

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LVIII.

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

No. 1147.

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

DECEMBER 18, 1897.



SUMMARY:—

The New York Soldiers' and Sailors' Monument.—Insurance Rates in Boston.—The Dangerous Building done outside Fire-limits.—New Building-laws for Brookline, Mass.—Death of F. A. Coburn, Architect.—Death of J. L. Pearson, Architect.—The English Engineers' Strike.—Bequest to Brown University. 93

COMPETITIONS.—VIII. 95

GERMAN CASTLES.—XI. 96

SOCIETIES. 97

ILLUSTRATIONS:—

Bethany Memorial Church, Detroit, Mich.—The First Church, Brockton, Mass.—A Dining-room on Collins St., Hartford, Conn.—Gallery of Mirrors: Palace of Chiemsee, Bavaria.—The Banquet-hall: Schloss Hohenschwangau, Bavaria.—Tomb of Count Hugo of Tuscany, in the Church La Badia, Florence, Italy.—Monument to Bishop Leonardo Salutati, in the Cathedral, Fiesole, Italy.

Congregational Church, Swindon, Eng.—A Group of Statues and Fountains.

Additional: The Colleoni Chapel, Bergamo, Italy.—Interior of the Colleoni Chapel, Bergamo, Italy.—Tomb of Bartolomeo Colleoni, in the Colleoni Chapel, Bergamo, Italy.—St. Gabriel's Church, Willesden Green, Eng.—Swimming-bath, Kennington Road, London, Eng. 98

COMMUNICATIONS:—

"Anchors for Marble Ashlar."—A Lime-impregnated Water-supply. 100

NOTES AND CLIPPINGS. 100

THE matter of the New York Soldiers' and Sailors' Monument is in a particularly interesting stage. As our readers know, the National Sculpture Society formally protested, a few weeks ago, for the second time, against using the Plaza, at the Fifth-Avenue entrance of the Central Park, as a site for the monument; and, as the consent of the President of the Society is necessary to the placing of any monument on land belonging to the City of New York, it seems as if this protest might be made effective, as the personal opinion of the President is known to coincide with that of the great majority of the other members. The objection that these feel to the plan of the Monument Commission applies, as we understand, simply to the choice of a site, and not in any way to Messrs. Stoughton and MacMonnies's design, which was selected in accordance with the report of three experts, two of whom are members of the Sculpture Society, and is a very beautiful and noble composition, worthy to stand on the best site in any city in the world; and the unanimous action of the Society is simply an endeavor to check, for once, the usual New York practice of dumping monuments into the middle of the most crowded thoroughfares, and to substitute the plan of placing them where they can be properly seen, both near and at a distance, and can be studied in comparative peace. This is the direction which the efforts of the Society have consistently taken since the matter was first talked of, many months ago, and every lover of art will hope that they may be successful. So far, the prospect is certainly encouraging. At the first meeting of the four persons named in the statute as those whose consent is necessary to the appropriation of public land for such purposes, that is, the Mayor, the President of the Common Council, the President of the Municipal Art Society, and the President of the National Sculpture Society, the last-named, Mr. Ward, expressed politely, but firmly, his intention to refuse his consent to the proposed location. Mr. Barney, the President of the Municipal Art Society, also disapproved the proposed site, but, in the absence of any action on the part of his Society, did not say that he would absolutely refuse his consent. The other two members, who are, of course, in favor of the official scheme, represented to Mr. Ward that his firmness would prevent the erection of any monument at all, and that he must take the responsibility of the failure of the patriotic enterprise; to which he replied that his refusal to agree to the Plaza site did not prevent the erection of the monument on another site; and that the artistic good of the city was quite compatible with the cultivation of patriotic sentiment in its inhabitants. The Mayor, finding him firm in his determination, produced an opinion from the Corporation Counsel, the grounds for which it would be interesting to have

explained, to the effect that the intention of the statute was not to require the consent in such cases of each of the four persons named in it, but to constitute them a committee, a majority of whom should be entitled to exercise the authority of the whole. This view would make it possible for the two official members, with Mr. Barney, as President of the Municipal Art Society, to carry their point without Mr. Ward's approval, but Mr. Barney, having secured later an expression of the views of the members of the Municipal Art Society, was quite as stubborn as Mr. Ward, and their action prevents the erection of the monument on the site in question. As it was expressly stated by the objectors that they were not opposing the design, but the site, we may hope that the excellent design of the Messrs. Stoughton may be carried out, either on the Riverside Drive, at the foot of Seventy-second Street, as was suggested in open meeting, or upon some other really favorable site.

THE Boston Herald has a thoughtful editorial article on insurance matters in Boston and New York. In the latter city, some important reductions have lately been made in insurance rates, and, naturally, the people of Boston look for similar reductions in their case; but the Herald points out that, while New York buildings are not, probably, better risks than the modern ones in Boston, the latter city is subject to great conflagrations, which will, perhaps, make the fire-loss of a certain year ten times as much as that of the preceding or succeeding year, and that insurance rates must be based on the possible, rather than the average, loss. There is no doubt of the truth of this, and the reason is, of course, to be found in the extremely dangerous mixture of brick and wooden buildings in nearly all parts of the city. The whole of old Boston was covered more or less thickly with wooden buildings, and among these the modern brick structures have been built, with the consequence that very many brick buildings in the business part of the city nourish, so to speak, a snake in the bosom, in the shape of an old wooden house beside or behind it, which may at any time be the means of its destruction. In the Back Bay district, which was reclaimed from the harbor thirty or forty years ago, and which was restricted, from the outset, against wooden buildings, fires are almost unknown. The district is covered with fine houses, churches, hotels and apartment-houses, to the value of perhaps fifty million dollars, including the contents of the buildings, and pays, probably, fifty or sixty thousand dollars a year to the insurance companies in premiums; yet the total of all the losses which have occurred within it in a quarter of a century would hardly reach the amount of one year's premiums, while great conflagrations have devastated the other parts of the city, causing losses to the amount of at least a hundred millions.

THE Herald observes that in Berlin, which has four times the population of Boston, the average annual fire-loss is only about two-fifths that of Boston, and regrets that the practice of solid construction, which has now been adopted in earnest in the latter city, could not have been brought into use earlier. Instead, however, of regrets on this score, it would be more to the purpose to criticise the system under which the dangerous mixed character of the old city is being extended, on a far greater scale, over the new portions. For miles in every direction from the City-hall, in Dorchester, Roxbury, Brighton and Allston, streets are being crowded with wooden houses, stores, factories and similar structures, interrupted, here and there, by a substantial brick building. The city authorities say that at some indefinite future time the fire-limits will be extended to include these districts, but long before that time they will be covered with wooden buildings of the most dangerous kind; and, as the demolition of old buildings to make room for new ones goes on slowly, it must be generations before anything like a total replacing of wood with brick can take place. Meanwhile, each district will have been many times visited by great conflagrations, each, probably, sweeping away enough property to pay, ten times over, the present additional cost of brick buildings over wood for the whole district; and the people who own real-estate there will have to pay, in insurance premiums, not only the value of all the property so destroyed, but as much more, to be spent in salaries and office-rent and agency fees by the insurance companies. No architect can pass through the portions of Boston

outside the fire-limits without being impressed with the appalling future which is being prepared for them, and all friends of the city should unite in the endeavor to have them placed at the next meeting of the Legislature under such protection as can still be given them. As to the old parts of the city, the importance of the interests in danger amply justify the adoption of the Glasgow plan, which required that within seven years after the passage of the code of building regulations, all old buildings, as well as new ones, should be brought into conformity with them. However great may be our respect for property rights, there are limits to the extent of time during which an owner should be allowed to maintain undisturbed a structure which constantly menaces his neighbors, and the principle of assessment for betterments, which is generally accepted in this country, could hardly be more logically applied than in requiring an owner, whose neighbors have increased the value of his estate by improving their own, to do something toward diminishing the danger with which his indifference threatens them.

THE town of Brookline, Mass., perhaps is the only community in the world the inhabitants of which assemble in a general town-meeting and decide upon building-laws for themselves; and, as there is a great deal of building in the town, which is virtually a precinct of the city of Boston, the regulations by which it shall be controlled excite a lively interest among its inhabitants. The new Boston law, which requires that all apartment-houses, tenement-houses and lodging-houses shall be of fireproof construction throughout, has driven builders of cheap apartments over the boundary into Brookline, and a great deal of such work is going on there, which it is particularly desirable to regulate strictly. Hence the citizens have of late begun to discuss the subject more earnestly than ever, and have already prepared for adoption some very stringent rules. One of these, which architects who practise in Brookline will do well to remember, is that all flues, whether from ranges, furnaces, stoves or fireplaces, must have eight-inch walls, or be lined with "terra-cotta." It would have been better to specify "fire-clay" flue-linings, instead of "terra-cotta," for a lining which is likely to crack with heat is worse than no lining at all; but architects will make the necessary correction for themselves. Another proposed new provision, and a timely one, is that no exterior wall of wood shall be placed within ten feet of the boundary of neighboring private property, or anywhere less than twenty feet from any other wooden wall of a building hereafter erected. The present regulation requires only three feet space between wooden buildings, which is far too small. Another matter, which is likely to occupy the attention of more than one town-meeting, is that of the back-venting of traps. A committee of two citizens was appointed some time ago to consider the subject, and report to the town, but their deliberations have resulted in the presentation of two reports, one favoring the retention of the existing rule, which requires all traps to be back-vented, and the other proposing to allow the omission of air-pipes to traps so constructed and arranged as not to be liable to siphonage. As every architect knows, there are many traps of this sort, and the preponderance of opinion among architects and engineers is certainly in favor of leaving them without the back-vent, which causes them to lose their seal very rapidly by evaporation; but the dissenting member of the committee "finds that the air-current is essential for the constant oxidation and removal of the organic matter adhering to the traps and the waste-pipes leading therefrom," and he does not think that this "air-current," which is secured by the back-vents, should be interfered with. To the objection that the "air-current" due to back-venting will often unseal a basin-trap in four or five days, he replies that every one knows of this danger, and provides against it, by some means which he does not specify, and which are, we imagine, less familiar to the public than he supposes. What the decision of the voters on the question may be remains to be seen, but, if we may make a suggestion, it would be well to amend the law, if the requirement of back-venting is retained, by adding a clause to enlighten householders in regard to the danger of evaporation which it entails, and the means for obviating that danger.

MR. FOREST A. COBURN, of the firm of Coburn & Barnum, architects, of Cleveland, Ohio, died a few days ago. Mr. Coburn was a pupil of the late Richard M. Hunt, and was much respected in Cleveland. He was a native

of Massachusetts, having been born in Lowell, although he had lived nearly all his life in Ohio.

MR. JOHN LOUGHBOROUGH PEARSON, one of the most distinguished of English architects, died in London a few days ago. Mr. Pearson was born in Durham, about seventy years ago. His father was an artist, but was connected with the principal families of the town. At the age of fourteen, young Pearson was apprenticed to Ignatius Bonomi, an architect whose reputation has descended even to the present time. His pupil made good use of his opportunities, and, later, distinguished himself by some very successful ecclesiastical work in London, where he carried out the church of St. Peter, Vauxhall, the first modern church in England to be covered with groined vaults of masonry. His skill in Gothic construction brought him appointments as architect to the cathedrals of Lincoln, Bristol, Exeter and Peterborough, and St. George's Chapel at Windsor, and, later, Westminster Abbey. On the establishment of the diocese of Truro, he was chosen as architect of the new cathedral, his most important work, and one of the best of modern ecclesiastical buildings. He was a Fellow of the Royal Institute of British Architects, and the Royal Antiquarian Society, and a member of the Royal Academy, and of the French Legion of Honor, and was Royal Gold Medalist for 1880.

THE great engineers' strike in England is likely to result in important industrial changes, which will, we may hope, take the form of more reasonable and human relations between employers and employed. A portion of the latter have been organized and armed by professional leaders for the purpose of carrying on offensive and defensive operations against their unorganized fellows and their employers, and they have used the power which their organization gave them to interfere with the rights of others. For a long time they have been able to do so with impunity, but the inevitable result has followed, and those who have had to resist them single-handed are now themselves organizing to defend themselves. Although a certain class of people see in any attempts of employers to maintain their rights a crime against humanity, it is certain that, if industrial contests are inevitable, they will be less frequent, and more readily settled, if neither party can take the other at a disadvantage; and, as the *Builder* well says, the organization of employers, as well as employed, which is now rapidly going on, will, like the great armaments which maintain the balance of power in Europe, in the end promote peace, and benefit workmen by preventing conflicts. These conflicts, which keep a large part of the men willfully to work constantly idle, are now among the most serious evils which afflict the community, and no one need regret to see them checked by the more equal matching of the contestants.

A CURIOUS question has been raised by a bequest to Brown University, which provides that the whole amount, some forty thousand dollars, shall be expended in the erection of a stone gateway to the University grounds. As Brown University is by no means rich, and would be very glad of a fund of forty thousand dollars, the income of which would aid materially in extending its range of instruction, the restriction of the bequest to the erection of a useless and pompous entrance to the modest grounds of the college is rather annoying, although, of course, the University officials are not wanting in gratitude for the intended favor. In some cases, however, gifts of the sort are encumbered with conditions which make it necessary to refuse them altogether, and it would be advantageous, both to intending benefactors of such institutions and to the beneficiaries, to have the subject of public bequests better understood. Every one remembers the fund established by legacy for the benefit of indigent Hebrews in a city where no Hebrews lived; and the income of many charitable funds is now disproportioned to the objects to which it is specifically restricted. In London, legislative action has been invoked to permit the diversion to other purposes of the income of funds left to support charities now obsolete or unnecessary; and colleges, hospitals and orphanages might perhaps with advantage present to the public occasional statements which would show the importance of bequeathing money to their general maintenance fund rather than to restricted objects, which, as in the case of the Brown gateway, add nothing to the efficiency of the institution, even if the sum received is sufficient, without additions from other sources, to carry out its intended purpose, which is not always the case.

COMPETITIONS.¹—VIII.

CONCLUSION.



Statue of the Empress Maria Theresa at Presburg, Hungary; Johann Fadrusz, Sculptor. From *Nebel Land und Meer*.

It is not the purpose of these papers to formulate a code for the conduct of competitions; that task may well be left to the artistic societies, many of which have already attempted it. The purpose of these studies has been to review the question as a whole in the light of the agreements and suggestions prepared by the societies, to point out wherein they differ and in what particulars they are deficient. The differences that have been noted point very positively to the necessity for uniform action by the artists. A step in this direction was made in New York this spring by the appointment of a Joint Committee, composed of representatives from the Architectural League of New York, the National Sculpture Society and the National Society of Mural Painters, the result of whose deliberations, as they have been contained in a preliminary General Code, has been constantly referred to as emanating from the "Joint Committee." Anything tending to uniform action is to be approved, yet it is doubtful if the best results will be reached by bringing together representatives of interest that are allied rather than those that are identical. Sculpture and painting differ so radically in their technique from architecture, and the conditions under which painters and sculptors labor are so different from the methods pursued by architects, that any joint result must be wanting in many particulars that architects, for example, would necessarily insist on. It is in the establishment of principles that such joint action among the various arts might better result, rather than the formation of a code, and this Joint Committee, in putting the result of its deliberations into the forms of a code, has, perhaps, not accomplished as much for its cause as if it had confined itself to broad generalities.

The architects, on the other hand, are constantly and actively interested in competitions; moreover, they are a widespread body of active men, whose separate organizations have already put forth a number of codes and suggestions, while not a few of them have formulated agreements binding on their signers. Uniform action on the part of the architectural societies is, therefore, a first step to be taken towards clearing the atmosphere, and this work, in their own interests, the architects cannot long defer. Meanwhile it may be not without value briefly to rehearse the subjects that should have treatment in a full and complete code.

And every code should be complete, or it is unworthy of its object and the society issuing it. The number of subjects to be treated upon in such a document is not small, but proper classification and arrangement will reduce a great deal of apparent bulk. But no matter what is included the utmost care should be taken not only that only essentials are treated but every essential. If it is wise to touch on the question of compensation, for example, it should be done in a broad and liberal way, and with due regard to the inclination of promoters, as shown in previous competitions. Neither the architect nor the promoter can be tied too closely in this respect, or, indeed, in any matter in relation to competitions. A good deal of elasticity should be allowed, as much as is consistent with honorable arrangements and as experience shows to be necessary.

1. *Principles.*—Every competition code should contain a statement of principles held and supported by the signers to such a code. If competitions are not the best way to secure the best result, it should be so stated, as has been done in several instances. If paid

competitions only are desired, that fact should be duly set forth. If provision is to be made for various sorts of competitions, that likewise should be included. And then especial attention should be given to the men available for taking part in competitions. No competition code touches on this point, which is a vital one. If we are to have paid competitions only, the question will take care of itself, for we may be sure that only competent men will be paid. But if we are to have open competitions, free to the world, or mixed competitions, in which some competitors are paid and some are not, it is clearly incumbent upon the makers of competition codes to define what they mean by an architect, for example, and to say positively whether the young men and draughtsmen in the architects' offices are to compete on free and equal terms with their masters.

2. *Definitions.*—All phrases should be defined; no important word should be left without a definite meaning. If the word "expert" is employed, for instance, it should be stated what an expert is. At present almost any one with but a superficial knowledge of architecture may set himself up as an expert in that noble art.

3. *Methods.*—Ways of holding and conducting competitions should be given. The Joint Committee have defined competitions as of two classes, "open" or "limited." An "open" competition is stated to be "one in which any person may be a competitor," and a "limited" competition, as one "in which each competitor is especially invited." Payment to each is apparently not necessary so long as every competitor is especially asked to present designs. Competitions of both classes are further defined as "premiated," in which remuneration is provided only for those to whom an award is made, or "paid," in which remuneration is provided for each competitor. This, it will be seen, is not in accord with the architectural agreements by which solemn promises are made not to enter any competition whatsoever unless each and every competitor, or at least those particular competitors, are paid.

The suggestions of the Royal Institute of British Architects treat the method of holding competitions somewhat differently, and in this it has been followed in the unacted-on report of the Committee of the National Sculpture Society. According to both bodies, competitions may be conducted in one of the following ways:—

"A. By advertisement, inviting architects willing to compete for the intended work to send in designs. The promoter, with the advice of the assessor or assessors, should make their selection from such designs.

"B. By advertisement, inviting architects willing to compete for the intended work to send in their names by a given day; with such other information as the candidate may think likely to advance his claim to be admitted to the competition. From these names the promoters, with the advice of the assessor or assessors, should select (a) an architect to carry out the work; or (b) a limited number to compete, and each competitor thus selected should receive a specified sum for the preparation of his design.

"C. By personal invitation to a limited number of selected architects, to join in a competition for the intended work. Each competitor should receive a specified sum for the preparation of his design." In each case it is stipulated that the author of the design awarded the first place should be employed to carry out the work.

The second of these methods, that of a competition by names alone, certainly offers a way out of the difficulty of expense, which is the stumbling-block of so many architects, and is entitled to more consideration than it has received. The introduction of this method into more general service would unquestionably do much to relieve the present strain in connection with competitions.

It will be noted that no schedule provides for what are known as "mixed" competitions, in which some competitors are paid and some are not. These are constantly being held, and owe their origin to the disinclination of many successful architects to devote their time to preparing competition drawings without any compensation at all. In other words, many capable men refuse to spend the time and money required for the preparation of competition drawings when the competition is a pure gamble, and in which, for any reason at all, the commission may be won by a less competent or less occupied person. As none of the competition codes passed in review in these papers provide for such competitions, though architects are continually taking part in competitions arranged on this basis, it would be interesting to have some expression of professional opinion on the question. If, as sometimes seems to be the case, the architectural profession is not favorable to them, it may make up its mind that, with paid competitions alone, there is an end to the unearthing of genius that is so frequently urged as a reason for competitions. Promoters can not be expected to pay young men and untried men for competitive drawings that may be of no value to them.

4. *The Programme.*—Every essential content of a programme should be definitely stated, the necessary requirements for drawings specified, the adviser, the composition of the jury, and their powers and privileges given at length. Every effort should be made to provide suggestions under this head that will prevent fault-finding and criticism after the document has been published.

5. *Enforcement of Regulations.*—Then this dreadful question, this bugbear of competition codes, this milk in the cocoanut, must be

¹ Continued from No. 1146, page 90.

approached and treated in a rational, healthy, liberal spirit. It must be recognized that unless a code can be enforced, unless it can be made absolutely binding on promoters, advisers, juries and competitors alike, it must fail of the very purpose for which it was drawn. This, really, is the end of the matter, and until this point has been taken up and fought out to a finish all the codes and rules in the world will not be worth the paper they are printed on.

6. *The Promoters.*—Finally, the promoter must not be overlooked: it is useless to prepare rules governing competitions unless there is a reasonable expectancy that they will be respected. And it is useless to imagine they will be respected unless the promoter is fairly treated, just as the architects wish to be fairly treated. From this point-of-view the question is complicated by the fact that while the architects may act together in a body it is quite impossible to combine promoters into any sort of cohesive union. What may seem satisfactory and reasonable to one; promoter, may appear the height of unreasonableness to another; the concessions made by one may not be made by another. The very variety in the programmes is evidence of this fact, and it may be that more or less evidence of this kind will always be forthcoming. That this increases the difficulty of the question is unfortunate, but it will not be settled by ignoring it.

I have before me a letter, written by one of the leading architects of the country, which contains a pregnant sentence touching on this question with which this series of papers may well be concluded. "There are always," he writes, "two parties in the agreement an artist makes, and sometimes more, and so I feel justified in adding that no competition regulations will endure which are not made acceptable to the client as well as to the artist, and which are not provided with some effective machinery of announcement and dissemination which will keep prospective clients (that is to say, the intelligent public) informed as to the regulations in question and their purpose."

That sums up the matter in a very admirable manner.

BARR FERREE.

GERMAN CASTLES.¹—XI.

HALLS AND THEIR APPROACHES IN GENERAL, AND THE ROMANESQUE HALL.



Bibliothèque de Sulzaco. Painted by Th. Etöfer; Etched by L. Gaucherel.

found, they are still apt to be examples of an architecture behind the time, when compared with the same things over the Rhine or in Italy. In fact, whatever the student comes across in German palaces he may date with safety a century or more later in time than he would in those other two countries. The Gothic style, borrowed from France, lasted in Germany down to the close of the fifteenth century; the Renaissance, borrowed from Italy, held its own till the seventeenth century; the Rococo, or *Louis Quinze*, adopted from France again, continued in fashion at Berlin, Dresden and Munich three generations longer than at Paris: the style *Louis Quinze* went out about 1700, German Rococo not till 1770 or thereabout.

Still, there is this to be said in favor of German castles or rather of their owners: they were ready to copy, though tardily. For this reason, as well as because of the *partialness* with which they copied, a picturesque medley of styles of construction and decoration meets one at every turn, as is the case particularly in the castles of the elder sovereign princes of the land.

Thus in the palace in Dresden, and in the residences of the Kings of Wurtemberg and Bavaria and of the Grand Dukes of Hesse, Baden

and Coburg, every architectural fashion of the past, for hundreds of years, having left its trail, it is not at all surprising to come across the *galerie*, which was the fad of the French court for a while during the reign of the *Grand Monarque*. The young German princes who visited France and enjoyed the hospitality of Louis XIV, in the palace at Versailles, wished for the like. And Augustus the Strong, of Saxony, caused one to be contrived so soon as he came to the throne, several rooms being demolished for the purpose in the south (court-yard) side of his Dresden castle. Many other princes followed the example. In Berlin, the newly self-proclaimed King of Prussia, Friedrich I, had already determined to secure one by impairing the symmetry of his architect's plan, a deed which Schlüter, the architect in question, "disapproved mightily." He argued his side of the question, however, in vain. Friedrich was not concerned chiefly to have his palace beautiful; he wanted it "royal." If the French King had a *galerie*, he would have one too. And that remained the long and the short of it.

After this declaration, the best had been done, under the circumstances, that could be done. But the dearly-purchased apartment cannot be called much of a success: the *galerie* of Augustus the Strong is finer, and those of the palaces in Stuttgart and Karlsruhe more graceful. However, it is an odd fact, that, in the long run, a German palace *galerie* actually surpassed even that of the grand monarch's own. Figure 81 [See Illustrations] shows the "mirror hall" of the Palace of Chiemsee, built by Ludwig II, of Bavaria, and the student must concede that it is without parallel. It is said that the imaginative young king, who had once seen the *Salle des Glaces* in Versailles, visited that palace again, and this time with the determination of building one like it. His architects, too, studied the room. Then, when all their plans were completed and drawings done, Ludwig II returned to the spot at night, and, by moonlight, made such observations on the distribution of masses and proportions as to be able to suggest still some improvements on Mansard's work.

Certainly there is a greater richness in the Chiemsee *galerie* than in any other German vestibule prolongation; for the apartment, which was designed originally for providing a room to hang pictures in, amounts to nothing else usually than such a prolongation. The so-called gallery became a vestibule ante-chamber in German palaces early in its history; while the introduction of mirrors along the long wall opposite the windows, and its division by pilasters, was followed first by the diminution of the number of pictures hung, and finally, by their exclusion altogether, save as decoration. In the *galerie* at Versailles, as well as in the German copies at Dresden and Stuttgart, and elsewhere, the exposition of works of art is quite lost sight of; the room is an end unto itself, which painting and sculpture merely subserve.

What brought about the change was probably the increasing frivolity of the times. The *galerie* lies, as a rule, between the entrance of a palace and the rooms of state; and hence it was passed through rather than lingered in. And who finds any pleasure in looking at walls covered with earnest portraits and battle-pieces when on one's way to a reception and dance room? On the other hand, an impressive hint of the sumptuousness in store within may be well given at the threshold here. Besides, ladies as well as cavaliers are not unthankful for an opportunity of seeing images of themselves before entering the royal presence: their reflections, moreover, in *grande toilette*, afford livelier pictures than old canvases. In brief, the refined social taste of the day, the most refined probably that ever existed, banished the past overhead, where its suggestions in sculpture and painting hung lightly; while the ground was left clear for the men and women of the present.

Here on the floor, long rows of tall candelabra stand like guards along both sides, at very short intervals, and throughout the entire length of the place. From the barrel-arched ceiling hang three thick rows of coronas. The lofty windows upon the right are arched, and following each third one there is a pair of pilasters, and the usual space between them is ornamented richly, as is the case with spandrels, capitals, frieze and ceiling. Bunches of colored marbles, supported upon pedestals, are placed in front of each pair of pilasters. Between the candelabra occur stools, which are long and without backs, but splendidly gilded and sculptured. The window alcoves contain each a high sculptured vase.

On nights of festivity at court these vases are filled with fresh flowers, and the stools are wont to be strewn with the ermine capes of the ladies in attendance as guests, who throw off here this last protection of their throats, as being the very last spot within which the etiquette of the court permits them to be worn: it is not permissible to enter the royal presence in loose coverings of any sort, and heavy outer-wraps must be removed in the outer vestibule; one's own footman takes them off, then carries them back into one's carriage, while one climbs the cold stairways, shivering. But the ten thousand candles of the gallery spread a genial, encouraging and animating warmth, as well as light, and the room is entered with sensations of especial satisfaction.

None the less, it is quitted again hurriedly for the *Saal*: majesty is to be waited for there; for, fine as the place may be, a gallery must remain forever subordinate to this latter-named room.

The mediæval castle did without vestibules and *galeries* altogether, whereas the *Saal* or hall was the *sine qua non* of every lord's house. The "*Nibelungen Lied*," which betrays so many details of old German life, just as Homer's works disclose items without number of ancient Grecian life, mentions and describes halls quite

¹ Continued from No. 1129, page 56.

plainly, and, in truth, as lying next the stoop or front-door, so that the entrance into them was probably almost as unmitigated as into a modern bar-room. There is no existing palace that I have seen quite of this fashion; even the simplest has some sort of vestibule introduced before it, even if it be nothing else than a landing-place. Such a covered place indeed is seen in the Kaiserhaus, at Goslar (Fig. No. 42, Vol. LI), the palace of Henry III, which has come down to our times from as far back as the eleventh century. The *Saal* in the Wartburg, on the other hand, is entered from a corridor; the Knights' Hall of Albrechtsburg (*vid.* Fig. No. 83) from a small, barren ante-room not much larger than a pantry, serviceable chiefly as a stepping-place from the tower-stairs to the room.

In short, a rough rule seems to be the following: German castles which are old, and which have not been the main seat of their owners, may have their grand halls direct at the entrance. Palaces, on the other hand, which were built in the seventeenth and eighteenth centuries, and such of old date as represent the residences of ambitious nobles, have a *galerie*, or one or more rooms interposed between the entrance and hall. The larger the palace, if it be of the seventeenth or early half of the eighteenth century, the greater the number of ante-rooms on either side; while extensive palaces in the country throughout the eighteenth century are apt to have the *Saal* accessible at the front, from a single vestibule; and, at the back, by a door opening directly upon the garden terrace. The reason for the latter situation of this great room is found in the ground-plans of the palaces, which are long and narrow. An illustration was given of one in Figure 49b (Castle Schliessheim). And similar narrow, long-stretched-out palaces with the great hall accessible immediately from outside are Sans Souci, Charlottenburg, near Berlin, Nymphenburg, near Munich, Schönbrunn, near Vienna and countless minor seats of the aristocracy, which flourished in the pretentious age of Maria Theresa and Frederick the Great.

Various, however, as the situation of the hall is—in early times behind the front door, in the eighteenth century nearly the same, and in the centuries between, secure in the middle of intervening apartments,—nevertheless, when reached, it is found to be of one of six sorts. That is to say, its features correspond in general with the six main styles of architecture and decoration that have had vogue in the land, and may be classified roughly as: 1. Romanesque; 2. Gothic; 3. Renaissance, or Old German; 4. Roccoco; 5. Barock; and 6. Pseudo-classical.

The number of the first kind of genuine mediæval halls is naturally small. The most celebrated specimen is the banquet-hall in Castle Wartburg, near Eisenach, of the thirteenth century; while the finest modern example of this type of Hall is that in Castle Hohenschwangau (Fig. 81) [See Illustrations], which goes by the name of the Singers' Hall.

On a magnificent scale the Hohenschwangau Hall, indeed, reproduces the Wartburg Hall in all its essential features. There is the same dais at the end of the room, only rendered more stage-like looking; the same triplet-windowed wall on one side, and gallery on the other; the same panelled ceiling as in the famous old Burg near Eisenach, where Tannhäuser sang of Venus to the court of his day, and the same painted walls and cushioned, ponderous, splendid benches. Ludwig II, the "Mad King" of Bavaria, as it may be remembered, built the hall while devoted to Richard Wagner; so here the music of the romantic operas of "Lohengrin" and "Tannhäuser," of the "Nibelungen" and "Tristan and Isolde" was played before enraptured ears in 1868, as once, in the Wartburg, the "Praises of Love" had been. As a matter of fact, the acoustic properties of these Romanesque halls proves good, and there is a tendency in Germany to construct public music-halls after this style, the single side-gallery of the castle hall being prolonged along the back end and the other side, and the number of entrance-doors multiplied.

The main portal of the castle hall in Hohenschwangau Castle opens upon a corridor under a balcony of the gallery. It consists of a round arch, and is capped by a corbel-table, between the projections of the cornice that support the balcony at its ends, the corbel-

table itself being composed of miniature, round, blind-arches, like those of the foot of the frieze on the opposite side of the room, and the consoles of grotesques. The three other doors are likewise arched, but are smaller, and lower than the windows. The balustrade of the gallery rests on a cornice projecting into the room. Its dwarf baluster-columns, with their sculptured cushion-capitals, are copies, on a small scale, of the large columns with polished marble shafts of the dais (or stage). This latter is raised four steps above the floor level, and occupies the whole of the head end of the hall, except the corner spaces containing the side doors.

The ceiling of the hall is a hammer-beam roof, divided by rafter ribs and cross bands into panels which are ornamented with inlaid work. The hammer-beams are surmounted with grotesques or arabesques in the angle formed by the spring of the rafters, while the pendants beneath consist of columns or knightly effigies, on console bases, making prodigious projections in the broad frieze.

The wall-space is similarly varied though less broken up, the window alcoves not being correspondingly as deep as the pendants are projective; the result being a singularly successful effect of clear spaciousness of room combined with splendid richness of boundary. For, as it must be hastily added, the floor-space, if the expression may be used, receives shadow and light, corresponding to the light

and shadow produced by the sumptuous cornice, through the introduction of the carved benches, before the triple windows. These alternate, as will be noticed, with the flat bases of those wall-

spaces which occur beneath the projections of the frieze. Seldom has furniture been disposed more satisfactorily.

The space of wall, finally, in the gable ends of the hall, under the roof, is decorated with paintings, like every other foot of wall-space which is not sculptured. Directly over the stage or dais there is a small loggia.

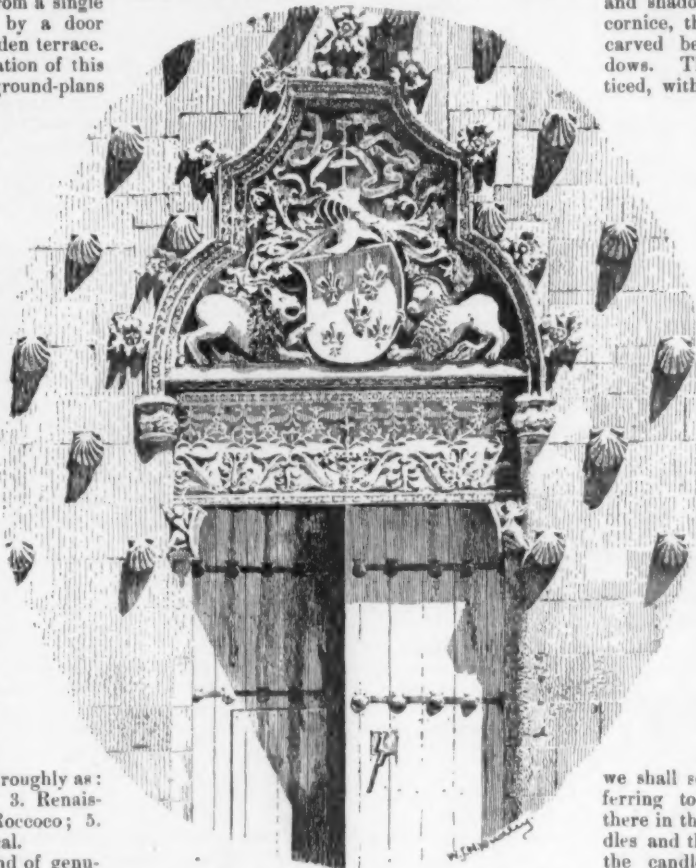
A glance should be given before leaving this hall, too, to the candelabra. They represent modern work done after mediæval originals. Similar coronas are seen in German churches, and smaller ones of like pattern exist in many an old castle. Their great distinction consists in their bulk, being architectural by reason of the geometrical character of the design, while their ornamental features copy the purely architectural ones found in mouldings, bosses, and the like. The wax candles appear trivial in such a hanging; whereas, later, as

we shall see (and as may be seen by referring to Figure 80, and the coronas there in the *Louis Quatorze galerie*), candles and the crystals designed to reflect the candlelight compose the principal thing. The corona itself is insignificant. Of bulk there is none. Of architectural features there is likewise no trace. In

short, the coronas of Romanesque halls appear to be parts of the architecture proper, whereas those of halls in other styles can only be reckoned as part of the decorative features of the same.

L. V. KROCKOW.

[To be continued.]



Tympanum of a Doorway of the Casa de las Conchas, Salamanca, Spain.



NEW JERSEY SOCIETY OF ARCHITECTS.

THE regular monthly meeting of the New Jersey Society of Architects was held on Friday, December 3d, at 4 P. M., at Board of Trade Rooms, 764 Broad Street, Newark, N. J., President Albert Beyer presiding.

Large representations were present, as it was the last meeting of the year, from Jersey City, Bayonne, Hoboken, Newark, Paterson, Trenton, and other outlying sections of the State.

The chairman of the committee appointed to confer with the Master Masons' Association of the City of Newark, which Association requested a conference with a committee from our Society, to adjust, in general, misunderstandings between the architects and builders, reported that the agreement that had been drafted at the

last meeting has been finally adopted after minor changes had been made.

The committee appointed by the President some time ago to draft a new constitution and by-laws submitted and recommended the same for approval by the Society, which was accepted and adopted to take effect January, 1898, after it was read and discussed, article by article and section by section, and a resolution was adopted for the incorporation in the new draft of the Constitution and By-laws of a schedule of minimum charges, similar to the one adopted by the American Institute of Architects, and also a code of ethics and professional practice.

The chairman of committee for a society seal and certificate of membership reported that he was ready to submit his report, but on account of the absence of some members of the committee would postpone his report to the next regular meeting in January.

The annual election of officers and members of Board of Governors will be held at the Society rooms, Friday, January 7, 1898.

The President appointed Auditors to examine the Treasurer's books, after which the meeting adjourned.

GEORGE W. VON ARX, *Secretary and Treasurer.*

NEW YORK CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

A MEETING of the Executive Committee of the American Institute of Architects was held in New York on Monday, December 6th, at 10 A. M., at the office of President George B. Post, 33 East 17th Street.

Present: President Post and Messrs. R. D. Andrews, John M. Carrère, and Alfred Stone, Secretary.

It was agreed that the annual meeting of the Board, which, under the By-Laws, must be held on or before January 10th, should be adjourned to the time of the opening of the Annual Exhibition of the Architectural League.

Letter-ballots were opened and the following gentlemen were found to be elected Fellows: Gottfrid L. Norrman, Atlanta, Ga.; Guy Kirkham, Springfield, Mass.; William A. Swasey, St. Louis, Mo.; Frank P. Graveley, New Orleans, La.; Brinton B. Davis, Paducah, Ky.; J. Foster Warner, Rochester, N. Y.; Frederick C. Bonsack, St. Louis, Mo.; Humphry J. M. Grylls, Detroit, Mich.

The applications of W. T. Downing, of Atlanta, Ga., and Vincent C. Griffith, of Brooklyn, N. Y., were received and the Secretary was directed to issue a letter-ballot for a vote of the Fellows of the Institute.

Mr. Carrère gave notice that the New York Chapter would give up the rooms occupied jointly by it and the Institute on or before May 1, 1898, whereupon it was voted:—

That the New York Chapter be requested to take charge of the property of the Institute and hold the same until the Institute secure headquarters for itself.

Adjourned.

Attest: ALFRED STONE, *Secretary.*

PHILADELPHIA CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

At a meeting of the Philadelphia Chapter of the American Institute of Architects held November 30, 1897, the following Officers and Committees were elected for the ensuing year:—

Executive Committee: Wilson Eyre, Jr., *President*; George C. Mason, Frank Miles Day, *Vice-Presidents*; Wm. C. Pritchett, Jr., *Treasurer*; A. J. Boyden, *Secretary*; Walter Cope, W. L. Baily.

Committee on Library: George C. Mason, John Hall Rankin, W. L. Baily, Wilson Eyre, Jr., *ex officio*.

Committee on Education: Prof. W. P. Laird, Frank Miles Day, Edgar V. Seeler, Wilson Eyre, Jr., *ex officio*; A. J. Boyden, *Secretary ex officio*.

Committee on Admission: Wilson Eyre, Jr., *ex officio*; A. J. Boyden, *Secretary ex officio*; Guy King, Walter Smedley, Walter Cope, A. J. BOYDEN, *Secretary.*



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

BETHANY MEMORIAL CHURCH, DETROIT, MICH. MESSRS. NETTLETON, KAHN & TROWBRIDGE, ARCHITECTS, DETROIT, MICH.

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

THE FIRST CHURCH, BROCKTON, MASS. MR. W. J. PAINE, ARCHITECT, BOSTON, MASS.

THE most noticeable feature of this church, which was dedicated December 2, 1897, is the tower, which, starting at the ground level, with a base 22 feet square, tapers gradually until, at a height of 80 feet, it is reduced to 20 feet square. The vertical

measurements are emphasized by the stone tracery of the belfry. The extreme limit of the finial is 135 feet from the ground. At the base of the spire, and separating it from the stonework, is a broad copper belt, protruding from which at each angle of the tower is a grotesque gargoyle.

On the easterly side of the tower, an "engaged" tower of octagonal plan marks the staircases leading from the basement to the main and gallery floors, while at the rear is a loggia defining the passage to the auditorium, this feature being repeated on the opposite side of the building. Throughout the length of each loggia, the outer wall consists of a series of mullioned windows, each mullion having in front of it a detached column with carved capital.

The ladies' parlor is defined upon the exterior by the large bay-window. Adjoining this, on the west, is a second front entrance to the building.

Upon entering the building through the entrance just described, on the right is the Sunday-school library, on the left are doors opening into the lecture-room and ladies' parlor, and in the same vestibule is a staircase leading to the gallery and class-rooms above. Before us is the westerly loggia leading to the auditorium. Entering the building through the tower vestibule, on the right is a second entrance to the lecture-room, on the left the tower staircase already referred to, and before us the first-mentioned loggia leading to the auditorium.

The lecture-room is situated in the front of the building. On either side is a class-room, receiving light through large windows from the loggia, and shut off from the main room by a rolling partition. Leaded windows also separate them from the auditorium. Above these class-rooms are others of similar size, overlooking the lecture-room. At the rear is a deep gallery, divided into three sections, for classes, and beneath this the ladies' parlor and a deep alcove. The parlor is shut off from the lecture-room by rolling and flexible doors, and also opens from the west vestibule, as already described. It has also a wide, open fireplace, with gas-log, above which is an antique mantel, in rich design, finished in quartered-oak.

The auditorium has a seating capacity of seven hundred, including choir gallery, and may be entered from either loggia, or from a vestibule at the side of the pulpit platform, which, in turn, may be entered either from Main or Green Streets. Opening into this vestibule are also the pastor's office and a large room for the primary department. These vestibules provide ample means of egress from the building in every direction.

The trusses supporting the roof over the auditorium and the wood finish on the walls are of selected quartered-oak, antique finish. The panels in the ceiling are of a deep rich finish, the change in color contrasting well with that of the trusses, and, with them and the frescoing, forming an harmonious color-scheme.

In striking contrast with the symbolic representations of the evil spirits upon the exterior of the building are the angelic forms decorating the trusses, symbolizing Praise and Worship, as well as Divine Protection.

The large memorial windows, in the side walls, are from the masterpieces of celebrated artists, representing scenes from Biblical history, and faithfully produced in rich and variegated glass.

Above the pulpit platform a great arch separates the auditorium from the chancel. This is finished entirely with quartered-sycamore, in the color of mahogany. The richness of the effect is greatly augmented by the elaborate design of the great organ front, 38 feet wide, which, because of a deep recess in the middle, appears to be divided into two parts, each part reflecting the treatment of the adjoining walls. Connecting these parts, above the recess just mentioned, is an elaborately carved arch, beneath which a view may be had of the rose-window, which forms a background for the entire composition. At the side of the choir gallery is a room for the use of the choir, while on the opposite side, and over the pastor's office, before referred to, is a spacious study, appropriately furnished with library furniture of antique oak, for the use of the pastor.

At the rear of the auditorium a great arch similar to that which spans the pulpit platform separates the auditorium from the lecture-room. These may be instantly thrown together, by means of an ingenious arrangement of combination doors, invented by the architect, which enables the rooms to be used together, with no obstruction whatever, thus giving a total seating capacity on the main floor for one thousand persons. Above the doors, just described, the tympanum of the great arch is filled with a panelled screen of leaded cathedral glass, each of the lower panels being pivoted, so that when open an unobstructed view of the pulpit platform may be had by those occupying seats in the gallery of the lecture-room.

In the basement is a large banquet hall, which may be reached by three different staircases from the vestibules, described above. The hall has a seating capacity of about four hundred at the tables, and has a raised platform, opening from which are three convenient ante-rooms.

Under the Sunday-school are two large cloak and toilet rooms, separate accommodations in each case being provided for men and women. Adjoining the banquet-hall, also, is a large butler's pantry, back of which is a spacious, well-equipped kitchen.

The building is heated throughout by steam, and ample provision is made for ventilating all of the rooms, by an elaborate and recent system of ventilation.

Particular attention has also been paid to lighting, and a system has been adopted whereby the entire building, or any portion of it,

may at any time be lighted by either electric light or electric gas-lighting. This, together with a perfect system of electric bells in most all the rooms, makes it one of the best-equipped and most amply furnished churches in New England.

A DINING-ROOM ON COLLINS ST., HARTFORD, CONN. MR. F. R. COMSTOCK, ARCHITECT, HARTFORD, CONN.

GALLERY OF MIRRORS: PALACE OF CHIEMSEE, BAVARIA.

This plate constitutes Fig. 80 of the article on "German Castles" elsewhere in this issue.

THE BANQUET-HALL: SCHLOSS HOHENSCHWANGAU, BAVARIA.

This plate constitutes Fig. 81 of the article on "German Castles" elsewhere in this issue.

TOMB OF COUNT HUGO OF TUSCANY, IN THE CHURCH LA BADIA, FLORENCE, ITALY. MINO DA FIESOLE, SCULPTOR.

MONUMENT TO BISHOP LEONARDO SALUTATI, IN THE CATHEDRAL, FIESOLE, ITALY. MINO DA FIESOLE, SCULPTOR.

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

CONGREGATIONAL CHURCH, SWINDON, ENG. SILCOCK & REAY, ARCHITECTS.

This plate is copied from the *British Architect*.

A GROUP OF STATUES AND FOUNTAINS.

[Additional Illustrations in the International Edition.]

THE COLLEONI CHAPEL, BERGAMO, ITALY. GIOVANNI ANTONIO AMADEO, ARCHITECT AND SCULPTOR.

[Gelatine Print.]

BARTOLOMMEO COLLEONI, the noted Venetian condottiere, was born in the castle of Solza, near Bergamo, in the year 1400. During his long and eventful life he retained for his native town a faithful allegiance, attested by the fact that it was here he caused to be built the memorial chapel represented in our plates. At the ripe age of seventy, the old soldier resolved upon the erection of a sumptuous edifice in the quiet of that picturesque little town, not only to "bequeath to posterity a lasting token of his mighty power" but also in memory of his only daughter, Medea, whom death had snatched from his side in the full bloom of beautiful maidenhood. Here his own sepulchral monument and that of his daughter, which, in the meantime, was placed in the Dominican Church of Sta. Maria, at Basella, a suburb of Bergamo, were to find their final places. As designer of the planned mortuary-chapel, he selected young Amadeo, of Pavia (1447-1522), who, although then but twenty-four years of age, had already earned for himself a wide reputation and who subsequently won lasting fame by the work he executed for the "Certosa," at Pavia; while as building-site he chose the plot of ground then occupied by the old sacristy of the principal parish church, Santa Maria Maggiore, the lot forming a reëntrant angle with the church against which it bordered. In spite of the resistance of the clergy, Bartolommeo caused the site to be cleared of the existing buildings by his soldiery, ever ready to do his bidding.

Desirous to see the chapel finished during his lifetime, he pushed the work with great energy. But he was destined not to see the fulfilment of his pet scheme, for, on the fourth of November, 1475, in the midst of his building-operations, he died, leaving to his executors explicit directions for the completion of the building and for its sumptuous decoration. Although it seems highly probable that, at the time of Colleoni's death, there existed complete working-drawings from Amadeo's hand, approved by the condottiere, both for the edifice and the monument proper, yet it is impossible to prove that the "Capella" as we see it before us was constructed in strict accordance with the original plans. Herr A. G. Mayer, a German critic, has caused to be published in the *Jahrbücher der Königl. Preussischen Kunstsammlungen* for 1894 an essay: "Die Colleoni-Kapelle zu Bergamo, — Ein Rekonstruktionsversuch," to which we are indebted for much of the information here given, and in the course of which the author arrives at the conclusion, that, while the details of the architecture bear, in a sufficient degree, the stamp of Amadeo's mastership, there are numerous indications pointing to the probability that many of the *motifs* we see in the finished structure were not originally intended for the places they now occupy, and that an inferior mind, or minds, in the execution of the work, frustrated the intentions of the designer to a considerable extent. Making due allowance for the freedom with which, in mediæval Italian architecture, the principal church façade is sometimes treated as a false front, or screen, without regard to interior arrangement, the entire lack of agreement between the outer and inner views of one and the same wall here far exceeds the customary measure. The placing of the statuettes on the main façade, in violation of the

established rules of true architectural feeling, the employment of plastered wall-surfaces on the double pedestal of the dome, which are out of keeping with the costly materials employed below the main cornice, the irrational use of certain ornamental forms from the cornice upwards, the odd, partly-unfinished looking, and partly over-wrought, columns surrounding the tambour, which give the impression as if they had been picked from debris, or work-pieces intended for some other edifice, the lack of organic connection of the small choir with the main body of the chapel; these, and other features pointing to a want of unity in the design, give force to the conclusion that a hand other than that which drew the original plans must have attempted, in an arbitrary spirit, to "improve" upon Amadeo's design.

It should not be supposed, however, that the writer wishes to give the impression that "Capella Colleoni" as a work of art is to be valued slightly, or is undeserving of the general admiration accorded to it during four centuries. The charm of originality and harmless exuberance of spirit pervading the composition, the inexhaustible flow of fancy displayed in the details, the delight the architect must have taken in shape and color, all these properties of a youthful, warm-blooded temperament, with its advantages and disadvantages, are hardly to be found in equal strength in any other structure of the early Renaissance period, and it is these traits which cause the "Capella" to be rightfully regarded as one of the most noteworthy monuments of the artistic feeling of that era.

INTERIOR OF THE COLLEONI CHAPEL, BERGAMO, ITALY. GIOVANNI ANTONIO AMADEO, ARCHITECT.

[Gelatine Print.]

IN the interior of the chapel numerous restorations and alterations have become necessary in the course of more than four hundred years, the monument of the founder, and that of his daughter (transferred hither from Basella in 1842), the right-hand pilaster of the triumphal arch opening into the choir, and the three figures upon the altar, being all that has remained intact from the time of its construction at the end of the fifteenth century. The altar itself was not erected until 1676, the memorial tablets, surrounded by Barocco cartouches, date from 1599, and the lavish and somewhat grotesque stucco decorations from 1774. The tomb of Medea Colleoni, with the exception of the sculptured top-piece and its commonplace plastered-over entablature, appears as a work of undisturbed unity and harmony. Whether Amadeo, discriminating artist that he was, is responsible for the dry and hard checkerboard-pattern of the marble-tiled background, entirely too crude for the exquisite sculptured work for which it serves as a foil, or whether this tiling was added at a later period, it is impossible to say.

TOMB OF BARTOLOMMEO COLLEONI, IN THE COLLEONI CHAPEL, BERGAMO, ITALY.

[Gelatine Print.]

WHILE Medea's tomb, from an inscription running along the lower edge of the sarcophagus, is known, beyond a doubt, to have been the work of "Iovanes Antonius de Amadeis," a similar unshakable testimony of the latter's authorship in connection with the monument of Bartolommeo is wanting. This latter presents itself as a combination of a free-standing sarcophagus with the typical mediæval wall-tomb, a combination frequently employed in Italy during the period of transition from the Gothic style to the Renaissance.

The important part played by the condottiere in the history of Northern Italy, on the one hand, on the other the remembrance of his incomparably grand bronze statue, standing in front of San Giovanni e Paolo, at Venice, and considered by some the most magnificent equestrian statue of all times, the work of Andrea del Verrocchio's (1435-1488) master-hand, would lead one to expect, in the Bergamo sepulchral monument, if not a grand and powerful work, at least a work of a moderate degree of artistic merit and excellence. We find, on the contrary, a composition devoid of plan or unity, which seems to mock at all tectonic rules; a composition which, despite the many excellent, nay, exquisite, details of the sculptured work, shows a deplorable immaturity of artistic conception; bearing, besides, no relation whatever to the person of the hero whom it was intended to commemorate, and whose equestrian statue is its crowning feature. Moreover, this statue did not even form part of the original design! For not until the year 1493, eighteen years after Colleoni's death, did his executors decide to erect a statue in connection with his tomb. But as the substructure had not been designed to carry so heavy a superimposed load as a bronze, or marble, equestrian statue of more than life-size is sure to throw on its supports, a wooden statue was ordered, as the only way to solve the difficulty. This statue was finished in 1501, by two German sculptors, Sisto Syrio and Leonardo Tedesco, — a "wooden" statue in more than one sense! It may be safely assumed that the arch over the equestrian portrait did not form a part of Amadeo's original design, also that the two statuettes flanking Colleoni's statue, which happen to be of equal size with the statuettes embellishing the main façade of the chapel, were intended to occupy places on the projecting bases of the pilasters, supporting the sarcophagus, in conjunction with those outside statues which somebody's whim seems to have banished from their rightful places, assigned to them by the architect.

Bartolommeo's tomb, which, on account of its artistic and historical

suggestiveness and its high degree of excellence in technical execution, must, in spite of its undeniable faults, be regarded as one of the most significant works of Lombard Renaissance sculpture, has the following principal dimensions: width, 15 feet; height, 29 feet; depth, 4 feet.

ST. GABRIEL'S CHURCH, WILLESDEEN GREEN, ENG. W. & C. A. BASSETT-SMITH AND R. PHILIP DAY, ARCHITECTS.

SWIMMING-BATH, KENNINGTON ROAD, LONDON, ENG. MR. A. HESSELL TILTMAN, ARCHITECT.



[The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.]

"ANCHORS FOR MARBLE ASHLAR."

SAN FRANCISCO, CAL., December 7, 1897.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Referring to Mr. Cass Gilbert's inquiry in your issue of November 27th, the best material is unquestionably copper or bronze, both for marble and for stonework. Iron alone, whether painted or galvanized, should not, in my opinion, be used for this class of work.

For heavy construction, where extra strong cramps are necessary in the cross joints (as, for example, in gable copings), a combination cramp may sometimes be used with advantage. This consists of a galvanized-iron core of suitable strength, entirely encased in lead, not less than $\frac{3}{8}$ " thick. These can be cast in suitable moulds, and will be found cheaper than copper of the same size.

Yours truly, G. ALEXANDER WRIGHT, *Building Surveyor*.

A LIME-IMPREGNATED WATER-SUPPLY.

CHICAGO, ILL., December 8, 1897.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—May I ask for information in regard to the following:—

I have built a large institution near Cincinnati, where the water for said institution comes from a water-works, which water contains a great deal of lime, and in consequence fills up the pipes and chokes same.

Can you refer me to a system, how this can be overcome?

Awaiting your early reply, either by letter or by answer in the *American Architect*, and thanking you in advance.

Your subscriber, A. DRUIDING.

[It would be almost impossible to purify the water in such a case. A chemist could easily separate the lime from the water, by means of treatment with a measured quantity of oxalic acid, or in some other way; and it might be practicable to apply such a process to the water for a single dwelling-house; but to purify, by chemical means, the water-supply of a large institution, before allowing it to enter the pipes, would be out of the question. Apparently, the water comes from deep wells, and contains carbonate of lime, dissolved in excess of carbonic acid, which is deposited as the carbonic acid escapes from the water on exposure to the air. The deposit so formed cannot be removed by any solvent which will not also attack the pipes. The best escape from the difficulty would be found in providing another water-supply for the institution, using shallow wells, or tapping some pond or river, or even catching and filtering the rain-water from the roof. Something might be done to remove lime from the present supply, by receiving it in a shallow reservoir, and allowing it to precipitate its lime before entering the pipes, but the expense of this would be considerable.—EDS. AMERICAN ARCHITECT.]



PARIS OPERA-HOUSE ENDANGERED BY DYNAMOS.—M. Charles Garnier is not to be envied at the present time. He is naturally anxious for the stability of his opera-house, which is a guaranty of his fame, but it would be only mock modesty on his part if he did not feel convinced that the building is an adornment of Paris which would be very much poorer if by any accident the safety of the structure were endangered. But the architect is not master and dare not do what he likes with his creation. It is part of the national property, and therefore an army of officials have power over it in various ways. Men of that class are alike all the world over, and it is no doubt a pleasure to them whenever they are able to ignore the architect. One opportunity which they realized is just now causing much anxiety to M. Garnier. The building is lighted by the aid of electricity, as every opera-goer is aware. But it is not generally known that the generation of electricity is accomplished in the basement of the building. The machinery was introduced and the process arranged in spite of M. Garnier's opposition. That was hardly prudent on the part of officials who are supposed to be men of science. It is true the basement of the opera-house is of mas-

sive construction, with piers and vaults in which stone was not used sparingly. But however large a margin was allowed for contingencies it was not calculated that the piers were to be subjected to the effect of constant vibrations of a novel kind, for neither in Paris nor in London have adequate demonstrations proved what is the actual effect on masonry of such generators as are to be found beneath M. Garnier's building. There are other risks which have followed the introduction of electric lighting. M. Garnier is now engaged in preparing a report to the Minister of Fine-Arts on the subject. Of course it will be referred to engineers, but after the downfall of bridges and the collapse of reservoirs, which now are, apparently, only commonplace incidents, official engineers will do well to be less confident about their formulas, especially when they have to be applied to a building so varied in character as is the Paris Opera-house.—*The Architect*.

INCREASING USE OF THE PENNY-IN-THE-SLOT GAS METRES.—Gas metres of the "penny-in-the-slot" sort have not yet made much progress in this country, but in England they are both popular and successful. Meanwhile, as the *Engineering Record* points out, Americans are feeling the effect of these machines in the shape of a decreased demand from London for our kerosene. The new metres, it is said, have already caused the abandonment of oil throughout a large part of the English metropolis, where it was used up to a very recent period. At any rate, one company there has 80,000 of the machines in profitable operation, and none of them is used by persons for whom it was practicable to buy gas in any other way. And the more convenient source of heat is used for cooking as well as for light. Prior to the introduction of the prepayment metres Sunday was, in London, a day of small gas consumption. At present there is an enormous demand, between 12 and 2 o'clock on that day, when thousands of dinners are cooked upon gas-stoves, and so great is the call upon the service at that hour that it has been difficult to get sufficient gas through the mains to meet the demands. Another excellent result from the point of view of the operating company has been the equalizing of the summer and winter consumption. The average takings from each metre in the service of one of these London companies is about £3, or \$15, per annum. There have, of course, been attempts to cheat the "penny-in-the-slot" metre. In those first supplied the weight of the penny set the mechanism in motion, but with the later patterns it is necessary to turn a handle after dropping in the coin, and if a penny with a piece of twine attached is introduced the machine simply cuts the cord and gathers in the coin.—*N. Y. Times*.

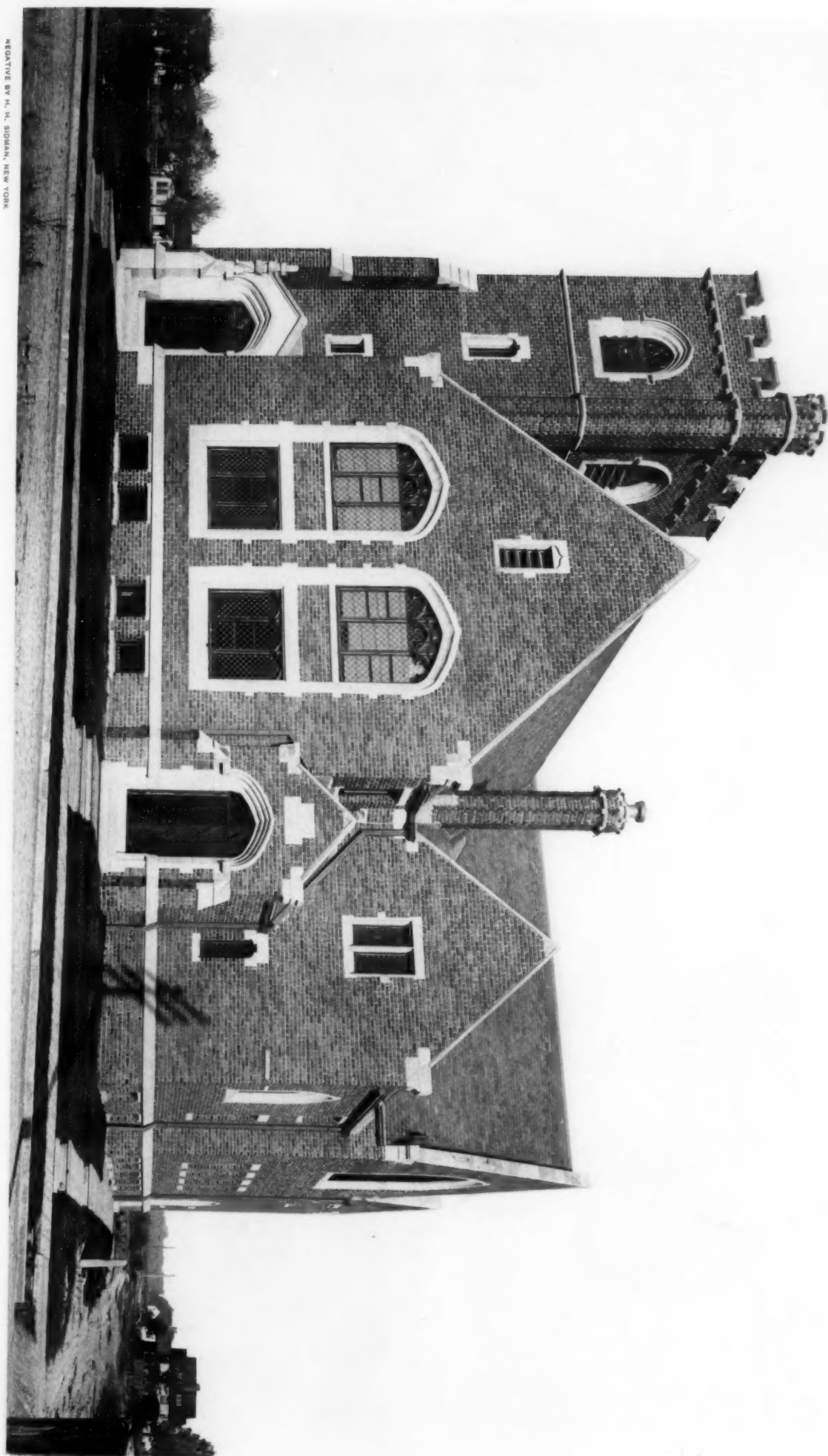
STORAGE BATTERIES.—American street-railway men, especially those interested in the use of storage-batteries, will be interested in a paper by Ludwig Schröder before the Elektrotechnischer Verein. The battery was used as an auxiliary, and the experiment of connecting it directly across the terminals of the dynamo without using an automatic cell was successfully tried. The current and voltage curves which were taken showed that the output of the generators varied between 72 and 102 amperes in the dynamo circuit, while the line fluctuated from 20 to 210 amperes. The voltage on the line circuit was quite constant, the maximum variation being between 535 and 560. The battery has been in service two and a half years, and for nine months has been connected directly to the dynamo terminals. The coal-consumption has decreased to 3.9 pounds per car-mile. On the Remscheid lines there are some heavy gradients, and in a total length of 6.8 miles there is only 180 feet on level roadbed. Motors in forty manufacturing establishments are also connected to the line circuit. The power-station equipment consists of three boilers working at 120 pounds' pressure, four McIntosh-Seymour 100-horse-power engines, and four 100-kilowatt generators. To meet the increased demand for power for factories, a storage-battery was installed consisting of 250 Hagen cells having a capacity of 648 ampere-hours, with a rate of discharge of 216 amperes. The four compound dynamos were connected as shunt machines in parallel with the battery, and a booster designed to give 600 amperes at 100 volts was placed in series with it. The battery is credited with having effected a wonderful saving.—*Chicago Western Electrician*.

ANOTHER GERMAN EXPERIMENT IN INSURANCE.—Mr. H. C. Cooper writes to the *New York Evening Post* from Heidelberg calling attention to a curious exhibition of paternalism on the part of the University. All students doing laboratory work, and even attending experimental lectures in chemistry or physics, are required to take out an accident insurance policy covering accidents occurring in the exercises. Students entirely disabled are to receive \$500 per annum, with a corresponding allowance for lesser injuries. The risk is probably not as great as outsiders may suppose from this regulation, as the premium for lecture courses per semester is only 2½ cents.

MAKING MARBLE FROM GYPSUM.—There is a likelihood that a new and novel industry will soon be started in Ontario. The company which carries on the peat industry near Welland has discovered a method of making marble out of gypsum, and has already secured a patent. The gypsum is treated with a chemical solution, which causes it to become crystallized, after which it can be worked with a turning lathe or chisel. It is understood the company is at present obtaining gypsum from the United States, but there is an abundant supply of the mineral on the Grand River. The new product is capable of taking a high polish.—*N. Y. Evening Post*.

ZOOLOGICAL GARDENS.—New York's zoological garden will be the largest in the world, comprising within its boundaries no less than 261 acres. The next largest is at Washington, which has 168 acres. The Berlin garden has 60, the Paris garden 50, and the London garden 31 acres.—*Exchange*.

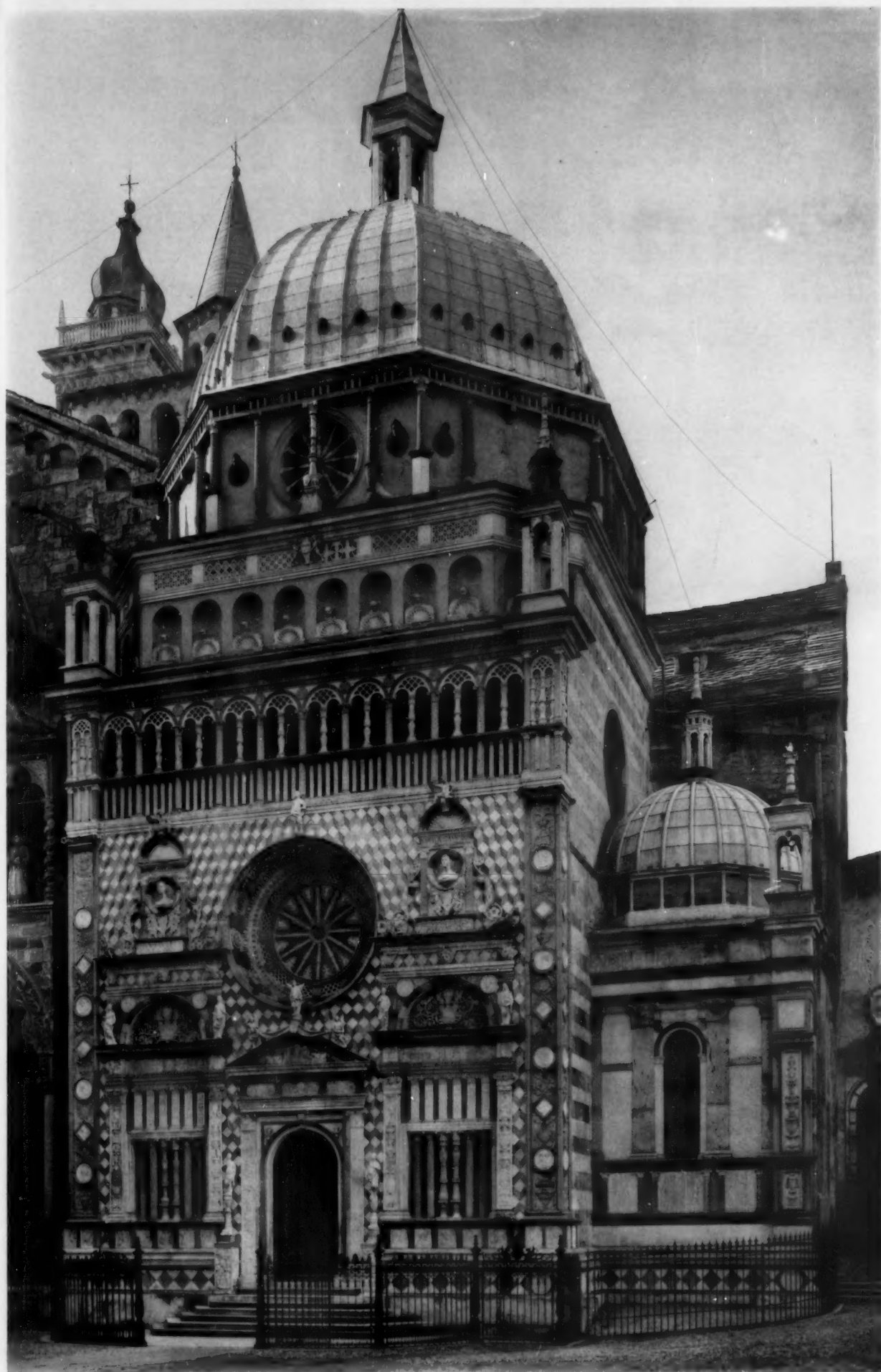
Copyright, 1897, by the American Architect and Building News Co.



NEGATIVE BY H. H. SORAN, NEW YORK

BETHANY MEMORIAL CHURCH, DETROIT, MICH.

THE HELIOTYPE PRINTING CO., BOSTON



Blätter für Architektur

Neumann & Co., Berlin.

THE COLLEONI CHAPEL, BERGAMO, ITALY.

GIOVANNI ANTONIO AMADEO, ARCHITECT.



Blätter für Architektur

Neumann & Co., Berlin.

INTERIOR OF THE COLLEONI CHAPEL, BERGAMO, ITALY.

GIOVANNI ANTONIO AMADEO, ARCHITECT.



Blätter für Architektur

Neumann & Co., Berlin.

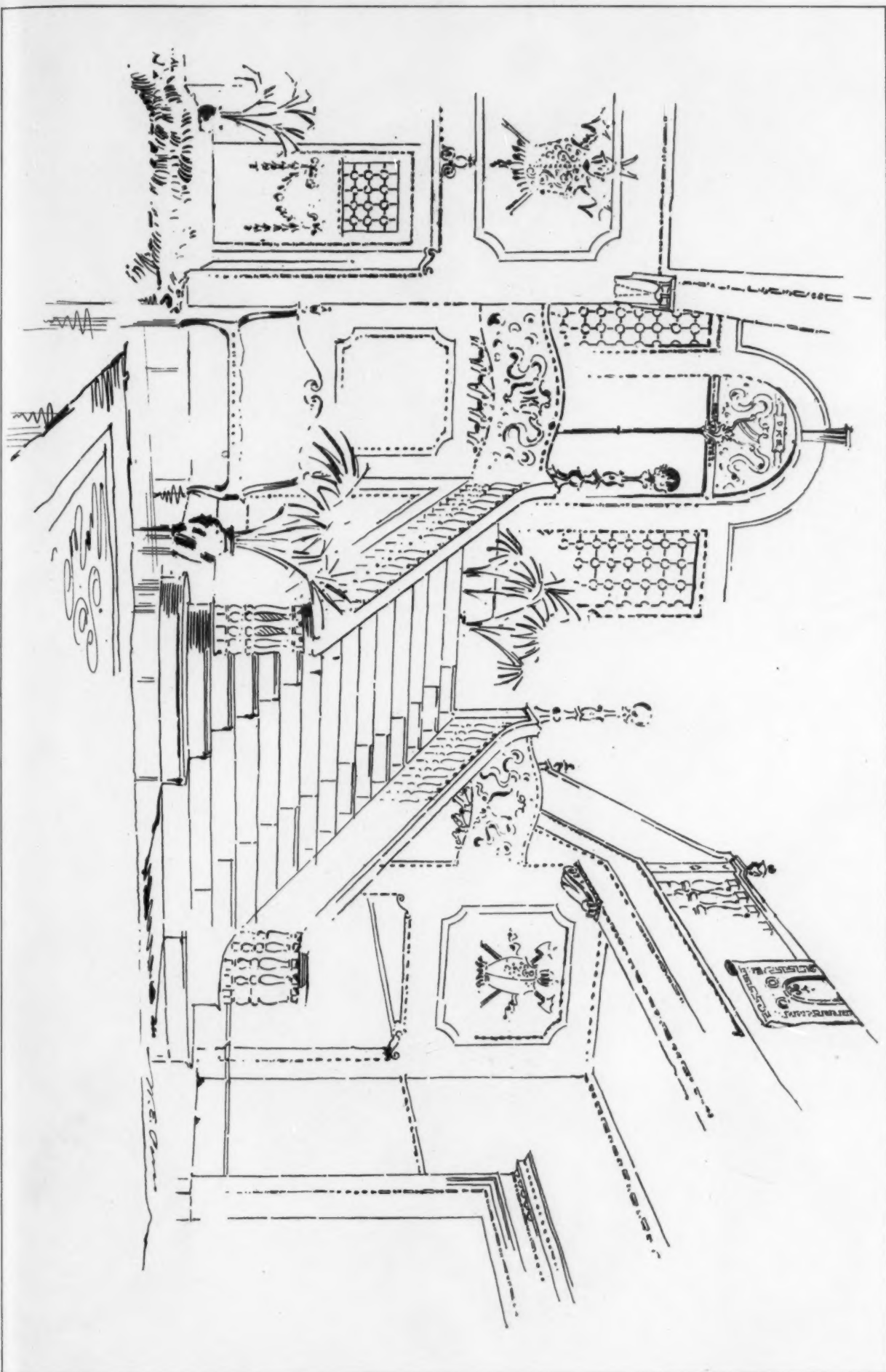
TOMB OF BARTOLOMMEO COLLEONI, BERGAMO, ITALY.

GIOVANNI ANTONIO AMADEO, ARCHITECT.



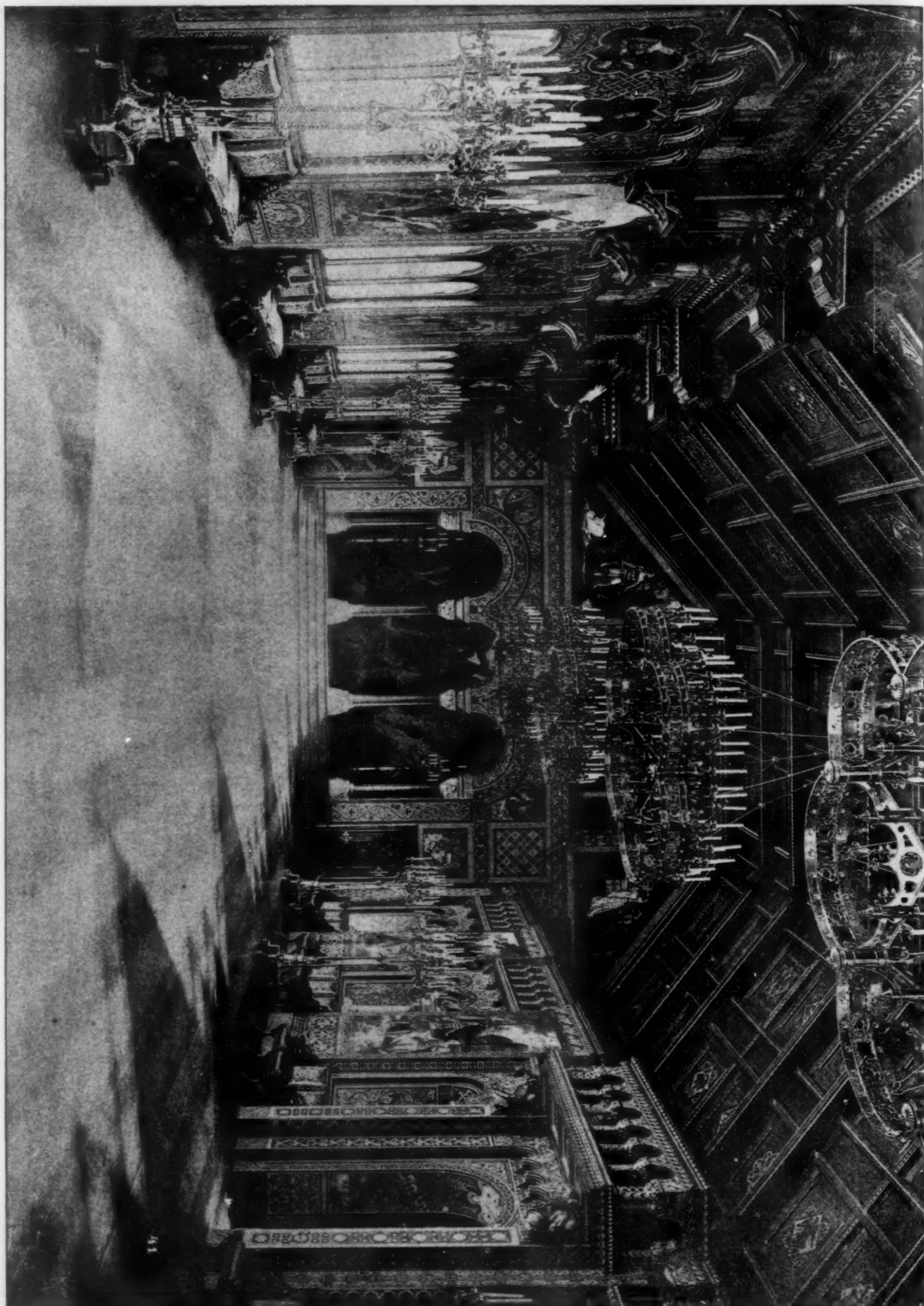
FIRST CONGREGATIONAL CHURCH BROCKTON MASS.
WALTER J. PAINE ARCHT. BOSTON MASS.

Copyright 1897 by THE AMERICAN ARCHITECT AND BUILDING NEWS CO.



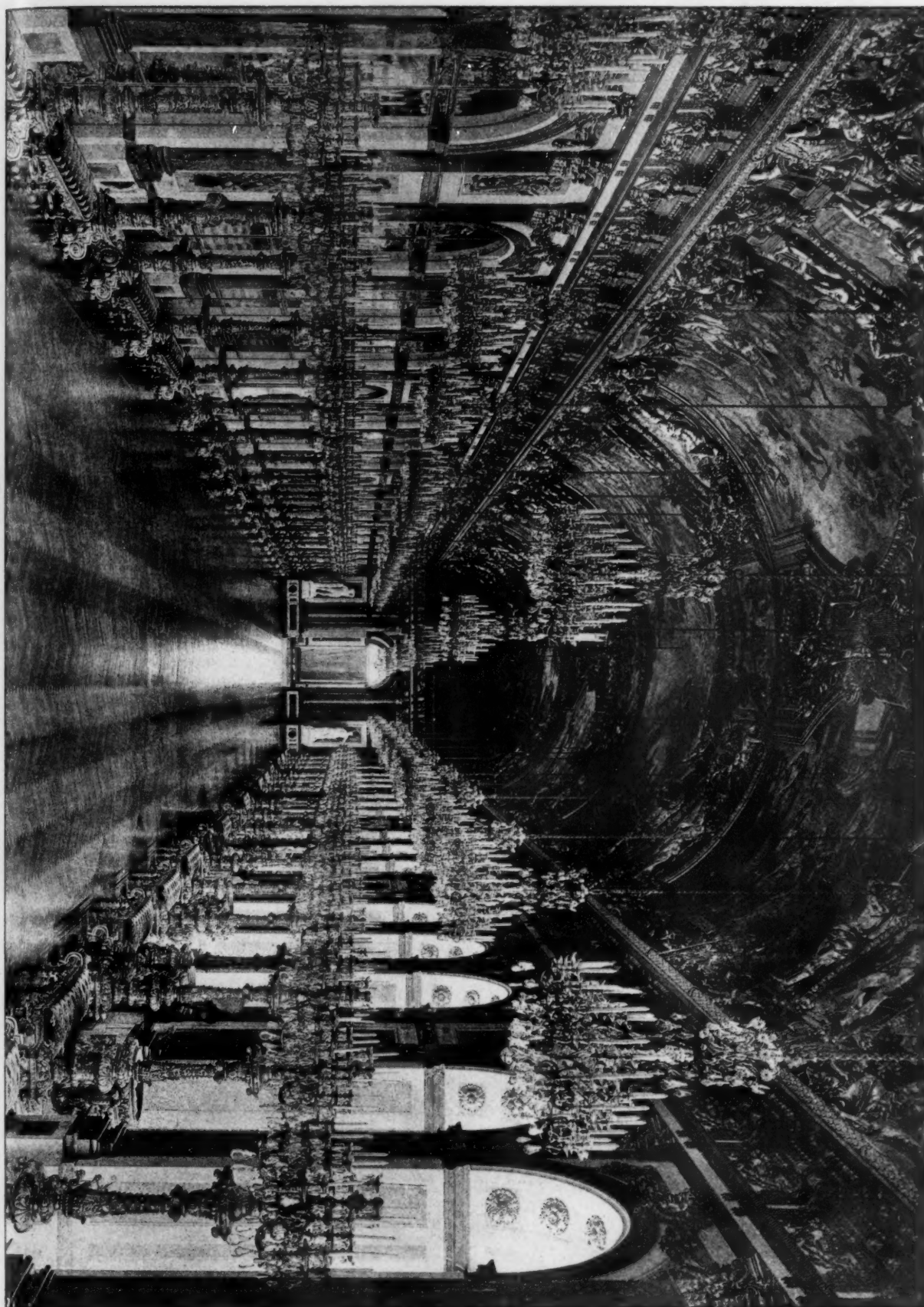
RECEPTION-HALL FOR A PROPOSED SOCIETY BUILDING, HARTFORD, CONN.

Architect H. S. Green



THE BANQUET-HALL: SCHLOSS HOHENSCHWANGAU, BAVARIA.

REPRODUCED BY PERMISSION OF THE BAVARIAN GOVERNMENT



THE HALL OF MIRRORS: PALACE OF CHIEMSEE, BAVARIA.



LOWER PORTION OF THE TOMB OF COUNT HUGO, MARQUIS OF TUSCANY, IN THE CHURCH LA BADIA, FLORENCE, ITALY.
 MINO DA FIESOLE, SCULPTOR, 1481.



MONUMENT TO BISHOP LEONARDO SALUTATI IN THE CATHEDRAL, FIESOLE, ITALY.
MINO DA FIESOLE, SCULPTOR.



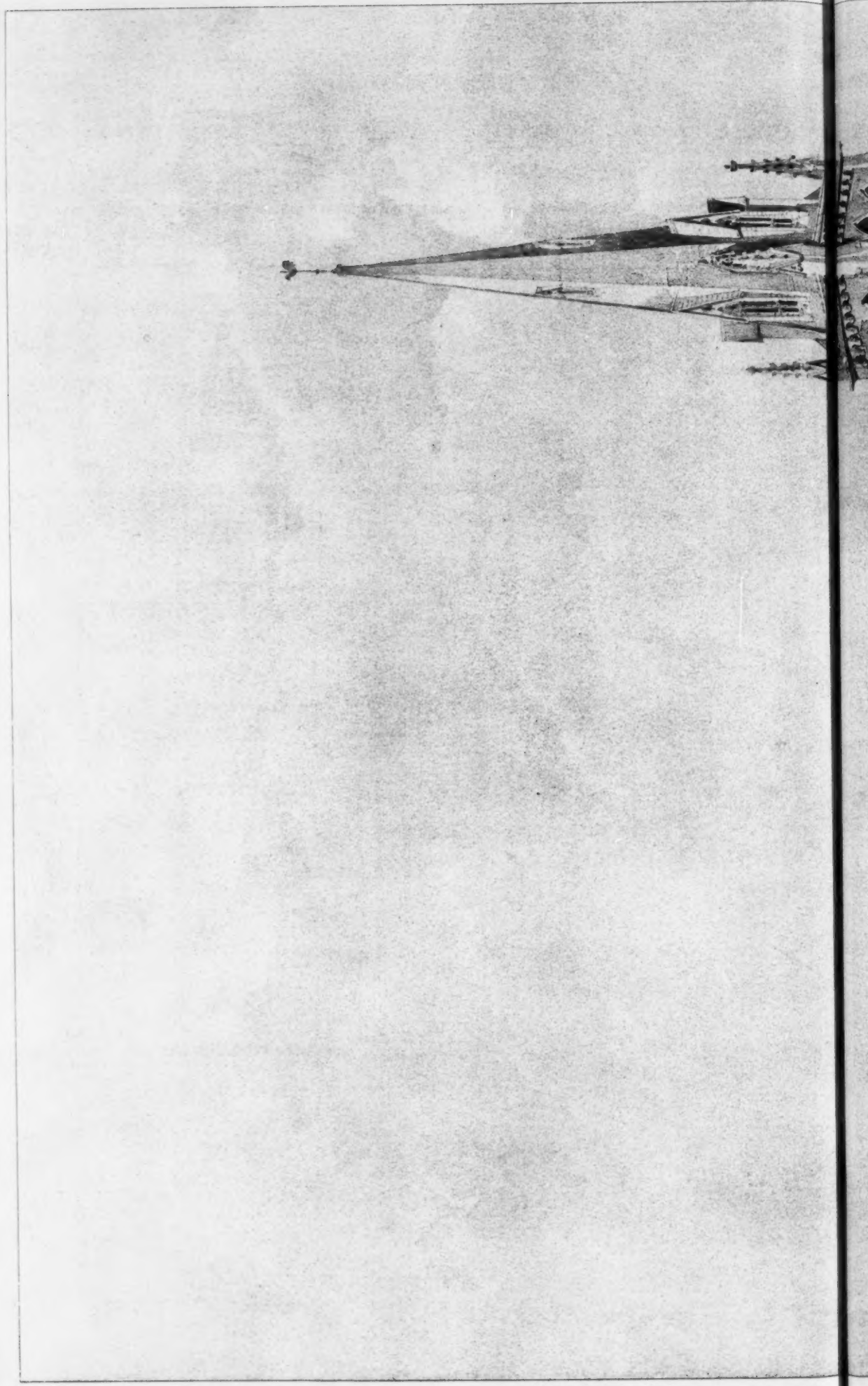
PHOTOGRAPHED BY G. B. BOLAS & CO

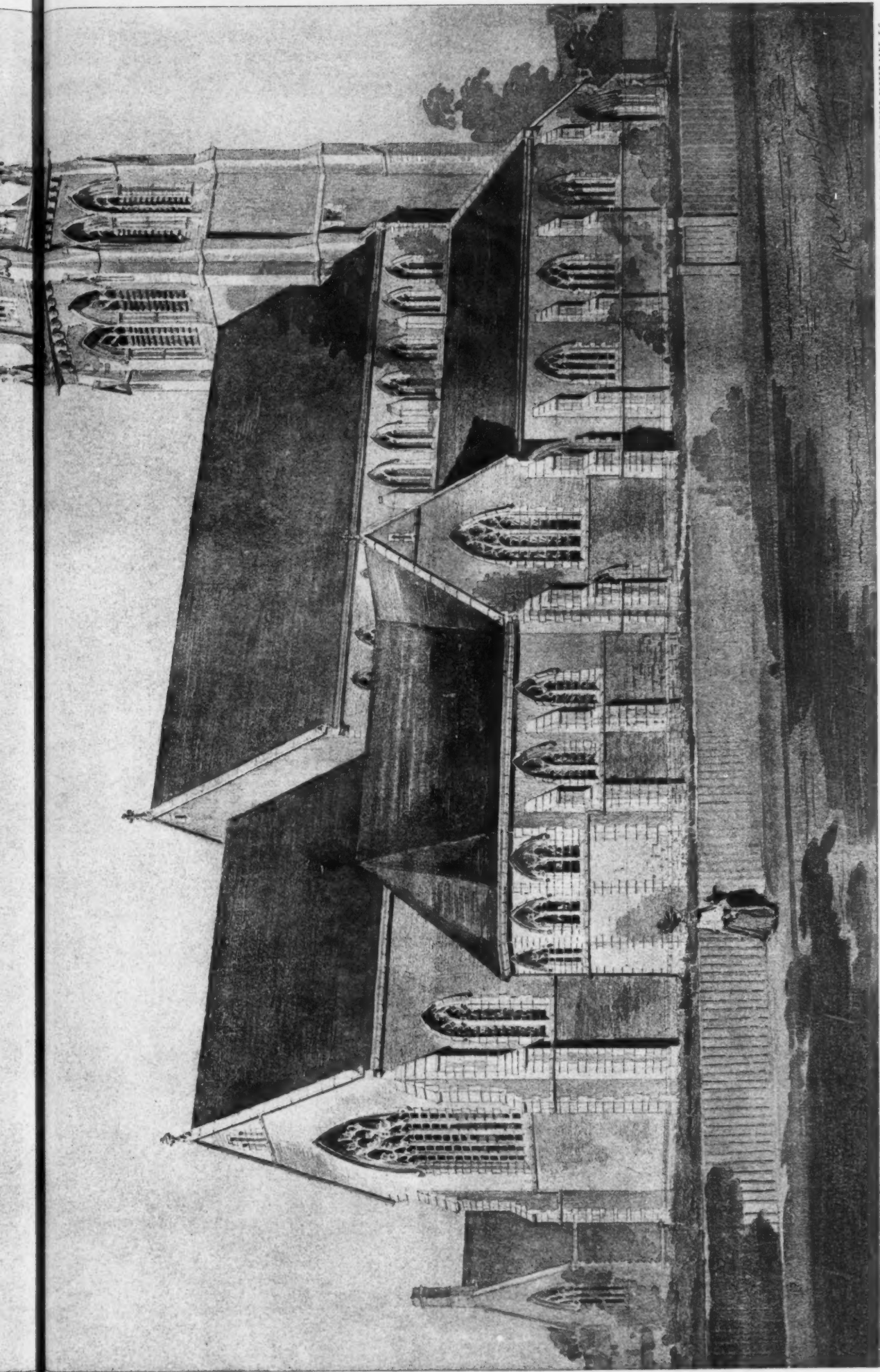
SWIMMING BATH, KENILWORTH, N. J.
A. HESSELL TILTMAN



IND. PHOTO. SPRAGUE & CO. 14 EAST HANING STREET, FETTER LANE, E.C.

ATH. KENNINGTON ROAD.
ELL TILTMAN, Architect.





J.N. PHOTO SPRAGUE & CO. 45 EAST HARDING STREET FETTER LANE, E.C.

S. GABRIEL'S CHURCH, WILLESDEN GREEN.

Messrs. W. & C. A. BASSETT-SMITH and R. PHILIP DAY, Joint Architects.