

THE AMERICAN ARCHITECT

VOL. CI.

WEDNESDAY, JANUARY 31, 1912

No. 1884

BLOWN PATTERN GLASSES

By E. H. BOSTOCK

THIS is the second article of a series of four by Mr. E. H. Bostock on Architectural Glass. The first article, on Clear Glazing, appeared in our issue of November 8, No. 1872. The succeeding articles, to appear early in 1912, will treat of Rolled Glasses and Glazing Methods. The series will present the subject of Architectural Glass in a comprehensive manner and will contain information that will be of value to architects in selection and specification.



So far we have spoken of glass as used in clear glazing, but there is an infinite and increasing number of glasses in colors, designs, patterns and "specials" devised for certain utilitarian and obvious reasons and a number for art purposes only.

Behind the production of any one of these glasses there must of course be a reason for its being and it is for the architect if possible to know that reason and to fit the glass to its intended use when in his practice the occasion arises, for so long as we borrow the best of all ages in our architecture so must we use the appropriate glass to go with it.

We have noticed previously that the Romans first commenced to glaze to any extent and that isolated finds of Roman window glass have been known and usually spoken of as being cast plates. A few years ago, in excavating some Roman ruins upon the Rhine, small panes were recovered which fell into the hands of a famous German firm. After studying them, they undertook their reproduction by a blowing process, obviously that by which the originals were made and as by manipulation of the melting they secured practically the same glass as produced in the low temperature furnaces of the Romans it would seem that the time stains alone are all that differentiate them from the originals.

The originals were about 6 inches by 9 inches, one-half inch or so thick in the

center and one-eighth inch at the edge, and of a greenish tint.

This glass is now marketed in various sizes up to 14 inches by 17 inches and in different tints under the trade name of "Norman Slabs."

It cannot be said that they fit particularly in any type of architecture as straight glazing, unless it be the narrow windows of a Norman tower, but used in conjunction with other glass for artistic effect, where the object is to obscure vision and yet let in practically a full light, they will probably be largely used, as this blowing process seems to leave the glass with a limpid texture.

An interesting survival in glass is that of the Rondel, the glass made on the "crown" principle, as explained in a previous chapter.

This was the form in which the old "forêt" glasses were often blown. Some very old specimens are still to be found in existing windows and the probable date of their manufacture can almost be told by the relative clearness of the glass. As furnaces were built to maintain higher temperature improvement is to be noted in the gradual disappearance of devitrification, striæ and blisters.

These have been imitated by having glass pressed to the same shape, but in them the strain marks of the spinning are missing and the imitation can thus be readily told.

These Rondels are usually only found in old work up to about 5 inches or so in diameter, though it is possible to produce them up to 12 inches. They were used

with all types of mediæval architecture, surviving most recently perhaps in certain specialized forms of German work.

Today they seem best suited to use in reproductions of the German style, par-



A GEORGIAN DOORWAY, SHOWING THE USE OF CROWN BULLIONS

ticularly perhaps in rathskellers and similar work, when leaded up unto the window as a whole.

Splendid specimens are found in Fraunce's Tavern in New York, some windows of which, with other materials, were brought from the Low Countries, and it is notable that with the restoration of the Tavern a few years ago, it was possible to again get these Rondels, the time stain alone being missing.

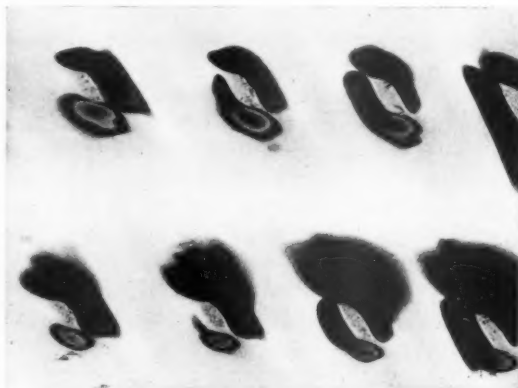
Along the same line of development, comes the crown glass now hard to procure, as its making is almost obsolete and only surviving really on account of its decorative quality.

In the beginning the "bullion" or point of attachment to the working tool was cut away, but when afterwards used as a point of economy their beauty was seen, and in the eighteenth and early nineteenth centuries it was a frequent use of the bullions to cut them to fit the lights of the upper half of a sash window. As it happens this was the period of New England's upbuilding, and

frequently these lights are to be so found. For a true reproduction of Colonial work they should be used as described.

As far back as we can trace glass we find it in colors. At first in all probability accidents by the chance inclusion of some metallic oxide in the glass mixture to be elaborated year by year, as by experimentation, the right coloring oxides were known until the art had reached a very high degree by the twelfth century, when practically every precious stone was exactly duplicated in glass. Secrets have been lost and rediscovered since then, but it is sure that today the glass maker can produce more colors than ever. Any color or tint can be duplicated, as witness the 37,000 distinct tints of the Venetian mosaic workers.

A colored sheet glass of pure, clear color, is produced in any desired tint as sometimes the architect has need of a certain colored interior light and uses them to attain it. Their adoption has been rather limited by this era of leaded glass, but they still find use in vestibule lights, lantern lights, signs and plating. Some colors, notably ruby and green, when blown in solid sheets, are found to be too strong in color for the usual uses; to overcome this it was found best to "flash" them, that is produce a sheet of crystal glass coated or flashed with the color on the inside of the sheet only and by



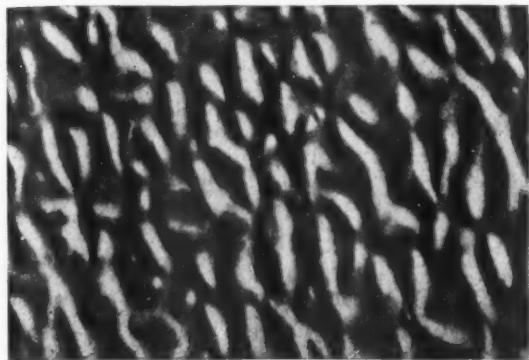
VENETIAN GLASS

the thickness of the flashing produce any desired tint.

This flashing is done by having the workman gather the necessary amount of the colored glass first upon the pipe and after-

THE AMERICAN ARCHITECT

wards the crystal, the result being that the color would be upon the inside of the sheet and very uniform in thickness. One firm alone now markets seven standard tints



MUFFLED GLASS

in ruby and an infinite variety of tints for special purposes.

A great number of beautiful door and partition lights are made from these glasses by etching away the color with acid to show the crystal glass in designs.

During the last few years there have been produced a few colors in double flashes, that is, glasses coated on each side with a color and having a crystal center. On these glasses, by etching, it is possible to produce any combination of three colors and crystal in any degree of shading. So far, these glasses have been mostly used in leaded work, but it is possible by etching and cutting to produce some very beautiful designs for purely decorative effects.

Analogous to the flashed glasses are the "enamels," a type of glass produced by "enameling" or giving a coat of paste enamel of the desired color upon the surface of sheet glass; the white is the most usual color, as by this process a purer white surface can be gotten than by any other. Its uses seem to be limited, however, to the work that can be produced from it for signs or decorative work by wheel cutting or acids.

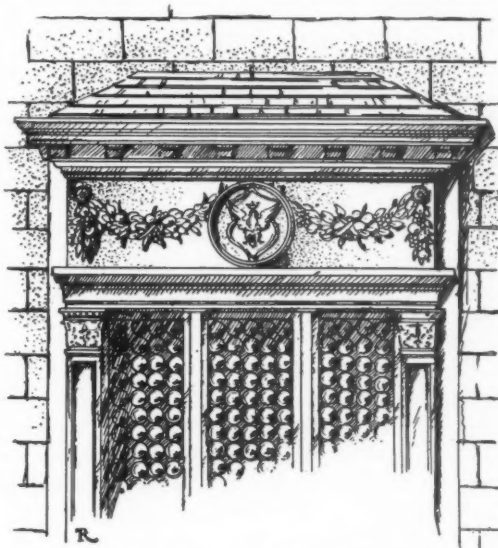
A rather peculiar type of sheet glass, probably not so much used as formerly, is the "sanded," usually seen in "ruby" or "crystal," though produced in any desired color. The sanded effect is produced by dusting upon the surface of the glass, while still hot in the flattening oven, a

quantity of fine sand which, adhering to the glass, gives it a peculiar antique effect, especially effective in throwing designs or letters into relief, for which purpose it is generally used.

In the matter of the use of the absolutely plain surfaced colors of which we so far have been speaking, the selection of the appropriate color to be used must rest with the architect as fitting the particular work in hand. Any tint desired may with care be produced.

Sometimes it is desired to show a green light or window, as a matter of recognition such as police station work, and it must be remembered that if a yellow light, such as given by gas or oil flame is shown back of the ordinary green glass of commerce, it will show blue to the eye, and it is necessary to specify "signal green" glass, this being a blue-green glass that will, with the yellow flame, show green to the eye.

Absolutely opaque black glass is also produced, and finds a use principally in the production of false windows, for while, of course, there is no vision, yet its surface, being highly glazed, gives almost a complete deception if viewed at an angle. A



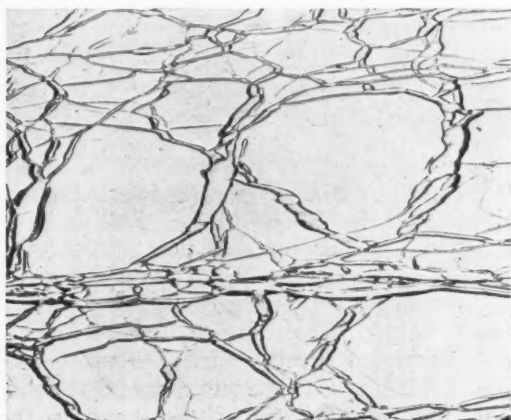
A GERMAN TYPE OF RONDEL WINDOW

case in point is where a large ballroom built as a wing was glazed upon the abutting wall with windows of the same construction as the others, giving to the ball-

THE AMERICAN ARCHITECT

room at night a complete detached appearance.

Probably the pot color most in use is the opal used extensively for painting signs upon, for a cheap tiling and for a reflector glass. It is excellent for this latter purpose.



CRACKLED GLASS

It is almost impossible to say where or how the idea of producing sheet glass with a pattern or marked surface originated;—possibly from the initiative of those who glazed the rondel and bullion centers as a matter of ornament. The first commercial figured glass would seem to be the Venetian which is about a century old. This is still being made in the “muff” form used before the making of cylinder glass became common. The ornamentation obtained was simply a series of crude knobs and has almost passed into disuse, but still is an excellent glass to use in giving the appearance of heaviness to a small front by inclusion in the door and transom lights and possibly in small paneled sash.

The “Venetian” seems to have opened the way, however, for the beautiful “muffled” glass produced now these many years and this is undoubtedly one of the most useful glasses made, being obtainable in any color and of such a soft, even texture that it does not seem out of place in any combination and in the case of the “Chance” pattern lends itself to use in lead, wood or any style of glazing or design and particularly is it to be recommended for dome lights.

The Venetian and Muffled patterns are both produced upon the sheet by the blower

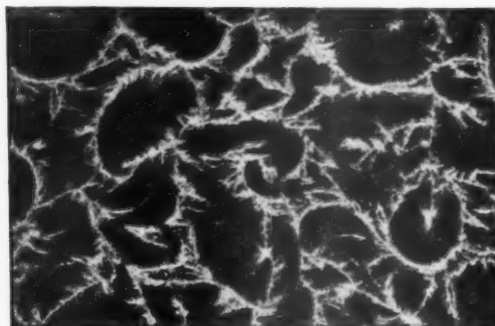
placing the cylinder while in process of blowing within a mould which closes upon it and the blower at the same time inflating the cylinder as much as is possible causing the markings of the mould to be impressed upon its surface.

A somewhat similar process is used to produce “fluted” glass. It was long ago noticed that longitudinal markings upon the ball of molten glass were elaborated by the blowing process into a “flute” the full length of the sheet. This flute was improved by a mold into which the workman dropped the ball of molten glass afterwards to be reheated and formed into a cylinder fluted its full length.

Used first as a decorative glass, it was noticed that by deflecting the light it intensified the interior lighting wherever used. This led to an investigation that by various stages led up to the modern prismatic glass now so largely used. When it is desired to have prismatic lighting set in designs this “fluted” glass is desirable, for the flute has been intensified as much as is possible without giving it a machine-made look, and with its smooth fire polished surface gives a pleasing effect.

Because of its power of gathering light when silvered, fluted glass makes an ideal reflecting mirror, and as such is largely used.

Always as far back as glass objects of any size have been made has been seen the



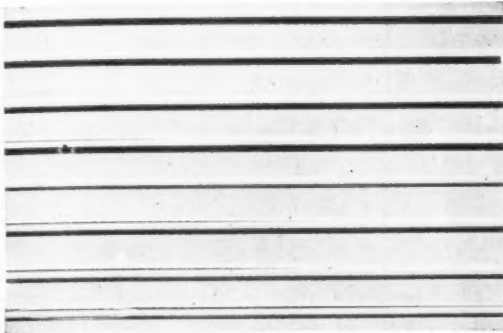
CHIPPED GLASS

“crackling” of glass as a means of ornamentation. This effect is secured by dipping the molten glass at some period of its working into water, “crackling” the surface. The glass being immediately warmed up again these cracks did not

THE AMERICAN ARCHITECT

penetrate into the body of the metal and by the pull of the working the surface cracks were transformed into an irregular pattern as illustrated.

This is an exceedingly attractive glass, but recommended only where it is possible to glaze with cracked face to the interior, as it is so apt to catch the dust and dirt. It is rather fragile too and we cannot advise its use larger than about 24 x 32 inches. It



FLUTED GLASS

attained a great vogue some twenty-five years ago, but recently has fallen into disuse except as to leaded glass, where it is no particular matter if it is hard to clean. Its field would seem to be straight glazing rather than leaded work, for its pattern, being so indefinite, can seldom be made to conform to any design. Some rather good effects in inside domes are secured with this glass and in bookcase lights.

Where the object is to shut out all vision the architect will, of course, call for "ground" or "obscured" glass. This was produced for centuries by abrading the surface of sheet glass with sand, but in 1870 an English patent was granted for the grinding of glass by a sand blast process. This greatly cheapened the process and extended its use. It is applied to all manner of glass, but in the case of plain ground it would be wise not to subject lights of any size to mechanical strain because as a rule only the defective glass which cannot otherwise be glazed is ground.

Chipped, Frosted or Crystalline glass are names variably applied to the same glass, although the former would seem to be the better, having in mind the process by which it is produced of coating the surface with glue in a liquid condition, which contracting

strongly as it dries chips or tears off thin shreds of the surface with it, producing the frosted effect. This process is sometimes repeated, making the marking very much smaller and known as "Double process chipped."

In the chapter upon the manufacture of glass the phenomena of devitrification was mentioned several times; this resulted quite often in wood or coal heated furnaces when the glass was held at a low temperature for some time; it being understood that glass, not being a definite chemical compound, it always holds in solution a small surplus of some of its constituents and if the furnace temperature is held at about the point of crystallization of any one of these it will attempt to crystallize out, producing crystals several of which form together into a small nucleus of devitrification, a great number of which may be spread throughout the entire sheet.

To the trade this glass is known as "am-bitty." At a short distance from the eye it resembles the modern "antique" glass in its rough texture and can be used in its stead in all decorative schemes and especially in connection with rough surfaces, as stucco or cement stone. It is rather fragile though and should only be used where the glazing calls for small panes not over 12 x 14 inches or so in size.

A half a century or so ago with the revival in the art of glass painting and staining came the recognition that a great deal of the beauty of the old work was within the glass itself. The painters were handicapped because the glass maker for centuries had sought to produce a clear crystal and a pure color in glass and here and there a new color or tint has been produced either by accident or design. All this knowledge being successively handed down until every imaginable color was at their disposal all that they needed was a reproduction of the old texture. Two or three firms applied themselves to this problem and now for some years have been producing most beautiful "antique" glass in every imaginable shade of color.

While made primarily for the glass stainer, it is particularly effective in church work, either as quarries for straight glazing, or for any building in which the windows are a predominant feature, as there is enough shading in the glass to make it pleasing to

THE AMERICAN ARCHITECT

the eye and take away the obtrusive appearance from large windows not filled with leaded design work.

Being made in the muff form it can only be

procured up to 18 x 30 in size and on account of its uneven thickness is best only putty glazed if not glazed in lead Came.

(To be continued)

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS

THE church illustrated in this issue is an attempt to unite various elements and obtain a building of good acoustic properties with the seating facilities of a modern auditorium, and at the same time have it ecclesiastical in visual effect. The style used is a freely conceived one, its ecclesiasticism extending to the adoption of various Gothic forms from the French as well as the English. In all cases the ornament and the carved forms are subordinated to the large masses and surfaces of undisturbed stone.

The material is Indian buff limestone, from the Bedford quarries. A special shelf was quarried and used exclusively for this work. The stone is rubbed, not tooled, and the result is a cream color shading almost to ochre or pink. The tooling of the stone was found to break the crystals, giving a much whiter result quite lacking in color. The stone is not painted on the back, but is laid in stainless cement as is also the brick backing.

The auditorium over all, including the apse, is 135 feet. Its width is sixty-two feet. Its height is fifty feet three inches. The seating capacity is 1,150, with certain arrangement for additional seats. The interior walls are of plaster, three coats, sand finish on expanded metal and furring. The only stone in the auditorium is around the large windows. The ceiling is wood supported from steel trusses above. The auditorium is wainscoted and trimmed with plain sawed red oak. The proportion of the room, together with the furred plaster wall, wainscoting and wooden roof, has resulted in practically perfect acoustics. When empty the room has considerable reverberation, which gives, when filled with people, great life, but absolutely no echo to spoken, as well as musical, tones.

The construction of the entire building is semi-fireproof.

The entire first floor of the auditorium as well as the Parish House is of concrete, reinforced by continuous round bars crossing at an angle of twenty-two degrees. Other floors are of wood joists and steel girders with expanded metal lath on all ceilings, and two-inch concrete between rough floors.

The boiler room is separated by automatic fireproof doors from other portions of the building.

The building cost \$220,000 with the organ, which cost \$20,000.

There are several innovations in the fabric of the building which have proved satisfactory. The floors throughout the Parish House and church, except stairs, are of linoleum of a soft brown, uniform color. This is noiseless, easily cleaned and of excellent appearance. All the stair treads and platforms are of cork tile.

The entire surface of the walls of the auditorium is painted with a very soft, light fawn color with a patent paint which dries with a very soft satin finish. All banded courses and the archivolt of the arches and all ornamental work are painted with the same paint, but of a much lighter shade. The glass is plain English leading in squares with all of the corners rounded, and with very wide leads. The glass used was the kind known as amber cathedral, and proved very satisfactory, except in the auditorium, where it was necessary to give it two coats of Mica paint stippled on. The banded glass treated in this manner is very pleasing and suffuses the church with a soft light. The woodwork is dark fumed oak, and the general effect of the color scheme is of brown illuminated with the golden glow of the windows.

(Concluded on page 56)

THE AMERICAN ARCHITECT

THE AMERICAN ARCHITECT

Founded 1876

PUBLISHED EVERY WEDNESDAY BY

THE AMERICAN ARCHITECT (INC.)

No. 50 Union Square, New York
(Fourth Avenue and 17th Street)

G. E. SLY, PRESIDENT

E. J. ROSENCRANS, SECRETARY AND TREASURER

Address all communications to "THE AMERICAN ARCHITECT"

SUBSCRIBERS' RATES:

In the United States and Possessions (Porto Rico, Hawaii,
Philippine Islands and Canal Zone)
Mexico and Cuba

TEN DOLLARS PER YEAR, POSTAGE PAID

ALL OTHER COUNTRIES . . . \$12.00 PER YEAR

SINGLE COPIES (Regular Issues), 25 CENTS

Entered at the Post-office, New York, as Second-class Matter

VOL. CI JANUARY 31, 1912 No. 1884

CONTENTS

BLOWN PATTERN GLASSES - - - - - 49

THE FIRST METHODIST EPISCOPAL
CHURCH, EVANSTON, ILL. - - - - - 54

EDITORIAL COMMENT - - - - - 55

ILLUSTRATIONS:—

FIRST METHODIST EPISCOPAL CHURCH,
EVANSTON, ILL.

FRONTISPIECE:—

DETAIL OF ENTABLATURE, CHURCH OF THE
CARTHUSIANS, PAVIA, ITALY

THE LINCOLN MEMORIAL

THE movement in Congress looking towards the substitution of a roadway for the original form of monument proposed as a Lincoln Memorial appears regrettable in the extreme. Not only does a public highway lack those features which render a memorial appropriate to its use but the scheme is visionary and impractical on account of the stupendous amount of money required to construct and maintain such a thoroughfare as is proposed. Moreover there has been advanced no cogent reasons for abandoning the dignified and appropriate memorial, the scheme for which has already been unanimously approved, and its site definitely chosen by experts of the highest ability. This plan has also been formally concurred in by a majority of Chapters and societies of architects, painters, sculptors and cultured people of the world, who urge

its adoption in strongest terms. It is to be hoped that Congress will regard the recommendations of that portion of our citizenship best qualified to judge in matters of this nature, and do nothing to interfere with the construction of the original form of memorial located on the site on the Mall designated by the National Fine Arts Commission as the one suitable location within the District of Columbia.

A PERMANENT CITY PLANNING COMMISSION FOR NEW YORK

AS a result of a resolution introduced by President McAneny of the Borough of Manhattan, a committee of the Board of Estimate of the City of New York, consisting of the five Borough Presidents, with President McAneny as chairman, has been appointed to prepare a plan and recommend legislation providing for a permanent New York City Planning Commission, to exercise advisory powers over all future construction and modifications of city buildings, parks and streets.

The creation of such a body is in line with modern progress and will serve to eventually place New York more nearly in the position to which the largest city in the United States and the acknowledged art center is entitled. The physical development of other cities, which has been going forward for some years, along lines dictated by careful study and providing for future growth, has left New York in an unenviable position. It is to be hoped that President McAneny's committee, which unquestionably has the support of a majority of the art and civic clubs and societies of New York, will proceed to an early fulfillment of its mission to the end that the many needed improvements of the city will be undertaken in harmony with a comprehensive scheme for civic betterments.

The projected removal of the Post Office from City Hall Park and the erection of a new County Court House, as a part of a vast scheme of improvement, seem to make prompt action imperative in order to avoid the possibility, which appears as a strong probability when past performances are considered, of having an ever-increasing number of costly errors for later correction. Without a plan which will

THE AMERICAN ARCHITECT

provide for an harmonious grouping and arrangement of public buildings, they are practically certain to be scattered in various localities, depending upon the conditions which prevail at the time of their erection. The inevitable result would be that at some time the great inconvenience of location and arrangement would be realized and it would become an economical necessity to remove and replace them elsewhere. It is therefore evident that steps about to be taken have a relation to future development which cannot safely be ignored. Nor can the matter be left to those who have not studied the subject of city planning, which involves the elements of transportation facilities, ease of access, as well as artistic grouping arrangement.

These matters can only be handled by a Board or Commission, the members of which are equipped by study and experience to furnish rational and profound solutions of the various problems involved. That such a committee should not be subject to early retirement or frequent changes in its personnel is obvious. Plans for the remaking of a city cannot be developed in

a day and after development there would be every reason for making the designers responsible for the proper and faithful execution of a scheme; at least such portions of it as could be carried out within reasonable limits of time. The wisest plans, the result of greatest care and study, are capable of being perverted and spoiled in their execution. For this reason the responsibility of a commission should not cease until the work provided for by its plans has been carried to a point as near completion as the limits of time, funds and other controlling elements will permit.

Borough President McAneny has many times during his administration shown both wisdom and appreciation in the handling of matters involving æsthetic considerations as well as those in which economic and financial questions predominated. His advocacy, however, of the measure which has resulted in the appointment of a committee, whose object it is to affect the creation of a permanent City Planning Commission, seems likely to have more far-reaching and beneficial consequences to the city than any of his previous official acts.

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

(Continued from page 54)

In regard to the lighting, an eye comfort scheme was developed which has proven successful. In the main auditorium eleven great chandeliers furnish light for the entire room. The chandeliers are boxes of oak with glass bottoms and sides. In each three 150-watt lamps in glass reflectors shine down and at an angle. The other lights in the auditorium, of which there are many, are for ornamental purposes only. They are all composed of tungstens in X-ray reflectors and all encased in wooden boxes. A similar scheme is used for the Sunday School auditorium, though there, as throughout the Parish House, use is also made of indirect lighting and straight wall brackets, all, however, equipped with tungsten lamps.

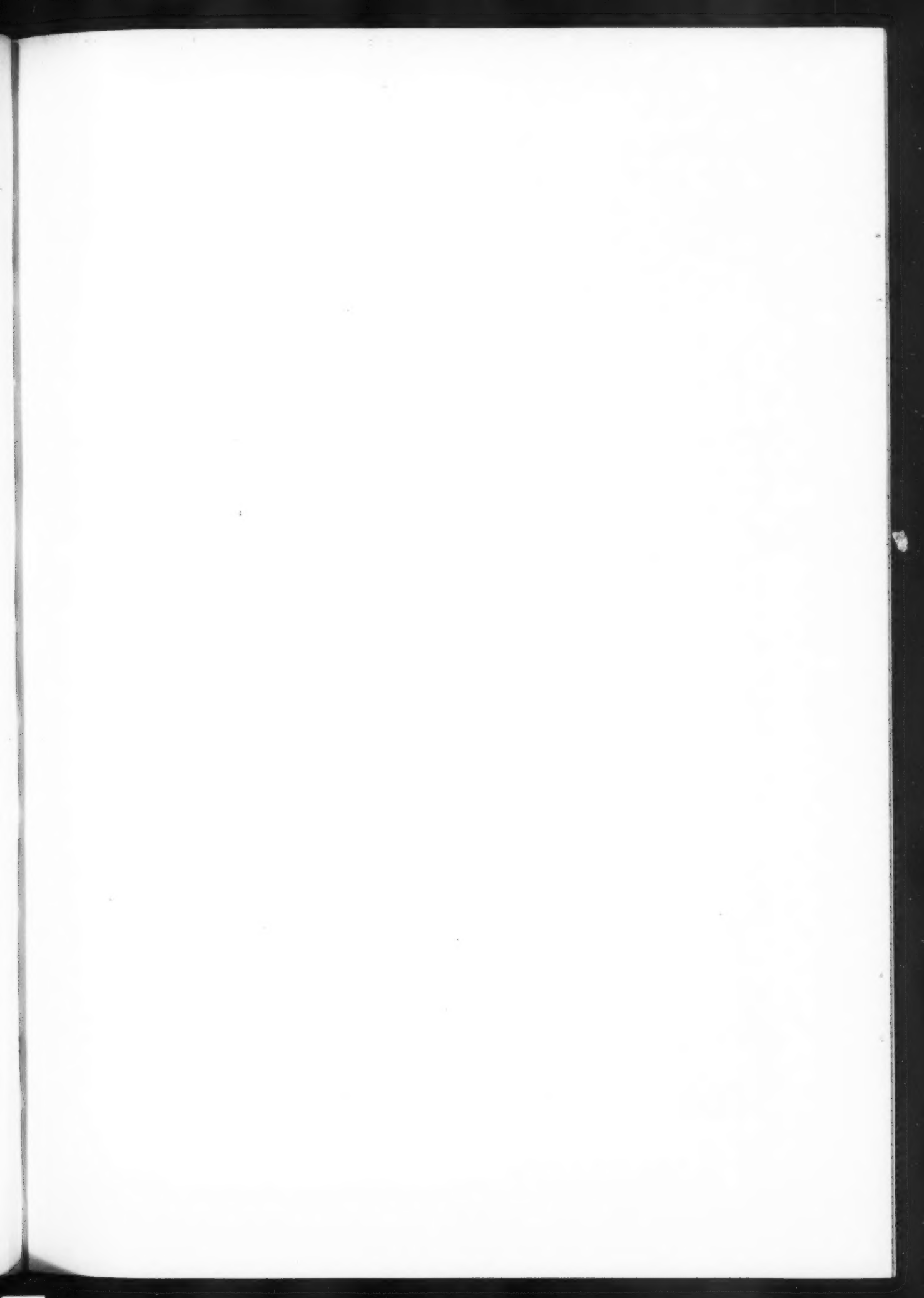
The ventilation of the building, especially the auditorium, is most interesting. There is a warm room in the basement of the Parish House with openings to the outside air. This room communicates through halls

to the unexcavated space under the auditorium. The floor of the auditorium is pierced with iron grilles in each bay, and the ceiling with wooden grilles, and the attic, in turn, opens with huge windows into the open tower. This insures a constant and slow current from the outside air of the towers.

The Parish House has a mechanical ventilating plant.

The ceiling of the auditorium is entirely of yellow pine, unselected. This was the cause of much foreboding, though now in the completed edifice, stained almost black, its unevenness in color adds greatly to the effect, and gives an air of mystery and height not attainable perhaps with a more expensive wood.

Another mooted question was the presence of one pinnacle instead of four on the main tower. The issue of one versus four pinnacles was discussed on all sides—in the local papers as well as on the streets. Bolstered up with the precedent of Notre Dame and firm conviction the architects were finally allowed to have their way.

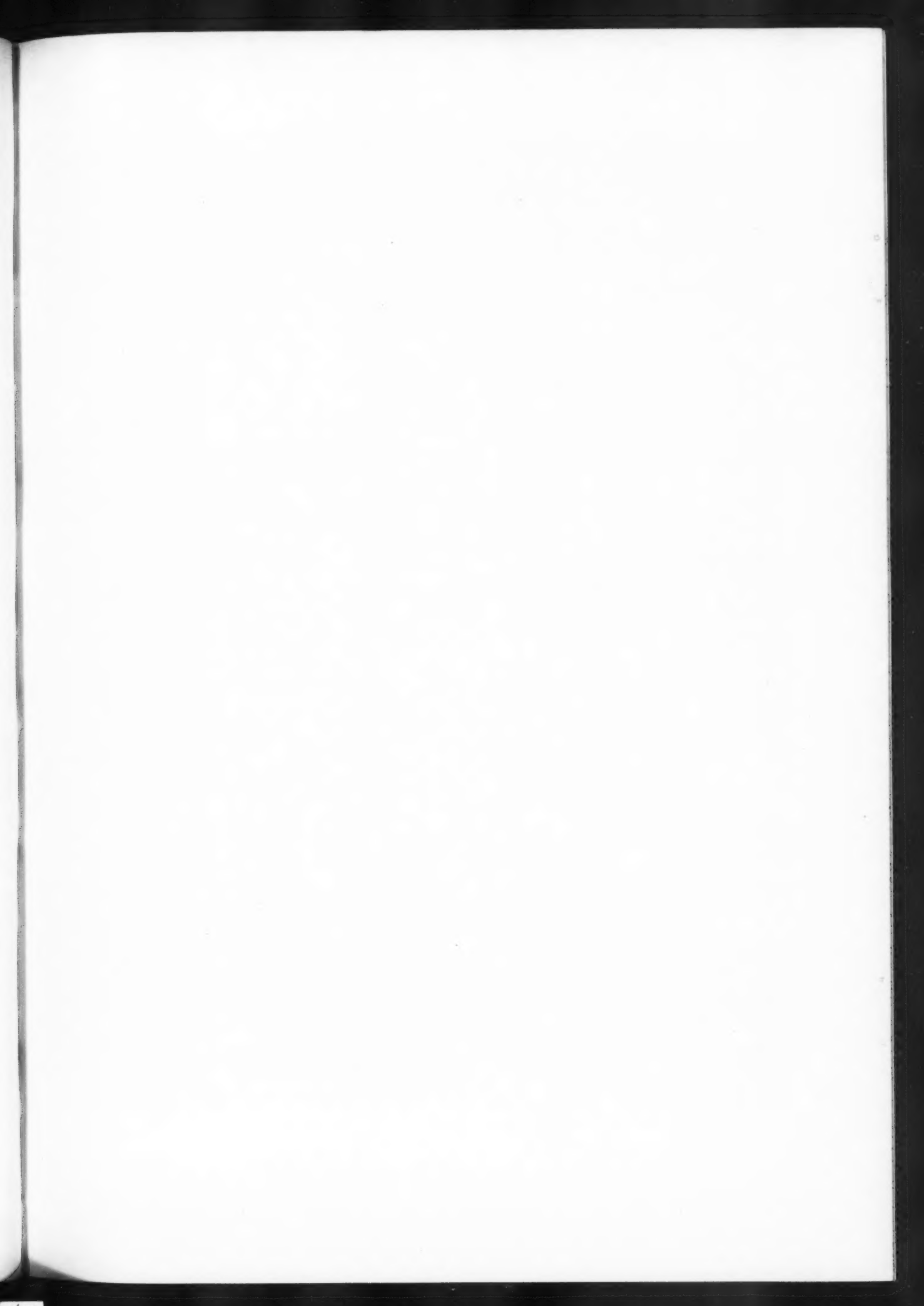




ABOVE, LADIES' PARLOR. BELOW, THE ASSEMBLY ROOM.

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS





ABOVE, THE AUDITORIUM, LOOKING EAST. BELOW, THE ENTRANCE VESTIBULE

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS

THE AMERICAN ARCHITECT

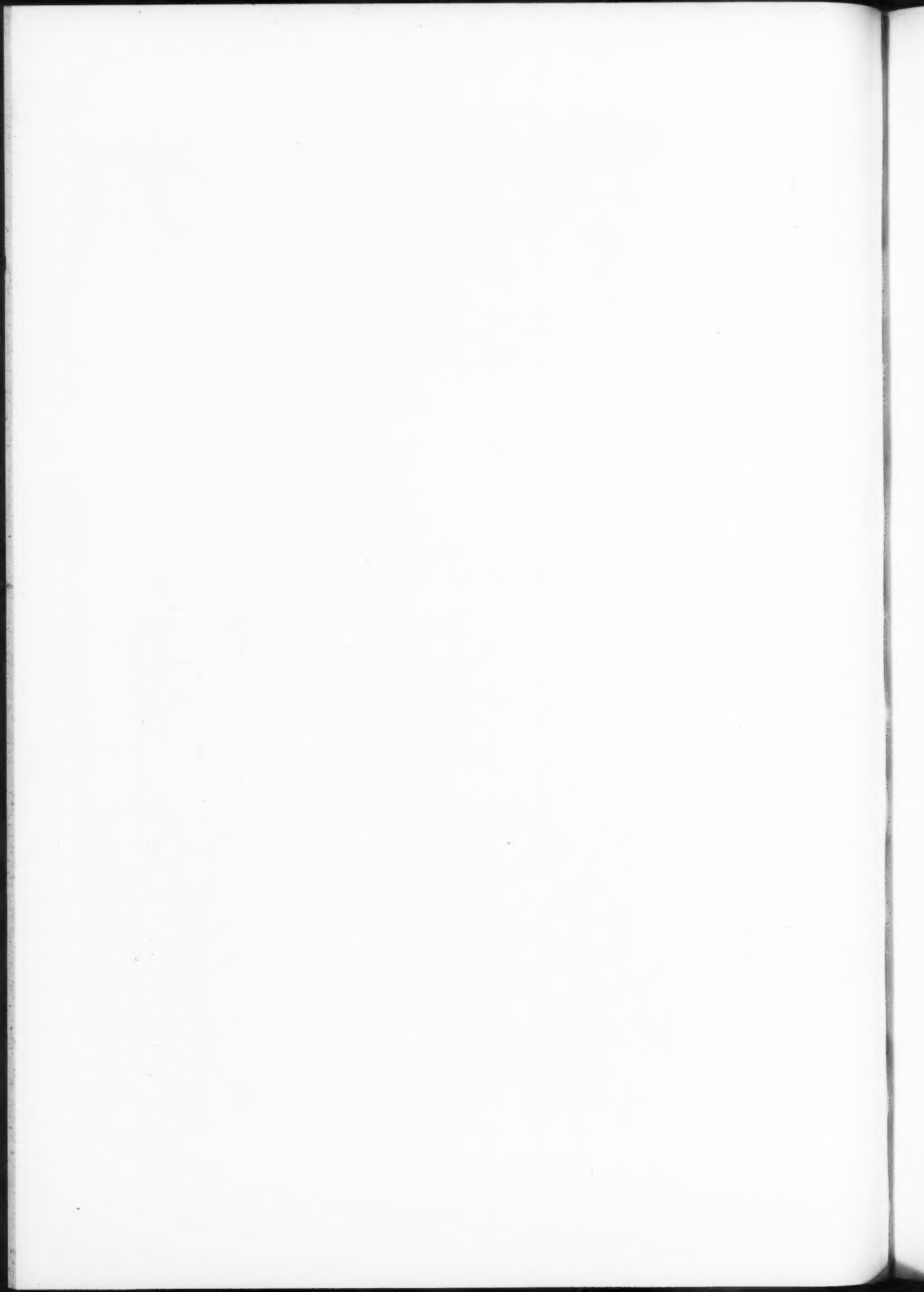
VOL. CI, NO. 1884

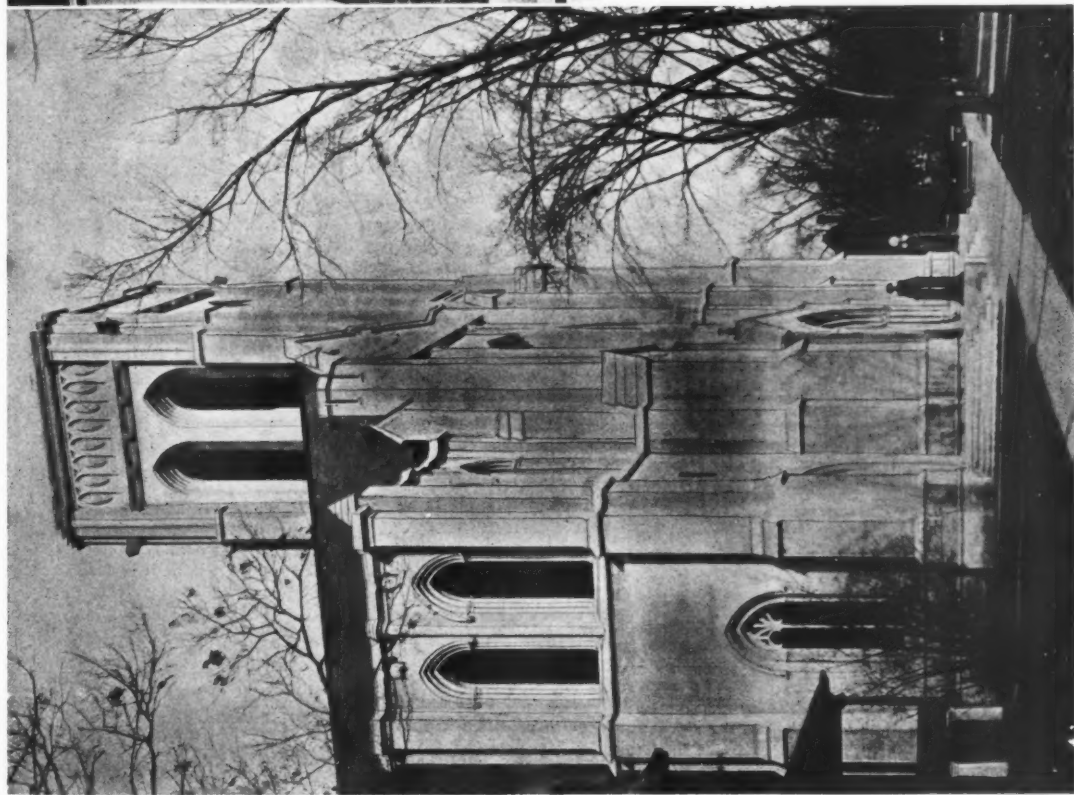


THE AUDITORIUM FROM THE GALLERY

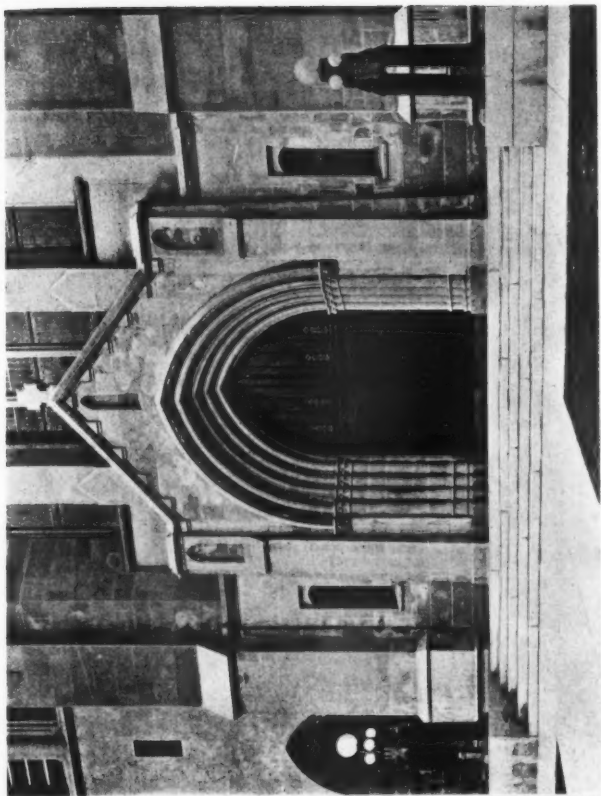
THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS





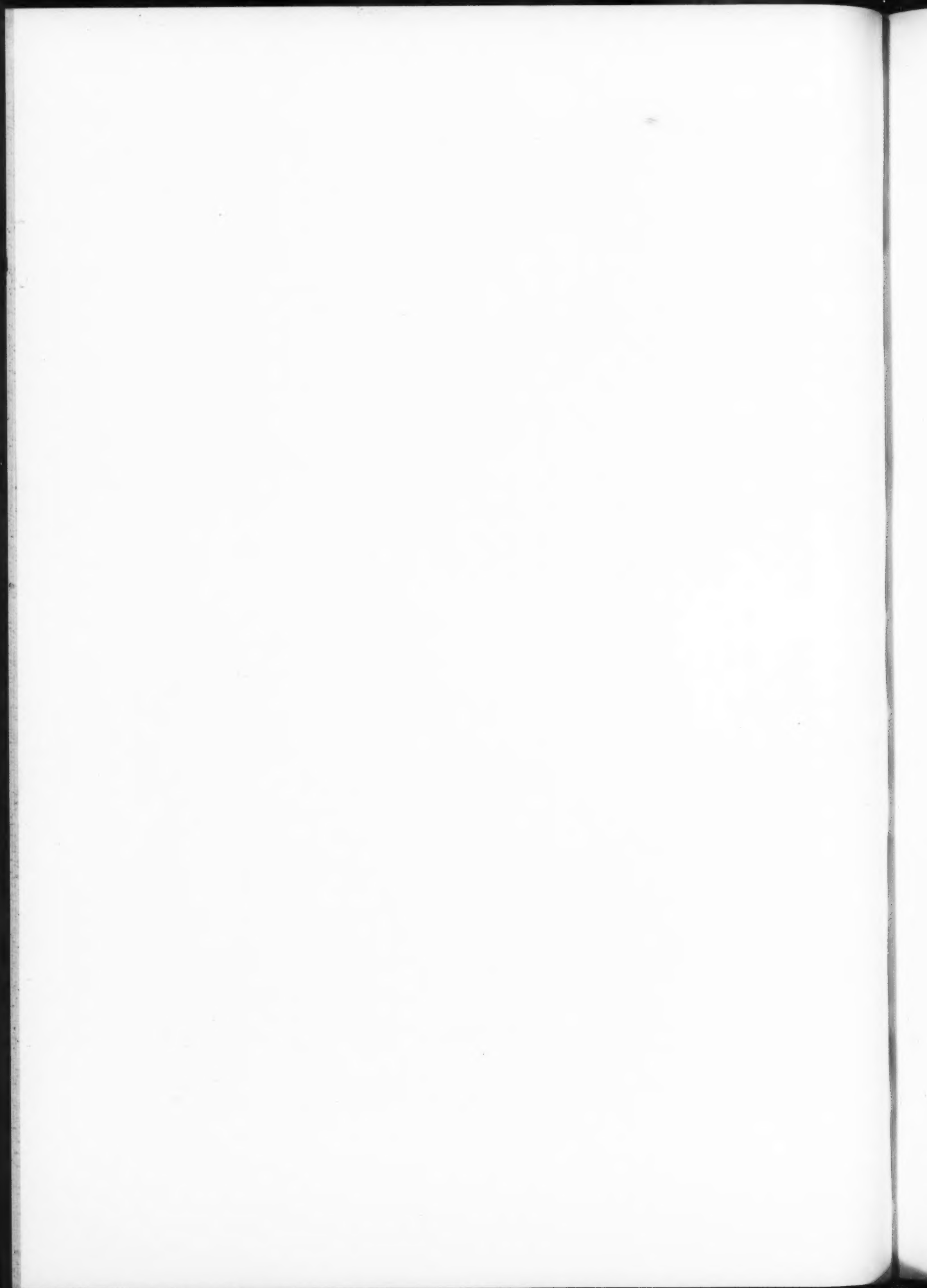
THE SOUTH TOWER

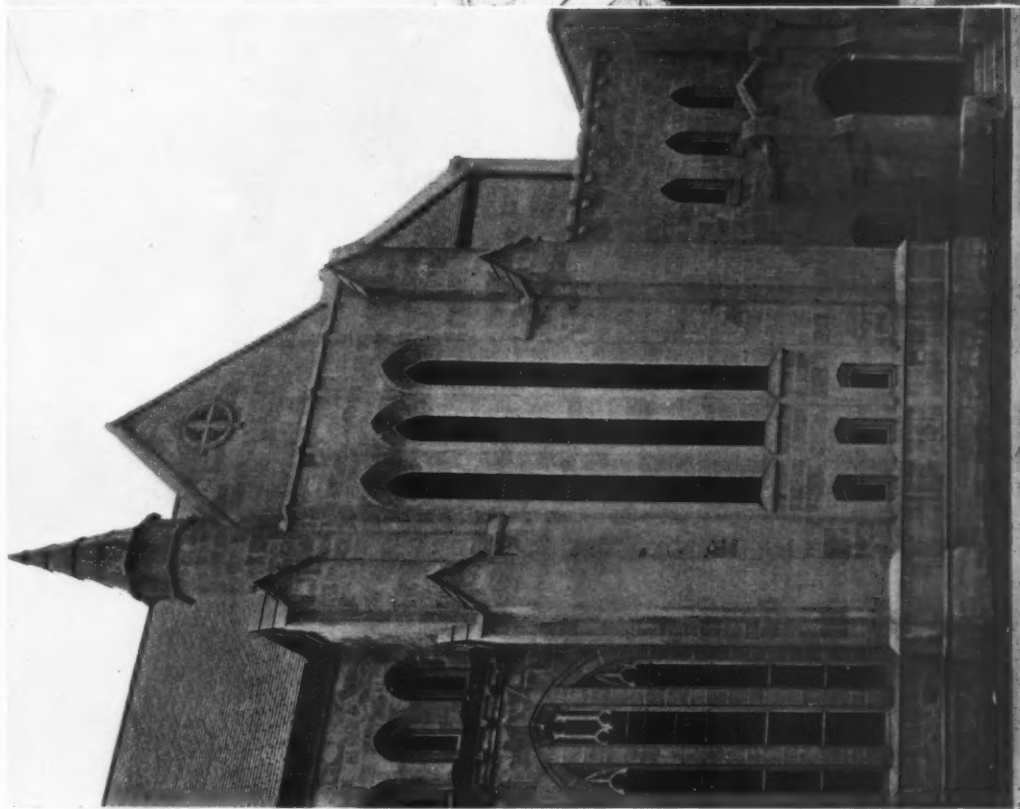


DETAIL OF EAST FRONT

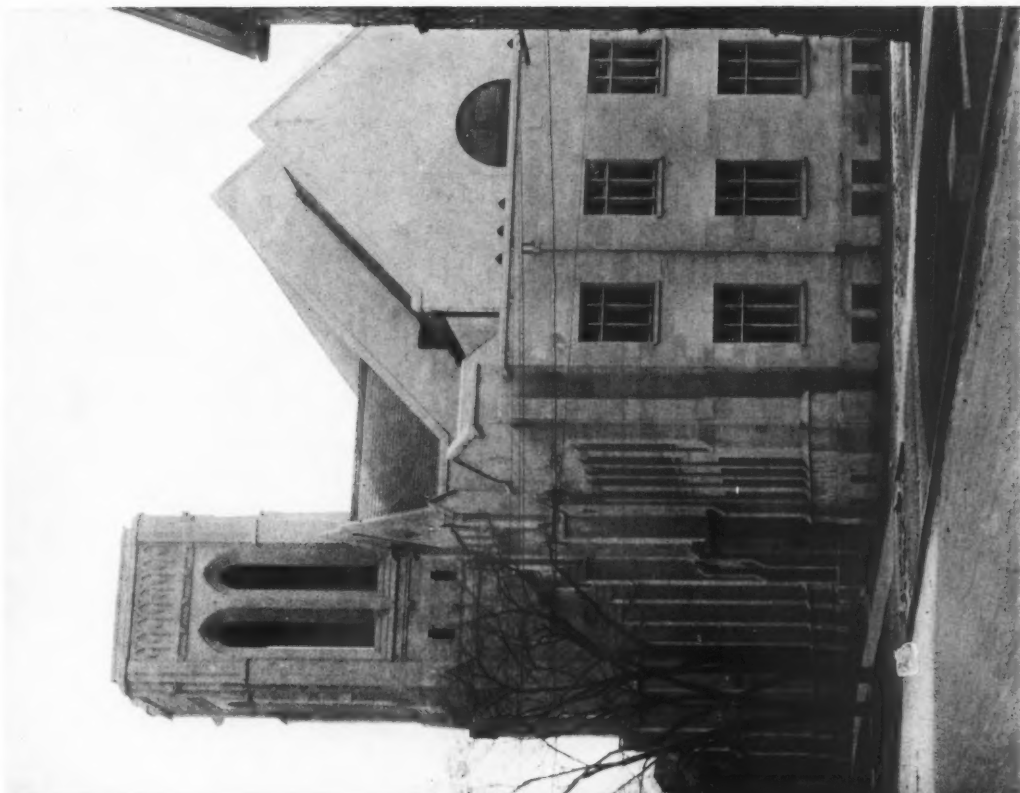
THE FIRST METHODIST EPISCOPAL CHURCH,
EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS





THE NORTH TRANSEPT



VIEW FROM WEST, SHOWING PARISH HOUSE

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS

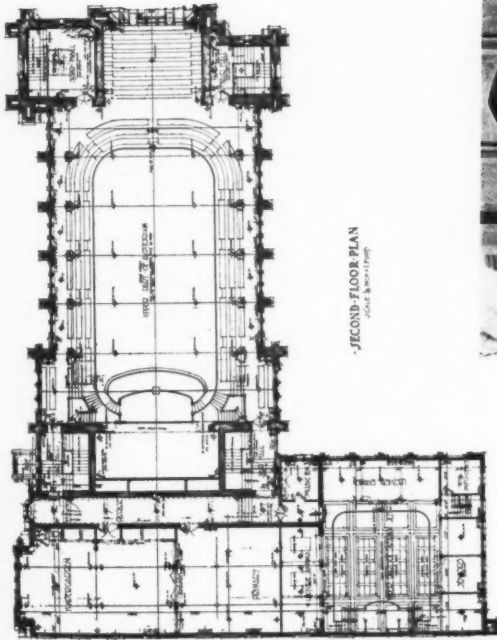




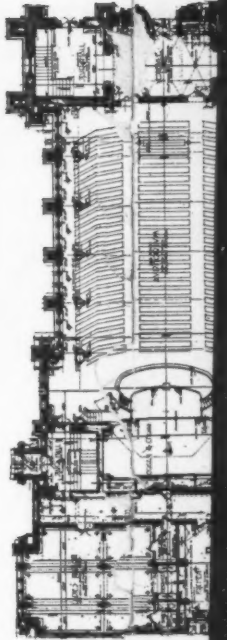
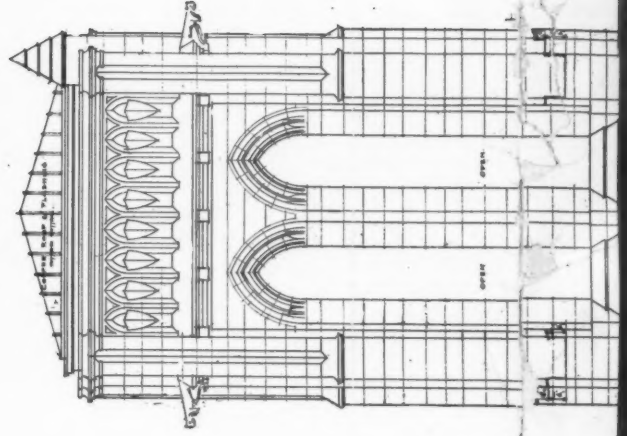
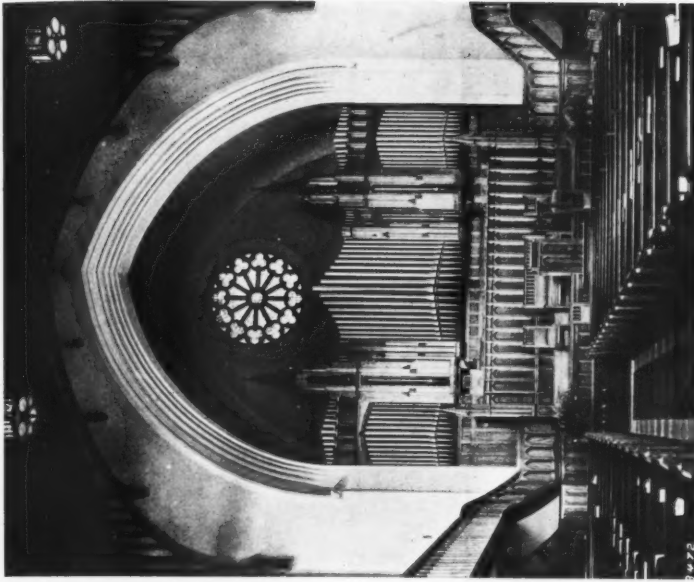
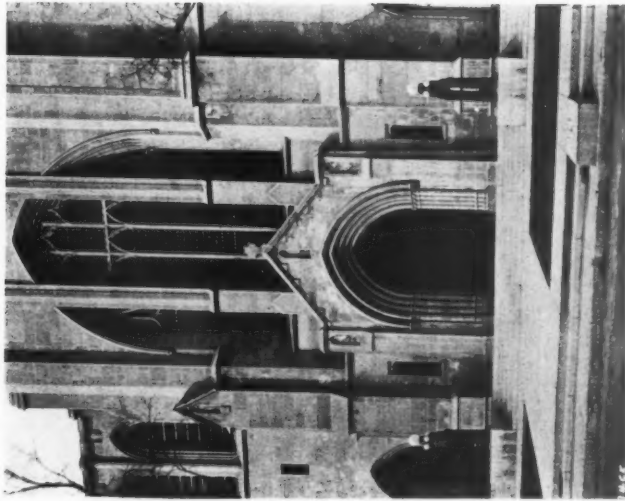
VIEW FROM NORTHEAST

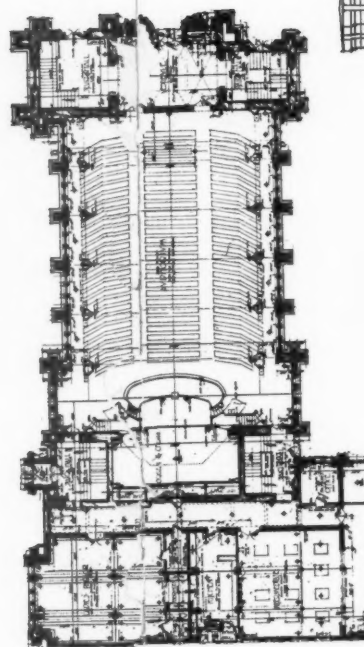
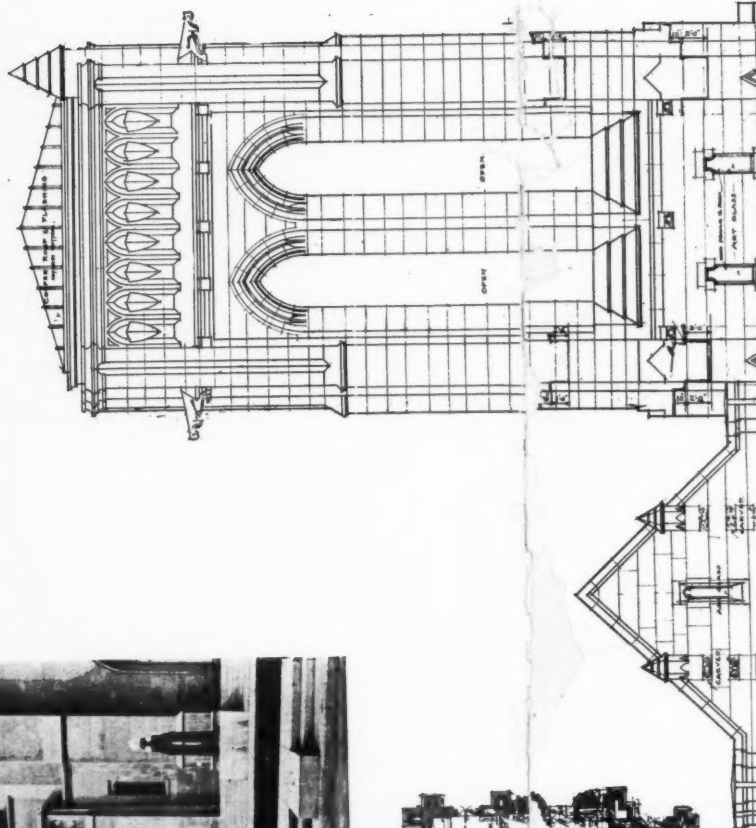
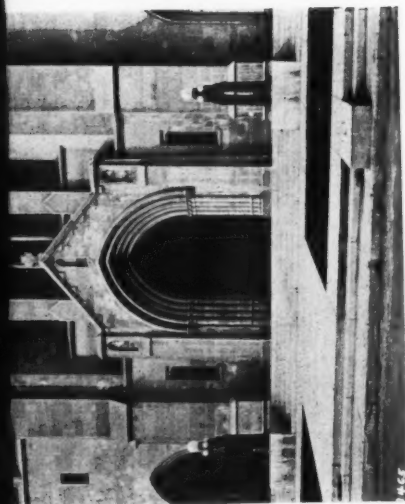
THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

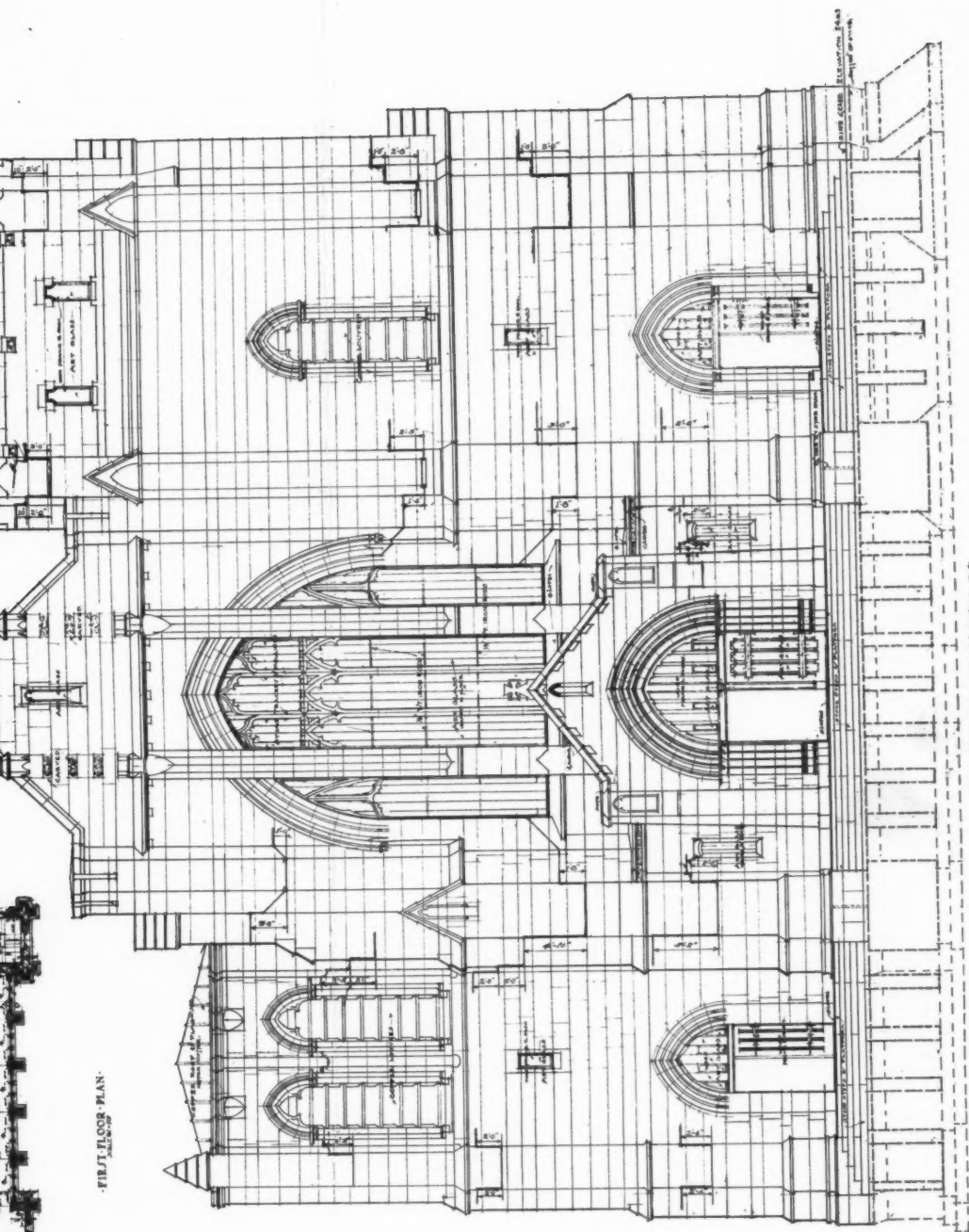
MESSRS. TALLMADGE & WATSON, ARCHITECTS



SECOND FLOOR PLAN
J. H. & S. H. H. H.



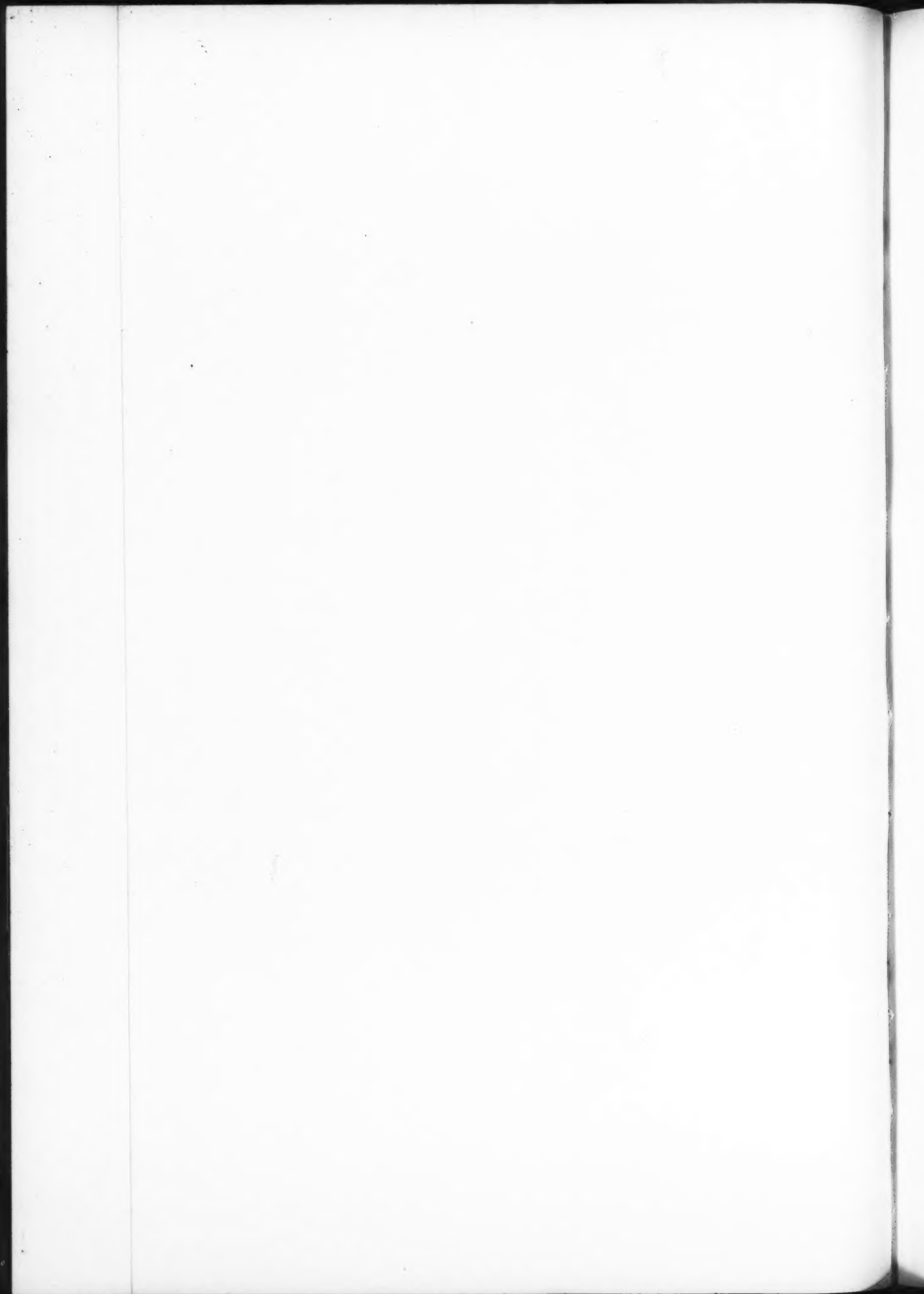




EAST ELEVATION
SCALE 1/8" = 1'-0"

THE FIRST METHODIST EPISCOPAL CHURCH, EVANSTON, ILL.

MESSRS. TALLMADGE & WATSON, ARCHITECTS



THE AMERICAN ARCHITECT



DETAIL OF THE PORTICO OF THE CATHEDRAL, SPOLETO, ITALY