

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LVII.

Copyright, 1897, by the AMERICAN ARCHITECT AND BUILDING NEWS COMPANY, Boston, Mass.

No. 1130.

Entered at the Post-Office at Boston as second-class matter.

AUGUST 21, 1897.

CONTENTS.

SUMMARY:—

The next Annual Convention, A. I. A.—The D. O. Mills Cheap Hotels.—The Inquest on the New York Soap-factory Accident.—The New York Library Competition.—New Sewerage Systems in New Jersey.—Wise Action in Pennsylvania in the Matter of Trees and Forests.—American Artists Abroad on the Tariff.—The Trouble of the London County Council Works Department.—The Botanical Stone-carvers of the Middle Ages.	61
AN ARCHITECTURAL "SUMMER SCHOOL" ABROAD.—III.	63
NATIONAL ELECTRICAL CODE.—I.	65
SOCIETIES.	68

ILLUSTRATIONS:—

House of Judge Elmer B. Adams, St. Louis, Mo.—Pennsylvania Institute for the Blind, Overbrook, Pa.—Two Views of Central Dome of the Same Building.—Apsidal Treatment, No. 24: Cathedral of Sta. Maria Matricolare, Verona, Italy.—Apsidal Treatment, No. 25: Interior of the Principal Church at Verna, Italy.	
Accessories of Landscape Architecture, No. LXI: A Garden View: Villa d'Este, Tivoli, Italy.—Fountain Groups on the Façade of the Hofburg, Vienna, Austria.—A Group of Garden Accessories.—Two Churches.	
Additional: Hallway of Residence, 191 Uhland Strasse, Charlottenburg, Prussia.—The Pustazer Pavilion at the Budapest Millennial Exhibition.—The Church of St. Michael, Southfields, Wandsworth, Eng.—Sketches of the New General Hospital, Birmingham, Eng.—Plans for the New Parliamentary Buildings, Sydney, N. S. W.: Two Sheets.	68
NOTES AND CLIPPINGS.	68

THE Thirty-first Annual Convention of the American Institute of Architects will meet in Detroit, Michigan, on Wednesday, September 29, continuing three days. The preliminary circular only has as yet been sent out, but it appears from this that papers are expected from Professor Osborne, of Cornell University, Mr. Henry Van Brunt, of Kansas City, and Mr. Cass Gilbert, of St. Paul, on Architectural Education, and its bearing on membership in the Institute; from Mr. R. C. Sturgis, of Boston, on Church Architecture; and from Mr. Henry Rutgers Marshall, of New York, on Architectural Truth. Many amendments to the Constitution and By-Laws will be considered, and it is hoped that these may be thoroughly discussed, and acted upon in such a way as to obviate the necessity for further changes for a long time to come.

MR. D. O. MILLS, of New York, has been quietly carrying out an idea, which promises to be of great value. The movement for improved tenements having acquired considerable headway in the community, Mr. Mills has thought of another way of doing good, by providing decent and comfortable hotel accommodation at a price which will bring it within the means of people who have heretofore been obliged to find shelter at lodging-houses; and the first of the hotels built for this purpose is now nearing completion. The structure, of which Mr. Ernest Flagg is the architect, is situated on Bleeker Street, extending from Thompson to Sullivan Street, a distance of two hundred feet, and presents three very attractive fronts, of Indiana limestone and white brick, ten stories high. The plan, in brief, consists of two square blocks, each with a large court-yard in the centre, room being left between the blocks for a connecting hall, with stairway and elevators on each side. The stairways have outside windows, giving a current of fresh air across the hall. In each of the main blocks is a corridor, passing entirely around it, with bedrooms on each side, some opening on the court-yard, and the others on the outside, but all having ample light; and the reëntering angles are occupied by ventilation shafts. Simple as the arrangement looks on paper, the expert will recognize in it a very skilful piece of planning, worthy of Mr. Flagg's reputation. The bedrooms are only five feet wide, and seven feet long, but each affords comfort and privacy infinitely superior to that of a bunk in a cheap lodging-house, and it is expected that at twenty cents a night, which is the ordinary charge for a lodging-house bunk, the building will pay a reasonable interest on its cost. A restaurant, capable of accommodating four hundred people, occupies a portion of the ground floor. Ventilation is provided by means of fans, which exhaust the air from the corridors; and, as the partitions between the "cubicles" do not, except in certain instances, extend quite to the ceiling, a good current is kept up through them. To facilitate ventilation, also, the windows opening on

the court-yard are fitted with wire screens in place of glass. As the courts have glass roofs, and the air in them is warmed by steam coils, it is thought that no injurious draughts will follow from this arrangement. A second hotel, similarly arranged, is in process of erection near by, and, judging from experience with similar buildings abroad, there is reason to hope that Mr. Mills's generous venture may be justified.

THE inquest into the accident by which a soap-factory, in process of construction in New York, was destroyed, and a life lost, through the fall of a large tank, has resulted in a verdict attributing the accident to "the collapse of said building, and the giving way of braces of tanks which had been erected therein, thus allowing the said tanks to bulge." This verdict was signed by a majority of the jurors, and, as no one was indicated as responsible for the "giving way of braces" in the tanks, all the persons who have been held to bail in connection with the occurrence were discharged. A minority of the jurors expressed the opinion that the collapse of the building was due to "structural weakness and the defectiveness of cast-ironwork, and the over-weighting of the structure"; but the Coroner accepted the verdict of the majority.

THE second competition for the New York Public Library is to be confined to twelve architects, or firms of architects, six of whom, Messrs. J. H. Freedlander; Haydel & Shepard; Hornbostel, Wood & Palmer; Howard & Cauldwell; W. Wheeler Smith, with Walker & Morris; and Whitney Warren, have been selected from among the twelve who received awards in the preliminary competition; while six others, Messrs. Carrère & Hastings; Cyrus L. W. Eidlitz; Charles C. Haight; McKim, Mead & White; Peabody & Stearns, and George B. Post, have been added to them by invitation. Three of the members of the jury of seven which is to consider the designs submitted in the second competition are to be practising architects, chosen by the competitors themselves. Three others are to be chosen by the Trustees of the Library out of their own number; and the seventh member is to be the Director of the Library. The jury of seven is to choose, by majority vote, three designs, sending them, with indications as to their order of merit, to the Trustees, who are to select one of them, and send it to the city authorities, with the recommendation that its author be appointed architect of the building. Although architects consider that, in general, a majority of a jury of award should be professional men, the requirements of a library building are so peculiar that the Director of the Library should certainly be one of the jurors in the present instance; and, as he and the three professional members will constitute a majority of the jury, the other three may very properly be chosen from among the Trustees.

TWO towns in New Jersey, Plainfield and Westfield, have just completed sewerage plants, which are interesting, as presenting examples of utilization on a small scale. The whole cost of the Plainfield system, including \$23,500 for a fifty-acre disposal-field, only amounts to \$160,000, and three men easily care for the disposal-beds. Moreover, as only a part of the disposal field is at present utilized, the system will provide for future needs for a long period. The Plainfield sewers provide only for house-drainage, so that the flow is nearly uniform, and, of course, the trouble and expense incident to caring for storm-waters is saved. The Westfield plant is similar to that of Plainfield, but smaller, the cost of the system, including \$8,434.99 for the disposal-field, having been only \$60,180. The sewers are laid with under-drains, and, at Westfield, these have been found, incidentally, of great use in keeping down the level of the ground water. In a considerable portion of the business part of the village, it has been impracticable to put cellars under buildings, for the reason that any excavation was immediately invaded by ground water; but, since the construction of the sewers, the ground-water level has fallen, so that cellars which were formerly wet in rainy weather are now always dry, and cellars can be made where their construction was before out of the question.

THE Pennsylvania Legislature passed, during its recent session, two laws of great importance, not only to the welfare of the State, but, so far as they may serve as examples for imitation in other States, to that of the whole country. By one of these laws, a large tract, about forty

thousand acres in each case, has been taken around the headwaters of the Susquehanna and Delaware Rivers, to be held by the State as a forest reserve, in the same way that the Adirondack forests are reserved by the State of New York. The interest taken by the people of Pennsylvania in the scheme is shown by the fact that only one vote was cast in the Senate against the measure; and, with such a strong public opinion to support it, the new law is likely to be strictly and intelligently carried out. A still more effective measure was, however, adopted by the same Legislature, in the form of a statute which entitles the owner of land on which are standing not less than fifty trees to the acre, each tree having a diameter of at least eight inches at a height of six feet from the ground, to an annual remission of four-fifths of the taxes assessed on such land. Whether the taxes to be remitted are simply the State taxes, which are a small part of the total taxation, or include also the local taxes, we are not informed. If the latter is the case, we may expect to see very many acres of vacant land in the State planted with trees during the next few years; and even if State taxes only are so remitted, the inducement to plant trees would be considerable, although the statute ought, in consideration of the ways of town assessors, to provide that these officials shall not add to the burden of the tree-planter, through increased valuation, more than an equivalent of the State tax remitted.

THE Paris correspondent of the New York *Tribune* has been endeavoring to learn the views of the most distinguished American artists living in Europe on the clause in the new tariff imposing a duty of twenty per cent upon imports of "paintings in oil, water, pastel, pen-drawings, and statuary," and has received some interesting letters on the subject. The present tariff makes no exception in favor of works produced by American artists residing abroad, and nearly all the letters speak of the hardship which will be entailed upon poor American students in Europe, who are accustomed to eke out their scanty incomes by sending home water-color sketches, or copies of pictures, to be sold for their benefit, and who will find the market for their productions seriously diminished, not only by the imposition of the duty, but also by the annoyance and waste of time which their friends must endure in getting such pictures entered, appraised, receipted for, released and delivered. Moreover, as many pictures by French, German and Dutch painters of world-wide reputation have been sold here, at high prices, there is some reason to fear that the virtual closing of the American market to such artists, by the imposition of the duty, may lead to retaliation, in the closing of the foreign studios to American students. The tax imposed by the McKinley law affected French artists so much as to cause a serious demand to be made upon the French Government for the exclusion of Americans from all the public schools of art, including every department of the School of Fine-Arts. The Government was magnanimous enough to refuse to yield to the demand, but, as the Dingley tax is one-third higher than that of the McKinley tariff, a new appeal is sure to be made, the earnestness of which is likely to be intensified, not only by the more serious effect of the Dingley law upon the incomes of the Parisian painters, but by a certain jealousy, which has recently begun to show itself among French students and their friends, on account of the success of the Americans in winning school distinction. It will be remembered that, at the last examination for entrance to the Architectural Department of the School of Fine-Arts, out of the nine names placed first on the list of those "received," six were those of Americans. Notwithstanding the unselfish friendliness of French students, which many Americans remember with much pleasure, the relatives of these French students will not fail to reflect that for every American admitted to the School of Fine-Arts, one Frenchman is rejected, and his prospects injured for life; while every American placed among the first ten on the examination-list deprives the parents of one French candidate of the pleasure of receiving the congratulations of their acquaintances, and of hearing on all sides predictions that their fortunate son will "go far" in the career that he has chosen. To a French professional man, school success is almost certain fortune, and Americans, especially, have reason to be grateful for the sacrifice which the French nation makes in opening to all comers the best instruction in the artistic professions that the world affords, and should be careful not to give too much encouragement to the party, already strong in France, which is endeavoring to exclude

foreigners from participation in every advantage which the French can keep to themselves.

THE troubles of the Works Department of the London County Council seem to be by no means ended. Since the exposure, some months ago, of the system of falsification and forgery under which the operations of the Department had been managed, divisions have, not unnaturally, arisen in the Council as to how the business of the Department should be conducted. To do away with the Department altogether is impracticable, as it was constituted at the election of the Council, in 1895, and cannot properly be abolished before the election of a new Council, which will take place next March; yet it is conceded that the management of the municipal building-affairs, though it may, perhaps, be more honest, is no more business-like than it was a year ago, while the representatives of common-sense in the Department are farther than ever from a disposition to acquiesce in the methods of the radical politicians who endeavor to control it. Lately, the matter came up before the Council, in the shape of an amendment to the regulations governing the Works Department, proposed by Mr. E. White, one of the most sensible men in the Department, and providing that "all works ordered by the Council to be carried out without the intervention of a contractor shall in future be carried out by the manager of the Works Department, who shall be responsible to the Spending Committee in the same way that a contractor would be"; and that "the Finance Committee shall have control of the finances of the Department." This amendment was offered as a means of avoiding the entire abolition of the Works Department, which had been, not without much reason, demanded by a part of the Council, at the same time that it provided certain safeguards against the extravagance and dishonesty of the old management; and it seems to have been accepted as the best plan available for carrying matters along until the March election; but it aroused the bitter opposition of the professional labor-operators in the Council. Mr. Freak, who seems to have a singularly appropriate name, announced that "as a representative of the working-classes he would accept no compromise with those whom he regarded as the workingman's enemies." Why he should consider people who object to lying and forgery as the workingman's enemies, he did not explain; nor did Mr. Burns, M. P., who was unpleasantly prominent in the management of the Department at the time of the worst scandals connected with it, condescend to give any rational ground for his opposition to the amendment, which he denounced as a "delusive dodge," advising his partisans to "fight Mr. White and his amendment." Fortunately for the tax-payers of London, the members of the Council who agreed with Messrs. Burns and Freak were in a minority, and Mr. White's amendment was adopted.

ONE of the most interesting observations made by Viollet-le-Duc in regard to French mediæval architecture was that the builders of the twelfth century, soon after they had definitely undertaken the development of a new system of construction, abandoned the imitations of Classic detail which had been current until then, and began to decorate their work with forms taken from the world about them, using as models the leaves and flowers of native plants, and copying them so faithfully in the stone-carvings of their capitals and string-courses that the different species are readily recognized. Viollet-le-Duc himself has given a partial list of the plants so utilized, but M. Emile Lambin, in *La Semaine des Constructeurs*, greatly enlarges this list, adding to it notes of the buildings, and the position in each building, where the rarer forms are to be found. The accuracy with which the stone-carvers of the twelfth and thirteenth centuries worked and their close observation of nature are well shown by the fact that the foliage of the ordinary wild rose of France, the *Rosa gallica*, is clearly distinguished in sculpture from that of the *Rosa arvensis*, or sweet-briar, which adorns a capital in the ancient Cathedral of Lisieux. Viollet-le-Duc asserts that, in the thirteenth century, the mediæval architects chose as models for decoration small plants, the growth of which has a certain vigor very suitable to the expression which those great artists sought to give to their work. Whether this idea will be borne out by M. Lambin's observations remains to be seen; but his list certainly indicates that plants which grow rapidly through a comparatively short season, such as the lily-of-the-valley, the ordinary clover, the plantain, columbine, ranunculus and other spring-flowering species, and the larger ferns, were favorite subjects for imitation.

AN ARCHITECTURAL "SUMMER SCHOOL" ABROAD.¹—III.

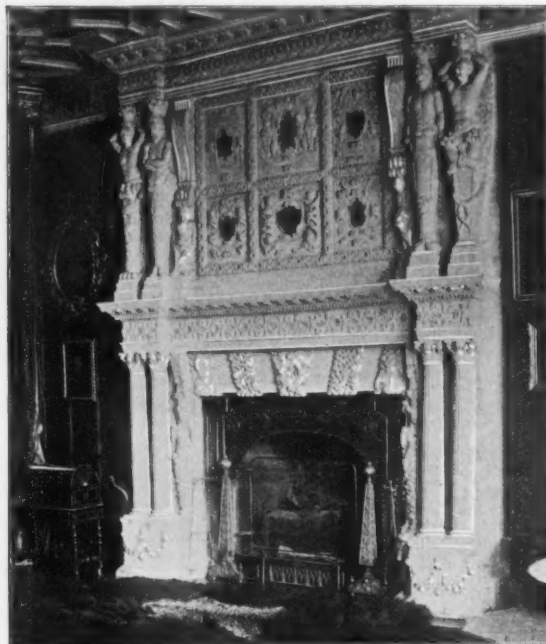
AT Guildford we stopped at the "White Horse" on the outskirts of the town, and storing our machines in the sheds, climbed to the billiard-room on the second floor, where we found that the billiard-tables had been pushed to one side to make room for us. After our

common hall, seated around an old tradesman who told us stories of the customs of the place. This old room is directly opposite the entrance-gate and still shows the original dining "boards" of massive oak. It also has good old oak panelling all around the sides and a rich mantel that has been drawn by Herbert Railton in



High Street and Town-hall, Guildford.

dinner, at 2s. 6d. each, we rode about town and, making a dash for it, climbed the steep paved incline of the High Street, passing under the great overhanging clock of the town-hall, to visit Archbishop Abbot's Hospital, a building similar in style to much of the Tudor brickwork at Hampton Court. The hospital, founded in 1619, is built around a court about 60 feet square, opening directly from the High Street through a massive entrance-gate flanked by imposing



Loseley Hall, Compton, near Guildford.

"Coaching Days and Coaching Ways," an excellent book, that contains many good drawings of Guildford's old buildings in its chapter on the "Portsmouth Road."

A little below the hospital is the town-hall, erected by subscription in 1683, the most conspicuous building on the street because of its great wooden clock, that, supported by elaborate wrought-iron



Loseley Hall, Compton, near Guildford.

towers. On the west side of the court-yard lodgings are provided for twelve brethren, on the east side for eight sisters. All the inmates must be over sixty years old before entering into the quiet life of the hospital. The little chapel is quite plain, but has two pointed windows containing good stained-glass. The entrance-gates are of good design; in fact, Guildford shows many examples of excellent wrought-iron work. We enjoyed our rest in the ancient

braces, hangs far out over the thoroughfare. The building contains a hall, about 50 feet long, decorated with several large paintings, while over the hall is a council-chamber having a stone mantel said to have been brought from Stoughton House. Guildford has several churches of different styles and periods, but we were so much interested in the quaint houses and street scenes that we only entered the Norman Church of St. Mary in Quarry Street near the castle gateway.

¹ Continued from No. 1128, page 49.

On leaving the town-hall we could not resist the chance to coast down High Street and so rode too far down, crossed the bridge, and then climbed the wrong hill in search of the old Norman castle. The sharp ascent of the old road up the Hog's Back proved to be very stony and we were soon forced to dismount. Walking to the top we found nothing of interest, but at last discovered that the castle tower was at the top of the hill we had just left. Somewhat chagrined, we returned across the river, passing through a jeering crowd of Sunday loafers who had watched our hill-climbing efforts

ent buildings, designed by Hardwick to accommodate 500 pupils, are connected by cloisters and surround a large open quadrangle. We did not visit the school, as we had a good view of its modern buildings from the back of the "Angel" stables. After a comfortable night at the hospitable "Angel," sketches were made of the picturesque court-yard of the inn, our landlord's strawberries duly appreciated, the town-hall visited in company with the senior alderman of the town, then wheels were brought out for the morning ride to Compton, Elstead and Waverley Abbey, on the way to Farnham.



St. Nicholas's Church, Compton.

with interest. The ancient Keep of Guildford Castle is now surrounded by a large well-kept garden. The ruins rise from the top of a huge mound and are reached by winding paths from the lower levels near the entrance. The Keep of the castle is about 45 feet square and rises about 70 feet above the top of the hill. It is the principal part of the ruin, and although built in 1150 is in better condition than the later buildings that surround it. The walls at the base are 10 feet thick, built of regular courses of herring-bone work, ragstone, flints and sandstone, that can all be clearly identified. The floors have long ago fallen. Murray's "Handbook for Surrey" states that the upper hall was 25' x 27' and that the three side chambers of this hall were built in the thickness of the wall. One of these chambers, probably the chapel, is about 5 feet wide and has a barrel-vault, wall-arches, and richly carved Norman columns.

After a time, finding the right way out of town, we passed through a delightful bit of English country, bowling along over splendid roads until the cobble-stones of Godalming were reached. All the way along the route, especially at Shalford, we passed picturesque cottages, thatched and half-timbered, that repeatedly tempted our amateur photographers. At present Godalming is a manufacturing town, but its narrow winding streets and low red-roofed houses cannot fail to suggest its ancient character. In the Domesday-Book, its name is written Godelminge, and it is said to have been one of the manors bequeathed by Alfred to his nephew Ethelhelm. Nevill's "Old Cottage and Domestic Architecture" mentions that a number of Saxon gold coins, made in the town, are yet extant, and it is a curious fact that the section around Hart Lane is still called "The Mint." The town still has several inns of the olden time, the "White Horse," "King's Arms," "Great George," "Waggon and Horses" and the modernized "Angel." During the period of greatest prosperity, about 1663, the old town became a hunting-station and was much frequented by the Court. From this time date some of the brick houses in the High Street, but there are many half-timbered houses of uncertain date that are far more interesting.

On the hill, about one mile north of the town, is the great Charterhouse School, that was removed from London in 1870. The differ-

ent buildings, designed by Hardwick to accommodate 500 pupils, are connected by cloisters and surround a large open quadrangle. We did not visit the school, as we had a good view of its modern buildings from the back of the "Angel" stables. After a comfortable night at the hospitable "Angel," sketches were made of the picturesque court-yard of the inn, our landlord's strawberries duly appreciated, the town-hall visited in company with the senior alderman of the town, then wheels were brought out for the morning ride to Compton, Elstead and Waverley Abbey, on the way to Farnham.

Giving a "Tech" yell for our landlord, Mr. Taylor, we rode out from the "Angel's" court, through the long cobblestone street and about two miles back on the road to Guildford, then turned into the byway that led past the woods of Loseley House to the village and church of Compton. As Loseley is to-day one of the grand houses of Surrey, we did not attempt to visit it with our large party and had to be content with photographs of its great halls and beautiful grounds. The narrow road to Compton was full of loose fragments of flint, but by a miracle we all arrived at the little church of St. Nicholas without a single puncture. This little building has a particularly interesting late Norman interior, although the exterior has been much changed by later additions. The photograph shows the most interesting half of the nave with its old timber roof over both nave and aisles. Although the nave arches rest on stout circular columns with rich Norman caps, they are all slightly pointed throughout this part of the little building.

But the unique feature is found in the chancel itself, where a low circular arch is thrown across the central part, in front of a very low and heavy groined vault. Above this vault, which is only one-half the height of the church, is an open gallery reached by a side staircase, that is separated from the open space of the chancel by a very light oak screen, said to be one of the oldest known examples of woodwork in England. There is a piscina at the right of the lower chancel and a second piscina in the upper chancel. The church was restored in 1860, but as all the old features of its quaint interior were well preserved, we secured a few sketches of its capitals and photographs of the primitive timber roof. The kind old lady who showed us the church could not understand why we did not know her son who had gone to America, but at last, finding that he was located somewhere in Kansas, we tried to explain a little United States geography, with only indifferent success.



Interior of St. Nicholas's Church, Compton.

Riding on, along excellent winding roads running through well-kept farms, we crossed Shackleford Heath and descended to the valley of the Wey through the beautiful beech woods of Pepperharrow. After lunch at Elstead—where our landlord of the "Golden Fleece," who also dealt in grain, hay and coal, personally waited on table in his shirt sleeves—we climbed the long grade up Charles Hill to Crooksbury Common, and, later, had an exciting coast down into

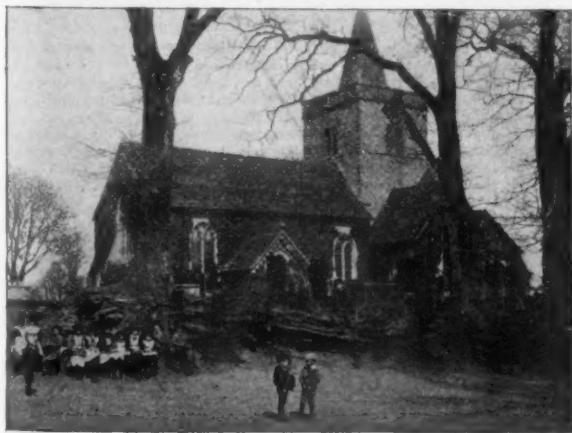
the valley of the River Wey, stopping at the bottom of the hill to visit the ruins of Waverly Abbey. The remaining walls of the abbey, scattered over broad meadows in which the haymakers were busy at the time of our visit, show that the ancient Cistercian monastery must have been very extensive. Little now remains, although

and in the evening its large but not particularly interesting castle was visited. The Parish Church is quite extensive and has a tower recently restored and enlarged, but with the exception of a few Decorated windows and a good old oak porch there is little of architectural interest there. In fact, Farnham seems to lack examples of



House on the High St., Godalming.

the vaulting, supposed to have been a part of the dormitory, is still in fairly good condition, its three slender columns of Sussex marble carrying a great weight of heavy groins and backing. The Abbey was founded in 1128 by Wm. Gifford, Bishop of Winchester, and was the first Cistercian monastery in England. At first it consisted of twelve monks and an abbot, all brought from Normandy, but soon increased in size and importance until in 1187 the Abbey contained 70 monks, 120 lay brethren and kept 30 plows at work. During the reign of John all its people were scattered, but returning later on work was continued, until in 1230 a new church was dedicated. The



Church at Willey, near Guildford.

buildings are very close to the river, that surrounds the Abbey lands on three sides, and though furnishing abundant supply of water for the once famous gardens, must have made the buildings and location damp and unhealthy. Farnham was reached late in the afternoon,



Old Houses at Willey, near Guildford.

good old work and according to Nevill's "Old Cottage and Domestic Architecture," the surrounding country has little in it of interest to the architect.

Our arrival at the "Lion and Lamb" at Farnham was amusing and at the same time somewhat embarrassing, for our landlady, who, by the way, was a very good-looking woman, berated us well for a mistake of her own about a telegram sent the day before. As she would not be reasonable, we were obliged to agree with her, in order to keep the peace. When opposition was removed, her few lamb-like qualities at once began to appear, and reached a climax when, after a generous supper, she organized an impromptu hop in the long



Waverly Abbey.

dining-room, and excelled her maids in skipping to W——'s piano-thumping. The lion appeared when the bill was settled next morning, a fine looking fellow, but evidently well managed by the lamb.

E. B. HOMER.

[To be continued.]

NATIONAL ELECTRICAL CODE.¹—I.

THE National Electrical Code, as it is here presented, is the result of the united efforts of the various electrical, insurance, architectural and allied interests which have, through the National Conference on Standard Electrical Rules, composed of delegates from the following Associations, unanimously voted to recommend them to their respective Associations for approval or adoption: American Institute of Architects; American Institute of Electrical Engineers; American Society of Mechanical Engineers; American Street Railway Association; Factory Mutual Fire Insurance Companies; National Association of Fire Engineers; National Board of

¹ Rules and requirements of the National Board of Fire Underwriters for the installation of wiring and apparatus for electric light, heat and power, as recommended by the Underwriters' National Electric Association.

Fire Underwriters; National Electrical Light Association; Underwriters' National Electric Association. And as soon as meetings of these Associations are held, and action taken, the fact will be noted.

GENERAL SUGGESTIONS.

In all electric work conductors, however well insulated, should always be treated as bare, to the end that under no conditions, existing or likely to exist, can a grounding or short-circuit occur, and so that all leakage from conductor to conductor, or between conductor and ground, may be reduced to the minimum.

In all wiring special attention must be paid to the mechanical execution of the work. Careful and neat running, connecting, soldering, taping of conductors and securing and attaching of fittings, are specially conducive to security and efficiency, and will be strongly insisted on.

In laying out an installation, except for constant-current systems, the work should, if possible, be started from a centre-of-distribution, and the switches and cut-outs, controlling and connected with the several branches, be grouped together in a safe and easily accessible place, where they can be readily got at for attention or repairs. The load should be divided as evenly as possible among the branches, and all complicated and unnecessary wiring avoided.

The use of wire-ways for rendering concealed wiring permanently accessible is most heartily indorsed and recommended; and this method of accessible concealed construction is advised for general use.

Architects are urged, when drawing plans and specifications, to make provision for the channelling and pocketing of buildings for electric light or power wires, and in specifications for electric gas-lighting to require a two-wire circuit, whether the building is to be wired for electric lighting or not, so that no part of the gas-fixtures or gas-piping be allowed to be used for the gas-lighting circuit.

CLASS A.—STATIONS AND DYNAMO ROOMS.

[Includes Central Stations, Dynamo, Motor and Storage-battery Rooms, Transformer Sub-stations, Etc.]

1. Generators —

- a. Must be located in a dry place.
- b. Must never be placed in a room where any hazardous process is carried on, nor in places where they would be exposed to inflammable gases or flyings of combustible materials.
- c. Must be insulated on floors or base frames, which must be kept filled to prevent absorption of moisture, and also kept clean and dry. Where frame insulation is impracticable, the Inspection Department having jurisdiction may, in writing, permit its omission, in which case the frame must be permanently and effectively grounded.

A high-potential machine which, on account of great weight or for other reasons, cannot have its frame insulated from the ground, should be surrounded with an insulated platform. This may be made of wood, mounted on insulating supports, and so arranged that a man must always stand upon it in order to touch any part of the machine.

In case of a machine having an insulated frame, if there is trouble from static electricity due to belt friction, it should be overcome by placing near the belt a metallic comb connected with the earth, or by grounding the frame through a very high resistance of not less than 200 ohms per volt generated by the machine.

d. Every constant-potential generator must be protected from excessive current by a safety fuse, or equivalent device, of approved design in each lead wire.

These devices should be placed on the machine or as near it as possible.

Where the needs of the service make these devices impracticable, the Inspection Department having jurisdiction may, in writing, modify the requirements.

e. Must each be provided with a waterproof cover.

f. Must each be provided with a name-plate, giving the maker's name, the capacity in volts and amperes, and normal speed in revolutions per minute.

2. Conductors —

From generators to switchboards, rheostats or other instruments, and thence to outside lines.

- a. Must be in plain sight or readily accessible.
- b. Must have an approved insulating covering as called for by rules in Class "C" for similar work, except that in central stations, on exposed circuits, the wire which is used must have a heavy braided non-combustible outer covering.

Bus-bars may be made of bare metal.

c. Must be kept so rigidly in place that they cannot come in contact.

d. Must in all other respects be installed under the same precautions as required by rules in Class "C," for wires carrying a current of the same volume and potential.

3. Switchboards —

a. Must be so placed as to reduce to a minimum the danger of communicating fire to adjacent combustible material.

Special attention is called to the fact that switchboards should not be built down to the floor, nor up to the ceiling, but a space of at least ten or twelve inches should be left between the floor and the board, and from eighteen to twenty-four inches between the ceiling and the board, in order to prevent fire from communicating from the switchboard to the floor or ceiling, and also to prevent the forming of a partially concealed space very liable to be used for storage of rubbish and oily waste.

b. Must be made of non-combustible material or of hardwood in skeleton form, filled to prevent absorption or moisture.

c. Must be accessible from all sides when the connections are on the back, but may be placed against a brick or stone wall when the wiring is entirely on the face.

d. Must be kept free from moisture.

e. Bus-bars must be equipped in accordance with rules for placing conductors.

4. Resistance-Boxes and Equalizers —

(For construction rules, see No. 52.)

a. Must be placed on a switchboard or, if not thereon, at a distance of a foot from combustible material, or separated therefrom by a non-inflammable, non-absorptive, insulating material.

5. Lightning-Arresters —

(For construction rules, see No. 55.)

a. Must be attached to each side of every overhead circuit connected with the station.

It is recommended to all electric light and power companies that arresters be connected at intervals over systems in such numbers and so located as to prevent ordinary discharges entering (over the wires) buildings connected to the lines.

b. Must be located in readily accessible places away from combustible materials, and as near as practicable to the point where the wires enter the building.

Station-arresters should generally be placed in plain sight on the switchboard.

In all cases, kinks, coils and sharp bends in the wires between the arresters and the out-door lines must be avoided as far as possible.

c. Must be connected with a thoroughly good and permanent ground connection by metallic strips or wires having a conductivity not less than that of a No. 6 B. & S. copper wire, which must be run as nearly in a straight line as possible from the arresters to the earth connection.

Ground-wires for lightning-arresters must not be attached to gas-pipes within the buildings.

It is often desirable to introduce a choke coil in circuit between the arresters and the dynamo. In no case should the ground-wire from a lightning-arrester be put into iron pipes, as these would tend to impede the discharge.

6. Care and Attendance —

7. Testing of Insulation Resistance —

a. All circuits must be provided with reliable ground detectors. Detectors which indicate continuously, and give an instant and permanent indication of a ground are preferable. Ground-wires from detectors must not be attached to gas-pipes within the building.

b. Where continuously indicating detectors are not feasible, the circuits should be tested at least once per day, and preferably oftener.

c. Data obtained from all tests must be preserved for examination by the Inspection Department having jurisdiction.

These rules on testing to be applied at such places as may be designated by the Inspection Department having jurisdiction.

8. Motors —

a. Must be insulated on floors or base frames, which must be kept filled to prevent absorption of moisture; and must be kept clean and dry. Where frame insulation is impracticable the Inspection Department having jurisdiction may, in writing, permit its omission, in which case the frame must be permanently and effectively grounded.

A high-potential machine which, on account of great weight or for other reasons, cannot have its frame insulated, should be surrounded with an insulated platform. This may be made of wood, mounted on insulating supports, and so arranged that a man must stand upon it in order to touch any part of the machine.

In case of a machine having an insulated frame, if there is trouble from static electricity due to belt friction, it should be overcome by placing near the belt a metallic comb connected to the earth, or by grounding the frame through a very high resistance of not less than 200 ohms per volt generated by the machine.

b. Must be wired under the same precautions as required by rules in Class "C," for wires carrying a current of the same volume and potential.

The leads or branch circuits should be designed to carry a current at least fifty per cent greater than that required by the rated capacity of the motor to provide for the inevitable overloading of the motor at times without over-fusing the wires.

c. The motor and resistance-box must be protected by a cut-out and controlled by a switch (see No. 17 a), said switch plainly indicating whether "on" or "off." Where one-quarter horse-power or less is used on low-tension circuits a single-pole switch will be accepted. The switch and rheostat must be located within sight of the motor, except in such cases where special permission to locate them elsewhere is given, in writing, by the Inspection Department having jurisdiction.

d. Must have their rheostats or starting-boxes located so as to conform to the requirements of Rule 4.

In connection with motors the use of circuit-breakers, automatic starting-boxes and automatic under-load switches is recommended, and they must be used when required.

c. Must not be run in series-multiple or multiple-series.

f. Must be covered with a waterproof cover when not in use, and, if deemed necessary by the Inspection Department having jurisdiction, must be inclosed in an approved case.

From the nature of the question the decision as to what is an "approved case" must be left to the Inspection Department having jurisdiction to determine in each instance.

g. Must, when combined with ceiling fans, be hung from insulated hooks, or else there must be an insulator interposed between the motor and its support.

h. Must each be provided with a name-plate, giving the maker's name, the capacity in volts and amperes and the normal speed in revolutions per minute.

g. Railway Power Plants —

a. Must be equipped in each feed-wire before they leave the station with an approved automatic circuit-breaker (see No. 44) or

CLASS B.—OUTSIDE WORK.

[All Systems and Voltages.]

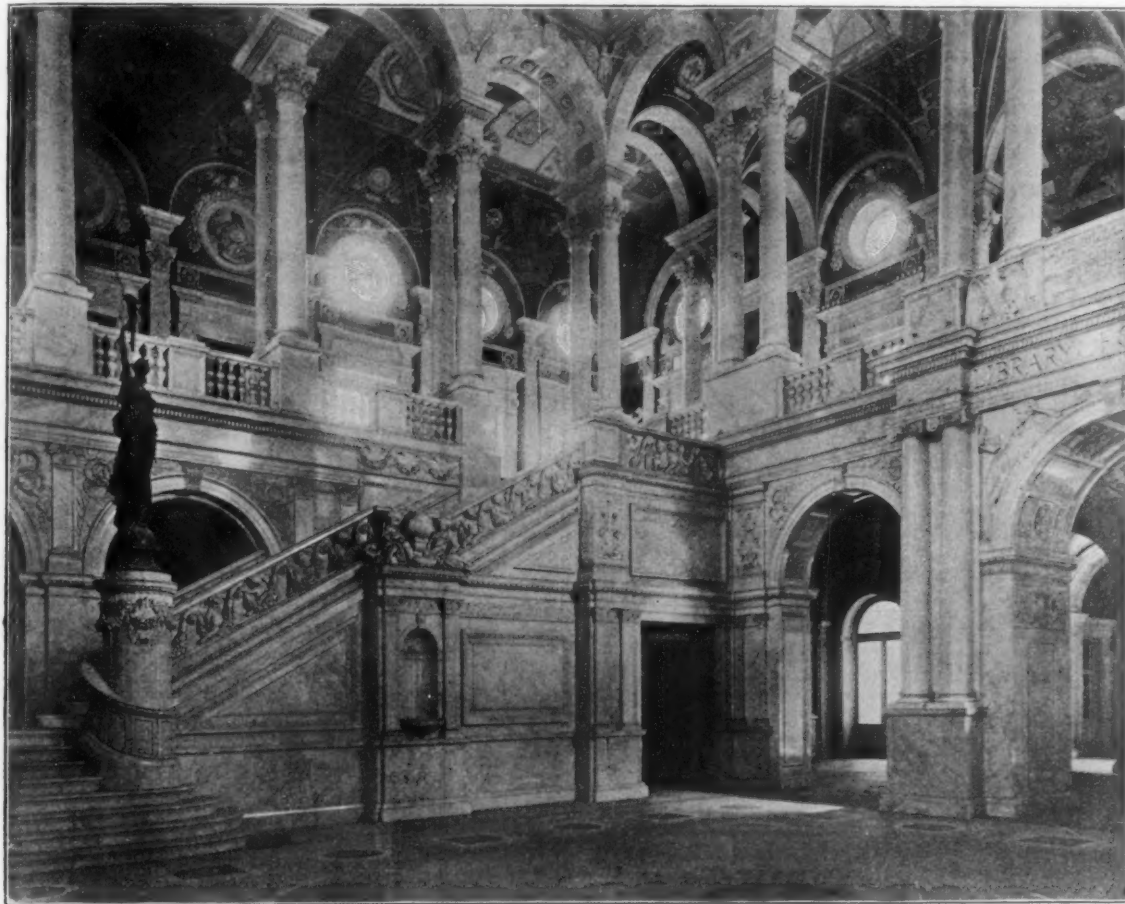
12. Wires —

a. Service-wires must have an approved rubber insulating covering. (See No. 40 a.) Line-wires, other than services, must have an approved weatherproof, or rubber insulating covering. (See No. 40, a and b.) All wires must have an insulation equal to that of the conductors they confine.

b. Must be placed, in order that moisture cannot form a cross connection between them, not less than a foot apart, and not in contact with any substance other than their insulating supports. Service blocks must be covered over their entire surface with at least two coats of waterproof paint.

c. Must be at least seven feet above the highest point of flat roofs, and at least one foot above the ridge of pitched roofs over which they pass or to which they are attached.

d. Must be protected by dead insulated guard iron or wires from possibility of contact with other conducting wires or substances to which current may leak. Special precautions of this kind must be



Main Staircase: Library of Congress, Washington, D. C.

other device, which will immediately cut off the current in case of a ground. This device must be mounted on a fireproof base, and in full view and reach of the attendant.

10. Storage or Primary Batteries —

a. When current for light and power is taken from primary or secondary batteries, the same general regulations must be observed as applies to similar apparatus fed from dynamo generators developing the same difference of potential.

b. Storage-battery rooms must be thoroughly ventilated.

c. Special attention is directed to the rules for rooms where acid fumes exist. (See No. 24, j and k.)

d. All secondary batteries must be mounted on non-absorptive, non-combustible insulators, such as glass or thoroughly vitrified and glazed porcelain.

e. The use of any metal liable to corrosion must be avoided in connections of secondary batteries.

11. Transformers —

(For construction rules, see No. 54.)

a. In central or sub-stations the transformers must be so placed that smoke from the burning-out of the coils or the boiling-over of the oil (where oil-filled cases are used) could do no harm.

taken where sharp angles occur, or where any wires might possibly come in contact with electric light or power wires.

e. Must be provided with petticoat insulators of glass or porcelain. Porcelain knobs or cleats and rubber hooks will not be approved.

f. Must be so spliced or joined as to be both mechanically and electrically secure without solder. The joints must then be soldered, to insure preservation, and covered with an insulation equal to that on the conductors.

All joints must be soldered, even if made with some form of patent splicing device. This ruling applies to joints and splices in all classes of wiring covered by these rules.

g. Must, where they enter buildings, have drip loops outside, and the holes through which the conductors pass must be bushed with non-combustible, non-absorptive insulating tubes slanting upward toward the inside.

h. Telegraph, telephone and similar wires must not be placed on the same cross-arm with electric-light or power wires.

i. The metallic sheathes to cables must be permanently and effectively connected to "earth."

TROLLEY WIRES.

GROUND-RETURN WIRES.

13. Transformers —

(For construction rules, see No. 54.)

a. Must not be placed inside of any building, excepting central stations, unless by special permission of the Inspection Department having jurisdiction.

b. Must not be attached to the outside walls of buildings, unless separated therefrom by substantial supports.

[To be continued.]



ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE Thirty-first Annual Convention of the American Institute of Architects will be held at Detroit, Michigan, on Wednesday, Thursday and Friday, September 29, 30 and 31, 1897.

The full details of the programme will be announced in a future circular, but I am enabled at this time to state that papers may be expected from Prof. C. Francis Osborne, F. A. I. A., of Cornell University; Mr. Henry Van Brunt, F. A. I. A., of Kansas City, and Mr. Cass Gilbert, F. A. I. A., of St. Paul, Minnesota, on "Architectural Education and its bearing on Membership in the Institute." From Mr. Clipston Sturgis, F. A. I. A., of Boston, on "Church Architecture," and Mr. H. Rutgers Marshall, F. A. I. A., of New York, on "Architectural Truth."

The Committee to which was referred amendments to the Constitution and By-Laws will report many and radical changes, in the hope that they will be adopted and that they will be so complete and harmonious as to preclude the necessity of changes for a long time to come.

The changes proposed will be mailed to each Fellow of the Institute by the 27th of this month.

Arrangements will probably be made for a reduction of railroad rates to one fare and a third for the round trip, but this can only be secured by a full attendance at the Convention.

The President has appointed Mr. H. Langford Warren, Frank Miles Day and the Secretary of the Institute, Committee on the part of the Institute, and the Michigan Chapter has appointed Mr. James Rogers, Jr., Henry J. Meier, Richard E. Raseman and Frank C. Baldwin the local Committee of Arrangements.

The local committee report that arrangements have been made with the "Cadillac" for headquarters for the Institute. Rooms and board may be had at the "Cadillac" for \$3 and \$3.50 per day.

ALFRED STONE, Secretary.



[Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.]

HOUSE OF JUDGE ELMER B. ADAMS, ST. LOUIS, MO. MR. WM. ALBERT SWASEY, ARCHITECT, ST. LOUIS, MO.

[Gelatin Print, issued with the International and Imperial Editions only.]

PENNSYLVANIA INSTITUTE FOR THE BLIND, OVERBROOK, PA. MESSRS. COPE & STEWARDSON, ARCHITECTS, PHILADELPHIA, PA.

THIS design provides a main structure of brick, stone and terra-cotta, and several detached buildings for various purposes. The group measures 361' x 222'. The administration building, in the centre of the front, will be four stories high, and will contain the offices of the officials and a rotunda surmounted by a dome. It will be flanked by wings two stories high, and will have a basement and sub-basement, which will contain heating and lighting plants. The main building will surround two cloisters. The first floor will contain a large auditorium, a gymnasium, piano-practice room, a cooking-school, sitting-rooms, sewing-rooms, play-rooms, work-rooms and class-rooms, and the second floor, teachers' and governesses' rooms, pupils' dormitories and reading-rooms. In addition there will be a kindergarten building, measuring 97' x 57', three stories high, with a basement, in the rear of the main structure. The first floor of this will be devoted to officers' and children's reception-rooms, a dining-room, kitchen, and other departments, while the second will contain teachers' and pupils' dormitories, and housekeepers' and assistant-housekeepers' bedrooms, and the third floor, bedrooms. The basement will contain play-rooms, store-rooms and rooms for other purposes. There will also be a two-and-one-half-story house on the grounds for the superintendent; a two-and-one-half-story hospital ward, a laundry building, infirmary, and servants' quarters. The institution is designed to be the most complete school of its kind in the country, and will cost, it is estimated, about \$300,000.

TWO VIEWS OF CENTRAL DOME OF THE SAME BUILDING.

APSIDAL TREATMENT, NO. 24: CATHEDRAL OF STA. MARIA MATRICOLARE, VERONA, ITALY.

THIS XIIth-century church was substantially rebuilt in the XIVth century. The marble choir-screen [1534] and the interior treatment of the choir itself, together with sundry chapels in the south aisle, are the work of Sanmecheli.

APSIDAL TREATMENT, NO. 25: INTERIOR OF THE PRINCIPAL CHURCH AT VERONA, ITALY.

[The following named illustrations may be found by reference to our advertising pages.]

ACCESSORIES OF LANDSCAPE ARCHITECTURE, NO. LXI: A GARDEN VIEW: VILLA D'ESTE, TIVOLI, ITALY.

FOUNTAIN GROUPS ON THE FACADE OF THE HOFBURG, VIENNA, AUSTRIA.

THESE views are copied from *Ueber Land und Meer*.

A GROUP OF GARDEN ACCESSORIES.

TWO CHURCHES.

[Additional Illustrations in the International Edition.]

HALLWAY OF RESIDENCE, 191 UHLAND STRASSE, CHARLOTTENBURG, PRUSSIA. MESSRS. CREMER & WOLFFENSTEIN, ARCHITECTS, BERLIN, GER.

[Gelatin Print.]

THIS hallway, which occupies a central location in the building, is used as a general reception-room. It receives its light through a large mullioned, stained-glass window, reaching through two stories. The structural parts of the hall, including the stairs, not visible in our plate, the elaborately carved balustrade enclosing the upper corridor, and the rich wooden ceiling, are entirely of oak. At the end of the hall lies the dining-room, while to the right, on our plate, is the roomy vaulted vestibule; to the left, the lady's boudoir and the general drawing-room. The carvings were made from models by Mr. Westphal, a Berlin sculptor. The cost of the building was \$75,800, or \$10.30 per square foot of covered area, the latter being 7,362 square feet.

THE PUSTAZER PAVILION AT THE BUDA-PESTH MILLENNIAL EXHIBITION. ZOLTAN BALINT, ARCHITECT.

THIS plate is copied from *Architektonische Rundschau*.

THE CHURCH OF ST. MICHAEL, SOUTHFIELDS, WANDSWORTH, ENG.

THIS plate is copied from the *Builder*.

SKETCHES OF THE NEW GENERAL HOSPITAL, BIRMINGHAM, ENG. MR. W. HENMAN, ARCHITECT.

THESE sketches are copied from the *British Architect*.

PLANS FOR THE NEW PARLIAMENTARY BUILDINGS, SYDNEY, N. S. W. MR. W. L. VERNON, ARCHITECT: TWO SHEETS.

ILLUSTRATIONS of exterior and interior views of the building were published in our last issue.



LA SCALA, MILAN. — La Scala, the famous opera-house of Milan, may be pulled down. It is a heavy drain upon box owners, who have petitioned to be released, while the municipality can only afford to demolish it and sell the site. La Scala is too big and inconvenient for modern tastes. All the tiers are composed of private boxes, with dressing-rooms in the rear. — *St. Louis Globe-Democrat*.

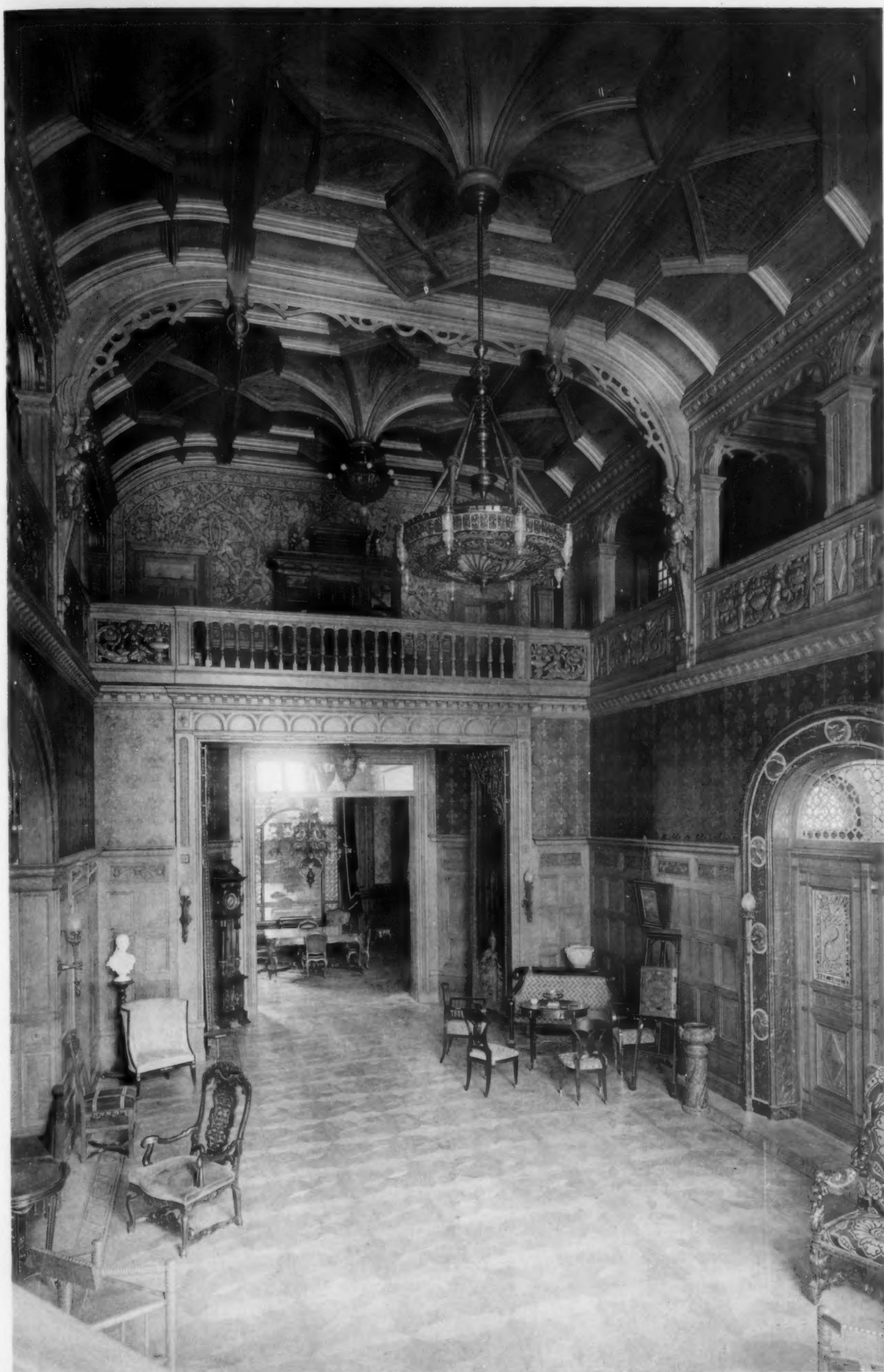
THE BERLIN EXHIBITION A FINANCIAL FAILURE. — Owing to the financial failure of the Berlin exposition of 1896, the committee recently announced that the 50 per cent guaranty fund would have to be sacrificed. This resulted in a large meeting of signers of the guaranty on Monday. The meeting declared unanimously that it did not recognize the right of the committee to adopt such a measure, and a desperate effort will be made to place the financial responsibility upon the shoulders of the committee. — *N. Y. Tribune*.

Copyright, 1897, by the American Architect and Building News Co.



HOUSE OF JUDGE ELMER B. ADAMS, ST. LOUIS, MO.
W. ALBERT SWASEY, Architect.

THE HELIOTYPE PRINTING CO., BOSTON

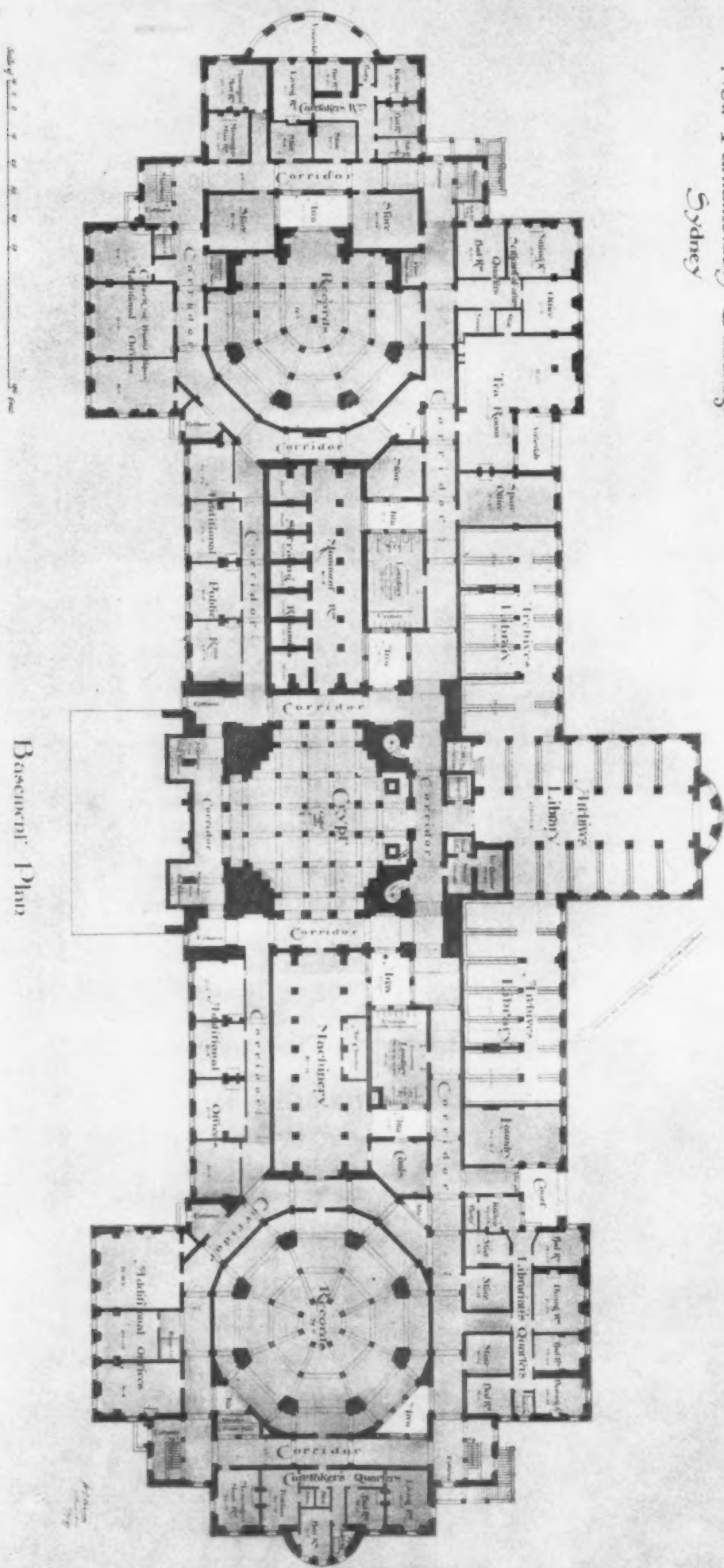


Blätter für Architektur

Neumann & Co., Berlin.

ENTRANCE-HALL: HOUSE OF HERR STEINTHAL, CHARLOTTENBURG, PRUSSIA.
CREMER & WOLFFENSTEIN, ARCHITECTS.

New Parliamentary Buildings
Sydney



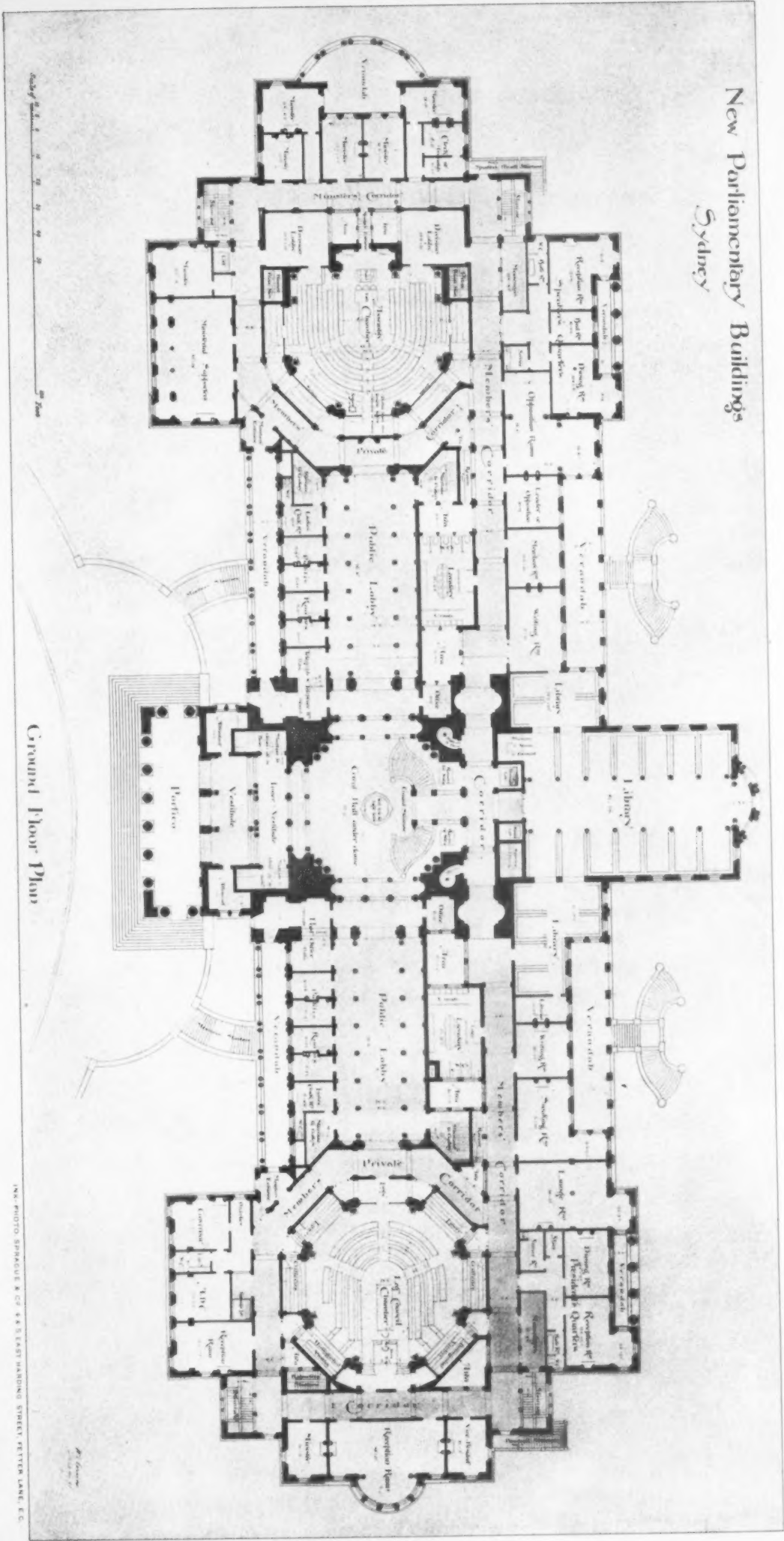
Basement Plan

NEW PARLIAMENTARY BUILDINGS, SYDNEY, NEW SOUTH WALES.

W. L. VERNON, F.R.I.B.A., Architect.

THE PHOTO SKETCHES BY G. E. LESTER HARRISON, STREET OFFICE, LANE, E.C.

New Parliamentary Buildings
Sydney



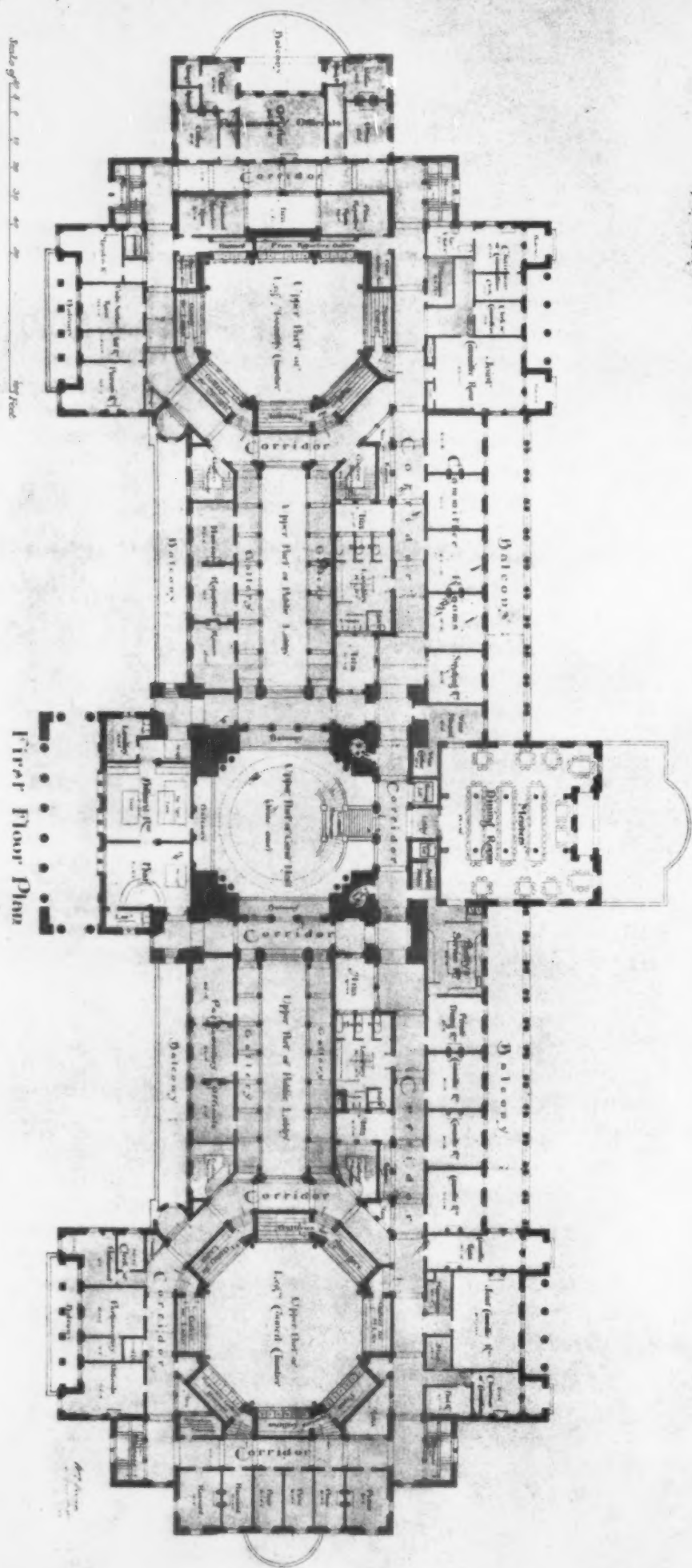
Ground Floor Plan

NEW PARLIAMENTARY BUILDINGS, SYDNEY, NEW SOUTH WALES.

W. L. VERNON, F.R.I.B.A., Architect.

THE PHOTO SKETCHES OF 48 EAST HANDBY STREET, PETER LANE, E.C.

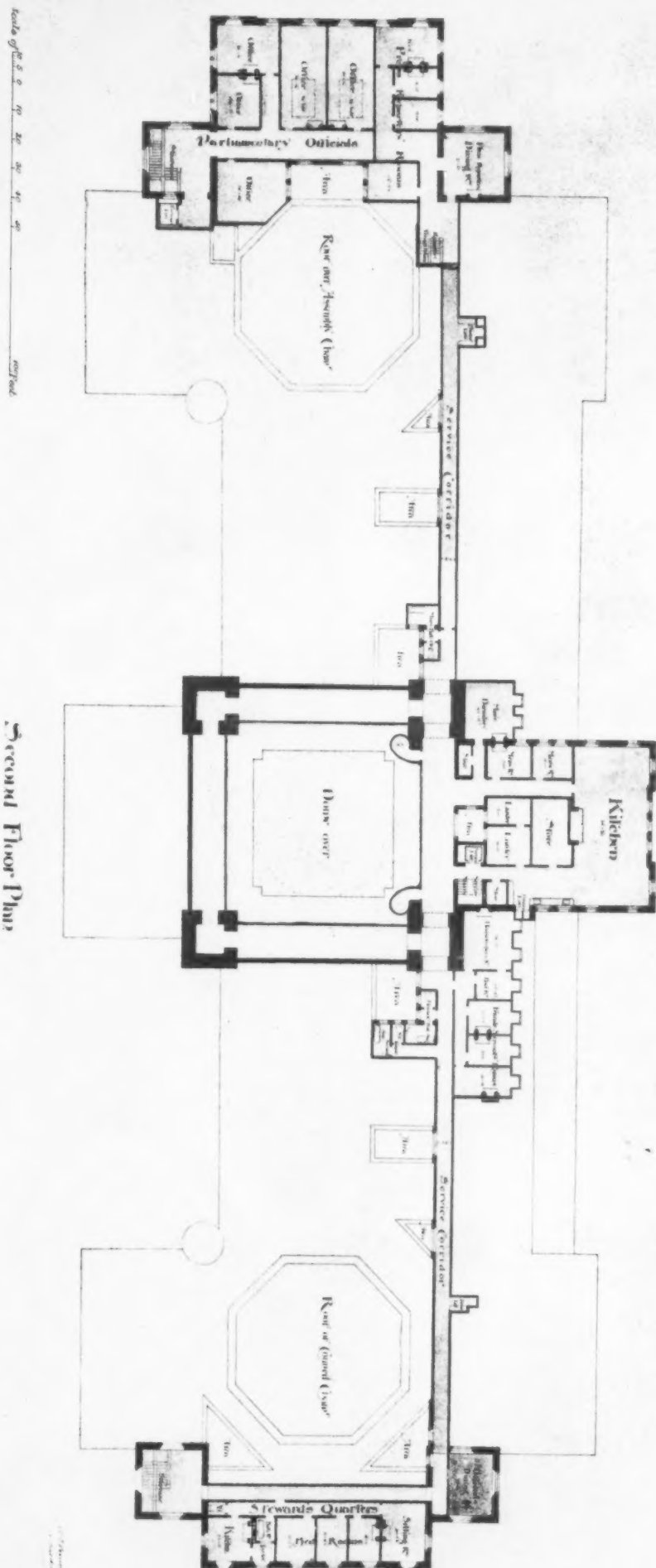
New Parliamentary Buildings
Sydney



NEW PARLIAMENTARY BUILDINGS, SYDNEY, NEW SOUTH WALES.
W. L. VERNON, F.R.I.B.A., Architect.

100 PHOTO SPREADS & 27 1/2 X 11 IN. MARKING SHEET FIFTEEN LANE, N.Y.

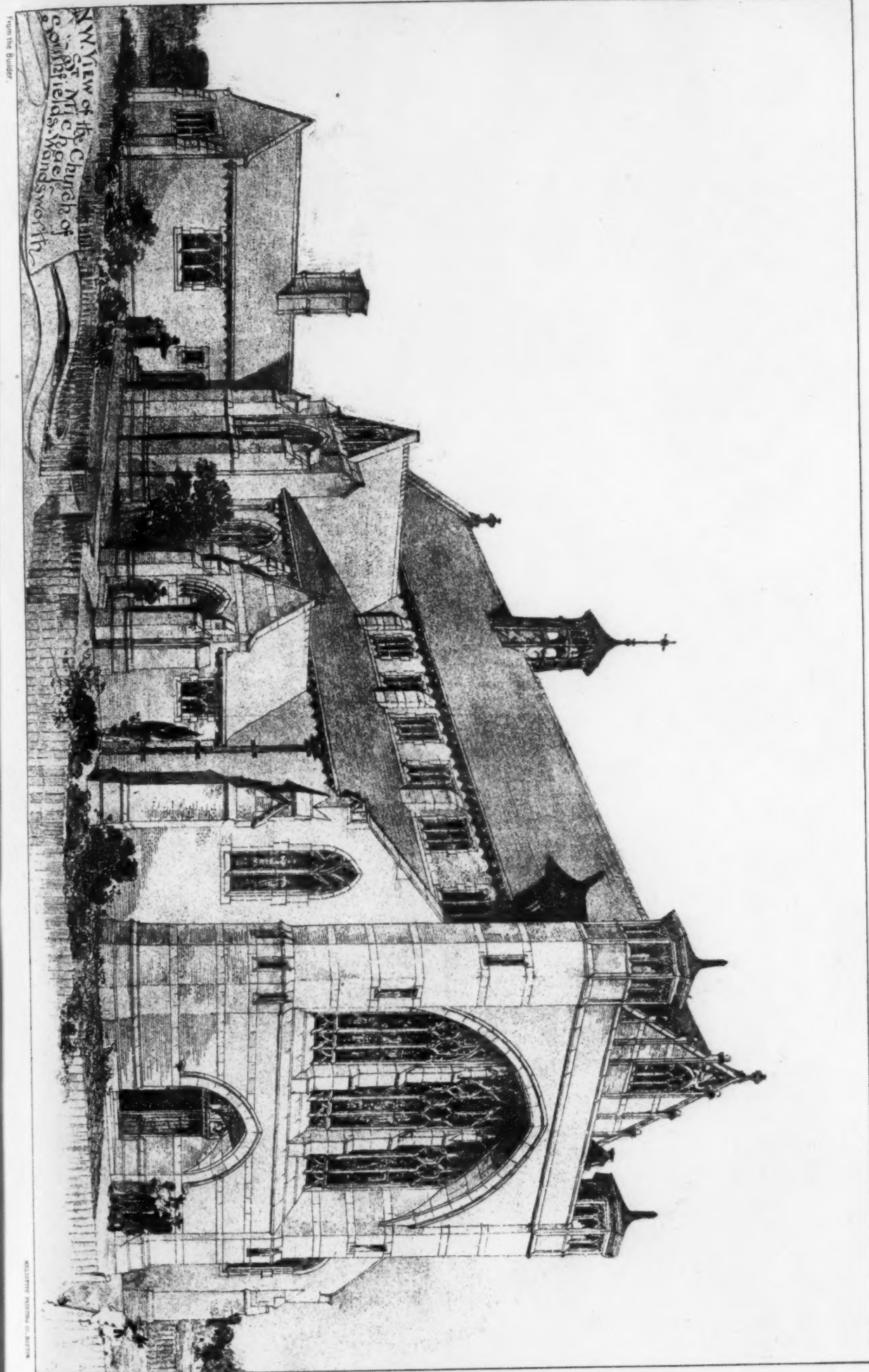
New Parliamentary Buildings
Sydney

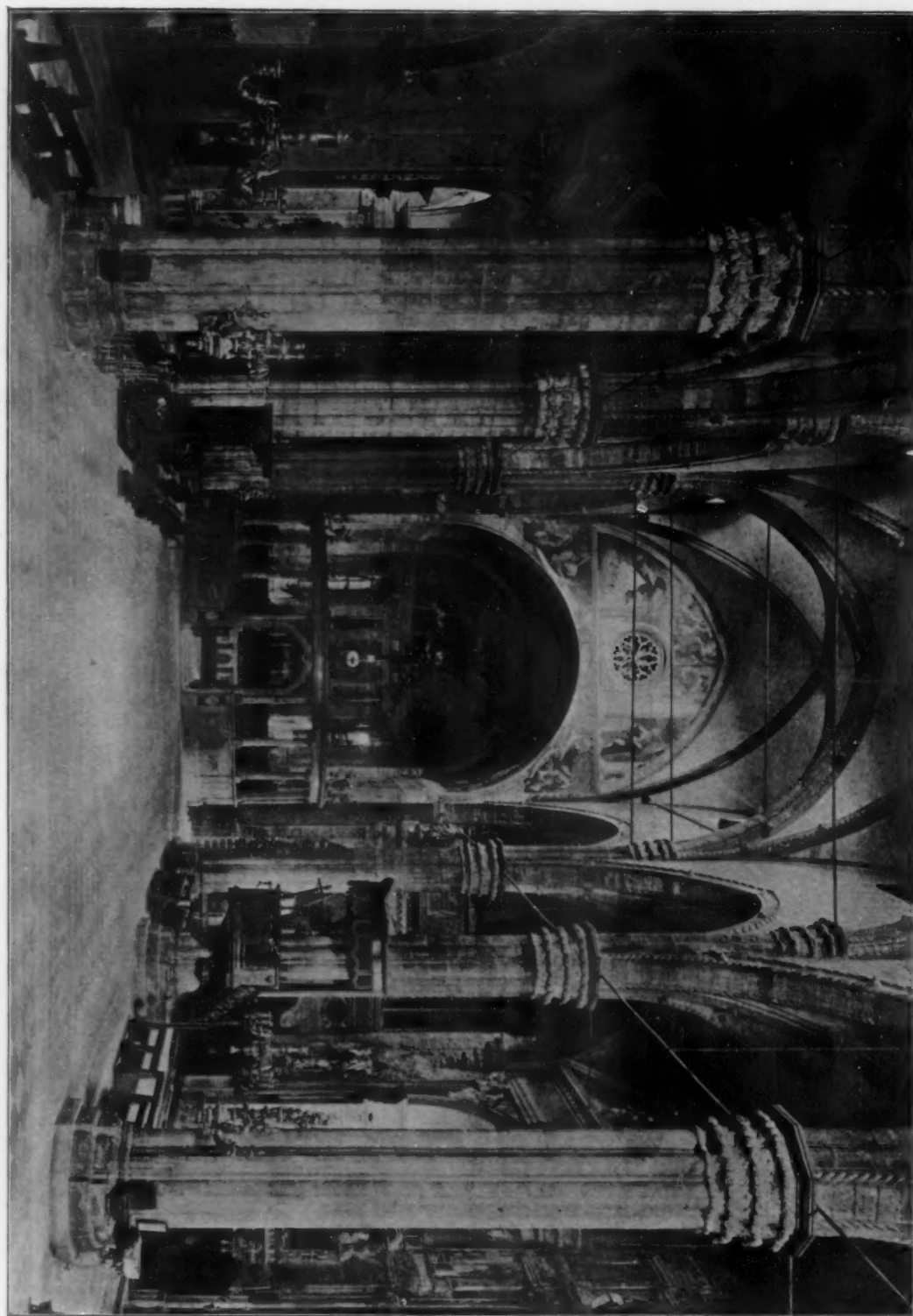


NEW PARLIAMENTARY BUILDINGS, SYDNEY, NEW SOUTH WALES.
W. L. VERNON, F.R.I.B.A., Architect.

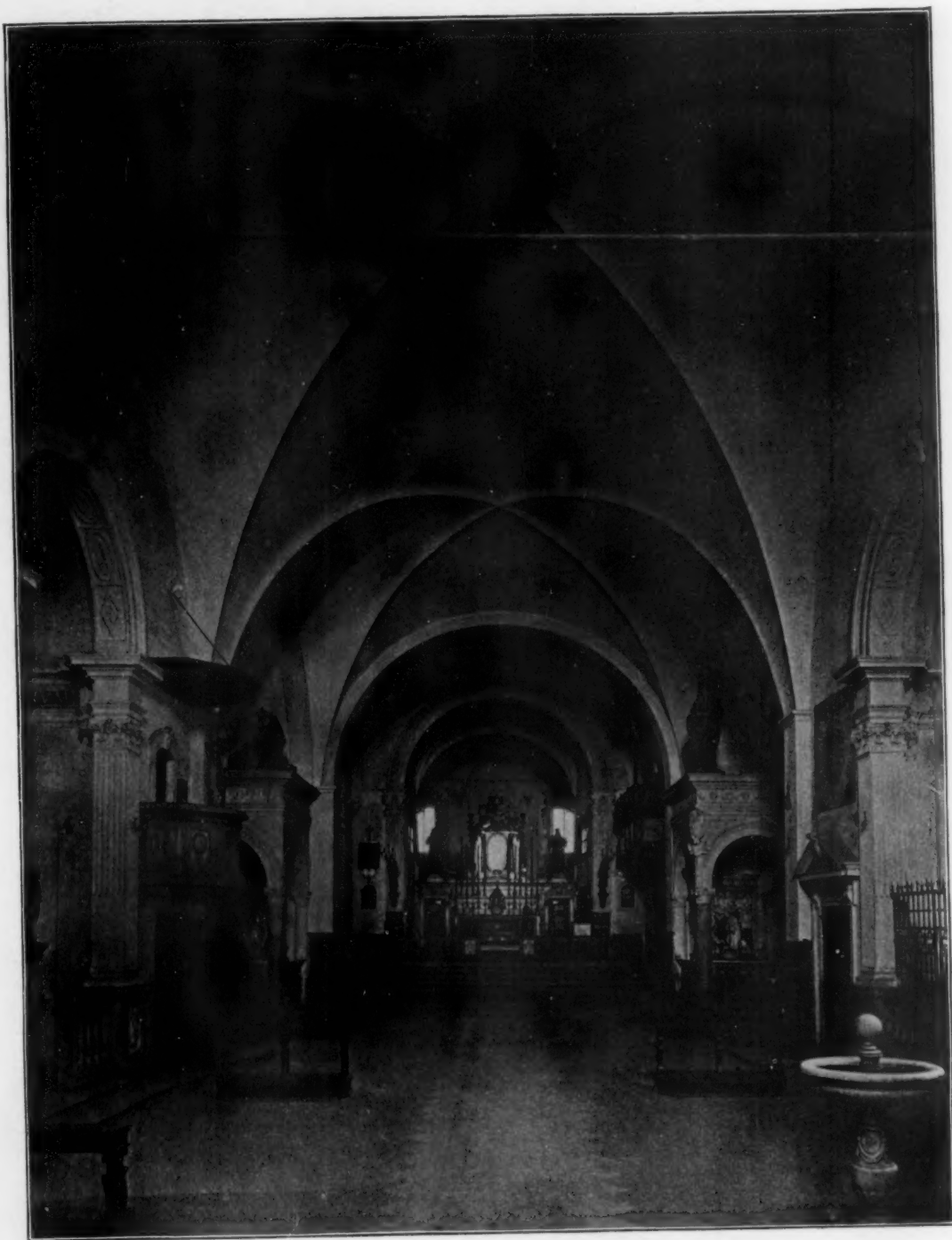


COPYRIGHT 1897 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.





APSIDAL TREATMENT NO. 24:—CATHEDRAL OF STA. MARIA MATRICOLARE, VERONA, ITALY.



APSIDAL TREATMENT NO. 25:—INTERIOR OF THE PRINCIPAL CHURCH, VERNA, ITALY.

Copyright 1897 by THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

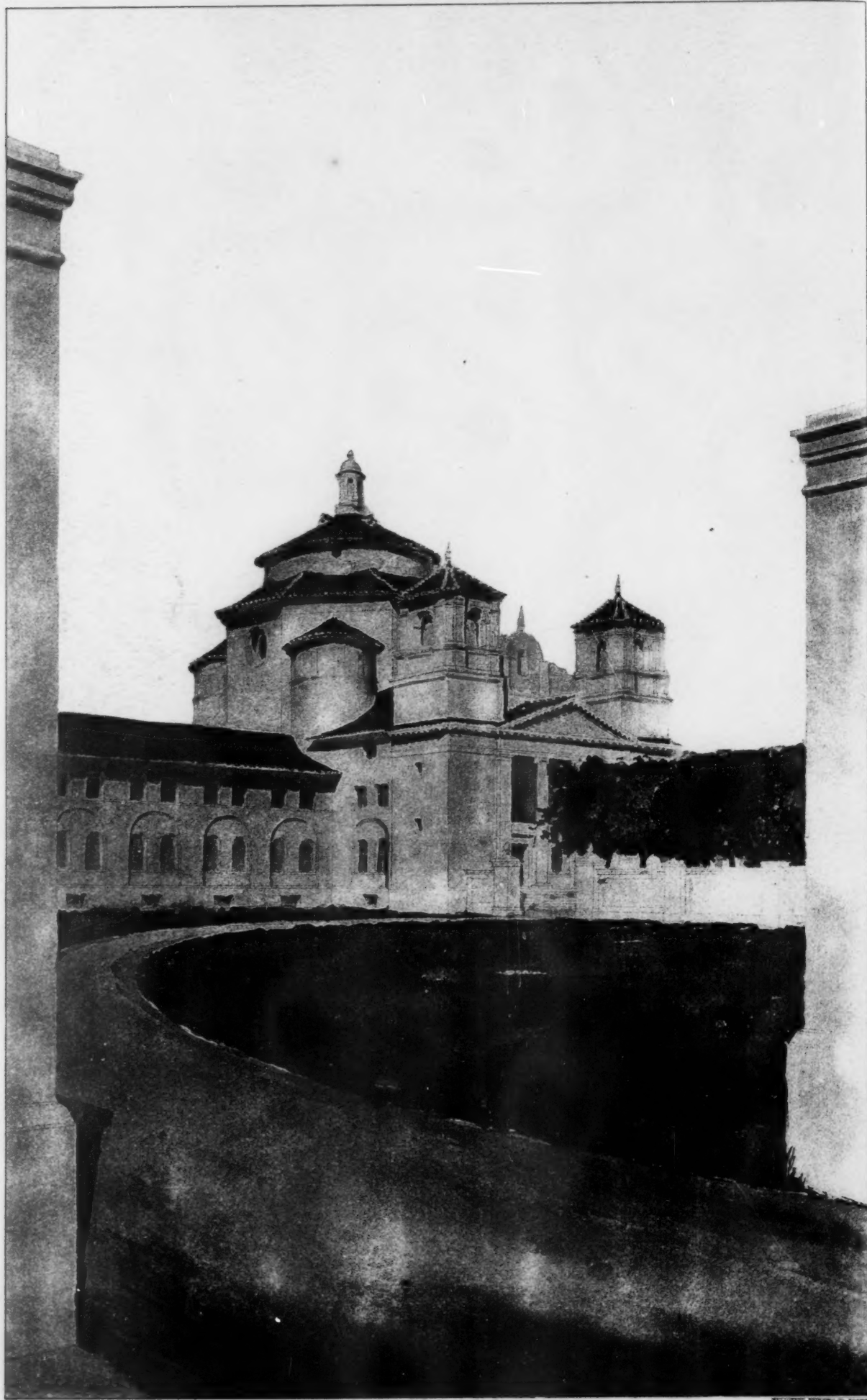


ILLUSTRATION BY J. H. BROWN

PENNSYLVANIA INSTITUTE FOR THE BLIND, OVERBROOK, PA.

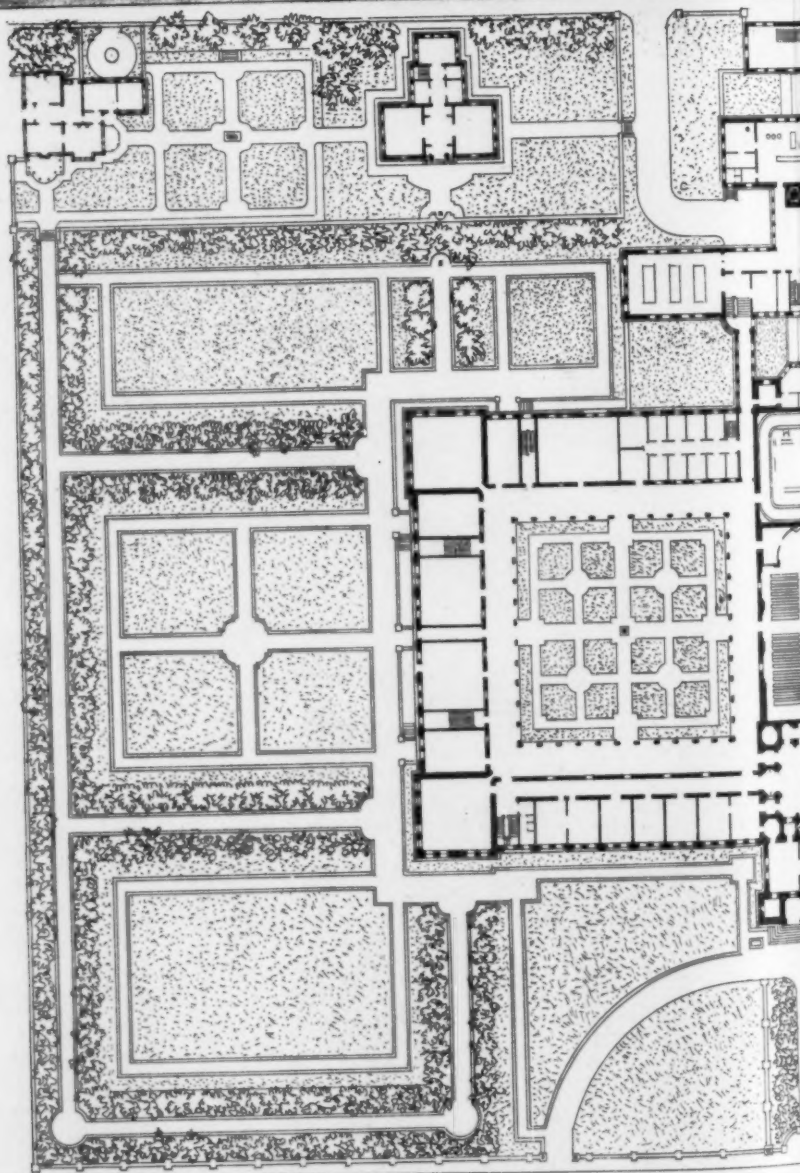
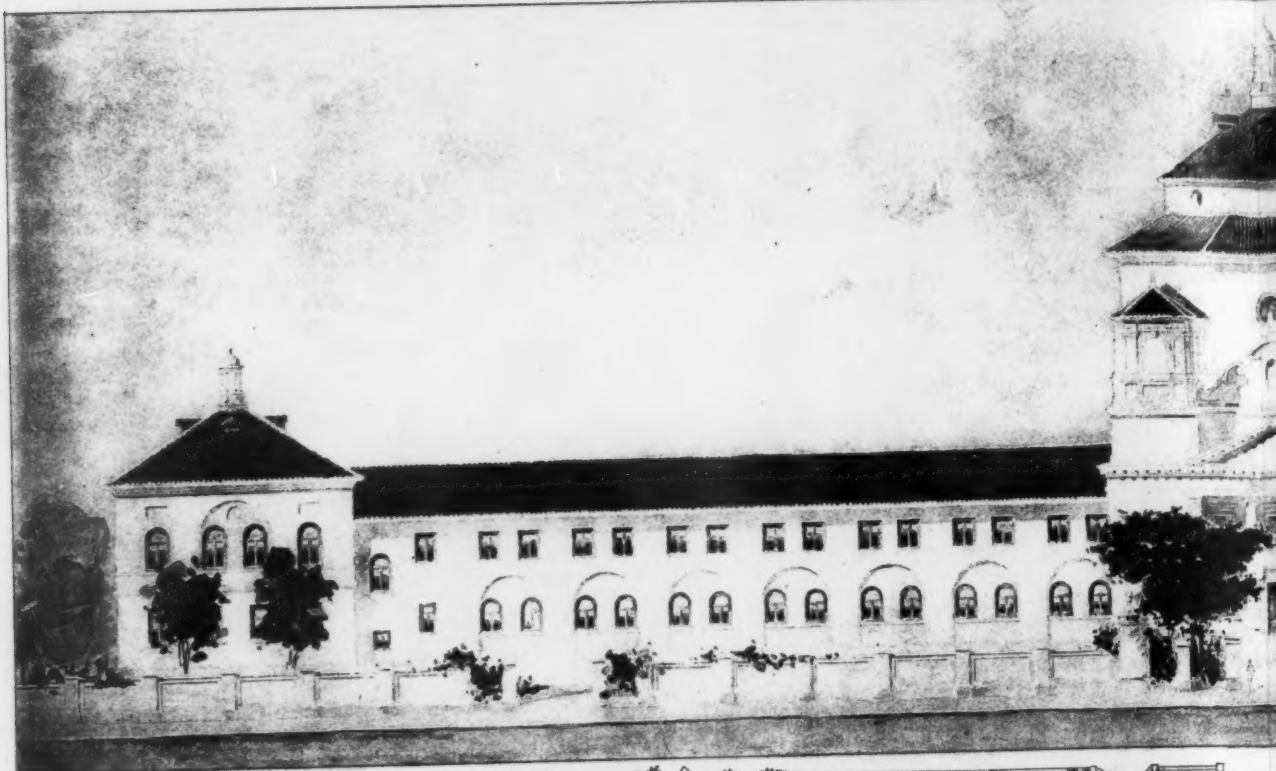
COPE & STEWARDSON, ARCHITECTS.

COPYRIGHT 1897 BY THE AMERICAN ARCHITECT AND BUILDING NEWS CO.

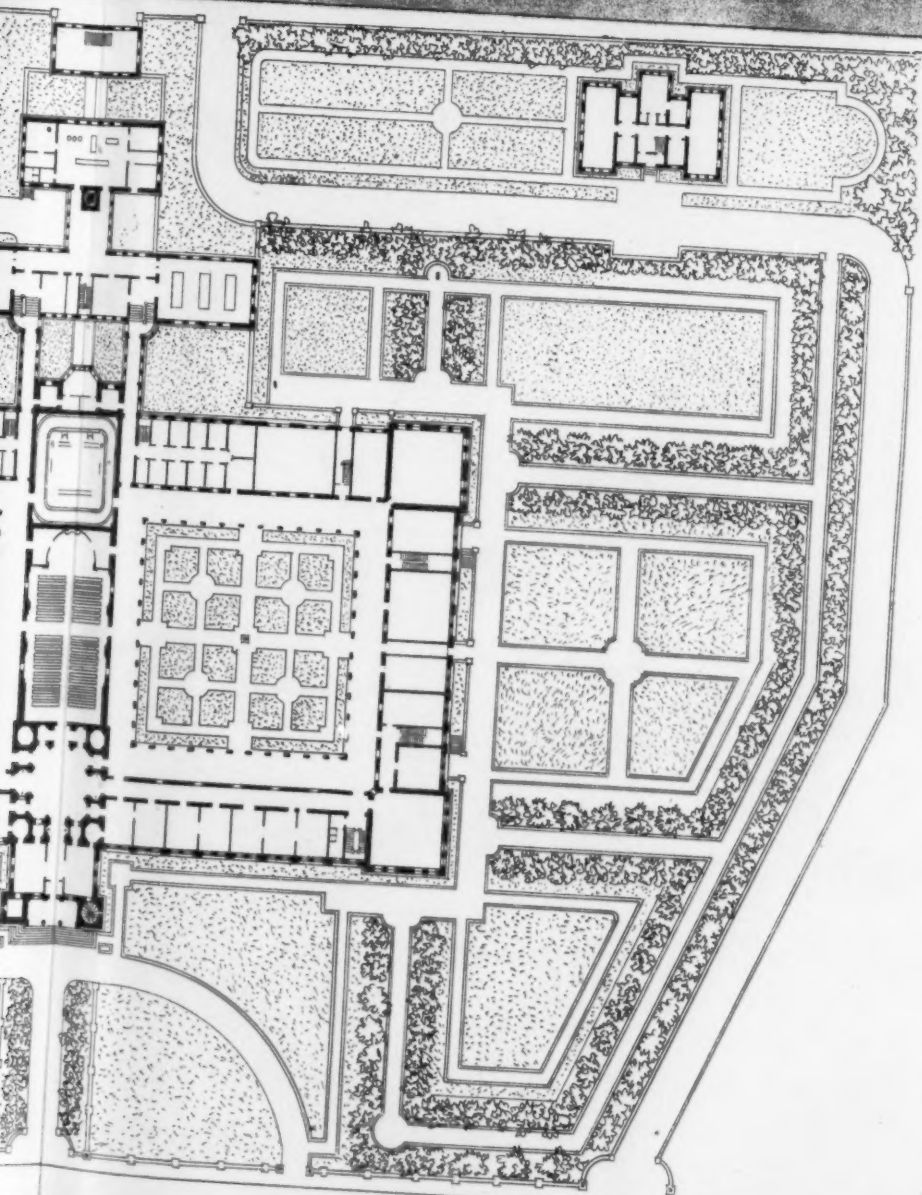
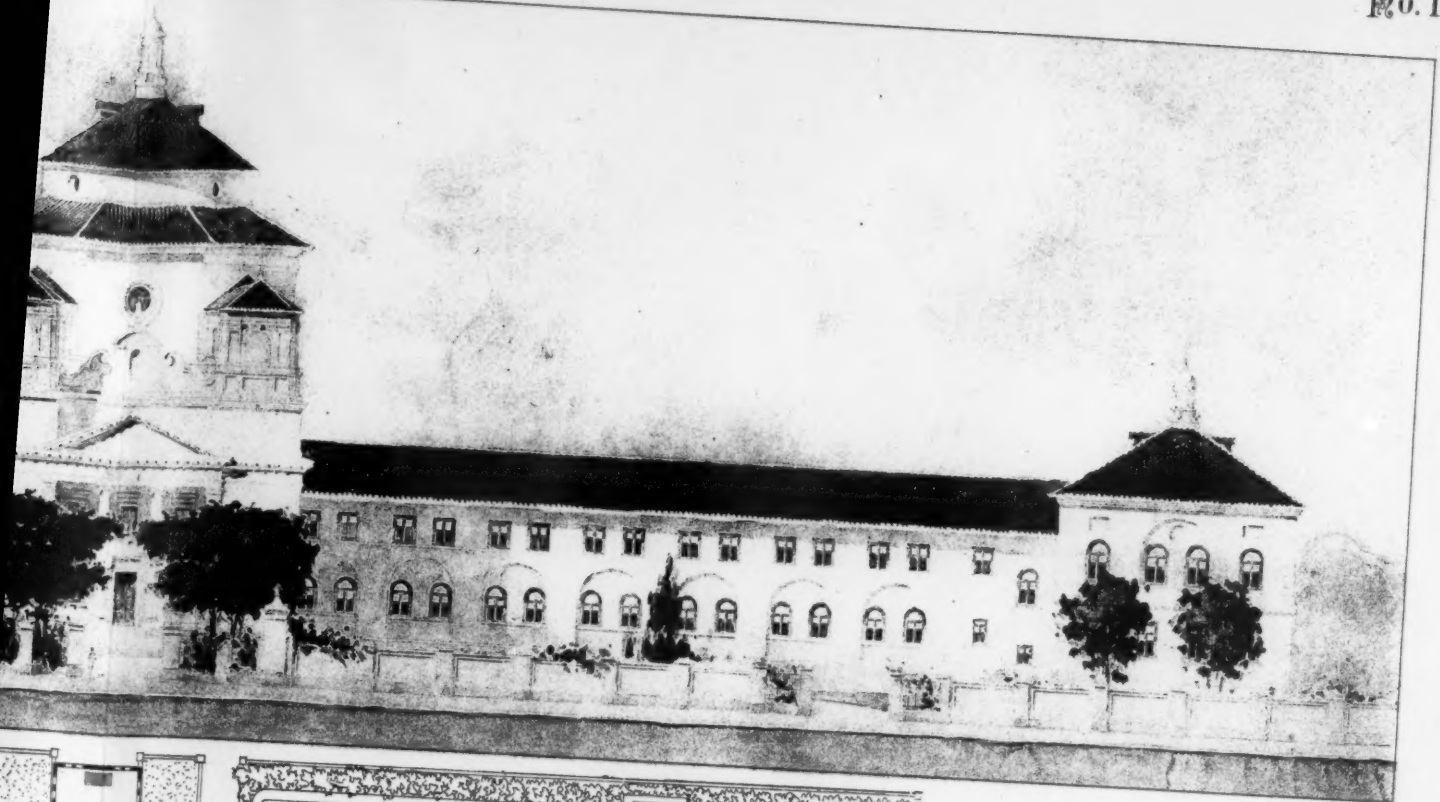


PENNSYLVANIA INSTITUTE FOR THE BLIND, OVERBROOK, PA.

COPE & STEWARDSON, ARCHITECTS.



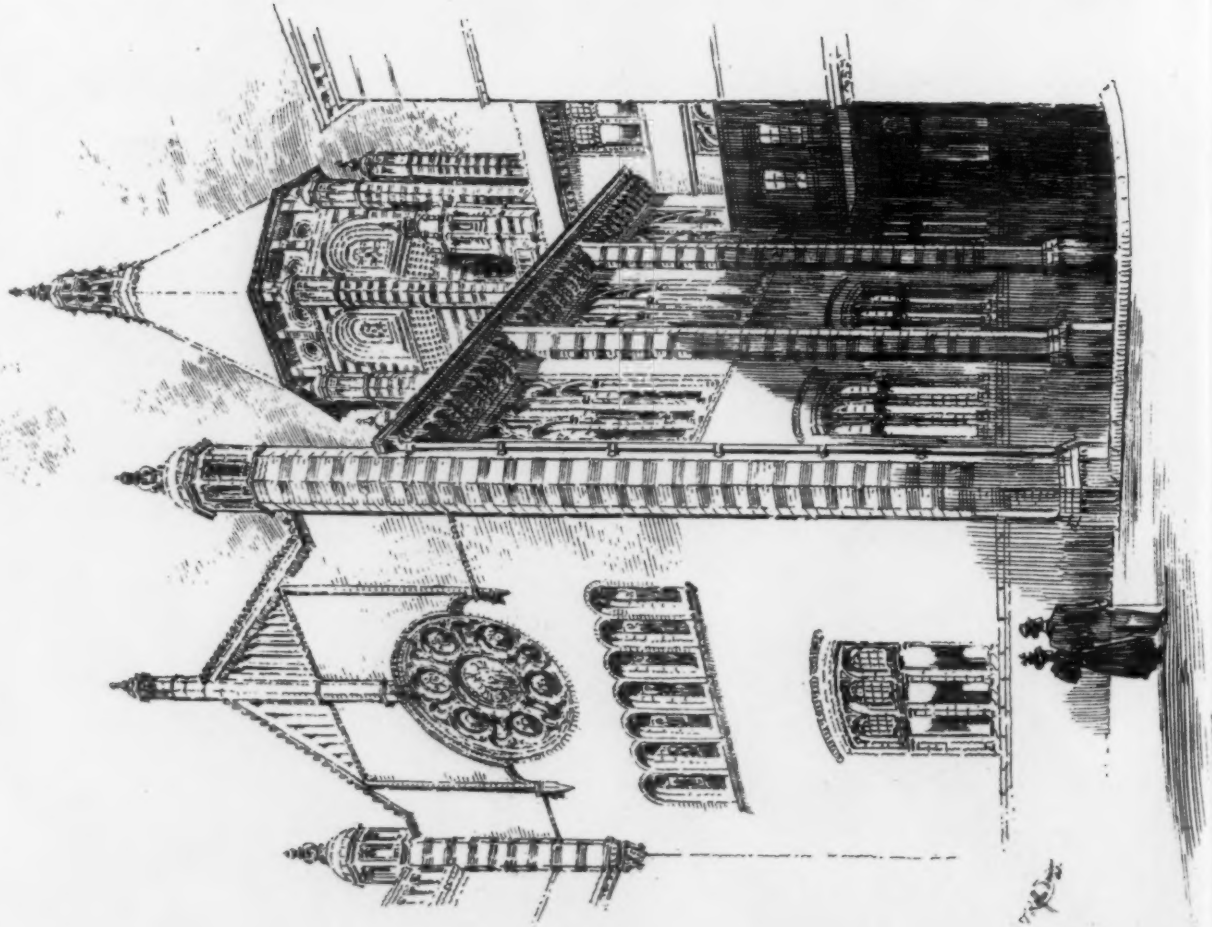
GROUND PLAN
NEW BUILDINGS AT OVERBROOK FOR THE
COPE AND STEVENSON



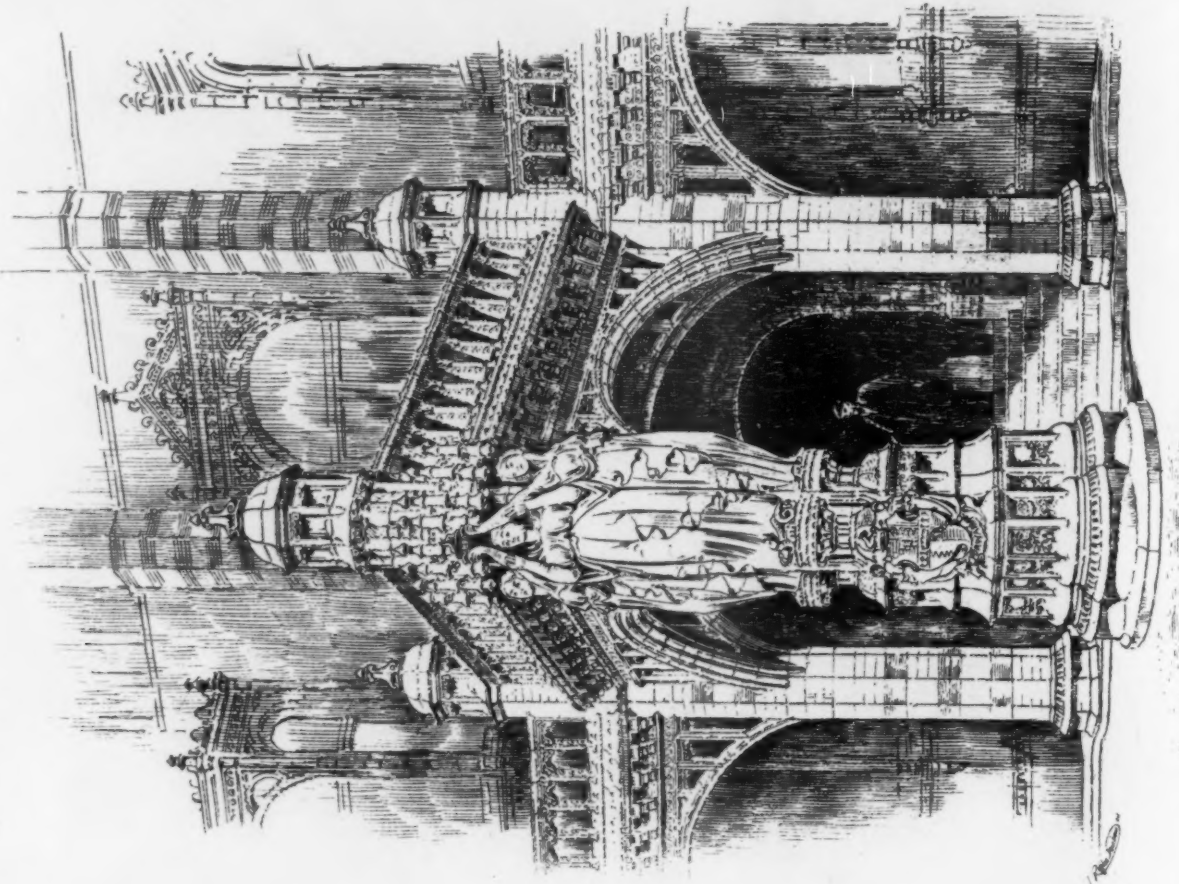
FLOOR PLAN
THE PENNA INSTITUTE FOR THE BLIND
EDWARDSON, ARCHITECTS.

WILLIAMS PRINTING CO., BALTIMORE

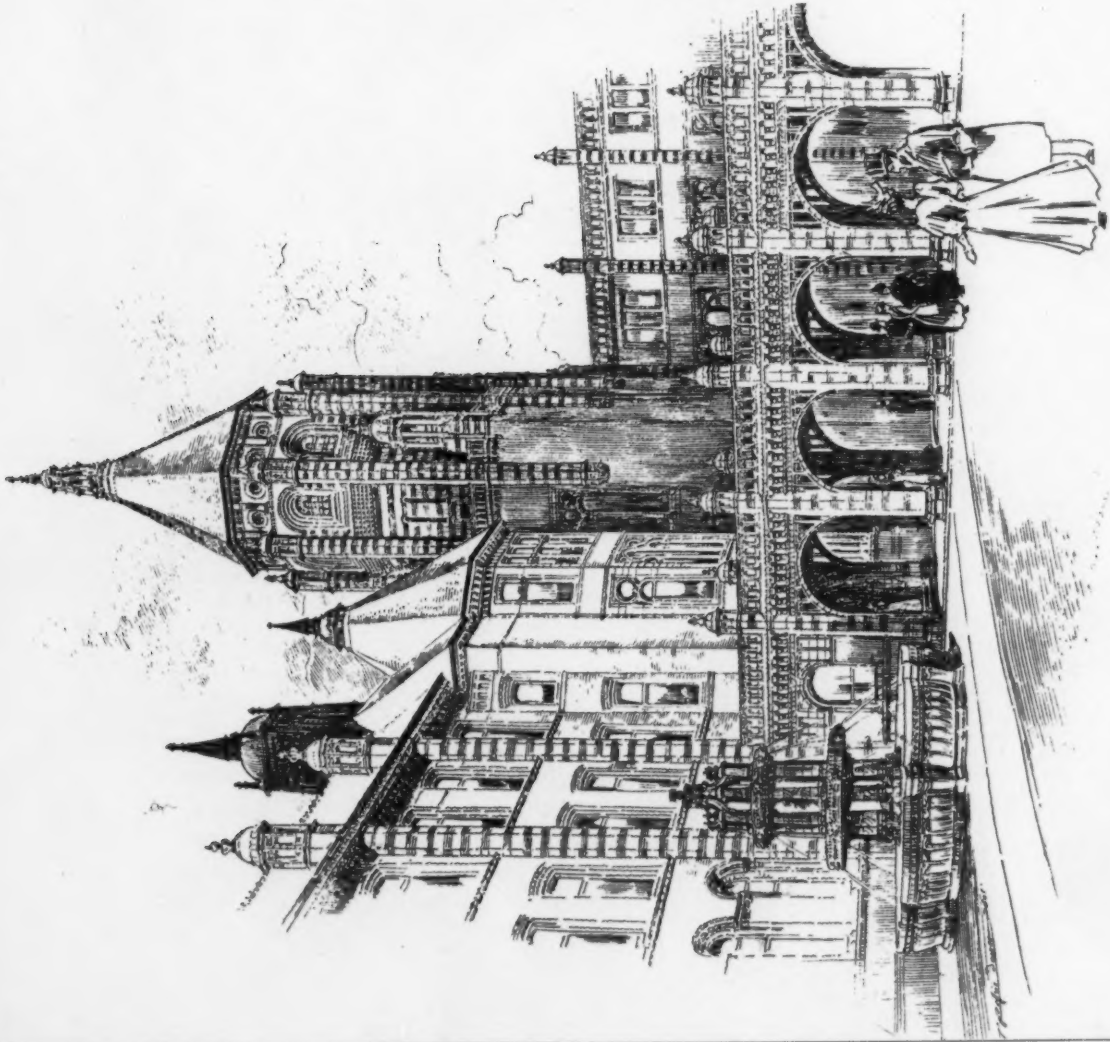
DESIGNED BY THE AMERICAN ARCHITECTS AND BUILDERS NEWS CO.



Exterior View

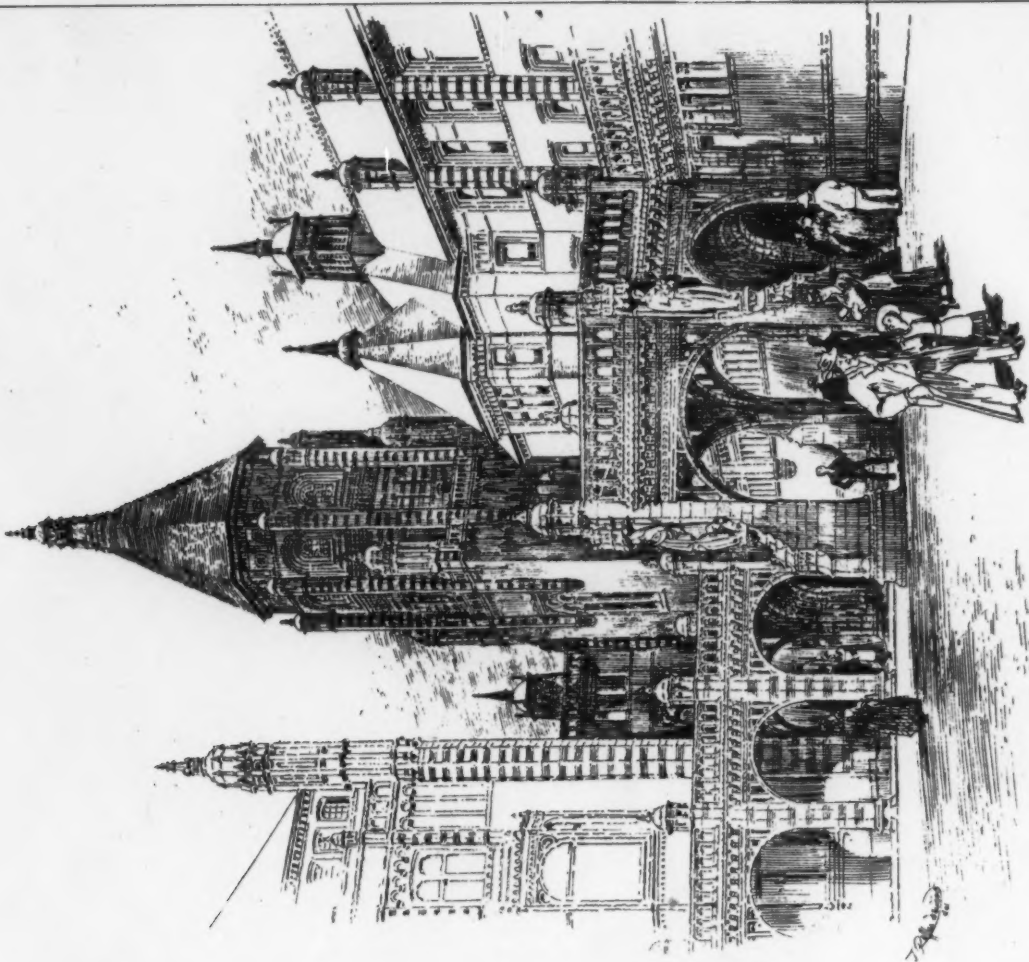


Central Entrance Porch



Exterior View
of Chapel

From British Architect



Entrance Quadrangle
looking North

THE NEW GENERAL HOSPITAL, BIRMINGHAM

WM HENMAN FRIBA ARCHT

RELIQUARY PHOTOGRAPHY