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CONSTRUCTION

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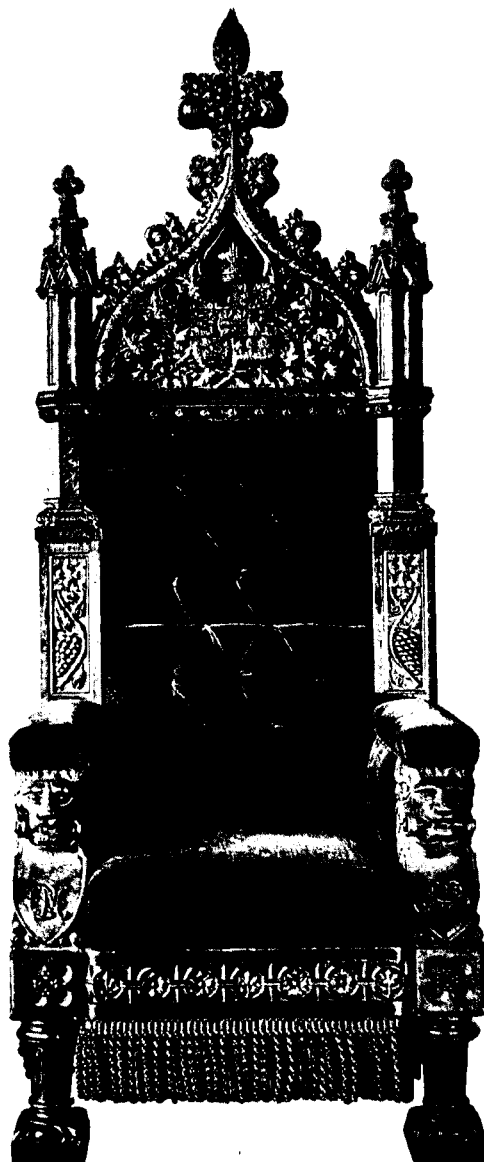
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In This Issue

Further examples of our work may be seen as follows:

Chancel Stalls, Rector's Chair, and Pews of St. Paul's Anglican Church, Toronto, pages 52-54.

Pews and Furniture of Yonge Street Methodist Church, Toronto, page 57.

Seating in Timothy Eaton Memorial Church, pages 66, 67.

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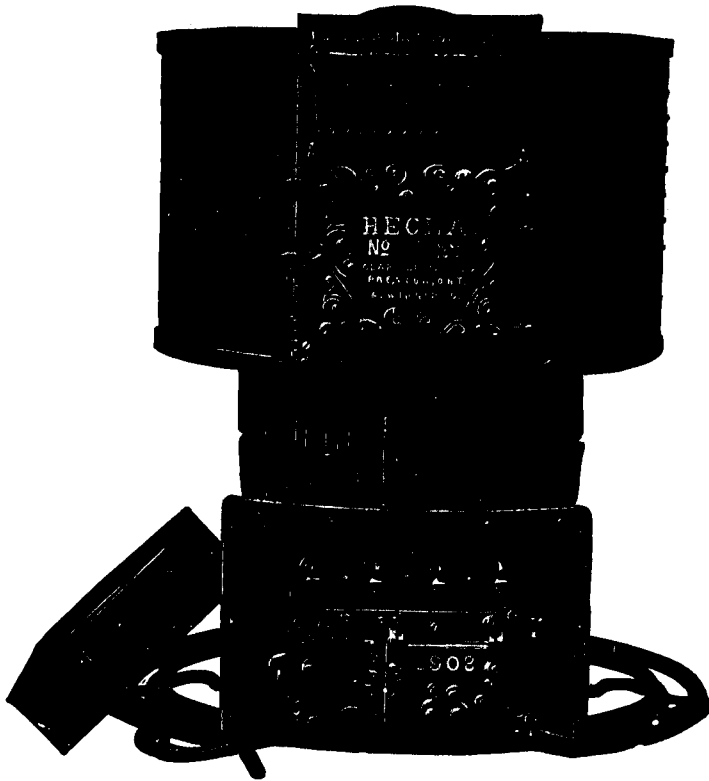
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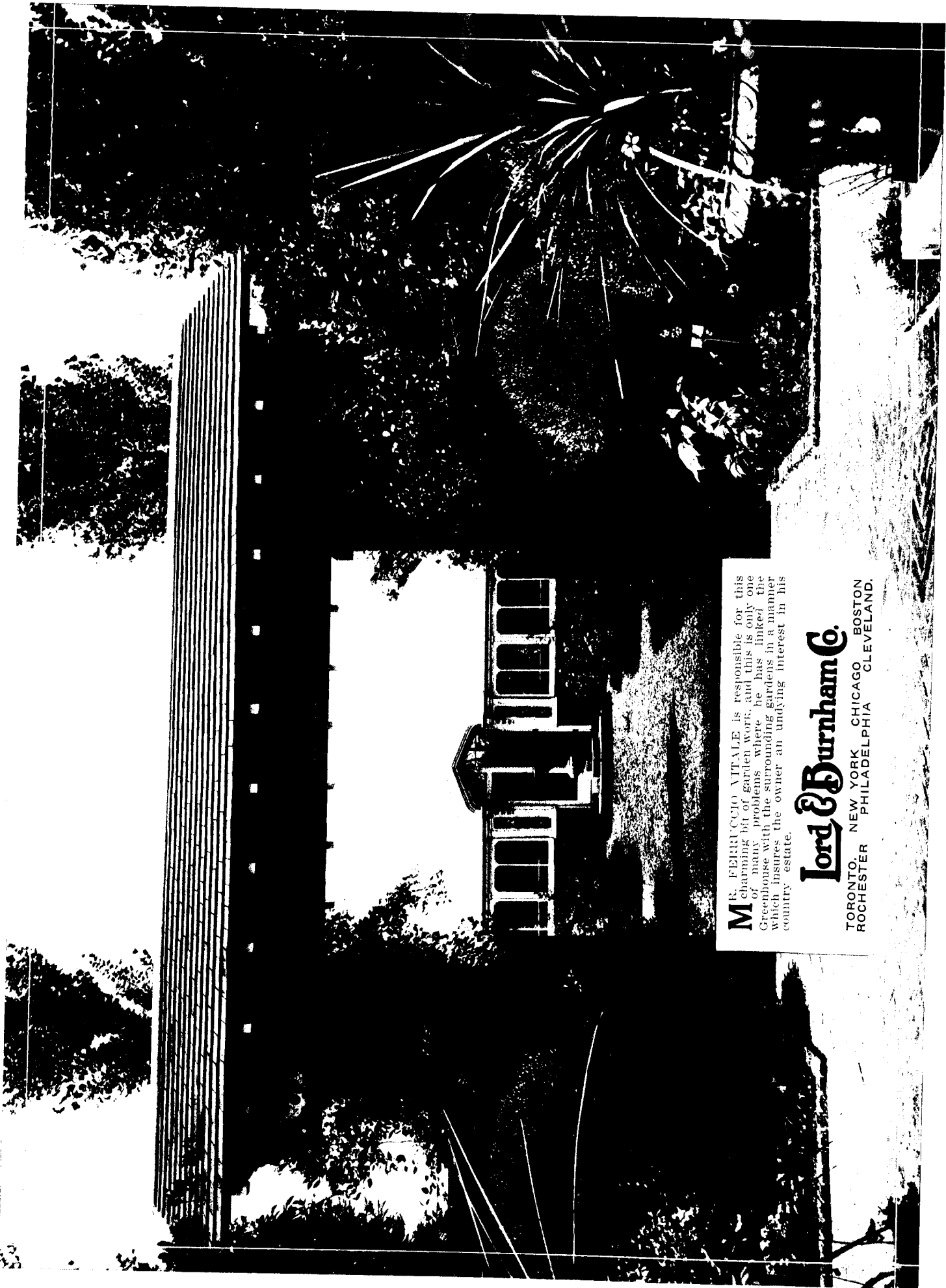
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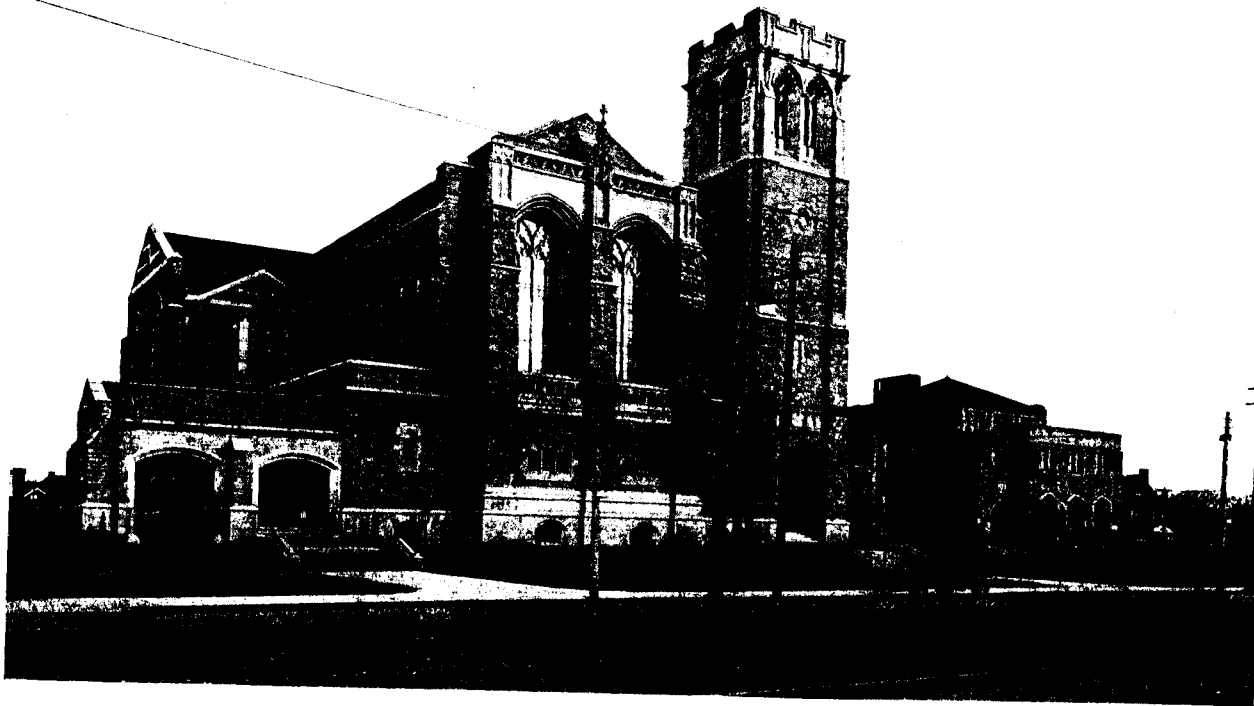


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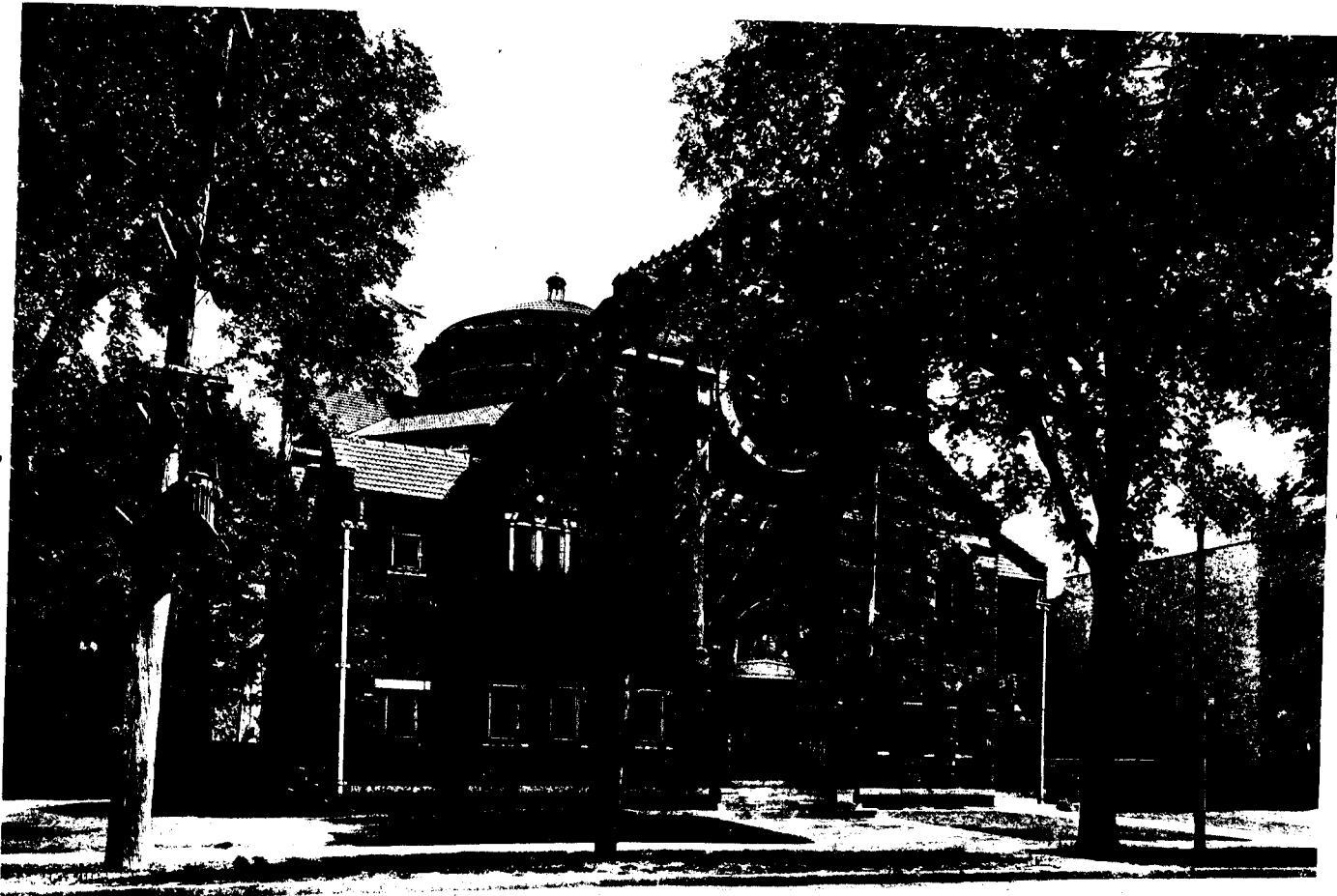
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Modern ecclesiastical work also shows to a large extent a marked preference for brick as a material for architectural composition. Among noteworthy examples are the new Westminster Cathedral of the Roman Catholic See at London, England; First Presbyterian at San Francisco, and the Church of St. Joseph at Babylon, Long Island. Others of much less magnitude, but equally if not more interesting in showing the constructive and decorative use of brick for exterior and interior treatment, have been built in late years in both this and other countries.

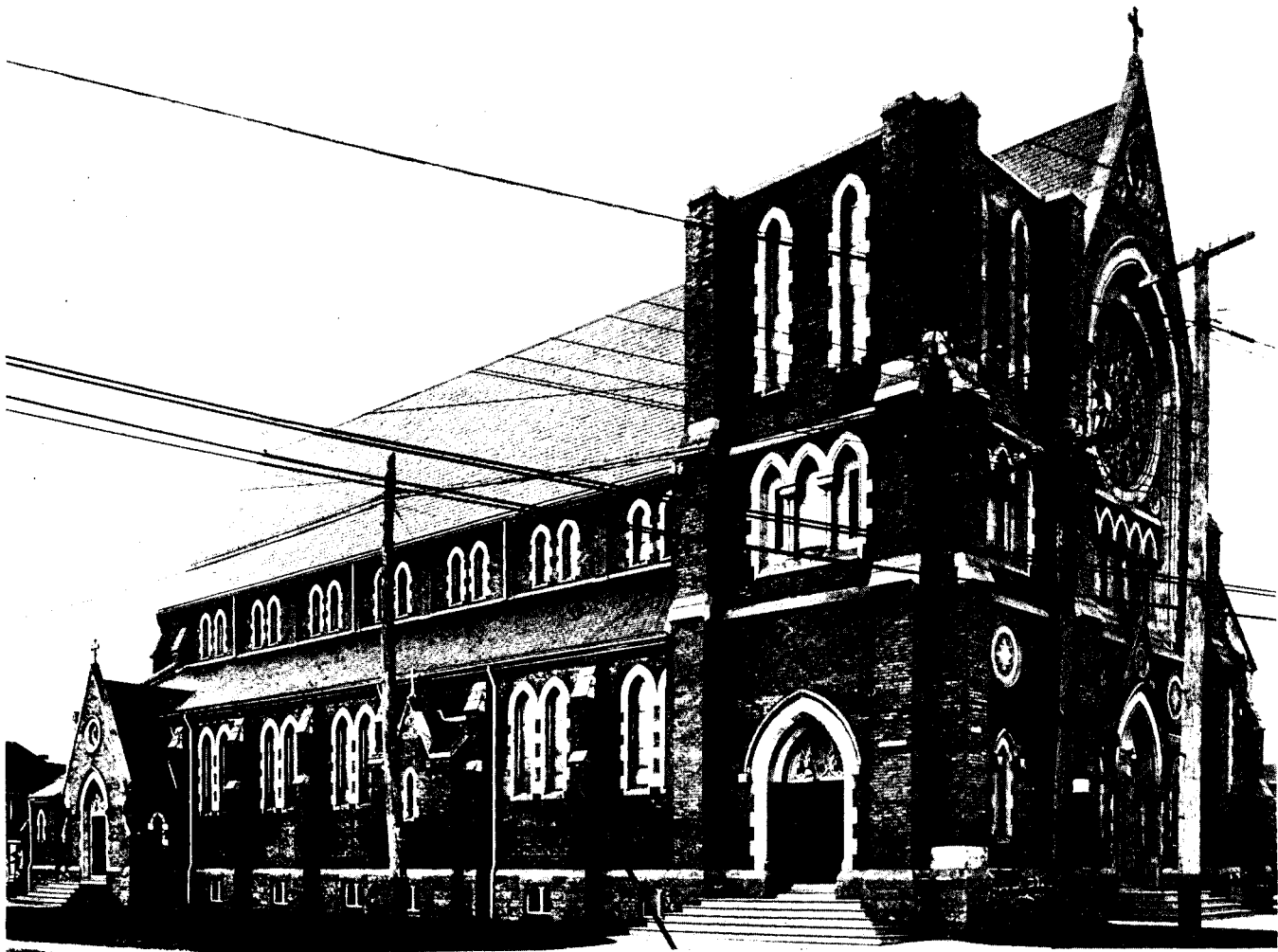
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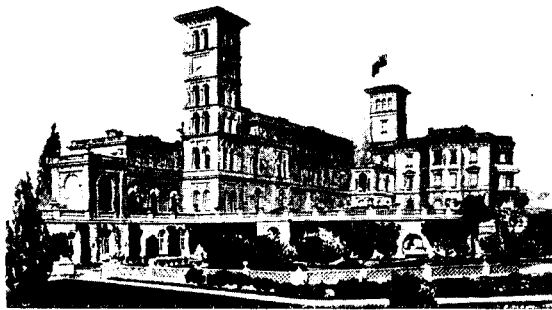
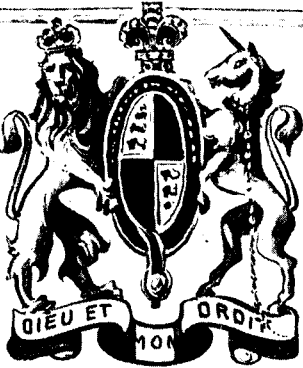
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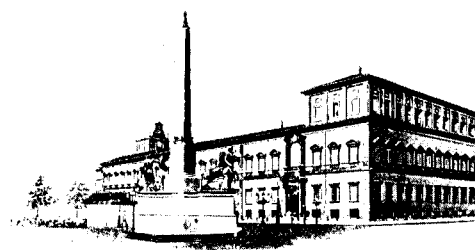
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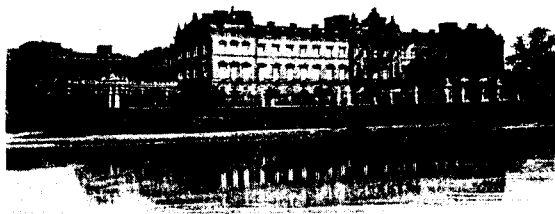
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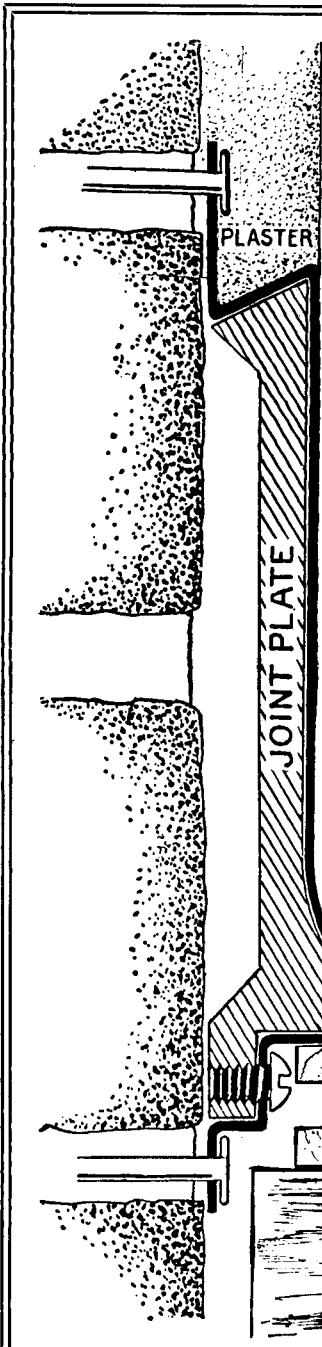
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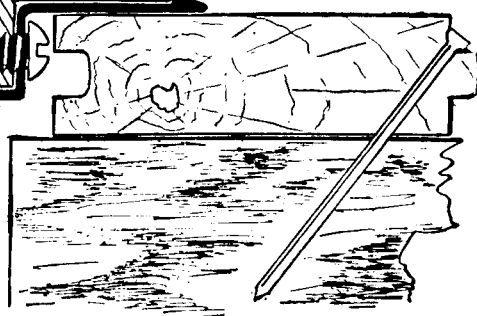
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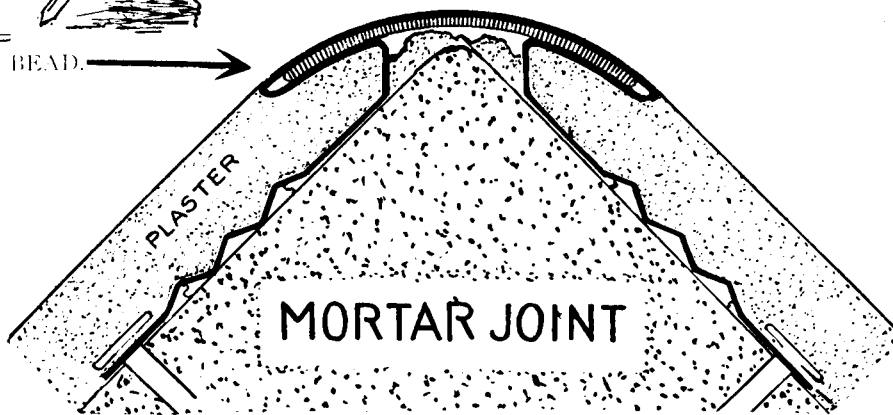
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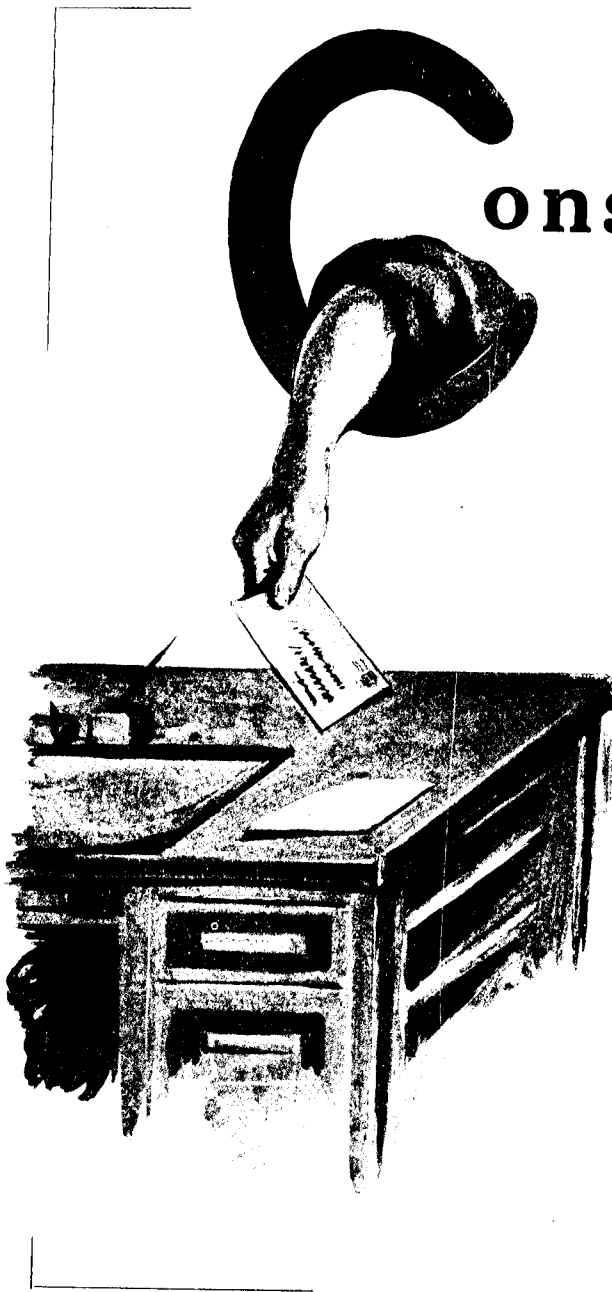
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CONSTRUCTION



February, 1915

Vol. 8, No. 2

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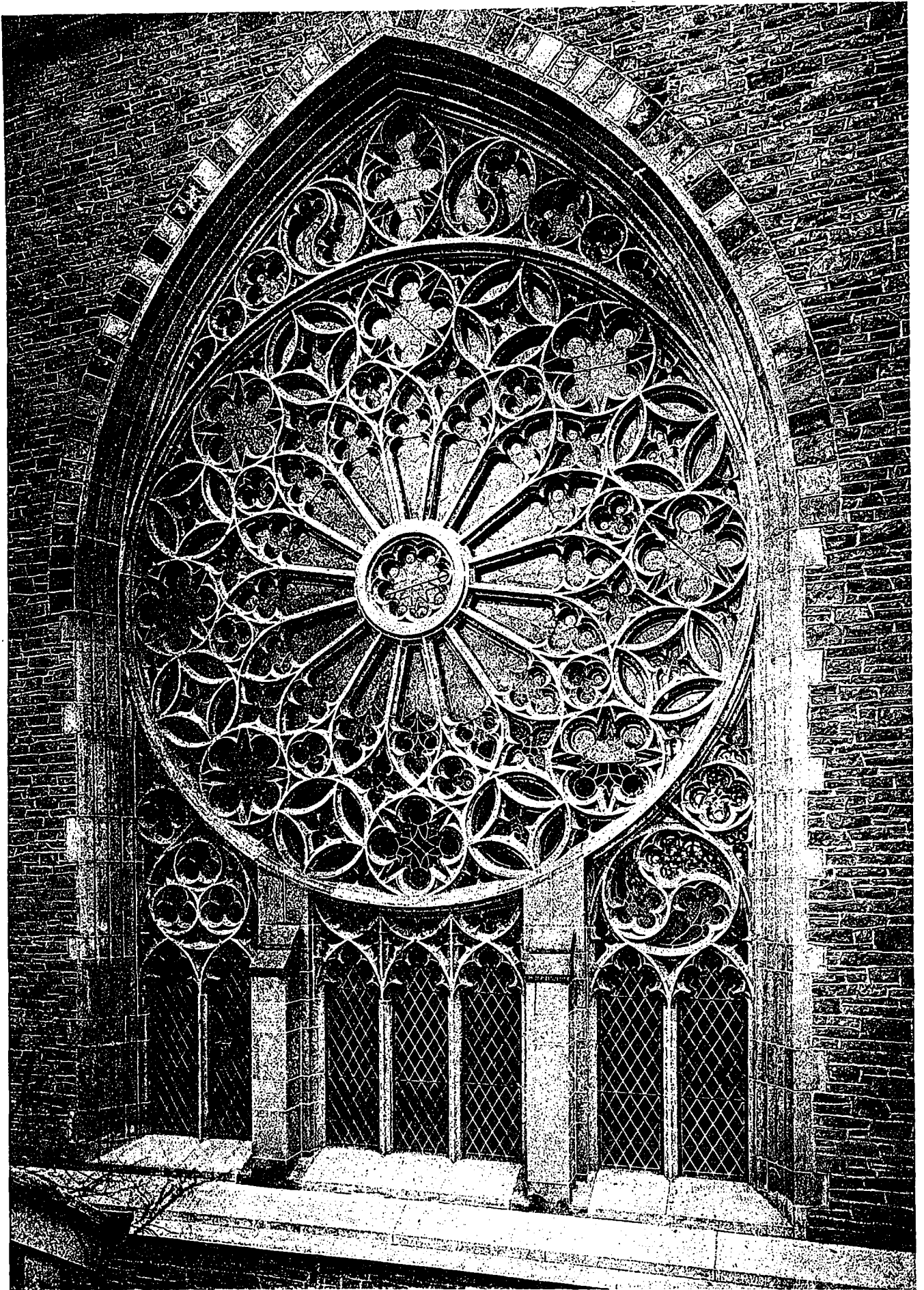
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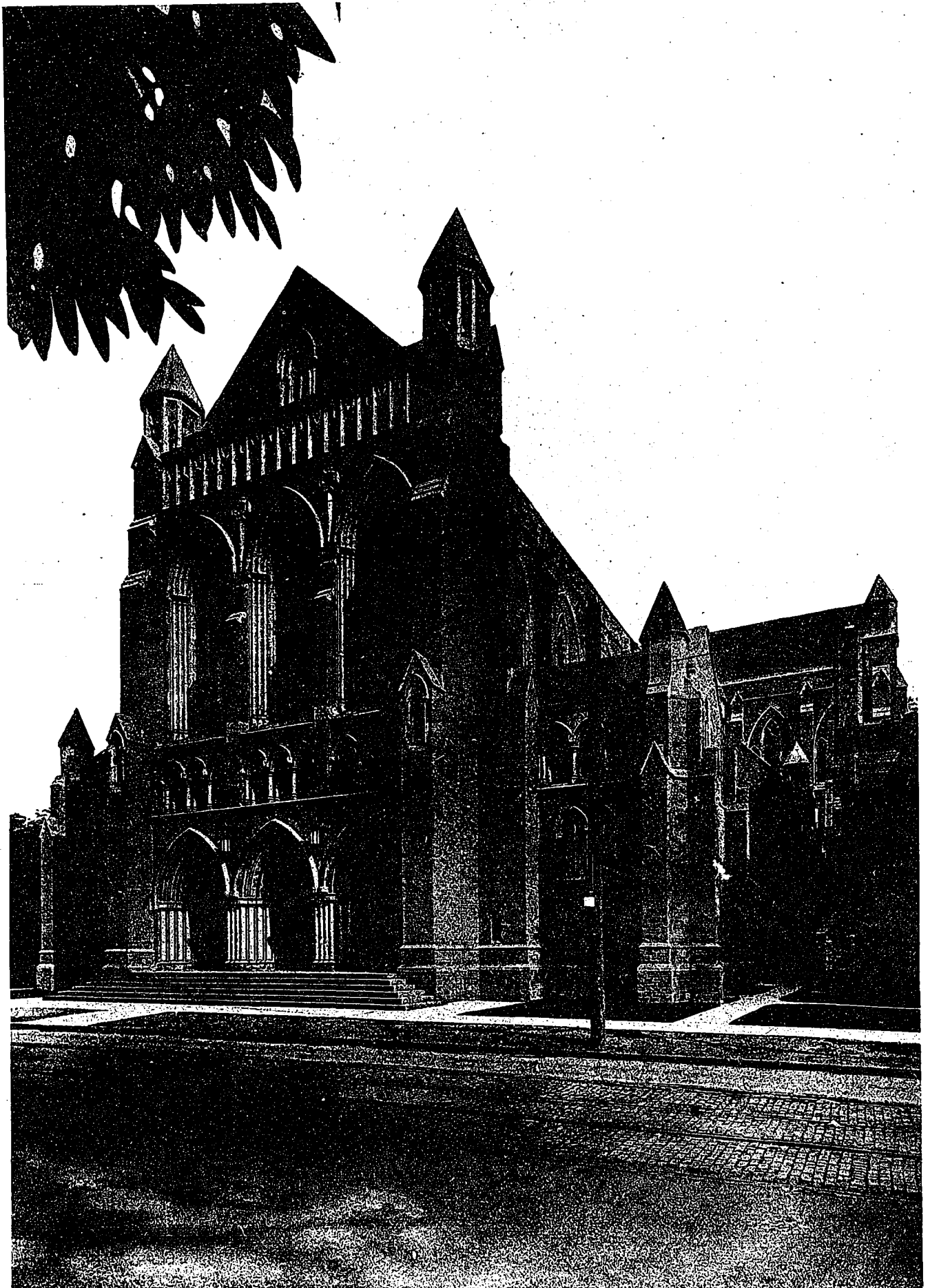
DETAIL OF THE ROSE WINDOW
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ANGLICAN CHURCH, TORONTO.

The Conservation Commission in convention deals with the subjects of river pollution, forest loss by fire, and town planning throughout the Dominion.

THE SIXTH annual meeting of the Commission of Conservation, held in Ottawa, January 19, revealed the rapid progress of that organization in the handling of sanitary problems for Canada. The wide scope of its field and the efficiency of its members have and will produce results of lasting benefit to the people. It is surely gratifying to sense the work accomplished in respect to the hygienic conditions of our rivers. Already sixty-one sewage treatment plants have been installed throughout the Dominion. Still it is a matter of deep regret that the number is so small in face of the fact that there are fifty-seven systems of inland waters receiving raw sewage from one hundred and fifty-nine municipalities, while one hundred and eleven water supply systems are obtained from streams or bodies of water into which all kinds of pollution has been discharged above the intake points. This problem, along with the forest conservation and town planning, has been the outstanding feature of the Commission's work for the past year. Relative to the timber production, Sir Clifford Sifton states that the year 1914 saw more fire loss than any other year since 1910. Here also the much deserved credit for the protective organizations established during recent years is overshadowed by the great need for even more efficient corps and much larger appropriations. The question of town planning has received more attention than all other problems. Practically every city and town in Canada has taken steps to improve the esthetic appearance as well as the practical nature of their thoroughfares, parks and public institutions. Better housing conditions have resulted and the standard of public health has been raised to a much higher plane. Still there are large sections of our municipalities suffering through the lack of attention, the conditions being identical to those so lamentable in other countries. The rapidly growing suburban sections, at least, should be safeguarded against such evils, both from a utilitarian phase as well as a humanitarian viewpoint. The maintenance of the Commission is comparatively small when contrasted with the incalculable benefits resulting through their consistent endeavor to bring the greatest good to the largest number. Preventative plans are more advantageous than the final recourse to remedial schemes. We hope the people will co-operate in every way possible with the furtherance of the work undertaken by the Commission, for herein lies the secret to the acme of sanitary conditions, economical progress and esthetic development.

The ecclesiastical work in relation to the present day needs and the symbolical character of its various parts in relation to the entire edifice.

TO BE ADMIRERD by the layman and the critic on art, the ecclesiastical structure must impress one with a feeling of reverence. Character should express itself in the various details as well as in the general appearance. Nowhere can the love for gaudy display or the desire to "try a stunt" enter into the design. This might be permitted in a commercial building, the life of which is limited to a few years at the most, but not in the edifice erected to house an institution, whose very existence is founded upon principles of spiritual refinement, and which will stand as a forceful example to posterity of the sincerity and development attained during the present century. The designer of to-day is often held under restraint, either on account of petty jealousies or lack of resources. To plan with the same spirit that possessed the genius of former generations is impossible under our existing circumstances. The world is held in the throes of a commercialistic tendency which weighs heavily the value of the almighty dollar, a fact that has blunted the spiritual conception necessary for the evolution of a real home for worship. The character permeating the finished work of the conscientious architect during the Middle Ages was derived from a soul which was spiritually nurtured to comprehend the great teachings of the Bible and which knew no master except his own love for the beautiful. Naturally, then, do we turn to these examples for inspiration, and not in vain. And while we are erecting structures which in detail can be easily traced to a former period, still it is quite evident that the architect is not neglecting the matter of environment and is planning in accordance with present day needs and climatic conditions. An attempt is being made to erect the very best edifice with a definite purpose in view and a sincere regard for the materials employed and the natural surroundings. Many buildings convey the impression immediately of their absolute fitness to the locality in which they are placed. They also are more than a group of structural forms, for they comprehend the symbolical teachings and portray a certain amount of spiritual meaning. By grasping the exalted ideals of the Church so that the various parts are expressive of these ideals, the finished product cannot help but attain the standard of excellence revealed in the past and necessary for the future maintenance of the dignified attributes of Christianity. That the buildings presented herewith are evolutions of careful study in connection with forces which enter into Church work is very evident and should stimulate other efforts of a similar nature.



ST. PAUL'S ANGLICAN CHURCH, TORONTO.

E. J. LENNOX, ARCHITECT.

St. Paul's Anglican Church, Toronto

E. J. LENNOX, Architect

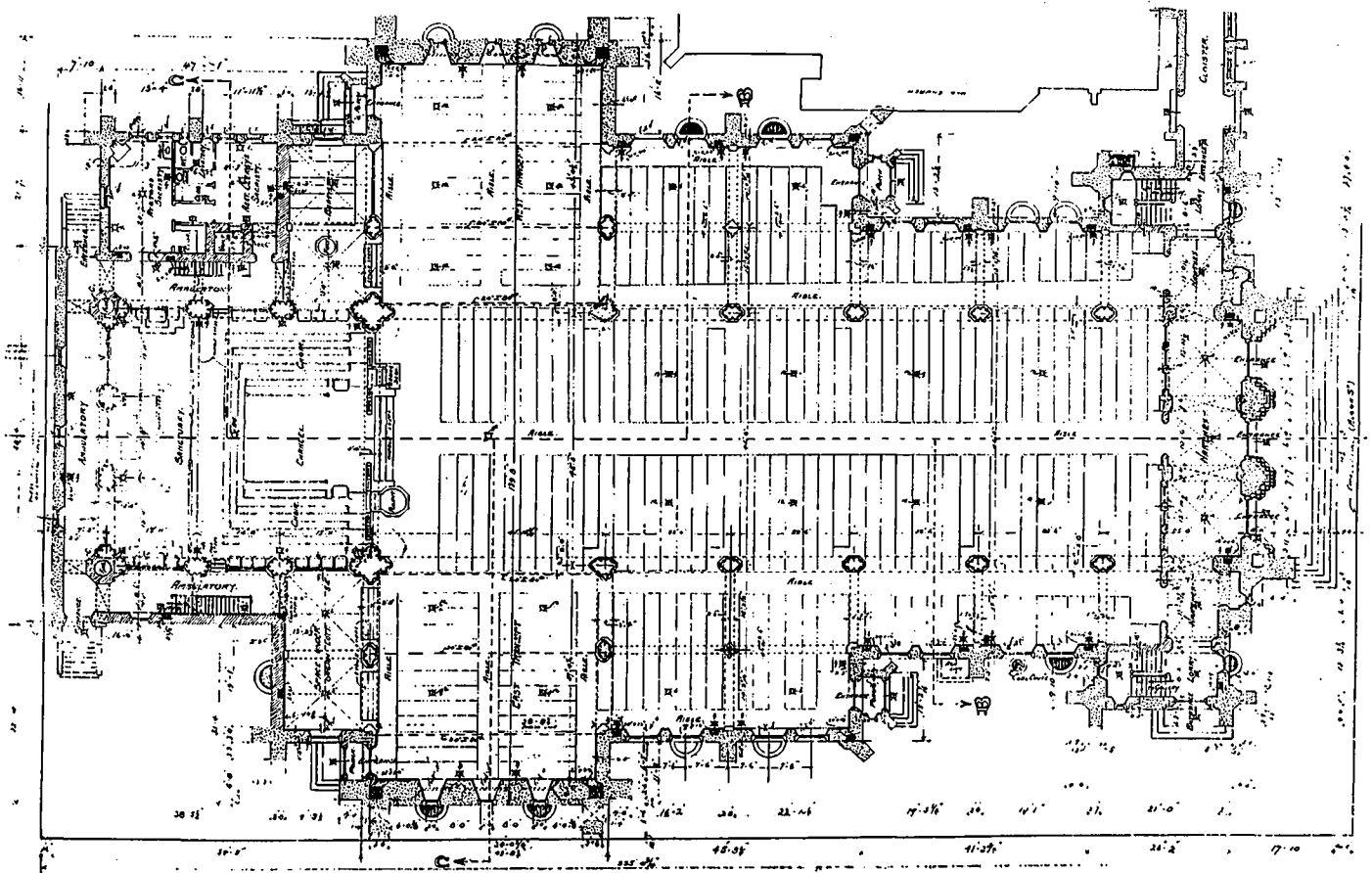
SYMMETRICAL dignity, while not essential to the temporary edifice, is indispensable to the permanent structure. In past ages the buildings which have become the inspiration of present day artists are those which reveal an innate desire upon the part of the architect to create a monument of noble proportions and harmonic relations of the various parts to the tout ensemble. Especially is this true of ecclesiastical work which strives to depict the lofty ideals of Christianity and the character which lies behind its outward manifestations.

The modern church still reveals the wholesome attitude towards purity and truth, and while the examples of yesterday furnish ample material for study, still there are certain evidences of thought and personality permeating the work of the present day which tend to ennoble the house of worship. The following verse of Pope's, written to the Earl of Burlington when the latter published the drawings of Palladio's "Antiquities of Rome," meets with little sympathy by those who appreciate the large number of practical and chaste designs comprised in the realm of church architecture:

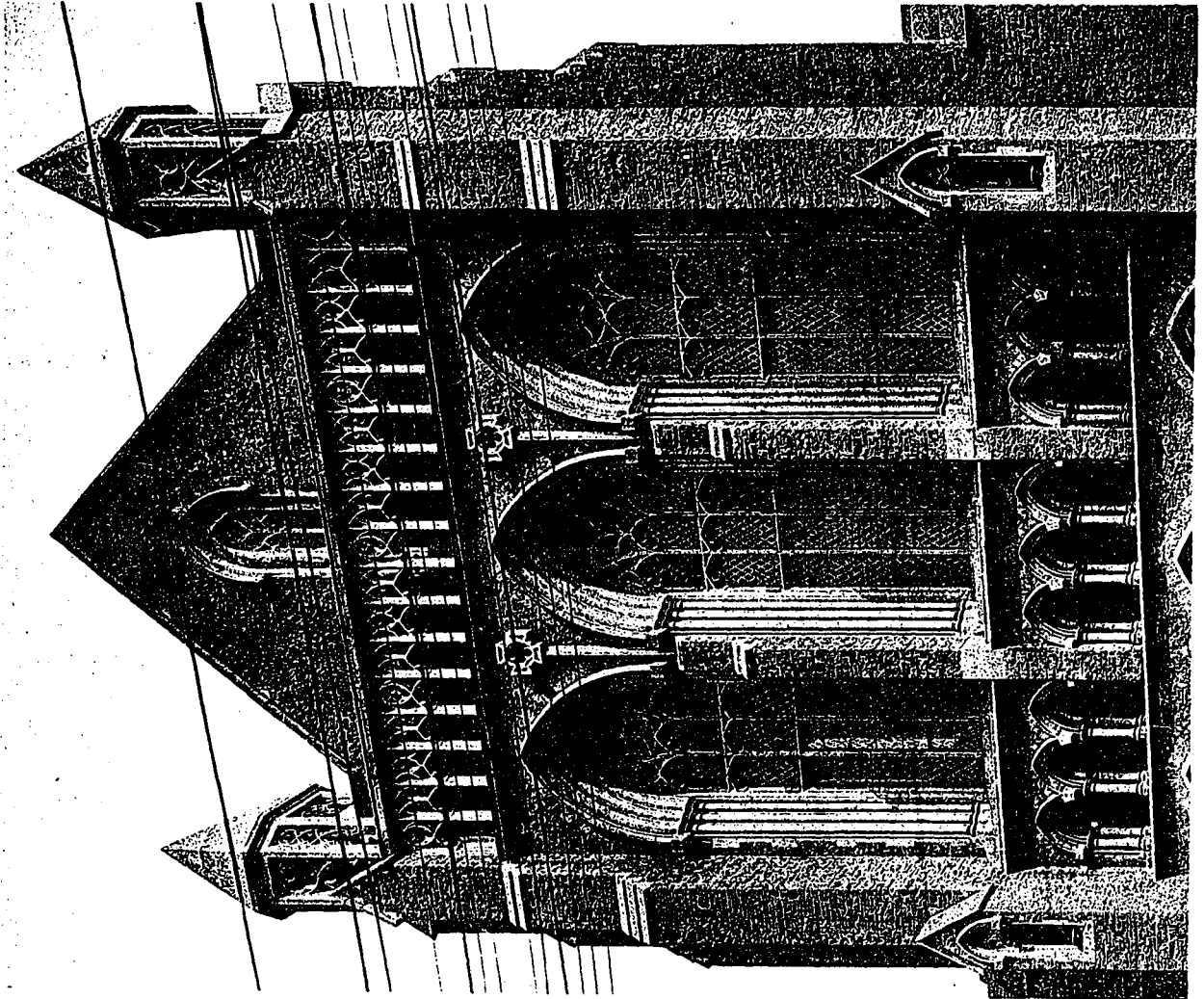
You show us Rome was glorious, not profuse,
And pompous buildings once were things of use.
Yet shall, my lord, your just, your noble rules
Fill half the land with imitating fools;
Who random drawings from your sheets shall take,

And of one beauty many blunders make;
Load some vain church with old theatric state,
Turn arcs of triumph to a garden gate;

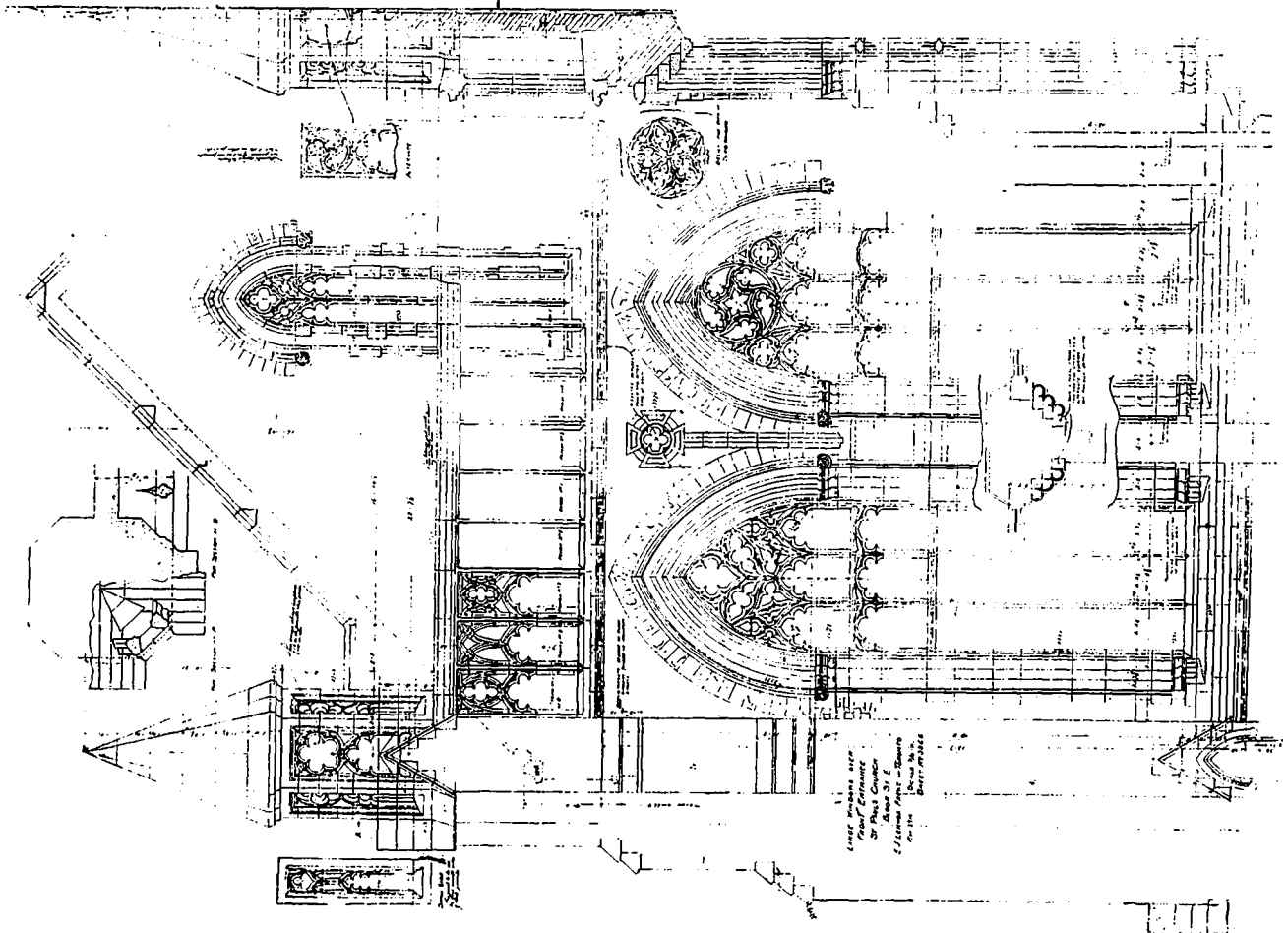
On the contrary, the endeavors to thoroughly appreciate the spirit of those early builders and derive from them the fundamental principles of unfettered art is producing on this continent many beautiful churches. Among these is included the new St. Paul's Anglican, located on East Bloor street, Toronto. In following the style of the early English and decorative period of the Gothic it presents a dignified and harmonious effect. Measuring two hundred and twenty feet in length, one hundred and forty in width, and ninety-seven in height, it is the largest church in Canada, with the exception of the Cathedral of Notre Dame in Montreal. Although planned with no galleries, the seating capacity is approximately twenty-five hundred,



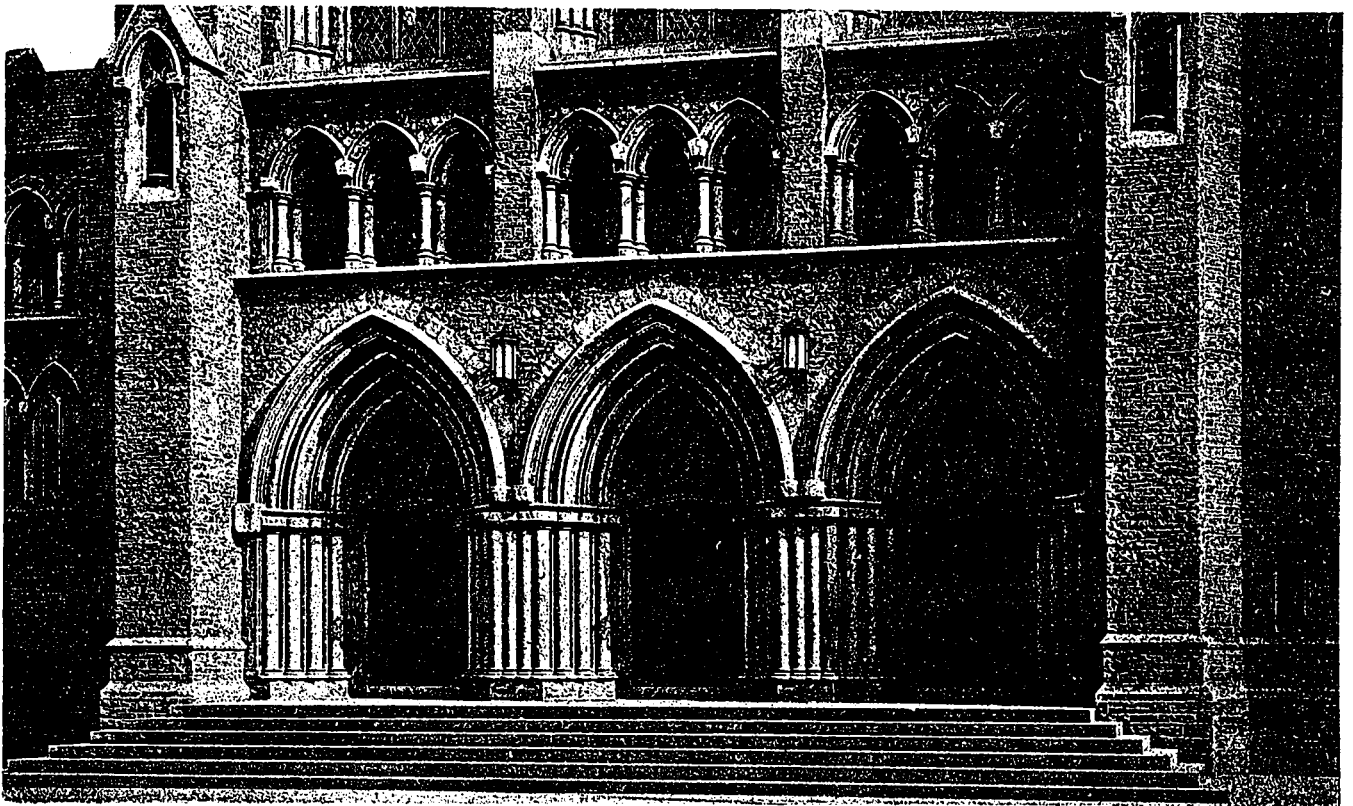
MAIN FLOOR PLAN.



DETAILS OF WINDOWS AND GABLE OF MAIN ENTRANCE.
ST. PAUL'S ANGLICAN CHURCH, TORONTO.



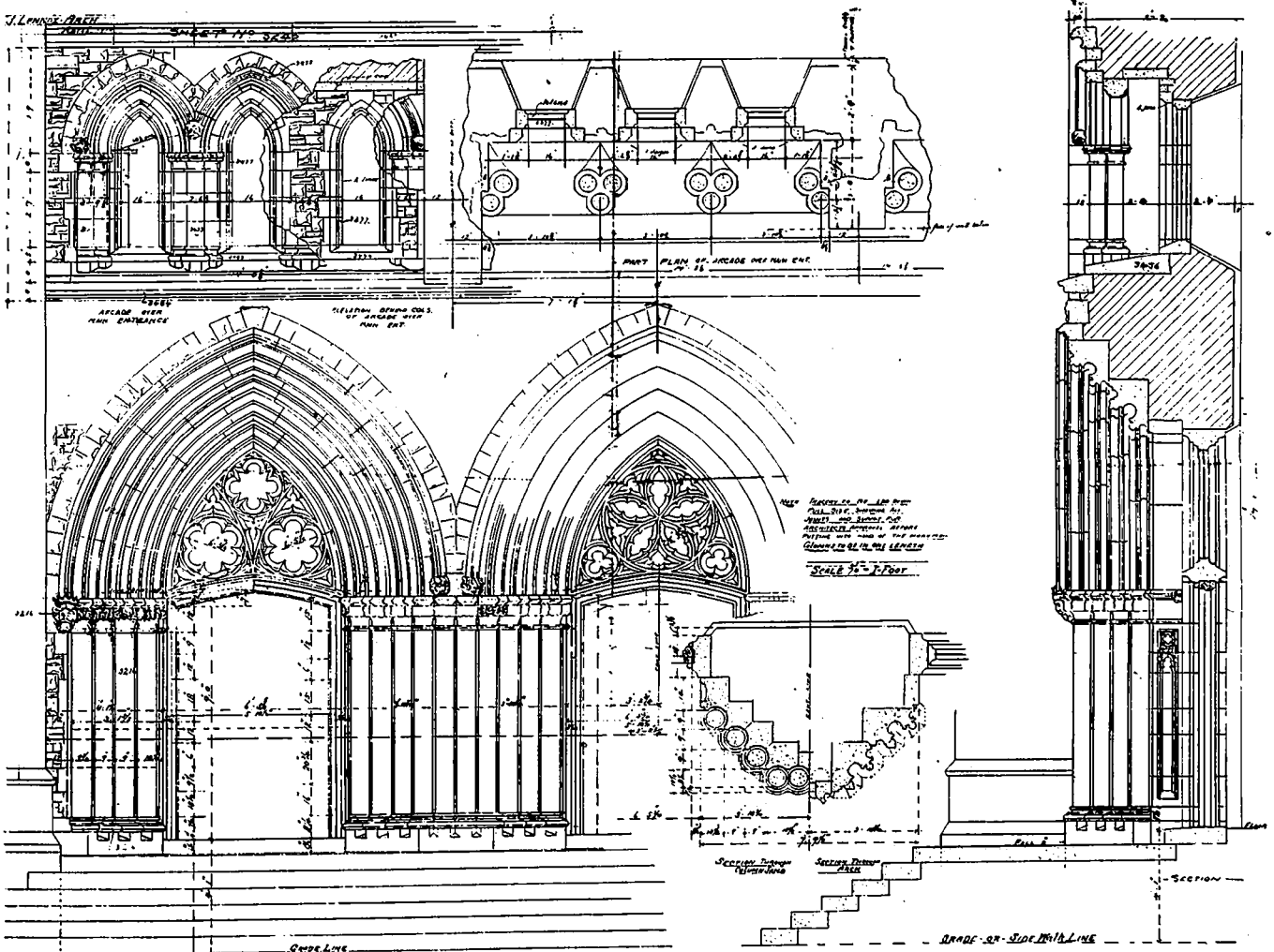
L. H. W. & S. J. E.
 ARCHT. & ENGRS.
 111 BAY ST. E.
 TORONTO, CANADA.



DETAILS OF MAIN ENTRANCE.

ST. PAUL'S ANGLICAN CHURCH, TORONTO.

E. J. LENNOX, ARCHITECT.



with ample provision made for increasing this number. The size of the nave may be more readily appreciated by a comparison with other well known edifices:

Nave of	Length.	Height.	Breadth.
St. Paul's	152	91	76
Exeter Cathedral	140	68	72
Litchfield	173	57	67
Canterbury	178	80	71
Gloucester	174	68	84
Chester	145	78	75
Hereford	130	70	74
Westminster Abbey .	166	102	72

The interior is characterized by great light and space, a cluster of pillars separating the nave from the aisles, and the choir from the ambulatory. The arches in the choir are more pointed than those in the nave, and the mouldings are richer. The windows in the nave and transept clere-story are in threes, with traceried and cusped heads; in the choir they are in twos with deeper recessing and richer tracery. The corbels in the nave and transept are of stone angel heads, while in the spandrils of the choir angels are carved in various attitudes.

Ample provision is made on each side of the



INTERIOR VIEW, LOOKING TOWARDS CHANCEL.

The construction of the nave is in the form of stone columns with Gothic arches springing from the same, above which is a clere-story, filled in with groups of stone-traceried windows. The chancel, forty-six feet wide and forty-eight long, conforms in design with that of the nave, the columns and arches being emphasized by cut-stone shafts and moulded lancet arches. Further emphasis is given to the chancel by an ambulatory formed around it, a feature generally pertaining to large cathedrals, but practically unknown in Canada. Extending along both sides of the nave are side aisles arched over to the main walls opposite each column.

choir for the organ, by means of a lofty aisle in the transept. The floor is laid in composition stone flags; the aisles between the pews in composition red tiles; the choir in marble tiles—white, green and pink. The steps leading up to the choir and communion table are of white marble; the communion rail of green and pink marble. By means of the side aisles, two-thirds of the congregation are brought within seventy feet of the pulpit, while the choir and communion table are visible from practically all parts of the church. The three large traceried windows in the gable above the communion table

rise over three lancet-pointed arches, behind which in the ambulatory are a corresponding number of small lancet windows. The effect of the light from these against the darker wall is to enhance the appearance of depth in the choir, which is not too deep to interfere with its practical purpose of providing adequate accommodation for the members.

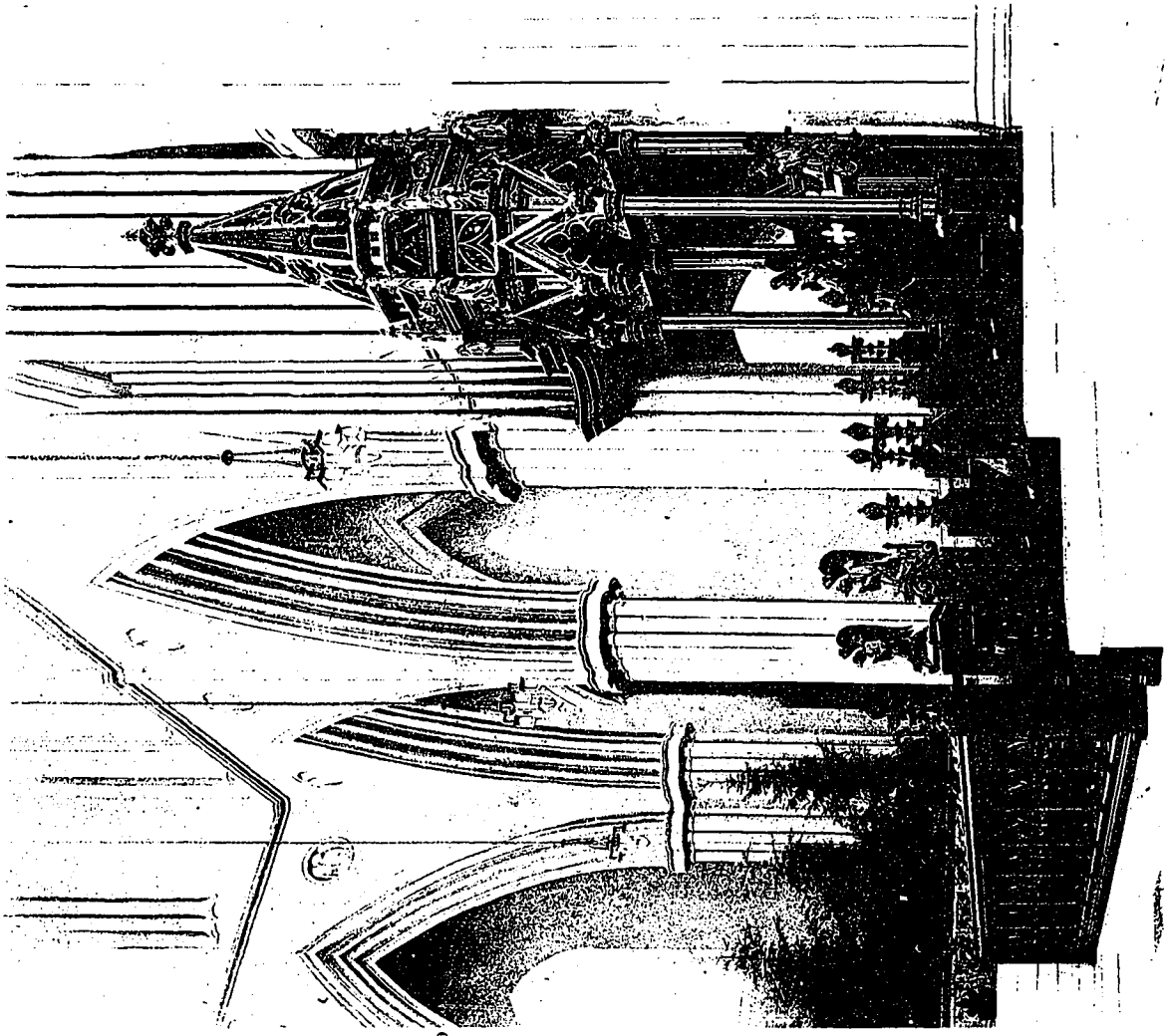
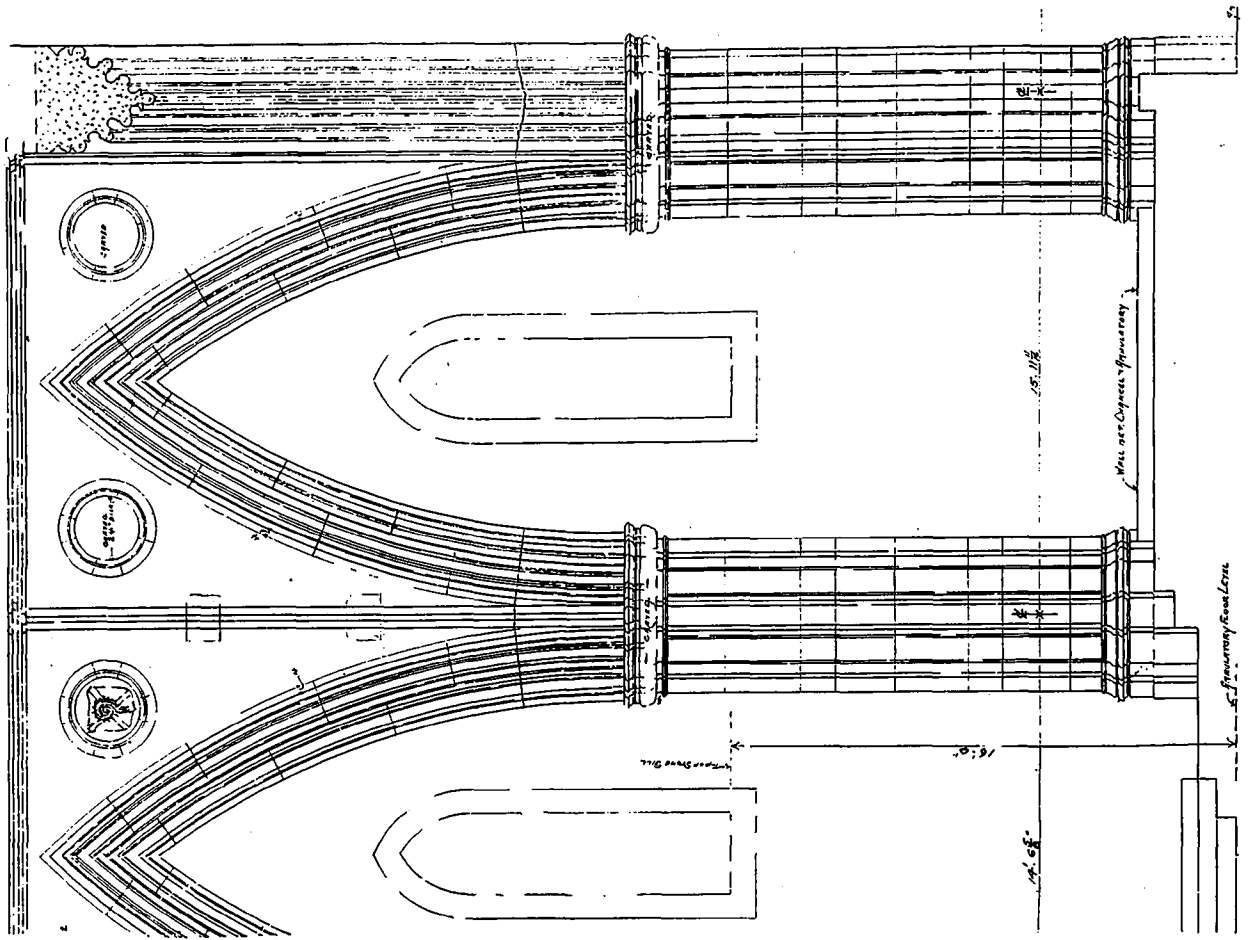
Immediately inside the front entrance is a wide narthex, or vestibule, with groined roof, which forms the base of a gallery extending across the end of the building. The front of this gallery is formed by a beautiful cut-stone balustrade, with varied tracery in the arches. The roof is of open timber work, with Gothic tracery of a rich subdued color.

The pews and choir stalls are of dark oak, and add the needed touch of warmth to the gray stone interior and the soft gray finish of the walls. The pulpit is of carved oak, hexagonal in shape, enriched with cusped panels and figures. The communion table is also of oak, paneled and with elaborate tracery, finished on all four sides, and standing out on a marble tiled platform accessible on all sides. The electric fixtures are designed in harmony with the general architectural character of the building. They are of iron with dull finish, and hang by chains from the hammerhead of the roof on each side of the nave.

On the front facade there are three large entrance doors well impressed with splendidly designed arch mouldings and cut-stone tracery heads, all varying in design, above which there is an arcade with pointed arches, supported on isolated columns, extending across the front main and side wing gables. This arcade is decorated with columns and arched mouldings. Above this arcade are three large decorated windows—sometimes called “three-sister gables,” constituting an attractive feature. These also are emphasized with columns and archivolt mouldings, and are filled in with stone mullions and variegated stone tracery. Above these windows is a stone tracery balustrade, set out in relief from the gable, characteristic of the typical cathedral front. Behind the balustrading rises, in plain relief, the main gable. The altitude from the sidewalk to the apex of the gable is ninety-seven feet. The gable is flanked on either side by heavy buttresses, which project about seven feet, terminating at each side of the gable in massive octagonal buttresses, which finish with variegated stone tracery pinnacles. On either side, also, are lower gables designed in har-



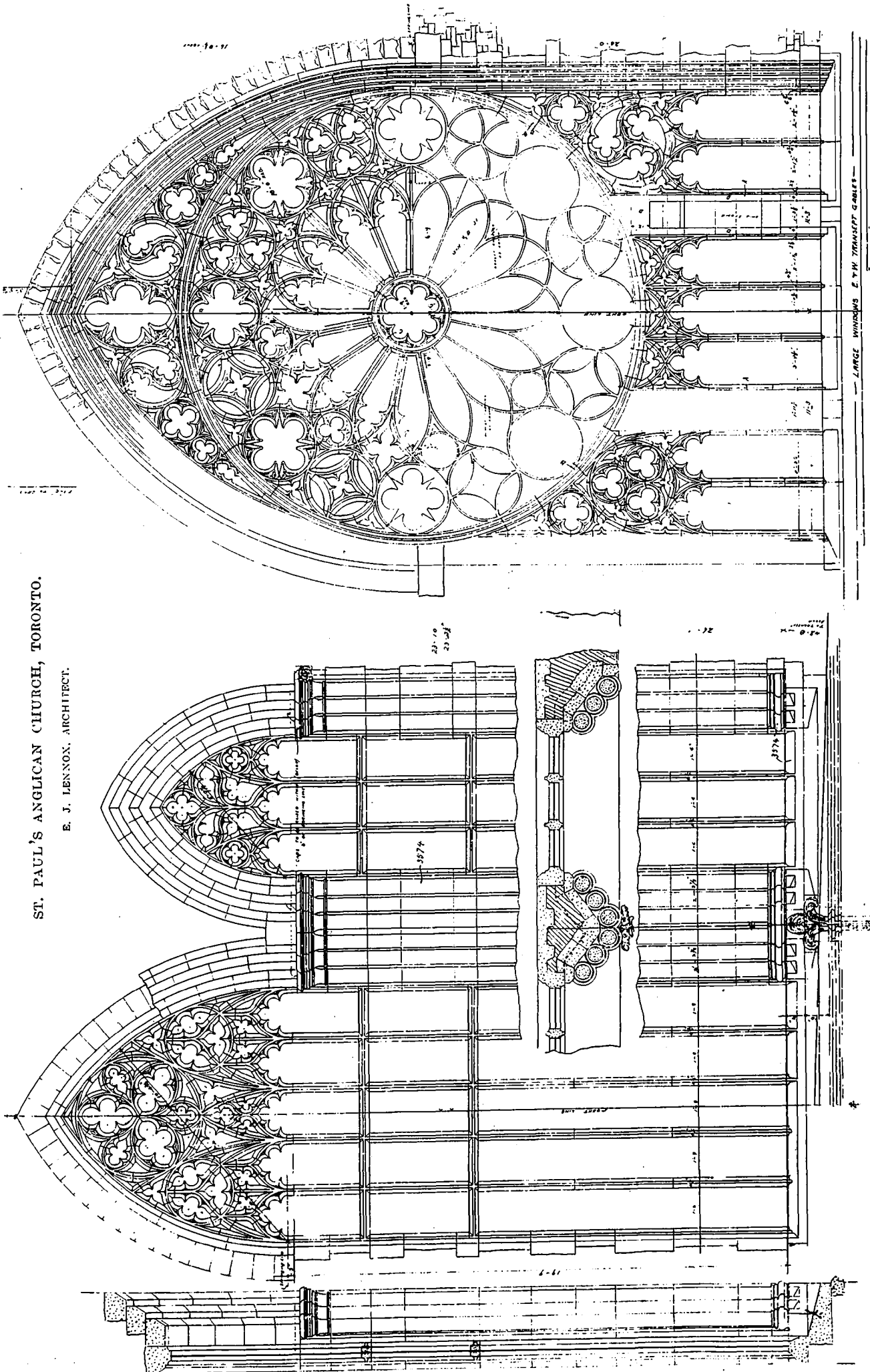
DETAIL OF INTERIOR.



DETAILS OF CHANCEL PIERS AND ARCHES.

ST. PAUL'S ANGLICAN CHURCH, TORONTO.

ST. PAUL'S ANGLICAN CHURCH, TORONTO.
E. J. LENNOX, ARCHITECT.



DETAIL OF ROSE WINDOW IN TRANSEPT GABLES.

DETAIL OF CHANCEL WINDOWS.

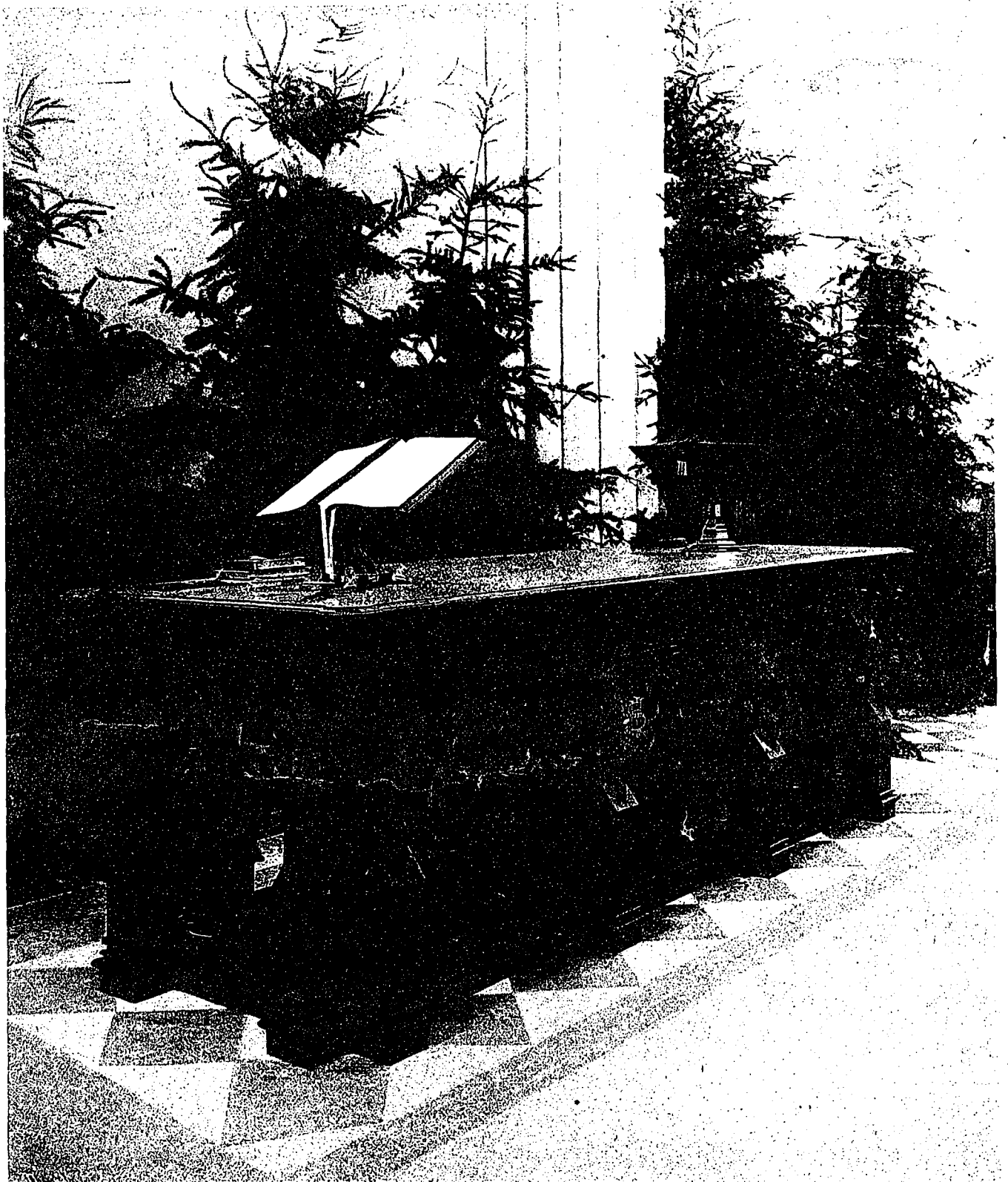
LARGE WINDOWS E. W. TRANSEPT GABLES.

mony with the front gable. The stone-traceried windows and the balustrade, which are exquisitely varied in design, present a feature uncommon and striking in its attractiveness in the front facade.

The side elevations, which extend back two hundred and thirty-five feet, are emphasized by buttresses and large transepts in harmony with the front elevation—only that the detail is

changed by the introduction of large rose windows, forty feet high and twenty-five feet wide, which take the place of the triplet windows in the front elevation. There is one of these rose windows in each gable, both showing individuality in design.

The structure cost approximately \$350,000, containing every precaution possible to minimize the fire risk and insure perfect safety.



CHANCEL TABLE

Yonge Street Methodist Church, Toronto

BURKE, HORWOOD & WHITE, Architects

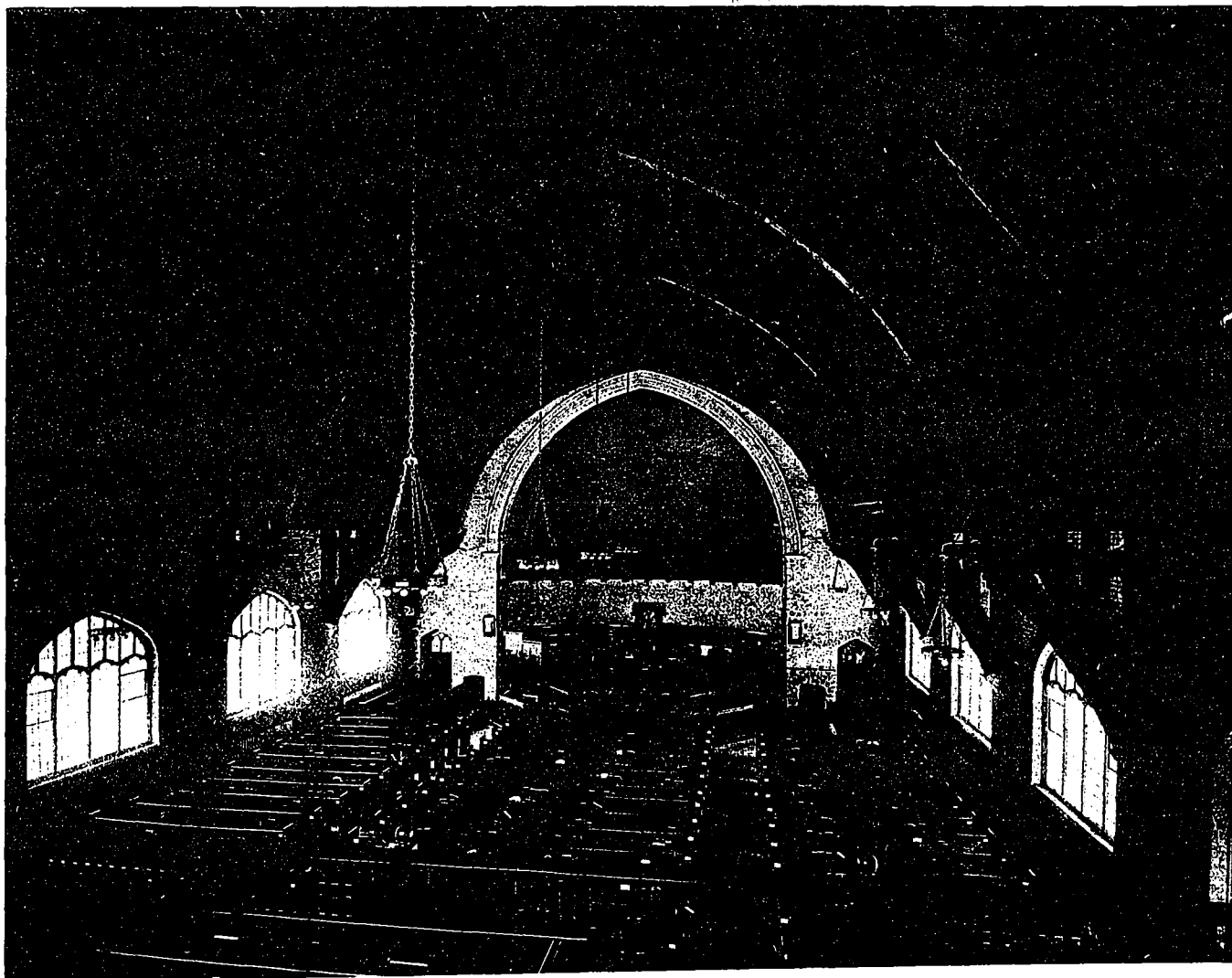
THE Yonge Street Methodist Church, standing at the corner of Summerhill avenue, is another evidence of the various denominational structures returning to the Gothic line of architecture. It presents a simple ornate treatment with the exterior in local gray stone. The church proper is fifty-eight feet by eighty-three, the Sunday school fifty-eight by forty-five, and the club room wing thirty-eight feet square.

The auditorium will seat nearly six hundred persons, the triple entrance off Yonge street being screened by a roomy vestibule extending across the entire width of the building, with staircases leading to the gallery. This end gallery in the auditorium accommodates about one hundred, while the gallery in the school section serves the junior classes when meeting with the main school. These junior classes are located in the wing above the parlor and vestry. The pulpit platform is located at the east end, backed by the choir and organ in a recess between the church and school portions, the choir accom-

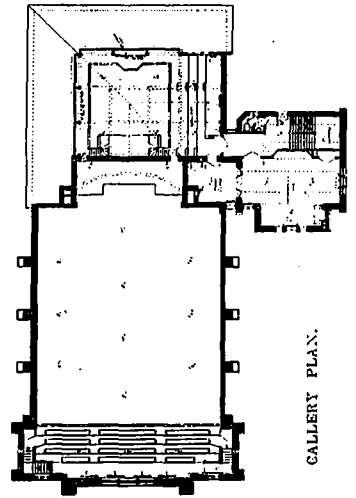
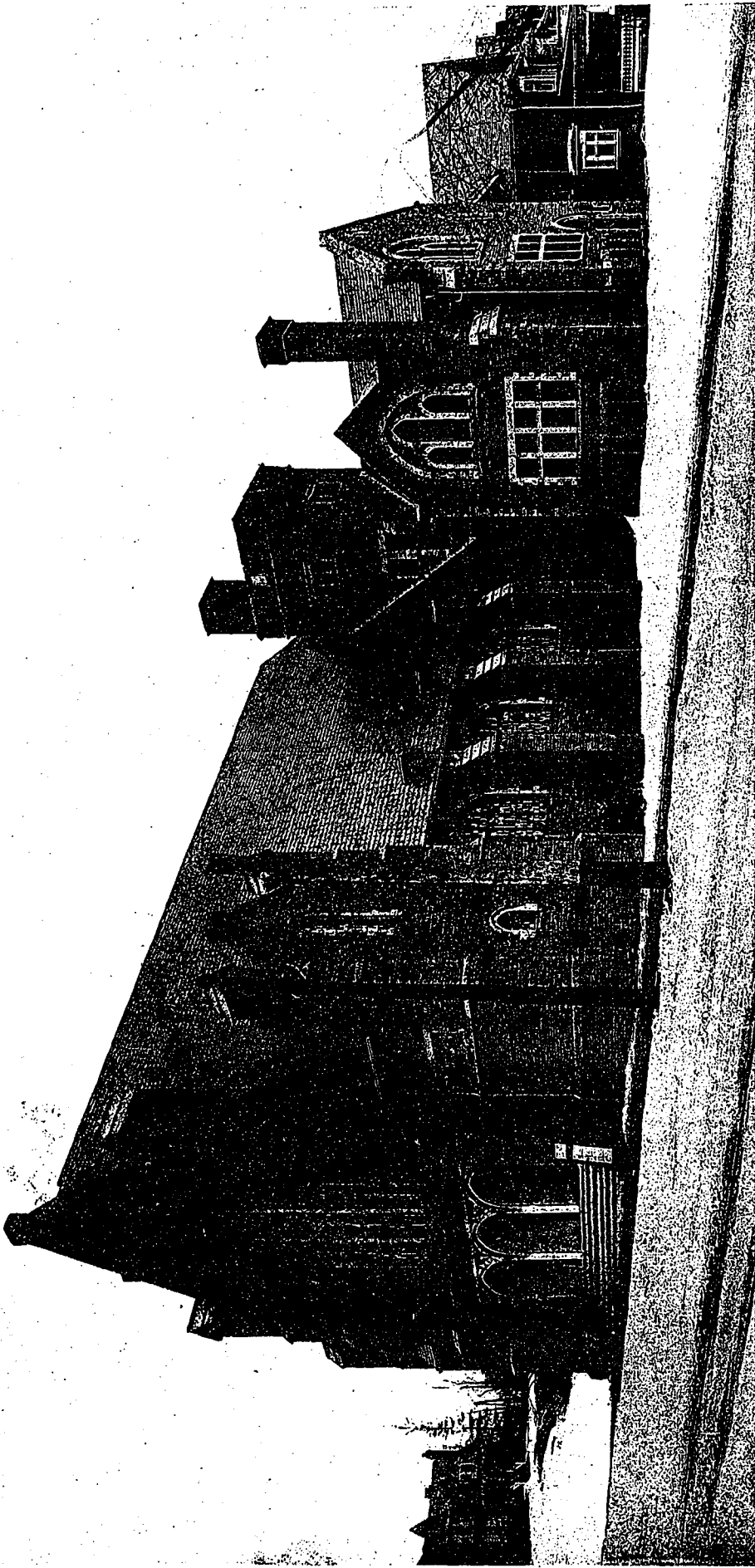
modating some fifty singers. The wing on this floor provides for a large ladies' parlor, the main entrance to school building and the vestry.

The school building contains the main room and eight class rooms, all of which can be thrown together by means of sliding doors. Conveniently placed in connection with this division is the library.

The basement beneath the auditorium is arranged as a large recreation room with a platform or stage at one end, and an outside entrance from the lawn in addition to an approach from the rear building. The basement under the Sunday school is devoted to the supper room, kitchen and lavatories, while the portion under the wing has a reading and club room with independent access from the street. The roof of the auditorium is carried on heavily framed, undressed timber of robust design. The heating is by steam, partially indirect, introducing fresh air, and the foul air is removed by ducts and heated flues. Cost, about \$54,000.



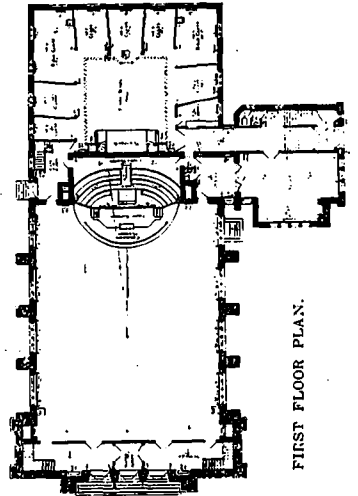
VIEW OF MAIN AUDITORIUM FROM GALLERY.



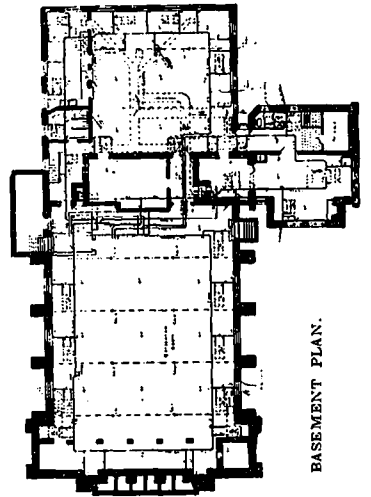
GALLERY PLAN.

YONGE STREET
 METHODIST CHURCH,
 TORONTO.

BURKE, HORWOOD & WHITE,
 ARCHITECTS.



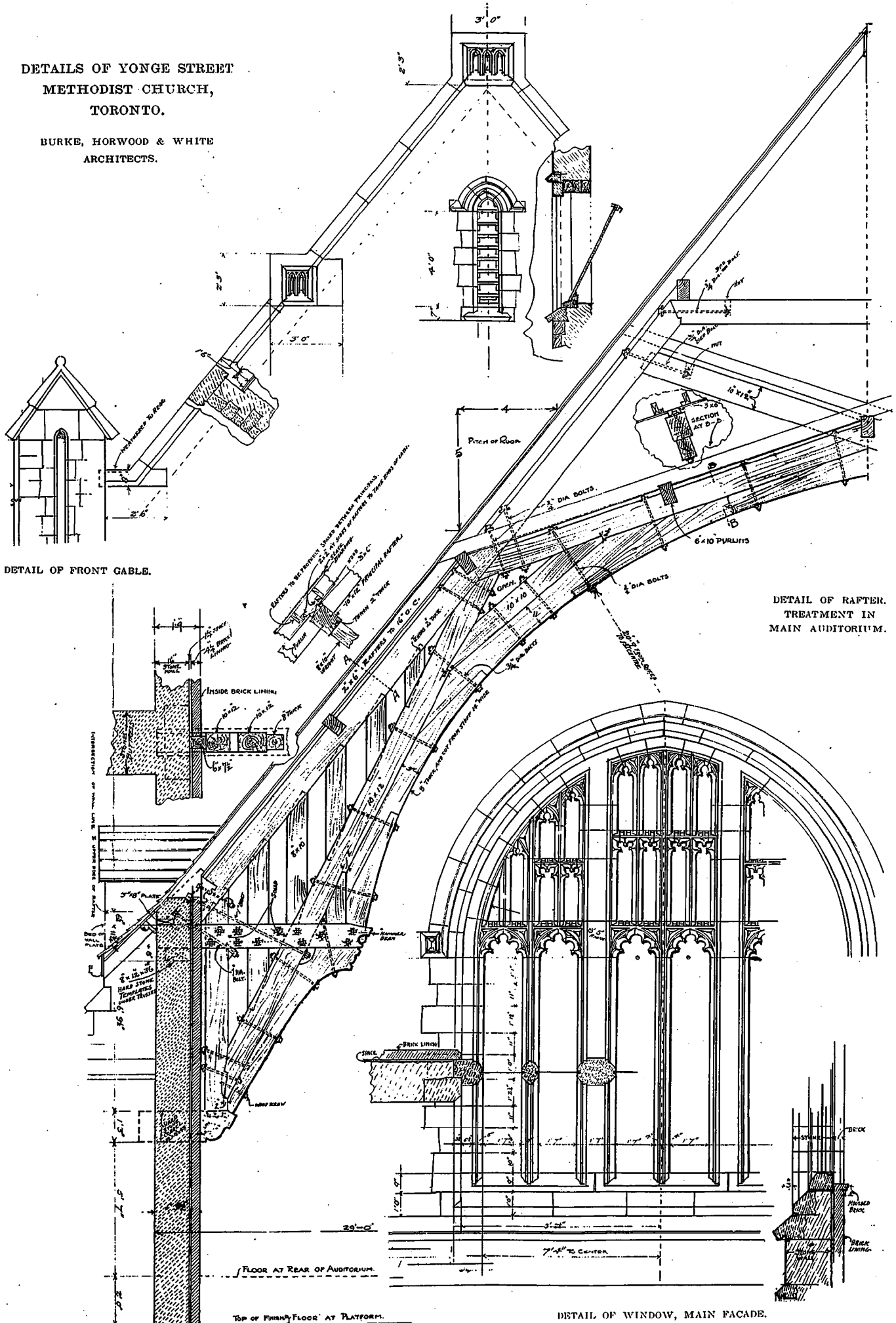
FIRST FLOOR PLAN.



BASEMENT PLAN.

DETAILS OF YONGE STREET
METHODIST CHURCH,
TORONTO.

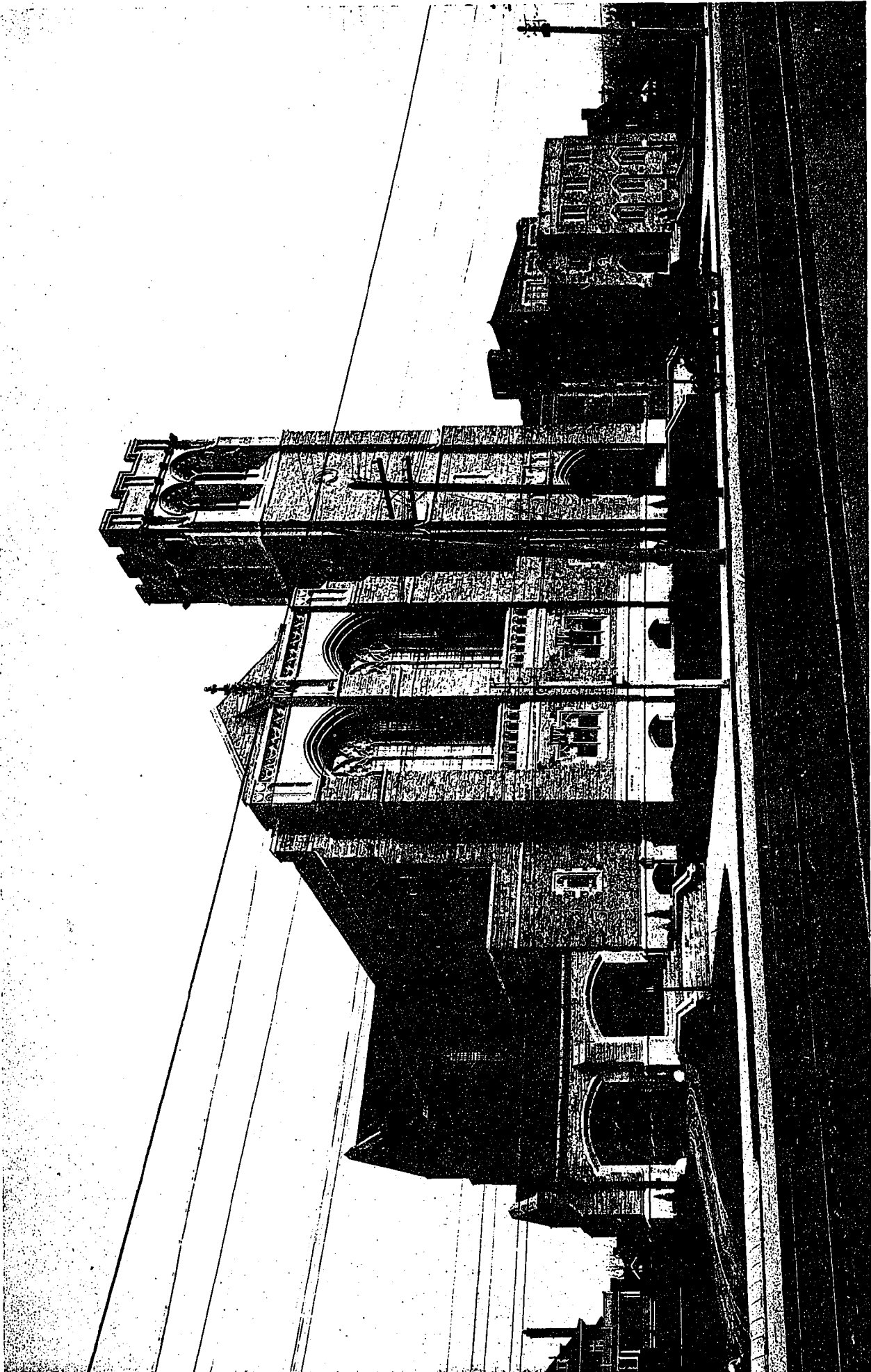
BURKE, HORWOOD & WHITE
ARCHITECTS.



DETAIL OF FRONT GABLE.

DETAIL OF RAFTER,
TREATMENT IN
MAIN AUDITORIUM.

DETAIL OF WINDOW, MAIN FACADE.

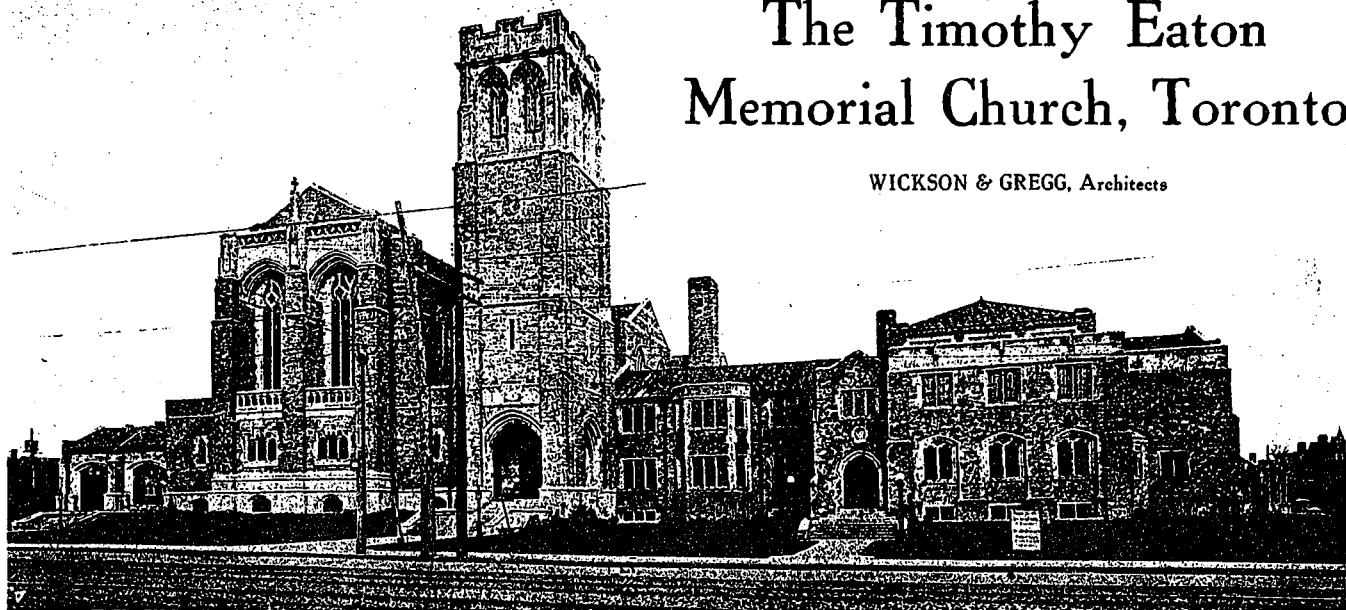


TIMOTHY EATON MEMORIAL CHURCH, TORONTO.

WICKSON & GREGG, ARCHITECTS.

The Timothy Eaton Memorial Church, Toronto

WICKSON & GREGG, Architects



THE problem of ecclesiastical work is fast developing into a serious matter, due to the large annual influx of immigrants from other countries. So many sects, representing various devotional ideas, open up a field of unlimited possibilities. Were the various Provinces one religious community the designing of religious institutions would become a comparatively simple question, similar to conditions which existed in Europe during the Middle Ages. Each nation developed along one line a series of churches which present a high standard for each individual style. Here, however, we are forced to consider all denominations, making the different edifices a study peculiar to themselves.

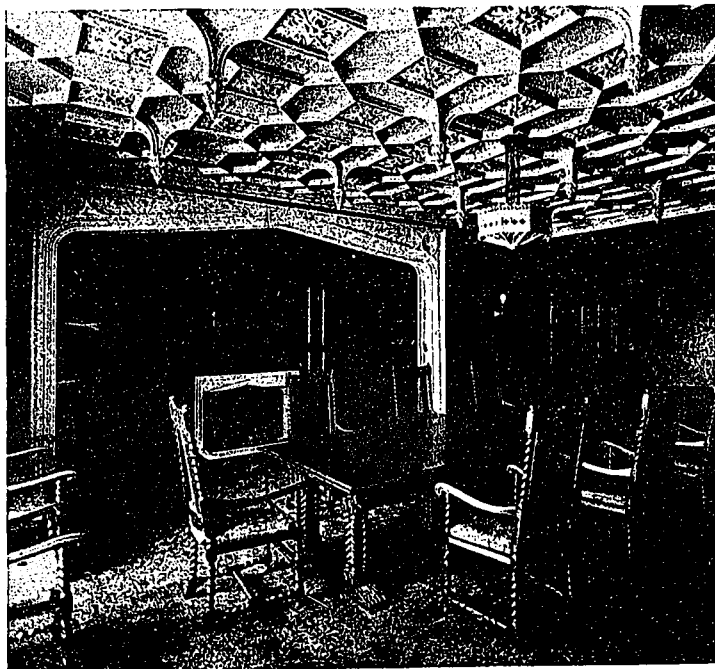
One of Toronto's recent buildings, which reveals the character of church work being done in Canada, is the Timothy Eaton Memorial Church. The structure, while monumental, both externally and internally, is essentially practical, providing as it does for the greatest possible comfort in the way of unobstructed sight and sound. It has a frontage on St. Clair avenue of two hundred and thirty-eight feet and a depth of one hundred and thirty-four feet. It is built of grey stone with elaborately cut

decoration, including the richly traceried windows. The main building with the Sunday school and belfry tower forms a most interesting group of buildings; with its ample grounds surrounded on three sides by streets, and set out as they are with a complete scheme of shrubbery. One of the interesting features of the building is the belfry tower, the apex of which is one hundred feet above the street level, and contains an installation of twenty-one bells.

The exterior and interior are designed in the late decorative period. The pews, pulpit, communion tables, organ cases, lighting fixtures and other furnishings were selected to harmonize with the treatment of the main building. The lighting fixtures are somewhat unique, the supports being of bronze, while the fixtures themselves

have been made to harmonize with the decorative frieze, and are constructed with delicate open traceried work lined with silk, through which is obtained a soft light, the real illumination of the building being reflected from the ceiling. These fixtures can be lowered in a few minutes by means of powerful winches set above the ceiling.

The color scheme adopted for the interior is harmonious throughout, resulting in a delightfully



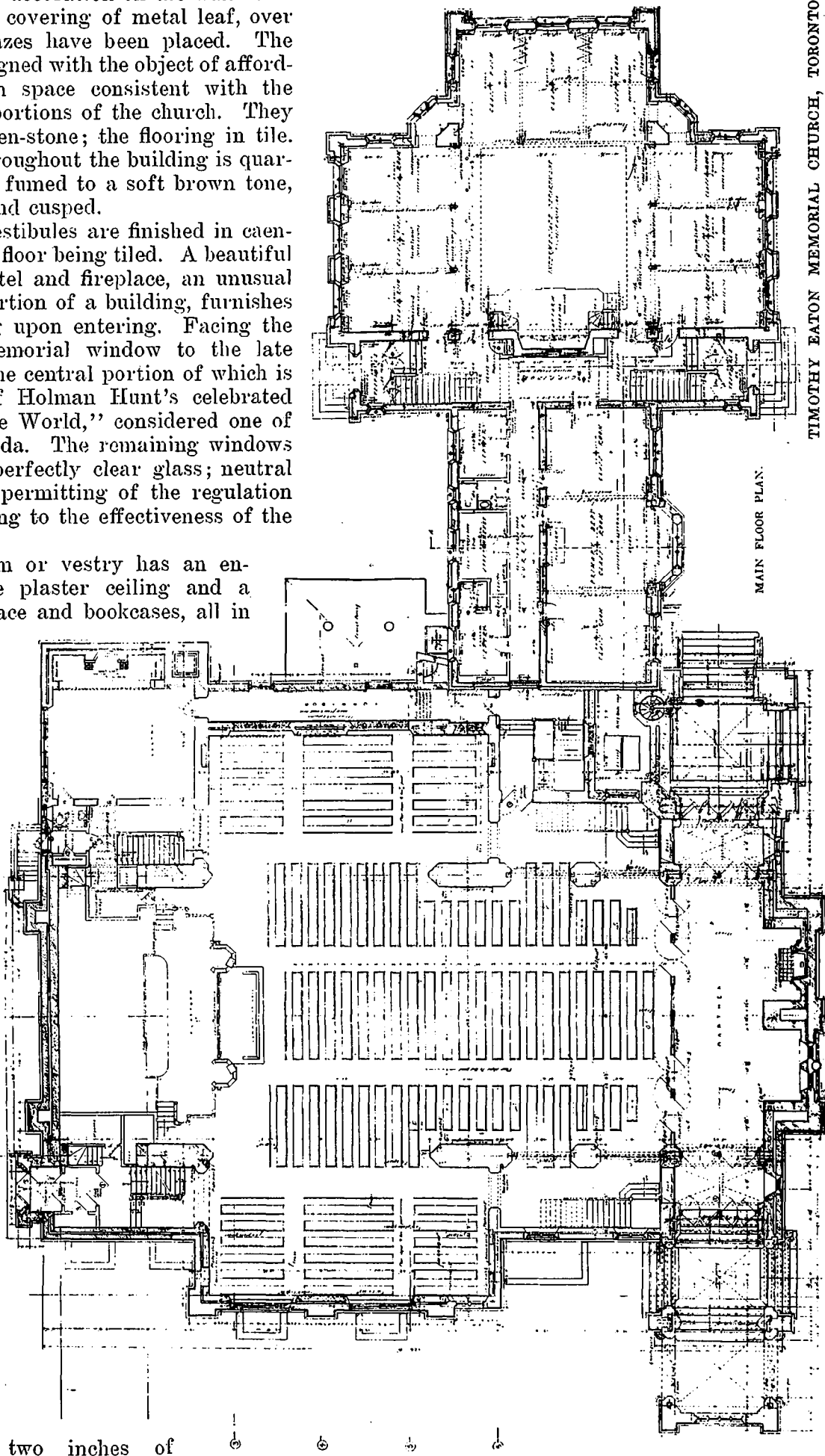
VESTRY,

warm effect. The decoration on the walls consists of an entire covering of metal leaf, over which colored glazes have been placed. The vestibules are designed with the object of affording the maximum space consistent with the architectural proportions of the church. They are finished in caen-stone; the flooring in tile. The woodwork throughout the building is quarter-cut white oak, fumed to a soft brown tone, richly traceried and cusped.

The spacious vestibules are finished in caen-stone and oak, the floor being tiled. A beautiful Gothic stone mantel and fireplace, an unusual feature of this portion of a building, furnishes a welcome feeling upon entering. Facing the audience is a memorial window to the late Timothy Eaton, the central portion of which is a reproduction of Holman Hunt's celebrated "The Light of the World," considered one of the finest in Canada. The remaining windows are glazed with perfectly clear glass; neutral colored hangings permitting of the regulation of light, and adding to the effectiveness of the tout ensemble.

The board room or vestry has an enriched pendentive plaster ceiling and a recess with fireplace and bookcases, all in Gothic traceried quarter-cut oak and cut-stone. Under the auditorium there is a spacious room, decorated in light colors, adjoining which is the kitchen, equipped with sinks, electric and gas stoves, pantry fittings, etc., and the usual toilet rooms tiled and decorated. The main room will not only be used for banquets, but is arranged for interior bowling. Adjoining this is a room equipped with two bowling alleys.

The building has been designed with a view to obtaining perfect acoustics; the ceiling, instead of the usual plaster work, has



solid felt covered with repp. The organ is in a chamber with fronts facing two ways, and is complete in every way. There is also an echo organ, the air being supplied by two electric blowers. Not the least interesting feature of this church, and one rather unusual in this country, is the chime of twenty-one bells imported from London, England. These are operated from the floor just above the tower entrance, and practically any tune can be played on them.

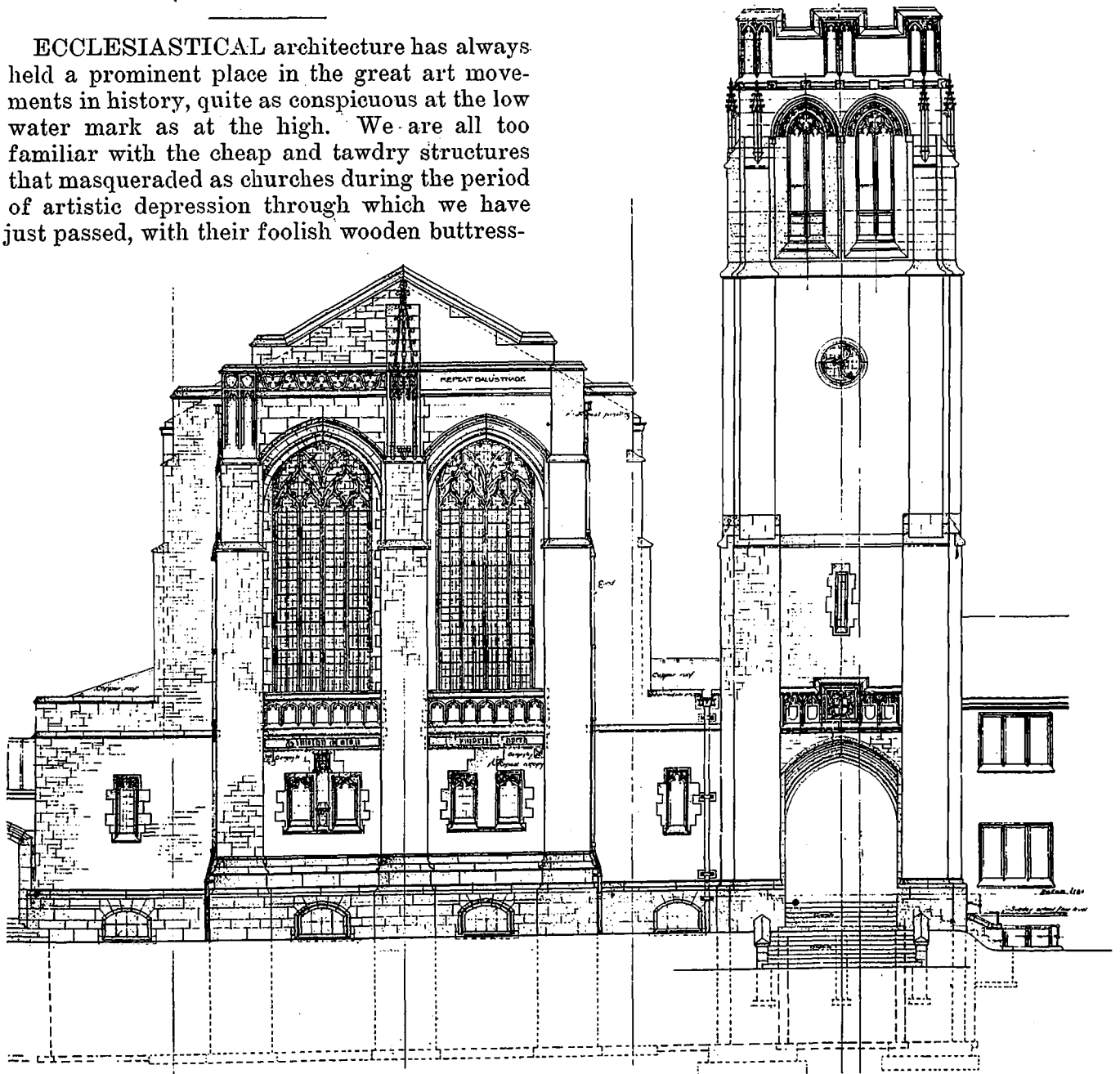
The heating and ventilation are of the most modern type; air warmed to an even temperature is driven by a large fan into a space between the floor and the basement ceiling, entering the church through openings in the floor under the pews, thus getting an even and imperceptible distribution. There is installed another large fan for exhaust purposes. Both the heating and the ventilation systems are thermostatically controlled.

ECCLESIASTICAL architecture has always held a prominent place in the great art movements in history, quite as conspicuous at the low water mark as at the high. We are all too familiar with the cheap and tawdry structures that masqueraded as churches during the period of artistic depression through which we have just passed, with their foolish wooden buttress-

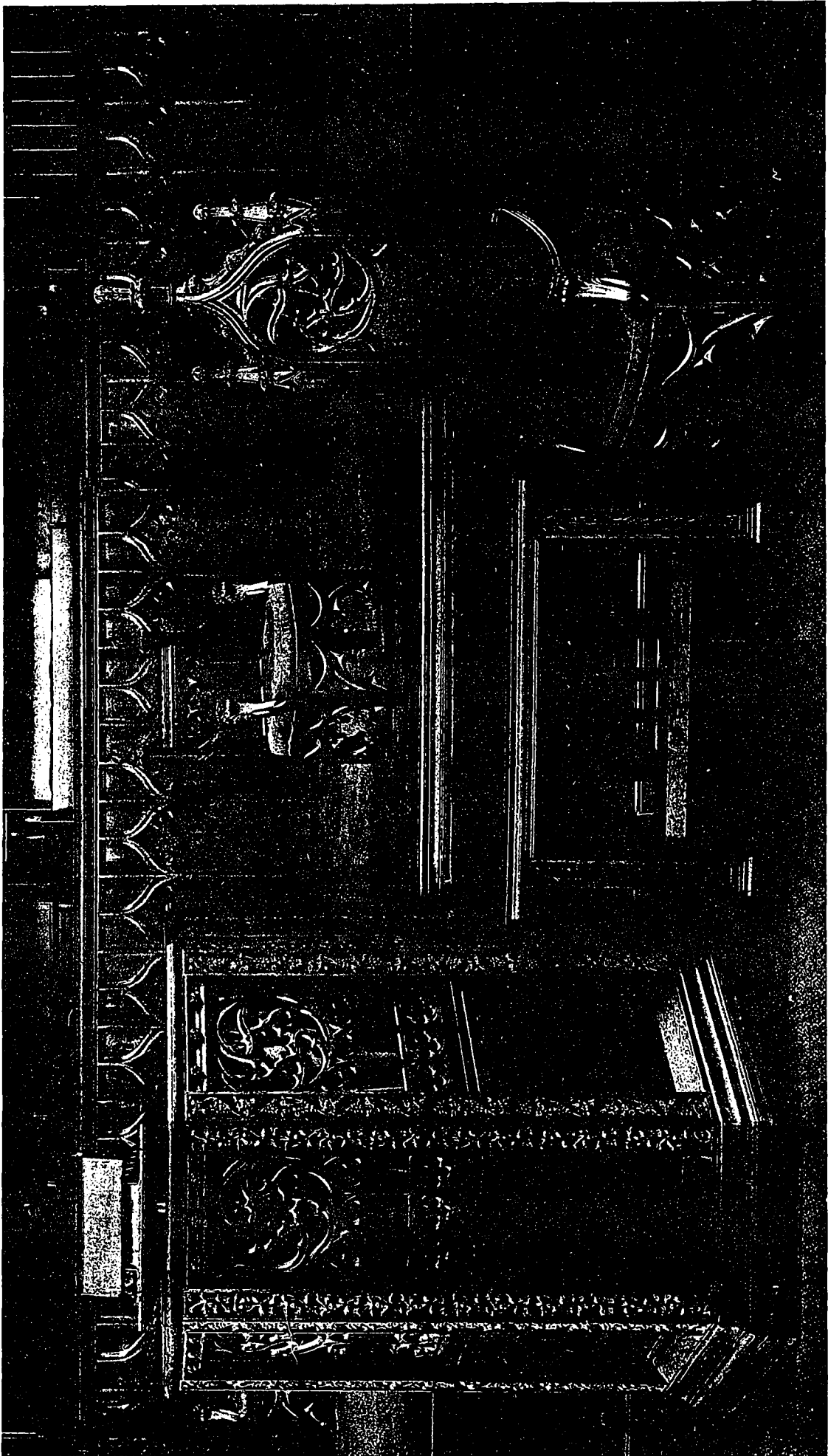
es and pinnacles, galvanized iron cornices and crockets, and contemptible ornamentation of all kinds. These fraudulent imitations that we have on every hand are rapidly being relegated to the scrap heap, or are being transformed, without much difficulty, into moving picture theatres.

Compare these flimsy makeshifts with those matchless little buildings scattered so plentifully throughout the length and breadth of England; with their very intimate and human qualities which command so much of our wonder and admiration, and the result is certainly a sad commentary on the religious sincerity of the years just behind us.

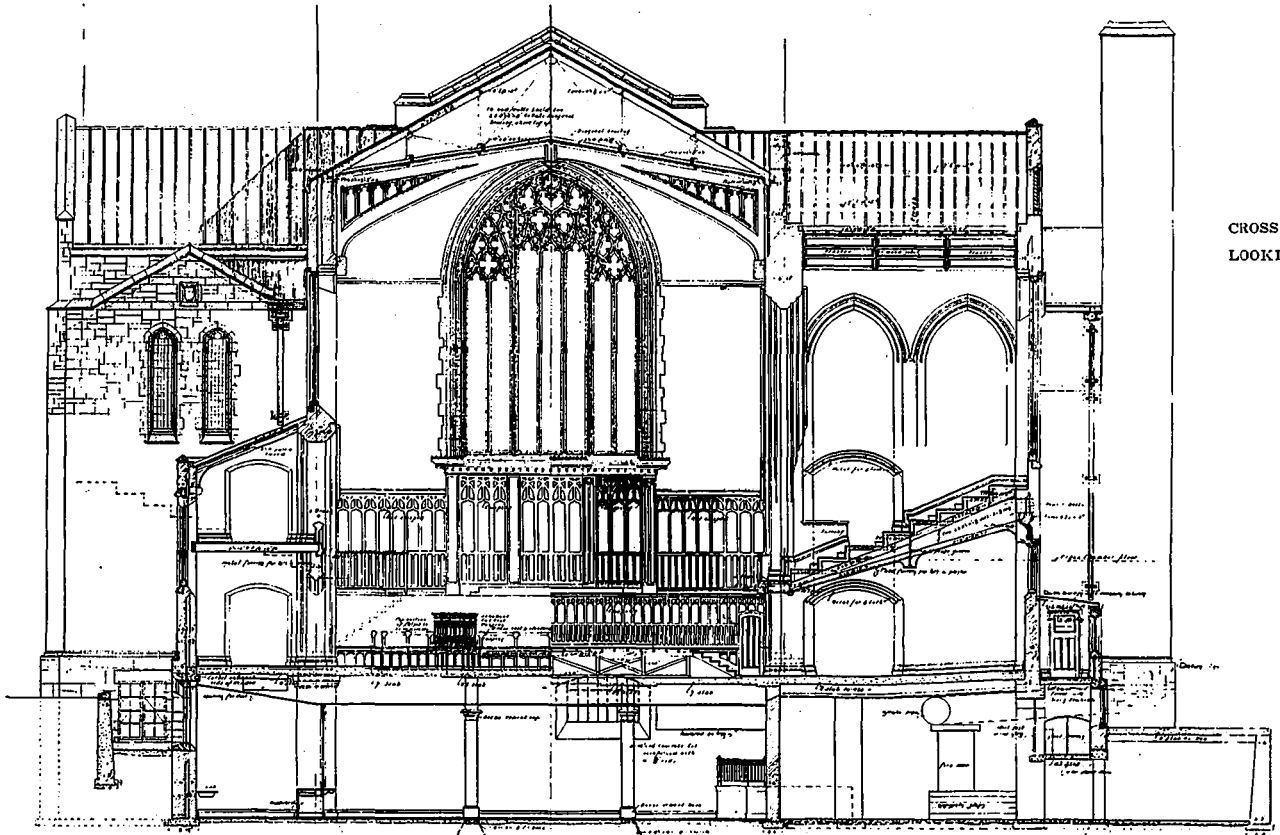
It was during this age, however, that the first stirrings of a revival of good church building commenced, in a very small way at first, the study of the old models rarely going deeper



SOUTH ELEVATION OF TIMOTHY EATON MEMORIAL CHURCH.



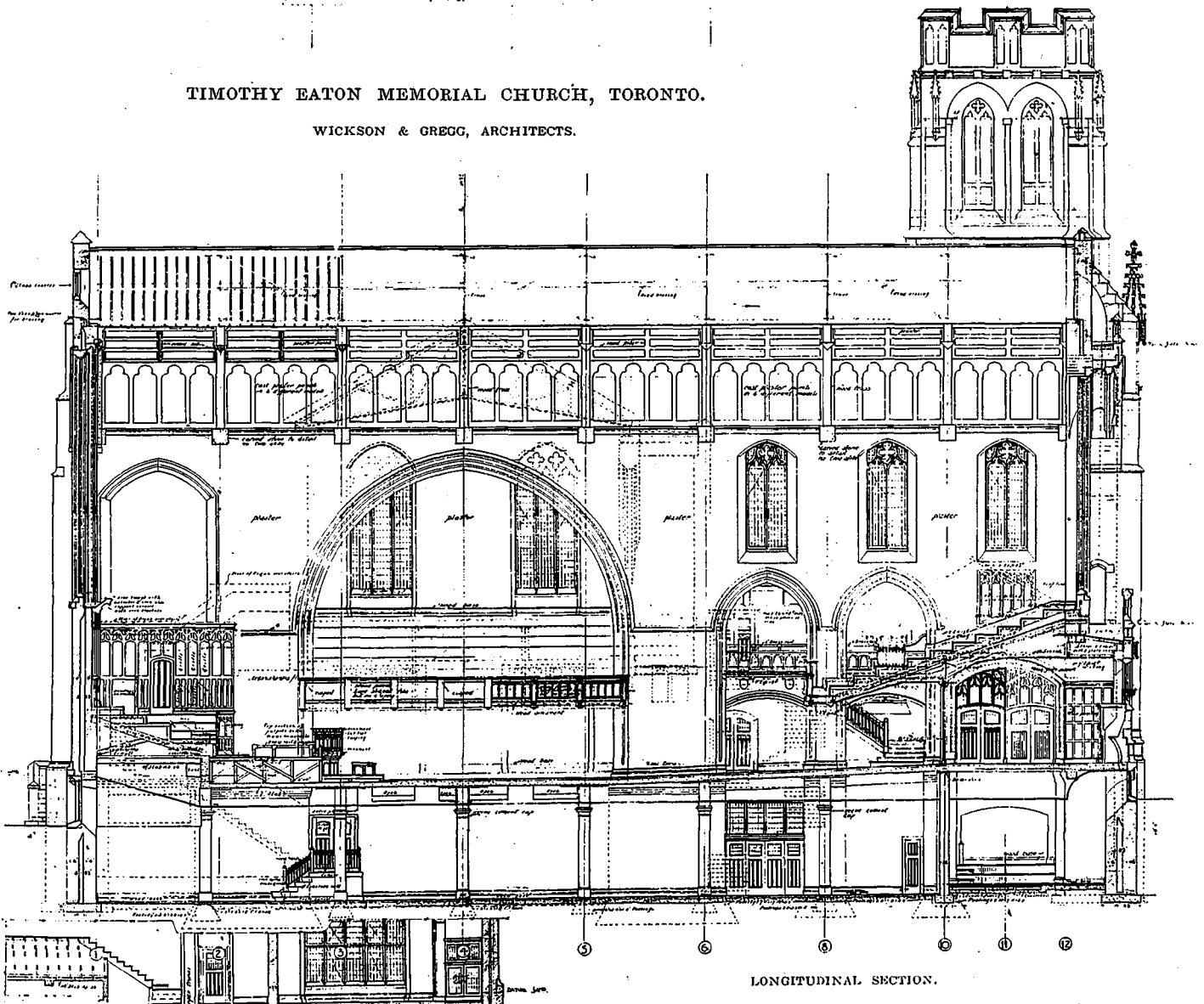
DETAILS OF PULPIT AND CHANCEL
FURNITURE, TIMOTHY EATON
MEMORIAL CHURCH, TORONTO.



CROSS SECTION.
LOOKING NORTH.

TIMOTHY EATON MEMORIAL CHURCH, TORONTO.

WICKSON & GREGG, ARCHITECTS.



LONGITUDINAL SECTION.



VIEW OF MAIN AUDITORIUM FROM GALLERY.

than the section of mouldings, or the patterns of the window tracery. But gradually the movement gained headway, with the result that the last generation saw great changes in the art of the church.

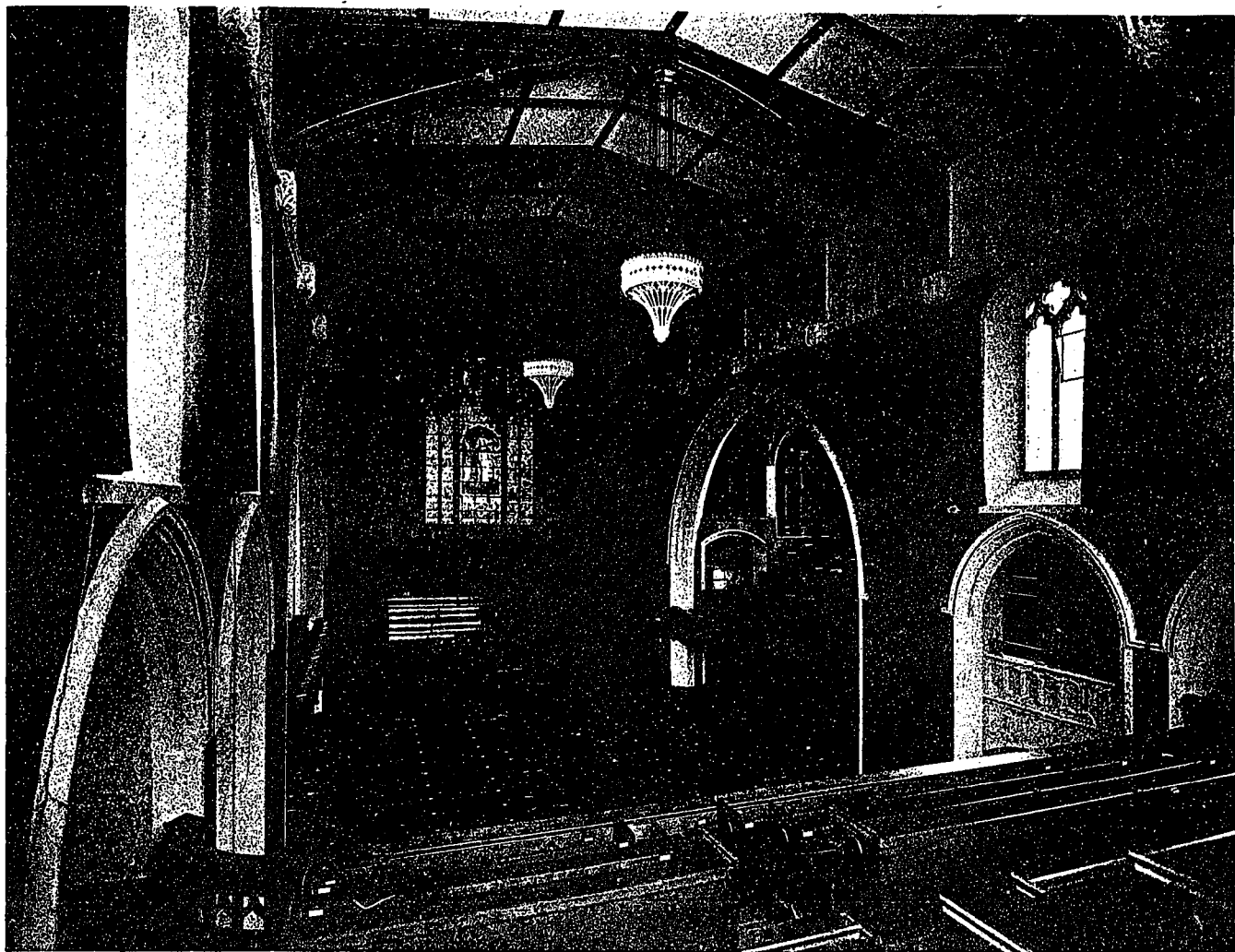
Under the leadership of the Pugins this movement began in England and was continued by Scott the Elder, Bodley, Pearson, Sedding and Paley; and in our own day by the younger Scott, Moore and Nicholson. In this country the work was taken up by Upjohn and Renwick, and continued by Vaughan and Messrs. Cram, Goodhue & Ferguson. In the hands of these men and their followers, there is hope that the churches of the coming generation will compare favorably with those of the Middle Ages. But, as art is a reflection of social conditions, we cannot hope to permanently establish a system of religious art without first producing those conditions which nourish it and encourage its growth. On the other hand, art is one of the most potent factors at the command of the church, and, did she but know it, one of the strongest agencies in freeing the people from that spirit of commercialism and materialism which is her worst enemy at the present time. We can, therefore, by a sincere and painstaking effort to produce noble church architecture, assist in establishing a condition of affairs which

will make it possible to progress still further towards artistic perfection.

Whatever the form of worship for which the church is to be built, from the simplest to the most elaborate, it must be dignified inside and out. It must bespeak the purpose for which it is erected—the worship of God—and should be characterized by a solemn reserve and dignity.

Dignity does not necessarily call for symmetry, although a certain balance is desirable, but restraint is absolutely indispensable. Anything forced or overdone will ruin it, and, above all, any attempts at “picturesqueness” should be avoided. Nothing should be allowed to spoil that influence which we like to think a properly designed building of any kind has on the community. On the other hand, a too apparent striving after dignity sometimes produces quite the opposite effect, and the designer spoils his work by disclosing his tricks.

And this brings us to the much mooted question of honesty in design—not that this should apply to church building the least bit more than to any other structure; but in the same manner that we sometimes excuse an action in a hard-headed man of business that we would instantly condemn in the so-called church member, so we can tolerate an occasional sham in secular buildings that would seem like hypocrisy in the



VIEW OF MAIN AUDITORIUM FROM THE NARTHEX.

church. This may not be the ideal condition of affairs, but the fact remains that we must look to the church in all its parts as a model of honesty and genuineness.

The question of what is, and what is not, honest architecture has been much discussed, and the tendency of some theorists to stretch the dogma to the breaking point has resulted in much scoffing on the part of others. But to state it simply, it seems to me that honesty is merely the absence of deception, or, in other words, the absence of such frauds in a building as plaster decorated to imitate marble, furred plaster arches with or without painted joints, false chimneys built for the sake of balance, windows with shades pulled down permanently to hide solid masonry behind, grained metal doors and trim, and the like. Such things should be avoided by any self-respecting architect, whether in a church or any other building.

As the church in its broadest sense is undeniably a permanent institution, its outward and visible form, as embodied in its architecture, should be as enduring as it is possible to make it, and only those materials which have stood the test of time should be used in its construction. We can surely learn much from the builders of the Middle Ages; for while their masonry was not always the best, at least they

built solidly; and their work, which has been now standing five centuries and more as a memorial of their sincere devotion to their church, will still be in active service long after our flimsy structures, built to the minimum allowed by building laws, will have been forgotten.

One requirement of the modern church which the mediæval builders did not have to contend with is the provision of an unobstructed view of at least the pulpit from the majority, if not all the seats. In the days when the service of the church was a vital part of the religious life of the people, when the direst calamity that could overtake an individual was to be cut off from the privileges of its sacraments, the attitude of the individual towards the accommodations provided for him by the church was quite different from that of to-day. Consequently such minor matters as interrupted views, insufficient illumination, or lack of an adequate heating system were not deemed worthy of consideration.

But to-day the situation is different. We must be comfortable in our pew; our prayer-book and hymnal must be well lighted; the temperature must be seventy and uniform, and we must see and hear as well from our pew as we do from our chair at the opera. This last condition is not always easy to meet.—*E. D. Robb.*



ST. JOHN'S EPISCOPAL
CHURCH, SASKATOON.

THOMPSON, DANIEL &
COLTHURST, ARCHITECTS.



St. John's Episcopal Church, Saskatoon

THOMPSON, DANIEL & COLTHURST,
Architects

"It is impossible to understand the development of church architecture without realizing its intimate connection with that of the doctrine, organization and ritual of the Christian Church as a religious community. In general it may be said of church architecture more truly than of any other, that artistically it is 'frozen music.'"

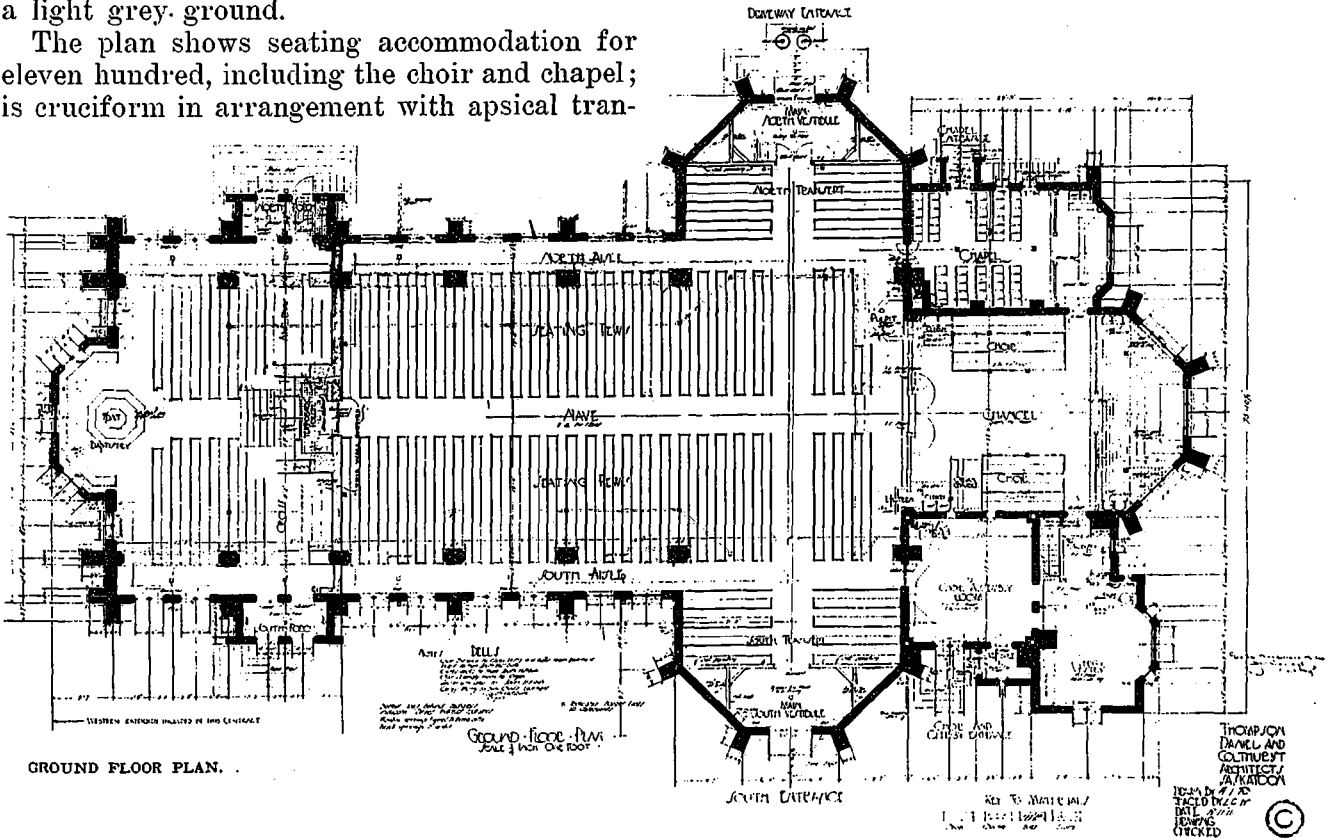


ECCLESIASTICAL work in the Western Provinces has hardly kept pace with their commercial activity; although several church edifices are exemplary of an abiding confidence in the sane and permanent growth of this section. Prominent among the more important buildings is St. John's Church at Saskatoon, by Thompson, Daniel & Colthurst, architects. The exterior is of Redcliffe brick, with all ornament and tracery of buff terra cotta; the base of a local rough faced granite; the roof of shingles laid with a design in dark grey and red upon a light grey ground.

The plan shows seating accommodation for eleven hundred, including the choir and chapel; is cruciform in arrangement with apical tran-

septs and chancel. The only portion of the building with basement is the chapel and the chancel, utilized for choir vestrys and heating chamber. Owing to the east end of the building being the main approach and the chief view, it was considered wise to place the spire at that end of the church, using the portion of the tower over the choir assembly room for the organ equipment.

Access to the chapel is provided from the exterior, also from the north transept, while the clergy have access through the chancel from





the vestry, special attention being paid, in planning, to the convenience of processions. The main pillars supporting the clerestory walls are so placed as to obstruct the view of a minimum of the congregation. The chancel is divided from the nave by a rood-screen and dwarf wrought iron railings.

The interior is lined with a buff brick harmonizing well with the terra cotta dressings. The rood-screen, pulpit, lectern, altar and reredos, together with the font, are of white Carrara terra cotta in a dull glaze. The finish of the roof shows a richly ornamented hammerbeam design in Georgia pine; the panelling, doors, seating, etc., being all in oak. The effect gained by flooring the chancel and sacristy with nine-inch quarry tile in red with a wide joint, is pleasing, when seen with the interior brick and white terra cotta. Wrought iron hopper ventilators are introduced in many of the windows, fixed directly into the terra cotta grooves similar to the glazing throughout.

The general construction of the building is a departure from Gothic tradition. To economize upon thickness of walls and heavy foundations a system of curtain-wall was decided upon; the buttresses and pillars being carried down below frost level; the walls between buttresses being carried upon reinforced concrete beams. The exterior walls are divided into small

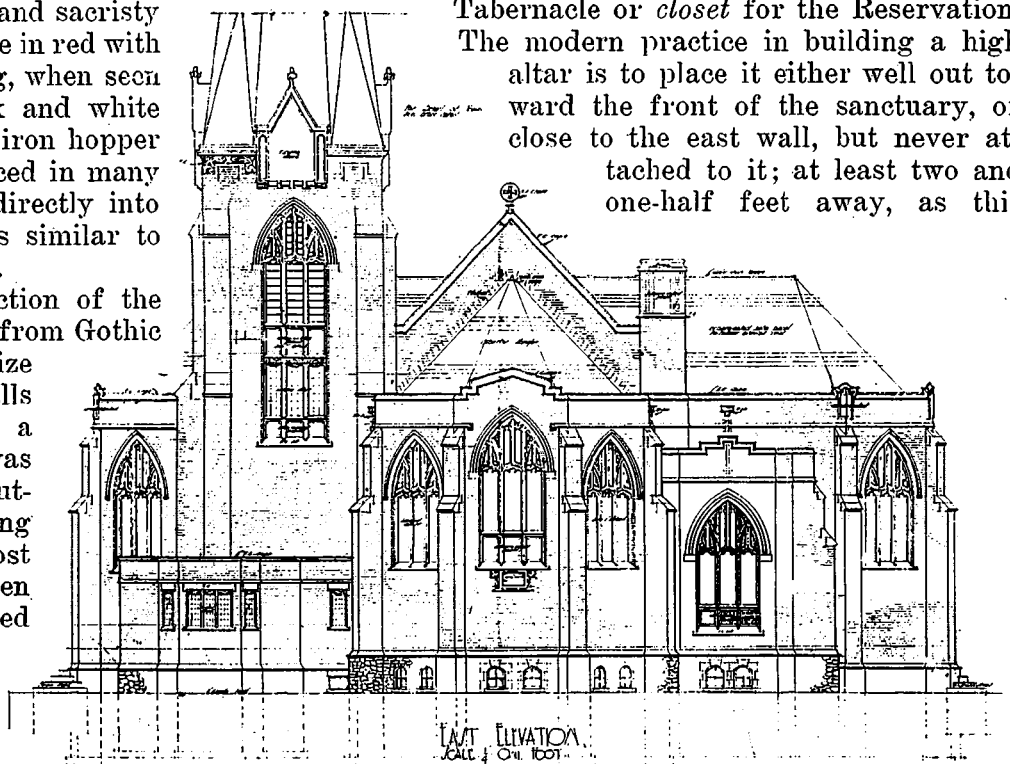
panels so that they could have a uniform thickness of twelve inches, made up of the interior and exterior veneers with hollow tile centre or core.

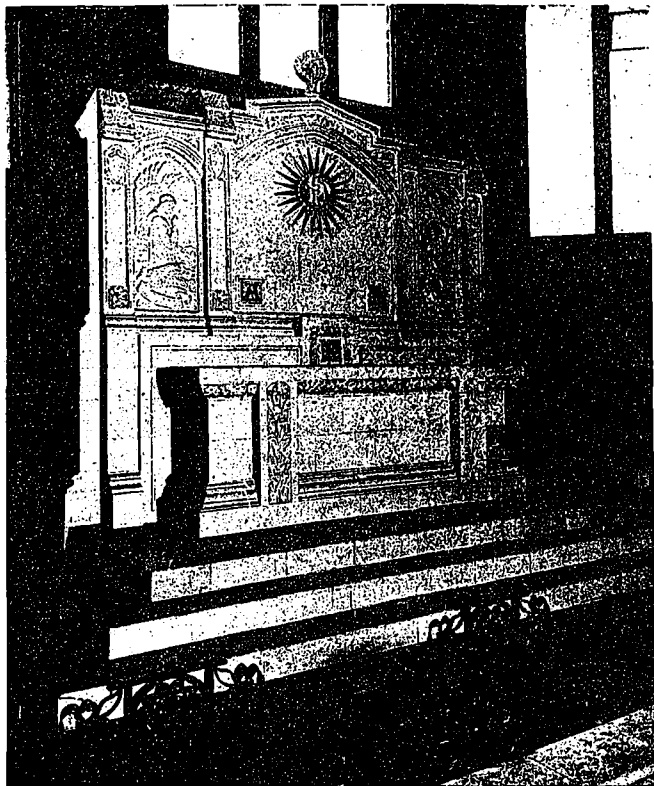
Steelwork is used throughout the tower and spire, also in the roof trusses; curtain wall construction in the spire, while the foundations of this portion are of reinforced concrete. It was arranged when calling for tenders, that a portion only of the edifice could be erected, at present, if so desired, but when it was found that the building could be completed under the estimated cost it was decided to proceed with the entire structure.

The heating system adopted is the direct-indirect, by which fresh air is introduced through the radiators, and can be regulated by means of hit and miss grids. The excavation, drains and foundations were let upon a percentage basis, and cost \$13,000. The contract for the superstructure complete was \$103,000, making a total of \$116,000.

THE Christian altar is a tablelike construction upon which the eucharistic sacrifice is offered. When fully developed it consists of a number of parts: a Mensa or table, a Predella or platform, a Ciborium or canopy, a Retable or steplike shelf, a Reredos or screen, and lastly a Tabernacle or closet for the Reservation.

The modern practice in building a high altar is to place it either well out toward the front of the sanctuary, or close to the east wall, but never attached to it; at least two and one-half feet away, as this





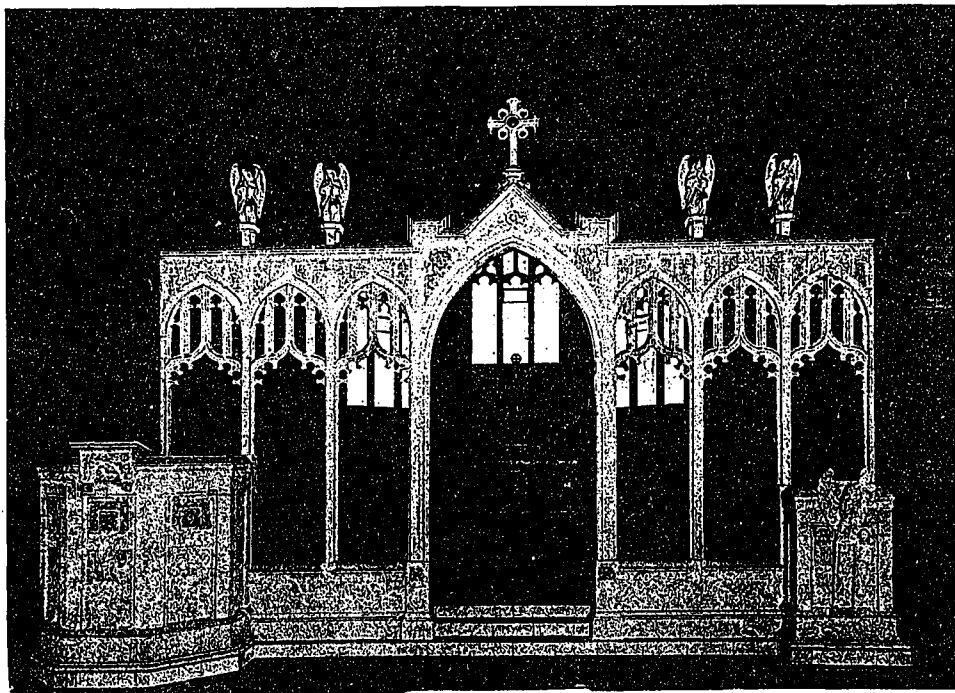
ALTAR.

space is needed as a passage, not only at the time of consecration, but at all times for the convenience of the sacristan. The altar itself is built on a platform projecting not less than four and one-half feet in front of the altar and at least fourteen inches at the side; this predella or foot-pace corresponds in length with the mensa, plus fourteen inches at either side, and would not be approached by less than two steps, with treads twelve inches to two feet wide and risers four and one-half inches high. If there is a reason to raise the altar higher, more steps are added, but always an uneven number, and never more than nine.

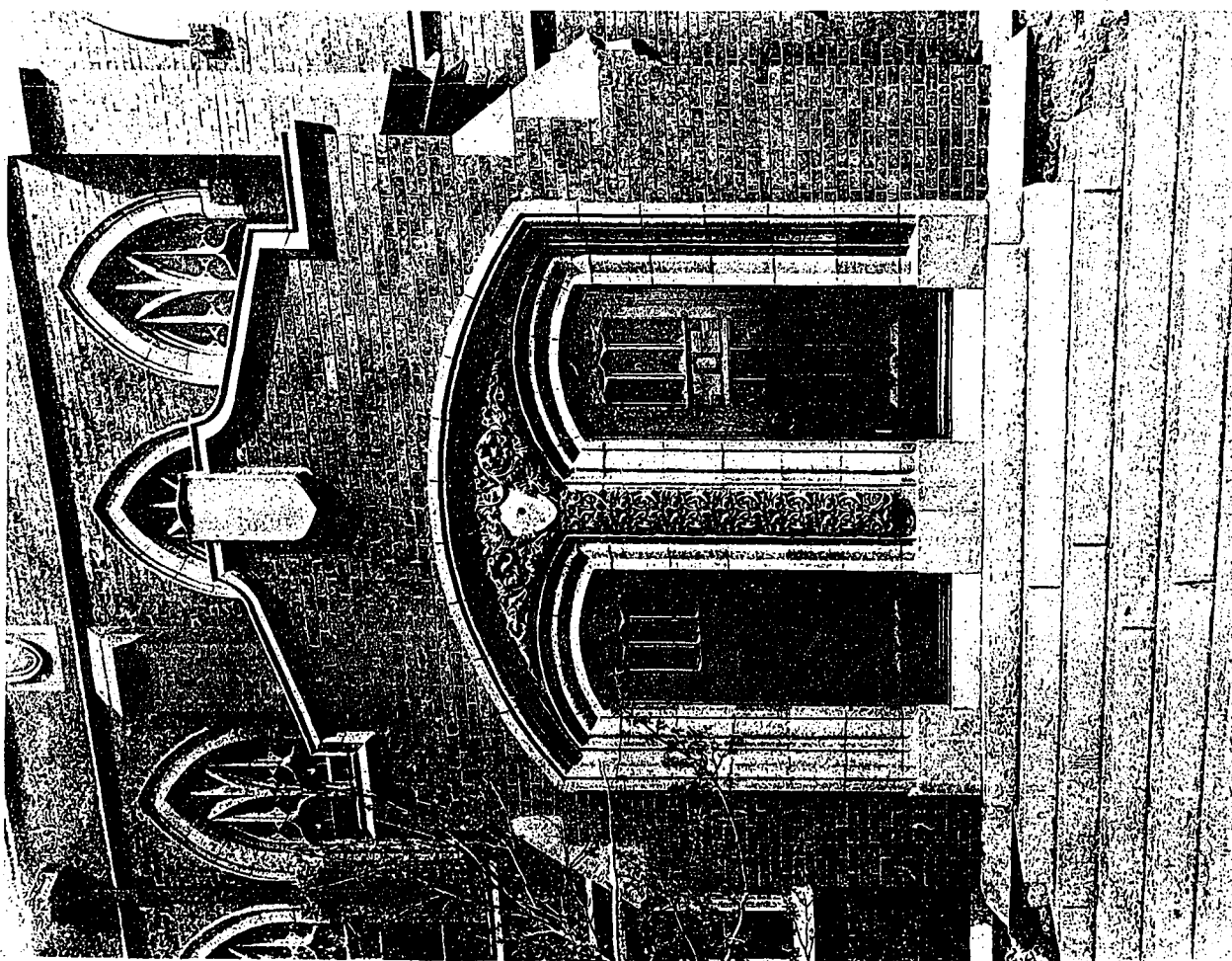
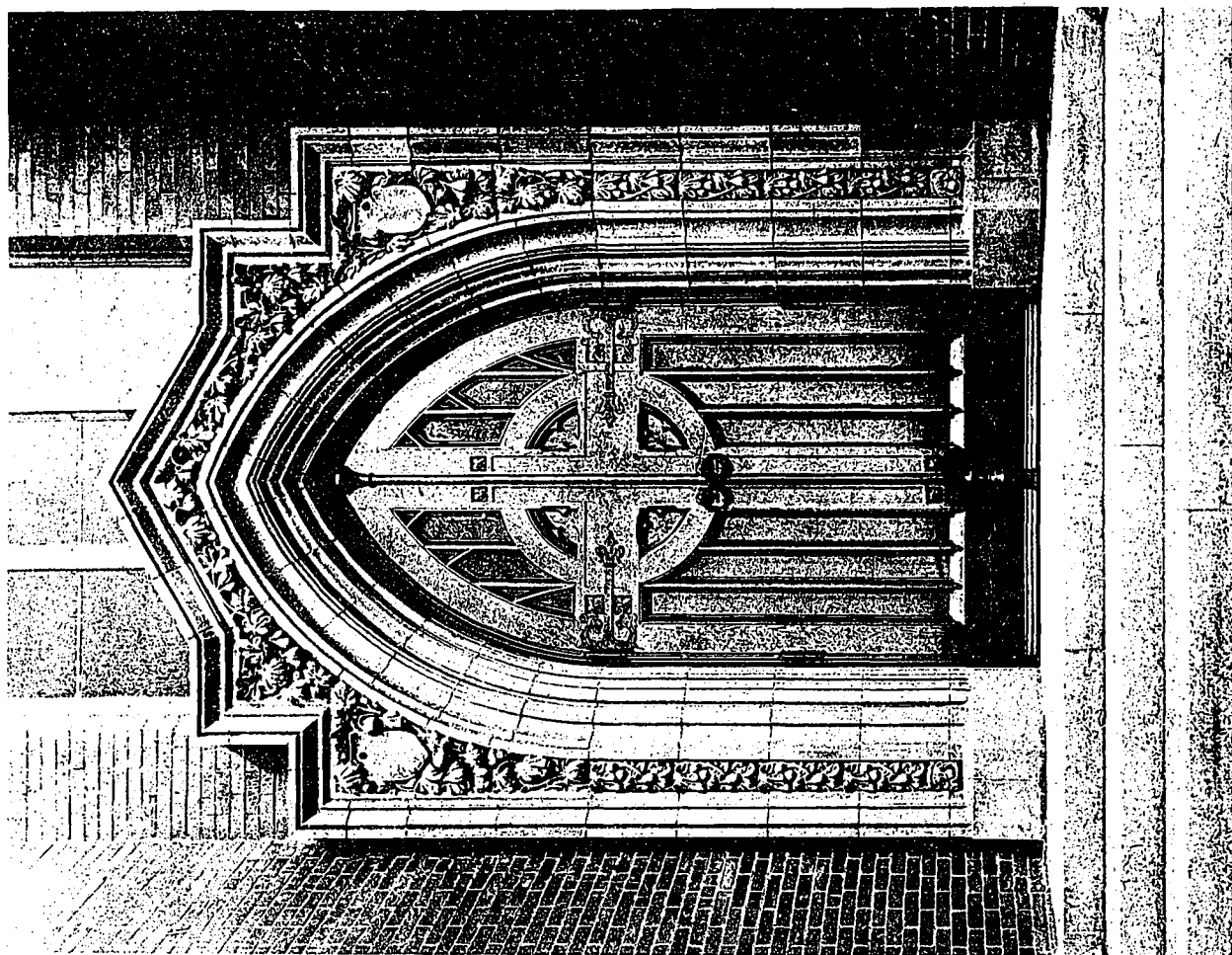
The table, or mensa, of the altar is rectangular in form, a single, natural stone, seldom less than nine feet long and two feet wide, square at the edge, and supported upon stone piers, columns, a solid or hollow stone foundation, but never upon brackets, bricks, or artificial stone; these supports are covered with wood, stone, marble, mosaics, or metal, and ornamented in a manner consistent with an altar and in keeping with the style of architecture of the church; the mensa extends beyond its support, both at the front and

sides, and on its upper surface five crosses are cut: one at each horn or corner and one in the centre, on the cover of a small square shallow cavity called a Sepulchre, a receptacle for relics; the height of the mensa above the foot-pace is three feet five inches. When the altar is very long the table is made of three slabs, but the centre one is alone the mensa, or in case the table is made of other material than stone or marble, there is inlaid in its body, midway between the south end (the Epistle side) and the north end (the Gospel side) and at an equal distance from the back and front edge, a Super-altar of stone which is the true mensa. Where there is a retable it is either as long as or longer than the mensa, and is built at its back or east edge, but never encroaches upon the same.

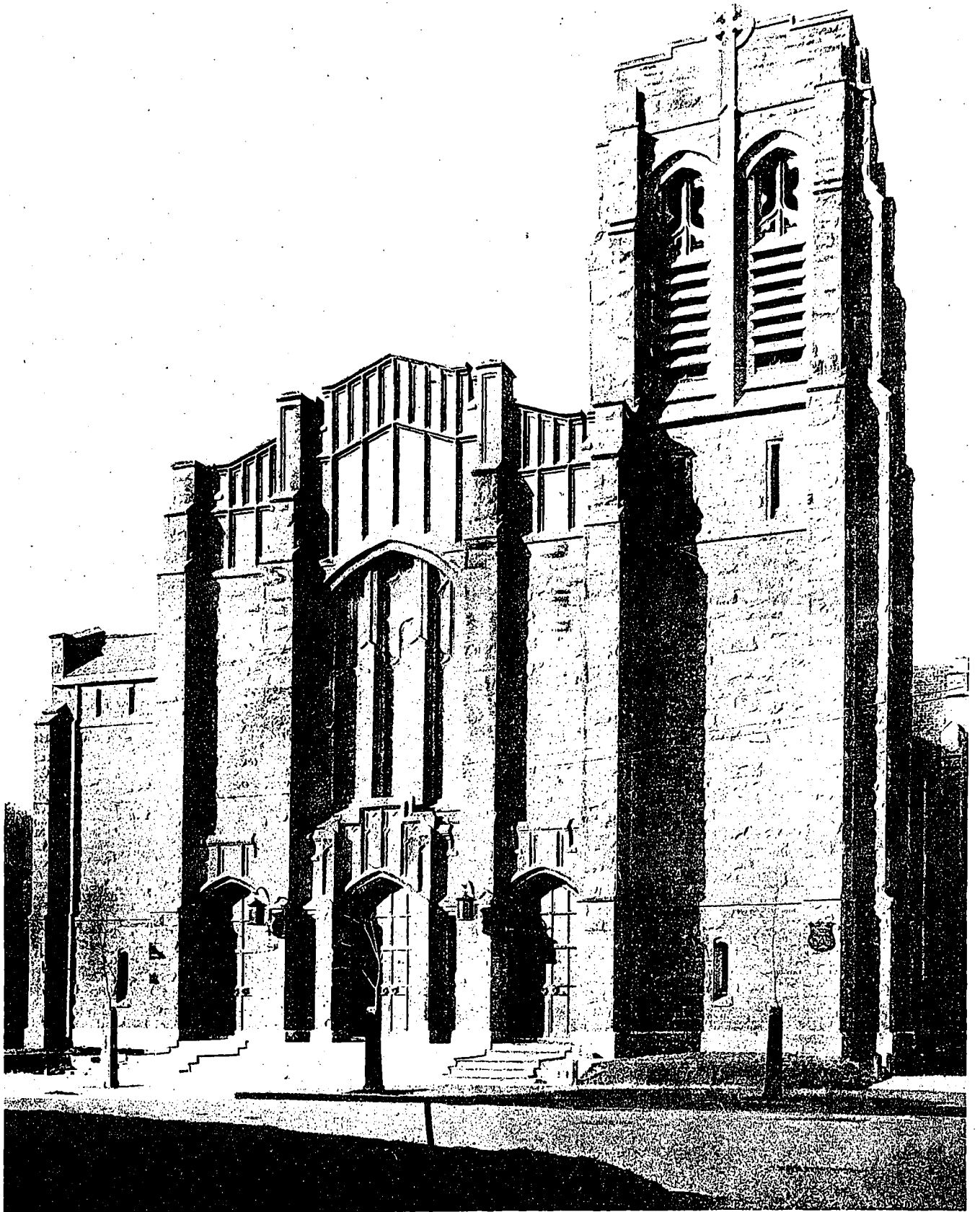
In the Primitive Church all altars, outside of those in the Catacombs, were made of wood, that is, until the time of Pope Evaristus (112 A.D.), who is said to have condemned their use, which prohibition was subsequently strengthened by Pope Sylvester (314-355 A.D.), and later on formulated by a Council of the Church. Throughout Western Christendom stone altars have been in use for ages, and even when wood or metal was employed the part of the altar on which the chalice and paten are placed was invariably made of stone. In some of the Oriental churches wooden altars are not unknown, although stone is the material of which they are usually built, except among the Copts, who sometimes employ brick. All of the first altars, both in the East and West, whether made of wood, stone, marble, or metal, were very simple, and consisted of a slab (mensa), resting on one or more legs, or on slabs at each end of the mensa, or on brackets projecting from a wall, and when in use covered with linen and silk embroideries studded with gems.—*Coleman.*



ROOD-SCREEN.



ENTRANCES TO ST. JOHN'S EPISCOPAL CHURCH, SASKATOON.



THE FIRST PRESBYTERIAN CHURCH, MONTREAL, QUE.
HUTCHISON, WOOD & MILLER ARCHITECTS.

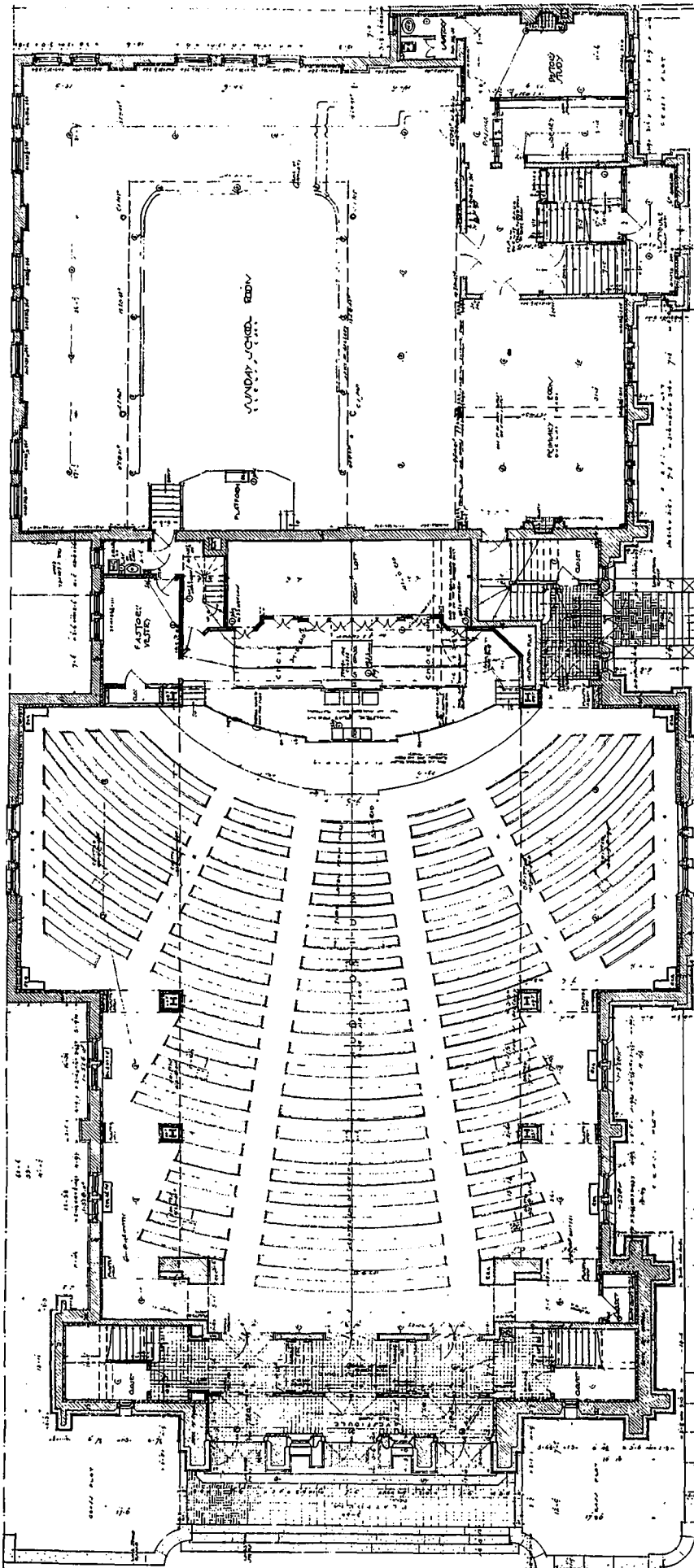
First Presbyterian Church, Montreal, Que.

HUTCHISON, WOOD & MILLER, Architects

MONTREAL has been called "the City of Churches," not only from the number, but also on account of the chaste and dignified character of their architectural treatment. It has been held, and rightly so, that no significant success in church building is to be expected unless the style employed be regarded, understood and developed as a living one. If the designer is broad enough to comprehend the spiritual import and can implant these ideals into the material, then his work will live beyond the lifetime of its author. The mistake is so often made of growing indifferent to the problem at hand because one's efforts are not to be centred on a large edifice. Such a position should never be taken when it is realized that many of the world's choicest gems in art are small—structures cut pure in style and harmonious in proportion.

The Presbyterian Church located at the corner of Prince Arthur and Mance streets reveals a rugged but ornate facade, noted chiefly for its simplicity of style. The exterior is faced with mixed blue and green sandstone, cut rock face, and trimmed with the same material tooled. The roofing is of slate.

The building is designed to hold approximately eight hundred and fifty in the auditorium, and one hundred in the gallery over the vestibule, and possible future accommodation of two hundred additional by side galleries in the transepts. The Sunday school quarters are entirely at the rear of the building, being an auditorium with gallery on three sides, accommodating about six hundred. This is lighted partly from the side and partly from a skylight over the centre of the auditorium. The main school is

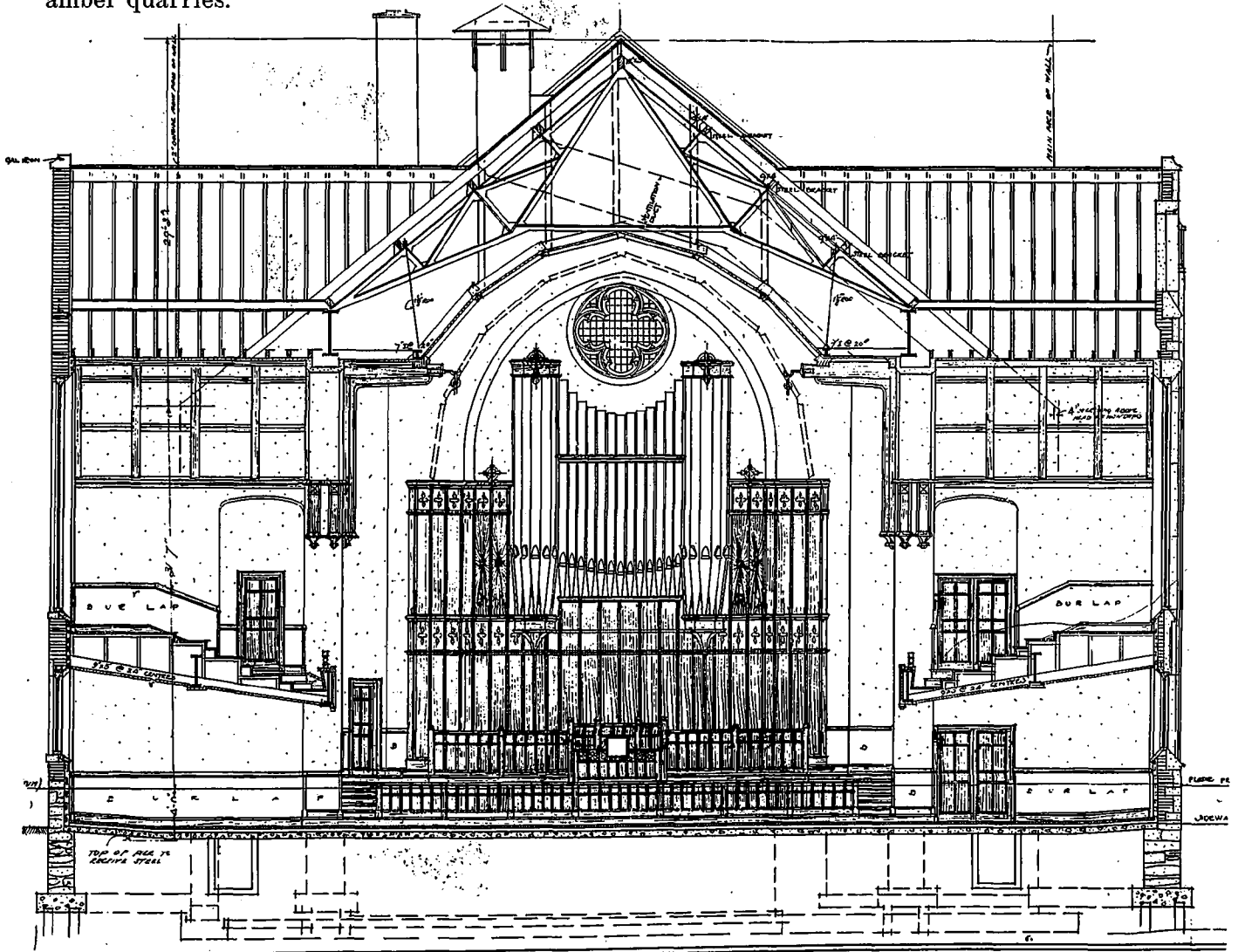


FIRST FLOOR PLAN.

surrounded by church parlors and other necessary rooms.

The interior is symmetrical in treatment with the auditorium, so designed that there is an unobstructed view from any sitting in the church of the whole of the platform, placed in the front of the chancel, the organ taking up the remaining space. The artificial lighting comes from ten fixtures suspended from brackets, each one containing eight candle lights. In addition there are side brackets of similar design. The walls are of sand-finished plaster, stained a deep green, which harmonizes with the dark brown finish given to the chestnut pews and woodwork used throughout. The ceiling plaster is gray, and the glass in simple amber quarries.

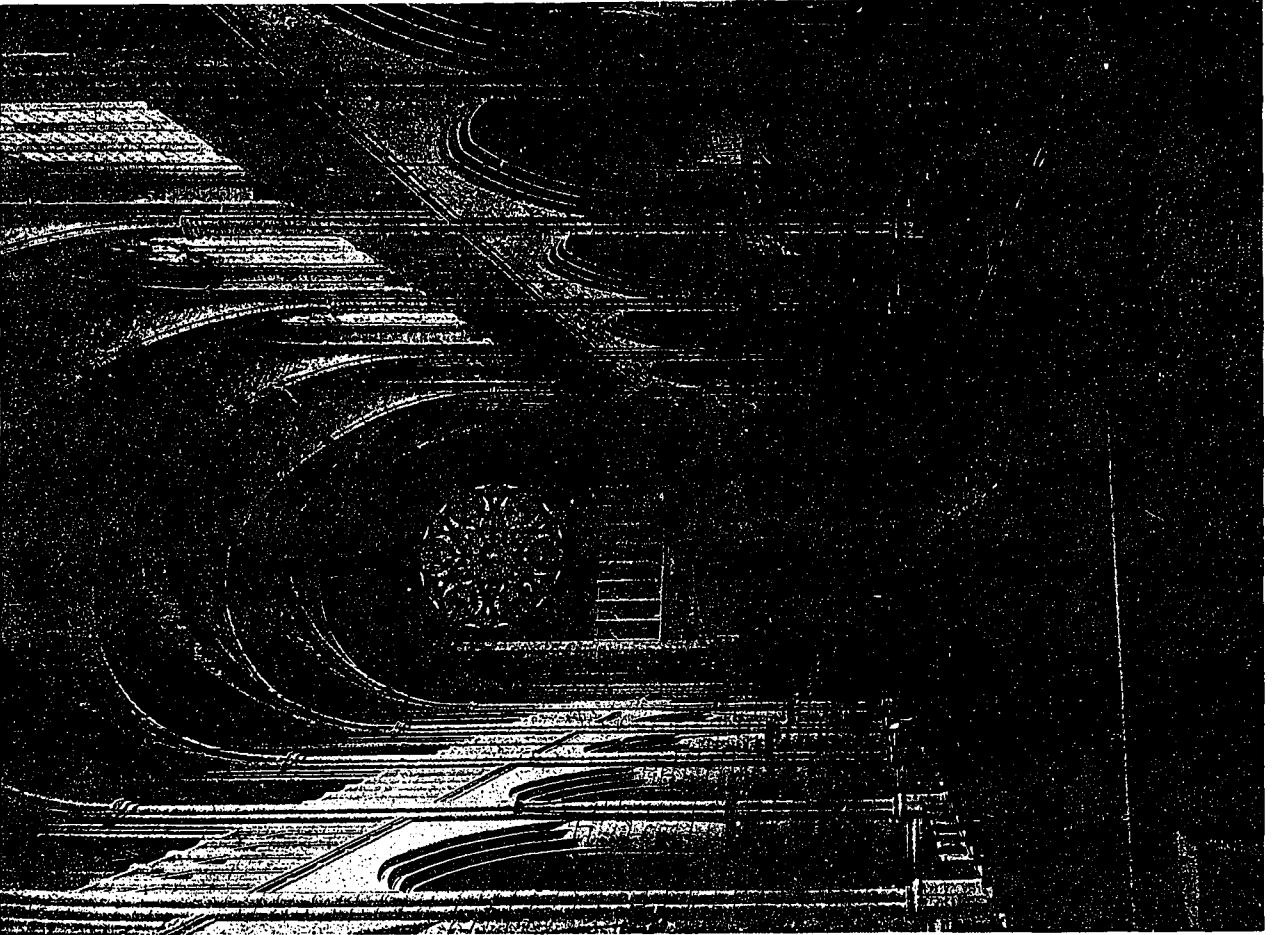
The heating of the church proper is by forced air, over pin radiators, placed immediately under each outlet duct. The air driven through the pipe duct by motor-driven fan is perfectly tempered by the heat from steam pipes, which also runs in this duct, and finally heated when passing through the pin radiators. During warm weather the fan can be used for introducing fresh, cool air into the building. The air in the auditorium, if comparatively fresh, can be reused by recirculation system back to the fan, or can be expelled through a vent shaft and perfectly fresh air introduced into the auditorium. The steam heating is supplied by a cast-iron steam boiler, while that of the Sunday school is altogether by hot water.



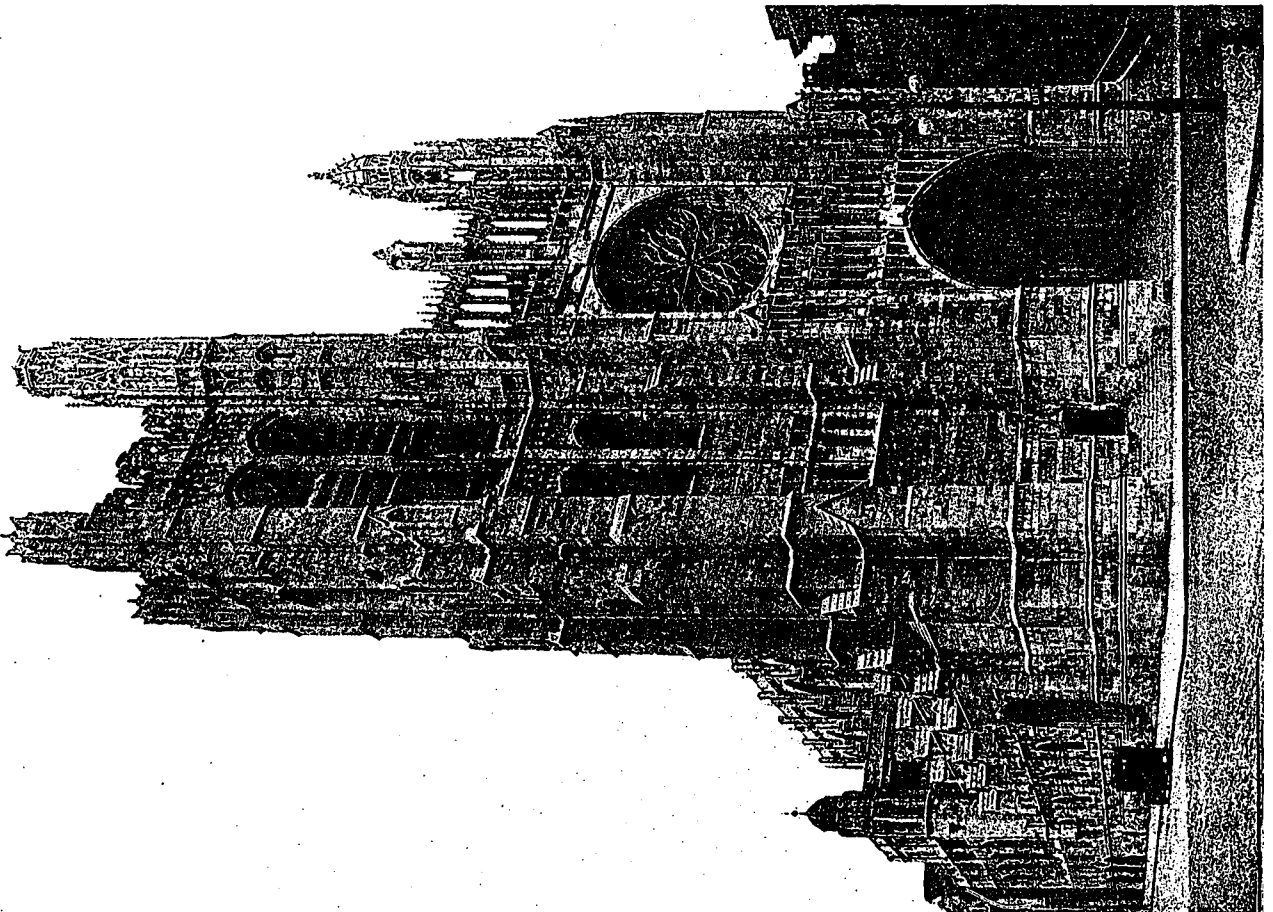
TRANSVERSE SECTION, LOOKING TOWARDS PULPIT AND CHOIR.

THE ART of architecture is that of beautiful building. We cannot build without knowledge—knowledge of material and construction, and the laws of stress and strain; and surely it is in the fitness of things that these should be expressed, not hidden? That is the kind of scholarship that an architect should show. Any other that he may have will all be to the good, and make him a better man, but he must not try and show it off in his buildings any more than in his ordinary talk and dealings. But a work of architecture must show more than knowledge;

it must have some of that divine spark which no amount of study can generate. It is a Heavensent thing which I believe very many can get by sincerely trying to express their feeling of beauty in the most direct and unaffected way. Really trying to express beauty in terms of building material, because they feel the thing intensely, and not to gain praise or reward. That, and only that, will give life to art. And shall we presume to offer less to Almighty God in a building which is to be to His honor and glory?—*C. Spooner.*



From the
Architecture.



ST. THOMAS' CHURCH, NEW YORK CITY.

CRAM, GOODHUE &
FERGUSON, ARCHITECTS.

Twentieth Century Church Skyscraper

THE architectural firm of See & See, New York City, have presented to the *Christian Advocate* a plan for the future city church. They believe that the new problems of life must be met by new conditions. The ever increasing cost of living, the cosmopolitan people, the congestion, all of these things, and more, have brought about a different mode of life. The high cost of land has forced city architecture up and up until the poor church planted in the early days is completely smothered by its tall commercial neighbors. "We must find a new architectural expression for a church in terms of the skyscraper."

"Many of our churches occupy valuable sites, from which the former congregations have long ago moved, but are doing an ever increasingly valuable work among the people of the neighborhood; welding the rough material into good wholesome citizens. These organizations usually have great difficulty to meet their annual budgets, even though set in the midst of prosperous surroundings. Formerly church auditoriums could not be made large enough, and great stress was laid on preaching. We believe that time is passing, if not already gone. People are weary of listening to words; they want deeds. They want the more intimate personal touch that a smaller group affords. This tendency can be seen in the success of the small theatre and in the growing importance of the so-called institutional church."

Mr. See claims they have attempted a practical solution of an existing problem in New York City. There are other churches in the city in a similar financial condition, where this idea would apply in a modified form, altered to suit the local conditions.

The property in question is an extremely valuable one now, and is constantly growing more so. Its dimensions are 102 x 107 feet. The former well-to-do members of this church have either died or moved away. There is no one who can contribute any considerable sum for its support. While in possession of this extremely valuable property the church is really unable to meet the amount of the yearly indebtedness. It is, therefore, in the position of the rich pauper.

It is patent to anyone able to forecast the future of this locality to predict that this church will occupy one of the strongest strategic centres in New York. To sell the property for the large sum it would bring and rebuild elsewhere would mean a complete change in the character, traditions and membership of the church. An entirely new congregation would have to be built up from nothing, so that its success in the new location would be purely speculative; hence the

desirability of radical measures to meet the changed conditions of its present neighborhood and keep the church where it is.

In the style of architecture chosen we have endeavored to make use of forms that by long custom have been accepted as associated with the best there is in church architecture. We have placed the church auditorium where it will be most accessible from the street, with the Sunday school and its various departments, also the rooms necessary for the other activities of the church, above it. These will be reached by two passenger elevators, also two stairways, used exclusively for this department, and having no connection with the portion of the building used for other purposes. A separate entrance with elevators and stairway has been provided for the exclusive use of the tenants in the upper part of the building.

The apartments located in the upper portion of the building have been planned for suites of two and three rooms. Or if occasion required, a larger apartment could be arranged to suit the special need of any tenant. In effect, this particular building has been designed with the idea of reducing the cares of housekeeping to the minimum. It will be a hotel, without a public dining-room, in which the tenants will furnish their own rooms. Each suite is arranged so that the occupants may provide their own meals or be served in their own apartments from a general kitchen provided for the purpose, which will be a part of the management of the building. The care of the rooms will be a part of the hotel service, also washing windows, etc., or the tenants may have their own individual maids and service at their option.

A large "duplex" apartment is planned in the tower, having two floors of bedrooms, with baths, etc., and provided with a private stairway from the living rooms. This apartment will command extensive and unusual views, and be extremely attractive. The main portion of the roof area will be utilized as a roof garden for the separate use of the tenants.

The architects have worked out the financial cost, also the income return, and have submitted it to realty experts. This indicates, on a most conservative basis of income, and generous cost of operation, a very handsome net return, which may be used as a "sinking fund" to gradually reduce the indebtedness occasioned by first cost, or from any other purpose thought desirable by those in control of the project.

They see no reason why such a church building as indicated in their plans and description cannot be made a thoroughly practical one, meeting every requirement of a church, including that of aesthetics.

Canadian Society of Civil Engineers

THE twenty-ninth annual meeting of the Canadian Society of Civil Engineers, held January 26 and 28 in Montreal, was attended by over three hundred delegates representing every city of importance throughout the Dominion. During the convention the members were entertained by a smoker concert in the rooms of the local society, at which time an illustrated lecture on submarine mining for coast defence was given by H. F. Meurling. Luncheon was served by Fraser, Brace & Company, Wednesday noon, after the delegates had visited the Cedar Rapids Mfg. and Power Co. and the Angus Shops. The annual banquet, held Thursday evening, concluded one of the most successful gatherings ever held by the Society, and should prove a great inspiration to the members in their endeavor to push ahead during the coming months in the face of seemingly insurmountable difficulties.

During the first session the reports of the various branches were read, showing the excellent results achieved by each organization. James White, of the Conservation Committee, furnished interesting data as to the progressive work effected under their sincere endeavors to benefit the Canadian people. The committee on specifications for water pipes stated that the present articles on cast iron piping were satisfactory and that it was impossible on account of the vastly different views held by engineers, to recommend any action respecting steel piping. P. A. Seurot of Montreal was the recipient of the Gzowski medal for his excellent article on "Subaqueous Tunnelling."

During the afternoon the President, Mr. Butler, in his address, referred to the European situation in feeling terms, reviewed the rapid strides made by Canada in trade, transportation facilities and population. The remarks of the president in respect to our waterways and the Government's duty at this critical time is commendable. In the course of his remarks he said: "The Atlantic seaboard is the outlet for the products of the prairies, situated some 1,500 miles inland. Our efforts in building railways with easy curves and grades, the enlargement of our canal system and the improvement of rivers, and particularly of the St. Lawrence route, have but the one object of putting a few more cents a bushel into the pockets of our farmers. The enlargement of the Welland Canal will allow the larger type of ship of 300,000 bushels capacity to pass down Lake Ontario and the River St. Lawrence to within 120 miles of Montreal. Great storage elevators will be erected at or near Prescott, and 1,000-ton barges will be

towed through the present canal system to Montreal. Each incoming ship is known for days ahead, and the exact cargo of grain required can be in waiting for transfer by floating elevators.

"Ultimately, however, the larger lake ship will come through to Montreal, as it is quite practicable, and within the resources of the country, to convert the St. Lawrence river into slack water navigation by the building of eight dams, with duplicate locks, and as an incident thereof develop the greatest water power in the world, aggregating over 4,000,000 horse-power, eliminate the ice jams, and make practicable the navigation of the river in winter by the aid of powerful ice-breakers.

"It is a duty which our Government may well undertake at the earliest possible moment to secure a hydrographic and topographic survey of the St. Lawrence, so that accurate estimates of cost may be made, and proper regulations may be drawn to so regulate proposed power developments owned by private corporations that each may be brought into a component part of the completed whole. It would be difficult to place a limit upon the possibilities of such a power development situated on the greatest transportation route in the world. Cheap and abundant power means so much to the country."

President Butler, after dwelling upon the advisability of readjusting the tariff to meet the large discrepancy between the cost of our imports and exports, spoke feelingly of the late T. C. Keefer and Dean Galbraith.

During the session on the second day the committee presented a partial report on specifications. In offering same, Mr. Holgate said that they had compiled the form of general clauses from various sources, revising, altering and adding to as it was deemed advisable. He recommended that all contracts should embrace in one document: the agreement or contract itself; the tender or a certified copy of it; the specification; the general clauses; the signed drawings as tendered on; modified drawings agreed upon prior to signing of contract. After considerable discussion the report was referred back to the committee consisting of H. Holgate, E. G. M. Cape, R. de L. French, W. Chipman, J. G. G. Kerry; and the two new members, Messrs. Dugan and Safford, just appointed.

Before the final session closed the following officers were elected for the ensuing year: President, F. C. Gamble; vice-presidents, A. St. Laurent, E. E. Brydone-Jack; Council: S. P. Brown, C. B. Brown, T. A. J. Forrester, A. A. Dion, J. L. Weller, W. G. Chase, W. J. Kerr.

Architecture—a Profession or an Art?

MACKAY FRIPP *

BEFORE answering this oft-repeated question it seems necessary to define as clearly as may be what Architecture is. Architecture is building, but building is not of necessity Architecture. Architecture is building so planned, constructed and designed, as to rise above mere necessities. It may deserve the appellation Architecture without involving a greater expenditure of means on the same building as it might cost if so erected as to meet precisely the same requirements, and yet lack that character which can alone entitle it to be designated Architecture. It is this character, this quality which raises building, not into a science, but to the level of the fine arts.

A knowledge of the science of building will not alone suffice to produce Architecture, and the most erudite knowledge of Archaeology may also fail. Certainly the most extensive and intimate acquaintance with the business of building is not of itself Architecture; so it would appear that Architecture is not the product of science alone, or of Archaeology alone, and most certainly not the result of business aptitude or training; and yet in practise all of these things serve their purpose.

There are several types of practising architects and each type differs in his view regarding the classification of Architecture as a profession or an art. There is that variety of the genus whom we know as the self styled "practical man," the most hopeless of all, the most prevalent and the most positive. He is often, perhaps usually, possessed of no training or education in science or art or even in the professional business of building, still this type almost invariably holds all others in open scorn, aiming his shaft of ridicule particularly at the man of Diplomas, and yet he is, paradoxically, a firm believer in the urgent necessity for compulsory Registration. From this class come many men as successful commercially as they are unsuccessful in architecture, for they rarely lift their work to that level, though some by means of ghosts and able assistants receive credit for good work which is not their own. It usually happens that this type of practical man is the least practical of all, his want of trained knowledge standing always in his way, though frequently a carpenter by trade, he has never studied the use of materials; works by a sort of rule of thumb; rarely indeed becomes a decent draughtsman or a fairly skilled planner. He is quite often an as-

tute business man and as such may become a considerable director of building operations; he serves us in this discussion as a negation.

There is the truly practical man, a bird of a very different plumage; an engineer by taste and habit of thought, immersed in formulae, wise in the theory of structures, cunning in all kinds of statics, progressive and eager in the value and application of the latest atom of scientific lore. He is the servant of his science rather than master of the Art of Architecture for if a man serve science he does not often consort with art. No man can serve both gods, each an admirable god, but the God of Art is spelled with a Capital G.

The Archaeological Architect fails in another and very different direction; he is the devotee of a style and juggles with the dead dry bones of the once lovely past; his Gothic must be of a certain period, correctly reproduced in the minutest detail, if French Gothic it must be all French and if English it must be uncompromisingly so, or possibly Greek is "the only drinking," a certain phase of the Roman, perchance of the Romanesque; should it be the Renaissance that tickles his architectural palate he sticks to his particular brand like a connoisseur of claret or port, being a Purist of the first water. His work may be undoubtedly most scholarly but is devoid of life and the pulsations of modern life as an Egyptian mummy at the British museum, and yet the man is an artist to his finger tips, for he loves his work and has a tender reverence for the phase he so faithfully endeavours to revivify. His imagination often vivid and refined leads him to dream of the architectural pageant of Rome, or Egypt, the mediaeval glories of Northern Europe. He is quite often an accomplished draughtsman and in a totally different vogue, as practical as our excellent man of science; even a clever man in business though not prone to boast of it; and naturally anathema to the Carpenter-Architect.

There we have the accomplished draughtsman whose aim in life it is to make modern buildings appear, on paper, to be old ones; an Aladdin's uncle in obverse offering in the workshop of Architecture, Old Lamps for New Ones. Wm. Morris expressed a distrust of the man who loved his drawings, fearing that his interest might be in the delight of rendering rather than in the true aim and end of architectural diagrams, the building, which is the real result.

The first mentioned practical man while util-

*Paper read before the Pylon Club, Vancouver, B.C.

ising the accomplished draughtsman to idealize by pen or brush either his own malefactions or the productions of his "ghosts" openly derides him as an "impracticable artist chap" and for once strikes the nail squarely on the head.

We know fairly certainly how each of these several types regard the question of "Architecture, a Profession or an Art." The self-labelled practical man has no doubt but that he is a thoroughly representative member of a profession, the ethics of which may be epitomised as concerning 5 per cent., or as much as you can get of it. He is most certainly in favor of an Act of Registration, because he will come in on the ground floor and because it may reduce competition by ultimately excluding men of his own type, moreover it would tend to give him a more definite grip on that 5 per cent., the acquisition of which is the lone star on his professional azimuth. The man of science is a professional man, perfectly clear as to professional etiquette, professional ethics and professional fees; decidedly in favor of compulsory registration for he thinks it greatly to be desired that architects should "pass" in Formulas, Statics, and Strains in Structures. While absolutely satisfied that Architecture is a Profession, he is willing to concede there may be a leaning towards what may be termed an artistic profession.

The Scholarly Archaeologist is also quite decided in his opinion that Architecture is an Art, possibly also a profession; that the Art, and yes, the profession should be protected by statutory examination. He considers it scandalous that anyone scarcely capable of distinguishing Greek from Roman Ionic should be turned loose upon a confiding public to break every rule of order and style. The accomplished draughtsman while not enthusiastic about professional training in its relation to strains and stresses, plaguey dull subjects at best, considers registration desirable as it might tend to reduce, if not eliminate, his patron the carpenter architect, whom he has come to regard as a more or less necessary evil.

The consensus of opinion then is that

ARRANGEMENTS have been made whereby the ordinary rate of two cents per ounce applicable to all letters sent from Canada to the United Kingdom, will apply to letters addressed to British and Canadian troops on the Continent. The rate on ordinary letters from Canada for the Continent is five cents for the first ounce, and three cents for each subsequent ounce, so that this extension of the two-cent an ounce rate to letters addressed to our soldiers on the Continent is a decided reduction in favor of correspondence going to the soldiers.

Architecture is a profession with more or less artistic attributes. But fortunately for the Architecture of the period, certainly for the Architecture of the immediate future it is well that there are men who hold that Architecture is an Art or nothing: to whom registration and professional status are of no moment except in so far as they may develop education, or more properly speaking the cultivation and refinement of the artistic sense. They hold that science is but part of the means that enables creation to proceed soundly and logically; that the architect must in all things be practical, because in his art, sound planning is clever planning; that sound construction is inseparable from logical design, and that sound planning and sound construction are essentially economical; ergo sound business, but that sound methods alone do not raise building to the level of Architecture. The Architect who would add that quality to his work must impress upon it individuality. A sane study of Archaeology opens to the student the door of the great storehouse, tradition, an endless source of inspiration is found there, stored knowledge garnered from past ages. Draughtsmanship is a mere document, a means of conveying information and instructions in the most concise manner: drawings are mere diagrams recording ideas to be rendered into concrete form and if they fail in this, however great in technique, in craftsmanship, they fail in the first essentials.

These men study always all things that may quicken artistic appreciation and require the creative faculty; they go to nature, to the past, to the present, literature, the crafts, painting and sculpture. Form of art is searched—creation the object—but all logical creation the ideal. From such men rises now and again the epochal architect; from the work of such men in the aggregate comes epochal architecture.

The direction of building may be, is, a profession, but the Art which produced Architecture 4000 B.C. is the Art which produces living Architecture 1900 A.D., and is still the greatest of all forms of National Expression.

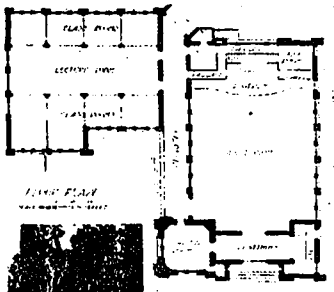
WISE procedure in city planning will be greatly advanced when authority is vested in the city to exercise reasonable control over the development of private property in the interest of the public welfare, to prevent the inordinate inflation of land values which spring from the too intensive use of property for either business or dwelling purposes, and to appropriate for the public use and benefit an equitable proportion of the increment of land values erected by the common enterprise of the people and the general prosperity of the community.—B. A. Haldeman.



C. H. TOWNSEND,
ARCHITECT.

ST. MARTIN'S CHURCH, WOMERSH, ENGLAND.

From the
Architectural Review.



NEFF & THOMPSON,
ARCHITECTS.

BAPTIST CHURCH, CHURCHLAND, VA.

From the
Brickbuilder.

Town Planning and Housing Reform in Canada

A RECENT number of "Conservation of Life," published by the Commission of Conservation, is devoted to a series of articles dealing with the housing problem and town planning. The following is taken from a discourse on "Town Planning and Housing Reform in Canada":

A great deal has been done in Canada in recent years to improve public health and to draw attention to the need for better housing conditions, but there is need for more enquiry and extended effort on the part of all who are interested in conserving human life and raising the standard of public health.

A comparatively new country, such as Canada is, has peculiar difficulties to contend with, but it has also peculiar opportunities. It can learn much and derive much benefit from the study of conditions in older countries, and at comparatively small expenditure of money it can take steps to prevent the creation of evils which, when once created, can only be remedied at great cost.

Most people are acquainted with examples of bad housing and bad sanitary conditions in one form or another. All civilized countries suffer from these conditions, and no measures have been taken to remedy them which can be accepted as suggesting a basis for a council of perfection in regard to what is called housing reform. But in some countries, notably in Great Britain, partial remedies have been found for the evils of bad housing and a high standard of sanitation has been attained. In so far as the attempts to remedy existing bad conditions have been so unsuccessful up to the present, it has been largely due to the fact that the bad conditions have been of such a long established character that their removal has to be a matter of gradual change over a long period of time. The change has to take place in the habits and opinions of the people themselves, as well as in the improvement of their housing conditions. In Canada we have allowed some conditions to grow up which are not what they should be, which are, in fact, as bad as they are in older countries, but we have still time to take advantage of the lessons which other countries have to teach us, and it will be well to do so before we allow the community to accept their present unsatisfactory conditions as inevitable or permit those who suffer from them to become habituated to them.

In any case it will be generally agreed that there is room for enquiry into housing and sanitary conditions, and that there is much that should and could be improved, even if the

matter is considered solely from the utilitarian point of view.

But apart from the question of remedying existing evils it is of urgent importance that steps should be taken in this country of rapidly growing urban communities to prevent their recurrence in future.

It can be said with a greater measure of truth with regard to housing than perhaps with regard to any other social question, that "prevention is better than cure." What has been done in this latter direction in England points the way to a very real and very substantial success.

The comprehensive and constructive character of a town planning scheme in Great Britain will be gathered from the following table of the contents of the Ruislip-Northwood scheme. The scheme deals with an area of five thousand nine hundred acres, or over nine square miles, of land lying within the fifteen-mile radius of the centre of London. It consists of a map or plan and eighty-eight provisions, and, having been approved by Parliament, it can virtually only be altered by its consent.

The map of the scheme fixes the lines and widths of the main arterial roads, the position of all open spaces and parkways, the positions of the residential, shopping and factory areas, and the general layout of the town in all its bearings. It includes provisions with regard to: New streets (width, direction, position and how cost is to be met); widening existing streets; adjustment of street boundaries; naming of streets; relaxation of local by-laws; submission of all plans and subdivisions to local authority; minor modifications of plan if circumstances change; necessary diversion and closing of existing highways; appropriation at agricultural rates of land for garden allotments, cemeteries and public open spaces; reservation of land for private open spaces, and proper maintenance of same; donations of land by owners to local authority (90 acres) in exchange for certain privileges granted; fixing of building lines on all streets to secure adequate air space, protection of trees and room for further widening of streets if and when necessary; fixing the proportion of building subdivisions which may be covered by shops (half of area), dwelling houses (third of area) and other buildings; minimum cubic space per person to rooms, minimum window space in proportion to floor area, and limitation of projections from main buildings; limitation of the number of buildings to each acre (a maximum of 12 houses on

the average and 20 houses on any one acre is prescribed); height of building (maximum 60 feet to eaves, and in no case higher than width of street); delimitation of areas which may be used for factories, shops and residences; size of living rooms (minimum 500 cubic feet); character of design of buildings; external larders for food, separate closet accommodation for each family, prevention of nuisances in gardens; prohibition of advertisements which interfere with amenity; height of fences; recovery of half of any value which is given to the land by making of the scheme.

These are some of the matters covered by this one scheme, but their importance is only realized by taking into account the powers given under the scheme to prevent unreasonable claims for compensation. In the first place, during the three years while the scheme was being prepared, no owner could erect any building or enter into a contract which would contravene the proposed scheme. For instance, he could not erect a building on any site without consent of the local authority. Secondly, no claim could be made for damage caused to property by fixing (1) building lines, (2) limiting the number of buildings to each acre, (3) preventing the erection of factories or shops on certain parts of the area, (4) limiting height or prescribing the character of the design of buildings, etc., if the Local Government Board decided that these things were reasonable for the purpose of amenity. Thus no overcrowding is permitted, either in regard to the amount of building on an area or in regard to the number of persons per room, and no person can claim compensation because he is thus restricted.

The scheme was carried through with the consent of practically all the owners, and it is

claimed that the benefits it confers upon them are in excess of any loss they may suffer, notwithstanding that the public health gains immeasurably. Under such conditions slums become almost an impossibility without any cost to the community. The practical effect of the scheme in regard to the housing question is still to be tested, but it may be claimed even now that most of the evils of existing housing conditions will be prevented by its operation.

The cost of preparing the scheme and the maps, obtaining the consent of the Local Government Board and Parliament, over a period of three years, is given as \$5,000. The chairman of the council has stated that seldom has a local authority obtained so much for so little outlay. Its ultimate cost to the council over the next thirty or forty years will probably be about \$150,000, but for this it will have obtained advantages of incalculable worth, healthy housing conditions, streets of ample width, one hundred and twenty acres of public parks, pleasant amenities, security for owners of large residences, preservation of natural features, architectural control, etc. Moreover, it will only have paid for these benefits as the increase of the assessable value of the property provides the local authority with additional resources for that purpose. It may be claimed that the council will gain direct monetary value for all its expenditure without counting the indirect social advantages of the scheme. This is because of the fact that it has caused preventive measures under the powers given by the British Parliament in regard to matters which are usually neglected until it is too late to remedy them at reasonable cost. We thus see the supreme advantage of a preventive as distinguished from a remedial scheme.

IN A PAPER presented recently by John Nolen, of Cambridge, Mass., before a session of the recent London Summer School of Town Planning, held at University College, the wide scope of this question in America was dwelt upon. Mr. Nolen gave the following reasons why more attention had not been given by us to the housing phase of civic improvement.

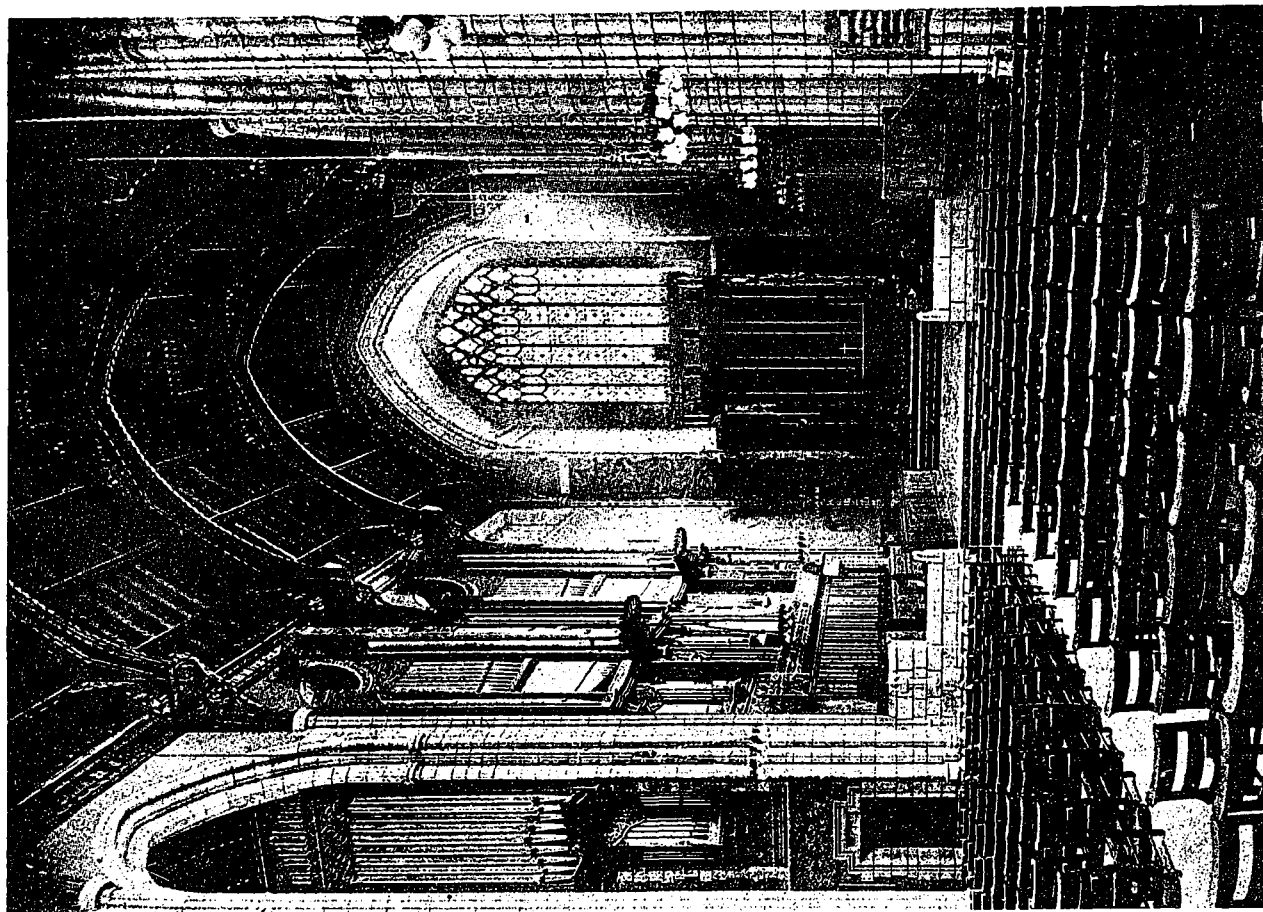
Until recent years, aside from great cities and other exceptional development, the characteristic houses in American cities have been relatively good, so far as city planning goes. The lots have been usually 40 feet to 50 feet wide and 100 feet or more deep, with not more than 8 or 10 houses to the acre.

The rights and limitations of municipalities have been such that so far as the planning goes, location, width, etc., of streets, the width and depth of lots, and character of houses, it has usually been determined before the outlying sections have been inclined within the city boun-

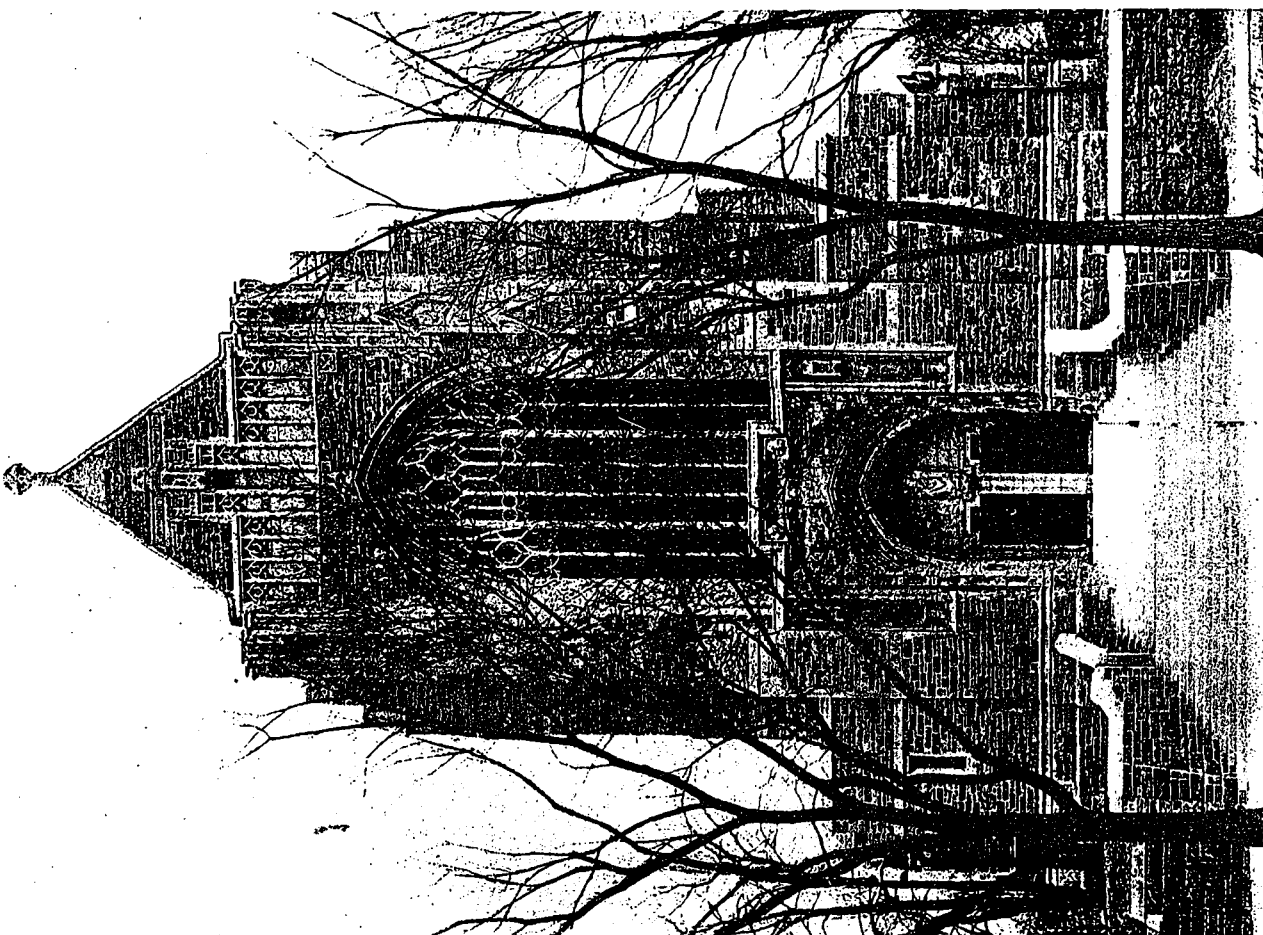
daries. Public opinion generally was not, and usually is not, yet favorable to the public regulation and control of the layout and character of residential neighborhoods.

On account of the Federal constitution, which provides that private property cannot be taken except for a public use and with due process of law and just compensation, it is very difficult and very costly to regulate or control the layout and character of residential neighborhoods. In many cases the State constitutions contain the same provision.

The disinclination of private capital, except in the cases of employers for their own employees, to respond to invitations and opportunities to invest in housing schemes, on the limited dividend principle, is another reason why housing has not apparently been given more attention by town and city planners. Co-operation in housing, as in other matters, has not succeeded in America as it has in Europe.



From the
Architecture



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CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and duly returned.

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Vol. VIII Toronto, February, 1915 No. 2

TRADE NOTES

EVELYN SHAW, the Hon. General Secretary of the British School at Rome, intimates that the open examinations for the Rome scholarships in architecture, sculpture and decorative painting, and for the Henry Jarvis studentship in architecture, due to be held in 1915, will be postponed for one year. Announcement will be made later of the date by which the works for these postponed examinations are to be submitted. Candidates who would have been qualified to compete for the 1915 scholarships shall not by reason of this notice forfeit their qualification to compete in the postponed examinations.—*Journal of the Society of Architects.*

THE twenty-fourth annual convention of the Province of Quebec Association of Architects was held in the association rooms, 5 Beaver Hall Square, Montreal, Saturday, Jan. 16, with Vice-President Joseph Perrault in the chair.

Mr. Perrault, in submitting the annual report, expressed his regret at the absence of the president, W. S. Maxwell, who was in Florida upon a combined pleasure and business trip. He emphasized the good work, the activity and devotion of the president for the welfare of the association, as well as the work of the secretary, J. Emile Vanier; the accounting of the treasurer, Hugh Vallance, and the constant attendance of the members of the council, Messrs. Fayette, Monette, Macfarlane, Macvicar and Peden. The members of the Quebec Section of the association, E. B. Stanley, second vice-president, and J. P. E. Dessault, ex-president, were also commended for their hearty co-operation.

An expression of appreciation was tendered to the members for their ready acceptance of the annual dues being raised to \$15, as expressed in the general meeting on Aug. 24 last. The work of the committees was fully described by Mr. Perrault, twenty-one new members being credited to the membership committee, of which Frank Peden is the convener; one great loss, however, being the death, on the field of honor, of Prof. Doumic, while fighting with his regiment in France. Due activity was credited to the legal committee, and mention made of the publications added by the library committee.

Mr. Perrault explained the result of the examinations carried under the supervision of the Board of Examiners, of which Joseph Venne is the convener; also the work done by the committee on building by-laws, the year book, the travelling scholarship, new buildings, and Cartier Centenary. The vice-president spoke at length on the work done by the committee on fire prevention in securing thirty-seven inspectors to fight the appalling waste in the city of Montreal, the co-operation with the National Fire Prevention Association of Canada, to obtain reduction in the fire risks, the installation of sprinklers in public buildings and greater power to the fire commissioners to jail or punish incendiaries. Owing to the war the association was unanimous in cancelling the annual banquet, subscriptions to the amount of \$85 having been taken up instead and forwarded to the "Fraternite des Artistes, France," for the support of families of soldiers fighting for humanity, liberty and universal peace. The officers elected for the current year are: President, Joseph Perrault; First Vice-President, E. B. Staveley; Second Vice-President, Hugh Vallance; Secretary, J. Emile Vanier; Treasurer, D. Norman Macvicar.

THE afternoon session of the Clay Products Association, held in Toronto recently, was addressed by City Architect W. W. Pearse, who discussed the value of the by-laws of Toronto regulating buildings constructed from bricks, and comparing them with the by-laws in force in the large cities in the United States.

"In the United States," said the city architect, "brick set in lime mortar is permitted to carry eight tons to the square foot, and in cement eighteen tons to the square foot; whereas in Toronto brick set in lime mortar is only permitted to carry four tons to the square foot, and in cement only six tons to the same area. It will readily be seen that this allows of a very inferior brick being used in Toronto buildings. The following figures will also go to show that something is amiss somewhere," said the speaker, "for the Toronto by-laws allow four tons to the square foot on clay soil, or as much as is allowed for bricks laid in lime mortar. And, again, eight tons to the square foot is allowed on coarse gravel, or two tons more than is allowed for bricks laid in cement. It is quite clear," said Mr. Pearse, "that either the by-laws are wrong or the bricks manufactured in Toronto are. To determine which, I am going to have specimens of brick submitted to me by the various Toronto firms, that pressure tests may be made, and if, as I expect, the by-laws are wrong, I will do my best to have them changed."

* * *

THERE is in this issue of CONSTRUCTION a half-tone refutation of the fallacy which has been entertained by many Canadians—that if a church wishes to put in a piece of furniture worthy of the best traditions of ecclesiastical art, they must necessarily import it. We are pleased to demonstrate in these pages that Canadian manufacturers are fully equal to the task of turning out artistic church woodwork. The chancel stalls and rector's chair in St. Paul's Church, illustrated herein, are striking proofs of this fact. We are advised by the manufacturers, the Valley City Seating Company, of Dundas, that the whole of the decorative carving was carried out by their own experts.

* * *

THE SECOND edition of the Master Builders' Primer has just been published, containing interesting data regarding the making of wear-proof, dustproof and waterproof concrete floors. The work presents specifications relative to public buildings in general as well as surfaces subject to heavy service. A long list of the most important structures wherein their concrete flooring has been laid is included, together with testimonials dealing with its use in the various types of buildings. This booklet of valuable information may be secured by writing their main office at Cleveland, Ohio.

A STEEL pontoon lock gate lifter recently built by M. Beatty & Sons, Limited, for the Department of Railways and Canals, to be used on the Trent Canal, was designed with a capacity of fifty tons and clearance of thirty-seven feet above the deck, enabling it to step any of the mitred gates throughout the entire length of the canal. The general design comprises a structural steel collapsible derrick mounted on a steel pontoon with separate steam engines for each operation. The pontoon supporting the derrick possesses two longitudinal and three transverse trusses so as to provide for the severe loads it will have to bear. The hull is constructed with rounded bilges and each end has a rake of forty-five degrees, while the length is fifty-five feet, beam twenty-seven and a half feet, depth nine feet. The derrick is built of structural steel in two units. The operation of raising and lowering the derrick is performed by a six by six double cylinder engine, the main engine having nine by nine double cylinders, double drums and link reverse. The operating levers are brought to one position for the convenience of the engineer. The pontoon is kept on an even keel by two movable ballast cars under deck. Each car is moved by a steel screw operated by independent six by six reversing engines. These engines are controlled by pendulum governors, automatically shifting the ballast to the proper position to put the pontoon on an even keel, whether it is under load or light, with the derrick upright or folded.

* * *

ARCHITECTURE is not one art, it is many. Architecture is not an art only, it is also a science and an industry. For the fulfillment of all this, many and different qualities are required. There are diversities of gifts but one spirit. All the gifts must be exercised with the one spirit, the single aim toward the perfection of the final result as an expression of the Fine Arts, as an example of sound and perfect construction, as a practical solution of an economic problem.—*R. Clipston Sturgis.*

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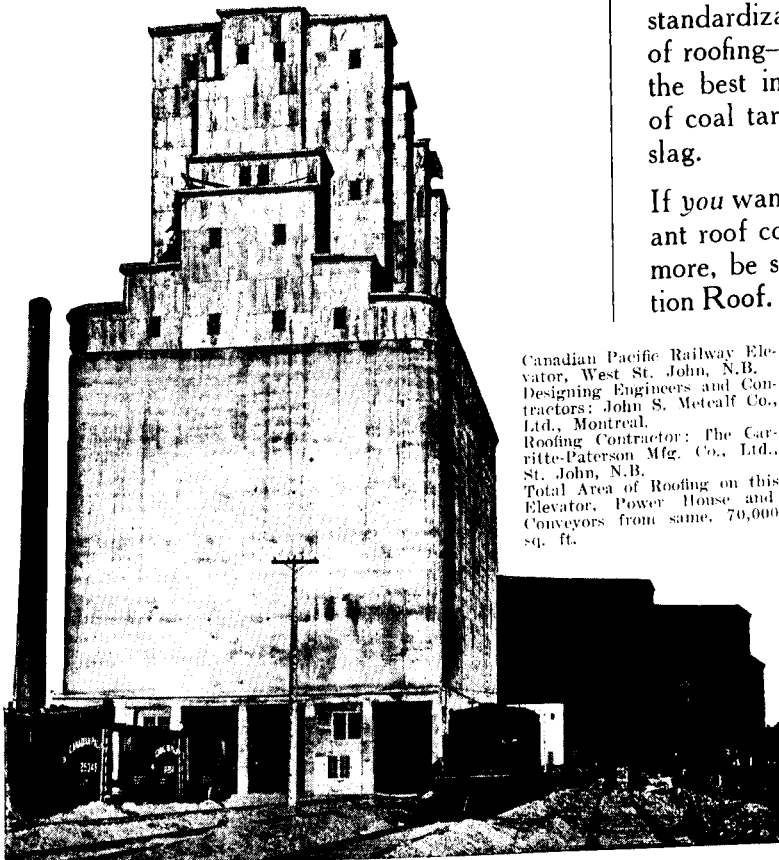
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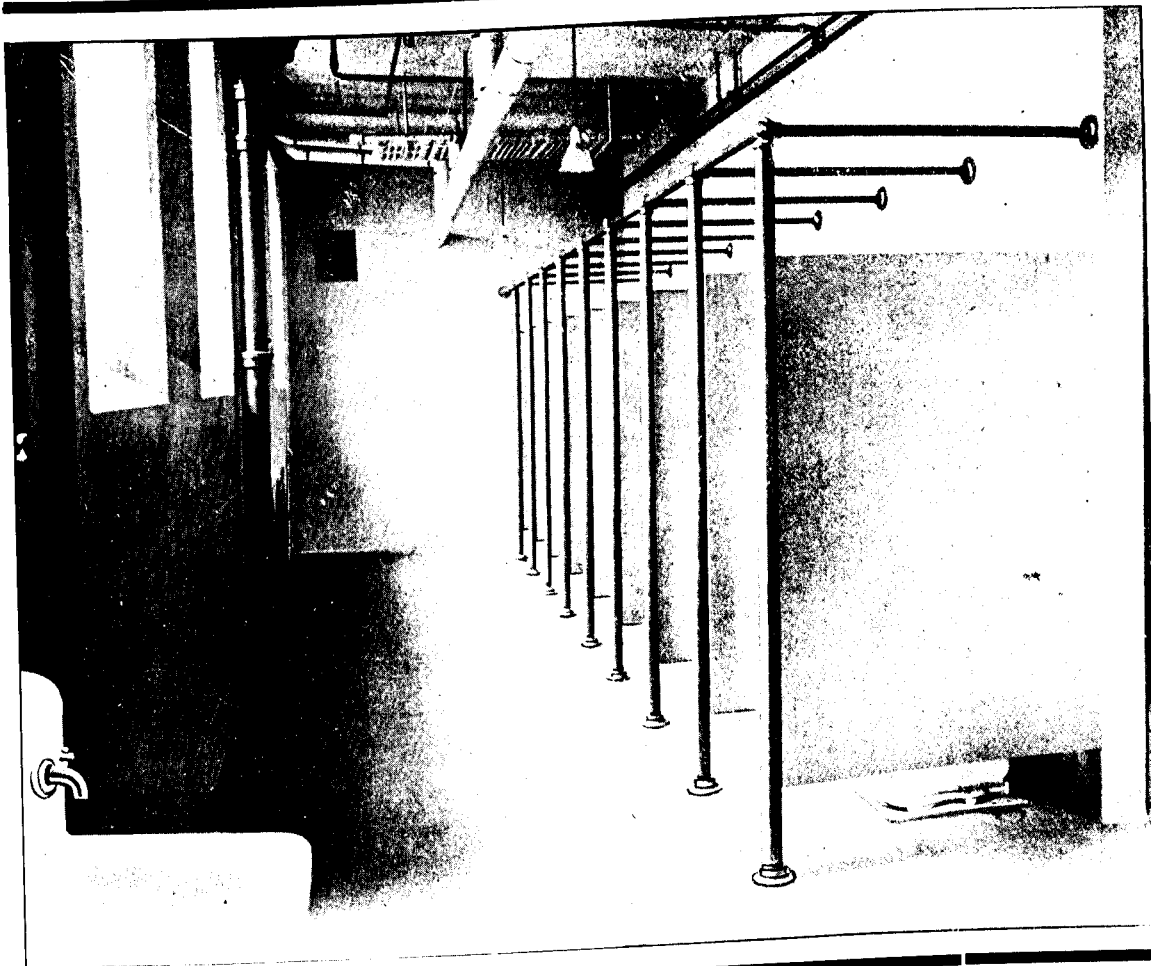
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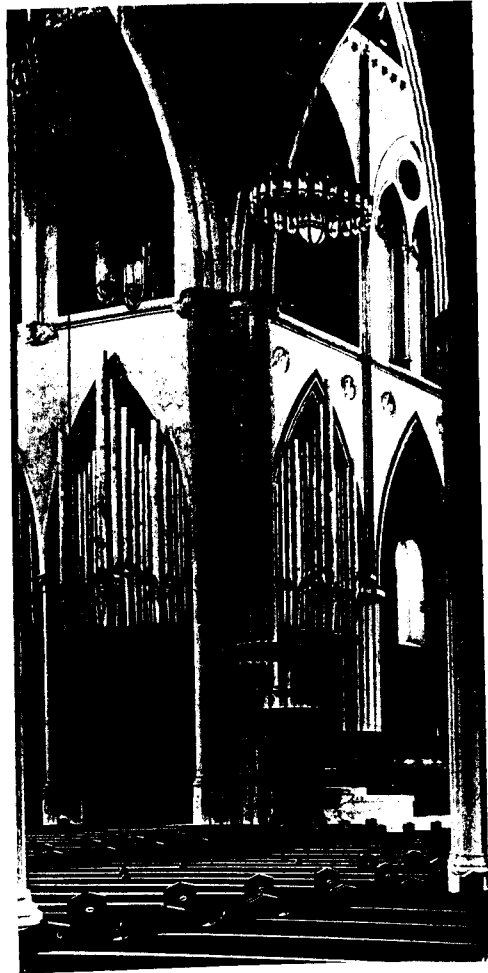
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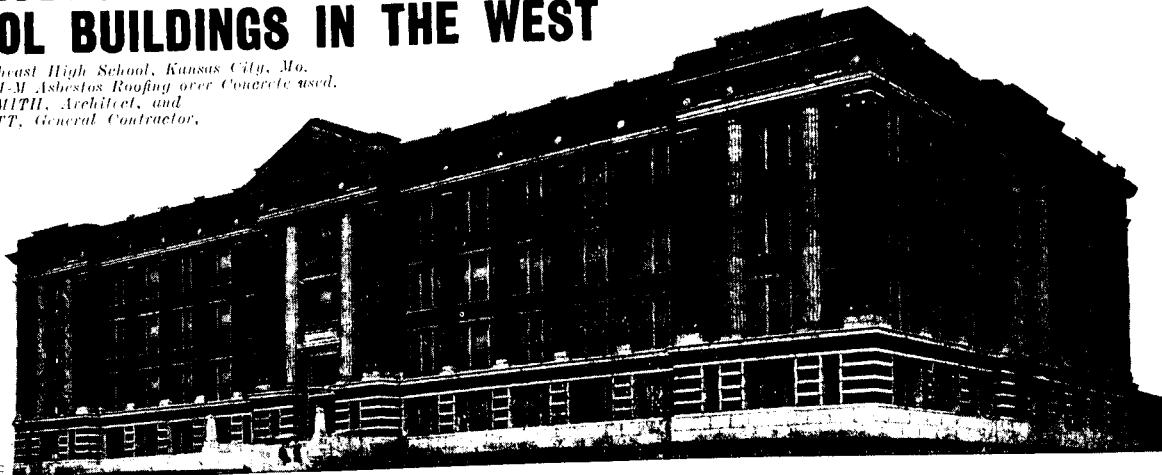
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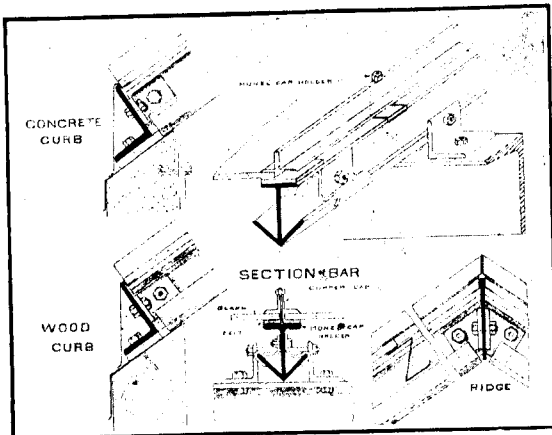
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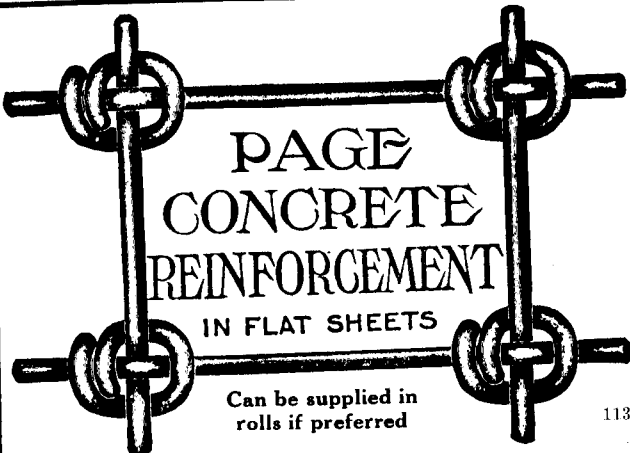


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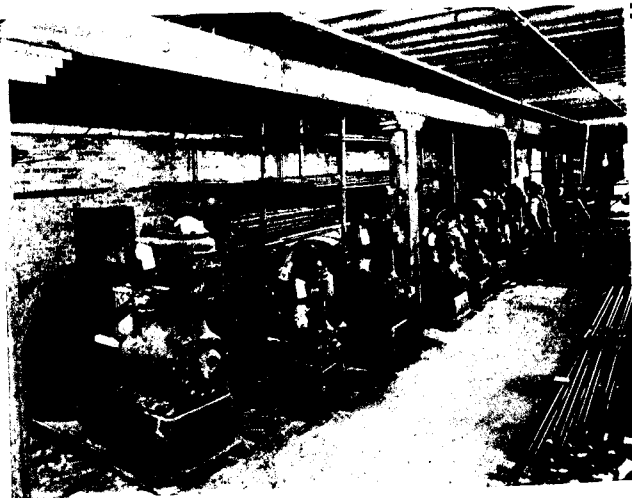
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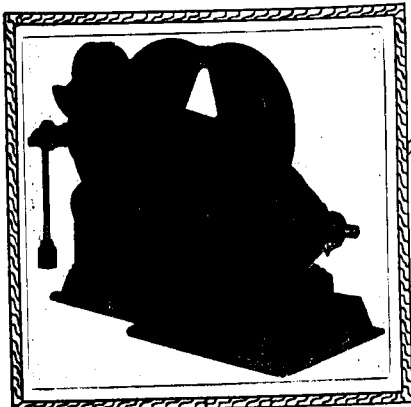
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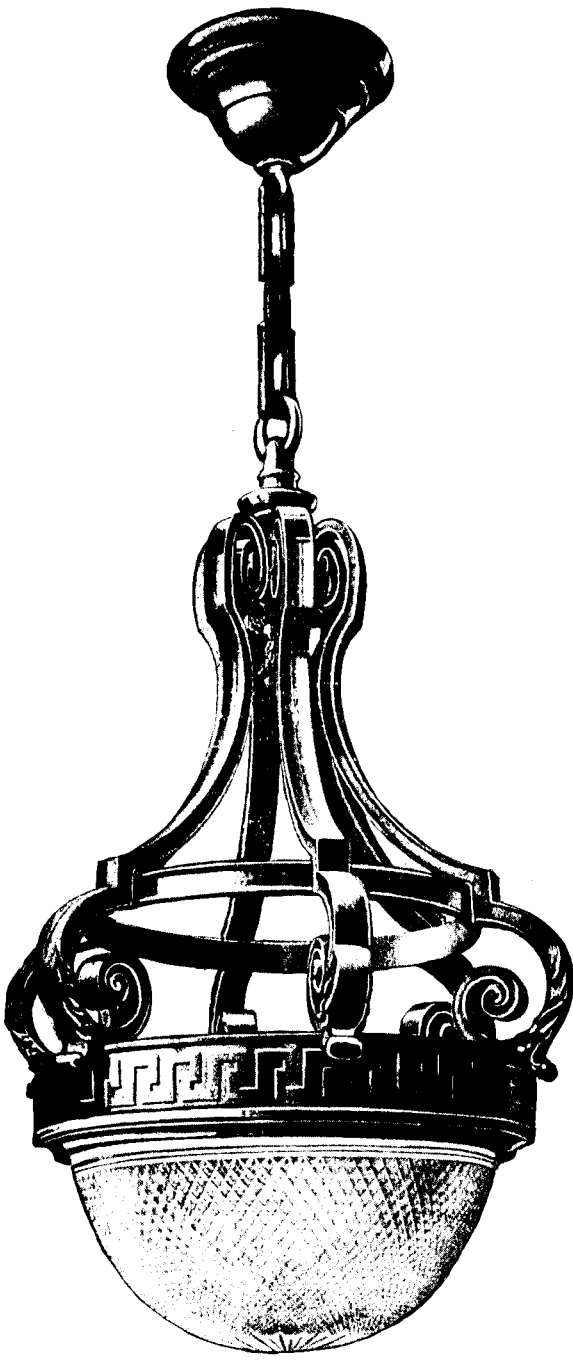
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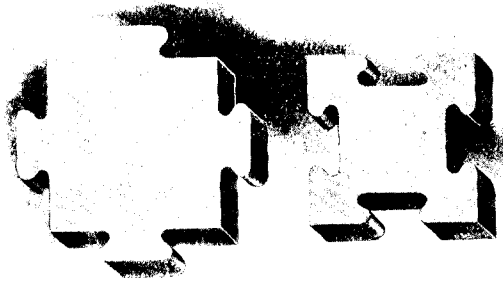
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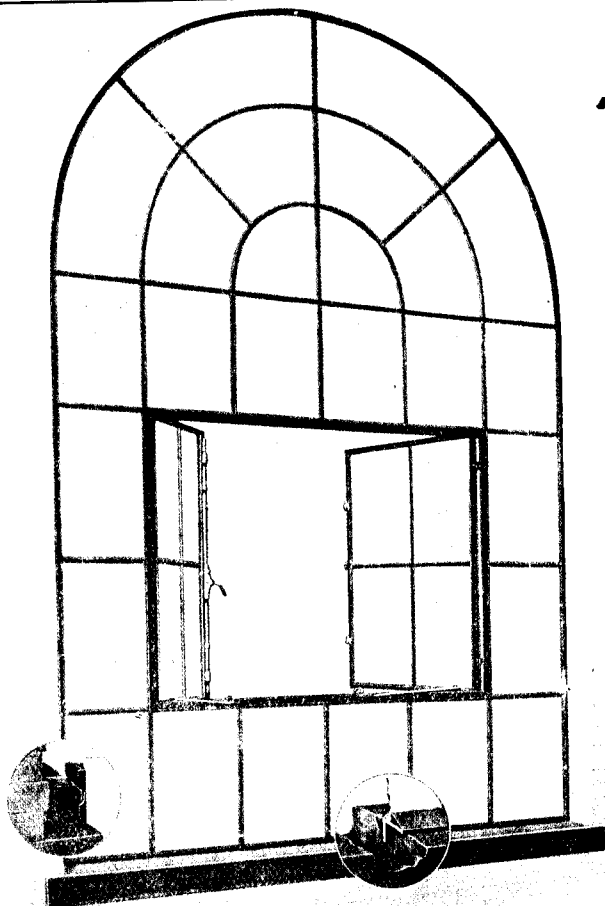
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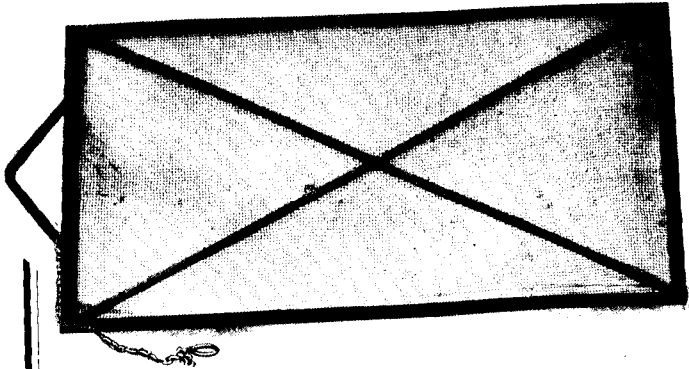
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