Illustrated. Size, 8½ x 11 in.

1204. Sturtevant Unit Heaters, Design 3. Catalog No. 339. Sturtevant Engineering series describes unit heaters for factories, etc., with notes on design of system, detail data and suggested specifications. A. I. A. File No. 30d1. 30 pp. Illustrated. 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.

Warren Webster Co., Camden, N. J.

1595. The Webster Moderator System of Steam Heating. Introducing the Webster Moderator System adaptable to buildings requiring 10,000 or more square feet of radiation. 4 pp. 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 10¾ 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.

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

1149. Electric Wires and Cables. Catalog and handbook of systems of wiring. Booklet illustrates and gives detail information on different types of wires from copper trolley wire and insulated copper wire to lead covered cables. Tables of wire gauges and useful data on electric wiring are also included. 134 pp. Illustrated. Size, 6 x 9 in.

Cooper Hewitt Electric Company, 95 River Street, Hoboken, N. J.

553. Industrial Lighting Briefs. No. 1 deals with Industrial Lighting in theory and practice. No. 2 deals with the engineering of illumination with Cooper Hewitt Lamps. No. 3 deals with the quickness of response of the Hand to Eye. Each 4 pp. Size, 8 x 10½ 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, 8½ 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.

Garland Manufacturing Co., Pittsburgh, Pa.

1591. Protection and Service for Over Thirty Years. Catalog giving valuable information regarding "Galvaduct" and "Loricat" Conduit. Contains list of installations, tables, engineering data and specifications. Illustrated. 24 pages. Size, 8½ x 11 inches.

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

1555. 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.

1587. 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. Over all dimensions of fixtures and lamps are given. Catalog 8 pp.; supplement 20 pp. Illustrated. Size, 6 x 9 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.

Walker Brothers, 12 East 41st St., New York City.

F1310. Walker "Alsteel" Underfloor Duct. Catalog giving general information, as well as examples of installations, lay outs and details. Illustrated. 32 pages. Size, 8½ x 11 inches.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

31. ELECTRICAL WORK—Continued

Western Electric Co., New York City.

1597. *Public Address Systems Nos. 1-A, 2-A and 4-A.* Two catalogs giving information regarding amplifying and distributing sound. Illustrated. Size, $7\frac{3}{4} \times 10\frac{3}{4}$ inches.

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, $8\frac{1}{2} \times 11$ 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, 6×9 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, $8\frac{1}{2} \times 11$ in.

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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, 6×8 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, 6×9 in.

34. POWER PLANT

35. EQUIPMENT, STATIONARY

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, $8\frac{1}{2} \times 11$ 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, $3\frac{1}{4} \times 6\frac{1}{4}$ 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, $8\frac{1}{2} \times 11$ in.

Cutler Mail Chute Co., Rochester, N. Y.

294. *The Cutler Mail Chute. Model F.* Describes the Cutler Mail Chute in its standard form, known as Model F. Contains data for rough floor openings not included in the Mail Chute contract. 16 pp. Illustrated. Size, $4 \times 9\frac{1}{4}$ 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, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ 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, $8 \times 11\frac{1}{4}$ 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 and list of illustrations.
1292. *The Sanitary Elimination of Garbage and Household Waste.* Folder contains complete information on the Kernerator for residences. 8 pp. Illustrated. Size, $8\frac{1}{2} \times 11$ 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, $8\frac{1}{2} \times 11$ in.

Geo. Kilgen & Son, Inc., St. Louis, Mo.

1599. *Seven generations in the building of Pipe Organs.* Catalog describing and illustrating a fine line of pipe organs, contains much information of value to Architects. Gives details of the information that should be furnished the organ builder from which to prepare specifications. 40 pages. Size, 8×11 in.

National Stove Co., Division of American Stove Co., Lorain, 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, 6×9 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, $8\frac{1}{2} \times 11\frac{1}{4}$ 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, $8\frac{1}{2} \times 11$ 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, $9\frac{1}{4} \times 11\frac{1}{4}$ in.

REFERENCE LIST OF BUSINESS LITERATURE—Continued

37. INSULATION—Continued

Armstrong Cork & Insulation Company, Pittsburgh, Pa.

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.

Cutler Mail Chute Co., Rochester, N. Y.

1574. *The Cutler Mail Chute*. Booklet describing Cutler Mail Chutes. Contains illustrations and details. 16 pp. Size, 4 x 9 inches.

Flax-li-num Insulating Co., St. Paul, Minn.

F-1312. *Flax-li-num Heat Insulation for Houses*. Catalog giving information of value to Architects relative to the insulation of buildings. Contains graphs, tables and specifications. Illustrated. 72 pages. Size, 9½ x 11½ inches.

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.

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.

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 All 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 Manual*. A practical and complete reference guide for those interested in the effectiveness, economy and application of insulating material. 64 pp. Illustrated. Size, 8½ x 4 in.

United States Mineral Wool Co., 280 Madison Ave., New York City.

83. *The Uses of Mineral Wool in Architecture*. Illustrated booklet. Properties of insulation against heat, frost, sound, and as a fire proofing, with section drawings and specifications for use. It gives rule for estimate and cost. Size, 5¼ x 6½ in. 34 pp.

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, 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, 8½ 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. 48. 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.

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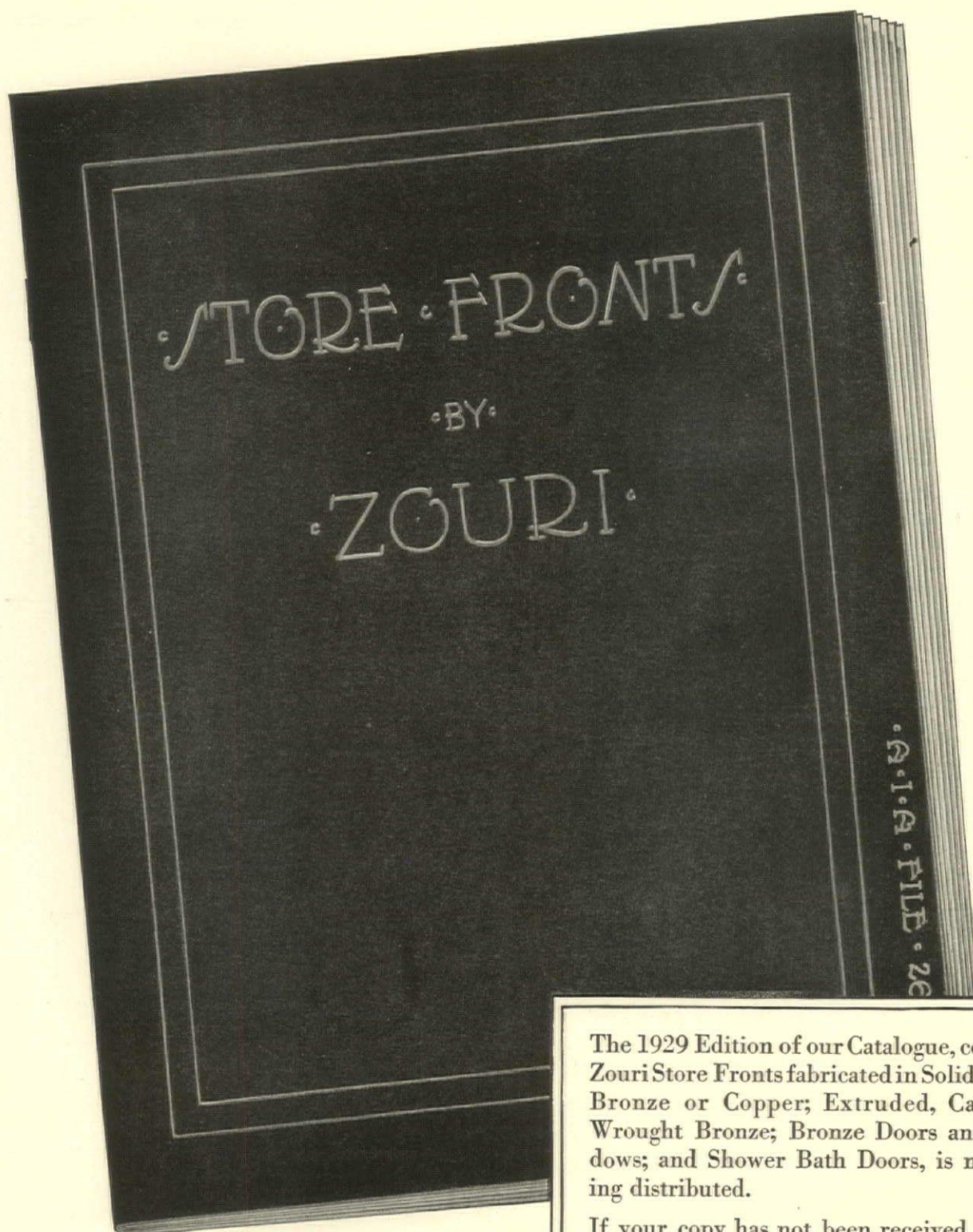
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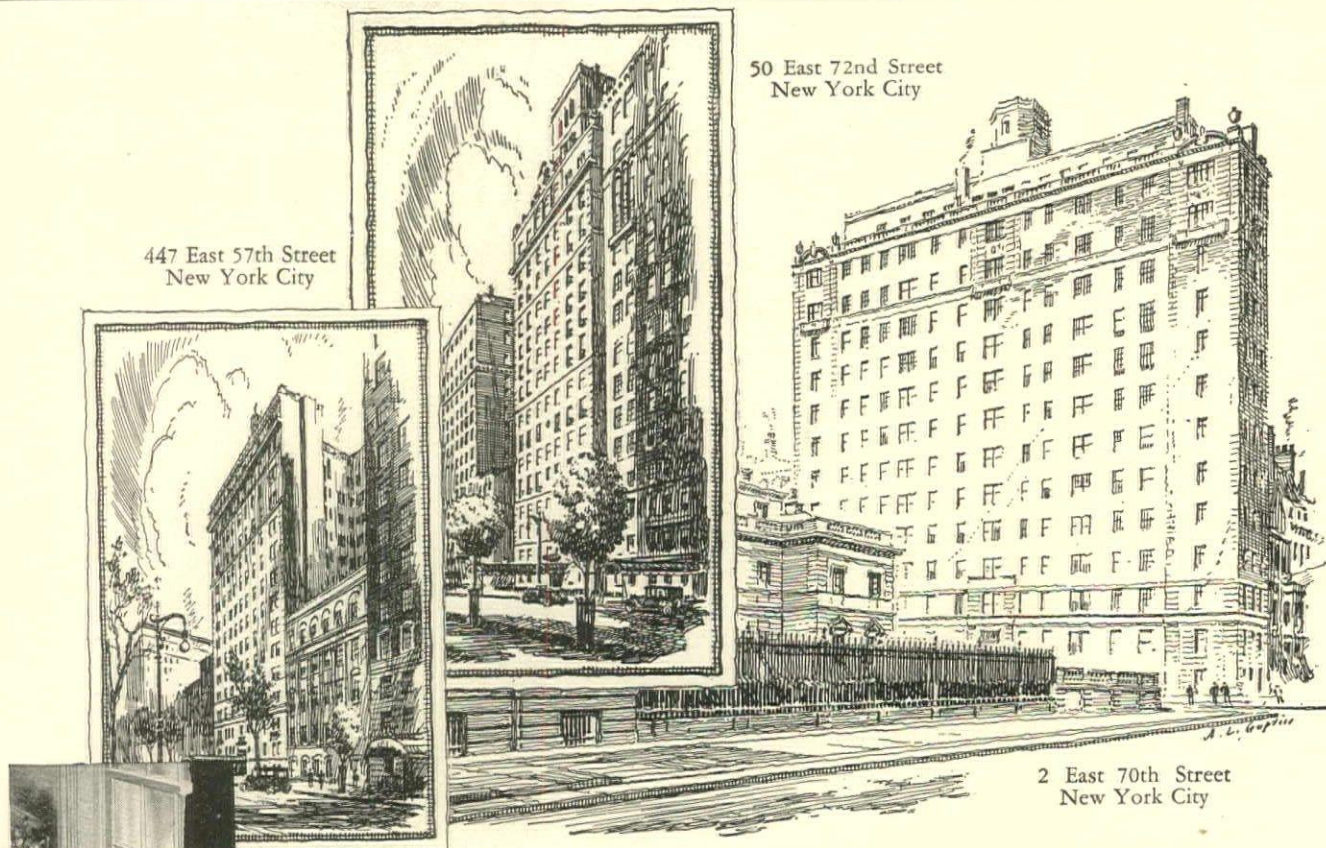
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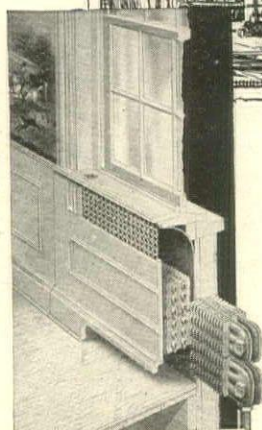
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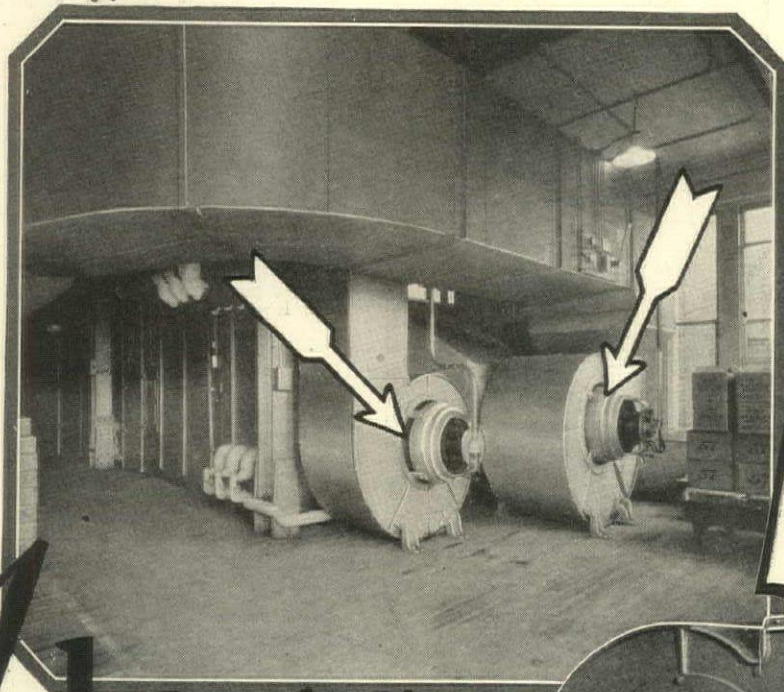
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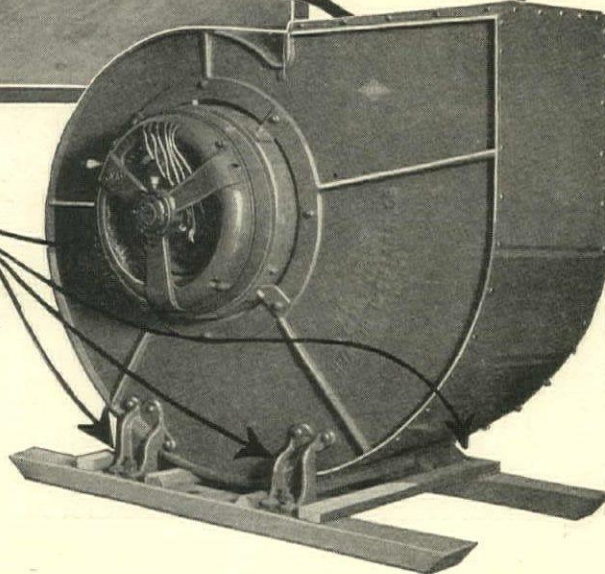


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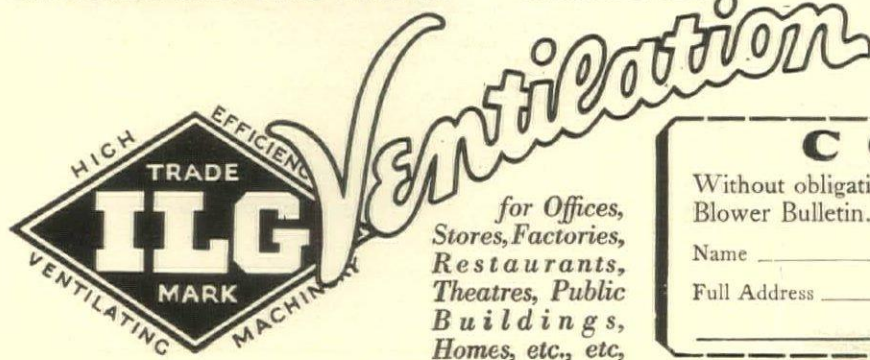
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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of The American Architect, published semi-monthly at
New York, N. Y., for April 5, 1929.

State of New York } ss.
County of New York }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared H. J. Leffingwell, who, having been duly sworn according to law, deposes and says that he is the President of The American Architect, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication, for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, to wit:

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

Publisher—The Architectural & Building Press, Inc.,
235 East 45th Street, New York, N. Y.

Editors—B. F. Betts and R. W. Sexton,
235 East 45th Street, New York, N. Y.

Business Manager—H. J. Leffingwell,
235 East 45th Street, New York, N. Y.

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent. or more of the total amount of bonds, mortgages, or other securities are: None.

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

H. J. LEFFINGWELL, Business Manager.

Sworn to and subscribed before me this 2nd day of April, 1929.

(Seal)

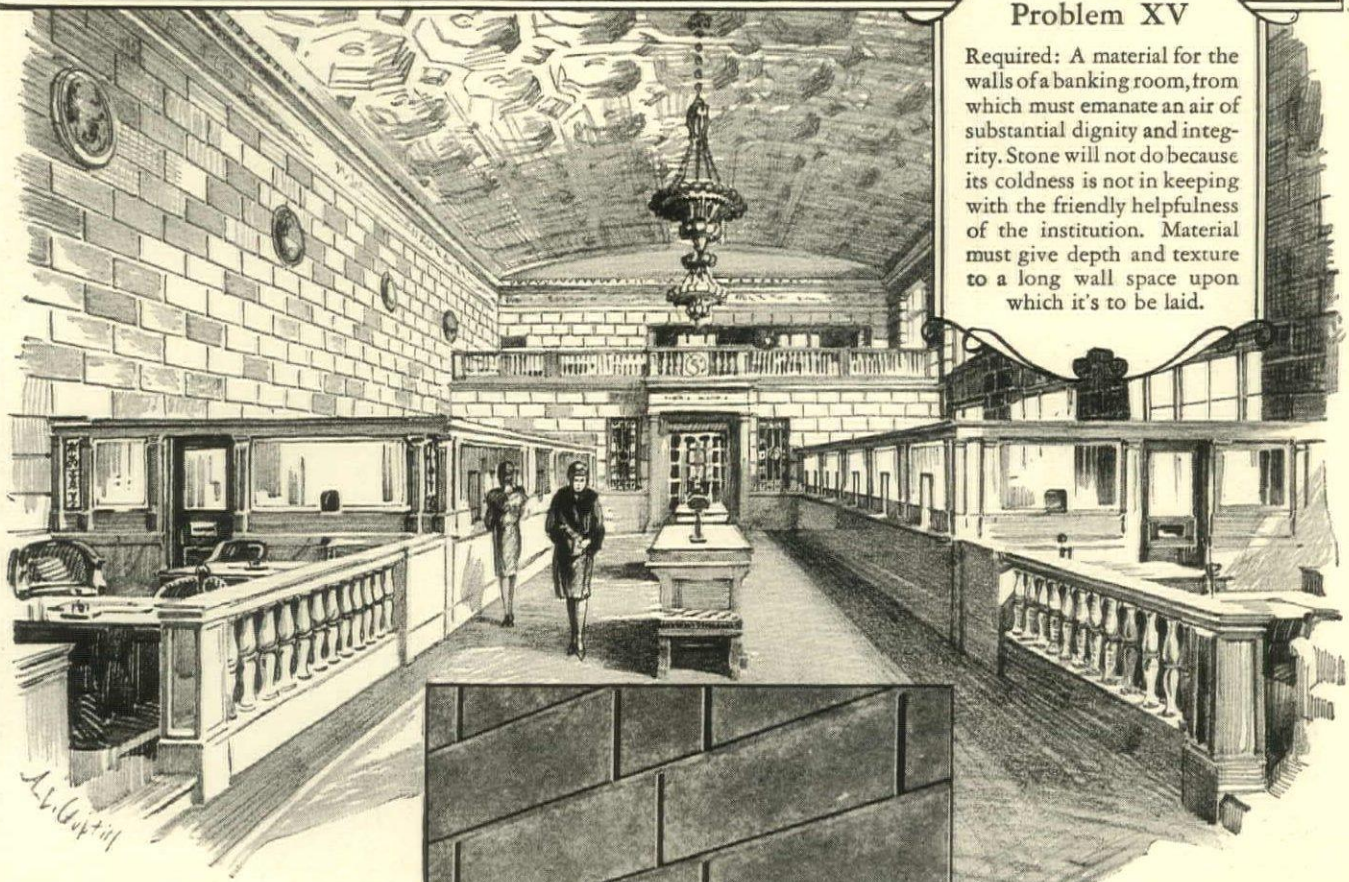
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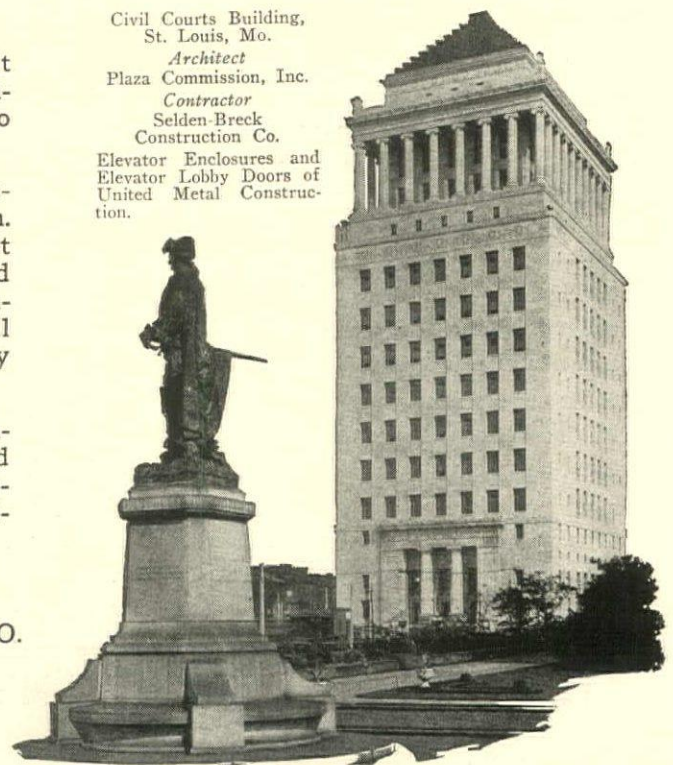


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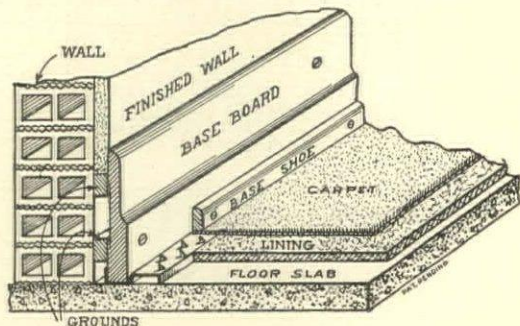
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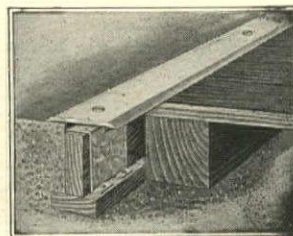
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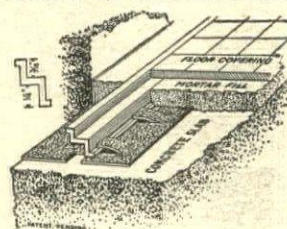
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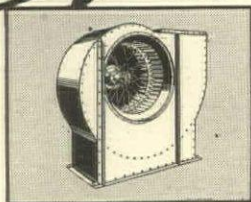
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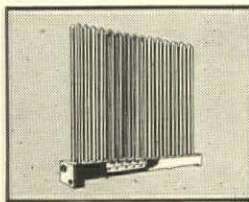
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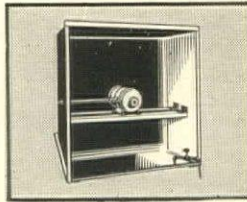
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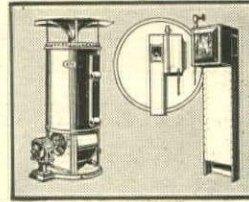
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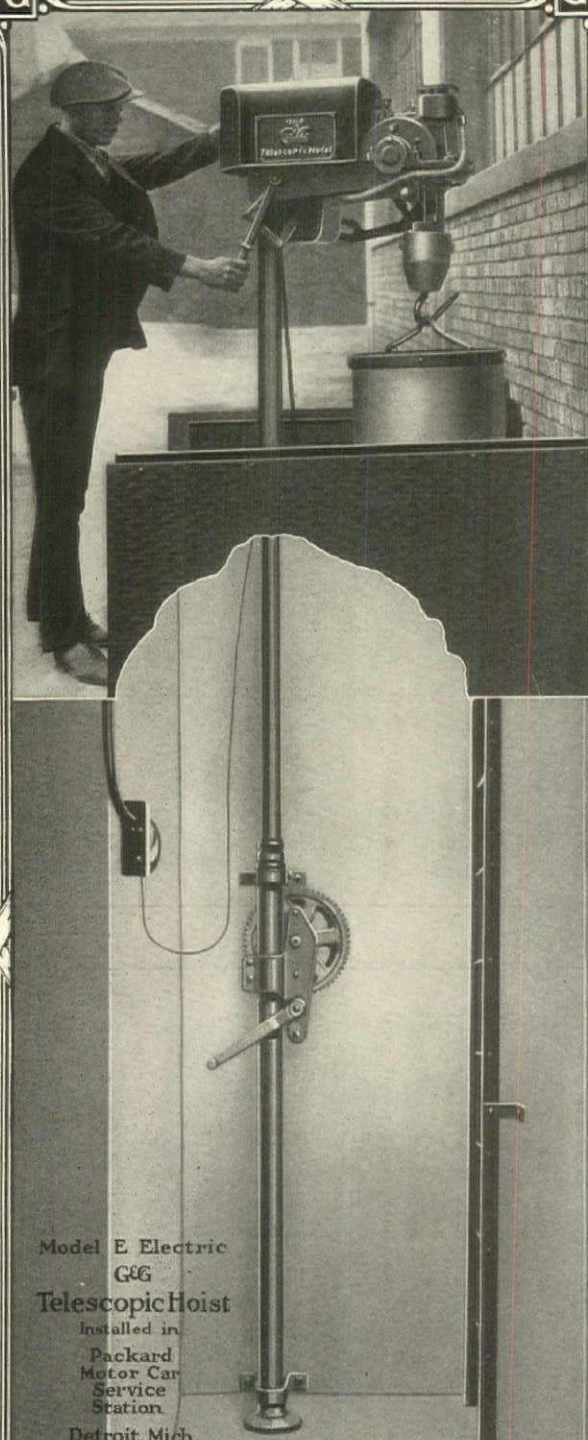
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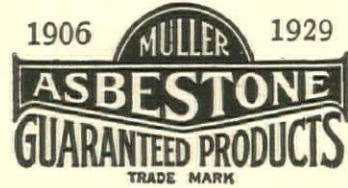


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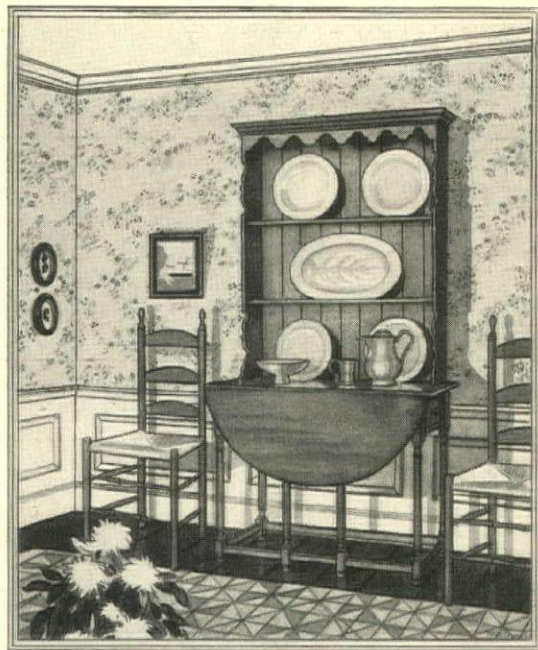
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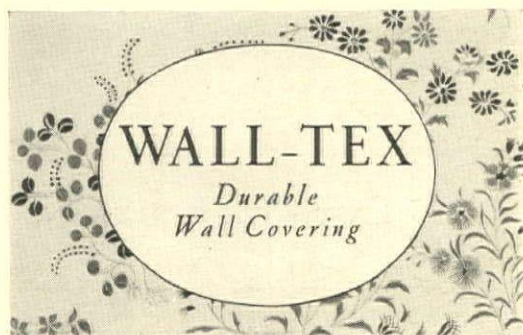


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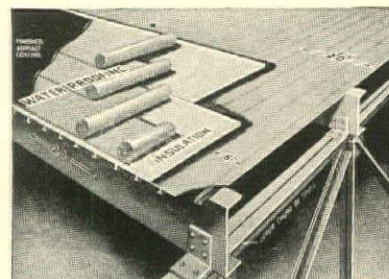
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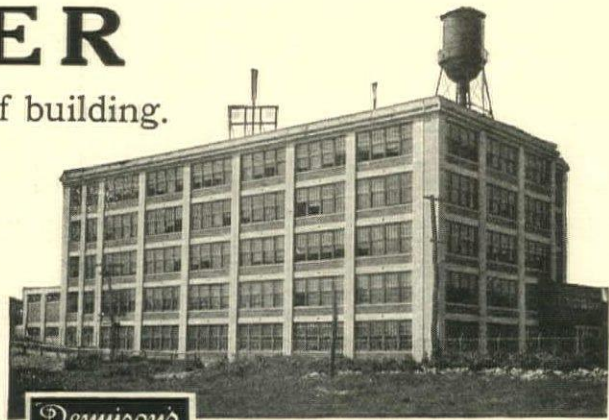
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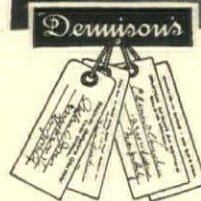
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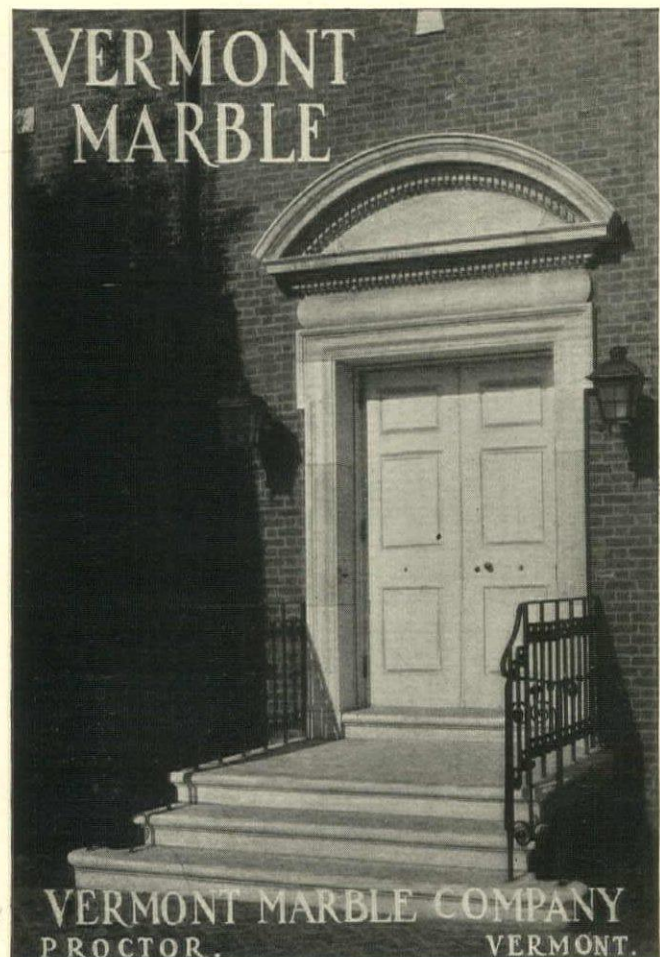
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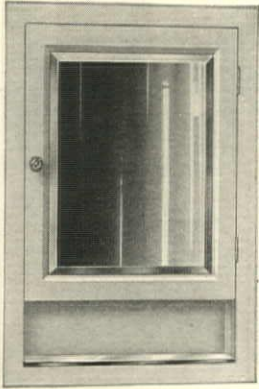
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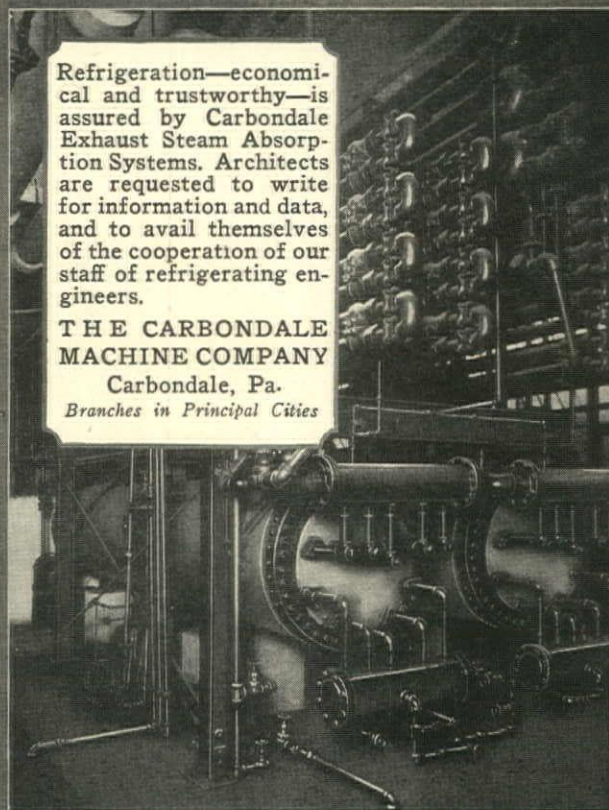


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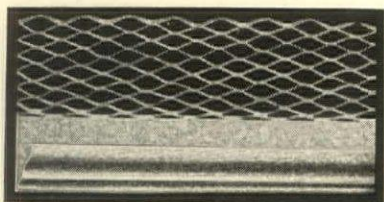
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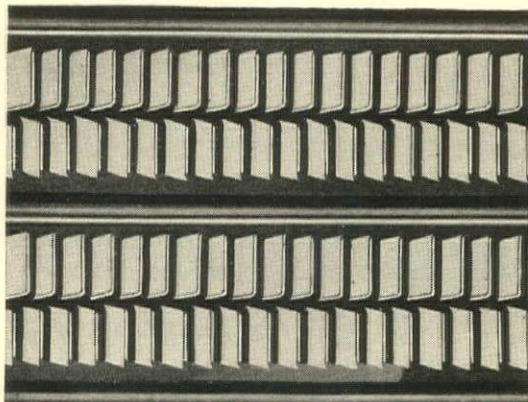
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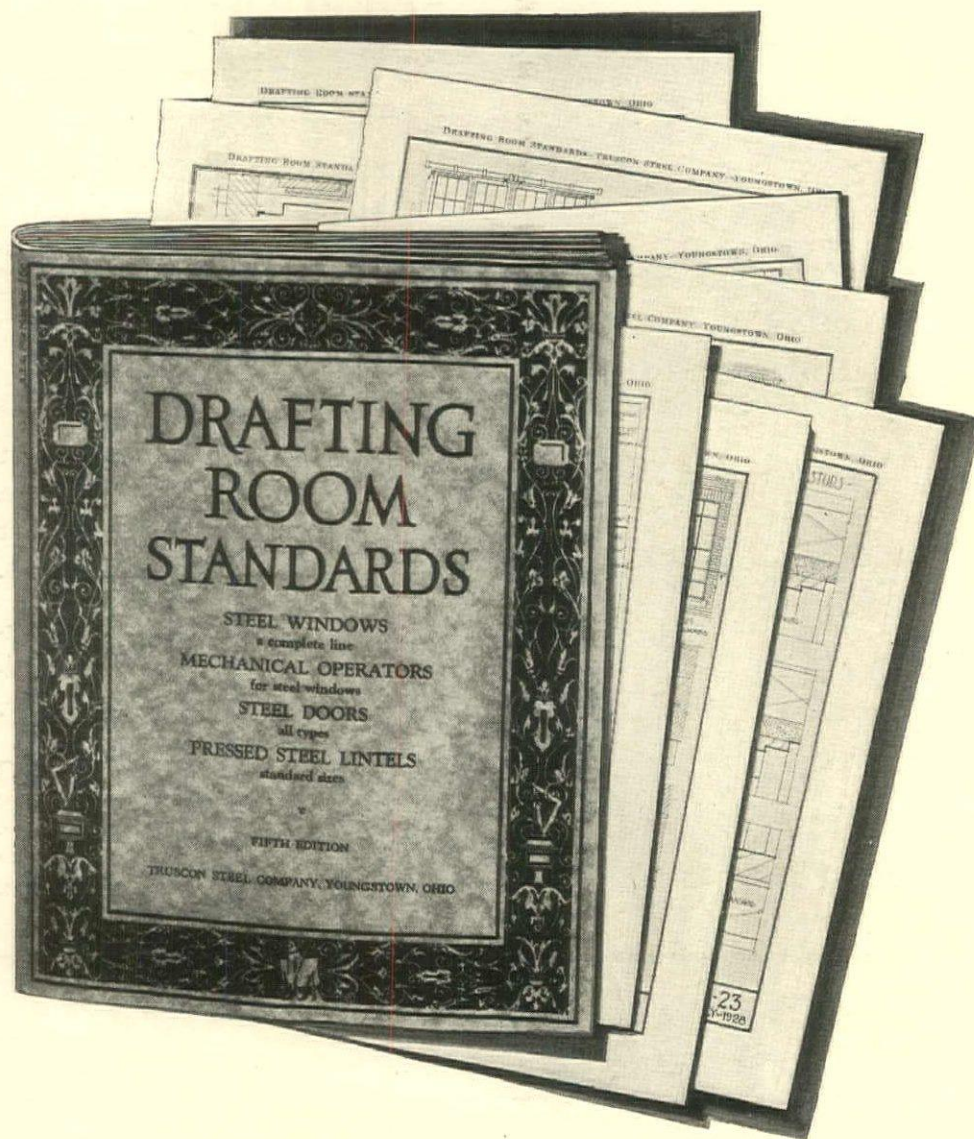


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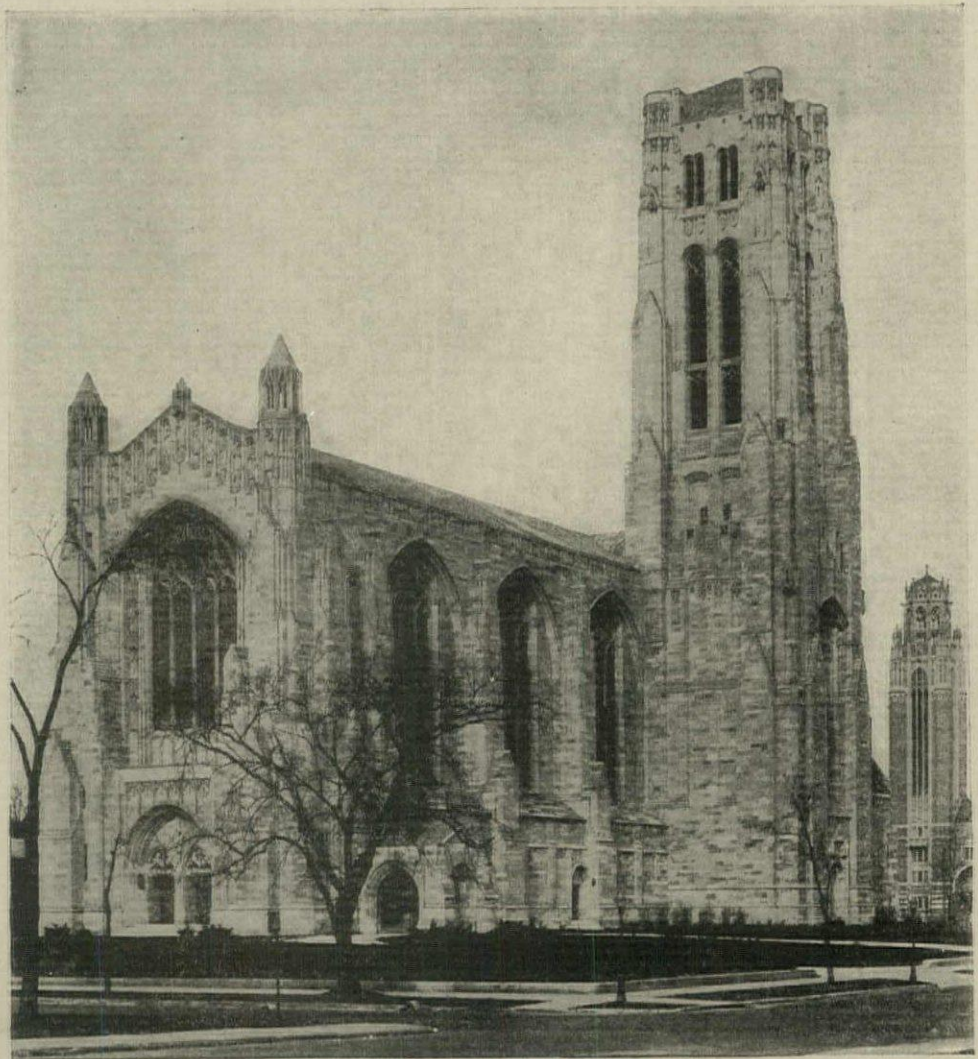
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