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CONTENTS.

EDITORIAL SUMMARY.
AUSTRIAN ARCHITECTURE.—XVI.
LETTER FROM LONDON.
" " AUSTRALIA.
" " CHICAGO.
" " PHILADELPHIA.
EQUESTRIAN MONUMENTS.—XXXIV.
AIR RUN THROUGH SPAIN.—IV.
WATER REQUIRED TO EXTINGUISH FIRES.
COMMUNICATIONS.
NOTES AND CLIPPINGS.

ILLUSTRATIONS.

THE STATE-HOUSE AND THE WASHINGTON MONUMENT, RICHMOND, VA.
[Gelatine Print issued with the Imperial and International Editions only.]

SKETCHES OF WROUGHT-IRON WORK.

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Additional Illustrations in the International Edition.

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VOL. XXXI.

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JANUARY 24, 1891.



SUMMARY:—

Death of John W. Root, Architect.—A Public Bath for Babies.—An Attempt to produce Rain by Artificial Means.—A New Process for Preserving Timber.—Industrial Statistics in France.—The Income of French Workmen.—Foreign Postmasters allowed to act as Subscription Agents.—Award of the L. Fould Prize to MM. Perrot and Chipiez.	49
AUSTRIAN ARCHITECTURE.—XVI.	51
LETTER FROM LONDON.	53
LETTER FROM AUSTRALIA.	54
LETTER FROM CHICAGO.	55
LETTER FROM PHILADELPHIA.	56
EQUESTRIAN MONUMENTS.—XXXIV.	57
A RUN THROUGH SPAIN.—IV.	61
ILLUSTRATIONS:—	
The State-house and the Washington Monument, Richmond, Va.—Sketches of Wrought-iron Work.—Bits of Foreign Detail.—New Theological Seminary for the Evangelical Lutheran Church, Baltimore, Md.—Four Small Country Houses near Boston.—House at Rochester, N. Y.—Competitive Design for Proposed City-hall, Portland, Oregon. Additional: Wrought-iron Jardinière.—Entrance to the Hotel Imperial, Vienna, Austria.—Queen's Gate, London, Eng.: Entrance Hall; Exterior; The Hall; Entrance.	62
WATER REQUIRED TO EXTINGUISH FIRES.	62
COMMUNICATIONS:—	
A Party-wall Question.—Artists buried in St. Paul's.—The Sub-surface Court-yard of the "Dakota" Apartment-house.	63
NOTES AND CLIPPINGS.	64

AMERICAN architecture has met with a great loss in the death of Mr. John W. Root, of Chicago, who fell a victim to a severe attack of pneumonia last week. Mr. Root was one of the best-known members of the profession in the United States, and, within a short time, as Consulting Architect to the Chicago Exhibition, his name had come very prominently before the public. He was quite a young man, being only in his fortieth year. He was born in Atlanta, Georgia, in 1851. His father, who was a wealthy and enterprising planter, during the war engaged in running steamers through the blockade; and, in 1864, young Root was smuggled through the Federal fleet on a cotton steamer, and sent to Liverpool, where he was received by friends, and placed at school in Birkenhead. He remained in this school for three years, graduating with high honors, and passed his entrance examinations at Oxford; but his father, who had now, like so many other Southerners after the war, removed his business and property to New York, sent for him, and he was placed in the College of the City of New York, graduating with a high reputation, not only for brilliant mental capacity, but for physical vigor and energy. After graduation, he entered the office of Mr. James Renwick, as a pupil in architecture, but was afterwards transferred to that of Mr. John B. Snook, under whom he superintended the construction of the Grand Central station on Forty-second Street. In 1872, he went to Chicago, entering the office of Messrs. Drake & Wight. There he met Mr. Daniel H. Burnham, who was also a draughtsman in the office, and, a year later, the two friends ventured into business on their own account. Every one knows how brilliantly and ably the business of the new firm has since been conducted, until now the name of Burnham & Root is familiar wherever the profession of architecture is practised, and their buildings are to be found from Maine to California.

IN nearly all of this work, Mr. Root was the principal designer; and he brought to his task the utmost energy, industry and care. He was never tired of criticising his own buildings and trying to improve them, at the same time that he sincerely appreciated and praised the work of other architects; and he found the best of support and sympathy from his partner. The mutual attachment and confidence between the two friends undoubtedly did much to promote the interests, and lighten the labor of both, and a wonderful amount of work was accomplished by the firm, without, apparently, absorbing all the attention of the partners, who found time to become

well known in society. Mr. Root, in particular, was an accomplished musician and composer, as well as a good critic of books and pictures. From the first, both members of the firm interested themselves greatly in the general welfare of the profession, and, on the formation of the Western Association of Architects, they were chosen to fill important offices. When the Western Association was consolidated with the American Institute of Architects, Mr. Root was chosen the first Secretary of the reorganized body, and, at the recent Convention in Washington, was re-elected for a second term. It was on his way home from a meeting of the Executive Committee of the Institute in New York that he was seized with the illness which proved fatal to him. He had turned a little out of his course, while returning, to make a visit to his old friends in Atlanta, and the change in climate between Georgia and Chicago was so great that he reached home with a severe cold. He took a Turkish bath, in the hope of throwing it off, but without effect, and the next day was unable to leave his bed. For three days he resisted the disease, but on the fourth day both lungs became involved, and he died suddenly, but very quietly. In Chicago, where he was very popular, not only for his brilliant talents, but for his kindness and amiability of temper, his death was universally lamented, and the Institute and the profession will find it hard to fill his place.

ACCORDING to the *Sanitary News*, a new industry, of a hygienic kind, has been established in New York. A German and his wife, who live in a district where there are many children, and few bath-rooms, have set up a babies' bath. For a fee of ten cents, they will receive a small child, undress it, give it a thorough washing, and dress it again; and it is said that they did a large business last summer. Although the fee seems to have been extravagantly high, and it may well be doubted whether the water, sponges and towels were kept in a condition suitable for use on a miscellaneous collection of children, the idea is certainly a good one; and, if infants under five years old could be regularly and properly washed, either for nothing, or for a fee that their parents could easily afford, thousands of little lives might be saved every year in our cities. We should be inclined to favor the hiring of rooms in the poorer quarters, with a good water-supply, where one or two women could receive and wash the children for nothing, the expense to be paid by subscription, and the whole to be under medical supervision. Desirable as it is to avoid pauperizing poor people by offering them favors for which they are not expected to give anything in return, there is no danger of pauperizing children by care and kindness, and a carefully inspected bathing service would do for infants in hot weather what few parents could do, no matter how well disposed they might be.

SENATOR FARWELL, of Illinois, proposes, after his term of office expires, which will be next March, to devote himself to the scientific work of trying to produce rain by the firing of cartridges of gunpowder or nitro-glycerine high up in the air. During the last session, Congress appropriated two thousand dollars for carrying on experiments of the kind, but Senator Farwell does not intend to limit himself to this small sum, and will, if necessary, contribute from his own pocket such sum as may be necessary to complete the trial to his satisfaction. The main fact on which the theory of the experiments is based is the circumstance that heavy cannonading is often followed, after a day or two, by rain. Acting on this observation, attempts have been made at intervals, during the last hundred years, to produce rain by firing cannon, and producing concussions of the air in other ways, but without much success. Senator Farwell, however, says that, during the construction of the Central Pacific Railroad through the arid region east of the Rocky Mountains, where a great deal of blasting was necessary, it rained every day that there was blasting. For this reason, he thinks that a sharp explosion of nitro-glycerine, produced high up in the air, would be more effective than cannon-firing near the ground, and he proposes to send up balloons in the dry portions of Western Kansas and Colorado, furnished with torpedoes and slow-matches, by which he hopes to obtain a concussion extending for fifty miles in every direction. Although it cannot be said that the scheme

gives a very great promise of success, it will be interesting to see the experiment tried, and even partial success would be of great value. If the farmers of Colorado and Western Kansas could get a shower once a week, by sending up torpedoes every day, the result would be well worth the trouble, and there is plenty of reason to suppose that such artificial showers, by fostering the growth of vegetation, would in time produce the conditions which lead to regular natural showers, and the consequent permanent establishment of fertility throughout the region to which the process is to be applied.

A NEW process for preserving timber is mentioned in *Engineering*, which promises to be of great value for various purposes. The process consists merely in saturating the timber with naphthaline, which is substantially a hard wax. The naphthaline is kept melted in a tank, at a temperature of 180° to 200° Fahrenheit, by means of steam-pipes in the tank, and the timber to be preserved is simply soaked in it for a period varying from two to twelve hours, according to the size of the piece. It is said that green timber can be treated with success, the melted naphthaline making its way through the cells, decomposing the albuminoid compounds, and displacing sap and water, leaving the timber, on cooling, saturated with a waxy, antiseptic solid. If such a substitution of solid naphthaline for air and sap in the pores really takes place, wood so treated must have singular advantages for finishing work. Not only would the pores need no filling, but mere rubbing with a cloth would give a polish, and, apparently, the wood might be exposed to dampness indefinitely, without fear of swelling or subsequent shrinking. Architects can appreciate the advantages which stock of this kind would offer for flooring-boards, for example, and we hope that the process may be thoroughly tried, with a view to the improvement of timber for interior finishing, as well as for railway sleepers and other outside work.

A PARLIAMENTARY Commission was recently appointed in France, to collect industrial statistics; and, in a recent report of progress, the President of the Commission, M. Ricard, gives some valuable information in regard to work and workmen in Paris, which was the first place where information was sought. A printed list of questions was prepared and sent out by the Commission, and more than twenty-four thousand answers were received from Paris, and the suburban towns in the Department of the Seine. Of these, about three thousand were from men engaged in metal-working, and a somewhat larger number from building workmen. Sixteen hundred were from wood-workers and furniture-makers, and thirteen hundred from tailors, or operatives in clothing manufactories. In regard to the length of the working-day, about thirty per cent of the workmen included in these four categories, which appeared to comprise the most intelligent, favored a day limited by law to eight hours, with no extra time. Nearly as many were opposed to any regulations on the subject; and the remainder were divided, some favoring nine, ten or eleven hours, and some preferring eight hours of obligatory work, with extra hours at discretion.

IN regard to the present income of the men in these four lists, it appeared that the average wages of the metal-workers was from \$1.30 to \$1.40 per day; the average for the building workmen was \$1.40 per day, and that for the tailors the same. The wood-workers earned, on an average, the same as the metal-workers. The laborers employed on buildings received only one dollar a day. Arranging the statistics in another way, it appears that, out of the nine thousand workmen in these four classes, about seventy-six hundred, or eighty-three per cent, earn from \$1 to \$1.80 per day, the average being almost exactly half-way between the two. A few, only about three and one-half per cent of the whole, reach two dollars a day, and about as many earn less than one dollar per day. Our employers will be interested to know that more than fifty-six per cent of all these workmen are paid by the hour. Twenty-three per cent more are paid by the piece; and only nineteen per cent are paid by the day. The rest, a small number, are employed by the month. In regard to the number of days of idleness during the year, it appears that about forty-four per cent are idle for three or four months in each year. Seventeen per cent have five months of unemployed time; and over thirty-two per cent are idle not more than two months in

the year. This part of the statistics seems to be tolerably favorable. If the building workmen are as well off as the average of the four categories in regard to unemployed time, it would appear that they work 9.2 months out of the year. Calling this 258 days, and the average wages \$1.40 per day, the income for the year would be \$361. It will be remembered that the statistics of a similar kind, gathered in Wisconsin by the State authorities, show that the average yearly income of a Milwaukee carpenter or mason is not very much more than this; while the cost of living in Paris is considerably less than in Milwaukee. In Paris, moreover, it is customary for the men in some trades, where the season is short, to work all or part of Sunday, which would give, perhaps, a small addition to the total year's income.

WE observe on the cover of one of our French exchanges a notice which contains a suggestion of value to the public, as well as to the publishers of periodicals. According to this notice, persons desiring to subscribe to the journal in question can do so, without extra charge, at any post-office in France, Germany, Austria, Hungary, Belgium, Sweden and Norway, Italy, Holland, Portugal and Switzerland. Nothing is necessary but to pay the subscription price to the postmaster, who will see that it is transmitted to the publisher. The people who know most about the transmission of subscriptions can best appreciate the advantages of such an arrangement. Under our present system, the trouble of subscribing to a periodical is so great as undoubtedly to deter many busy men from doing so. First, a number of the periodical must be procured somehow, in order to ascertain the subscription price and the address of the publisher, and this, especially in the case of foreign journals, or newly started periodicals, is not always an easy thing to do. Next, a postal-order, or registered-letter, or cashier's check, or draft of some kind must be obtained, to send in payment of the subscription. This, also, for a great majority of would-be subscribers, is a troublesome matter, besides adding an appreciable sum to the cost of the subscription; and, after the money is sent, and the delivery of the periodical begun, a similar process must be gone through every year, as long as the subscription lasts. With regard to foreign periodicals, although the trouble is hardly greater, since an international money order, at the post-offices where they are sold, is as easily procured as a domestic one, the prospect of some difficulty appears to most persons to be so serious that they prefer to make their subscriptions through one of the foreign agencies, of which many do a thriving business. They do not, however, always do their work very well, and, in the case of renewals, the process has to be repeated. With post-office subscriptions, all this trouble would be saved. The publishers would be glad to unite in keeping a list of periodicals, with the subscription price, hanging in every office, and, the money once handed to the postmaster, the matter would end, and the postmaster would be responsible for the delivery of the numbers. At the expiration of the subscription, the receipt of a number with the usual colored wrapper, or other indication of the completion of the year, would be the signal for handing the price of a renewal to the postmaster, and this would be all the trouble. The publishers, under such an arrangement, besides probably increasing materially their subscription lists, would save an immense amount of money now spent in bookkeeping and drumming up delinquent subscribers, or lost in bad debts; and the public, in addition to the economy and convenience with which the business would be transacted for them, would avoid loss through the tricks played by some publishers, who unload unsalable back numbers on innocent subscribers, or the misfortunes of certain foreign subscription agents, who occasionally collect money in advance for subscriptions, which they forget to forward to the publishers.

IT is gratifying to learn that the French Academy has just awarded the prize of twenty thousand francs, founded by M. Louis Fould, for valuable researches into the history of the arts of design to the time of Pericles, to MM. Perrot and Chipiez, the authors of the "*History of Antique Art*," so well known to architects. M. Chipiez is himself an architect by profession, and in his case, as in that of Dr. Dörpfeld, the pride of German archaeology, the practice which he has had in resolving just such problems as those that were presented to the architects of antiquity, seems to have given him an insight which has been of great service in elucidating archaeological questions.

AUSTRIAN ARCHITECTURE.¹—XVI.

THE NINETEENTH CENTURY.—III.

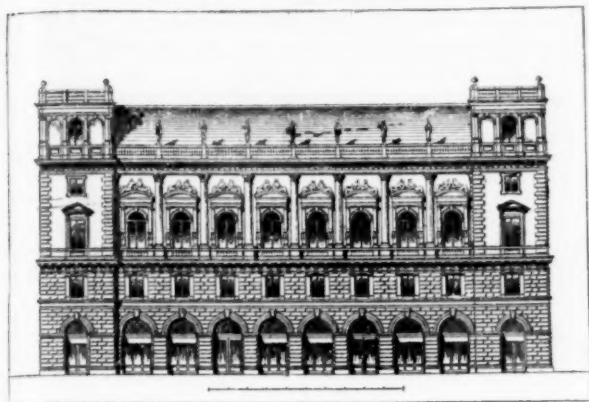


Fig. 8. Building of the Engineering and Industrial Societies.

THE architect Thienemann, who undertook the construction of a single building in two distinct sections, for the use of the Society of Architects and Engineers and the Industrial Society, notwithstanding the difficulties of his task, was successful in imparting a grand and monumental aspect to the exterior. The banqueting halls of the two societies, in the main story, are separated by a light movable partition, but as the decorations of the two rooms do not harmonize, the advantages of the movable partition are somewhat questionable (Figures 8, 9).

A less happy creation still is the Artists' House, built by Weber, a pupil of Van der Nüll, who was also the architect of the restorations of the Horticultural Society's building.

Among the hotels of Vienna, several of the largest of which were erected for the exhibition of 1873, we must note the Grand Hotel, built by Tietz in 1870; the arrangement of all the apartments is most convenient; the interior decorations are elegant, especially in the magnificent dining-hall, with its Corinthian columns, painted ceiling, stucco walls and black marble chimney-pieces. The Oesterreichischer Hof (by Fraenkel), the Hotel Metropole (Tischler), the Hotel Brit-

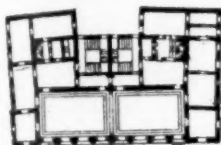


Fig. 9. Plan of the Building of the Engineering and Industrial Societies.

annia and Hotel of the Danube (Claus & Groth), all claim our attention, because of their luxurious appointments.

Among the new baths of the capital, we will merely cite the Roman Bath by Herren Claus & Groth, in which is presented a veritable restoration of an ancient bath as described by Vitruvius. All the different apart-



Fig. 10. View of the Museum of Art and Industry.

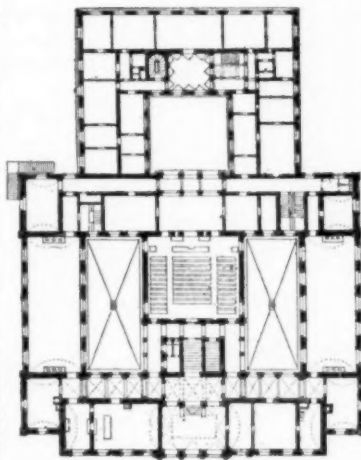


Fig. 11. Plan of the Museum of Art and Industry.

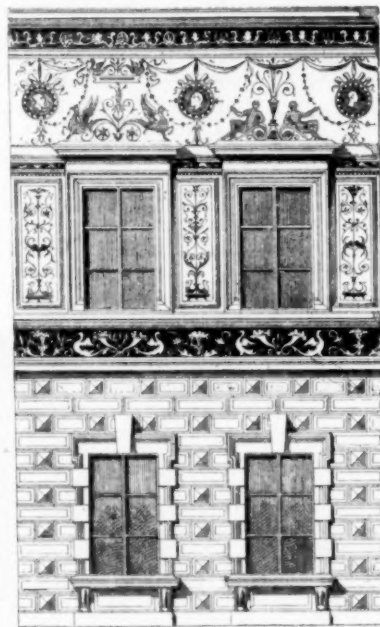


Fig. 12. Decoration of the Chemical Laboratory, Vienna.

a secondary rôle in all these structures. On the other hand, it must be noted that the Central Cemetery, girdled by beautiful arcades and enclosing a domed chapel in the form of a Greek cross, is a genuinely monumental work; it was designed by Blumtschli & Mylius, former pupils of G. Semper. The railway-stations built during this period (the South, North, Northwest and Franz-Josef) leave much to be desired in many respects. They are, in general, lacking, not only in grace but in proper practical arrangements, presenting colossal, unsymmetrical masses in which the details are most delicately and elaborately wrought. The vestibule, which is usually finely decorated, is the most praiseworthy part of all these buildings; a few of the waiting-rooms are also very handsome. The Central Telegraph Office, by Herr Winterhalder, has a magnificent despatch-hall and other spacious, conveniently arranged rooms.

Among edifices of this period dedicated to the arts and sciences, we call attention to two, the Museum of Art and Industry (1868-71) and the Chemical Laboratory (Figures 10, 11, 12). They were designed by Ferstel, in the style of the early Italian Renaissance, and built of crude brick; the friezes of the Museum are decorated in sgraffito with majolica medallion-portraits of celebrated artists. The façades, embellished with polychrome paintings, are well proportioned, and the forms, though somewhat timid, are of great purity. The court of the new Imperial Museum (Figure 13), with two elegant orders of colonnades and covered with a glass roof, is a masterpiece of its kind.

As for the theatres of the period, one of the first monumental edifices erected on the Ring was the Opera House (Figure 14). It is the greatest achievement of Van der Nüll & Siccardsburg; it was built between 1863 and 1869. To secure sumptuousness and variety of disposition, as well as a cheerful and attractive external aspect, the structure was divided into two main bodies, the less extensive of which is in front and contains the auditorium and other apartments designed for the use of the public. This part is flanked by gardens gay with fountains and flowers, and is approached from the Ringstrasse through a portico with five arched entrances, surmounted with a graceful loggia.

The rear portion is much ampler and includes the stage and all its dependencies. On the sides are the pavilions through which the imperial family reach the stairways leading to the halls and boxes reserved for the court in the centre of the edifice. The auditorium and the stage, being the most important parts of the building, are the highest. Its total length is about

ments are sumptuously decorated in a Greco-Roman style; the only defects are in the use of poor materials and the adoption of somewhat paltry proportions.

We will pass over the market-hall by Haussmann, the schools by Roellig, the prisons by Trojan, the hospitals by Fellner, Siassny and others, because architecture, like art, plays only

400 feet, its greatest breadth 320. Its height is 88½ feet to the cornice and 130 to the upper edge of the central roof; the façade itself is 62 feet high; the auditorium which will hold 3,000 persons, and is one of the largest halls of the kind in the world, is 95 feet in height and 90 in length.

The outside, in freestone slabs, is richly embellished by horizontal cornices running around the vertical members. The walls are broken with bays and arches. The front façade and the

¹ From the French of H. Semper, in Planat's "Encyclopédie de l'Architecture et de la Construction." Continued from page 36, No. 786.

pavilions of the opposite side are the only portions where there are more extensive and richly ornamented wall-spaces. The style of the architecture depends on a quite characteristic and harmonious combination of Italo-Romanesque elements with elements of the French Renaissance of the time between the reigns of Francis

auditorium is remarkable for its harmonious coloring and the convenient arrangement of the boxes. The ventilation and heating are also much praised.

The ill-fated Ring Theater, which was opened in 1874 and burned eight years later, was built by E. von Förster; the



Fig. 13. New Imperial Museum, Vienna.

I and Louis XIV. It is virtually the same style that Van der Nüll & Siccardsburg have also employed in their private constructions. The French elements are especially pronounced in the upper pilasters, the window mullions, the roofs, the attic of the central structure, and in the rich interior decorations. The details are all executed with the greatest care; they appear somewhat meagre and produce, by their lavish profusion on the exterior, a certain unquiet monotony entirely destitute of accentuation.

But the grand stairway of the interior, adorned with sculptures and paintings, is on the contrary a masterpiece of picturesque and architectonic effects. Not less sumptuous and

auditorium is said to have been beautifully embellished, but the exterior lacked unity of conception and the details were finished to the point of affectation.

The churches of this period were mostly erected by the Conservator of St. Stephen's, Friedrich von Schmidt. He was trained at Stuttgart and then spent fifteen years in the lodge of Cologne Cathedral. Summoned later to Milan (then sub-



Fig. 14. View of the Opera-house, Vienna.

harmonious in effect are the foyer, the loggia, the hall and boxes, and the imperial *salon*.

The Burg Theater, by the elder Fellner, cannot bear comparison, either in beauty or size, with the Opera House. The exterior is overburdened with unsuitable decorations, but the

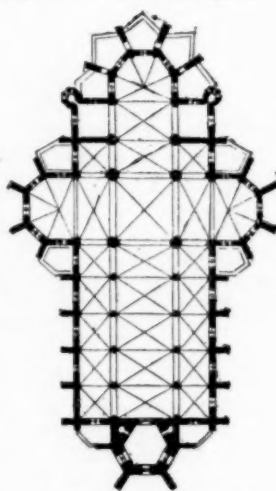


Fig. 15. Plan of the Welesgärber-kirche.

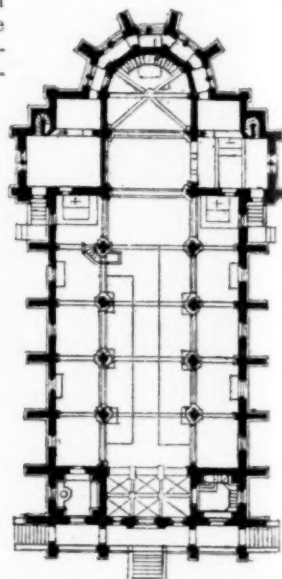


Fig. 16. Plan of the Brigittenau Church.

ject to Austria) as professor of architecture at the Academy, he won a name for himself, not only as a professor, but as a practical architect. In 1859 he was invited to Vienna as Conservator of St. Stephen's and also as a professor of his art. He

founded a great school, but most of his pupils afterward abandoned his Gothic style. The Gothic of Schmidt is, it is true, original rather than pure; but, though all of his details and combinations may not be acceptable to us, we nevertheless cannot help recognizing in his works a certain original vigor of forms and felicitous disposition of plan; this is especially true of his churches.

The Weisgärberkirche (completed in 1873) is quite like the Rhenish churches in plan. The Brigittenau church, which is simpler, exhibits the San Miniato system of open roofing supported by transversal arches, translated into Gothic forms. The church of Fünfhaus, finished in 1874, presents a very complicated but effective central plan (Figures 15, 16, 17, 18). These edifices are all decorated in the interior with polychromatic paintings which, neither in design nor coloring, have elicited much praise.

To be continued.]

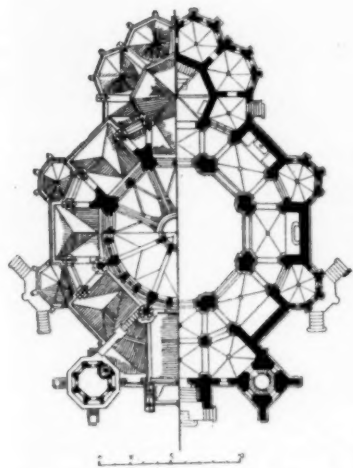


Fig. 18. Plan of the Church of Fünfhaus, Vienna.

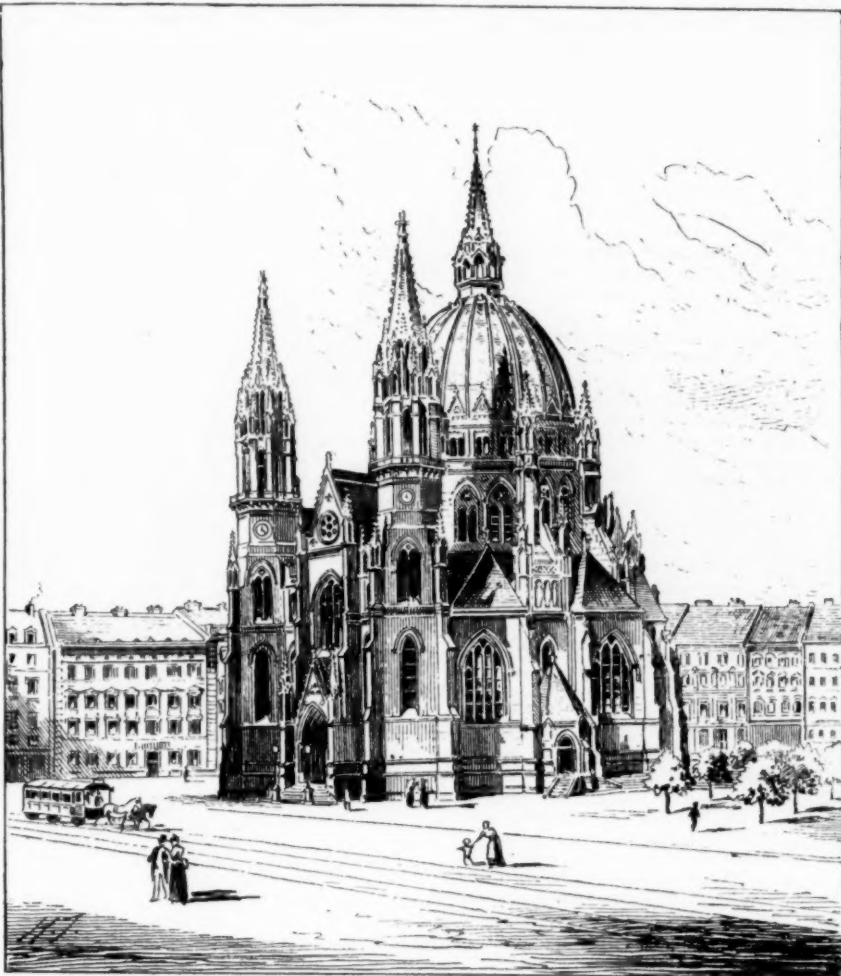
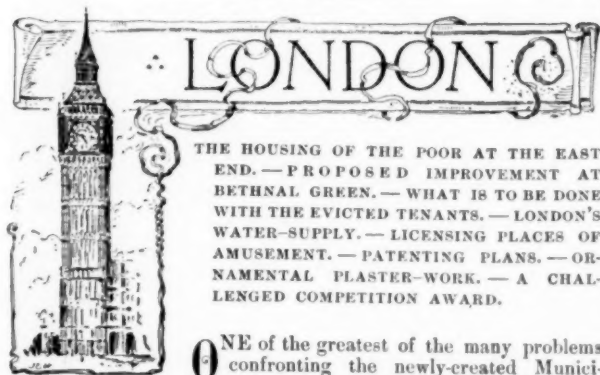


Fig. 17. View of the Church of Fünfhaus, Vienna.



ONE of the greatest of the many problems confronting the newly-created Municipality of London is the Housing of the Poor. The "East End" of London is known throughout the world as a vast concourse of people, the majority of whom live "from hand to mouth," whose means of subsistence are of the very slightest. Whitechapel, Bethnal Green, Mile End, Stepney, Poplar, Limehouse, etc., are mere names to the great majority of the inhabitants of the Metropolis. Yet each of these names represents a town containing many hundreds of thousands of persons huddled together in miserable little houses, closely packed in narrow streets and courts, often without sun, and with an inefficient circulation of air. Some of these houses are so bad as to be totally unfit for human habitation. I, myself, have been into a room not 12' 0" square, with all the windows broken, plastering down from the ceiling, rain coming through, and the floor in holes, and yet this room is inhabited by a man, his wife and four children, who eat, drink and sleep under conditions that would be shameful for pigs. Other similar instances abound, and it is this state of things the London County Council feels itself bound

to take in hand and deal with from a public health point-of-view. It is armed for its campaign with the "Housing of the Working Classes Act, 1890," which was passed by Parliament last session and which contains among its provisions various powers of a more or less stringent character. The Act is divided into several "Parts," the most important being, Parts I, II, and III. Part I, assumes the per-

sonal action of the Council, the conditions of this action being that the "insanitary area" is of sufficient size to constitute it a "Metropolitan Improvement." Part II, on the contrary, is based upon the argument that the improvement is of more benefit to the particular "District" immediately concerned than to the Metropolis at large, and so the whole or a portion of the cost is borne by the "Vestry" or "District Board" representing particular districts of London, wherein the improvement is effected. Part III, deals with the provision by the Local Authority of new dwellings for the poor. The Housing-of-the-Working-Classes Committee of the London County Council after about eighteen months' of discussion resolved to take advantage of Part I by dealing in a very thorough manner with a large area in Bethnal Green, consisting of about seventeen acres of the very worst property in London. This bold step was not carried into effect without very strong opposition in the Council, but it was ultimately carried and is now waiting an inquiry before the Home Office. The improvement, I am glad to say, is a very radical one. It does not mince matters by eliminating an occasional house here and there, but razes the whole pestilential district to the ground, alters the position of the streets, widening the same to 40' 0", and leaves only the schools and churches intact. The improvement is, however, to cost no less than two million dollars, of which but one-quarter will be returned as recoupment, leaving a net loss to the rate-payers of London of one million five hundred thousand dollars. For one stroke this is somewhat extensive. The medical statistics, however, show how urgent is the need for the improvement, and it is the hope of every one except the house-farmers that the new compensative clauses which are, *prima facie*, very severe, will reduce the ultimate cost so considerably as to enable the Council to deal with other areas in a similar manner.

The proceedings under Part II are hardly in the same forward state. These mostly consist of areas including from six to sixty houses and generally under such conditions as to preclude the necessity of re-housing on the sites. Various areas in different parts of London are being taken in hand as examples, but the exact method of dealing with them, the proportion of the contribution made by the

County Council toward carrying out the schemes, and which authority should carry out the actual work are matters yet to be settled.

Attendant upon the execution of schemes under Part II, and, to a certain extent, under Part I, comes a stupendous difficulty. The enunciation of the problem may be taken as this: "Having given an area which is rendered unhealthy by the presence upon the site of too many persons, it is required to bring about a healthy condition of things." Naturally the leading thought which must govern any attempt to solve the problem must be "How to reduce the number of persons upon the site." The consequences of this action must be to dis-house a certain proportion of the persons residing on the site, and for whom accommodation must be found elsewhere, otherwise they will simply overcrowd the surrounding districts and cause a worse state of things than before. The alternatives seem to be either to create industrial villages on the outskirts of London and induce the people to live at a distance from their work by subsidizing the trains, or to secure such sites as may be available in the immediate vicinity of the cleared areas and encourage the erection of artisans' dwellings thereon. The political disadvantages of the former course seem great, and yet the latter has very limited possibilities. Altogether this problem of re-housing London's poor satisfactorily has yet to be solved.

In addition to this great question the County Council is courageously tackling others of vast moment to the welfare of London. The water question (which wrecked a Government) is receiving consideration, and a special committee has been appointed to inquire into the whole question of London's water-supply. At present the supply is derived principally from the rivers Thames and Lea, and the canal termed the "New River," under the care of a number of private water-companies. These companies, having the monopoly, own naturally very valuable properties, and the position taken up by them is, that if the County Council, or any other public body, wish to acquire their rights and privileges, they must do so on the companies' terms, which amount to some hundred and seventy-five million of dollars. This claim the County Council are not anxious to meet, and one of the matters referred to the Committee is the possibility of tapping one of the Welsh lakes, some 200 miles away, and bringing a competing supply to London. The engineering, political and financial objections to this proceeding are enormous, and indeed the whole question is of such national importance that it is probable the outcome of the present inquiry and of a recent one held by the Corporation of the City of London, will be the appointment of a special committee by Parliament to take the matter out of the hands of the Council and the Corporation, and to consider it from a national point of view.

The control of our public places of amusement is another matter that the Council is taking vigorously in hand. Every theatre, concert-hall, or dancing-saloon, in fact every building or room in which public acting, music or dancing is carried on, has to apply to the County Council for a license. Upon this application the Council causes an accurate survey of the building to be made by a responsible official, and does not grant the license until it is satisfied, primarily through its Superintending Architect, and secondarily through its Theatres and Music Halls Committee, that the exits are sufficient in case of a sudden panic, and that the whole theatre is so constructed as to reduce to a minimum the risks attendant upon a sudden alarm of fire. The Council now seeks to extend its jurisdiction to churches, chapels and schools.

The Architectural Association, in the course of its formal ratification of the various resolutions in favor of a more extended system of education, has taken a step which is, I am sorry to say, hardly in accordance with its high traditions. To satisfactorily carry out its new scheme, it became necessary to raise the subscription, but at a recent meeting it was resolved that the subscription of new members only be increased. This is an unfortunate resolution at the present time, as it places the committee in the invidious position of being ordered to take certain steps and yet refuses the necessary funds to carry them out. It is sincerely to be hoped that some other method of raising the requisite money will be devised, and that the great educational scheme will not be crippled by reason of this inconsiderate vote.

The death of Dr. Schliemann has aroused deep feelings of regret in England. Dr. Schliemann was a Corresponding Member of the Institute and in 1877 he read one of the most interesting papers that have ever been read at Conduit Street, upon the "Architecture of Troy." The Rt. Hon. W. E. Gladstone, M. P., was among the visitors and made a most interesting speech. Schliemann was elected a Royal Gold Medallist of the Institute in 1885, and came from Athens to receive the medal from the hands of the President.

A curious question of dispute has lately arisen out of the patenting of a plan. In the late competition for the Sheffield Municipal Buildings a firm of unsuccessful competitors prided themselves in that in their gropings after knowledge they had lighted upon a perfect solution of the difficult problem of planning public buildings. So wonderful and so capable of universal application did these good people deem their discovery to be that they set to work to obtain a patent. This action stirred up the Institute and its provincial branches, because it was seen that if by any means the patent were granted, although it would not probably be sustained, yet it might lead to vexatious and costly litigation. The Institute, however, found its powers did not permit it to oppose patents, and therefore had to content itself with a letter to the applicants for the patent, stating that had it possessed the power it would have opposed the granting of the patent in the inter-

ests alike of the profession and the public, "and because the course proposed to be taken by you is inimical to the interests of the profession, and one likely to bring you into serious conflict with other architects." The effect of this reproof has yet to be seen.

A very interesting evening was spent lately at the Institute in discussing the beauties of plaster-work. Four papers were read by skilled workers in plaster, and in addition to numerous casts and sketches, optical demonstrations of decorative ceiling-work and of sgraffito were given. One of the principal points that were insisted upon was the necessity for keeping the plaster decoration altogether subsidiary to the general decoration of a room. One of the speakers, Mr. Stephen Webb, said with much truth, "In planning the ornament on a ceiling, however, the modelled forms should be laid out and connected so as to avoid complicated or intricate combinations. The modelling should be entirely in keeping with all other decorations of the room, and the treatment of the modelling should be entirely different from that adopted for work in other situations. While nothing gave such an effect of completeness to the decoration of a room, still modelling on ceilings should never be in the smallest degree assertive; and in no other relief-work was the necessity for self-repression so constant, or any indulgence in striving for cheap effect so severely punished. The treatment of decorative forms should be quiet and reposeful, though not tame and dull; all the minor shapes and connections being treated flatly and the larger forms with extreme care to avoid abrupt shadows and getting no more shade anywhere than was necessary to define the forms and give expression to the idea." These few words sum up very admirably what should be the leading thoughts in the minds of any persons trying their hands on decorative plaster ceilings.

An unfortunate discussion has arisen with regard to a recent competition. The facts are these: It was decided to erect a memorial-chapel to Whitefield, in the Tottenham Court Road; a committee was formed to obtain designs by competition. This committee drew up the conditions of competition themselves and then selected Professor Roger Smith as assessor. Under these circumstances, the conditions were very faulty, as might have been expected, considering that the assessor had not been consulted in their drawing-up. As an instance, the sum of £15,000 mentioned as the cost of the building was manifestly insufficient for its purpose, and the plan of the site accompanying the conditions was figured six feet too small. Under these circumstances, Professor Roger Smith awarded the prize to a competitor who exceeded the stipulated cost, in his opinion by about eleven per cent., and who placed his building on the actual site instead of that erroneously shown on the plan. This decision was challenged by Mr. Woodward, who, after an ineffectual attempt to get the matter discussed at the Institute, induced the President of the Institute to take the matter up. After an interview with Mr. Woodward, who, "with a view to the interests of the profession, stated his objections to Professor Roger Smith's award," and with the Professor who "offered his explanations in defence of his action in the matter," the President gave his decision, in which, after a long preamble, he upheld Professor Smith's award; admitting, however, that it had an unsatisfactory aspect, which, however, he entirely attributed to the nature of the instructions issued before the assessor was appointed. Unfortunately the accepted design is of the most commonplace and uneducated type, and quite devoid of taste and culture; therefore despite the high character of Professor Roger Smith's professional reputation and the endorsement of his award by the President of the Institute, the feeling is still strong in the profession which characterizes the decision as a most unfortunate one.



AN ALLEGORY BASED ON A RECENT COMPETITION.—ELECTRIC STREET-CARS.

SYDNEY, N. S. W.

SINCE my last letter the judges in the "City Avenue" competition have announced their decision, and the award, as usual, has pleased no one except, perhaps, the fortunate individuals whose design was placed first. The selection of any design in a case like this is, after all, only a matter of taste, and the directors of a wealthy company should know what pleases them and will at the same time pay best, which is their primary consideration; but to an unprejudiced observer, who merely looks at these things from an architectural standpoint, the decision in this case is somewhat perplexing, for the design of Messrs. Werake and Walcot to whom the first premium has been awarded is decidedly inferior in every way to three, at least, of the others. In connection with this competition an amusing and clever architectural allegory has appeared in one of the local professional journals, having reference to the rumored relationship existing between one of the judges and the successful competitors. After relating how the elders met together and decided upon building a "Temple of Mammon," the writer of this veracious

chronicle (which it is alleged has been translated from the *Pekin Gazette*) goes on to tell how the aforesaid elders go out into the by-ways "to bring in them that draw plans; that they may strive with one another, and he that conquereth his fellows, to him shall be given the Building of the Temple of Mammon, and he shall prosper in the City of the Golden Plains;" how "they that drew plans heard of the counsels of the elders, and likewise did their brethren; and the brethren said unto them, each one to his neighbor: 'Gird up thy loins, and take unto thee thy drawing-board, and thy T-square, and thy double-elephant paper, likewise thy set-square and thy compasses, and thy drawing-pencil, and draw thee a plan of the Temple of Mammon; so shalt thou find favor in the sight of the elders and thou shalt prosper in the City of the Golden Plains.'" But one of those so summoned seems to have been of a suspicious temperament, and learned in the ways of architectural competitions. "What shall it profit me?" he cries, "that I draw me a plan of the Temple of Mammon? Hath not the chief-elder's sister sons, whose cheeks are smooth even as the cheeks of women, and whose lips know not the hair of manhood? And shall not they be adjudged the victors in the battle, because they are the chief-elder's sister's sons; and shall not I, even I, be shamed before the multitude? And he would not." After some persuasion, however, he repents, and competes, though still so doubtful is he that he wagers a new hat that "they whose cheeks are as the cheeks of women," etc., "shall conquer and I shall be shamed before the multitude." And the result was as he had prophesied, for while the competitors prepare their plans, "the chief elder came in daily unto the young men that were his sister's sons, and succored them; yea, he brought them tidings day by day of that which the elders did speak of, and gave them counsel after the manner of that which the elders did desire. And the young men hearkened to the chief elder. And when the fight was over the young men whose cheeks were smooth even as the cheeks of women and whose lips knew not the hair of manhood, were adjudged the victors because they had hearkened unto the voice of the chief elder, and abided by his counsels, and because they were his sister's sons." And to them "was given the building of the Temple of Mammon and they prospered mightily in the City of the Golden Plains." And so the doubting competitor won his wager but "was shamed before the multitude," as he had surmised.

Competition here has been dragged very low; only a few weeks ago an advertisement appeared calling for competitive designs for a school, or some similar building, and (as an inducement, I suppose), no premium was offered, nor was there any promise, implied or understood, that the successful competitor should carry out the work. Another instance quite as flagrant and slightly more impudent, is the invitation issued by Messrs. Chaffey Bros., the enterprising Americans who are teaching our neighbors in Victoria how our country should be irrigated. They have had a large tract of country granted them where their system is carried into effect, and the township—Mildura—which has sprung up about them is, it seems, in need of a Public Institute. The cost is to be about £3,000, and a premium of £20 is offered for the selected design. The successful competitor shall then have the option of carrying out the work, or accepting a further sum of £25. A commission of two and one-half per cent for the preparation of drawings, seems little enough when the work is given to one; but the Mildura committee seems to think that the honor of gaining its approval in a competition, together with a bonus of one and one-half per cent should be sufficient for any architect, not consumed with a wicked greed for gold.

Our steam-tramway system—in reality a light street-railway—has always been a source of dirt, danger and annoyance, and latterly a trial line for electrically-moved cars has been laid down on the Thomson-Houston principle. Practically the line is successful in every way, and has been recommended for adoption in the more hilly portions of the city by our chief engineers. But the æsthetic view of the matter seems to be entirely overlooked. The overhead wires are very unsightly and we do not want our streets lined with forests of clumsy posts. The telegraph and telephone wires are quite sufficient disfigurement, and are besides very much in the way in case of fire. In cities we see little enough of the blue sky and we do not care to walk, as in a cage, beneath a vast network of wire.

BUILDING IN NEW YORK CITY DURING 1890.—Mr. Hugh Bonner, Chief of the Fire-Department, has submitted his report of the operations of the department for the year 1890. There were 3,463 fires in the course of the year, 2,367 of which were extinguished without engine streams. The estimated losses amounted to \$4,060,963 on property insured for \$58,500,900. The average loss per fire was \$1,172.64. The average loss per fire in 1889 was \$1,451.03, and in 1888 it was \$1,705.29. During the year applications for building permits, and for permits for alterations of buildings were made upon plans contemplating expenditures amounting to \$79,636,027. The report states that the central office of the department is now connected, by 465 miles of wire, with 213 alarm-boxes, 37 apparatus-houses, 8 school-houses, the repair-shops and the Central Park gate-house. The Board of Fire-Commissioners, at a recent meeting, after examining Chief Bonner's report, adopted a resolution congratulating him upon the excellent work done by his command during the year 1890, the first year of his incumbency.



THE ARCHITECTS FOR THE WORLD'S FAIR BUILDINGS.—PROPOSED INTERNATIONAL CONGRESS OF ARCHITECTS.—THE STRUGGLE OF THE CARPENTERS' UNION.—THE STEAM-FITTERS' STRIKE.—THE CORNICE-MAKERS' STRIKE.—THE CONDITION OF THE GOVERNMENT BUILDING.—CO-OPERATIVE SCHEMES AT EVANSTON, IND.—THE MATTER OF AERIAL NAVIGATION.—THE SOUTH SIDE ELEVATED RAILROAD.

WITHOUT in any way having any official information on the subject, it would appear that the list of five architects for the Exhibition Buildings, as called for in the original resolution, when presented to the board by the Chief of Construction was not entirely satisfactory, the principal reason assigned being that the Chicago talent was practically ignored. After the Chief of Construction had informally consulted with the architects on that list, it was a very difficult thing for him to throw any of them over, also it was equally hard to be forced to put on the list any Chicago men with whom there was even a chance of not always working in harmony; and as a result there was "some little friction." As the outcome of this a board was finally appointed consisting of ten architects instead of five, one-half of them being Chicago practitioners and the other half, gentlemen from out of the city. The names as announced are R. M. Hunt, G. B. Post and McKim, Mead & White, of New York, Peabody & Stearns of Boston and Van Brunt & Howe of Kansas City, while Chicago is represented by Adler & Sullivan, S. S. Beman, W. L. B. Jenney, Burling & Whitehouse and H. I. Cobb.

These gentlemen have examined the ground and commenced the serious consideration of the questions before them. Among others, that of compensation will undoubtedly receive its due share of attention. It had been hoped that if the actual expenses were paid to each architect, but little more than the glory would be required in addition, but there now appear to be very great doubts upon this score. The actual division of work, although probably pretty definitely arranged, has not yet been officially announced.

The Lake Front question remains in the same uncertainty as for the last six months or so. The I. C. R. R. submits from time to time, by some one not connected with the road, an informal proposition by which it is to obtain a great deal for nothing; this is duly vetoed by City, property owners or Directory who in their turn submit a proposition, also informal, which the railroad with equal certainty rejects. If this kind of negotiation can be kept up long enough it may have the good result of forcing the Directory to have the entire exhibition at Jackson Park. This is hardly probable, however, although there are such rumors in the air even now. In the meantime the canvassing for increased contributions for the Art Building is being carried on. Also, as the city has directed the removal of the old exhibition-building together with several others, it is probable that some solution of the dispute will be eventually arrived at.

While the management of the Fair is slowly moving along with dignity and grandeur, several citizens' committees are putting into motion some important operations that they hope to have completed before 1893, and which must very materially add to the comfort and beauty of Chicago. The Common Council and Park Commissioners are joining hands with these gentlemen, whose prime objects are: to have the boulevard system completed joining the various parks, to have the alleys paved and more properly cared for, to abolish the numerous permanent street awnings, to put all wires underground, abate the smoke nuisance and generally garnish the city. The World's Fair now pervades everything, and at the last meeting of the Illinois Chapter of the Institute the question was brought up, touching the desirability of the Chapter's aiding to bring together into one department, as much as possible, all displays relating as well to architecture both historically and artistically as to building and construction. A committee was appointed to consider the feasibility of such action and is expected to report soon. The subject has also been informally broached among the members of the profession of holding in 1893 an international congress of architects and the subject will probably soon be officially brought forward for consideration by the Chapter.

In the offices of the majority of architects work is now rather quiet, although to read the reports in the daily papers of the immense buildings that are mooted, one would not dream that many of them are schemes which are scarcely likely to ever get farther than the preliminary sketches for gentlemen who have "options" on land, but no money to either buy or build with. Chicago is, however, already commencing to be the Mecca not only for draughtsmen but also for all kinds of workmen, who anticipate for the next two years an unusual amount of building and are determined to be on hand in season and get their share. This influx of workmen is causing the various unions here the very deepest concern and they are doing their utmost and straining every nerve to, if possible, get such recognition from the bosses as will enable them to hereafter dictate that their own men shall work and no other, even if the city be full of skilled

(but non-union) labor. The Carpenters' Union has never officially declared that the strike of last May was "off," although in many, and probably a majority of cases, their members have been obliged to work beside non-union men, but their officers are now trying to arrange a scale of wages with the contractors and get some sort of a recognition; but as the unionists, however, demand more per hour than the bosses claim they can hire for elsewhere, an agreement seems doubtful. As a result a strike is talked of, but under the circumstances this would be unquestionably a foolish and weak move, as they were practically defeated last spring.

Several hundred steam-fitters are now on a strike¹ and have been so for over two months, without any satisfaction whatsoever to themselves but to the very great annoyance of those building. The strikers had counted upon the cold weather to help, to bring their bosses to time, but, have found themselves mistaken, and the bosses up to the present have declined to receive any communications from the union and its officers. The question of wages is one matter under decision and this could probably be easily adjusted, but, as in all similar cases, the "recognition" of the union and the employment of none but union men is the great object. A hard fight is being waged and every possible means are employed to make the bosses come to these terms; for instance, some non-union men having been employed by contractors to work in the City Building, a public notice was given that "Aldermen placing themselves on record as opposed to the proper recognition of organized labor, will be dealt with when they come before the public for re-election." The effects of this strike have been felt as far away as Pittsburgh where all the other trades have stopped work on the public buildings because, the steam-heating contract having been let to Chicago parties, non-union fitters were employed.

The cornice-makers have been on a strike¹ for months but their demands for recognition and for the power conferred upon the unions by such action, are so exorbitant that it would seem impossible for any one to accept them and still run his own business. The stone-cutters likewise feel that they are not able to sufficiently "discipline" those who employ them and are talking of a strike² as soon as spring work begins, or even before.

It has always seemed to hurt the feelings of the average citizen of Chicago that the United States Government building has a strip of green grass around it when all that land might have been built over, out to the very edge of the sidewalk and so leave nothing pleasant for the eye to rest upon. However, there is now a probability that this evil will be remedied, since a strong effort is being made to obtain an appropriation for a new building. The old ruin now used for the post-office, sub-treasury, customs-department, courts, etc., has been ever since its completion, a trial and tribulation to its occupants, as well as a continued source of expense to the Government. Poorly planned and worse constructed, it has become the proper thing to run the old building down so that no words from the ordinary citizen or the local press have been too severe for it. Even architects have absolutely refused to see any of its good bits of detail (which had nothing to do with the poor plan and cracked walls) because the style is not in harmony with our present feelings and requirements.

If any more illustrations are needed, this particular building is certainly a bright and shining example of the pernicious system of having a building designed at Washington by a person who has no time or desire to learn the local conditions which would affect any building so designed. Under the best of circumstances the subsoil of Chicago is unsatisfactory for a foundation, and is so much so that no architect from abroad has ever built (so far as known to your correspondent) his first heavy building here with footings such as to prevent very serious settlements. But at the post-office in addition to all ordinary difficulties, the locality was forty years ago a swampy slough so that a worse combination could scarcely have been found and the result is not surprising. Walls and piers have settled irregularly, large cracks are painfully numerous, while some of the floors are heaved up and broken in a most surprising manner. Four years ago at a great expense tie-rods were run through the entire building from end to end and side to side, for a time, checking the trouble but not permanently curing it; now the water and sewer pipes are again displaced and broken, while some of the walls are seriously out of plumb. All attempts but go to prove that no permanent remedy can be found, but if such were possible, it would be scarcely expedient to employ it since the most serious cause of complaint is actually in the fact that all of the departments, especially the post-office are so cramped as to work at the very greatest disadvantage. The condition of the building is not yet so absolutely dangerous as the daily press would try to make out, still it is serious enough to demand immediate attention and even temporary repairs would call for a considerable sum of money. Hence, there is a general hue and cry that we must have a \$4,000,000 building. As something is undoubtedly seriously needed and as all the influence possible is being brought to bear, it is not improbable that the matter will soon come before Congress, and if not acted upon at once will be before many more sessions.

Just at present, Chicago and its vicinity seem to be unusually fruitful in schemes. The inhabitants of the suburb of Evanston are having a severe attack of the cooperative system of living. About forty families have formed an association, and, their meals having been cooked at a central or common kitchen, are sent

from there in wagons to the houses of the afflicted in different parts of the town. The scheme undoubtedly has very many good points about it, if properly and systematically worked out, but it has been entered into by a number of ladies, with most of whom economy in household expenses was evidently not necessary. As a result, it was carried out in such a thoroughly unbusinesslike fashion that a considerable deficit soon appeared. Manager No. 1 was thereupon dismissed and another man engaged, who, it is hoped, will be able to offer a veritable banquet-menu each day at the cost of \$4 per week for each person, a result which, if attained, shall be duly chronicled. Something not quite so generous, but conducted in a considerably more businesslike manner, has also recently been set on foot at Evanston. This is expected to combine architectural effects with the comfort and happiness of a Bellamy-like life. Four acres on the lake shore comprise the land for the community. There are to be twelve residences ranged about a central lawn, at the end of which, upon the lake bluff, is to be a small club and boat house. All the houses are to be lighted and heated from a central power-house, which will also contain a central kitchen and laundry for the families that form the community. Each member invests \$2,000 for his own lot and a twelfth part of the common property, and no house costing less than \$3,500 is to be allowed. Having once been admitted to the club, no member can sell his property and rights, except to a person unanimously favored by the rest of the company.

Another cooperative scheme on foot is the erection in the city of a large office-building, where floor-space will be sold to parties as may be desired, including, also, a *pro rata* of the ground upon which it is built. One million dollars is the sum fixed upon as necessary to buy land and put up a satisfactory building.

While on the subject of schemes, the various air-ships should not be overlooked, since within the past six months at least four companies have been incorporated for their manufacture. According to illustrations published, most of them appear to the common observer as practically one and the same thing. They are all composed of cigar-shaped cylinders of different numbers and dimensions, from which are suspended cars, the whole being driven and guided by numerous large, propeller-like wheels, which are themselves put in motion either by electricity or gas. Where there is so much smoke there is some strong probability of fire, and hence it would be a matter of no great surprise to have some one of these companies reasonably successful in their enterprise: still, after having had an accurate time-schedule of trips to New York laid out for about four hours, and other minutiae specifically detailed, it is somewhat discouraging to receive reports like one recently sent from Mount Carmel. One of the supposedly most active companies is located there, and was said to be busy at work, but it appears that nothing has been done except to dig the post-holes for the fence which is to be built around the great factory. Also, the 24-foot model which was to have been flying around in the old exposition building a month ago has failed to materialize, so that, altogether, the outlook for immediate success, at least from this company, is a little disheartening.

There is one enterprise that is, however, it is pleasant to note, now far advanced beyond a scheme, and that is the South Side Elevated Road. The question of right-of-way has, of course, been a most serious one, and to have obtained such rights upon any of the principal streets would have been an utter impossibility: in consequence, the decision was taken to run the line in the wide alley between State Street and Wabash Avenue, where the requisite proportion of property-owners' permits could be more easily obtained. The result, even here, has been slow, and attended with considerable litigation, but at length nearly two miles have been constructed, and recently the corner-stone of the first station was laid, so that a near realization of rapid transit towards the South is assured. The stations are to be somewhat differently arranged from those in New York, being located on the ground directly under the girders carrying the tracks, one building thus answering for passengers going either way. The exits and entrances are kept separate, and the passengers leaving the trains do not have to pass through the waiting-rooms, all of which, it is believed, will be found to be more durable, economical and convenient than any plan yet used.



THE PENN MUTUAL LIFE INSURANCE COMPANY'S BUILDING. — QUARTERS OF THE ATHLETIC CLUB OF THE SCHUYLKILL NAVY.

Of the buildings now approaching completion in Philadelphia two of the most important are by Mr. Theophilus Chandler. One of them, Mr. Warden's apartment-house is far and away the most important structure of its class in Philadelphia, and it is in fact, the only very large building in the city especially designed to be rented in suites of rooms. Although larger, the apartment-house does not, for several reasons, attract as

¹ Since this matter was set in type these strikes have been settled.

² This strike is now "on."

much attention as the building for the Penn Mutual Life Insurance Company. In the first place it is not so nearly completed. In the second, it is, though but five minutes walk from the Penn Mutual Building, in a much less frequented neighborhood, and in the third place, it has a far less attractive exterior.

For the reason that it is somewhat removed from completion, we will leave a description of it to a subsequent issue, and address ourselves to the Penn Mutual Building, which is so far advanced that a number of offices are already occupied. The building is most centrally located, being on Chestnut Street, the chief business thoroughfare, and almost adjoining the post-office. Although generally spoken of as the Penn Mutual Building, it consists, in fact, of two almost separate structures, the one fronting on Chestnut Street being entirely for rental purposes, and having a vast banking-room on the first floor with offices on the seven floors above. It is interesting to note the importance which Mr. Chandler very justly attaches to the light-well, for, though the front building occupies a width of about seventy-five feet and a depth of one hundred and ten feet, the light-well is about twenty-seven by sixty feet. Its walls are, of course, of white glazed bricks, and as a consequence of this and of its size, there is not a dark office in the building.

All this is in strong contrast with another of our large blocks of offices, the Bullitt Building completed a year or more ago, in which two light-wells are used, both covered with skylights, and one so small that in the offices opening upon it lights must be burned on all but the brightest days. Naturally these rooms remain for the most part, unrented. At the Penn Mutual there is no roof over the light-well and the rooms opening upon it are quite as desirable as any others. The rear building, a five-story structure, is occupied entirely by the Penn Mutual Life Insurance Company. Their public offices are in a room of excellent proportions, which occupies the entire first floor, the ceiling being carried by four fine Ionic columns of Tennessee marble, the shafts being monolithic.

It goes without saying that the equipment of the building is of the finest, but there is a matter of particular interest in the manner of electric-light wiring. The wiring, as well as the plant, is installed by the Thomson-Houston Company, and its peculiarity consists in the fact that each room in the building is on a separate circuit, the wires running without break or joint from the room to the switch-board in the cellar. The advantages of such a system are apparent, as an accident to any circuit interferes with the lighting of one room only. Naturally such a system is expensive in the first instance, and it is said that the copper wire in the building cost some four thousand dollars.

Thus far we have looked at the building from the point of view of practical utility only, and we have found in it all excellences, but unfortunately, from the higher standpoint, that of Art, the view that we are forced to take is a far less satisfactory one. While the façade, being entirely of marble, and having in general an air of strength and dignity, commands, at the first glance a sort of admiration, this admiration is, on a closer examination, mingled with regret that a scheme so noble and so full of promise, should have been carried out with so many errors of artistic judgment. Owing to a peculiarity of the site, the building-line of a portion of the front is some ten or twelve feet in advance of that of the remainder. This projecting part was naturally enough devoted to a tower. But as the area thus covered is of small dimensions, the tower, partly on this account and partly on account of its unfortunate design, has the effect of being too narrow for its height, an effect that is added to by the fact that one of its corners stands on a single detached pillar, and that many stories of its front are encumbered with bay-windows, which, however pleasant they may be for those occupying the offices within, have from without, the air of clinging most uncomfortably to the work behind it. The commonplace mass which forms the upper portion of the tower, and which is now one of the most conspicuous objects on Chestnut Street, has at least the virtue of being what it pretends to be, white marble, a virtue which the adjoining tower of the *Record* Building tries so unsuccessfully to assume, it being only galvanized-iron painted in imitation of granite.

Of the remaining and more important, though less conspicuous portion of the front, it is, fortunately, possible to speak in terms of commendation. It consists of an arrangement of three arches side by side, carried on great square piers, and, above these, three other arches carried on attached Ionic columns of very noble proportions and of much dignity of expression. These arches occupy six stories in height, the seventh being treated with a small arcade, while above these rise interesting dormers. The chief faults of this portion of the front lie in the fact that the work above the sixth story is of too small a scale to properly harmonize with the massive work below, and that the effect of foreshortening has not been sufficiently allowed for in the dormers.

The detail throughout the building shows the utmost care. While some of the stone-carving is a trifle hard in effect, it is all scholarly and correct in its intentions.

From whatever point-of-view one may look at the Penn Mutual Building, it is a work distinctly above the average, conceived in a serious vein, and marred only by errors of artistic judgment.

Some mention has from time to time been made in these columns of the remarkable growth of clubs within a few years in Philadelphia. This is well illustrated in the Athletic Club of the Schnykill Navy, the new house which, though opened several months ago, has not yet been described here.

It was but a few years ago that this club was started by half-a-dozen men with a working-sum of only two or three thousand dollars. To-day it has nineteen hundred members and a club-house worth \$175,000. Unfortunately for the club, its remarkable growth was not foreseen when the plans of its house were under consideration. A plot of ground 45 feet wide and 150 feet deep, locked-in on both sides by party-lines, was purchased, and a certain firm of architects was commissioned to prepare plans. After much work had been done by them upon the difficult problem, they found that they had been summarily dismissed by the building-committee, who thereupon turned their plans over to another architect, Mr. Willis G. Hale. In Mr. Hale's hands they were very considerably changed, and from these modified plans the structure was erected under Mr. Hale's direction. The committee, with the exquisite sense of justice usual to such bodies, declined to make a settlement with the original architects until they were finally upon the point of being forced to do so by legal process.

Putting aside the Club's trouble with its architects, in which it erred, perhaps, rather through a lack of the sense of fair dealing on the part of those in charge of the matter than it did as a body, and returning to the club-house, it appears that, after all, the club has secured perhaps as much as was possible for the sum expended and upon such a disadvantageous site. It passes understanding how any committee of average intelligence could reach such a decision as to purchase, for the purpose of erecting upon it an athletic club-house, a lot in the middle of a row of houses—a lot the sum total of the bounding lines of which is 390 feet, 300 of which are not available for light and air.

However, Mr. Hale has made the best of a bad bargain for his clients. He has given them bowling-alleys, billiard-room, *café*, restaurant, parlors, roof-garden and the various accessories of a social club, together with a swimming-pool, Turkish-bath, racket-court, locker-room, running-track, and, wonderful as it may seem, a gymnasium on the third floor, practically equal in size to the entire lot.

The chief defect of the building appears to lie in the fact that it is of the ordinary wooden-joist construction, a defect the gravity of which is likely to become more and more apparent in a building subject to such strains as one used by an athletic club, and especially one in which the gymnasium is used as a hall in which a crowd of twelve or fifteen hundred persons is sometimes accommodated. Perhaps this fault is not the architect's. He certainly was called upon to provide an amount of building quite out of proportion to the money to be expended. If the fault is with the committee, they doubtless are able now to see their error.

The artistic treatment of the building is relatively unimportant. Its somewhat pretentious front of Indiana limestone is less *bizarre*, less "original"—in other words, less offensive than might have been expected under the circumstances.

EQUESTRIAN MONUMENTS.¹—XXXIV.

GENERAL WASHINGTON. I.—1.



The Great Seal of the Confederate States of America.² From the *American Historical Record*.

"FOR no man can ever expect to make two equestrian statues," wrote that most opinionated of mortals, Thomas Jefferson, in the letter addressed by him from Paris on July 25, 1785, to the Virginia Delegates in Congress. Jefferson was much given to laying down the law upon all sorts and kinds of subjects and upon none with more aplomb than matters of art and architecture. It was fortunate that in matters political he could look farther into the future than when the question concerned matters of art. He had a sincere admiration for and, doubtless, a fairly just appreciation of art and architecture and evidently had a sincere belief in the time-worn apothegm *ars longa vita brevis est*, and it would have been entirely beyond the possibility of his imagination to conceive that within a little more than a century there should live sculptors like Boehm and Fremiet, who could each point to a dozen or more large equestrian groups, and Marrochetti to a lesser number, as their work, while of his own countrymen two, Clark Mills and H. K. Brown, had accomplished what he denied they could ever expect to do. One would think, too, that a man of his turn of mind who had spent some time in Paris inquiring into the matter of equestrian monuments, even if he had not heard that John of Bologna and Pietro Tacca each had made several equestrian statues, would have learned that Girardon had made two equestrian statues of Louis XIV and that Coysevox made several equestrian groups.

This letter of Jefferson's—a lengthy one, as became those times

¹ Continued from No. 785, page 29.

² Executed in silver (3½ inches diameter) by J. S. Wyon, in 1864, after the design by J. H. Foley, R. A. The equestrian figure follows Crawford's Washington.

when the lack of postal facilities made letter-writing a matter to which one heartily devoted himself, and bent all his energies to make his time as well spent as possible for both writer and reader—is interesting and amusing too, for the Jeffersonian didacticism appears in every paragraph. The writer's object was to bring it about that



Washington, a Bronze Statuette in the Metropolitan Museum of Art, New York. Possibly by Houdon.

the commission for executing the equestrian statue of General Washington which Congress had resolved to erect should be placed in the hands of the French sculptor Houdon for, as Jefferson writes, he was "in possession of the house, the furnaces and all other apparatus provided for making the statue of Louis XV. If any other workmen be employed, this will have to be added to the price of the statue. . . . The addition which this would be to the price will much exceed the expectation of any person who has not seen that apparatus. In truth, it is immense." Fortunately Houdon had better right to expect the commission than the mere fortuitous possession of an immense "apparatus." With all his positiveness Jefferson was, like the rest of mankind, fickle, and a few years later, in November, 1793, he is found writing to Cerrachi—an Italian sculptor who came to America in 1791 in the hope of securing the National Monument which Congress had voted to erect—bidding him to be of good hope, for the execution of the long discussed equestrian statue was only delayed till Washington should retire at the end of his second term, for when that time arrives, "your title to the execution is engraved in the minds of those who saw your works here." So in the mind of Jefferson at least, Houdon, in spite of his ownership of an "apparatus" was a less desirable artist than the Italian. And this change of heart took place after Houdon had visited this country in 1785 and had modelled from the life the marble statue in the State-house at Richmond which is generally held to be the authentic portrait of Washington. The statue itself, however, though the model was finished in 1788, was not placed in the Virginia's State-house until May 14, 1796, so Jefferson, perhaps, had no real knowledge of the success that had attended the efforts of his first protégé.

Although Houdon came to America to model from the life the pedestrian statue for the State of Virginia, he probably would not have done so if it had not been for the assurance that Jefferson gave him, that he would by taking this step probably secure the commission for the equestrian monument; and it is known that during his visit he made the necessary sketches for the equestrian group and perhaps modelled some small studies. That he ever did more than this is wholly conjectural, but as it is not at all uncommon for sculptors to make studies in advance of receiving an order—in the case of the equestrian statue of Washington at Richmond, Crawford had perfected his conception eleven years before the commission was placed in his hands—Houdon very probably made several studies at different scales and possibly cast them in bronze. A statuette in bronze in the Metropolitan Museum in New York, one of the subjects in the collection formed by Mr. W. H. Huntington while Paris correspondent of the New York Tribune and by him given to the

Museum, was by this gentleman believed to be an authentic bronze reproduction of one of the studies that Houdon is assumed to have made at that time. How good the evidence Mr. Huntington acquired really was, cannot be told so the statuette must stand on its intrinsic merits. Authorities in Washingtoniana are divided in their opinions: Miss E. B. Johnston believes it to be Houdon's work, while Charles Henry Hart and W. S. Baker who have also studied deeply the portraiture of Washington, are more than sceptical.

However it may be with the New York statuette, there is another which can be proved to have some connection with Houdon; this is the bronze statuette which the Right Honorable George Young, Lord Justice of Scotland, acquired from the sculptor's daughter some thirty years ago. It does not pretend to be Houdon's own work, but merely the work of one of his German pupils, possibly Rauch, based on the elder sculptor's sketches and memoranda, and subjected to his criticism. Such a memorial as this should be in America, not in Scotland, and it is understood that its present owner is not unwilling to present it to the United States Government.

Houdon's expectations, which Jefferson fostered at first, were based on the action of Congress, which, on August 7, 1783 Resolved "That an equestrian statue of General Washington be erected at the place where the residence of Congress shall be established." This resolution which was, naturally, brought forward by the Virginia Delegates was unanimously adopted by the ten States represented.

It was further Resolved, "That the statue be of bronze, the General to be represented in a Roman dress, holding a truncheon in his right hand and his head encircled with a laurel wreath. The statue to be supported by a marble pedestal, on which are to be represented in *basso-relievo* the following principal events of the war in which General Washington commanded in person, viz: The Evacuation of Boston, the Capture of the Hessians at Trenton, the Battle of Princeton, the Action of Monmouth, and the Surrender of York. On the upper part of the front of the pedestal, to be engraved as follows: 'The United States in Congress assembled ordered this statue to be erected in the Year of our Lord 1783, in honor of George Washington, the illustrious commander-in-chief of the armies of the United States, during the war which vindicated and secured their liberty, sovereignty and independence.'" It was further resolved that the statue should be "executed by the best artist in Europe," and as Houdon stood as high as any French sculptor—others than Frenchmen seem to be barred by the fact that the "Minister of the United States at the Court of Versailles" was to superintend the work—he felt that he might count the work as his to do.

The reasons that delayed until 1877 the erection of a statue of General Greene, which Congress voted only three years later, operated to the postponement of active work upon a statue of General Washington, as contemplated by this resolution, for almost as long a period.

Very likely between 1783 and 1853 the resolution of August 7 was many times taken up, debated and once more tabled, and so it is that



Washington, Clark Mills, Sculptor, Washington, D. C.

we have been spared the ownership of a statue of a man who earned such honor as a soldier, falsified and belittled by the civic garb of a bare-legged Roman statesman. The people of the United States have not taken kindly to classic attire for their statues: Greenough's undressed statue of Washington stands, or rather sits, almost without a companion in the country so far as raiment is concerned—whether laid aside or worn, and the only equestrian statue on these

Western Continents where a Roman precedent has been followed is the Carlos IV at Mexico. Yet it was the earnest intention of the early Congress that a pseudo-Roman statue of Washington should be erected and, if Dunlap is right, there was once such a statue modelled and set up, July 2, 1826, in New York—in City Hall park, probably. This model, for it could have been nothing more since there is now no trace of it left and very little seemingly in the way of record, was the work of a Veronese sculptor, Andrea Causici, who was at one time employed upon some of the bas-reliefs on the Capitol at Washington and who, in 1827, was the winner in the competition for the great marble statue of Washington which crowns Robert Mills's columnar Washington Monument at Baltimore. The fact that, as a pupil of Canova's, he may have been employed upon the seated statue of Washington which that sculptor, at the order of Governor Miller, executed for the State-House at Raleigh, N. C., may have suggested to Causici's mind that he was better fitted than any one to carry into effect the intention that Congress had expressed in 1783. On the other hand, as the corporation of the City of New York furnished a place for him to work in and presumably paid more or less for his work, it is not improbable that he knew nothing whatever about the resolution of Congress, and modelled Washington as a Roman horseman simply because, as a pupil of Canova's, he did not know how else to model him.

Another model for an equestrian statue of Washington based on the Congressional prescription was made by John Echstein, a medalist employed in the United States Mint, Echstein who, in 1796, had modelled the last bust of Washington from life—a miniature affair intended as the base for an Indian medal subsequently modelled—in 1812 exhibited the model of an equestrian statue of Washington garbed in the Roman manner. Considering Echstein's profession, it is probable that this model was a small affair in wax and that the material of which it was made was not long after used for other models.

The resolution of August 7, 1783, slumbered, perhaps fitfully, until January 17, 1853, when Mr. Dean of New York introduced a bill reading as follows: "Be it enacted, that the sum of \$50,000 is hereby appropriated to enable the President of the United States to employ Clark Mills to erect at the city of Washington a colossal equestrian statue of General Washington, at such place in the public grounds in said city as shall be designated by the Committee on Public Buildings and Grounds, and substantially carry into effect the resolution passed August 7, 1783, in the Congress of the United States of America."

The bill is remarkable in that it at once designates the sculptor who is to do the work, and this was not the outcome of successful wire-pulling and log-rolling, but was due to the fact that Clark Mills was the author of the equestrian statue of General Jackson, which was unveiled in that same year, and was consequently better known to the Congressional lawmakers than Brown who had received a similar commission the year before, and these two sculptors were the only Americans who had given proof of the ability to successfully carry out so important an undertaking.

In the discussion that preceded adoption a decided opposition to the Roman costume was developed, in the course of which Mr. Breckenridge, of Kentucky, declared that "the American people never will consent to have another statue of General Washington in the Roman costume, or in any other than the Continental." To

what Mr. Breckenridge referred when using the words "another statue," is not clear, unless he had in mind Canova's seated warrior or Greenough's naked statesman, for in all the other statues Washington had been shown in his usual garb, with or without the aid of a draped cloak. Even Houdon declared unhesitatingly against classic forms as soon as he saw what sort of a man he was to have as a subject.

Mills received the commission, and the next seven years were spent upon it, so that it was not unveiled until February 22, 1860, on the site where it now stands, at the intersection of Pennsylvania and New Hampshire Avenues.

Unfortunately it is one of those statues that need an explanation, and it might be stated as an axiom, that no piece of sculpture can be really good that needs to have some one at hand to tell what it means. The sculptor is said to have sought to represent an incident at the battle of Princeton, where Washington, seeking to overcome the panic which Lee's defection had occasioned, tried to lead on the Colonial troops in person, but his horse, sharing the panic of those who surrounded him, balked. This may be a worthy incident

to portray, but such an incident has tendency to lead the sculptor to concentrate his attention mainly on the horse's terrified obstinacy, or upon the rider's resolute endeavors to overcome it. In this case Mills seems to have thought mainly of the story the horse was to tell, and after one knows what that story is, one perceives that the effort is not wholly unsuccessful; but until the secret is known there is a temptation to think that Washington is simply riding a horrid nightmare. So far as Washington's deportment goes, the tale is not properly told. When a leader, seeking to control a panic, is thwarted by a balky horse, there is little chance that he will waste valuable time in petting and soothing, and still less in quietly waiting for the beast's nerves to get steady. It is rather a time when the armed heel is brought into play and the forward



Washington, Richmond, Va. Thomas Crawford, Sculptor.

pressure of the rider's body seeks to communicate action to the hesitating brute. There is none of this here. Washington sits as unmoved and impassive as if he watched the chance of battle from some hill-top out of the line of fire. His figure could be interchanged with the figure in Union Square, New York, and then not too inadequately represent the idea Brown had in mind, that is a moment at the end of a battle when he had given the order to cease hostilities.

The statue has less exaggeration of action than Mills's first group, the General Jackson, but a glance shows that it is evidently the work of the same hand, so that there is no need to go into details; but if it were, one single point would be conclusive: in each statue the sculptor has committed the same anatomical fault of bringing the horse's eyes too far forward in his skull, so that he is shown as an animal whose main line of vision is forwards and not sideways.

There is another curious detail which shows how a man who works for months and years on a thing, as a sculptor does on a large statue, will even then forget to bring all the details into harmony: if the sculptor wished to model a horse with voluminous mane and tail, there is no reason why he should not; but apart from the fact that a really terrified horse will get his tail almost as far between his legs as will a frightened dog, there is no natural or artistic propriety in placing the group in the vortex of a cyclone, for it will be noted that while the mane and tail of the horse are blown forward in a perfect

hurricane of motion, the tails of the General's coat are wafted in the contrary direction.

The sculptor intended the group to be placed on a pedestal more than twice as high as the one whereon, since 1860, it has stood in Washington Circle, the place President Buchanan selected for it.

The original resolution that was adopted by Congress in 1783, was introduced by the Virginia Delegates. That State, however, was not content to do only this, but in 1816 sought to secure the removal of Washington's remains to Richmond, there to be buried beneath a monument erected in his honor. As the desired transfer could not be brought about, the monument project, for which a popular subscription was at once begun, languished and finally dropped out of sight; but in 1849 it was revived, and a competition for the design was held at that time in which forty-one designs were submitted. As Thomas Crawford had eleven years before practically perfected a design for such a monument, he took part in the competition much better equipped than his two score opponents, and his success was very likely due to the long and serious study he had given to the subject. It would be an interesting thing to bring together these forty-one designs submitted in one of the early, and certainly one of the most important, competitions ever held in this country.

In reality, this is the earliest equestrian statue of Washington, for, though it was unveiled February 22, 1858, more than two years after Brown's statue in Union Square, New York, it was commissioned to the sculptor more than two years before Brown received his order. That more than four years more were taken to complete the Richmond group than the one in New York is due to the fact it was a more complex subject, constituting the most ambitious sculptural effort that yet exists in this country in which the horse takes a place. The Mills statue has been considered first, as it is really the outcome of the original action of Congress; the Richmond statue, although the date of unveiling was later than that of the New York statue, must properly be next considered.

Before the competition, Crawford had made at least three designs for equestrian statues of Washington, two of which seem to have had the general character of the one finally executed in that they combined with the equestrian group certain ancillary pedestrian figures, which symbolized sundry virtues. In the executed monument the Virtues play a less important rôle, being reduced to the third class, their seated figures serving to support trophies blazoned with the military record of Revolutionary Virginia; while the places they originally filled are taken by the more than life-size statues of Thomas Jefferson, Patrick Henry, George Mason, John Marshall, Andrew Lewis and Thomas Nelson.

Although the corner-stone was laid on February 22, 1850, the monument was not completed until 1868, when the allegorical figures of Independence, Justice, Revolution, the Bill of Rights, Finance and Colonial Times were added, the statues of Marshall, Lewis and Nelson having been set in place only in the preceding year. The figure of Mason was put up in 1860, while the monument itself was unveiled and dedicated February 22, 1858, with only the figures of Jefferson and Henry and the surmounting equestrian group to suggest the effect the completed work would have eventually.

Various causes contributed to delay the work, one of which does not seem to have been any difficulty in providing funds; for, though the Legislature appropriated in February, 1849, \$52,787.33, which should raise to \$100,000—the estimated cost of the monument—the fund which had accumulated by interest on the \$13,063 raised in 1817 by popular subscription, it did not hesitate, when proof appeared that the cost would greatly exceed the estimate, to pass nine additional appropriation bills, with the singular result that, while the last appropriation, April 7, 1858, was for \$45,000, the Treasurer's report shows an unexpended balance of \$89,293.73. The total cost of the monument was \$259,988.26, the six pedestrian figures costing \$9,000 each, and the allegorical groups costing \$5,000 each.

Aside from the interruption caused by the War of the Rebellion, the death of the sculptor was probably the occasion of most delay, apart from the length of time which the execution by one man of so much work must inevitably consume. The news of Crawford's death at London was brought by the same vessel which bore as part of her freight the figures of Jefferson and Henry and the equestrian group. The vessel arrived in November, 1857, and the citizens, when they heard of its arrival, gathered on the wharf on November 24, and drew the statues in procession to Capitol Square, thus imitating, consciously or unconsciously, the action of the skilled modellers, founders and finishers at the Munich foundry, who refused to let common workmen prepare the statues for transport, so sincere was their respect for Crawford's work, and still more for the character of Washington.

Crawford himself wholly completed only the figures in place when the monument was dedicated, and the models for Mason and Marshall, so it became necessary to appoint his successor, and choice fell upon Randolph Rogers, who completed Crawford's figures, and, probably, created the other two figures, Lewis and Nelson. With these sculptors was associated in the erection of the monument the architect Robert Mills, the designer of the monument at Baltimore. How much he had to do with the composition of the architectural portion of the monument is not clear, but, as the base of the monu-

ment covers a considerable area, as the pedestal is forty feet high, and large enough to contain a spiral staircase that gives access to the top, it is plain that there was good reason for employing an architect.

When the monument, as it now is, is examined, it is found that, as a composition, it "straggles" badly, and that the pedestrian figures are better pieces of sculpture than the main group, which is both actually and relatively too large for its pedestal, although from the statue's plinth to Washington's cocked hat measures only twenty feet. The line of the hind-legs and haunches inclining outward adds to the disagreeable air of top-heaviness and want of proportion between statue and support.

It will be remembered that Jefferson Davis when Secretary of War insisted that the statue of Liberty which Crawford modelled to crown the dome of the United States Capitol should never reach its destined place unless the liberty-cap were removed. This obstacle was overcome by substituting for the Phrygian cap obnoxious to the apostle of States Rights the plumed war-bonnet of the American Indian. A similar obstacle was thrown in Crawford's way in the matter of the Richmond monument by the same petty-minded objector. Crawford modelled for one of the bas-reliefs for the pedestal a group of three female figures of which we have no clear recollection save that the middle figure was closely veiled and that either she or one of the supporting figures wore the liberty-cap. This was enough to condemn it in Davis's eyes and he did not cease his intriguing until it was rejected and cast aside. Some time after the close of the War the Ames Manufacturing Company discovered among a lot of old bronze they had bought for the melting-pot a large panel in bas-relief, signed with Crawford's name and the name of the Munich founders. Recognizing that it was deserving of a better fate, they laid it aside and traced its history until they discovered that it was the panel Davis would not allow to be used at Richmond. To-day it stands beside the office door of a great New England foundry instead of adding another element of value to what is in many ways a very interesting monument.

WASHINGTON.—George Washington was born in Westmoreland County, Virginia, February 22, 1732; was sent by Governor Dinwiddie on a mission to the French commander in 1753; made lieutenant-colonel and aid to General Braddock, 1754; a member of the House of Burgesses, 1758; a delegate to the first Continental Congress; commander-in-chief of the American forces in the War of Independence, 1775; resigned his commission, 1783; first President of the United States, 1789-1797, when he finally retired from public life; died December 11, 1799.

HOUDON.—Jean Antoine Houdon was born at Versailles in 1741, and studied under Sirey, Lenoire and Pigalle. He won the first prize in sculpture in 1761, and was afterwards made an Academician, a member of the Institute and a professor at the School of Fine Arts. Houdon executed a vast number of works, including a great quantity of admirable portrait-busts, among them being those of Washington, Franklin, Lafayette, Paul Jones, Diderot, Voltaire, Rousseau, Buffon, Necker, Mirabeau and Bailly. His other important works are the statue of Washington, made for the State of Virginia, now in Richmond; the colossal statue of St. Bruno, in the Church of S. Maria degli Angeli at Rome; the seated statue of Voltaire, in the Theatre Français at Paris; a "Diana," in the Louvre; a "Vestal," a "Morpheus," "La Frioleuse," and statues of Cicero, Tourville and General Joubert. Houdon died at Paris in 1828.

CRAWFORD.—Thomas Crawford was born in New York City in 1814, and at the age of nineteen entered the studios of Frazee and Launitz, the sculptors. In 1834 he went abroad for the purpose of studying, and took up his residence in Rome, where he became the pupil of Thorwaldsen, and where the greater part of his after-life was passed. His first notable achievement was the "Orpheus," made in 1839, and bought by the Boston Athenæum, and this was followed by a great number of works of all kinds—groups, single figures, busts and reliefs. The most important of these are the group of "Hebe and Ganymede," now in the Boston Museum of Fine Arts; the statue of Beethoven in the Boston Music Hall; "Adam and Eve after the Expulsion," in the Boston Athenæum; "Habeas in the Wood," in the Lenox Library, New York; the "Indian Chief," belonging to the New York Historical Society; "Flora," formerly in the A. T. Stewart collection; and James Otis, in the Chapel at Mount Auburn Cemetery, Cambridge, Mass. For the National Government, he executed the figures symbolical of the progress of American civilization in one of the pediments of the Capitol, and bronze doors (also for the Capitol), on which are modelled scenes in the life of Washington. He designed the figure of Liberty which surmounts the dome of the Capitol, and which was completed by Clark Mills. The State of Virginia gave him the commission for the equestrian monument to Washington, which stands in Richmond. In 1856 he was afflicted with blindness, and died in London in 1857. After his death, his widow presented a large number of casts from his works to the city of New York.

MILLS.—Clark Mills was born in Onondaga County, N. Y., in 1815, and was left an orphan at the age of five years. After a youth of hard work in various kinds of manual labor, he learned the stucco business in Charleston, S. C., and while there, in 1835, discovered a new method of taking casts from the living face, which enabled him to make busts so cheaply that he soon had as many commissions as he could attend to. He then resolved to try cutting in marble, and executed a bust of Calhoun, for which he was awarded a gold medal by the City Council of Charleston, who placed it in their City-hall. He made many other busts, the equestrian statues of Andrew Jackson and George Washington in Washington, and completed the figure of Liberty on the dome of the National Capitol, after the design of Thomas Crawford. Mills died in Washington in 1883.

[To be continued.]

A CURIOUS EXPERIMENT.—Several years ago a curious experiment was tried by an engineer. He took a large funnel fitted with a stop-cock, and screwed the pipe into the top of a boiler containing steam at about forty pounds pressure. He then filled up the funnel with cold water and opened the stop-cock. It would naturally have been predicted that the steam would have blown all the water out of the funnel. It did nothing of the kind. On the contrary the water rushed into the boiler. As a result of this and several other experiments, a boiler-feeder was designed and patented, and worked with tolerable success. It was found, however, that it was not certain in its action, and the injector coming into high favor at the time, the inventor spent no more money on his ingenious idea. The inrush of water was due to the fact that the steam condensed in the long pipe of the funnel, and water-hammer action then drove the water into the boiler. Practically just below the cold water there was a vacuum into which the water was driven by its own weight and pressure of the air.—*Invention.*

¹ This original fund was placed in a bank which failed, and the fund was lost, but the State shortly after made it good, and deposited an equivalent amount in safer hands.

A RUN THROUGH SPAIN.¹—IV.

A SPANISH GRIDIRON AND AN OLD AQUEDUCT.



IT is a sort of stock expression concerning El Escorial to say that it is a gloomy place. And when one has sat an hour in his balcony overlooking the Puerta del Sol in Madrid, sipping his wine and watching the animated scene below where thousands of gay Spaniards are bent on pleasure, and immediately after taken a train to this noted place, he will be a strange character indeed who does not emphasize the stock wording, and add a dozen more adjectives. The town is cold, gloomy, dingy, bare, dead. Contact with dead royalty seems to have wrought an everlasting effect upon itself and its people. There is no joking, although the sun shines there sometimes, and I verily believe that even Mark Twain would be obliged to smile in silence and loneliness if he should endeavor to make a pun upon this granite gridiron.

Because poor St. Lawrence suffered for his beliefs by being slowly roasted to death, Philip II conceived the idea of immortalizing his name by building his home in that form, superintended its construction for years, under the hand of the architect Juan de Herrera, enjoyed its seclusion for a time and at last died within its gridiron-forming walls.

Thus the Escorial is a tomb of royalty, in fact, a tomb of tombs. If use should be expressed by the character of the design, the Escorial is a stupenduous success. No words can express the deathlike silence that reigns in these halls. Away up in the mountains even nature in its vicinity seems to breathe the same air of silence. Dark skies and rainy clouds are more frequent than sunlight.

Royalty cannot escape the darkness of death, and Philip II by his own will has left to Spain its royal tomb. Life only enters its interior sanctuary as princely clay is deposited. When the living depart, naught but clay remains. Thus the sensations of solemnity are tremendous, and one is glad after having seen its mysteries, to escape to the outer air.

To understand the grim old building with its dark and gloomy station in the mountains, it is only necessary to know the character and life of its founder, and his reasons for its form and location becomes obvious. He was a sober old fellow, this Philip II, whose life was full of gloom and foreboding, and therefore he built his house as plain as a factory, and as gloomy as a tomb; he was given to solitude and study, and therefore he built his home away up among the mountains, away from the noise of business and the companionship of men. Thirty-six courts and eleven thousand windows, all alike, a huge church, crypts and tombs without number, a library and a palace, all combined go to make up this home, a scheme not poetical certainly, but representing the simple cold and haughty character of its founder.

We arrived at the little hotel opposite this huge palace tomb after climbing up a tremendous hill, the atmosphere full of rain and the very clouds hanging like a pall over the place, and toning-in with the general gloomy character of everything around about. The street ran on a little farther and disappeared against the very mountain side.

"Heavens!" we said, "what a place to live in!"

"Horrors! what a place to die in!"

I cannot express the gloom that seems to settle upon your very heart; you no longer joke or smile, you scarcely speak above a whisper, you seem to see the gloomy king promenading his gridiron courts, thinking, thinking, thinking, and you are led into the same strain and wonder, wonder, wonder, at all you see. Being an architect you wonder why the architect did not throw himself over its very walls long before it was completed.

We awoke the next morning to a drizzly rain, cold and damp and dismal, and in just the kind of spirits to see the gloomy old pile. But at the same time the sight of the mountains enveloped in huge masses of clouds was not uninteresting, and as the sun seemed to be endeavoring to pierce the huge billows, I seized my camera and rushed up the street into the mountains beyond, and at last gazed

down upon the Escorial laid out like a panorama. The huge masses of clouds swept over the mountains, leaving every few moments a rift through which the sun shone, as if endeavoring to disperse their density and burn them away. A crowd of men, women and children gathered around, chattering about the "magico" of the thing, but seeing that it did not "go off" with any great amount of danger drew around and were persuaded to stand up in a row and have their pictures taken. One young woman more forward than the rest, almost demanded to "see herself as others saw her" through the medium of a picture, and nothing would satisfy her until we told her that it could not be seen without "agua magico" which she must furnish, and this not being forthcoming she seemed better satisfied.

Returning to the hotel we sat down to a breakfast of eggs, rolls, and chocolate. The circumstances of this meal were rather embarrassing, for at the other end of the room were three young men just arrived, as we could see by their baggage. A couple of bags rested upon the table, and from these bags the gentlemen were making their toilets: first under-clothing, and then top clothing followed one another, while we endeavored to hide our inherent modesty by counting the lines on the wall-paper, hardly daring to make a remark above a whisper.

"Lucky these Spaniards are not very particular about etiquette, by Jove!" said one.

"Yes, I am afraid they might otherwise be shocked, don't you know," replied the friend.

"Oh well, we shall never see them again, you know, and they will never see us either," said the third, "so here goes!"

All things have an ending of course, and the end came when they had completed their toilets, and sat down to their breakfast. Their mortification knew no bounds when they discovered that our languages tallied almost exactly, and that we were no more Spaniards than they were, and had heard their little dialogue.

Proceeding down the street after breakfast, and going down a little staircase of granite we entered the gateway of the Escorial under the guidance of a most intelligent fellow, who took us through the immense courts and corridors to the palace quarters. They are not particularly interesting, some being hung with bright-colored Gobelin tapestry, and others having scenes from the Spanish wars in fresco on the walls. One suite, however, was most beautiful in design, being no less than rooms whose architraves, doors, and panel-work were a solid inlay of silver marquetry, exquisite in design and workmanship. A small passage-way separates this gorgeousness from the desolate quarters of Philip II, which have nothing of interest in them, save themselves. A brick floor rings out as we traverse it, a table, and a chair or two are all it contains. The chamber has no outside windows even, and is only lighted from a little opening looking down into the huge church below.

If we could look back, and have seen the king, as the processions of monks entered the chancel below, have seen the clouds of incense swinging from the golden censers of the little choir boys, we might also have seen the agonized face of Philip II, eagerly following the service below, clutching the crucifix in his dying hands, and dying with his eyes fixed upon the altar he had caused to be built; for thus he sank into his last sleep surrounded by but a handful of friends, with a reputation unsullied by wrong doing, but held up at the same time as a taciturn, foolish old man, who with the wealth of a nation at his feet still chose a life of solitude and poverty, and governed his people from his gloomy old palace among the hills.

But forget not, however, that this was the same man who, at this very place when the news of the total loss of the Armada was announced, replied, without complaint, "I thank God for having given me the means of bearing such a loss without embarrassment, and power to fit out another fleet of equal size; a stream can afford to waste some water when its source is not dried up." This very scheme had cost him millions of ducats, and eighteen years of earnest work, and it was a courageous old man who thus spoke. If he did not gain the love of his people, he most certainly held their respect and trust.

If we now leave these rather dismal quarters, pass through a long corridor between massive walls, and enter the church, we are within the walls of the most interesting part of the whole Escorial, barring, of course, the resting-place of the kings below. The church is sombre and cold, but stupendous in effect. Unlike many Spanish churches it is unbroken by the *coro*, and the effect is thus enhanced; but as you turn around toward the west, an immense arch crosses the nave, and above this is the *coro*, a situation far more agreeable, since it leaves the church unbroken by its mass: it is reached by a stairway of large proportions. This arrangement should command the study of all interested in the architectural proportions of churches.

Before we have fairly got our breath after climbing the stairs, the guide rushes forward and, with a grin of satisfaction, stands beside an old oak seat in the *coro*, and with his finger on his lip as if about to announce an extremely important event, whispers, "Sit there!" We sit down one after the other, just as we would have sat in the famous chair at Westminster, or just as we would have kissed the toe of the figure in St. Peter's at Rome, but finding that nothing unusual results, we all turn to the old man as if to know what has transpired. "The seat of Philip II," he solemnly announces, and thereupon claims a peseta. Oh, well, we think, the man who would not pay twenty cents to have sat in the chair of Philip II must have a heart of adamant, or a soul totally incapable of appreciating the requirements of modern sight-seeing. "Oh, yes," we say,

¹ Continued from No. 734, page 7.

"we wouldn't have missed it for anything, oh no, not we! Pass on, old man, the spirit of Philip II is in the air, and we would give a dollar at any time to see his old shoes!" But the old man doesn't understand us, and thinks that we take it all in and are thanking him for his rare entertainment.

Remember that this magnificent church was built for the especial use of Philip during his life-time, and that the number of people who must have worshipped in it was bounded by his household and attendants, and the monks who conducted the services and lived in the monastery. Monks are supposed to pass their lives, I believe, in holy meditation and continual self-thrashings of both mind and body. At least this is the supposition, although I have seen some few that did not seem to regard that as the chief end of monks, and there are some evidences of a like worldly disposition even in this church. Architects remember the peculiar form of the church-stall, which, while forcing the occupant to stand, yet allows him to bear his precious weight upon a worldly ledge, and thus cheat the church out of his pretended suffering. The guide explained this by placing himself in an attitude of monk-like prayer, and at the same time pointing to the ledge which supported him. "But," said I, "wasn't that rather cheating the soul of its due?" He shrugged his shoulders much like the Israelite, and remarked, "But you know it would have been so tiresome to stand all the time."

Three naves stretch away 320 feet long, and 230 feet wide, and the central cupola rises above the pavement 320 feet high. Yet with all this space grandly designed the feeling of loneliness and despair is inexpressible, and the light entering seems to emphasize the fact that this huge granite church in the middle of huge granite blocks of the palace, is simply a sepulchre within a sepulchre. You may descend still deeper, but it is only to descend into deeper gloom, until at last you are standing away below the light of day and surrounded by the dust of the departed kings of Spain. This pantheon is under the altar and reached by steps lighted only by torches and guarded by the impressive inscription, "Great and Omnipotent God." A more solemn place can hardly be imagined. Pomp and power, wealth and favor count as nothing, and, as the feet resound through the chill chamber, the mind instinctively reverts to the entrance and its solemn motto.

We came out from the depth of the Escorial, into the outside air of the court, but it was some time before we could shake from our minds the solemnity of the place, or the great letters of gold under which the kings of Spain had been borne to their last resting-place, and would be borne for ages to come.

I have not spoken of the many monuments, the magnificent retable, the tombs, and statues, the pictures, or the embroideries, in which the church is rich, because any description in detail must necessarily be short and almost uninteresting. Impressions are all that one can carry away; the originals must be seen to be enjoyed in the least. But with the varied points of interest within the Escorial, there is an impression that will remain forever fixed in our minds, and that is the truth and purity of its model, and the grandness of its construction. Here is no flimsy building, no galvanized-iron roofs, no iron columns to support stone arches, no perishable plasters or cement, no tinsel, no gilding; here all is pure and true, and grand and noble.

C. A. RICH.

[To be continued.]



[Contributors are requested to send with their drawings full and adequate descriptions of the buildings, including a statement of cost.]

THE STATE-HOUSE AND THE WASHINGTON MONUMENT, RICHMOND, VA.

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

THE Virginia State Capitol stands on a commanding eminence in the heart of the city of Richmond. It is a stuccoed brick building, and is an imperfect copy of the Maison Carrée at Nîmes, the design being selected by Thomas Jefferson. It was finished in 1792. A terrible calamity occurred in the Capitol on April 26, 1870, when the floor of the Court of Appeals room gave way and fell about forty feet to the room below, carrying with it four hundred people. Of these, sixty-two were killed and two hundred and forty-nine wounded. Houdon's famous statue of Washington is in the main hall of the first story of the Capitol. A fuller account of the building was published in the *American Architect* for May 26, 1888.

SKETCHES OF WROUGHT-IRON WORK—TWO SHEETS BY THE FIRST *American Architect* TRAVELLING-SCHOLAR, MR. T. F. LAIST.

[Issued with the International and Imperial Editions only.]

BITS OF FOREIGN DETAIL, SKETCHES BY THE FIRST *American Architect* TRAVELLING-SCHOLAR, MR. T. F. LAIST.

[Issued with the International and Imperial Editions only.]

NEW THEOLOGICAL SEMINARY FOR THE EVANGELICAL LUTHERAN CHURCH, BALTIMORE, MD. MR. J. A. DEMPWOLF, ARCHITECT, YORK, PA.

FOUR SMALL COUNTRY HOUSES NEAR BOSTON. MR. C. H. BLACKALL, ARCHITECT.

HOUSE FOR H. C. BREWSTER, ESQ., ROCHESTER, N. Y. MR. J. G. CUTLER, ARCHITECT, ROCHESTER, N. Y.

COMPETITIVE DESIGN FOR PROPOSED CITY-HALL, PORTLAND, OREGON. MR. H. STEINMANN, ARCHITECT, SEATTLE, WASH.

[Additional Illustrations in the International Edition.]

WROUGHT-IRON JARDINIÈRE.

[Etching.]

ENTRANCE TO THE HOTEL IMPERIAL, VIENNA, AUSTRIA. HERR ZANETTI, ARCHITECT.

[Gelatine Print.]

QUEEN'S GATE, LONDON, ENG. MR. R. NORMAN SHAW, R. A., ARCHITECT.

QUEEN'S GATE, LONDON, ENG.: ENTRANCE HALL. MR. R. NORMAN SHAW, R. A., ARCHITECT.

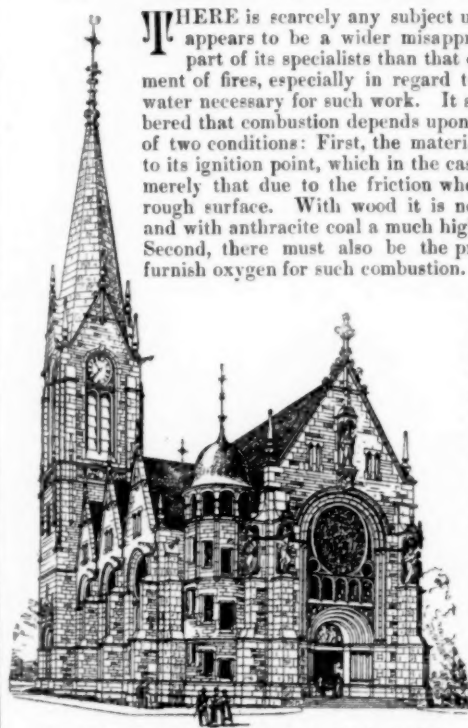
QUEEN'S GATE, LONDON, ENG.: EXTERIOR. MR. R. NORMAN SHAW, R. A., ARCHITECT.

QUEEN'S GATE, LONDON, ENG.: THE HALL. MR. R. NORMAN SHAW, R. A., ARCHITECT.

QUEEN'S GATE, LONDON, ENG.: ENTRANCE. MR. R. NORMAN SHAW, R. A., ARCHITECT.

In our last issue we published an illustration of a Wenham lamp, entitled "Lustre, in Metal." It should have been stated that the lamp was designed and manufactured by the well-known firm of Messrs. Elster & Co., of Berlin.

WATER REQUIRED TO EXTINGUISH FIRES.



Design for Peterskirche, Frankfurt-on-the-Main. Grisebach & Dinkelgrase, Architects. From *Deutsche Bauzeitung*.

WHERE is scarcely any subject upon which there appears to be a wider misapprehension on the part of its specialists than that of the extinguishment of fires, especially in regard to the amount of water necessary for such work. It should be remembered that combustion depends upon the coincidence of two conditions: First, the material must be raised to its ignition point, which in the case of a match is merely that due to the friction when rubbed over a rough surface. With wood it is not far from 600°, and with anthracite coal a much higher temperature. Second, there must also be the presence of air to furnish oxygen for such combustion. When combustion is stopped by the withdrawal of air as one of these conditions, it will resume again on the readmission of air, unless the circumstances are such as to produce rapid cooling by means of radiation. Thus, fires in mines have been entirely extinguished by means of carbonic-acid gas; but as the sides of the mine are non-conductors and would not allow the material to cool with any degree of rapidity, therefore when air was admitted the wood at once became re-ignited. The combustion of a pound of wood will produce 7,200 thermal units. To reduce the temperature of such burning wood, an amount of water must be applied, whose rise in temperature will absorb the heat produced, and in that way reduce

the temperature of the whole to below its ignition point. To evaporate one pound of water at the temperature of 60° Fahrenheit requires 1,119 thermal units: therefore the amount of heat evolved in the combustion of a pound of wood is sufficient to evaporate 6.43 pounds of water, and this is the minimum amount of water with which it is possible to extinguish burning wood.

It is well known, as a practical matter, that it is almost impossible to extinguish a fire in a building when it becomes structurally ignited, and that the work of fire-departments under such circumstances is wellnigh confined to efforts to prevent the spread of the fire, rather than to extinguish the material already ignited. The floors of mills and warehouses, when made of timber, weigh about 25 pounds to the square foot. They, therefore, contain a sufficient amount of combustible material in every square foot of floor to evaporate 160 pounds of water, or enough water to cover the floor 2 feet 7 inches deep. In what is known as the great fire in Boston, on November 28, 1889, an amount of water was thrown upon the fire sufficient to cover the burned districts, including streets, to a depth of 12 feet 7 inches, and in the great fire at Lynn two days before, which devastated buildings over about 40 acres of ground, the amount of water used was sufficient to cover this area to a depth of 7 feet. These large volumes of water certainly show that a large quantity must inevitably be wasted. In all events, the quantity of water thrown upon a fire must be largely in excess of a minimum amount of 6.4 times the weight of the wood actually under combustion at the time. Suppose the water was supplied at a temperature of 60° and obtained enough heat from the fire to flow away at 100°, this increase of 40° under such circumstances would mean that the weight of water used would be 180 times the weight of the burning wood. A fire in the picker-room of an American cotton-mill was extinguished by automatic-sprinklers fed from a tank, which had just been filled, and was partially emptied in extinguishing the fire. It was afterwards found that 107½ pounds of water were used for each pound of cotton burned; and it was considered that this fire was very rapidly extinguished. Owing to the rapidity with which the sprinklers come into action, however, the total quantity of water used is small.

In the reports of the Boston Manufacturers' Mutual Fire Insurance Company, a corporation devoted entirely to the insurance of textile mills and other manufacturing establishments in the northeastern part of the United States, there is a list of fires occurring on property insured by them and extinguished by automatic-sprinklers. The record of these automatic-sprinkler fires includes the statement in the majority of instances that the loss was so small that no claim was made. But in looking over the list for the purpose of ascertaining the number of sprinklers necessary to extinguish fires, it will be noted first that only in a relatively small proportion of the instances is the number of sprinklers operating stated. Taking the figures as they are, we learn that in 1887 twenty-eight fires were extinguished by two hundred and twenty-two sprinklers; in 1888 forty-seven fires were extinguished by two hundred and forty-one sprinklers; and in 1889 fifty-seven fires were extinguished by eight hundred forty-two sprinklers; the average number of sprinklers operating at each fire being 6.38. The average number of sprinklers operating at a fire is much greater with the earlier forms of automatic-sprinklers than with the later and more sensitive forms, because experience has shown that the more sensitive a sprinkler the fewer of them open at a fire, as they come into operation and extinguish the fire before it has reached to a large extent. In the case of some of the best sprinklers the average number in service at fires is 2½.

As a rough rule for sprinklers of ordinary dimensions the quantity of water in cubic feet discharged per minute is equal to $Q = .55 \sqrt{p}$, p being head in pounds per square inch. This coefficient applies to forms of sprinklers in most general use, although with some of them it reaches as high as .75. These automatic-sprinklers are under an average pressure of 50 pounds to the square inch, which corresponds to a delivery of 3.9 cubic feet per minute. On this basis, with an average operation of 6.38 sprinklers at a fire, the amount of water used is 24.88 cubic feet. Comparing these results with the discharge of water through 50 feet of 2½ inch hose, with the 1½ inch smooth nozzle used in American practice, it will be seen that the automatic-sprinklers use very much less water, as under these conditions a nozzle will deliver 37.73 cubic feet of water per minute, or that only one stream will use about one and one-half times the water used by the sprinklers.

When sprinklers were first introduced, it was anticipated by some that their operation would cause an excessive water-damage; and as improvements caused the sprinklers to be more sensitive, it was assumed that these various augmentations of sensitiveness would also extend the water-damage; but the facts have been entirely to the contrary, for the water-damage from automatic-sprinklers has, like the fire-damage, been very small in comparison with the water-damage and the fire-damage where reliance has been put on other forms of fire-apparatus. There are, it is true, places where automatic-sprinklers are not applicable. There is also a tendency on the part of inventors to hamper and complicate automatic-sprinklers by various attachments and improvements (so-called), mainly those designed for the purpose of shutting out water from the automatic-sprinkler system in order to prevent damage from freezing during cold weather. That such devices, if carried out to their ideality of prompt, positive, and exact operation, would be a great desideratum is certainly conceded by all; but the experience with such details

has not been at all satisfactory, and it is feared that the record of buildings destroyed under such circumstances, owing to the inoperation of devices contrived to open valves at time of fire, will seriously prejudice automatic-sprinkler systems to an unjust extent. — *Engineering.*



[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.]

A PARTY-WALL QUESTION.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I would like to know, if you can refer me to any legal authority bearing upon the following case:

We have in process of construction a building occupying premises, from which we had to remove a previous building; originally there was an eight-inch party-wall on one side of this property. The owner of this property extended his building in height, and added four inches to the wall on his side. In erecting our building we found it inadvisable to rebuild the party-wall, and in place of doing so carried all our floors which are of steel beams upon beams which in turn are supported by cast-iron columns placed against the original party-wall. It was necessary for us to carry up one steam-pipe and two ventilating flues a certain distance, and in order to avoid breaking into our rooms, we cut into the eight-inch party-wall four inches to enable us to get our pipes past the beams which carry the floor beams. The owner of the adjoining property denied our right to in any way touch or interfere with the party-wall, and threatened injunction proceedings and law-suit in case we failed to desist. For reasons entirely aside from the equity of the case, the owners of our premises instructed us to do as he wished, and make good, so far as possible, any cutting which we might have done in the said party-wall. The building, which we removed from the premises, had wooden joists, which had their support in this party-wall. It seems to me we would have had a perfect right to put new joists in the wall had we had occasion to do so. What I would like to find out, if it lies within your power to determine, is, what are the rights of owners in party-walls in cases of this nature. Yours sincerely, F.

[THERE is no general rule of law applicable to such cases in this country. In France, where party-wall matters are recognized, and in part regulated, by the Code Napoléon, a great mass of party-wall law has grown up, through decisions relating to the application of the Code; but few, if any, of our States possess statutes of this sort, and the rights and duties of the joint owners of such a wall are regulated by the wording of the contract or deed from which they obtain their rights, modified, in some cases, by local building regulations. For example, in Boston, and, we think, in some other cities, the law absolutely prohibits either owner of a party-wall from cutting or building slots or flues in it within two inches of the party-line, no matter what his deed, or agreement with the adjoining owner, may authorize him to do. It is, perhaps, possible that in this case the building regulations, or the opinion of the Inspector, which generally has the force of law, may have been opposed to cutting to the party-line. If not, we suppose that the other owner must have objected, on the ground that such cutting would weaken the wall. It is generally specified in party-wall agreements that neither owner shall do anything to injure or weaken the wall; and, if not specified, something of the kind would usually be assumed to be implied. Whether the cutting described would actually weaken the wall would be a question of fact, the answer to which would depend upon the condition of the brick-work, the character of the lining, and so on, but a prudent owner would avoid taking any risks in such matters.—EDS. AMERICAN ARCHITECT.]

ARTISTS BURIED IN ST. PAUL'S.

BOSTON, MASS., January 17, 1891.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Referring to a paragraph in your just published paper on the late Sir Edgar Boehm, will you allow me to point out that the Queen was only following precedent when she named St. Paul's instead of Westminster Abbey as his last resting-place?

The Abbey contains the graves of but few artists, the chief ones being three noted architects of our own time, Barry, Scott and Street, while in St. Paul's lie its designer, Sir Christopher Wren, Sir Joshua Reynolds, James Barry, Benjamin West, Dance, Dawe, Fuseli, John Opie, Sir Thomas Lawrence, Turner, Landseer, George Cruikshank, the sculptor, J. H. Foley, and the architect, C. R. Cockerell.

ANGLO-AMERICAN.

THE SUB-SURFACE COURT-YARD OF THE "DAKOTA" APARTMENT-HOUSE.

NEW YORK, N. Y., January 20, 1891.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I regret being called on so soon again to ask for space in your journal for a correction, but a statement in the article on "Apartment-Houses" in your issue of January 17, seems to make it necessary.

The author, in referring to the "Dakota," says: "The only criticism

to be made upon it, but a serious one, is that the service entrances to the suites are situated upon the same court-yard, so that grocers' wagons and ice-carts are almost always to be seen standing about in the space which should be reserved exclusively for more fashionable equipages, and for the promenades of the tenants of the house."

The fact is, that a grocers' wagon has never been seen within the quiet precincts of this court-yard, and an ice-cart would cause as much consternation to the aristocratic tenants as a street-car trundled into the space.

The error, on the part of your author, very probably and naturally arose from not having at hand a basement-plan of the building—which I believe has never been published.

Underneath the court, the pavement of which is carried on arches, is a sub-court of precisely the same dimensions, lighted by two large openings, shown on plan. This is reached by a driveway at the rear on Seventy-third Street, of easy incline from the street-level, and a passageway under the building on the westerly side. In this sub-court are received all the commodities of housekeeping and all supplies for the tenants or house proper. The household goods of arriving or departing tenants are here received or discharged, and all garbage or ashes here removed. The service elevators and staircases start from this level, and servants are obliged to enter or leave the house through this court alone.

The arrangement has proved very successful and has attained precisely what your author lamented as lacking, namely, perfect quiet and seclusion for the main court-yard.

Very truly yours,
H. J. HARDENBERGH.



PAINTING IRONWORK.—One of the greatest difficulties in the way of protecting iron surfaces by means of paint is the difficulty of producing a firm adhesion between the paint and the metal. When applied to surfaces that have been polished, the difficulty is not so great, though, even in this case, anything that will cause a more perfect adhesion is to be welcomed. It is when paint is applied to the rough surfaces of iron castings, and especially to those that have been scaled by the action of vitriol, that the difficulty of producing a perfect and permanent adhesion is found. In order to secure the best results, iron that has been vitriolized ought to be well washed and carefully dried before the paint is applied. If the articles are small, and will bear the application of a strong heat, they should be heated until oil applied to them smokes. They may then be brushed over with a thin coating of boiled linseed oil; and, when this has become thoroughly dry, they may be painted. When the articles are too large, or when, from other reasons, it is impossible or inconvenient to heat them, the oil may be warmed before it is applied. A thin coat of hot oil will penetrate every pore, displace all adhering dampness, and stick to the metal so closely that no exposure to air or moisture will ever cause it to separate. To such an oiled surface paint adheres well; and when this process is adopted, we never find the paint falling off in large flakes, owing to moisture having crept into some crack and gradually producing a thin layer of rust between the paint and the metal. These remarks, of course, apply to metal that is exposed to the open air, and subjected to the action of frost, moisture and air. It is easy enough to protect metal that is kept within doors, in a dry place, and consequently needs no protection; but iron exposed to the elements is a different affair. And here we may, perhaps, be allowed to remark that these directions in regard to hot oil apply to wood quite as well as they do to metal. A coat of oil applied hot, and allowed to become thoroughly dry, is a powerful preservative, and makes an excellent groundwork for a subsequent coat of paint. — *Engineer and Iron Trades' Advertiser.*

DEATH OF DR. ANTONIO RAIMONDI.—Dr. Antonio Raimondi, the distinguished Italian explorer, died recently at Lima. Born at Milan, of a good family, in 1825, he early exhibited a great enthusiasm for geographical explorations. Having resolved to travel in Peru, he left his native country and landed at Callao in 1850. Raimondi was the first to explore every part of Peru thoroughly and systematically, devoting a lifetime to the task. Long ago it was resolved that Raimondi's great work on Peru should be published at the expense of the nation, and by a decree of June, 1873, complete effect was given to this resolution, and all the details of publication were arranged with great liberality. The first volume of the magnum opus, entitled *Parte Preliminar*, was published at Lima in 1874, and the second volume, *El Peru*, appeared in 1876. A third volume was issued in 1880. Other volumes dealing with the physical geography of Peru, the meteorology, geology, mineralogy, botany, zoology, and ethnology were to follow; but this magnificent undertaking was arrested by the devastating war waged by Chili on her neighbor from 1878 to 1883. Among other acts of vandalism perpetrated by the Chilians, a whole edition of the fourth volume of Raimondi's work was destroyed, and the national library was scattered to the winds. Raimondi resumed his labors after the evacuation of Lima by the Chilians in 1883, but he was unable to make much progress before his death. — *Philadelphia Telegraph.*

A RUSSIAN FIREPROOF PASTE.—Still another process for fireproofing combustible materials is reported as having made its appearance, this time in Russia. The medium is described as a paste, the invention of a poor school-teacher, and it is said to have been tested recently with most gratifying results by the Moscow Imperial Society of Agriculture. A shanty was built entirely of straw, and, after being covered

with the paste, was subjected to a hot fire, when the straw merely changed from a yellow to a reddish-brown color without igniting or even cracking. The Imperial Society has, it is stated, decided to introduce the use of this new invention throughout the empire, considering that it will prove of the highest value in villages where the houses are, as a rule, thatched with straw, and where fires once started frequently make a clean sweep of the place. The cost of the preparation is spoken of as being very small and should this youngest-born protector against the flames prove to be all that is claimed for it, it will deservedly take rank as a most useful invention; but the experience of Americans with the dozens of so-called fireproofing liquids and processes for fireproofing wood which have been advertised and hawked about within the last generation or two, does tend to make them rather sceptical about the true inwardness of such tests as that described. — *Fire and Water.*

EFFICIENCY OF CHIMNEYS.—An old chimney, 67 feet high, with internal diameter of 19.6 inches to 13.8 inches, and with total passage from fire to chimney-top of 98 feet, was taken down, and a new chimney, with an internal total height of 95 feet and a minimum internal diameter of 25.5 inches was planned out. When the chimney had gone up 39 feet it was tried. Already there was a great improvement on the old chimney; again at 46 feet it was much better, and at 52½ feet the draught was excellent, the smoke issued clean, without soot, and there was an economy of from 15 per cent to 20 per cent in fuel. So the chimney was finished off at that height. Herr Huth thinks that chimneys are usually made too narrow, and the mischief is aggravated by increasing their height, so that fuel escapes unburned. Herr Ramdohr, of Gotha, confirms this, and recommends a uniform internal diameter as being more rational, and as protecting the brick-work from the hot and rapid axial stream. The cross-section of the chimney should be from one-fourth to one-eighth the grate area, and the height not less than 50 feet, should not exceed 100 to 120 feet (the diameter being made to suit) unless the chimney is at a distance, in which case it may be 160 to 200 feet, the diameter being regulated according to the amount of soot which escapes. — *The Brickmaker.*

DISCOVERY OF CHALDEAN MONUMENTS IN LONDON.—The British Museum has become possessed of three Chaldean monuments which (says the London correspondent of the *Birmingham Post*) were found in Knightrider Street (not a stone's throw from St. Paul's Cathedral) during the recent demolition of some old houses. These are supposed to have been brought over in the early part of the seventeenth century by a Dutch merchant who was known to have lived on the spot where they were discovered, and who traded with the East Indies and the ports of the Persian Gulf. The stones, through their great weight, must have fallen through the ruins of the house at the time of the "great fire" of 1666, and were evidently unnoticed when the houses were rebuilt, they being discovered some distance below the present foundation. The monuments are of the pre-Semitic age of Ur, Nina and Gudea, when the Accadian language was alone in use and characters employed in writing were of the most archaic form. They are formed of black diorite, which was largely employed by the Chaldeans, and all may have come from southern Babylonia, though they are of three different periods. They will not be on view, however, until the middle of the present month. — *New York Evening Post.*

ARREST OF THE THIEF OF BUSTS FROM A CEMETERY.—That too ingenious person who stole bronze and marble busts from the cemetery of Montparnasse, touched them up and sold them as effigies of famous heroes, statesmen or orators, has at last met with the punishment which his lugubrious labors deserved. Moreau, for so the new kind of "resurrection man," to adopt the phrase of Dickens, is called, came up before the Eighth Tribunal of Police yesterday, and was soon sentenced to three years' imprisonment. The singular thefts perpetrated by Moreau in the cemetery long passed unperceived. He was accordingly able to make some money by his dismal and deplorable transactions, and it is considered probable that many of his transformed busts now adorn not only the humble homesteads of artisans in Paris, but also the libraries and museums of some provincial towns. On one occasion he is said to have sold the effigy of a worthy professor of the Sorbonne as that of a famous general of the Revolution, while on another he passed off the bronze presentment of a departed grocer as that of Demosthenes. — *Daily Telegraph.*

THE NEW BOARD OF MANAGERS OF THE SOCIETY OF FRENCH ARTISTS.—Every three years the Society of French Artists elects a managing body composed of 50 painters, 20 sculptors, 10 architects and 10 engravers. This committee has been renewed. The painters who voted were 1,075 in number and cast 947 ballots, the largest vote for Bonnat, followed by Robert Fleury, Lefebvre, Benjamin Constant, Laurens, Cormon, Pelouse, Jules Breton, etc. Bouguereau stood fourteenth, with 878 ballots. Sculptors voted 224 ballots, Etienne Leroux leading with 184 votes. 110 architects cast ballots, Vaudremer receiving 98 as the highest vote. The engravers were 222, and Lamotte led with 205 ballots. There are many expressions in Parisian art journals of a hope that the new body will persuade the secessionists at the Champ de Mars to return to their allegiance to the old *Salon*. — *New York Times.*

LARGE SPRUCE TIMBER-CUT IN NEW HAMPSHIRE.—This winter's spruce timber-cut in Coos County, N. H., and the adjacent towns on the Connecticut River in Essex County, Vt., is estimated to be 200,000,000 feet, which is largely in excess of the amount usually cut. It takes about 4,000 men and as many horses and oxen to handle it. The cash results from the timber landed on the river banks and in the mill yards is about \$7 per 1,000 feet, with a grand total of \$140,000 paid out for labor, fuel, etc. — *Boston Herald.*

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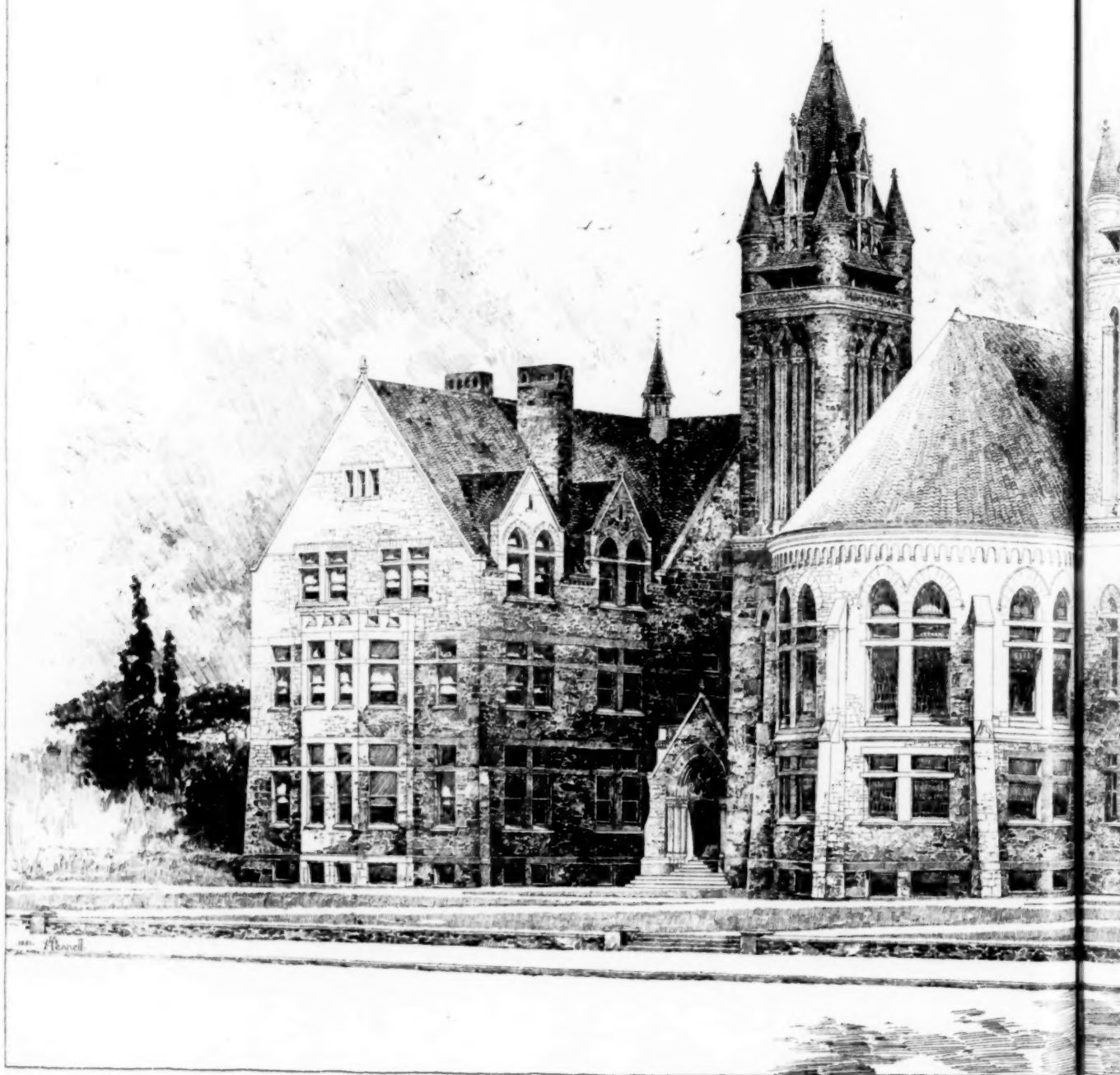
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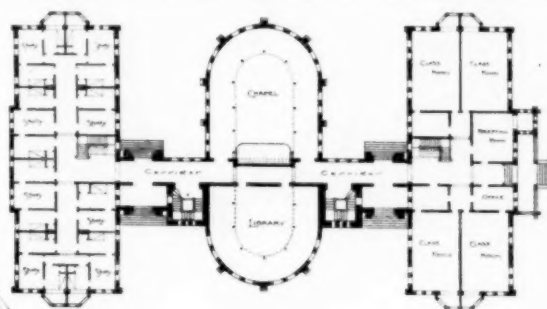
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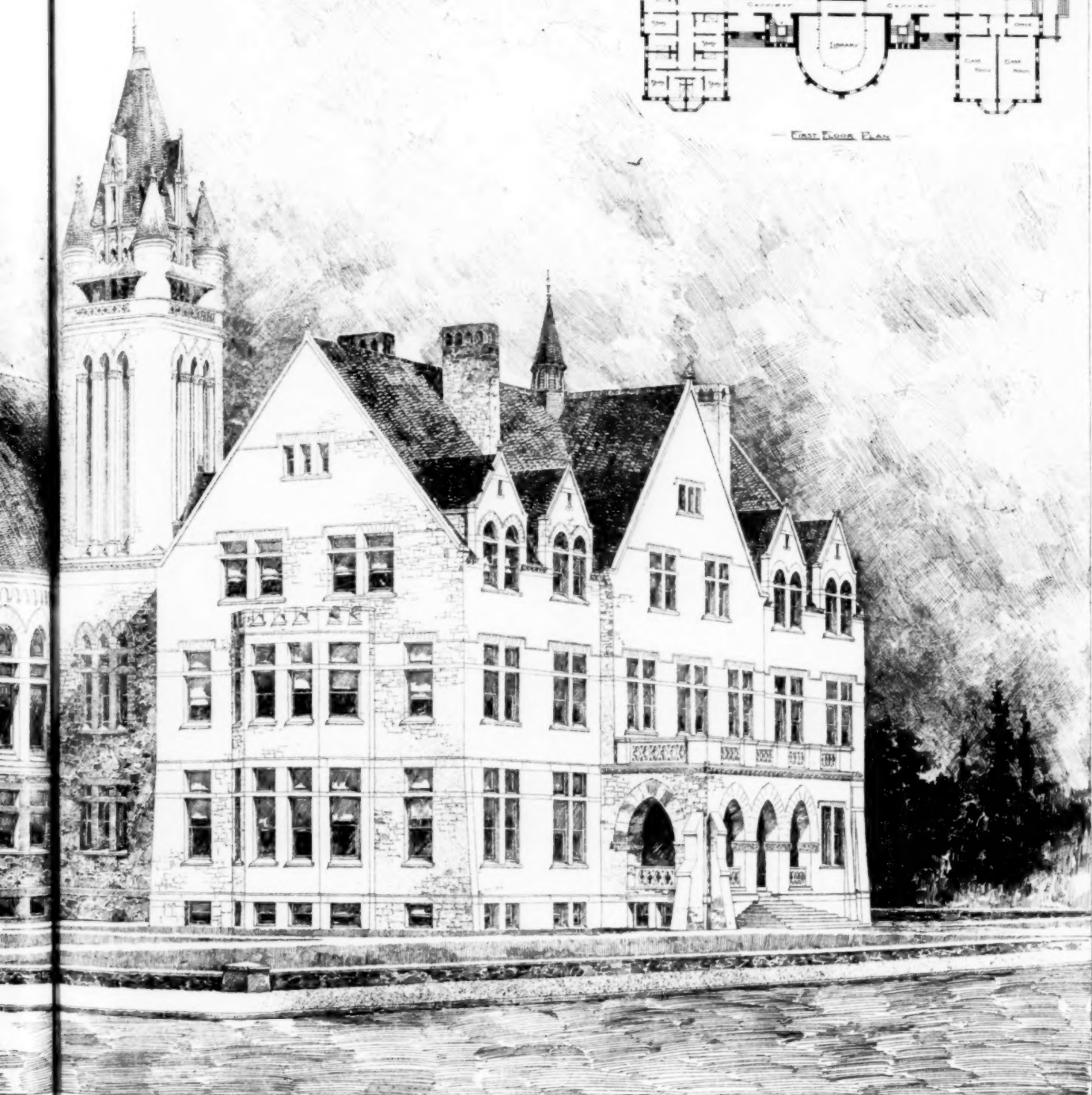
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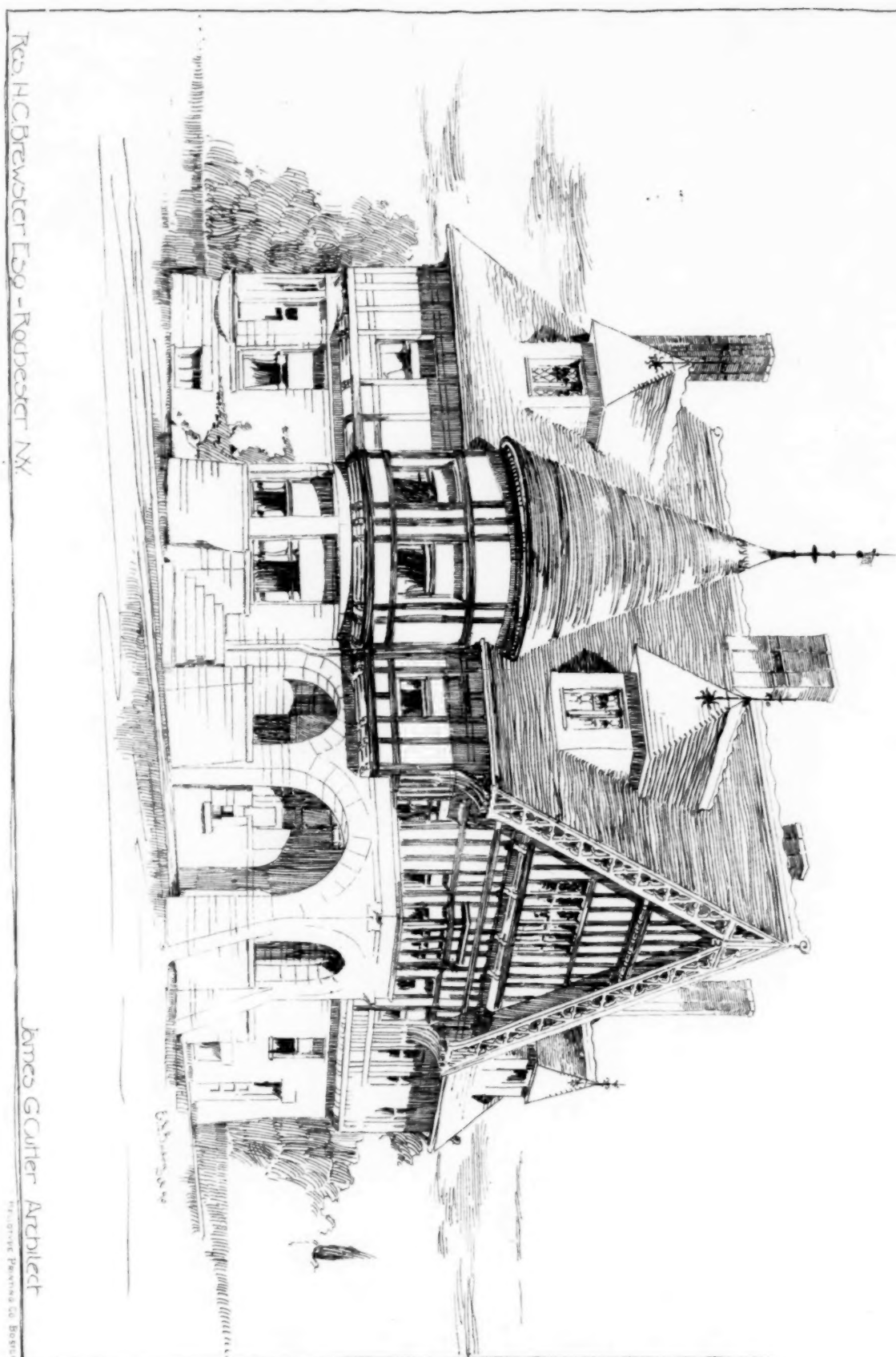
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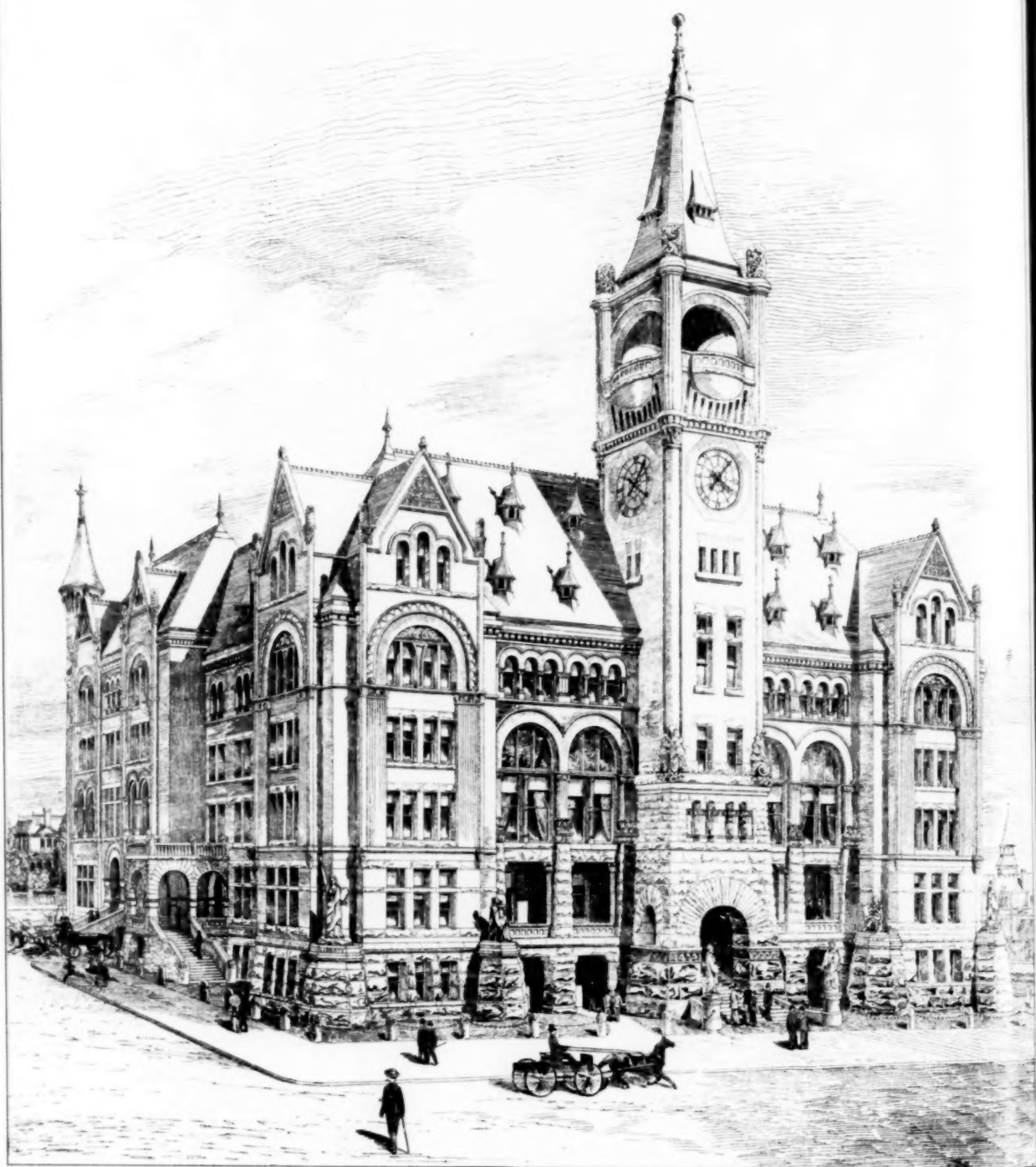
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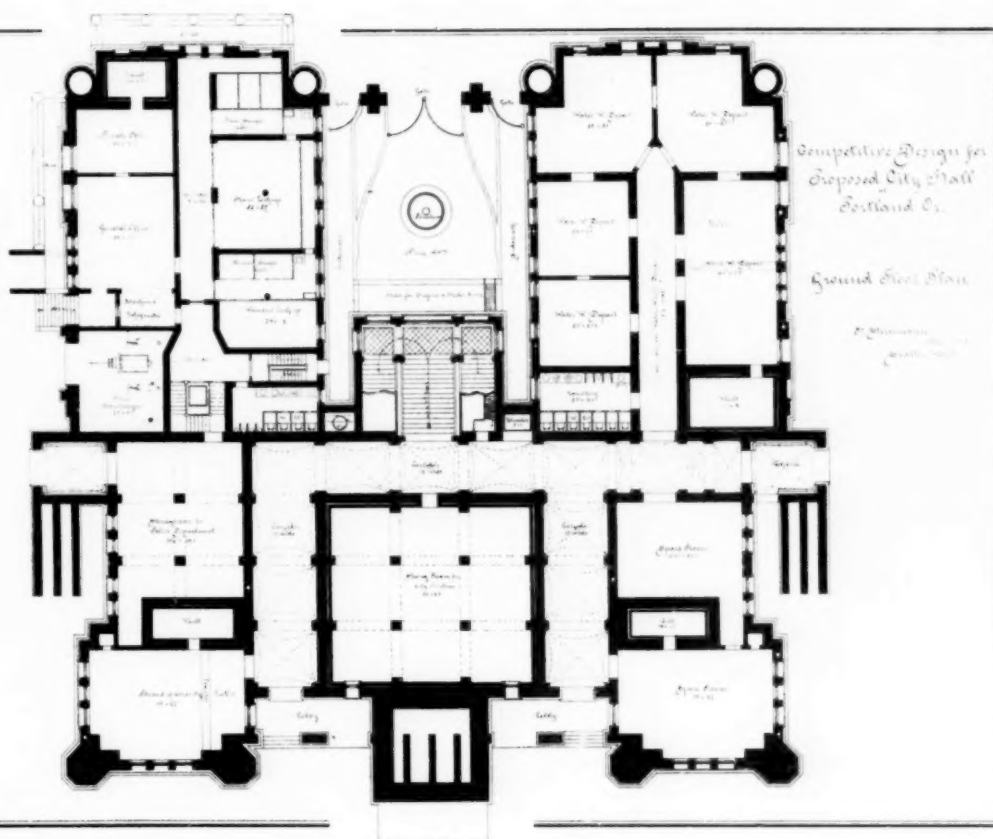
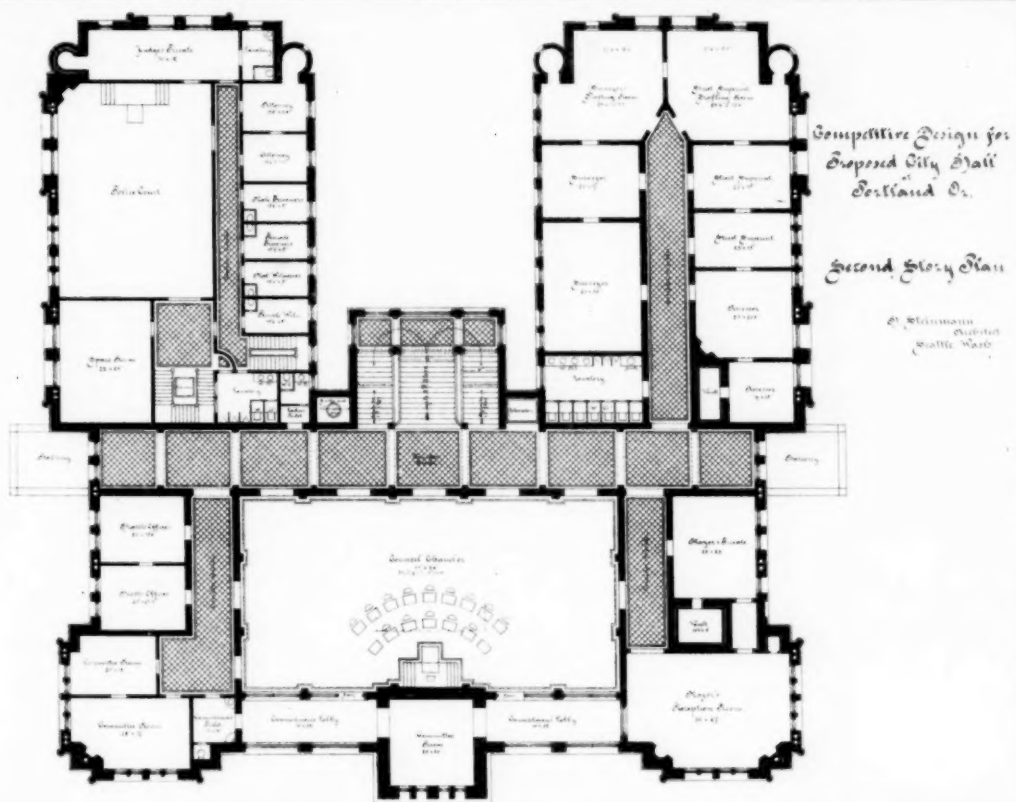




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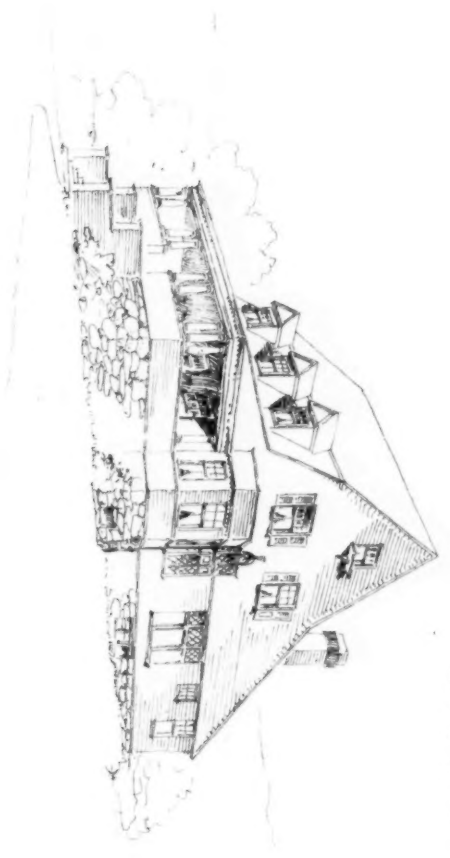


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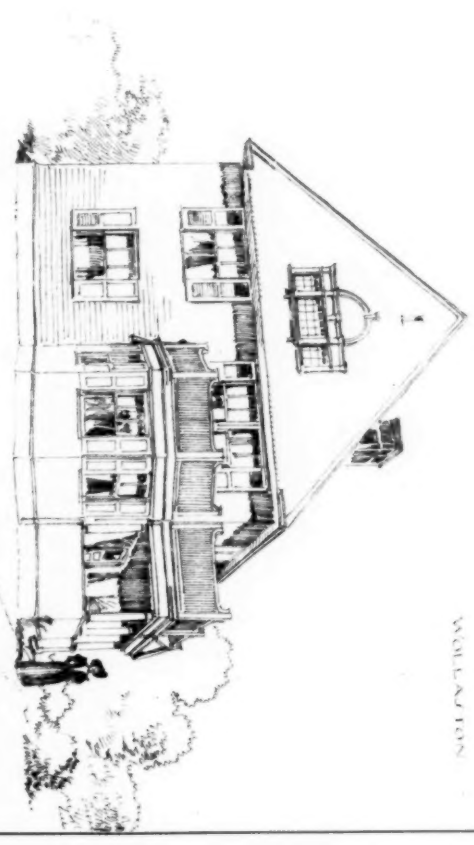
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