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VOL. XXXIV

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ARCHITECTURE

ENGINEERING

DECORATION

CONSTRUCTION

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CONTENTS.

ILLUSTRATIONS.

Additional Illustrations in the International Edition.

THE EXAMINATIONS FOR THE

ARCHITECT

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CONTENTS

THE New York Rapid Transit Commission has completed and submitted its scheme for a Metropolitan Railway which appears to have been very carefully considered, and entirely practicable. The main line begins in Whitehall Street, with a loop at the Battery, for convenience in handling trains, and continues, in a four-track tunnel, under Broadway to Fifty-ninth Street; thence under the Boulevard to One Hundred and Twenty-first Street; and across the valley which there intersects the city, by a viaduct, to One Hundred and Thirty-fourth Street; thence along and near the Boulevard, partly above and partly below ground, as the topography of the region may require, to One Hundred and Sixty-ninth Street; thence under Eleventh Avenue and under and above other streets and private lands, to Spuyten Duyvil Creek, which is crossed by a bridge, and the line continued through the "annexed district," mainly above ground, to the city limits. Connecting with the main line is a loop, branching west at the City-hall, and running under Park Row and Chambers Street, and joining the main line again; and a branch runs to the east at Fourteenth Street, to Fourth Avenue, continuing under this Avenue to the Grand Central Station at Forty-second Street, and extending thence under or near Madison Avenue to the Harlem River; crossing this, and continuing through the easterly part of the annexed district to Jerome Avenue. The motive power to be used will probably be electricity, but the Commission only stipulates that there shall be no combustion of fuel in the tunnels, so that compressed air or cable motors may be employed. The tunnels will be kept as near the surface as the grades will allow, for the obvious reason that passengers will not like deep tunnels, or long flights of stairs to get to and from them. So far as we can judge from the *Tribune's* abstract, the Commissioner's report is a model of common-sense, and no pains seems to have been spared to ascertain the conditions to be fulfilled, as well as the best means for fulfilling them.

ONE of those interesting "neighborhood fights" which afford so much amusement to the disinterested observer is recalled by a Chicago paper, which says that some years ago an enormously rich man in San Francisco built a huge house on a hill in that city. The mansion covered nearly a whole block, and would probably have covered the rest, but for a little wooden house, which already occupied one corner. The millionnaire made up his mind how much he would pay to buy out the owner of the obstruction, but the latter had his own idea as to how much he would take for it, and, as the two conceptions failed to harmonize, the transfer did not take place. The millionnaire, vexed at finding his neighbor so unreasonable, attempted to drive him out. He had a board fence built on his own premises, but close to the boundaries of his neighbor's lot, which was a very small one. The fence was carried up to the admiration of all beholders, until it reached the height of the roof of the little house, shutting out nearly all the light from one side of the house, and cutting off the sunshine after midday. The owner appealed to the courts, alleging that his rights were infringed, but, although the millionnaire acknowledged that the fence was useless, and was built merely to annoy his neighbor, the California law could find no ground for preventing a man from building anything he chose on his own land, whether it disturbed his neighbor's peace or not. The cottager, defeated in court, took the law into his own hands, and removed his laundry to the upper story of his house, using the roof as a drying ground; and every day the millionnaire was enabled to study the details of the enemy's family linen, which fluttered from the lines just under his windows. Meanwhile, the news of the war had spread through the town, and thousands of citizens and tourists hastened to see the cottager's "boiled shirts" waving defiantly above the hostile works. The man who lived in the little house seems to have made up in ingenuity and energy what he lacked in money, for, not content with this demonstration, he is said to have been on the point of leasing his house to a Chinese theatrical company, when the millionnaire gave in, and ordered the fence removed.

FORTY-SEVEN candidates presented specimens of their work for the preliminary examination for the Chanler Scholarship in New York the other day. The authors of the six best drawings are to compete later, in a final test, to which a week will be given. This year the first five mornings are to be given to a drawing from the nude, and four afternoons to painting a head from life. The last day of the examination is to be devoted to sketching a composition, on a subject to be announced. The successful candidate is to be sent abroad, and maintained there, if he conducts himself well, for five years, receiving the liberal allowance of nine hundred dollars a year.

WE have received, through the kindness of Mr. Owen Fleming, and of Mr. Ernest S. Gale, Honorary Secretary of the Association, the "*Brown Book*" for 1891–2 of the English Architectural Association, containing the full programme of the work of the Association for the year. We have before mentioned the four years' course of regular instruction, established two years ago by the Association, and need only say that it seems to have been as successful as it deserved, and bids fair to fulfil the highest expectations of those who were instrumental in founding it. The Association, however, provides many other ways in which architectural students generally, and its members in particular, may improve themselves in their profession, under the guidance of those more experienced than themselves, and with the encouragement of companions following the same work. As might be supposed, sketching forms an important part of the duty, or rather, the recreation of the members. Regular instruction is given in water-color drawing, by a course of twelve lessons, six indoor, and six outdoor, and practice for those who have attained some proficiency may be had by joining the Water-color Sketching-Club, which spends six alternate Saturday afternoons during the pleasant season in sketching in the neighborhood of London. In this sketching-class no regular instruction is given, but the members criticise each other's work, and a "Consulting Visitor" gives advice as to suitable places and subjects for sketching. The expense of these classes is very small, the subscription to the Water-color Sketching-Club being only half-a-crown, or about sixty cents for the season.

ALL this applies to the water-color sketching only; sketching in general, which, in England, means in great part, perhaps mainly, drawing and measuring old work, is a much more serious matter, and is carried on by the members,

either singly, or in parties, as they prefer, and at such times as they find convenient. For the promotion of their efforts, "Consuls" are appointed in a great number of places throughout the architectural part of Great Britain, who, we suppose give advice to sketchers, and help them to obtain admittance to places which might be closed to strangers. In very many cases, the consuls are diocesan surveyors, and, as such, would be in a position to be of great assistance to persons wishing to measure or sketch in the cathedrals and churches within their jurisdiction. Encouragement to faithful work in sketching is afforded by the Travelling Studentship established by the Association, as well as by the prospect that good drawings may be accepted and published in the Association Sketch-book; and the Architectural Union Company, a body in regard to which we have little information, offers two prizes in money, one of five pounds and the other of half as much, for the best measured drawings showing the construction of English buildings prior to the eighteenth century. Besides the prizes for sketches, similar rewards are offered for attainment in many other branches, and last, but not least, the library of the Association is open to all members, who are allowed to take away books and keep them for a reasonable length of time.

OF all the devices of the Association for promoting professional study of a certain sort among draughtsmen and assistants, that of the establishment of local consuls, appears to us perhaps the most valuable. American architects, young and old, look forward, as a rule, to an occasional sketching tour abroad as a very valuable part of their professional development, and if a system of consuls could be established extending, not only through Great Britain, but into France, Italy and Spain, with, perhaps some parts of Germany, and affiliated with our best sketch clubs and architectural leagues, it might be of immense value to our students. Not only does an American student lose much time in foreign towns, by not knowing where to go to find subjects for sketching and measuring, but, unless he is more familiar with Continental languages than most Americans, he is timid about asking his way, or about penetrating into churches and convent precincts, where he would really be very welcome. A local consul, in such cases, could, at a sacrifice of a very few minutes' time give an inquirer all the information he needed, if it should be inconvenient to do any more, and could usually tell him, besides, of other American students of architecture who might be in the neighborhood. This last would be a great advantage. A young man travelling alone, as most of our young architects do, finds himself, after the first novelty has worn off, very lonely in strange countries, and needs something to keep him up to his work. If, when in this state of mind, he meets with a party of friends from home, travelling for pleasure, he is greatly tempted to keep near them, to the neglect of the architectural objects which he intended to visit, and which generally lie far off from the ordinary tourists' path. A student travelling alone, who can resist this temptation, and always prefer the fleas of the Auvergnat inns, with solitary architectural enjoyment, to pleasant company in the hotels of Nice or Cannes, with drives and lawn-tennis, but without any architecture, must be made of stern stuff; while two students can encourage and interest each other continuously, under the most uncomfortable circumstances, for an indefinite period. Although the benefit of such an international arrangement would, for the present, be mostly on the side of the Americans, they might do something in return. Every year sees an increasing number of English, French, and German architects, young and old, travelling in this country, which every year offers better and more important work for their inspection. American consuls, in the more important cities, could do much for the comfort and convenience of properly accredited professional tourists, and those of the latter who come again subsequently, as many of them do, to take up a permanent residence, would find their interest greatly promoted by the previous acquaintance, or even by the official introduction alone.

M. ALBERT TOURNADE, who died recently in France, was an architect of great capacity, whose name was already noted among the public, as well as in the profession. He was born in 1847, and was a "logiste" and medal scholar, though not a Grand Prize man, of the School of Fine Arts. After graduation, he became assistant to M. Questel, and, later, to the late M. Touchard, whose daughter he afterwards married. He was very successful and popular in business, and carried out a host of important commissions, so many, in fact, that his health gave way, and for many years previous to his death he had suffered greatly, although, with courageous determination, he kept at his work. He was obliged, however, at intervals, to abandon his office for a period of complete rest, and, according to M. Paul Wallon, who pronounced a touching funeral oration at his grave; his wife, to whom he was devotedly attached, directed his business during his absence, in addition to taking care of her two children and her household. Although the French are accustomed to seeing women managing business affairs, M. Wallon expressed a feeling, which all architects will share, of admiration for the courage and intelligence which could enable a woman, even the daughter of one architect and the wife of another, to direct successfully, so large and responsible a practice as that of Tournade. With us, we doubt if any architect's wife, unless she had made some regular study of the profession, would dream of entering his office during his absence, much less of taking charge of it, yet the idea of giving girls a professional education, which seems so natural to us, is looked upon with horror by nearly all French architects. The difference really appears to be simply one of prejudice. Among us, girls can easily get a tolerably complete education for a profession which very few of them ultimately practice, while in France, much more than here, women enter into their husband's affairs so intelligently that, as in this case, they may almost be said to practise many professions for which it is impracticable for them to get any proper training.

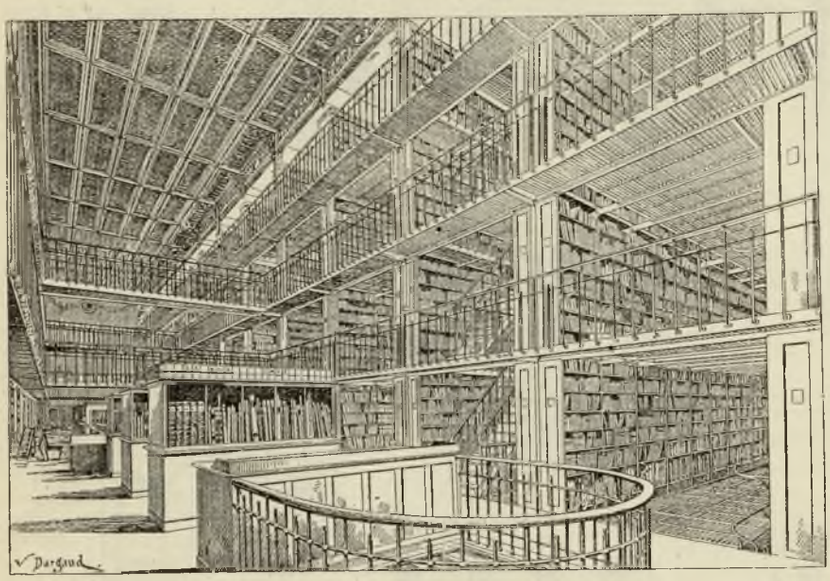
A RATHER important decision was given in Germany a few weeks ago. According to the *Bautechnische Zeitschrift*, the Hamburg *General Anzeiger* is, or was printed with power derived from gas-engines. A year or more ago, the men employed in the Hamburg gas-works struck, and the publication of the *General Anzeiger* was interrupted until the strike was settled, and gas began again to flow through the pipes. The publisher of the *Anzeiger* sued the gas company for damages, on account of the losses suffered through the suspension of publication, and the case has just been tried for third time. What the decision was in the court of first instance we are not informed, but, on appeal to the higher court, the gas-company was condemned to pay. A second appeal was taken to the Reichsgericht, which seems to answer to our Supreme Court, and this reversed the decision of the court below, and decided that strikes were instances of *force majeure*, or "höhere Gewalt," which it was not within the power of a contractor to avoid or guard against, and that the *Anzeiger's* claim for indemnity could not be allowed.

THE Convention of the American Institute of Architects in Boston was pleasant and promises to be quite useful. At the first session even, at least one hundred Fellows were in attendance, — by far the largest number which has ever been seen at a Convention in the Eastern States. Even before the formation of the Western Association, we have seen the business of the Institute for the year transacted by a Convention of fourteen persons, and the attendance of seventy or seventy-five at Cincinnati on the occasion of the first Convention after the consolidation, was looked upon as a remarkable exception, probably due to the interest excited by the reorganization. It is needless to say that now, for the first time, the Conventions can, with such a representation, speak authoritatively for the profession. A few years ago, the few faithful ones who went to all the Conventions were afraid to do more than pass some mildly ineffective resolutions on professional subjects, knowing that any attempt at an energetic demonstration would be laughed down, as the eccentricity of a few, perhaps rather eminent architects, who had the presumption to speak for the whole profession. Now, however, a Convention which counts like the present one, five or six members in attendance from Missouri, three or four from Illinois, and as many from Ohio and Pennsylvania, besides a large number from the Eastern cities, and in which a hundred of the most distinguished architects of the country answer to their names at roll-call, can speak the opinion of the profession without any danger that what it says will be ridiculed or repudiated; and so far as it is possible for the wrongs of a profession to be righted by the action of an authoritative and thoroughly representative body, the Convention is now the well-armed and accredited champion of the architects of the United States.

LIBRARIES.[1] — IV.

MEDIÆVAL AND MODERN TIMES. — (*Continued.*)

THE National Library at Paris satisfies these two conditions; though the office is not exactly in the centre of the hall, it is, on the other hand, near the *magasins* and the books reach it directly, before going to the reader; the librarians are in constant communication with the employés engaged in the systematic classification of the books on the shelves (Figures 16 and 17). No pains have been spared to secure the speedy delivery of the books; to the reader the *bulletins* handed in at the office are almost immediately conveyed to the various *magasins* by means of a quite simple system of pneumatic tubes; as soon as the books have been taken from the shelves they are carried to the office, either by the aid of an elevator, which is in constant operation, or by the employés themselves. Improvements will doubtless, however, be made in this whole system; hydraulic dumb-waiters for books, elevators for the use of librarians, electricity for the transmission of orders, in a word, all possible means of economizing time, will be adopted.



Figs. 16 and 17. National Library; Perspective View of the Presses.

Libraries should be so disposed that the books can be systematically arranged *in all safety*. In the British Museum and at the National Library they are kept in wooden presses, divided into stories by iron floors six or seven feet apart. This arrangement puts all the volumes within reach of the employé; the plans and sections given in Figures 18 and 19 show the ingenious disposition of these floors. Although superimposed to the number of five, they admit sufficient light on the books, and they also have the advantage of shedding the dust. To facilitate the lighting, the floors are not brought close to the presses, but a space intervenes which is covered with a netting to catch books accidentally dropped (Figure 20).

The uprights of the presses are about three feet apart, they are pierced vertically with small holes in which brass pins are inserted to hold the shelves in place (Figure 21). These pins form the simplest and handiest supports, for they make it possible to regulate the distance between the shelves to suit the exact height of the volumes (Figure 22).

In front of the cases runs an iron railing with small portable racks attached, in which the books are deposited before their redistribution on the shelves. In some English libraries, the framework of the presses is lined with metal sheeting to protect the pin-holes from the wear of the pins. Presses made wholly of iron are used in some libraries, the shelves being covered with sheepskin to prevent the books from coming in contact with the metal.

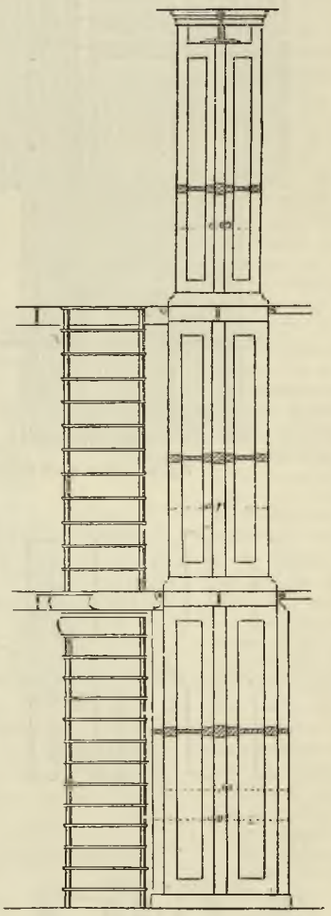


Fig. 19. Elevation of the Presses.

Protection against fire is of paramount importance in the construction and furnishing of libraries. No possible means of extinguishing fire should be neglected. But all storage of water for the purpose should be made under conditions of solidity and security, for water is no less the terror of a librarian than the flames; a leakage may certainly cause as much havoc as a partial fire. In the British Museum there are fire extinguishers everywhere and within reach of everybody.

In the National Library, M. Pascal has carried the fire-service to a high state of perfection; the water-pipes run through special conduits lined with lead, and are disposed in such fashion that the water from any leak whatever, flows off rapidly; and it is the same with all the water posts. Outside of the building there are connections for the fire-engine hose and storages of water on the roofs to protect them in case of

[1] From the French of Emile Camut, in Planat's *Encyclopédie de l'Architecture et de la Construction.* Continued from No. 826, page 50.

fire in any of the houses in the Rue de Richelieu and the Rue des Petits-Champs.[1] The library is heated by steam with the boilers in an isolated building, as is also the case at the British Museum.

The introduction of electricity for lighting purposes also lessens the dangers from fire; it is to be hoped that many of the libraries which have hitherto closed at sundown to avoid the adoption of any system of lighting, will now be able to throw open their doors at night for the benefit of workingmen employed during the day.

A night service of watchmen directed by means of special apparatus, such as that regularly established for the National Library, should be organized for all important collections, and it goes without saying that a permanent post of firemen is also a necessary adjunct.

[To be continued.]

[1] M. Pascal's roofs are made wholly of metal.

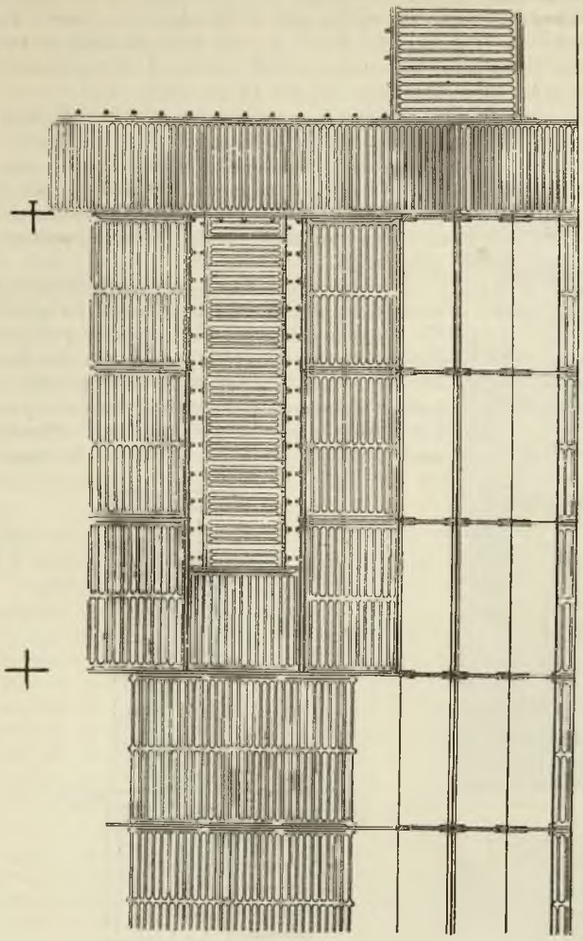


Fig. 18. Open-work Flooring.

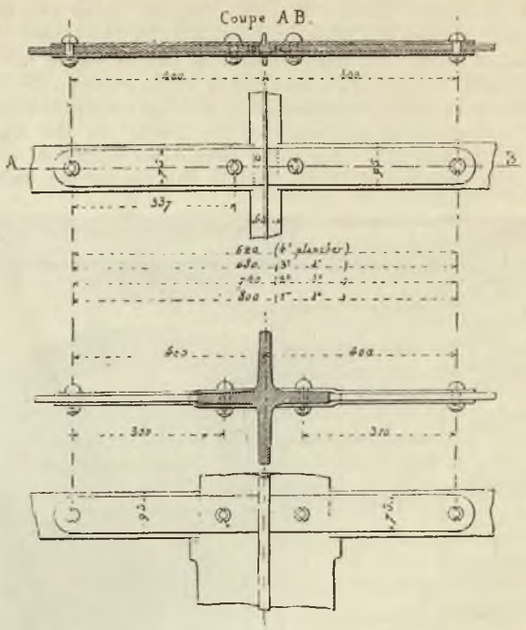


Fig. 21. Iron Uprights of the Presses.

Fig. 22. Brass Pins.

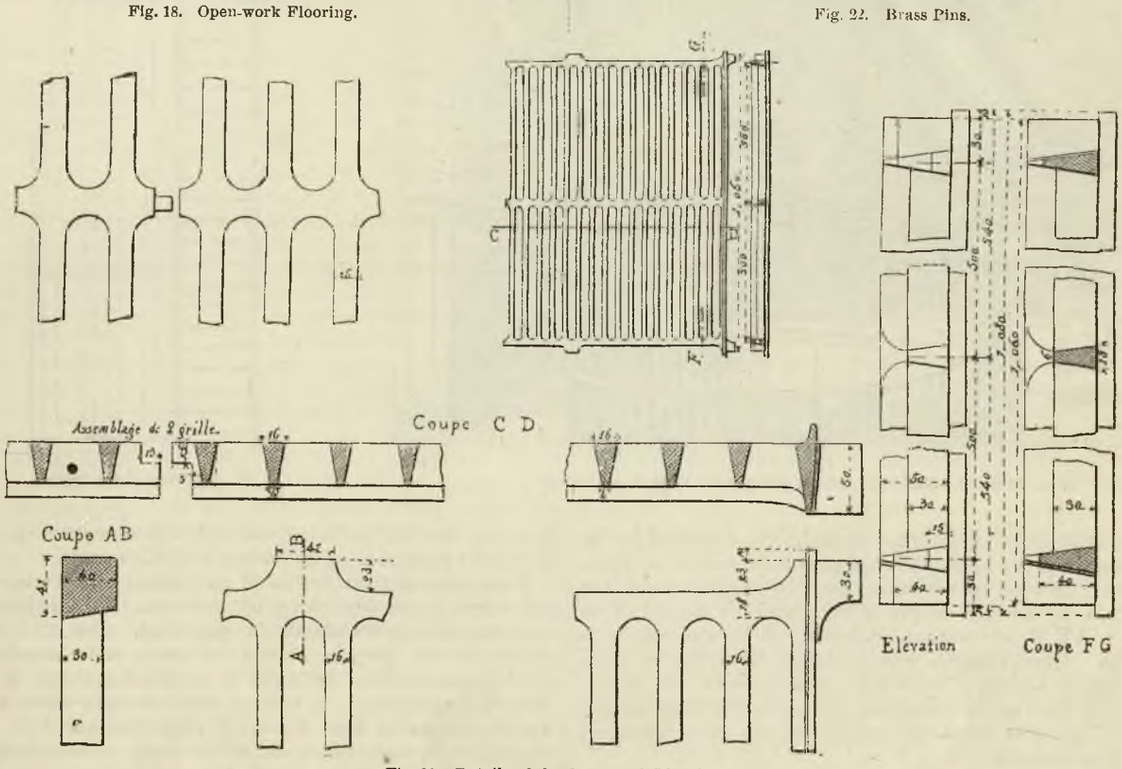


Fig. 20. Details of the Open-work Flooring.

EQUESTRIAN MONUMENTS.[1]— XLIII.

THE WAR OF SECESSION.

IT is only a few days ago that the *New York Tribune* suggested that it would be proper and graceful on the part of the United States government to return to Mexico the battle-flags captured from her during the Mexican war, and so help to remove the feeling of dislike for this country held by the Mexicans which now stands in the way of a closer commercial connection between the two republics. It is probable, however, that it will take more than the return of a few moth-eaten banners to make the Mexicans forget the loss of territory which Taylor, Worth and Scott inflicted on them, aided by a host of younger and more ardent spirits, the achievements of whose riper years during the continuance of our Civil War earned for them also the statuary's emblematical presentment of the glory which history accords them.

Of the younger men who served during the Mexican war of whom equestrian statues have been erected or begun there were in the ranks of the Federal troops Generals Lyon, Thomas, McClellan, Meade, Reynolds, Sherman, Burnside and Grant, while of those who later served in the Confederate army only Generals Lee and Johnston have had equestrian statues created in their honor.

To General Lyon, whose death in the first year of the war is believed to have deprived us of the aid of a soldier who gave greatest promise of becoming the fit successor of General Scott, it was proposed to erect an equestrian monument in St. Louis, and Wilson MacDonald made the model for it, but the work stopped at that point as it was not found possible to raise money enough to carry out the project.

General Thomas inspired much the same feeling in his followers that Lyon in his shorter career excited so strongly. Both were good soldiers and more than this were they pure-minded, earnest men, upright in every fibre of their beings. Thomas secured perhaps the greater amount of veneration since he was not only a Virginian by birth but was a member of the Fifth U. S. Cavalry, Lee's own regiment — a portion of which, by the way, made the first real cavalry charge of the war — and his men realized that a man who through force of conviction could make the sacrifices implied by his siding against his native State and life-long friends was one to believe in, trust and die for, and there was nothing his men would not do for "Papa" Thomas.

Gen. George H. Thomas, Washington, D. C. J. Q. A. Ward, Sculptor.

To General Thomas was erected at Washington one of the first of the third series of equestrian statues which this country can boast. In 1874 the Society of the Army of the Cumberland engaged J. Q. A. Ward, at that time without question the leading sculptor in the country, to carry out their wishes, and after a shorter delay than usual the statue was unveiled on December 19, 1879, on that spot in Washington, now known as Thomas Circle, where in 1865 a salute of 800 guns was fired in rejoicing over the fall of Richmond.

This statue which cost the Society $50,000 and the Government, who provided the pedestal — designed by the architects Smithmeyer & Pelz — $25,000 more, is by many thought to be the best group of its class in the city. In some ways it is, but it has not the artistic possibilities which are seen to lie in Brown's statues of General Scott and General Greene. Ward's group seems absolutely finished, — as if the sculptor had carried it as far as he could and knew he could carry it no farther. It is a conscientious piece of work and as such to be respected, but one cannot help wishing it were a little less pictorial and showed a little more of the character of the man it represents. The rather florid pedestal, which is quite in keeping with the pictorial character of the groups, is of Virginia granite and implanted upon it are bronze badges of the Army of the Cumberland: it is sixteen feet high, that is, of equal height with the bronze group it upholds.

The pose of Thomas's horse, which stands upon all fours, is animated, successful and so individual in character that it is matter for regret that at so short a distance from it as Philadelphia there will soon be another bronze horse which closely parallels its air and action. This horse is the one which is to bear the new statue of General McClellan which is to stand upon the north side of the City-hall not far from the equestrian statue of General Reynolds. The clay model for this statue is now nearly finished by the sculptor H. J. Ellicott, while the pedestal, designed by the architect P. J. Pelz, is already in place. The monument is to be erected by the General George B. McClellan Memorial Association which, though organized in 1885, secured its charter only in 1890, so its undertaking has been accomplished with considerable dispatch. It is not intended to be an expensive statue, $18,000 being named as the probable cost, but this can hardly include the cost of metal and the charges for casting. Its great similarity to the Thomas statue will always be a kind of bar-sinister on the fair escutcheon of its reputation.

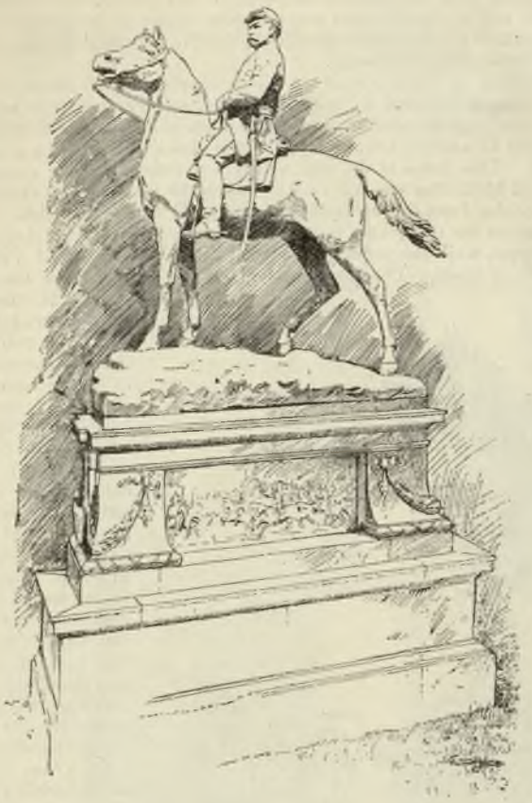
Considering the great personal popularity which McClellan enjoyed with his soldiers, it is curious that the Army of the Potomac has not given effect to the frequent suggestions that it should do for him what the Army of the Cumberland did for Thomas and set up an equestrian statue of dashing "little Mac," on some suitable site in Washington. Where the difficulty lies it is hard to discover; the man was sincerely loved and though not an impressively successful soldier he was an admirable drill-master and prepared useful tools for his successors to work with. Yet besides Ellicott's statue, the only other tangible outcome of all the suggestions is an equestrian statuette by the late Philadelphia sculptor Bailly, which was well liked by the General's family but did not secure that hearty endorsement from the public that takes the visible form of goodly subscriptions.

With Ellicott's statue, Frémiet's revised "Joan of Arc" and Siemering's "Washington" — when that shall be erected — Philadelphia will not be badly off in the matter of equestrian sculpture, but until the statue of General George Gordon Meade was set up in Fairmount Park, in 1887, the only sample of equestrian portrait-sculpture the city could boast, was the statue of General John F. Reynolds, which stands on a pedestal designed by J. McArthur, Jr., on the north side of the City-hall, where its own mediocrity was, fortunately for itself, kept in good countenance by the still greater *banalité* of the building. It is the first work at a large scale of John Rogers, a sculptor whose popular statuettes — for all that many critics treat them with scant respect — have been by no means unimportant factors in helping to bring about an appreciation of the results of artists' efforts. Its demerits, the chief of which is the lack of scale between horse and rider, are obvious enough, but they will

[1] Continued from No. 816, page 103.

in the main be overlooked because of regard for the man whose career the statue recalls — a thorough soldier, knowing as well how to obey as to command, whose untimely death on the field at Gettysburg, probably prevented the acquisition of a still greater fame.

The statue was erected under the charge of the Reynolds Memorial Association, whose members were drawn from the various



Gen. George B. McClellan, Philadelphia, Pa. H. J. Ellicott, Sculptor.

military bodies with which Reynolds had served at one time or another. The actual cost of the monument is not mentioned in the account of the unveiling of the statue which took place September 18, 1884, but it is known that the State of Pennsylvania voted $5,000 for the pedestal and that of sixty subscribers — single individuals and collective army posts — one, Mr. Joseph E. Temple, subscribed $25,000, so it is probable that the total cost was not far from the average cost of such monuments in this country, that is, about $40,000.

To another leader at the Battle of Gettysburg, General Meade, Philadelphia has also set up an equestrian statue, and though the city is certainly to be felicitated on having men so worthy of such commemoration as are Meade and Reynolds, congratulations of equal warmth can hardly be extended to her because of the successful character of their statues. Calder, to whom the modelling of Meade's statue was entrusted, had for years been employed in modelling the multitudinous and multifarious bits of sculpture that have added in no small ratio to the outrageous cost of Philadelphia's new city-hall, and work of this kind can hardly be held the best sort of preparation for equestrian sculpture. The value of quietude, which has often been insisted on, has by this sculptor been turned almost to burlesque, so uneasy and restless is his rendering of a state of stillness. It is not a matter for regret that the Meade is not placed beside the Reynolds, but in Fairmount Park, where on a pedestal about thirty feet high designed by the sculptor himself, it was unveiled Oct. 18, 1887, having cost about $30,000.

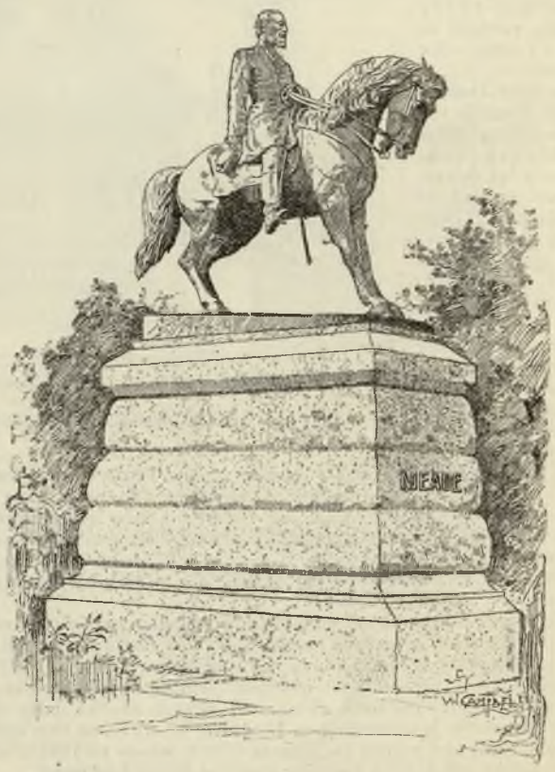
Gen. G. B. McClellan, a Statuette. Bailly, Sculptor.

An equestrian statuette of Meade was also made by Bailly, probably at the time when it was a matter of doubt to whom should the commission actually be awarded.

Sherman, who during his life-time rather set his face against such vanities, is as yet unrepresented by an equestrian statue, but at the meeting of the Society of the Army of the Tennessee, held at Chicago, October 7, 1891, it was voted to erect at some still-to-be determined place a statue of the hero of the march to the sea, and, though the vote did not particularize a mounted figure, the probabilities are that the outcome will be an equestrian statue at Washington. Besides this, St. Gaudens is actually modelling an equestrian Sherman for New York, for which $60,000 have already been subscribed, while subscription-lists have been opened in St. Louis with a view to raising $25,000 by subscription to add to a sum of the same size appropriated by the city for an equestrian statue, and even Lancaster, O., Sherman's native town, has considered the possibility of possessing such an image of her noted son and Kelly has made an equestrian statuette.

Gen. J. F. Reynolds, Philadelphia, Pa. J. Rogers, Sculptor.

After serving during the Mexican War, Burnside retired to private life, so that when he went to the front in '61 people forgot that he was a trained soldier, and rather marvelled to note the manner in which he was promoted to important commands. Perhaps, if it had not been for this break in his military career his character would have gained crispness, and his strategical perceptions might, through constant occupation with concrete problems, have gained such strength that when he commanded the Army of the Potomac he might have accomplished that forward movement that had to wait for a more determined spirit than his to bring about. Still there was nothing in Burnside's career as a soldier any more than in his life as a private citizen, or his public career as Governor and Senator, which was not highly creditable. He was a good sample of the most valuable type of American citizen, an able, wholesome man, and it is to the memory of the man as such, quite as much as in commemoration of a gallant soldier that there has been placed in Exchange Place, Providence, R. I., a large equestrian statue by Launt Thompson. Considering the character of this sculptor's previous work, this, his only piece of equestrian sculpture, is surprisingly good. It is sober, dignified, well-composed and, though the modelling is commonplace and hardly bears examination,



Gen. G G. Meade, Philadelphia, Pa. A. M. Calder, Sculptor.

the whole monument is deserving of a much better site than has been accorded it, for it is pushed aside to one end of an irregular-shaped square near the railroad station, where it is hemmed about by cars, carriages and wagons; but the squalor and bustle of its surroundings

do but enhance and make conspicuous the virtues of a quiescent pose in a public statue. The pedestal was the work of a young New York architect, H. O. Avery, modified by the ideas of a local architect. The cost of both pedestal and statue, which was cast by the Henry Bonard Bronze Company, was nearly $40,000, of which the State provided $10,854, the city $5,000 and veterans and private citizens

Gen. O. E. Burnside, Providence, R. I. L. Thompson, Sculptor.

the balance. As to size, the horse measures eight feet at the withers, the group being once-and-a-half life-size and the total height of the monument about thirty-one feet. The dedicatory ceremonies took place July 4, 1887.

Whatever retirement to civil life may have done for Burnside it certainly did not prevent in Grant's case the achievement of a brilliant career, which, until October 7, 1891, lacked the outward token, save pedestrian statues, that his memory was held in especial esteem. But on that day was unveiled in Lincoln Park on the shore of Lake Michigan, the equestrian statue which Louis Rebisso was commissioned to model within a year after General Grant's death, for within that short space of time the citizens of Chicago had subscribed $65,000, and so had outstripped the citizens of New York, St. Louis and Washington, who, at the same time, were talking with much vehemence of the statues that each of these cities would cause to be erected at once. St. Louis newspapers still agitate the matter of a statue; New York's purpose has been diverted to providing a tomb (or a fragment of a tomb) with or without sculptured accessories, as the case may be; while Washington, although a bill appropriating $100,000 for an equestrian statue of General Grant was passed by the Senate May 17, 1890, as yet has even less to show than has New York.

Gen. U. S. Grant, Chicago, Ill. L. T. Rebisso, Sculptor.

The Chicago statue appears to be a fair portrait but a rather uninteresting group, placed upon a pedestal designed by a Chicago architect, Mr. Whitehouse, which in spite of its evident attempt at rude simplicity has an air of pretentiousness, and seems to be demanding for itself more of the observer's attention than does the sculptor's work it supports. As to the horse, it, like the one which Burnside bestrides, has an air of tameness which is rather unusual to note in a representation of a charger. The statue, which was cast by the Ames Manufacturing Company at Chicopee, Mass., measures eighteen feet three inches from the top of the stonework to the crown of the General's hat.

Among the fifteen competitors who failed where Rebisso succeeded were E. C. Potter and the youthful sculptor C. E. Dallin, who submitted a model of some merit. The names of the thirteen other competitors do not appear.

Gen. Grant, a Model. C. E. Dallin, Sculptor.

J. E. Kelly made a half life-size model styled "Grant at Donelson," which like all of this artist's work has an *idea* in it which is susceptible of being elaborated to an effective result. It represents Grant — in a private's overcoat — as he gave the order to advance at Donelson, and as the general gave the sculptor several sittings in 1881, as General Parker, the Seneca Indian who was on Grant's staff at the time, aided the sculptor with his accurate memory of details as to the air and pose which Grant assumed at such junctures, — details noted and remembered with inherited instinct — the vraisemblance is said to be unusually close.

General Grant also gave many sittings to Bailly who modelled a group (subsequently reproduced as a bronze statuette) for whose execution at colossal size he received an order in 1869. The committee who had charge of the enterprise accepted the large model when finished and hoped soon to secure the funds to cast the statue and have it placed on the terrace before the south front of the Treasury Building, but interest languished, the money could not be collected and finally further attempt was abandoned. This is the more singular from the fact that the committee included in its membership such men as Senator Sherman and W. D. Kelley, and Generals Logan, Garfield, Butler and others. If the model has been preserved the statue will in all probability be erected sooner or later, for there will surely come a time when statues of General Grant based on actual sittings cannot be allowed to pass out of existence in the shape of crumbled clay or broken plaster. Bailly, moreover, modelled his horse from Grant's horse "Cincinnati," while Kelly had as his model a horse which, while quite admirable, had had no connection with the rider.

"Grant at Donelson," J. E. Kelly, Sculptor.

Grant, a Model. C. H. Niehaus, Sculptor.

Considering the many attempts that Bailly made in equestrian sculpture — amongst other things he made an equestrian statuette of General Custer — it is provoking that as yet this country has none of his executed work. Possibly, his "Grant," may bring him posthumous honor.

As Custer's name has been mentioned, it may be recorded here that on April 30, 1878, a bill was introduced in the House of Representatives by Mr. Williams of Michigan, appropriating $25,000 for a bronze equestrian statue to be erected in Washington. This movement fell through

and the only sculptured memorial of this class of this dashing cavalry commander is the bas-relief by Wilson MacDonald on the less than mediocre statue of the General at West Point.

Gen. P. H. Sheridan, a Statuette. J. E. Kelly, Sculptor.

The endeavor to secure an equestrian statue of Grant for New York City brought together several designs, amongst which were models by Echteler, Kamensky and a very clever and effective composition by the Cincinnati sculptor, Niehaus. Many of the designs submitted in the competition for General Grant's funerary monument included more or less equestrian statuary and the monument which is actually being built will — if it is ever finished — include several groups of which horses form important features. The satisfactory equestrian statue of Grant is yet to be modelled; perhaps it may before many years be found in Washington.

Of course in such a matter as this neither the public nor the sculptors could lose sight of General Sheridan, and though it is out of the question to expect in a full-size statue the pose and animation which Kelly has thrown into his dashing statuette, perhaps some one of the several sculptors who have attacked the subject may accomplish a suitable rendering of the ride to Winchester. Of Kelly's little group, General Sheridan wrote that "the accuracy of detail and likeness to myself is wonderful in so small a work. In addition to all this there is a spirit in the entire work of both horse and man which cannot well be equalled." An equestrian statuette of Sheridan — said to be much liked by his wife — was modelled by Samuel Kitson; a Danish sculptor now settled in Chicago, by name Johannes Gelert, also has made a model, and Mr. C. T. Yerkes of the same city is said to have commissioned some foreign sculptor to prepare an equestrian statue of Sheridan which he proposes to give to the city; this may be a mere canard as we have been unable to substantiate the rumor. But the statement that J. Q. A. Ward has received a commission from the Society of the Army of the Cumberland for a statue of Sheridan in the saddle rests upon the most substantial of foundations, the government having appropriated $40,000 towards its cost. When finished this statue is to be set up in Washington.

Gen. P. H. Sheridan, a Model. J. Gelert, Sculptor.

Gen. P. H. Sheridan, a Model. R. Kraus, Sculptor.

Record must also be made of the small models by D. C. French — in cooperation with E. C. Potter — Robert Kraus, H. J. Ellicott and D. Mora, which they submitted in 1889 to the discriminating appreciation of a special committee of the Boston city government, who thought it would be good to have equestrian statues of both Sheridan and Grant set up in that city. As no pledges were made to the competitors they could hardly feel surprised to find they had labored for naught.

Private enterprise, however, works in Boston along lines quite different from those followed by her politicians and the memorial to

Gen. J. B. McPherson, Washington, D. C. L. T. Rebisso, Sculptor.

Colonel R. G. Shaw, assured by abundant private subscription, should by this time be nearly ready for erection, either in the face of the State-house terrace or at the corner of Charles and Beacon Street — the end of the Beacon Street Mall. The memorial is an alto-relief in bronze, by St. Gaudens, which represents the Colonel on horseback leading his colored men against Fort Wagner. This panel, all the figures in which are of life-size, is to be the central feature of an exedra designed by Stanford White. This project was not brought forward until 1882; but shortly after the young soldier's death, W. W. Story, at the request of friends, made a small equestrian model as a first step to procuring funds to erect a statue at that time.

A Gettysburg Battle Monument.

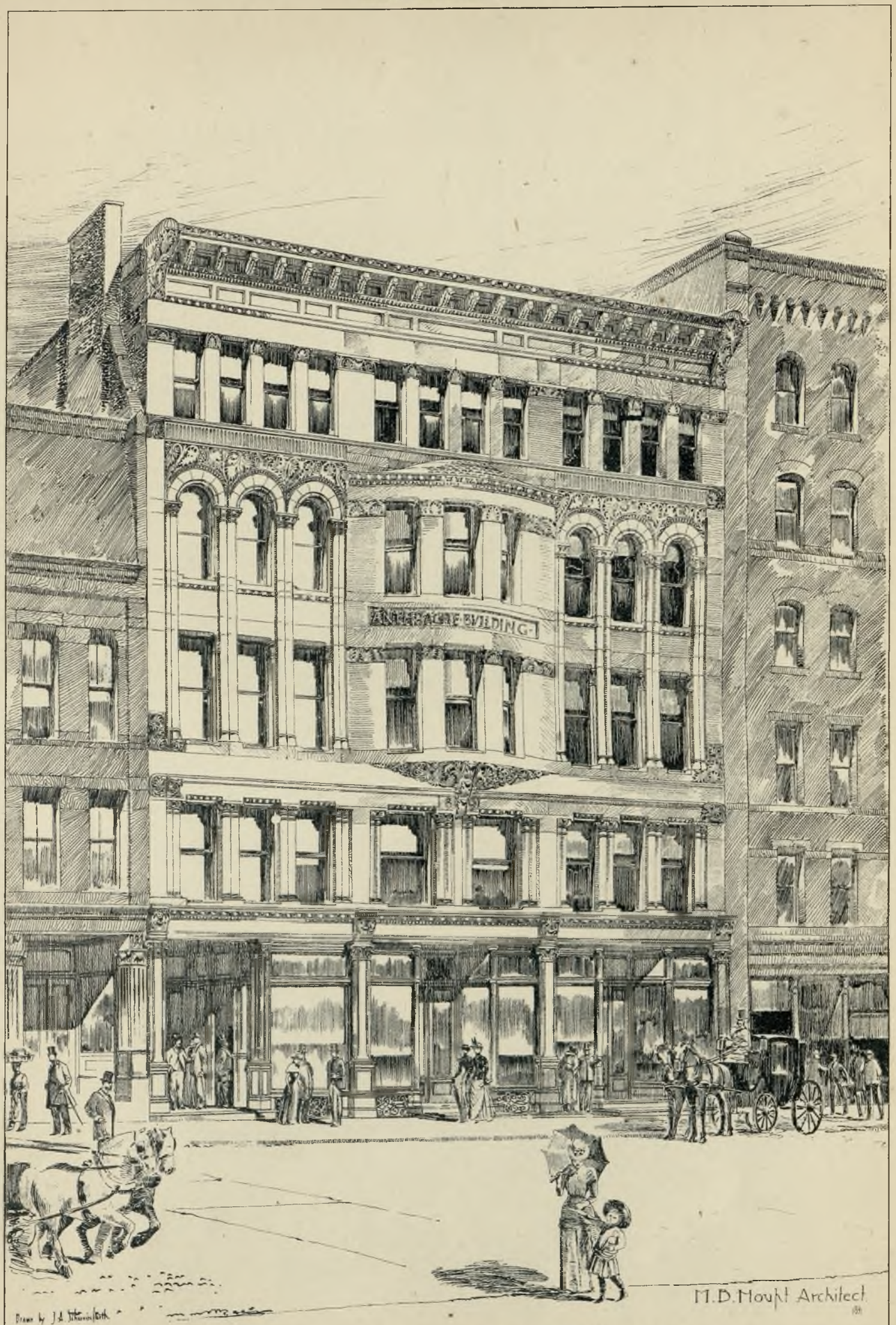
Not content with the mounted statues already in Philadelphia, the members of the First Pennsylvania Regiment began in 1889, shortly after his death, to collect money to erect an equestrian statue of General Hartranft, and an organization is said to have been formed to provide in the same city a similar statue of General Hancock. For the statue of Sheridan now being modelled by Ward, as mentioned above, for the statue of General Logan, one model for which has been prepared by Lot Flannery, and for the statue of General Hancock, for which E. C. Potter has been commissioned to prepare several models, all these to be erected in Washington, the United States appropriated $40,000 apiece, and it was proposed to use in each case $25,000 for the pedestal and leave the balances to be swelled to the needed amounts by private subscription. The Society of the Army of the Cumberland has provided what is needed in the Sheridan case, the Society of the Army of the Tennessee is looking after the Logan statue, and we understand that the appropriation in the case of the Hancock statue has been increased to $50,000.

A Gettysburg Battle Monument.

THE VENETIAN BUILDING : CHICAGO :

: HOLABIRD & ROCHE :

ARCHITECTS.



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MONUMENT · TO · GEN: U.S. GRANT · CHICAGO · ILL:

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Besides the statue of Logan, for Washington, another is already commissioned for erection in Chicago which the busy sculptor, St. Gaudens, is sometime or another to model. An equestrian statuette of the swarthy general, by Kelly, may also be mentioned.

This long list of may-bes and might-have-beens can be further increased by mentioning the project to erect an equestrian statue of General Terry at New Haven, and possibly there are other projects in various stages of incubation of which the public has no knowledge.

We have left to the last the first equestrian statue erected to a Federal general, curiously enough, the work of the same sculptor, Louis T. Rebisso, who is the author of the latest statue of the class yet unveiled, the Grant at Chicago. On October 18, 1876, there was unveiled at Washington a bronze statue, fourteen feet high, of General James B. McPherson, erected by the Society of the Army of the Tennessee at a cost of $23,500 exclusive of the cost of the 7,000 pounds of bronze procured from cannon given by Congress, and of the pedestal which cost $25,000. This statue has a somewhat unusual interest attaching to it, for it was proposed that the General's body should be re-interred beneath it, and a sepulchral chamber was prepared for its reception, but strong local feeling was stirred up in his native town where he was first buried and the scheme was finally abandoned.

The group grades very evenly with other sculptural work at Washington; but it is not pictorial or in anyway eccentric in pose or treatment, nor yet is it in any marked degree instinct with fine feeling: it is a good portrait-statue of a somewhat prosaic type, so far as composition goes, yet the modelling and handling bear a near inspection much better than some others in the city.

Cavalry Group, the Lincoln Monument, Springfield, Ill. L. G. Mead, Sculptor.

This rather bald enumeration of the equestrian sculpture that has been created because of our civil war, would not be complete without referring to the Gettysburg battle-monuments, upon some of which single-mounted figures have been wrought, and upon others more elaborate compositions, as in the case of Kelly's large bas-relief representing the charge of the Sixth New York Cavalry. Again, more or less bas-relief work has been introduced on soldiers' monuments in sundry places, and some elaborate compositions have been attempted, as in the case of L. T. Scofield's unfinished soldiers' monument for Cleveland, the groups for the Brooklyn soldiers' monument and for the one at Indianapolis, and also L. G. Mead's group which is attached to Lincoln's monument at Springfield.

Thomas. — George Henry Thomas was born in Southampton County, Virginia, in 1816, and graduated at West Point in 1840. He served in the war with the Indians in Florida, and gained distinction in the Mexican War. Remaining in the army until 1861, when he was major, he was loyal to the Government, though his colonel, Robert E. Lee, and many of his fellow-officers joined the secessionists. In August, 1861, he was brigadier-general of volunteers, and in April, 1862, major-general. He won much fame at the battle of Murfreesboro, and more at Chickamauga (September, 1863), where he repulsed, against heavy odds, all the assaults of the Confederates. The next October saw him placed at the head of the Army of the Cumberland, when he distinguished himself at Chattanooga. The next year witnessed his work in the Atlanta campaign and the victory at Nashville, which substantially ended the rebellion in the Southwest. For this he received the appointment of major-general in the United States Army. In May, 1869, he was placed at the head of the military division of the Pacific, which he held until his death, which occurred in March, 1870.

Ward. — John Quincy Adams Ward was born in Urbana, Ohio, in 1830, and studied under H. K. Brown. In 1861 he opened a studio in New York, was elected an Associate of the National Academy in 1862, Academician in 1863, and was for a time President of that body. Among his works are statues of "The Indian Hunter," Shakespeare, a soldier on the Seventh Regiment Monument, and "The Pilgrim," all in Central Park, New York; the group on the Ether Monument in the Public Garden, Boston; statues of Washington, William E. Dodge and Greeley, in New York; Beecher in Brooklyn; Putnam in Hartford, Conn.; Washington in Newburyport, Mass.; General Reynolds at Gettysburg, Pa.; General Daniel Morgan at Spartansburg, S. C.; Commodore M. C. Perry, at Newport, R. I.; Lafayette at Burlington, Vt.; the Garfield Monument and the equestrian statue of General Thomas in Washington, and a statue entitled "The Freedman," with numerous portrait-busts.

McClellan. — George Brinton McClellan was born in Philadelphia in 1826, and graduated at West Point in 1846. He served in the Mexican War, and was one of three officers sent to the seat of war in the Crimea in 1855 as a military commission to report on the European armies and observe their operations. He resigned in 1857 to engage in railroad engineering work. In April, 1861, he was appointed major-general of Ohio volunteers and given the command of the Department of the Ohio, and, after some successes in Western Virginia, that of Washington. He was then placed at the head of the Army of the Potomac, and, on the retirement of General Scott in November, 1861, made commander of all the armies of the United States, but in the following spring was relieved of the command of all the departments except that of the Potomac. In March, 1862, he began his movement against Richmond, which he was, as a result of the "seven days' battles," forced to abandon the following July. He fought the battle of Antietam in September, 1862. He was removed from command in November of the same year. He was defeated as the Democratic candidate for the Presidency in 1864, and resigned from the army. He spent some years in Europe, was elected Governor of New Jersey in 1877, and died in 1885.

Ellicott. — Henry J. Ellicott was born in Anne Arundel Co., Maryland, in 1847, and studied his art in the schools of the National Academy of Design. His works include a statue of Liberty on the Soldiers' Monument at Holyoke, Mass.; the statues on the Soldiers' Monument in Greenwood Cemetery, Brooklyn, N. Y.; those on the Soldiers' Monument in Calvary Cemetery, Williamsburgh, N. Y.; a statue of a "Recording Angel" for the Duncan Monument at Pittsburgh, Pa.; a statue of Joshua Evans at Reading, Pa.; a statue of Colonel Cameron at Sunbury, Pa.; and others of a soldier of the First Pennsylvania Cavalry; and of a soldier of the Second Pennsylvania Cavalry.

Reynolds. — John Fulton Reynolds was born in Lancaster, Pa., in 1820, and graduated at West Point in 1841. He served in the Mexican War, and became captain in 1855. He was appointed lieutenant-colonel in May, 1861, and took part in the battles of Gaines's Mills, the second Bull Run and Fredericksburg, among others, rising steadily in rank, and gaining high praise for his conduct. He was given the command of the left wing at Gettysburg, and was killed on the first day of that battle, July 1, 1863.

Meade. — George Gordon Meade was born in Cadiz, Spain, where his father was United States Navy agent, in 1815, and graduated at West Point in 1835. He served with credit in the Seminole and Mexican Wars. He was made brigadier-general of volunteers in August, 1861, and commanded a division at Antietam in September, 1862, being appointed major-general the next November. He was given command of the Army of the Potomac in June, 1863, and fought the battle of Gettysburg in the following July, when he was made a brigadier-general in the regular army. He was raised to the rank of major-general in the regular army in August, 1864. His army fought the important battles of the Wilderness, Spottsylvania Court-house and Cold Harbor, and was employed for many months in the siege of Petersburg. After the close of the war, General Meade commanded various departments until his death, in November, 1872.

Calder. — Alexander Milne Calder was born in Aberdeen, Scotland, in 1846. He came to the United States when a young man, and continued his studies in sculpture at the Pennsylvania Academy of Fine Arts in Philadelphia. His chief works have been the sculptures on the new Public Buildings in Philadelphia, including the colossal figure of William Penn on the tower, and the equestrian statue of General Meade in Fairmount Park, in that city. He has also executed a statue of a United States soldier at the Soldier's Home, Dayton, Ohio, and portrait-memorials of Chief Justice Sharswood, of Pennsylvania, in the new Supreme Court, Philadelphia, and of John McArthur, Jr., the architect, in the new Public Buildings in that city, together with several busts and funerary monuments.

Burnside. — Ambrose Everett Burnside was born at Liberty, Ind., in 1824, and graduated at West Point in 1847. He obtained the rank of first lieutenant, which he resigned in 1852, and spent the intervening years until 1861 in business pursuits. When the war broke out he was put in command of a regiment. He commanded a brigade at Bull Run, and was soon afterwards made a brigadier-general. He directed the successful Roanoke Island expedition in 1862, and was promoted to the rank of major-general. After distinguishing himself at Antietam, he succeeded McClellan as commander of the Army of the Potomac, but, after a severe repulse at Fredericksburg, was relieved of the command. Transferred to the Department of the Ohio, he successfully defended Knoxville against Longstreet, and subsequently served through the remainder of the war. He afterwards served the State of Rhode Island as Governor and Senator. He died in 1881.

Thompson. — Launt Thompson was born in Abbeyleix, Ireland, in 1833. He came to the United States in 1847, and settled in Albany, N. Y., studying under E. D. Palmer. In 1858 he removed to New York, being made an Associate of the National Academy in 1859 and an Academician in 1862. He afterwards worked for some time in Italy. His works include the equestrian statue of Burnside at Providence, R. I.; statues of Admiral Dupont and of General Scott at Washington; of General Sedgwick at West Point; of Napoleon I at Milford, Pa.; of Charles Morgan at Clinton, Conn., and of Rector Pierson at Yale College. He has also produced "The Color-bearer" at Pittsfield, Mass., several ideal works and many portrait-busts.

Grant. — Ulysses Simpson Grant was born at Mount Pleasant, Ohio, April 27, 1822; graduated from West Point, 1843; served with distinction in the Mexican War; afterwards retired to civil life; entered the War of the Rebellion as colonel of volunteers; took Forts Henry and Donelson, and fought the battle of Shiloh, 1862; captured Vicksburg, July 4, 1863; won the fight of Chattanooga, November, 1863; made major-general and lieutenant-general in the regular army; commander of all the forces of the United States, March, 1864; battles of the Wilderness, Spottsylvania and Cold Harbor, 1864; captured Petersburg and Richmond, April 2, 1865; received Lee's surrender, April 9; Secretary of War *ad interim*, 1867; President of the United States, 1869–1877; afterwards made a tour of the world; engaged in business in New York; wrote his memoirs; died July 23, 1885.

Rebisso. — Louis Thomas Rebisso was born in Genoa in 1837, and studied in the Art Academy in that city under Professor Varni. He came to the United States when about twenty years old. His works include equestrian statues of Grant for Chicago, of William Henry Harrison for Cincinnati, and of McPherson in Washington; a pedestrian statue of the last-named general at Clyde, Ohio; in conjunction with another artist, the Odd Fellows Monument in Spring Grove Cemetery, Cincinnati, and many portrait-busts. For a number of years he has been instructor of sculpture in the McMicken School of Art and Design in Cincinnati.

Sheridan. — Philip Henry Sheridan was born in Albany, N. Y., in 1831, and graduated at West Point in 1853. Remaining in the army until the war broke out, when he held the rank of first lieutenant, he was made captain, and then quartermaster, until May, 1862, when he was given the colonelcy of the Second Michigan Cavalry. Rising in rank, being major-general of volunteers in December, 1862, he distinguished himself at Perryville, Murfreesboro and Chattanooga, where he first attracted the special attention of Grant, who placed him in command of all the cavalry of the Army of the Potomac in April, 1864. The following August saw him in command of the Army of the Shenandoah, with which he cleared the valley of Virginia of the enemy, in the course of the campaign making his famous ride from Winchester, and retrieving the day at Cedar Run. For this he was made major-general in the regular army. During the rest of the war he fought under the direct command of Grant, winning special glory at Five Forks. After the war, Sheridan commanded in turn several of the military departments, and was made successively lieutenant-general and general-in-chief. In 1870 he visited Europe to observe the conduct of the Franco-Prussian War. He died in August, 1888.

Bailly. — Joseph A. Bailly was born in Paris in 1825, and studied there. He came to this country in 1848, and spent the greater part of his professional life in Philadelphia, in later years being Professor of Sculpture in the Pennsylvania Academy of Fine Arts. He died in 1883. His principal works are a pedestrian and an equestrian statue of Guzman-Blanco for Venezuela; a statue of Washington in front of Independence Hall, one of Franklin on the Public Ledger Building, and one of Witherspoon in Fairmount Park, all in Philadelphia; and a statue of General Rawlins in Washington. He also modelled equestrian statuettes of Generals Grant, Meade, McClellan and Custer; one of an Indian, entitled "The Last Arrow"; marble groups of "Paradise Lost" and "The First Prayer," with other ideal works, and various funerary monuments and portrait-busts.

McPherson. — James Birdseye McPherson was born at Sandusky, Ohio, in 1828, and graduated at West Point in 1853. He served in the engineer corps until the outbreak of the Civil War, when he immediately applied for active duty. He served with distinction and rose rapidly, being appointed major-general in 1862. He was chief engineer on Grant's staff at Fort Henry, Fort Donelson, Shiloh and the siege of Corinth. In March, 1864, he became commander of the Army of the Tennessee. He was killed during an engagement near Atlanta, Ga., on July 22, 1864.

Mead. — Larkin Goldsmith Mead was born in Chesterfield, N. H., in 1835, and studied under H. K. Brown, afterwards working in Italy, where he has passed many years, his studio being in Florence. His most important work is the National Lincoln Monument in Springfield, Ill. He has also executed a statue of Ethan Allen in the Statuary Hall of the Capitol at Washington; a colossal figure of Vermont on the dome of the State-house at Montpelier, which building also contains another statue of Ethan Allen from his hand; and a large marble group, "Columbus appealing to Isabella." His ideal works include "The Returned Soldier," "Echo," "La Contadinella," "Sappho," "The Thought of Freedom," "The Recording Angel" and a colossal statue in marble of the Mississippi, represented as a river-god. His "America" is on the Soldiers' Monument in St. Johnsbury, Vt.

Gelert. — Johannes Gelert is a Danish sculptor who came to the United States some years since, and has executed the monument to General Grant in Galena, Ill.; the monument to the police who lost their lives in the Haymarket riot in Chicago; an equestrian statuette of Sheridan and some ideal works.

Kraus. — Robert Kraus was born in Zeulenroda, Germany, in 1850, and studied in Berlin, Vienna and Rome. He came to the United States in 1880. His principal works are the Boston Massacre monument in that city; the monument to Theodore Parker, also for Boston; and the monument to Carl Heinzen and the figure of "Rest" on the Randidge tomb, both of these being in Forest Hills Cemetery, Boston. He has also executed numerous portrait-busts.

[To be continued.]

ARCHITECTURE AND THE THE UNITED STATES GOVERNMENT.[1]

THE Federal buildings erected by the Government should characterize the best types of art in architecture. The public mind to-day is becoming educated. It is not satisfied with mediocrity in art; the æsthetic taste of our people is becoming more cultivated, the beautiful is more appreciated, and the demand is made for it. Good art is educational, refining, and should be enduring. It is proper that the Federal buildings should be of a high standard of artistic elegance, have the elements of proportion and study in design that will illustrate the strength and development of a successful people, and leave the impress of our advancement in art and culture as a nation.

The United States Government erects buildings for the use of the Executive Departments of the Government; it also erects buildings in which it transacts the public business with the people — the custom-houses, post-offices and court-houses, located in every section of the country, as the increase in population and development of business necessitates the Government to provide for itself a building to accommodate the public offices, and in which the records of public business may be preserved.

These latter structures are erected when Congress, by legislation, directs the Secretary of the Treasury to procure a site and erect upon it a suitable building to accommodate the Government offices for the transaction of public business then expressed, limiting the cost of the site and the building, complete in all its appointments, with approaches, to a fixed sum.

The officer under the Secretary of the Treasury to whom the duty of preparing the plans and specifications necessary to construct such buildings is assigned, is the Supervising Architect.

This officer is supposed to be the author of the plans and designs for the work thus placed under his care. Twenty-five years ago it was practical for an individual to comply with the duties of the office, but with each succeeding year the rapid increase in public business, with the development of the country, has added consecutively to the labor and responsibility of this officer.

At this time there are probably forty odd buildings under construction and completion, and a number in excess of sixty new structures are waiting to be designed by the Supervising Architect or his assistants. It is patent that the amount of labor thus involved cannot receive from one head careful consideration in the matters of arrangement of buildings and the details of construction, or receive the study or painstaking in design which should be given to the permanent buildings of the Government.

While the routine business of the Government is managed with exacting uniformity, and consequently there is uniformity in the requirements for the building, so that there appears to be a limit in the scope of the architect, there is choice in the adaptation of building to site, which invites variety in the form and exterior design of the structure.

The Supervising Architect's office has some most capable assistants, as much good work in the buildings of the Government shows; but there are not enough capable employés for the amount of work devolving upon the office, and, under existing regulations, they are not obtainable.

The Supervising Architect experienced this fact, and considered it his duty, in the annual report of 1889, to recommend to the Secretary of the Treasury the advisability of securing the plans for the most important buildings for the Government through the architects of the country by competition, and suggested a method that appeared practicable, for consideration; also, in his report of 1890, he again requested attention to this important subject.

The Honorable Secretary of the Treasury, the late William Windom, became so far convinced of the possible benefit to the public service, if the method proposed was tried, that in his report to Congress he indorses the recommendation on this subject, as follows: "The following recommendations of the Supervising Architect of this Department are concurred in. That the system of competitive designs for public buildings be tried."

The Supervising Architect of the Treasury Department can only be what the designation of the office implies — a supervisor whose time is almost continuously occupied with the business management of the office and the solution of its business problems; he cannot be the architect of the many structures that are assigned to his care, and that they are successful structures, as best adapted for the purposes for which they are erected, and have merit as artistic designs, is largely dependent upon the skill and talent of his assistants.

The Supervising Architect, on February 7, 1891, suggested in a bill authorizing the erection of a proposed post-office and sub-treasury building in the city of Chicago, a section providing that, at the discretion of the Secretary of the Treasury, the plans for the same be obtained by competition of architects; also, on February 20, 1891, the Supervising Architect forwarded a memorandum, containing a proposed amendment to the "Legislative, Executive, and Judicial Appropriation Bill," to the Committee, as follows:

> "And the Secretary of the Treasury is hereby further authorized, in his discretion, to obtain plans, drawings, and specifications for the erection of public buildings, through competitions, by architects, under such conditions as he may prescribe, and to make payment of the expenses of said architects' services out of the appropriations for the respective buildings."

Action, however, was not taken in either case by the Committees of Congress.

Such legislation passed would permit the Honorable Secretary of the Treasury to invite competition among architects for the plans and designs for Federal buildings, and by the adoption of the method the Government would be assured of the personal supervision of the architect, who would have an individual responsibility for the fitness of the building and for its artistic excellence.

How is the public service to be benefited by by the United States Government engaging an architect for each important Federal building? This practical side of the question is that which the business-man in Congress will ask in answer.

First. By the dispatch of business the Practising Architect completes his work as a whole, in the earliest time practicable, and to do this can give undivided attention to the preparation of design and the study of detail. There is a fixed time when his work is finished. Against this is the lamentable fact that public business is conducted with much formality, but not with the directness of private business.

If the buildings erected by the Government were conducted on business methods, the same as the erection of like structures by individuals, it would be economy to the public service.

Second. The careful and continuous thought of an architect directed to one building must produce better results than the same thought disjointed in the effort to care for many buildings. By the selection of architects for merit in design the buildings erected by the Government should represent the best examples of architectural art and the entire country would be benefited.

There is a limit to the amount of work one man can do, be he ever so capable. When the limit of capability is reached all business thereafter is not so well done, and should be deferred to another. The number of buildings which the Government is continually erecting suggests the propriety of securing, by division of labor, new thought, energy and ability among the profession of architects. Such action would tend to secure the first, economy to the public service by dispatch of business, and the second, the undivided attention of an architect engaged for a specific duty, which would also result in economy.

[1] A paper by Mr. James H Windrim, Ex-Supervising Architect to the Treasury Department, read at the Twenty-fifth Annual Convention of the American Institute of Architects held at Boston, Mass., October 28, 1891.

PROTECTION OF RESIDENCES.[1]

THE air we breathe, and which, for this reason, constitutes part of our body, is never pure. In the midst of cities it is full of dust, smoke and a score of minor impurities. In the open country, it generally becomes purer with the distance from densely populated spots, and the purest air is found on the summit of mountains and in remote woodlands.

Pure air, this loose compound of oxygen and hydrogen, is constantly impregnated, not merely with extraneous substances above referred to, but also with traces of all elements and natural compounds in proportion to their relative volatility. Accordingly, we find in it carbonic acid in measurable quantities, ammonia, nitrous acid, and even some metallic acids, in traces. Arsenious acids, for instance, are always present in the vicinity of arsenious products, so that miners and workmen especially are injured by inhaling the air thus contaminated. A similar fate, as we know, is in store for workmen in the quicksilver mines and in the manufactories of white lead.

Various odors will penetrate the air in immeasurably small quantities. It is altogether impossible to measure by weight or otherwise, the substances which signify their presence by odors, though ever so penetrating, such as, for instance, asafœtida or musk.

With every draught of air, therefore, we not only take in all substances therein suspended which are perceptible to our senses or by

[1] A paper read before the American Institute of Architects at Boston, October 28, 1891, by Frederick Baumann, of Chicago.

our instruments; we also take in immeasurably small quantities of all other elements and compounds in existence. Hence the mysterious compound of our blood, so wonderfully complex.

But the air is not merely a composite of all inorganic substances. The dust therein suspended is full of organic life — life struggling for existence, were it at the expense of the life of higher beings.

The whole philosophy of medical science has of late been subverted through the gradual discovery of the extensive species of minute beings called bacteria, the lowest order of beings known to exist. They were at once believed to be the product of a *generatio æquivoca* — of spontaneous generation — until it was made evident by Pasteur that they are generated *ex ovo* — from the egg. Philosophers have, however, then subsequently — not abandoned faith in spontaneous generation from the original elements upwards — but have put the bacteria up as a rather composite race of beings, made up from many millions of molecules, and established a belief in a class of organic beings as progenitors, as it were, of the bacteria, which beings are to be many times simpler in their composition and smaller than are the latter, and so minute in size that they will forever be hidden from human sight.

The microscope, so wonderfully improved in these days, has been instrumental in the discovery of many species of the bacteria family, to which special names were given, as though they were positively distinct from each other. The latest science, however, seems to discover that the family has but really one or a limited number of species, the members of which are changing from one form into another: an opinion which was early propagated by Professor Naegeli at Munich, but contradicted by other philosophers.

All diseases and ailments of the human system are, according to an overwhelmingly large number of medical philosophers, owing to encroachments thereon by bacteria, as destroyers of blood and tissues. Quite a number of these bacteria have been minutely measured. The modern microscope has given the diameter of a microbe, so called, at 1-20,000 of an inch, and its length at ten times that. Accordingly, a cubic inch of space would contain 800,000 millions of them, while the size of the average blood-corpuscle, at 1-3,500 inch in diameter, by twice this for its length, would yield 20,000 millions of them, and that of a grain of san-dust, of an average diameter of 1-1,000 of an inch, 1,000 millions thereof to the cubic inch. Taking this size of the san-dust as a unit, the size of a blood-corpuscle is to be expressed by 1-20, and that of our microbe at 1-800 of such unit; and the microbe assumed is by no means one of the smallest. It is merely one of those which have been measured, while hundreds of them, perhaps ten to fifty times inferior in size, have not been accurately noticed under the spectre of a microscope. No scientist, as yet, has distinctly seen the microbe which is considered to be the cause of the scourge which made its first appearance in 1498 with the French soldiers in Italy. Its original absolute incurability, however, was mitigated in the course of time. Men became gradually inoculated by inheritance with traces of the microbic poison, so as to be in a degree protected, and it is expected by scientists that in time the evil will entirely cease. Interesting it is that this evil has become a factor in the civilization of new countries, inasmuch as it tends to eradicate the original inhabitants, who are not from progeniture inoculated, and not subject otherwise to civilization. Added to this comes the inevitable whiskey, so that two evils combined are found to be, in a sense, factors — very active factors — of civilization as it proceeds in new countries.

The microbe, or what else it may be called, of the scourge of small-pox has lost its power over man through the timely inoculation of the cow-pox virus into the human blood. It has been made evident by Pasteur that this cow-pox virus is coincident with small-pox virus, merely many a thousandfold attenuated. Hence the consequent efforts of this scientist as to a protection of human blood in a similar manner against the encroachment of microbes which are the cause of a number of infectious diseases.

Some twenty-five years ago Professor Naegeli mentioned some very interesting and, as I believe, important experiments as to the life of the lowest orders of fungi, of which our bacteria are the lowest yet. He prepared a proper neutral nourishing fluid, and put therein the seeds of mould fungi, fermenting fungi and bacteria. The result was that the latter exclusively went on to multiply at the expense of the nourishing fluid, so that not a trace of the other two kinds of fungi could be found. He then added one per cent of tartaric acid to a fresh dish of nourishing fluid. The result now was that the fermenting fungi had the field for themselves exclusively. A third experiment, with five per cent of the acid added to the fluid, gave the field to the mould fungi. Singly each kind of fungi would grow in either kind of nourishing fluid, but in competition with each other the field was conquered by one kind exclusively.

Arguing from this fact, Naegeli justly asserts that the blood corpuscles, as principals within their nourishing fluid, ever prevent the growth therein of other fungi, which are constantly inhaled with the air, thus coming in direct contact with the blood of the lungs. The blood corpuscles ever do this so far as they are in sound condition. But, alas, they are often weak and often subject to debilitating effects, so that the foreign fungi get a chance to grow and multiply, so rapidly indeed — doubling their number within every few minutes — that within a few hours the blood's life, and therewith the life of the being, may be destroyed.

Within the child there flows and grows the blood of its parents, and all the latter's ills and ailments that human flesh is heir of accompany the child. The German student expresses this in the jocular statement that every man "should be most careful in the selection of his parents."

A birth-place of bacteria is below the ground, nearest the level of ground-water. As the water recedes, the fungi get dry, and slowly rise with the ascending air-current to the surface and into the atmosphere, there to be, by chance, inhaled.

Assuming a grain of fine sand to be 1-200 of an inch in diameter, the number of grains per cubic inch is 8 millions; further, assuming the interstices between grains at one-fourth, we may safely count 32 millions of interstices as taking up the entire space of a cubic inch. A single interstice may thus contain:

Thirty grains of san-dust = 600 blood corpuscles = 24,000 microbes. A single microbe, of medium size, may, therefore, very conveniently ascend within a body of even the finest sand, within the pores of rock, of brick, mortar and concrete. It finds no sort of impediment in any dry substance excepting dense clay, so far as it is not wholly dry.

Such clay protects, as is substantiated by the following account of Dr. Pohl: A country gentleman had on his estate seven one-story houses inhabited by laborers. These houses were dilapidated and dirty. Their floors were a sort of concrete, made of clay. The houses were doomed to be destroyed, to make room for commodious tenements of a better class. At a time when cholera visited the place, five of the houses had been renewed, with floors raised from the ground, which had been deprived of the layer of clay; two were in their previous condition. The disease laid up eighteen of the inmates of the new and improved, ostensibly far more sanitary, houses, and none at all of the two rotten and dirty houses. The result could only be attributed to the fact that the clay floors had effectually prevented any preparatory disease germs to rise within those houses.

I have at last arrived at my task proper. Bacteria are at all hours generated in the soil under our very homes, they rise, and are inhaled by us as the inmates. Among them there may at any time be some of the kind which cause disease, which might or might not grow at the expense of our blood, as circumstances beyond human control would govern.

The upward current, which brings them to us, is augmented in winter, as we well know, by the reverse of temperatures. Where human well-being and life are considered worth anything, there the architect of the present day should, without fail, pay due attention to such construction of a residence-building as would fairly warrant a protection against all ascending air-currents ever present under its floors and in its walls. The task is neither difficult nor expensive, as we shall see, and no excuse can effectively be offered on this score.

Common materials most likely to be proof against penetration of microbes are: asphaltum, glass and pitch-tar. The asphaltum to be had in form of pressed plates. All these materials can be most readily had and employed.

Asphaltum or glass, in two layers, on proper mortar, to be put in all walls at the level of lowest floor. Asphaltum also to be put against exterior walls, terminating below lower water-table.

Concrete, with level surface, established on the entire ground, to be covered with a coat of pitch-tar and tarred felting, which may be repeated once or twice, to be lastly covered with a proper layer of finish-concrete. Where wooden floors are required, the finish-concrete may contain the required sleepers.

Where desired, a further protection can be had by spreading a sheet of lead under the furnace-stand prior to making the last concrete. Even the entire surface of basement may thus be advantageously covered, where expense is no objection.

These arrangements, carefully executed, are unquestionably calculated to produce the nearest positive impregnability of floor and walls of a house, though we must conceive it as next to impossible to give absolute evidence as to such effect. We must rest our assurances on the degree of impregnability on the substances employed and on the accurate manner of their employment.

The arrangement excludes the use of iron sewers and requires all water-supply pipes to be suspended from the basement ceiling. Return-pipes of a steam-heater, and cold-air ducts, must likewise be thus suspended. Iron sewer-pipes are objectionable for several reasons. Iron is a bad material to be put under ground. It decays. The decay is augmented by the acids of the liquids within the pipes, and the flow is impeded by rust. Arrangements for cleansing are, therefore, provided at short intervals. Earthen sewers, on the other hand, if well made, are of the most enduring material within our mechanical province, and should not be rejected because they are generally so bunglingly applied by our mechanics. Good sewering requires the excavation of all trenches at one time, and a concave concrete foundation on a gradual and even pitch for all sewers. The sections should be laid in mortar of Portland cement, and connected by means of metallic rings, which will insure permanency. The receiving ends should be fully turned up, and have a socket in which is fitted an iron member receiving the soil or the waste pipe, both being provided with a tight slip-joint. The joints within the socket to be tightened with a mixture of asphaltum and sulphur.

Provisions thus properly made, with due care and foresight, are unquestionably calculated to secure residence-buildings in a desirable measure against the encroachment of those invisible beings which are the everpresent and most persistent enemies of the human race.

REPORT OF THE BOARD OF DIRECTORS.

TO THE FELLOWS OF THE AMERICAN INSTITUTE OF ARCHITECTS:

YOUR Board of Directors and your Executive Committee have each held two meetings during the past year. It is significant of the good will and harmony existing within the Institute and of the general satisfaction of its members with the present condition of its affairs, that during the entire year your officers have not been called upon to adjudicate a dispute or to take part in any dissensions of differences of opinion between members or chapters. Besides the discharge of ordinary routine the meetings of your Board of Directors and of your Executive Committee have been chiefly taken up with action upon applications for Fellowship. Of these there have been thirty-eight, of which thirty eventuated in the election of the candidates, three have resulted in election, conditional upon fulfilment of certain requirements of your by-laws, one in rejection, while four are still pending and awaiting final action.

There have been during the year two resignations from membership. Death has taken from among us during the year just past, seven members, of whom three were members of this Board. Two of them, Messrs. O. P. Hatfield and E. T. Littell, had been among the founders of the Institute, and had for many years been among those who guided and shaped its policy. Their absence is mourned not only by those of us who have so long been wont to seek their wise and conservative counsel in the administration of the affairs of the Institute, but by the younger ones, who respected their constant unswerving devotion to duty and their honesty and uprightness of purpose. But while these departed ones had lived their lives up to the climax of the development of their powers, the life of our late lamented Secretary was cut off in the midst of a most promising career of usefulness. But few are permitted to make as notable and as extensive a record of powerful work so early in life as it was the good fortune of John Welborn Root to leave behind him.

We rejoice that it was our good fortune to have had in our midst, even for a few brief years, a man of such brilliant mind and of so genial a spirit, but we mourn that he is with us no more, that our meetings will not again be enlivened by his humor and wit, and that our counsels will miss his incisive and trenchant remarks replete with good judgment and sound common-sense.

The others whom death has taken from us — Fellows, John Otter, G. H. Metzel, J. W. Hammond and Herbert C. Burdett — were known and highly respected in their own communities as efficient, capable and upright men, whose death leaves a void not easily filled. The sympathies and condolence of your Board are extended to their mourning relatives and friends.

As the secretary of a body like ours carries upon his shoulders almost the entire burden of the details of administration, it can readily be conceived that the death of our late Secretary had a most detrimental effect upon the work of the Institute. While his assistant and clerk, Mr. Nimmons, kindly endeavored to carry on the interrupted work of his chief, he could only be expected to carry on the letter of the same and not its spirit; and despite the intelligence and industry of Mr. Nimmons, the soul and the essence of many movements which his master had intended to inaugurate were lost to us. And when your Executive Committee elected the present incumbent to fill the vacancy created by the death of Mr. Root, months elapsed before it became possible for him to obtain a firm grasp upon the executive work of the Institute. We, therefore, crave your indulgence for such sins of omission as may be traceable to this sad and unlooked-for event.

Your Board of Directors begs leave to report with regard to the subject of regulations for the employment of clerks-of-the-works, that they have given the same the thought and consideration due to a matter consigned to their care by a vote of the Institute at its last convention. A statement expressive, in the opinion of your Board, of the intentions and position of the Institute, is printed on page 19 of our Constitution and By-laws, and the Report of the Committee on Clerk-of-the-works, and the entire discussion thereon of the convention of 1890, have been printed on pages 18 to 22 and pages 41 to 60 of the published proceedings of that convention and are therefore, sufficiently before you to take further action should you deem it necessary. Your Board of Directors would, however, remind you that with this as regards other details of practice, the Institute can only recommend but cannot force upon its individual members or their clients its ideas of what constitutes good professional practice.

Your Board of Directors has also given study and consideration to the mutual relations of Chapters and Institute, and in obedience to the mandate of the convention of 1890, it has endeavored to formulate "a plan for establishing such practical conditions of membership as will be most beneficial to the Institute and its Chapters." The result of these endeavors is the recommendation to leave unchanged our by-laws making membership of a Chapter and recommendation by the officers thereof an essential preliminary condition for every candidate for Fellowship in the Institute, and to maintain the by-law giving the Board of Directors full power and free scope in forming and admitting new Chapters.

Our honored President has, in his address, stated forcibly and tersely the conviction of your Board, that the strength of the Institute lies in its Chapters and that to increase their number and to augment their power should ever be our aim and purpose and the recommendation to maintain the present status of our laws and regulations upon this subject is made with the desire and for the purpose of furthering the fulfilment of these ends.

Your Board of Directors begs leave to return to two subjects touched upon in the discussion of the report of the Committee on Clerk-of-the-works at the convention of 1890. The first relates to the adjustment of the mutual relations and responsibilities of architect and client. It has been assumed by too many of us that these relations are of so confidential a character that they should not be desecrated by an alleged note of mutual distrust as implied by the making of a written contract. This seems to us a fallacy. In the absence of an accurately defined statement of the extent and the limitation of their responsibilities the one side is apt to assume that they comprise too much, the other that they comprise too little. Everything that can be done to remove the possibility of misunderstanding between architect and client makes the positions of both stronger and their relations more agreeable. We therefore recommend the adoption in general practice of a form of contract similar to that recommended by your committee and printed on pages 20 and 21 of the Proceedings of the Convention of 1890.

In the same Proceedings on pages 47 and 48 will be found an extract from a committee report to a former convention upon some of the evils incident to the system of architectural competitions as now in vogue. Your Board of Directors recommends that the members of the Institute do all in their power by precept and example to discourage the practice of submitting sketches gratuitously or for remuneration inadequate to the work in hand. That they do all in their power to prevent participation in competitions the terms of which are not clearly and definitely stated and in which satisfactory assurances of intelligence and justice of award are not positively and unequivocally given.

While many of your Board are of the opinion that the so-called competition is in itself, even when best conducted, harmful to our profession as well as to the public, they are well aware that this opinion is not shared by a majority of our Fellows. But certainly there can be no doubt but that if competitions must be, it is our duty to minimize their attendant evils.

Upon the subject of education, the code of professional ethics, the uniform contract, the conservation of public architecture and the action of the National Board of Fire Engineers, the respective committees in whose care the various subjects have been placed will make their own reports.

The Committees on the Architecture of National Buildings and on Enactment of Laws for Controlling the Practice of Architecture have been discontinued because of the deplorable but quite apparent want of interest of the public and our profession in these matters of such great importance to both.

Your Board recommends that to facilitate the work of future conventions that this convention direct, that hereafter all papers to be read at conventions be submitted to the Board of Directors at least four weeks before such conventions, and that these papers be printed and transmitted to the members by the Secretary.

TWENTY-FIFTH ANNUAL CONVENTION OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE alleged chief characteristic of Bostonians, their stand-offishness, was perhaps never better illustrated than by the seeming inhospitality with which they welcomed the architects who came to the city to attend the twenty-fifth annual convention of the American Institute of Architects.

The official announcement declared that the meeting would be held in "a room" of the new Public Library, but a seemingly brand-new sign, less weatherstained than others of similar tenor and so supposedly a special and temporary notice, declared also to those who sought entrance at the main door that there was "positively no admittance." Still believing that the entrance must be here, we pushed in and found a barren vestibule with never an attendant or signboard or sign of visiting architect. Evidently "a room" could not be reached in this way so we harked back and tried entrances on two other fronts and then back to the main entrance. Here joining other lost souls the search was carried to other parts of the building and the place of meeting found.

Here, about half-past ten, the convention was called to order by Mr. Hunt, with an attendance of perhaps a hundred and fifty, which at first sight looked like a more representative gathering, so far as the local habitat of the attendants goes, than is often found at these meetings, as St. Louis and St. Paul sent representatives, while the less sanctimonious villages in the middle section of the country and in the East also had their delegates on hand, but as usual the city of New York was poorly represented. Perhaps before the meetings come to an end a greater number of metropolitan members may put in an appearance.

It did not take very long to discover that the history of this convention would, very probably, but repeat the histories of its many predecessors and that the result would be found to be that, so far as actually accomplished work of real usefulness and effectiveness commensurate with the opportunities are concerned, a good many men would have spent time and money to very little purpose.

Were it not for the very great and real benefit that may and does arise from the extension of acquaintanceship and the generation of a feeling of good fellowship which these meetings engender there would be not much real excuse for the meetings: the papers that

are read are more intelligible when printed, and it is the rarest of phenomena when a discussion of either interest or importance is elicited by one of them; the purely official and perfunctory routine work that occupies so much time could be done by letter-ballot and the discussion of and action upon matters of real value are not such matters of vital importance that their consideration could not be undertaken at triennial conventions with as much profit as at annual ones. But though these things could be so managed there is nothing that can take the place of the real gain that is to be made by extending as rapidly as possible — while the limits of the profession are not too wide — that personal acquaintanceship which should have and probably does and will continue to have so real an effect on the ethics of professional procedure. A practitioner who is not exactly scrupulous in the manner in which he conducts himself towards his fellows would be likely to think twice about trying to lobby a commission away from a fellow architect, who at the recent convention of the Institute he had discovered was a simple, high-minded gentleman, a good fellow, moreover, one for whom he had begun to entertain a feeling of strong personal regard, and every time such an argument takes place between the business and the ethical self in an architect's bosom, a distinct gain has been made which may be placed to the credit of these meetings.

There is one thing, however, that seems incomprehensible, and that is how a body of men can year after year remain supine and unresentful, when by implication they are told to their faces that more or less of them are, professionally speaking, scalawags. Last year it was the Committee on Ethics which told the convention that one-half of the Institute's members were not fit to associate with the other half and this year it is Mr. Bloor, who by his successfully, but most unnecessarily, interpolating the word "honorable" in a proposed change in the by-laws, gives it to be understood, by implication, that it is possible for a member of the American Institute of Architects to indulge in dishonorable practice for ten years and still be a member in good standing. It is the noting with what cheerful alacrity such stultifying recommendations are endorsed by a convention of presumably intelligent men that shakes one's faith in the virtue of government by act of public assembly. One expects follies at a town-meeting where the range of intelligence is very wide, but they need not be acquiesced in by a body of men of high and generally even intellectual capacities.

Fortunately the morning session dragged less than usual. After receiving and accepting an invitation from the National Association of Master Builders for the evening and listening to the president's and the directors' reports, a fruitless attempt was made to extort from the various standing committees reports of their year's doings, but the most persevering efforts could only extort the facts that no member of the Committee on Education was present; that the Committee on Professional Ethics had not been able to formulate any report — and why so utterly unnecessary committee was not discharged on the spot is not easy to discover; that the Committee on the Clerk-of-the-works conceived that its report at the last annual meeting had exhausted the subject, and that the Committee on Uniform Contracts, though they admitted that defects had been found in the published form now in use, believed that so many more would be discovered during the coming year that it really was not wise to attempt a revision until the existing document had been thoroughly riddled.

The annual address by the president, which the by-laws of the Institute needlessly forced to take the form of a valedictory address, contained nothing of much pressing moment to the profession, yet was altogether interesting and enjoyable, because of the distinct individuality with which Mr. Hunt succeeded in enduing it.

After alluding to the fact that the present meeting marked the attainment of majority by the Boston Chapter, the president mentioned with regret the fact that the by-laws made the address he was then delivering his valedictory. (The fact that such a statement as this can neither be met by the audience with applause nor with hisses, seems to mark a certain impotency in the English — language, shall we say?) After an appreciative reference to the seven members of the Institute, who during the passed year have passed beyond the pale of this world's usefulness, Mr. Hunt devoted the remainder of his too short discourse to describing some of the difficulties the World's Fair had encountered and how harmoniously — and, it is to be hoped, successfully — they had been overcome.

The address was entirely agreeable and pleasant and as there is not one annual address in a hundred that passes beyond the limits of a descriptive rehearsal of events, the members present might well feel fully repaid for their attention in discovering that in place of being really bored, they had actually been entertained.

The Committee appointed to confer with similar bodies representing the national associations of underwriters, fire engineers and builders, referred briefly to the set of general recommendations that were published shortly after that conference and then asked to be continued as a committee so as to take part in a similar conference at Cleveland in February.

At this point was passed the only amendment to the by-laws that was offered to the consideration of the meeting, and members now have the satisfaction of knowing that if they have practised for ten years and if they are not members of that mysterious fraction of their body who are base, dishonorable shysters and guerillas, they may still retain their fellowship — unless they should have engaged "in *any* business or trade." It is tiresome to have these innuendoes against the uprightness of fellow members in the same body turning up so often. Another instance of this singular attitude was developed at the afternoon session, when it was decided to be undesirable to issue diplomas to members lest some one on failing to pay his dues should refuse to return his diploma, and so be able to parade himself as still a member.

The reason that this convention passed off so smoothly — tamely might be the word used by some — was, simply, because so little attempt was made to alter the rules and regulations. When such changes are suggested almost any one can form and express an opinion, and debate often becomes warm and amusing. It might be well for those who have charge of these meetings to prepare each year a few entirely useless and irrelevant amendments, which could by no possibility be accepted, yet which would serve to stir things up and loosen the vocal chords.

Mr. Windrim's paper on "Architecture and the United States Government" will be found elsewhere in this issue. It was the one matter of real importance brought before the meeting, but there was no reason for discussing its recommendations since all present practically assented to the speaker's statements, at the same time there was a reason for the President's emphatic ejaculation: "Do let us take some action in this matter, and not sit here and simply look at each other."

The matter was referred to a committee to report at the meeting on the following day means of bringing pressure to bear on the Government so as to secure the designs for national buildings by the direct selection of capable architects or through competition.

The Secretary, Mr. Adler, being called upon gave, in the following words, the history of the attempts that had been made to bring about a change of method in the procuring of designs for the national buildings:

"The subject of Mr. Windrim's paper has been before the Institute at several conventions, as also before the Western Association of Architects. Both bodies maintained for a number of years a committee that was charged with the duty of endeavoring to secure congressional legislation upon the lines indicated by Mr. Windrim. For several years I was chairman of a committee of the Western Association. In that capacity, in conjunction with Mr. Bloor and the late Mr. Littell, we made a number of efforts to secure a hearing before the Committee on Buildings and Grounds of the House of Representatives. There were during that time several bills bearing upon the subject introduced into the House; one by Mr. Stockslager, which we thought was very good; another by Mr. Hubbell. These bills always, however, died before the termination of the session of Congress, before any definite action had been taken upon them as far as we were able to observe. There was until the time of Mr. Windrim an opposition to any action of the kind desired by us from the then incumbent of the position of Supervising Architect. It has been perhaps the misfortune of the Government that it imposes great responsibilities upon its officers and pays but small remuneration, and it has therefore been difficult generally to secure men of large calibre. It was our misfortune when in Washington to come across small men in large places who liked very much to retain their positions.

"It was not until Mr. Windrim's day that we met with any support, and what Mr. Windrim has read to you shows the extent to which he worked and the lines upon which we stand. But even in Mr. Windrim's day we found opposition from the many hangers-on of that office, and these kitchen, back-door influences are very strong in Washington. If we wish to attain anything, we have got to do something more than go to Washington and lobby and orate before a committee of Congress. It will do us no good. There is but one way by which the congressman can be influenced, but one way by which he can be reached, and that is by home influences. If we each of us will succeed in convincing our friends, our clients, at home, that this reform is a reform, that it is something to the general interest of the community, that it is something in which every one throughout the United States is interested, if we will do that, then we will bring to bear indirectly upon each of our congressmen an influence which he will find it difficult to resist, which will be stronger than these back-door influences at Washington.

"Again, the press — not the professional press, its power to reach the general public is small — but the great daily press is all powerful in this matter. But, on the other hand, the daily press, while to a certain extent it leads public opinion, yet also follows. That is, it rarely happens that the daily press is prepared to take up a subject and advocate it strongly, unless it finds that there is a strong public opinion behind it. So that it is our duty as individuals to labor with our home acquaintances and with the home press and to see to it that before the assembling of the next Congress there is something that approaches a general concensus of public opinion making itself known. If we will do that, then a committee appointed by this body can approach the committees of both Houses of Congress, and will have a constituency behind it. After all, the five hundred or so members of this Institute are to the population of the United States but a small fraction. We must have something behind us, something more than a resolution of the Institute. Whenever we have that, then it will be time for the Institute to appoint a committee to resume the work of the one which has been discontinued by the present Board of Directors."

The reading of Mr. Baumann's paper on "Sanitary Protection of Residences" closed the morning session. In the afternoon two things of importance were done, one a matter of somewhat tardy politeness, and the other may have an effect in making future meetings more entertaining and lively.

The first of these matters was the electing to Honorary Membership of Mr. J. Horbury Hunt of Sydney, N. S. W.; Prof. W. F. Laird, of the University of Pennsylvania, Prof. W. R. Ware, of Columbia College; Prof. N. C. Ricker, of the Industrial University of Illinois, "gentlemen who are connected with professional schools in this country and elsewhere, and whose work lies at the root, of course, of all the future architecture of this country and of the world."

The same vote covered the names of Mr. and Mrs. S. P. Avery, R. T. Auchmuty, H. G. Marquand, C. F. McKim, F. A. Schermerhorn, of New York, A. Rotch, of Boston, and John Baird, of Philadelphia, as those of "persons who, by their large gifts and by their personal efforts have been largely instrumental in forwarding the interest of our profession."

It would seem to be not a difficult thing to add other names to this list, yet no one responded to the President's invitation with any suggestions.

The other matter was the adoption of a resolution, offered by Mr. Yost, that the reports of the Board of Directors and of all standing committees, as well as all "papers" to be read at future conventions, should be printed and placed in the hands of the members two weeks before the holding of the convention. This is a most excellent provision in the case of the reports, as it gives time for their consideration and the formation of opinions as to their statements and recommendations, which are more likely to find expression during the meetings than the hastily-conceived ideas which form themselves on the half-hearing and half-understanding of a report which may be delivered carelessly by a chairman or secretary. But while we commend the resolution as it regards reports, we are inclined to doubt its real usefulness as applied to papers. It certainly will give time to read, consider and digest them and to prepare criticisms of or objection to the author's statements, but may it not sometimes disclose prematurely the fact that the papers are perfunctory, dull and unsubstantial, offering no salient points of interest. Should such be the case, now and then, would it not have a distinct effect on the attendance at the conventions, by giving members positive notice that it would not be worth their while to travel hundreds of miles to listen to the mere reading of the shallow papers which they had already read in their own arm-chairs at home?—not that the Institute is ever called upon to listen to the reading of dull, shallow or perfunctory papers, but still such a misfortune might befall it after this.

If all papers had as much substance to them as had the very interesting and very pleasantly delivered paper on the "Construction of High Building" read by Mr. Jenney, directly after the passage of this resolution, there can be no doubt but that a lively, interesting and valuable discussion might have been evoked if the listeners had had a couple of weeks to think the matter over and discover what points enunciated were obscurely stated or what deductions and applications followed from the course explained. This paper, of all that were read, was the one which should have received full and useful discussion, yet no one raised his voice to ask a question or to offer further proof of the statements made. It is very probable that the methods explained were entirely everyday matters to the Chicago men present, but there were men from other cities present who had had no personal experience with the method of building described (but who might at any moment be called on to build in accordance with it) and yet they deliberately threw away a chance of drawing practical and theoretical information from a man so thoroughly qualified to give it. Between the comparatively fresh-faced young practitioner of rising thirty and the gray-headed Nestors of the profession, is there no real difference in the matter of acquired information? Do these younger men "know it all"? Do the older men not incline to seek other paths than those they have always followed? Facts disprove both these suppositions; neither young nor old have acquired all knowledge, but why it is that when some one undertakes to offer information not possessed by all his hearers, every word is blandly swallowed and not now and then caught and thrown back, it is hard to discover. It must be a depressing experience to deliver a carefully prepared paper under such conditions.

The meeting at this session adopted the following resolution:

"*Resolved*, That the American Institute of Architects most emphatically protests against the unnecessary tax laid upon us as architects by reason of the duty imposed upon photographs of foreign subjects and similar art works, and that this Convention appoint a standing committee to consider the subject, and to take such action as may be found practicable."

At the request of the Convention, Mr. Carlin, of Buffalo, gave the following account of attempts that had been made toward making compulsory in New York the licensing of architects:

"We have made three attempts to get a bill through the State Legislature, and have had a committee at work on it for three years. We took as a basis, in the first place, the bill presented to the Western Association by a committee appointed for that purpose, and revised it to fit the local needs as near as possible. We referred it to a member of a committee which has been appointed by the Governor of New York State to codify all the laws of the State to cut out the useless language and the illegal and conflicting terms, and got his draft, with our suggestions of such a bill as we thought we could get passed. We did not expect to incorporate in that bill all we would like to have, or to throw around the practice of the profession all the legal restrictions that we thought should be, but merely such salient points as we thought we could get passed. The bill provided that a State board of architects should be created, appointed by the State Board of Regents, without any other restrictions, appointed at will: this board to hold office — to have a portion of its members pass out of existence each year. They were to meet at least once a year in each of the judicial departments of the State — except the eighth, which is in Brooklyn, contiguous to New York — to hold an examination of such candidates as should present themselves for license; that each person proposing to obtain a license should make his application to this board in writing, and pay a fee of five dollars; that this was to be retained by the board; that he was to be examined for his proficiency and knowledge and right to be allowed to practise; that, if the license was issued to him, he was to pay an additional fee of fifteen dollars; that any person who was not at the time of the passage of this act engaged in the practice of the profession, and who should make oath to the fact that he was at the time of this passage engaged in the practice, and send this oath to the board, that they should be thereafter debarred from practising architecture in the State unless in possession of a license. Those who were practising had only to make oath to the fact to obtain a license without examination. It was decided by the best authority we could get that we could not get a law passed which would be retroactive in its action. But it was also provided that a person could be tried on charges to this board, and by the bill which we introduced this board, sitting in the county of the residence of the practitioner against whom charges were preferred, was given the full powers of a county court, with all the powers which they have, to compel the attendance of witnesses, produce books and records and testimony, the same as a court of record sitting in that county; that all infractions against the regulations of the board should be tried by this board, and that a unanimous vote of the board was necessary to revoke a license. The only restriction placed on the practice of the profession was that no man should be allowed to designate himself as an architect, or to put out any sign, card or advertisement calling himself an architect, unless he was in possession of a license from the board; recognizing the fact that it is impossible to compel every man to employ an architect to design a building, that he could design it for himself, or employ any person whom he saw fit to design it for him, if he did so with the full knowledge that the person so employed did not claim or profess to be a regular recognized practising architect.

"We find the same thing in the practice of medicine. We can all of us go to any irresponsible party and get a prescription and follow it if we see fit; and we cannot attempt to legislate away the rights which are inherent in every citizen of the State, and the bill did not attempt to do that.

"This bill was introduced in the early part of the session by a member of one of the districts in Buffalo and was referred to the Committee on Laws and Legislation. They gave us a hearing, and we went, four of us I think, before the Committee, and we succeeded in getting — an almost unheard of thing — in getting the bill reported favorably out of the committee on the first session. The committee at the session at which we had the hearing reported the bill favorably. And there is an unexplained reason why that bill never turned up. It was finally called out and a vote taken, but the ayes and nays were never called on it, and it was killed in the Assembly, apparently through a lack of interest or for some reason. There was an effort made, which I am sorry to say failed, to get the National Association of Builders, in session in New York in February, to formally endorse the bill and pray the Legislature of the State for its passage. But the builders took a very conservative view of it, and said that the architects never did anything for them and they didn't feel like doing anything to help them out; and the resolution which was offered endorsing the bill and asking the Legislature to assist in its passage was lost. We covered that fact up as far as possible, and did not make any great parade of it. Still I do not think it had any adverse effect on the passage of the bill."

Mr. Meyer, the editor of *Engineering Record*, asked the privilege of the floor that he might show from his own experience in promoting similar legislation that the real chance of securing the enactment sought, lay in the ability to prove that such legislation was positively needful for the "protection of the public."

The reception offered the Institute by the Master-Builders' Association was attended by almost all visiting members and three or four hundred of the entertaining society. It proved thoroughly informal and enjoyable and, as the visitors were warned, was an occasion when the hosts were by circumstances constrained to refrain, from extending their invitation to ladies. The abundant collation with its concomitants amply proclaimed the hospitable intention of the entertainers. The music provided was excellent and some of the chorus singing, in which hosts and guests joined, was remarkably good. Altogether it was one of the most enjoyable courtesies ever extended to the Institute.

The session of Thursday morning was devoted almost absolutely to the reading of papers. But again there was hardly the semblance

of a discussion. To be sure Mr. Warren did take issue with a statement implied by Professor Moore in his interesting paper, that the Romanesque style was but a transition between Roman and Gothic work, and "got back at him" by citing authorities who considered the Roman style but a transitional stage between the trabeate and the arcuate styles. Some little discussion followed the reading of the report of the committee appointed at the previous session to consider and report upon a method of taking action in consonance with the suggestions continued in Mr. Windrim's paper, and later in the session upon the presentation of a suggested form of bill to bring before Congress.

In the afternoon, members with their guests were shown the beauties of Boston Harbor from the decks of the municipal steamboat "*J. Putnam Bradlee.*" The afternoon did not prove to be the mellowest of the season, but the atmosphere was clear and brisk and the excursion was enjoyed by those who did not find the exposure too great.

The banquet Thursday evening was a more formal affair than the Master-builders' reception, but it was quite as enjoyable. The after-dinner remarks of Mr. Hunt, Mr. Walter Crane, Professor Norton and his colleague Professor Moore, General Walker, Mr. Edward Atkinson, Mr. Jenney and Mr. Sayward were in their different ways better worth hearkening to than such speeches often are.

THE ILLUSTRATIONS

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

HOUSE OF GEORGE A. BALANTINE, ESQ., BEACON STREET, BOSTON, MASS., MR. H. M. STEPHENSON, ARCHITECT, BOSTON, MASS.

[Helio-chrome, issued with the International and Imperial Editions only.]

LOGGIA OF THE HOUSE OF W. W. WILLOCK, ESQ., ALLEGHENY, PA. MR. W. ROSS PROCTOR, ARCHITECT, PITTSBURGH, PA.

EQUESTRIAN STATUE OF GENERAL GRANT, CHICAGO, ILL. MR. L. T. REBISSO, SCULPTOR, CINCINNATI, O. MR. F. M. WHITEHOUSE, ARCHITECT, CHICAGO, ILL.

See article on "Equestrian Monuments" elsewhere in this issue.

DESIGN FOR AN OFFICE-BUILDING. MR. M. B. HOUPT, ARCHITECT, PITTSBURGH, PA.

THE VENETIAN BUILDING, CHICAGO, ILL. MESSRS. HOLABIRD & ROCHE, ARCHITECTS, CHICAGO, ILL.

HOUSE OF MRS. ANDERSON, 38TH ST., NEW YORK, N. Y. MESSRS. LAMB & RICH, ARCHITECTS, NEW YORK, N. Y.

[Additional Illustrations in the International Edition.]

THE NORMAL SCHOOL FOR FEMALE TEACHERS, CLERMONT-FERRAND, FRANCE.

THIS building, here reproduced from the *Revue Générale de l'Architecture* is situated outside the city itself in the suburb of Fontgiève, on an elevated site, from whence it commands a fine view over the surrounding country. The plan is very simple in its conception. Two wings connected by a transverse building give to the whole structure the character of a double T. In the axis of the transverse building is the principal entrance on the ground-floor, which gives access to a vestibule and the main staircase. Upon the right are found the class-rooms, upon the left the studies. In connection with these last mentioned rooms in the left wing there is a room for sewing, which separates the apartments of the directresses from the amphitheatre. Laboratories and a covered recreation-ground complete this wing. The right wing contains the dining-room, the room for drawing and one for modelling. A gymnasium balances the covered recreation-room. Opening upon the court-yard in the rear, which is planted with trees, is a covered gallery, horseshoe in shape, which connects the different portions of the buildings. The general character of the façade countenances the simplicity of the plan, while yet giving evidence of a certain care in the choice and arrangement of materials. The sub-basement, in which is the cellar, is of Volvic stone, filled-in with rubble in broken range work. On the first story the finish used is of cut stone and the filling above is of brick. A double row of stone and a faience frieze indicate the limits of the ground-floor story, which is in reality the school proper. The bays of the upper story are also framed in worked stone, but their lintels are of brick. The stonework everywhere, which is used as the filling between the cut stonework is covered with rough-cast. Surmounting everything is a brick frieze with faience panels. The illustration represents the central motif, to which the architect has given special character by the care with which he has studied its projections.

THE NEW BASILICA AT TOURS, FRANCE. M. LALOUX, ARCHITECT.

THE city of Tours possesses two buildings which are just now attracting attention — its theatre and its basilica. *La Construction Moderne*, from which we copy these plates, recently published at considerable length the documents connected with the theatre, and these plates now show the new basilica, the first part of which has just been finished. The building is so considerable in size that it is necessary to build it in sections because of the cost. Naturally a beginning was made with the apse and choir, and the building has already attained about half its final length. The building was designed by M. V. Laloux, who shows that Byzantine art is as familiar to him as Greek art. The church is remarkable for its imposing proportions, its fine dome on pendentives, the summit of which is not less than 42 metres above the street-level. The details for ornamentation have been studied with the greatest care, for there is no capital employed which has not been refined by the architect's own pencil.

INTERIOR OF THE SAME BUILDING.

"LA FAMILLE," A BRONZE BAS-RELIEF REPRODUCED FROM *L'Art.*

WALL-TREATMENT OF THE COUNCIL-CHAMBER IN THE RATHHAUS, HEIDELBERG, GERMANY.

THIS plate is copied from *Innen-Dekoration.*

CHURCH AT REUTLINGEN, WURTEMBERG.

INTERIOR OF THE SAME BUILDING.

THESE plates are reproduced from the *Architektonische Rundschau.*

FRENCH PROTESTANT (HUGUENOT) CHURCH OF LONDON, ENG.

THESE buildings, here reproduced from the *Builder*, are being erected on a site at the northwest corner of Soho-square, in the place of those in St. Martin's-le-Grand recently pulled down to make way for the General Post-office extensions. They consist on the ground-floor of a church to hold 400 persons with a principal entrance from Soho-square, and a room to hold the valuable Huguenot library belonging to the Church. At the rear of the Church are two vestries, and a mission-room in the basement. The frontage towards the Square, shown in the view, is occupied above the ground-floor by the pastor's-house, the kitchen, and servants' offices being in the roof. Owing to the nature of the site, hemmed in by houses, the church is nowhere displayed externally, and is lighted by a clere-story and top-lights in the groining of the aisles. The exterior is faced with blue Luton bricks and red terra-cotta dressings; and the interior with buff terra-cotta throughout. The drawing from which this illustration is taken was exhibited at the Royal Academy.

CITY BANK, LUDGATE HILL, LONDON, ENG. MR. T. E. COLCUTT, ARCHITECT.

THE lower part of this building, here reproduced from the *Builder*, is of granite, the upper stories being of brick and terra-cotta.

SPIRES AND TOWERS OF SOME OF SIR CHRISTOPHER WREN'S CHURCHES, LONDON, ENG.

THIS plate is reproduced from *Specialties.*

DESIGN FOR COMPLETION OF SOUTH KENSINGTON MUSEUM. MR. M. MACARTNEY, ARCHITECT.

EDITORIAL OFFICE, "LADY'S PICTORIAL."

IT is not often the private office of the editor of a London newspaper is made the subject of an illustration. There is, however, no necessity for concealment, for Carlyle's joke about a sight of such a place being like to the "Satan's Invisible World Unveiled" was not warranted by facts. It will be seen that this editor's room is arranged and furnished with the good taste that would be expected.

CRAIG-Y-NOS THEATRE. MESSRS. BUCKNALL & JENNINGS, ARCHITECTS, SWANSEA AND LONDON.

CONSIDERABLE interest was aroused in the Swansea district by what may be termed the inauguration of Madame Patti-Nicolini's theatre at Craig-y-Nos Castle. The theatre is situated to the right of the castle, and adjoining the French billiard-room and clock-tower, the façade not being situate in the general front of the buildings, but facing the interior grounds. The theatre is comparatively plain outside, but the façade is sufficiently distinctive to mark the purpose of the building, and on the pediment stands in gold letters the name of the building, "Patti Theatre." There is no grand entrance from the exterior, the theatre being chiefly for guests, and the principal entrance is from the castle itself. A wide corridor leads from the French billiard-room and passes along the side of the theatre, long windows to the right giving views of the open country. The doors of the theatre are to the left on this corridor, which gives access both to the floor and the stage of the theatre.

The chief features of the theatre are, perhaps, its lighting and its peculiarly arranged floor. The lighting combines all the most recent inventions for electrical effects and changes. The electroliers are gracefully arranged throughout the building in a variety of charming forms. The central electrolier in the ceiling has sixteen lights, and, in addition, brackets of three lights each are employed round the

building. On the stage the lighting is perfect, and the instantaneous changes of hue which can be produced by switches throw the limelight effects of local theatres greatly into the background. The floor has been arranged with a view to utilizing the theatre as a ball-room when desirable. For this purpose, the floor, which slants away towards the stage end, for the purpose of giving a good view, can be raised without any difficulty to a perfect level with the stage. A ballroom 62 feet long can thus be provided at any moment, and the fact of cosy drawing-room effects being obtainable at the stage end certainly does not diminish the pleasures of the ballroom. Upon entering the house the visitor is struck by the beauty of detail shown everywhere in this miniature opera-house. Before him rises the act-drop, which is a picture of the prima-donna in the character of Semiramide driving a chariot and pair of horses. The beautiful cove ceiling has been decorated within the past few months, and presents a very attractive appearance, whilst all around the auditorium rise Corinthian columns with decorated surfaces, dividing the walls into panels. Behind the auditorium the building is curved, and a small gallery or tribune, which can accommodate a few extra visitors, is here provided.

The building is seated for 180 persons, though it is possible to find room for 200. The chairs in the first few rows have arms, and are covered with blue silk plush. The decorations are in quiet tints of blue and ivory-white, with a plentiful use of gilding. The orchestra is divided from the auditorium by a low balustrade, and is sunk 6 feet below the stage level; it has room for a band of sixteen. The proscenium is striking; it was 20 feet wide and 19 feet high. Surrounding it is a handsome border, with a pediment and descriptive and decorative ornaments at the top. The frieze of the proscenium is panelled, and this panelling is continued round the auditorium, bearing the names of great composers. Rossini, Madame Patti's favorite composer, occupies the central position of the proscenium, and is faced by Shakespeare above the gallery. The tableau curtains are extremely handsome; they are richly festooned, and are of electric blue silk plush. The stage is 24 feet deep and 40 feet wide, with ample height to allow the whole of the scenes to be raised into the flies without rolling. Every modern appliance necessary for opera and pantomime has been provided. There are electric footlights, rows of batten lights in the wings, and ground lights with colored lamps for giving colored effects. The number of lights in the entire theatre is 281, and all these are under the control of the prompter by means of a handsome switchboard which has each department labelled. A cellar under the stage accommodates the machinery for working the scenes and traps, while alongside the auditorium, on the opposite side of the corridor, is a large scene-dock, 32 feet long and of full height to accommodate scenes when not in use. Behind the stage are five dressing-rooms on the first and second floors, with a loft over for properties.

ACCEPTED DESIGN FOR THE MUNICIPAL BUILDING, BURY, ENG.

SECOND PRIZE DESIGN FOR THE MUNICIPAL BUILDING, BURY, ENG.

This and the accepted design are reproduced from the *Building News*.

[*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.*]

THE SQUARE OF THE RADIUS OF GYRATION.

Richmond, Ind., October 17, 1891.

To the Editors of the American Architect:—

Dear Sirs, — In calculating the safe load on a strut or column composed of two channels laced together according to formula given in "*Safe Building*," which of the two shapes, No. 12 or No. 26 in Table 1, should be taken to figure the square of the radius of gyration? They are exactly the same, but with the axis in the one case at right angles to the other. Answer in *American Architect*.

Yours truly, O. E. McMeans.

New York, October 24, 1891.

To the Editors of the American Architect:—

Dear Sirs, — In answer to Mr. O. E. McMeans' inquiry, would say that the use of either formula 12 or 26, Table 1, "*Safe Building*," will depend upon circumstances. If the section is used as a column and not braced sideways in either direction, the square of the radius of gyration should be figured both as per No. 12 and No. 26, — *i. e.*, in both directions — and the smaller result should be inserted in the formula for long columns on page 24. As a rule, when the channels are close together No. 26 will give the smaller result, but as they are moved farther apart No. 12 might have to be used. It should be said that the square of the radius of gyration will be constant where the axis is shown, as in No. 12, no matter how far the channels are apart, while in No. 26 it will increase as they are moved apart. In economical and properly-designed shapes, the square of the radius of gyration should be the same in each direction, otherwise there will be a waste of material.

Yours very truly,

Louis De Coppet Berg.

SCREENING CASEMENT WINDOWS.

Newton, Mass., October 25, 1891.

To the Editors of the American Architect:—

Dear Sirs, — In your issue of October 24th, a correspondent asks how to use mosquito screens on casement windows opening outward.

On such a window in my house the screen is divided perpendicularly, one-half slipping by the other when we wish to open or close the window.

In a similar way the kitchen and bath-room windows are screened entirely, by having the lower half of the screen slip up inside the upper half.

Yours truly, L. R. Stone.

ADDRESS WANTED.

Providence, R. I., October 16, 1891.

To the Editors of the American Architect:—

Dear Sirs, — Will you kindly give me the post-office address of Mr. W. Pope, inventor of pulley-style ventilation, and greatly oblige,

Yours truly, Henry DeWitt Smith.

[Perhaps some of our readers may know the address. — Eds. American Architect.]

TRADE SURVEYS.

A great deal hinges on the outcome of the present tight financial condition of a number of railroads. This stringency has been carefully covered up in annual reports and monthly statements, but it is agreed now that it has been more serious than the public has been aware of. The reaction in the construction of roads, which almost stopped construction this year, was attended by other results which were not so patent, which have forced on a goodly number of corporations an extremely economic policy. The present expansion of traffic may not be sufficient to lift these properties out of their dilemma — at least, not to the point of making their securities and stocks sought for in the security market — but it is quite probable. In fact, it is evident that the improvement will be of such a character as to justify a departure from the hand-to-mouth policy that has been forced upon railway managers in scores of instances, and allow them to, and justify them in, making liberal and needed expenditures for the better equipment of their properties. Another probable result, and one which has heretofore been hinted at, is that more railway building will be done next year, and done because absolutely necessary. A great deal of railroad building in past years has been done to shut out competitors, and to cover territory before traffic requirements justified. All such speculative railroad building was stopped some time ago, and it is not likely to be renewed. New railroad-building requirements are pressing themselves upon the attention of some of the shrewdest and most careful railway managers of the country; it is to be favorably commented upon, also, that within the past few days upwards of fifty million dollars' worth of railway bonds have been favorably accepted by the public. It is not meant that this amount of securities have been sold or will be immediately taken up; but the public is looking favorably upon the borrowers, and the subscription to new securities is going on gradually. This condition of things is stimulating inquiry in manufacturing channels all the way from locomotive-builders and steel-rail makers down to general building material. One significant point deserving of more than passing notice is that preparations are now being made by manufacturers of almost all kinds of building material to be well supplied for the coming year. The only explanation made by some of the larger operators in this direction is that, in their opinion, there will be a heavier demand next year for building material than this, and that the slight advance in price which is probable between now and April will constitute a fair margin, if taken advantage of now. This view is not taken, so far as has yet been shown, in any other direction; that is to say, that prices of all raw material and all kinds of finished products are steady, and do not show symptoms of an advance. Statements gathered privately by a number of real-estate and land operators in some of the Western States show already signs of strengthening prices on real estate and rural properties advantageously situated. This may be simply an effort on the part of a few manipulators to try the temper of buyers, and it may be a genuine hardening of prices growing out of the better conditions of the past two or three months. Whatever the meaning of it may be, the fact is here noted. Good authorities believe that within the next two or three years there will be a general expansion of values in real estate, especially in the Far West, and in Eastern financial circles movements are observable to take advantage of this possibility. Western people owing money on their lands, and the bulk of them do, are anxious to shake off as much of this load as they can, and their payments will help to stimulate Western investments, in order that advantage may be taken of any hardening tendency in values. Authorities in the Southern States who are competent to speak give a favorable account of the influence on land-values, both town, city or country, of the general industrial investments which have been made. A marked improvement in values is noticeable in Alabama and Mississippi. Remarkable development of lumber interests is going on in Arkansas. A great deal of new mining territory is being developed in the precious-metal region between Montana and Mexico. Expert miners were never more actively at work than now, and matters are being put in such shape that business men can exercise ordinary business prudence and foresight in making investments — a thing that has been lacking for years in mining investments. Throughout the great Mississippi valley there is a little freer movement in retail trade and jobbing and manufacturing circles than farther East. Commercial reports show that in the New England and Middle States business has not been benefited to as great an extent as farther West, but jobbers and manufacturers say that the benefits of the improved conditions of the West will be realized here later, during the winter and spring. The possibility of a general rise in values is being watched very closely, for it means fortunes to many. The spirit of investment is held in check by the uncertainty as to the course of values during the next year. The ever-present dread of a general depression is a factor in the situation. 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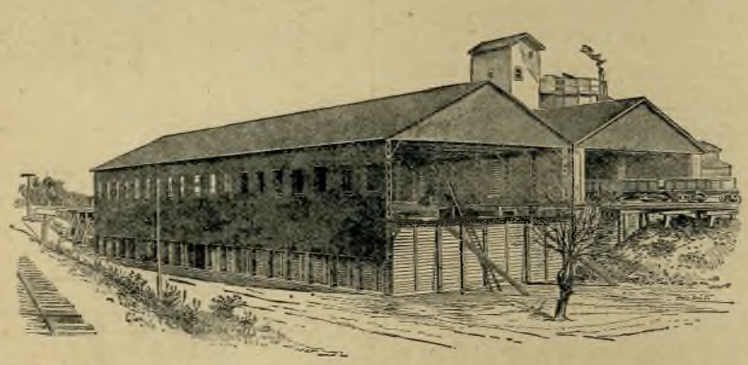

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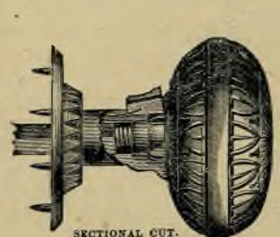

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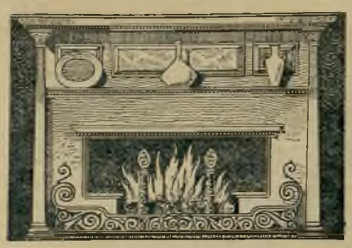

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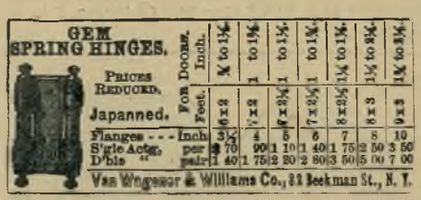

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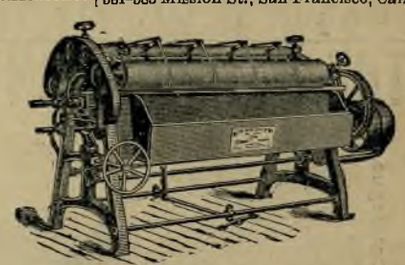

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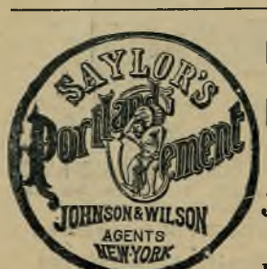

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