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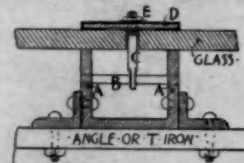
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JUNE 23, 1894.



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ACCORDING to the *Philadelphia Press*, there are signs of movement in the tower of the Philadelphia City Building, and work has been suspended on the upper portion until the substructure can be strengthened. It will be remembered that this tower was originally intended to be the highest structure in the world. Since the design was made, however, its proposed height has been far surpassed by the Eiffel Tower, and, when the building is completed, it will probably hold only the third or fourth rank among high structures. However, a tower five hundred feet high is, in any case, a rather serious matter of construction, and it is not surprising that difficulties have been encountered. According to Mr. Powell, the newly-appointed architect of the building, who seems to have been the first to discover the movement, and point out the true cause, the foundation and first story of the tower were well built, of perhaps sufficient thickness, with brickwork in cement. Above the first story, for some unexplained reason, the walls, although about six feet thick, were built, for several stories, with lime mortar, with a facing of marble ashlar, twelve inches thick. Above the fifth story, the builder seems to have recovered his senses, or the architect to have realized what was going on, for thenceforth the brickwork was laid in cement. As the weight on the masonry increased, the natural result took place. The walls of the first story and basement, being laid in cement, kept their place, Mr. Powell having found no trace of settlement subsequent to the hardening of the cement. Where the brickwork was laid in lime, however, there has, of course, been no hardening. The mortar in the interior of the walls is still soft, and the compression of the joints, added to the shrinkage from evaporation, has not only caused serious settlement, but, by bringing the pressure on the thin, but almost incompressible marble ashlar, has crushed and split this to a rather alarming extent. Mr. Powell has arranged to fill up some of the arches in the lower part of the tower, and in other ways distribute and equalize the weights, and, as we gather from the newspaper account, to reinforce the masonry in lime with proper brickwork in cement; and it is much to be hoped that his efforts to stop further mischief will be successful. It will be remembered that considerable repairs on the lower portions of this tower had to be carried out nearly ten years ago, owing to carelessness of very similar character on the part of workmen or architect. At that time a considerable portion of carved and polished stonework had to be replaced because it had been cracked and crushed through the unequal settlement between the brick filling and

the facing, the joints of the latter not having been laid slack enough to allow for the greater compressibility of the brickwork filling. Accidents of this kind are not so uncommon that their causes and remedies are not known to every one, and yet there are architects and workmen whose love for a close, neat joint in stonework is such, that they make use of it at the risk of having to make costly repairs later, such as these at Philadelphia or those demanded by a similar mishap at the State-house at Hartford.

AMONG the proceedings of the Convention of the National Association of Builders, referred to last week, none seem to have been more interesting than those relating to arbitration. The discussion on this point was introduced by the delivery of an address by Hon. Carroll D. Wright, United States Commissioner of the Department of Labor, on "The Relations of Employer and Workman." We hope to print this admirable little address in full later, and will not anticipate it here, except to say that we have never seen the distinction between the paralyzing tendency of State, or compulsory, socialism, and the great and vivifying principle of ethical altruism so forcibly presented. It is gratifying to find that the discourse was received with the deepest interest and satisfaction, and the conversation which followed, on the practical methods of adjusting labor questions in use in various localities, showed that the master-builders are by no means insensible to what Mr. Wright calls the modern tendency to think of other people's rights and wishes, as well as one's own. Next to this, the most interesting discussion was that on the Uniform Contract. As might be expected, a great deal of the talking was done by builders, who had had some personal misunderstandings with architects or owners, and wanted clauses added to the Uniform Contract to cover such cases; but the Contract Committee seems to have stood up firmly and successfully against confusing its form by the addition of provisions which any court of law would hold to be implied in what was already stipulated. One grief of the builders seems, however, to have been a real one. In one case, where the contract included the furnishing and decoration of some steam radiators, the radiators were to be picked out with gold. Naturally, this decoration was applied after the radiators were set, and the member who made the complaint said that the architect refused to accept the work as satisfactory, because the gold was not applied between the pipes. He did not say how the gold was to be got in there, but, as was alleged, the owner took advantage of the architect's refusal to accept the decoration of the radiators to withhold a thousand dollars of the contract price. The contractor applied to have the matter arbitrated, but, according to the story, the architect replied that there was no provision in the contract for arbitration of such matters; so that the contractor was still waiting for his money.

SUPPOSING this statement of facts to be correct, the obvious remedy would be, not, as one member suggested, to have another arbitration clause incorporated in the Uniform Contract, covering all sorts of disputes, but to bring the case at once into court, on the ground of fraud and collusion on the part of the architect in withholding his certificate of satisfaction. It is well-established law that, although a contractor may have agreed to be bound by the decision or opinion of the architect, he is freed from his agreement by fraudulent conduct on the architect's part; and, if a jury or referee finds that the architect has been wantonly unreasonable or dishonest in his decision, or has given it in collusion with the owner, with unfair intention, the contractor will no longer be bound by it. As we have often had occasion to say, an arbitration is the least satisfactory, and often the most expensive form of lawsuit, and should be avoided by every possible means. As a rule, the architect knows more about the matters in question than any one else; he is generally honest and impartial, and he does not have to be paid a large slice out of the amount in controversy for rendering his decision; so that anything that can be left to his judgment should be so left, in the interest of all parties; and if, occasionally, an architect stoops to pervert his decision to aid some scheme of fraud or oppression, a sharp reminder from a civil or criminal court will be found more efficacious in correcting such abuses than the

abandonment of the whole system of reliance on the architect's honesty, and a return to the inconveniences and disappointments of multiplied arbitrations.

A CASE just decided in New York in regard to the relative positions of the unincorporated labor unions, and the walking-delegates, by whom they are often annoyed, has been reported in some of the daily papers in a way to lead to misapprehension. The Board of Walking-Delegates of the Building Trades has recently fallen foul of the Progressive Painters' Union, and has interfered with the members of this body, procuring their discharge from employment by the familiar means of coercion, threatening, and otherwise annoying them. The President and Treasurer of the Painters' Union applied for an injunction to restrain the Board of Walking-Delegates from such proceedings, but the Supreme Court decided that they were not entitled to an injunction; not, however, as the papers seem to think, because the Court was unwilling to interfere with the antics of walking-delegates, but on the ground that, the Progressive Painters' Union not being incorporated, it had, as a body, no legal standing, and its officers no power to represent it in attempting to right the wrongs of its members. If the Union, though unincorporated, had carried on a business enterprise, its members might have been regarded as partners, and one might have been admitted to speak for the rest; but, as Judge Barrett said, it was simply "a brotherhood with fraternal aims," but no capital or common business, and could not therefore aspire to corporate rights. If any individual member, who had been discharged on account of the threats of the walking-delegates, had brought suit for redress, or for an injunction, in his own name, he would, in all probability, have gained what he asked; and the decision simply points out that this is the proper course to follow in such cases. If the other members of the Union wish to contribute, afterwards, to pay the legal expenses incurred in prosecuting their brother member's case, there is certainly no objection to their doing so.

MR. A. T. BOLTON recently read before the London Architectural Association a paper on "The Practical Side of Travelling," which contains many valuable suggestions for the student of architecture abroad. As a rule, Americans, particularly young men, travel in foreign countries more easily, and with more satisfaction to themselves, than people of any other nation. It is true that they are very much hampered by the want of acquaintance with foreign languages, which is the result of a school system in which modern languages find practically no place; but they soon pick up something of the language of the countries through which they wander, and are not bashful about making use of what few words they know; while in other respects they accommodate themselves with peculiar readiness to the customs of the place of their sojourn, much to their own comfort and advantage. It is almost a proverb that an American is equally at home in almost any business, and the idea which observation impresses on a young man here, that, if he gets tired of being an architect, or business is dull, he may find an opening in cotton manufacture, or the sale of tinware, or may fall back on a ranch in Nebraska, undoubtedly accustoms him to the feeling that he must keep himself prepared for changes, and not allow himself to fall into ruts of working and thinking. This habit of mind has great virtue in adapting one to the varying circumstances of foreign travel, and the American student lunches on sour bread and corned beef in England, or soup in France, or vegetable salad in Germany or Italy, or black bread and goat's-milk cheese in Switzerland, with equal enjoyment, and does not hesitate to leave the beaten paths of travel through fear of not getting beefsteak every morning for breakfast.

ACCORDING to Mr. Bolton, who will be supported by every experienced traveller, the first thing necessary, before starting on a Continental tour, is to study the subject beforehand, plan one's route, make up one's mind what things to see, and to collect information as to those things. Such information cannot well be collected on the journey, and without a well-planned scheme of the intended tour one is sure to waste much time and money in aimless wandering, which brings very slight returns. Next to the plan of the journey, a good guide-book is the most important requisite. Mr. Bolton thinks

that Murray's is the best for Spain, Hachette for France, and Baedeker for Italy, to which may be added Switzerland and Germany. In regard to the vexed question, whether it is best to go as quickly as possible to the most remote point of the proposed journey, and return slowly, sketching on the way, Mr. Bolton thinks that, unless the season is unfavorable, it is an advantage to begin sketching with the work near home, and thus find one's self, on arrival at the remoter and perhaps more interesting districts, equipped, not only with a valuable appreciation of the transitions between the more and the less familiar styles, but a greatly increased power of sketching effectively, correctly and rapidly. Every travelled student finds that one improves in sketching almost from day to day, and it is certainly desirable to be able to devote the best skill and most rapid execution to the work which presents most interest. Whether to travel in company or not is another doubtful question; but the travelling-companion of a student of architecture should also be an architect, and an amiable one too, or each will be better off alone. Mr. Bolton says that a travelling-companion is a hindrance to learning the language of the countries visited, and so he is, if he insists on talking his own language; but if both parties know a little of a foreign language, and make up their minds conscientiously to learn more, they can have excellent practice in talking to each other; and a solitary student in foreign parts, particularly a young one, must be pretty strong-minded not to have occasional hours of loneliness and discouragement. We may, later, find space for portions of Mr. Bolton's paper, which will be interesting to those architects who have made the Continental tour, and useful to those who hope to make it.

IT is very curious that, France being the most conservative of the great nations, the French much preferring to live at home, and look out for their own affairs, instead of sending out colonies, and attempting to regulate the affairs of other people, while England is the most enterprising in the way of foreign adventure, it has for some years been the French who have steadily advocated the construction of a tunnel or bridge across the English Channel, while the English have hung back, made difficulties and objections, and successfully opposed the carrying-out of any project of the kind. Some people will have it that the English are afraid that a company of French infantry might cross the bridge as passengers, seize the British end, and hold it open until the entire French army had crossed, slaked in Anglo-Saxon blood its thirst for revenge for Waterloo, and returned safely home; but military operations are no longer carried on in that fashion, and France, if she meditated the wholesale drinking of British blood, could secure that satisfaction much more cheaply by sending off, during a southerly wind, a lot of balloons, carrying dynamite bombs with long fuses, than by helping to build a bridge or a railway tunnel. Just now, the successful operation of the Loudon tunnel railway by electricity has reopened the matter, and a petition has been favorably reported in the French Chamber of Deputies, asking that diplomatic negotiations may be resumed with England, with relation to the construction of a double tunnel across the Straits of Dover, through which trains of cars can be drawn by electric locomotives. It is proposed to make the tunnels of steel tubes, with double walls, filled-in with concrete. The tubes would be put together in sections, three hundred feet long, with closed ends, which would be towed to their destination, sunk by weighting, and attached to the preceding sections. The bottom of the channel between Dover and Calais is nearly level, so that the condition would be very favorable; and it is estimated that the work could be done for about seventy-five million dollars.

THE death of Birdsall Holly, the inventor of the system of water-supply called by his name, has given occasion for many obituary notices in the daily papers, some of which recall a certain inscription on a tomb-stone, which ended with the information that the business was continued by the widow at the old stand. Nevertheless, the Holly system, under which the cost of a reservoir is saved, and pressure obtained by pumping directly into the mains, has served a very useful purpose in small towns, and is likely to be applied in many more before it is superseded by a better one. Mr. Holly was a clever inventor and mechanic, and deserves a high place among the ingenious Americans who have helped to make the name of their country famous in the industrial world.

FRENCH STYLES OF ARCHITECTURE. — I.

AN HISTORICAL SKETCH.

THE æsthetical, philosophical or even physiological questions that may arise in a discussion bearing on the significance or force of the word *style*, viewed as characteristic of a work of art — aside from any chronological, historical or geographical consideration — constituted the subject matter of the preceding article entitled *STYLE*. The present article is simply a critical treatise on what, by common consent, we denominate, whether correctly or incorrectly, *French Styles*.

This term is applied in ordinary parlance and among amateurs and artists, in France as well as abroad, to the well-determined features, the wholly characteristic forms of those productions of French art that have come down to us from the last two centuries, from the epochs corresponding to the reigns of "the Louis" — Louis XIII, Louis XIV, Louis XV and Louis XVI.

After the imitations, the innovations or brilliant revivals, the enthusiasm and the exuberance of the French Renaissance; after the extinction of the Valois family and the abatement of the religious excitement, came a severe reaction in French art, when it endeavored to free itself from all too immediate foreign influence — or, at least, from Italian ascendancy. Having cast off its Italian vestments, and stiff at first even to crudeness and awkwardness, it was somewhat impoverished; but no sooner was it fully delivered from the bondage to ultramontane fashion than it recovered its freedom of movement and found a basis of honesty and sincerity, which was destined to become nobility.

Under Henri IV and Louis XIII, it made its way seriously, clumsily, but surely, toward that sudden radiant development of the age of Louis XIV. Softening down the too rustic austerity of the Louis XIII style, the Louis XIV maintained its proud and noble bearing — becoming stately, it may be, but not pompous — perfected its proportions and rendered its forms flexible.

Toward the end of the seventeenth century, French art

attained what it has never been possible to attain outside of France, and perhaps outside of Paris, namely, an imposing or pleasing simplicity and a freedom full of suppleness; a perfect serenity, an absolute calm? Is not power determined by these characteristics? Decorative, monumental in the highest degree, but without picturesque touches, it bears the stamp of a unity and of such conciseness that, to ordinary eyes, the art disappears, leaving only an impression of a work produced as a matter of course. And, as is the case with every natural production, it would be impossible to lop off the slightest detail from any artistic bit belonging to this period without disarranging the motive or the *ensemble*, and without destroying in the motive or *ensemble* the very clear significance that appeared before the mutilation.

This absolute unity which brings the work of art so near to the work of nature, is encountered only at the noblest periods; that is to say, in Greek or Roman antiquity; in the eleventh and thirteenth centuries of the Middle Ages; and lastly, in the time of Louis XIV and of Louis XV.

The Renaissance, in France as in Italy, witnessed the budding and flowering of a charming art, an art full of surprises, admirably delicate in the carving of its infinite ornamental details; full of *verve* and poetry animated from earnest delvings amid the remains of Classic antiquity. But there was a somewhat giddy infatuation at first in France for the Italian fashion. Artists chiselled and embroidered in traditional forms, on the old Gothic body, all that could be borrowed from antique monuments, or oftenest, from the Italian Renaissance decoration. On this enrichment of the dying Gothic, were employed at the same time the

French *tailleur* and the Italian carver. The chisel of the first, accustomed to the rankness and profusion of the Savoy cabbage or succory, is easily recognized, from the dawn of the French Renaissance, at Gaillon as at Azay, in Auvergne as in Brittany. In the north and south, in the east and west, on the banks of the Loire as on the Place de Grève, the Italian was frequently seen side by side with the Frenchman on the scaffoldings; they worked together on the scabbling, each stone having been designated in advance by the master-workman for the

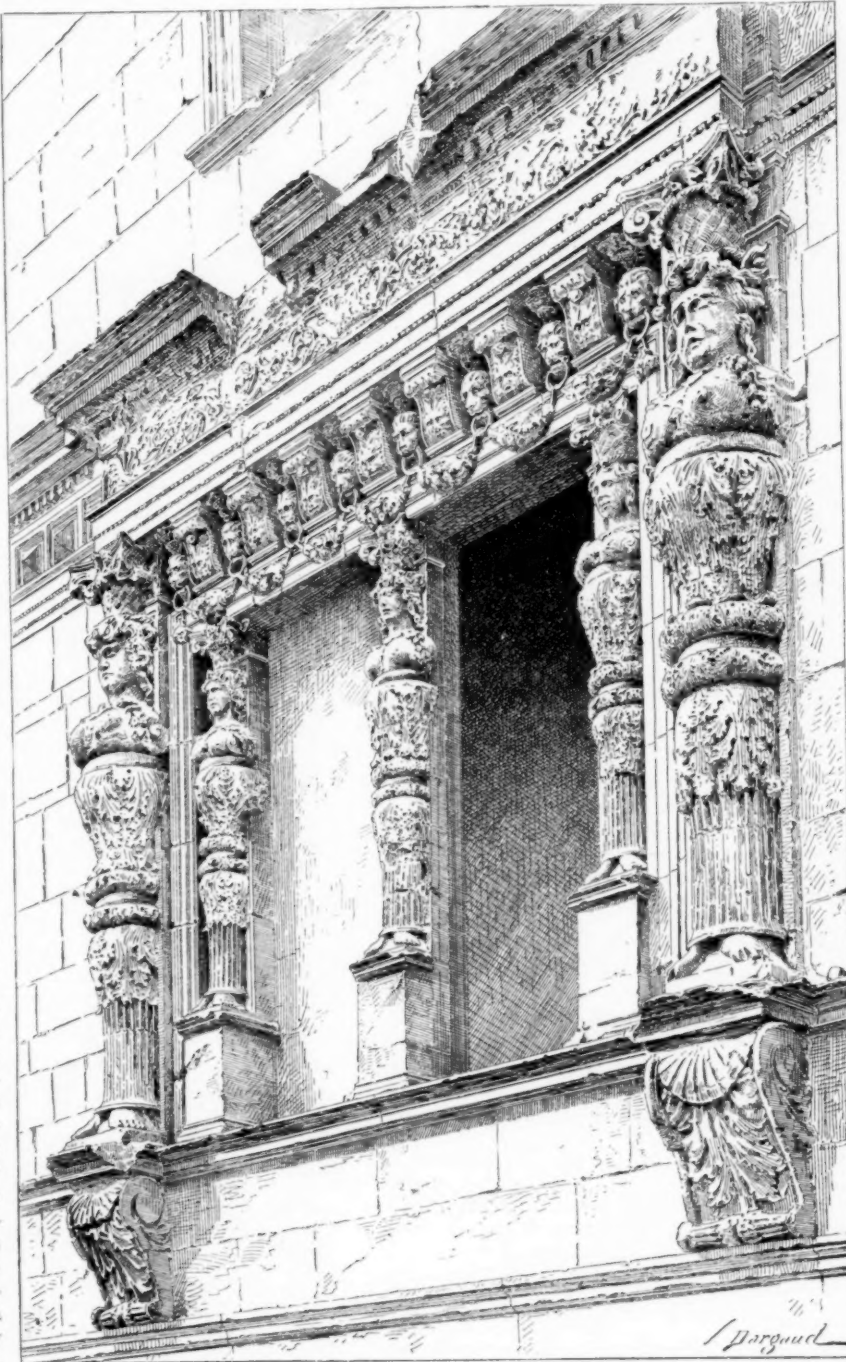


Fig. 1. The so-called House of the Three Nurses, Narbonne.

¹ From the French of E. Rivoalen, in Planat's *Encyclopédie de l'Architecture et de la Construction*.

refinements of a wholly conventional arabesque, for flat chiseling, very finely shaded by the Milanese or the Florentine; or for vigorous reliefs, for the strong shadows of a deep-cut, robust ornamentation, for elements derived from the local flora richly diffused, in a Gallic fashion and very cleverly, by the *tailleur* from Touraine or Normandy, Burgundy or Paris.

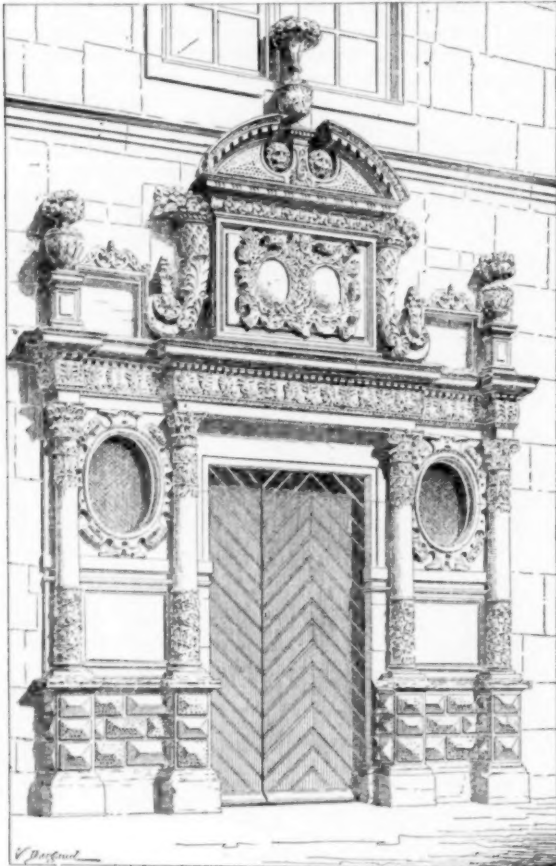


Fig. 2. Doorway of a Mansion at Langres.

Then, little by little, less use was found for the Italian artist or workman in France, in the revival of an art whose teachings our old masters, like Lescot, Bullant and Delorme, went in search of and whose principles they studied at Rome, on the very site of its ancient glory and in ruins that had already been exploited by the masters of Italy. The French *tailleurs* gradually gained the skill and deftness in handling the chisel and the knowledge of shadows which the Italians exhibited. And thus, after Gothic forms and combinations had been abandoned, the French Renaissance was an accomplished fact.

A glance at the artistic transformations of the time of Louis XV and Louis XVI shows decorative art, from the Regency, becoming "sensitized" in increasingly supple, ample, disguising, clever and coquettish forms, and in tiresome but always gracefully turned details.

It is a charming art, wholly French and inimitable in Berlin as in Madrid, in Vienna as in London. A careful study of the illustrations accompanying the different articles on the Architecture of Germany, England, Austria, Spain, the Low Countries, etc., would make other evidence in support of this statement quite unnecessary.

During the reign of Louis XVI, art became thin and puny in its excessive delicacy—that art which a sudden reaction, in the declining days of the preceding king and when the "rocaille" was disappearing, had brought back toward a conventional "antique" or rather toward a Neo-Louis XIV, which soon lost in amplitude.

Then followed the Empire, which inherited, over the Revolution, this artistic bloodlessness. By a direct imitation, almost naïve and as cold as it was sincere, of the "antique" sentiment, the art of the Empire became stiff, even angular and brittle—if not ridiculous. To begin with, it was still French, still supple in its elegant and coquettish poverty; the

Revolutionary storms had narrowed it, without blotting out its traditions.

The Renaissance and the Louis XV and Louis XVI styles produced some marvellous works in architecture and monumental sculpture. The Louis XIII period witnessed the introduction of a much needed sobriety after the costly graces of the sixteenth century. The art of these periods was charming or severe, but either too trifling or too heavy, and never attained to the grandeur, the nobility, the absolute unity displayed under Louis XIV, in an architecture which is doubtless cold to the ordinary observer, but is judiciously embellished, in chosen spots, with a quiet, monumental sculpture, inseparable from its support, to which it gives the coloring note, the brilliant point, and whose harmony it perfects.

We have already discussed systematically and conscientiously the individual styles and the masterpieces of the various periods of French art—Romanesque, Gothic, Renaissance, etc. Not only the distinctive and general characteristics of the art at each epoch, but also the varieties of schools, classified by nations and provinces, have been carefully noted. Without trenching upon these articles, it is at least of interest for us to observe here the diversity, so far as France is concerned, in the Renaissance productions of the different provinces. There is still something of that variety of local schools which we wonder at in the Gothic period.

Nothing, in fact, resembles less the Renaissance of Jean Goujon, the "Parisian," or of the Abbé de Clagny (Lescot) than the hearty, wanton, picturesque profusion of the window in a house at Narbonne (Fig. 1), termed, with some show of appropriateness, "the House of the three Nurses." The robust and rich fancy, the caryatides and their gables profiled as balusters and adorned with the acanthus—all is, indeed, from the brain and hand of a Frenchman, inheriting the spirited manner of the Middle Ages, but who knew well how to manage the profile in the Italian or the antique fashion—whichever you will; who clothed the orders in a costume favoring a trifle of the carnival, but executed in a sinewy and clever manner; who was never for a moment unmindful of the effect; and who comprehended no architecture, however refined, without *diamond points*. It is, in a word, a bit of the decadent school of Bachelier whose centre of production was at Toulouse.

Doubtless the disciple had, like the master, seen Italy; he had been but little imbued with the beauties of proportions, with the cold elegance of ancient art; imitating the Italians, he maintained delicacy in his profiles, that precious possession of the French artists of the sixteenth century who studied at Rome. He delighted, especially, in strong projections, in the picturesque effects of Venetian palaces.



Fig. 3. Door of the Carthusian Convent, Villeneuve-lès-Avignon.

Again, does not the door (Fig. 2) of a private mansion at Langres (Haute Marne) show how much the Burgundian school, to which—with its Flemish touch—this specimen probably belongs, differed from those of the South. Here, a truly architectonic disposition, under the influence of the School of Ile-de-France, is enriched with an ornamentation, less finely shaded,

less Italian, it is true, than that of the southern school, but also much better subordinated to the lines, the projections, and the general expression of the architectural motive. The decorative embroidery is not chiselled here; and the color is everywhere equally diffused or nearly so. The decoration is executed somewhat as though with a punch. It is not in bronze with cleverly shaded niceties, after the Italian manner; it is stone, cut by French *tailleurs* subject to the will and the inspirations of the master-workman, of the architect. The profiles are of a really wonderful delicacy of design. The blank of the wall sets off the wealth of the sculptured parts.

The architecture of the seventeenth century, as we have said, sometimes admits of a rustic simplicity, enlivened only by the silhouette of the stone courses of the frames or angles which stand out on a background of brick or colored materials; sometimes of a Classic disposition for edifices permitting a certain degree of luxury, and which is based on the precepts — henceforth followed as gospel truths — of Vignola, Palladio

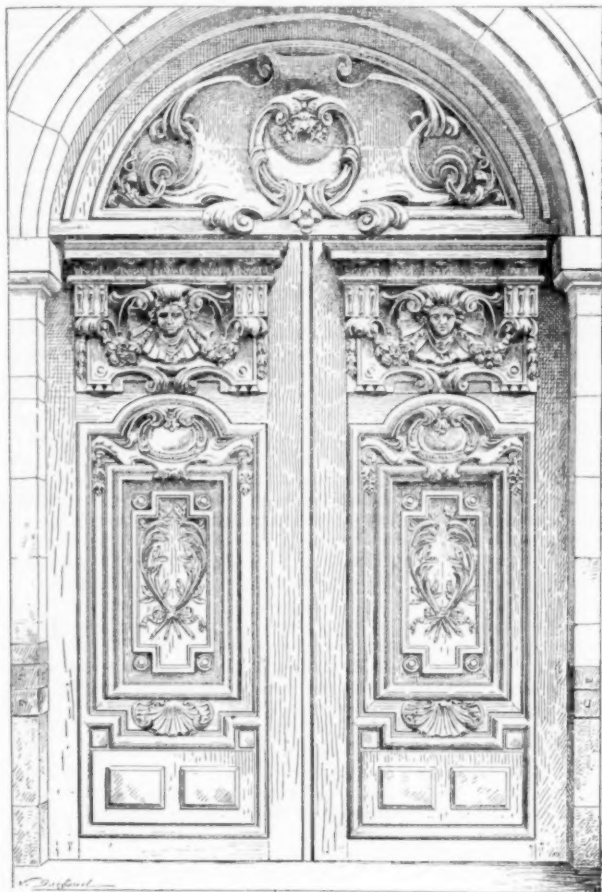


Fig. 4. Door of the Old Sorbonne.

and Scamozzi. The French artists went to Rome when quite young, to complete their studies. They came back with their eyes trained to the fine proportions of the Roman palaces, and to the stateliness of the doors or portals of the villas or "vignes," belonging to the princes of the church. It is thus that La Valfenière (François II) — one of the dynasty of architects who have left at Avignon and Lyons many traces of their passage, and to whom was entrusted the enlarging and decorating of the Carthusian Convent at Villeneuve-lès-Avignon — built about 1636, the beautiful door shown in Figure 3; the majestic disposition, the entire soberness of the decoration, and the strength of the projections, transport us indeed to the Eternal City. On the splendid escutcheon, bringing together and securing the architectural members and relieving the structure of all stiffness in the Classic correctness of the crowning, we seem to see the pills of the armorial bearings of the Medici family.

Did not Cardinal Barberini, who was received in pomp at Avignon in 1625, and for whose entrance La Valfenière had designed the city decorations, did not this Roman prelate, this

extraordinarily intelligent amateur, have an influence, by his encouragement and counsel, on this French architect's amplitude of style?

At this time Le Mercier and Le Muet were among the wisest and most judicious handlers of architectural dispositions. The first, especially, at the Louvre, at Richelieu's Sorbonne, a door of which is given in Figure 4, at the Palais-Cardinal (Palais Royal) — where but little remains from him — at the Château of Rueil (for Richelieu) at Versailles and finally at Richelieu in Poitou (city and "magnifique" château of Richelieu) has exhibited such a diversity of talent, according to the circumstances, such correctness in his dispositions and such judgment in suiting all to the importance and destiny of each edifice, that with Sauval we do not hesitate to rank him as a master, as the worthy forerunner of Perrault and of Jules Hardouin Mansart.

The door of the Sorbonne (Fig. 4) with its broad cartouche occupying the entire impost, richly carved and modelled and not devoid of delicacy; with its broad double frames; its bold reliefs announcing the approach of the Louis XIV style; its intertwined palm branches savoring still of the finalness of the Renaissance; with its plain frames and its rustic basement — this wooden portal is, like the door of the Carthusian Convent at Avignon, a superb type of the transitional art leading from the heavy style of Henri IV and from the style of Louis XIII — which is too severe or too elaborate, sometimes melancholy when it is not grotesque — to the frequently cold but always noble breadth of the style of Louis XIV.

[To be continued.]

THE ESSENTIAL CONDITIONS OF SAFETY IN THEATRES.¹ — I.

THE subject of the causes and prevention of fires in theatres has since many years, occupied my special attention. Having been engaged in the course of my professional practice with the installation of water, gas and fire service plants in some of the modern theatres, I have had special opportunities of becoming familiar with the essential requirements of safety in these buildings.

In the following paper, an attempt has been made to give a brief résumé of these requirements, as derived from personal experience, observation and study. As regards, in particular, my views on the fire protection of theatres, the reader is referred to a detailed description given in my paper, "The Water Service and the Fire Protection of Theatres," presented at the June, 1894, meeting of the New England Waterworks Association. The gas-lighting system, the plumbing, ventilation and sanitation of theatres will likewise form the subjects of special papers, presented elsewhere.

The safety of a theatre may be said to depend on six principal factors, viz: (1) The site; (2) The plan; (3) The construction; (4) The interior equipment and arrangement; (5) The management, and (6) The periodical inspection.

The site of a theatre building is of importance as regards its relation to adjoining buildings, and as regards the approaches, entrances and exits. The development of the plan depends largely upon the available site.

The planning of a theatre consists of the arrangement of the floor-plans of the building, and of the various parts of the same with their principal horizontal and vertical subdivisions and means of communication, such as stairways, entrances and exits.

The construction of the building is to be considered in reference to the employment of fire-resisting materials in general, and also, in detail, in regard to the construction of the stage and its accessories; the auditorium and tiers; the dressing-rooms; workshops; the roofs; the aisles, staircases, passages, corridors, doors, entrances and exits.

The interior arrangement and equipment include many important details, such as the fireproof curtain, the stage scenery and stage machinery, the fly galleries, rigging-loft and painters' bridge; the stage-roof ventilator; the heating, ventilation, lighting, plumbing, drainage and sanitation, water-supply and fire-extinguishing appliances; lightning-rods; fire-escapes, doors, auditorium-chairs, and the life-saving appliances.

The management includes numerous matters of detail and rules and regulations pertaining to the safety of the building on the one hand, and of the audience, the actors and the stage employés on the other.

The periodical inspection, finally, forms a necessary and important safeguard, and includes frequent surveys of the building and of its gas, water, steam, fire and electric appliances, all of which should be tested at regular intervals, to insure their being in proper working order when needed.

CAUSES OF THEATRE FIRES.

A study of the chief causes of theatre fires is important and necessary to a proper understanding of the subject. The knowledge of

¹ An Essay on Modern Theatre Planning, Construction, Equipment and Management. By Wm. Paul Gerhard, C. E., Consulting Engineer for Sanitary Works.

stairs with strong hand-rails on both sides, suitable fire-escapes, wide doors opening outward and preventing a jam; and for the theatre employes and the actors, isolated dressing-rooms, fireproof stairs, a sufficient number of separate and direct exits from the stage to out doors, and safe means of retreat from the fly galleries and the rigging-loft.

From whatever point-of-view we consider the subject, whether we are concerned with the safety of the building and its usually valuable and expensive contents, or with the safety of the theatre audience and the stage people; whether we wish to prevent a panic or a conflagration, the following are the principal requirements of a modern theatre building, and the principal safeguards, which for absolute security must be insisted upon.

LOCATION AND SITE.

The ideal site for a theatre is on a wide public square, the building having approaches and standing free and isolated on all four sides. For absolute safety this is really the only available site, as it affords the best opportunity, not only for architectural effect, but also for judiciously providing and arranging numerous exits from all parts of the house. Such a site is, however, rarely attainable in our large cities, where the price of land is enormously high. If the requirement of a free site were insisted upon, it would cause the building to cost too much, and would thereby render more difficult theatrical enterprises, which in this country are not subsidized by the Government, but are private commercial enterprises.

The opposite extreme, namely, a theatre building entirely surrounded or hemmed-in by other buildings, is of course inadmissible, owing to the constant exposure of such a theatre to danger from outside, and on account of the increased difficulty in saving life in case of a fire or a panic within. Theatres having entrances or exits necessarily carried through other buildings are bad and dangerous. Windows or openings in the outside walls of a theatre looking towards other buildings in close contiguity to the same, are a constant menace and danger.

If a theatre building is located in a street block, it should have, at least, one front on the street, and there should be provided in the plan, wide open courts at both sides. If the building is a corner building, located at the intersection of two thoroughfares, there should be one such court. The width of these courts should be in proportion to the number of people which the theatre is expected to accommodate. The New York Building Law requires the courts to be not less than 7 feet wide each for 1,000 persons, 8 feet for 1,000-1,800 persons, and 10 feet for a theatre of a capacity above 1,800 people. The court should begin on the line of the proscenium-wall and should extend in front to the wall dividing the lobby from the auditorium. Separate corridors should continue from there through the front superstructure to the street. These corridors, according to the New York law should not be reduced more than 3 feet in width, whereas it would seem much safer to continue them the full width to the street. The outer opening should have iron folding gates or doors opening outward, and kept open during and at the end of each performance.

Better than a building on a corner lot, is a theatre standing free on three sides, owing to the reduced danger from the adjacent buildings or surrounding stores and shops.

PLAN OF BUILDING.

The theatre plan should be simple, compact and clear, and as much as possible symmetrical so far as entrances and stairs are concerned.

To the mind of the theatre-going public the plan resolves itself into only two principal divisions, that *before* and that *behind* the curtain. This, in practice, hardly covers the requirements.

All theatres should be planned with a number of internal divisions, each of which is to be made in itself as fire-resisting as possible, to prevent the spread of fire from one part to another. There should be in every theatre, whatever its size may be, at least four principal and distinct internal divisions, each entirely separate and isolated from the rest, as follows:

(1) The auditorium; (2) The stage; (3) The dressing-rooms; work-shops, offices, and wardrobes; (4) The stairs, foyers, lobbies, corridors, passages, cloak-rooms, refreshment-rooms, the entrances and exits.

The auditorium comprises the various parts where the spectators are seated, namely the parquet, or orchestra, and dress-circle, the balcony, gallery, the tier of boxes and, above all these, the auditorium loft and roof. Each subdivision or tier in the auditorium should have separate entrances and exits. The number of tiers in all theatres, except very large opera-houses, should be restricted, because the danger is increased as the building increases in height. As a rule, there should be only two tiers—the balcony and the gallery. The fewer steps necessary to reach the street from the different parts of the auditorium, the safer will the audiences be. In nearly all large theatre catastrophes, the largest number of those killed were persons who occupied the upper galleries. For the same reason, it should be prohibited to place the main auditorium on the second floor for the sake of utilizing the street floor for stores. The New York Building Law requires that the main front entrance to the theatre be not more than four steps above the sidewalk. It is desirable that there should be wide corridors running around each gallery or tier, of capacity to hold the total number of persons on

each division. There should be no obstructions of any kind in these corridors.

The stage may be subdivided into the under stage, the stage proper, the wings, the fly galleries, the rigging-loft, or gridiron, and the stage roof.

The stage is the special domain of the actors and singers, of the scenic artist, of the theatre machinist and of the gas or electrical engineer. It is also the chief point of danger in a theatre, owing to the large amount of constantly changing and shifted combustible scene material, and owing to the numerous and powerful illuminants and their incidental heat and liability to set decorations or hoisting machinery on fire.

The general term "stage" includes several divisions, of which the stage-floor proper is the largest and constitutes the scene of the play. The stage-floor has on each end immovable sides or wings, whereas its middle portion is so framed as to be changeable or removeable. As a rule, the stage floor is built with a slope towards the foot-lights, although the more recent theatres have level stage floors. The floor is constructed of narrow, well matched, tongued-and-grooved boards of well-dried pine, and it is planed absolutely smooth. The space directly under the stage is taken up by the traps operating the movable parts of the stage-floor and by the machinery belonging thereto.

The fly galleries are located on both sides of the stage at such a height above the wings as to enable the proper manipulation of all borders, drops, etc. As a rule, smaller theatres have only one fly gallery, but sometimes two are arranged, one above the other. In some theatres the fly galleries are connected at the back of the stage by a painters'-bridge thrown horizontally across the stage, and either stationary or else arranged so that it can be raised or lowered.

Above the fly galleries the rigging-loft or gridiron is built across the whole stage, and is covered with narrow slats, laid some inches apart. Here are located the blocks and drums, the ropes and pulleys to which the drops, borders, and curtains are attached. Above the rigging-loft is the stage roof, with the stage ventilators or sliding skylights.

The dressing-rooms for actors and actresses are generally arranged in tiers on one or on both sides of the stage. Of dressing-rooms there is a more or less large number, according to the size, purpose and special use of the theatre, and besides the single rooms for the "star" and the prominent actors, there should be larger dressing-rooms for the "supers," for the male and female chorus, and for the members of the *corps de ballet*. Dressing-rooms under the stage, or in the basement, generally without light and air and unsanitary, are an abomination and should be prohibited. This division of a theatre generally also contains the theatre-manager's office. In larger theatres there should be, in addition to those mentioned, a room for the stage-manager, a room for the musical-conductor, a room for the orchestra, rooms for rehearsal of the chorus and ballet, offices for the scenic artist, rooms for the painter, the costumer, the property-master, the master or stage carpenter, the stage machinist, the gas-engineer and the electrician, the chief engineer in charge of the boiler and pump plant, and other members of the theatre staff, besides a large room for wardrobes and costumes.

Scenery-making, scene-painting and carpentering on a large scale should not be permitted in the theatre proper. There should be provided, in a separate annex or fireproof building, such paint-rooms, carpenter-shops, scene-docks, store-rooms for timber, furniture, etc., and other workshops as the business of the theatre may require. The stage or the under stage, or the fly galleries should never be used as a carpenter or paint shop, nor should such work be performed, as is often the case in the older theatres, in the loft over the auditorium. Neither should this loft be appropriated for the storage of inflammable material. The rear of the stage should not be used as a scene-dock.

The combination of a hotel and a theatre, or of a theatre and office-building, which is still quite common, cannot be approved from the point-of-view of safety, as each part endangers the other. No living or sleeping apartments should be contemplated in the plan of a theatre; no workshop, manufacturing establishment or store-houses should be combined with it, and on the street floor stores should only be provided if separately fireproofed, if completely isolated from the theatre by thick brick walls, and if the stores are kept accessible from the street only.

The furnace or heating apparatus, and the steam-boiler room should never be placed under any part of the stage, the auditorium, or the stairways. It is advisable, where a separate building for the boiler cannot be obtained, to place it in a vault under the sidewalk.

The fourth division comprises the foyers, the theatre lobby, the toilet-rooms, lavatories and retiring-rooms for the public, the principal stairs for the various tiers, the corridors, passages and the entrances and exits. The corridors, foyers and lobbies should be roomy and amply large to furnish standing-room for all persons in each division. The lobbies should be separated from the auditorium by fireproof walls. Still better is the plan of having large open safety terraces or open colonnades on both sides of the auditorium, with stairs leading to the street, thereby preventing all possibility of a jam or crush.

There should be provided, for every section of the house, suitable and well arranged toilet-rooms for men and for women. If cloak-rooms or wardrobes for the public are included in the plan, they

should be located near the entrances, but their arrangement must be such that persons who wait at the cloak-rooms do not interfere with the retiring audience passing through the corridors to the exits.

All corridors, passages, stairs and aisles must be planned to be free from all obstructions, such as wardrobes, refreshment-rooms, or radiators, and so as to permit the quick emptying of the house. The crossing or meeting of two streams of people on their way out, either in the lobbies, or in the passages, or on the stairs, must be prevented.

The stage and the auditorium form two large spaces which cannot well be subdivided. All other parts of the theatre should be subdivided into as many distinct and separate fire risks as possible.

The four principal divisions of a theatre should be separated and completely isolated from each other by fireproof walls and doors. Each division should be enclosed in fireproof walls and made as incombustible as possible. Likewise should all horizontal subdivisions, the ceilings, roofs and stairs be made fireproof, in order to localize and confine a fire, so that it can burn itself out. There should be as few openings of communication in the various fireproof divisions as possible, and where these openings are necessary, there should be means provided for closing them in case of fire by fire-doors, opening outward. It is most important that the stage be completely separated from the auditorium by a fireproof proscenium-wall, carried from the cellar to a height of three feet above the roof, the full width of the building. This wall should have only a few openings, namely, the large proscenium-opening, closed by a safety or fire curtain, of iron or asbestos, and not more than two other openings, at or below the stage level, closed by automatic or self-closing fire-doors without locks or bolts. There should be no communication between the stage building and the auditorium at any point above the level of the stage.

(To be continued.)

CHURCH BELLS.¹

PERHAPS the earliest bells of which we have any record are the small bells which were hung from the edge of the ephod worn by the high priest, of which Moses speaks. Bells do not appear to have been introduced into Christian worship until the fifth century. Paulinus, Bishop of Nola, in Campania, is generally credited with their invention or introduction into church use. These early bells were hand-bells, and were made of iron plates beaten into four-sided shapes, and welded or pinned. These were called "nola," and the larger bells "campanae." Church bells are, however, also called "signa" in mediæval documents. Bronze bells were found by Mr. Layard at Nineveh; they have also been found in Indian cromlechs and cairns, and small bells have been found in Egypt of the Ptolemaic period.

Mr. Westwood, in "*Arch Cambrensis*," speaks of the Irish in their early attempts to Christianize Iceland carrying with them Irish books and bells. The term "tintinnabulum" was given to a set of small bells of different tones set in a row and struck by a hammer, but we soon find the nola, or hand-bell, generally called tintinnabulum. Some of these, of great antiquity, are now extant in Ireland, North Wales and Scotland. Bells appear to have been used in Ireland as early as the time of St. Patrick (died 493). Giraldus Cambrensis says that "both the laity and clergy in Ireland, Scotland and Wales held in such veneration certain portable bells that they were more afraid of swearing falsely by them than by the Gospels, because of some hidden and miraculous power with which they were gifted, and by the vengeance of the saint, to whom they were particularly pleasing, their despisers and transgressors were severely punished." When St. Teilo was raised to the Episcopal dignity, we were informed by the "*Liber Landavensis*" that "the people presented him with a bell that was more famous and great, more valuable in reality than appearance, because it condemned the perjured, it healed the sick, and, what appeared more wonderful, it sounded every hour without any one moving it." This bell was called "Bangu," a name which later on was given to a hand-bell kept in all the Welsh churches, and which, among other uses, always took part in funeral rites. The clerk or sexton took it to the house of the deceased on the day of the funeral; when the procession started, a Psalm was sung, then the bellman sounded the bell in a solemn manner for some time, when another Psalm was sung, and again sounded it at intervals until the funeral arrived at the church. It is the custom at Oxford for a bellman to precede the funeral procession of any member of a college, sounding the bell at intervals until the corpse arrives at the place of interment. The late Professor Westwood, in writing of a bell of bronze which has been kept in the church of Llangwynodl, Carnarvonshire, says that the clerk before a funeral used to go round the churchyard ringing the bell. He further says that there are persons still living who remember that in Carnarvon a bell used to be rung through all the streets to give notice of an approaching funeral. At Holywell, Flintshire, a person goes round the town ringing a bell to call the inhabitants to church, from which he is called the "walking steeple." The bell at Llangwynodl has serpents' heads for the terminations of the handle where it is attached to the bell. The bell is flat-sided, and has a clapper formed of a long iron stem, with a ring of the same metal fastened near its extremity, and suspended from a

hoop of metal fixed within the upper part of the bell beneath the handle.

In the *Journal of the Archaeological Institute*, vol. 5, p. 330, is described an ancient bronze bell which was found at Marden, Herefordshire, in cleaning out a pond. The pond is only a few yards from the church built on the spot where the body of St. Ethelbert, murdered by Offa, was said to have been deposited. The site of the vicarage has been asserted to have been that of Offa's palace. The bell appears to have been formed of a sheet of bell-metal which had been hammered into shape and riveted. The handle at the top is rounded beneath for the hand; the clapper is gone, but there is a loop inside from which it was suspended. It is 12 inches in height, without the handle, $7\frac{1}{2}$ inches across the bottom in the widest and 5 inches in the narrowest diameter; the upper part is 5 inches in the largest and 3 inches in the narrowest. The circumference at the top is 15 inches, and at the bottom $24\frac{1}{2}$ inches. The rudeness of this bell, as well as the proximity of the locality to Wales, would lead to the supposition that it is a relic of the British rather than of the Anglo-Saxon Church, strengthened by the description of a similar bell preserved at Birnie, in Scotland, the Christians of which country were disciples of the early Irish Church, between which and the British, on the authority of the Venerable Bede, there were no material distinctions. Two bells of a similarly early make have been found at Llandisant and Llanrhyddlad, and were probably used in the celebration of mass. The bell of St. Kentigern, the great apostle of Strathclyde, after forming for centuries a prominent feature in the armorial bearing of the archiepiscopal see, still figures in the modern arms of the city of Glasgow. Many other Celtic and very ancient bells are figured and described by the Rev. H. T. Ellacombe in his treatise on the bells of the church. There is a figure of a bell-ringer on a Saxon font from Hutton Cranswick, now in the York Museum, and on a column of a chancel arch at Stoke Dry, Rutland. The bell-ringer on the font is supposed to symbolize the devil driven out at baptism. Quadrangular bells of the Celtic type are to be seen sculptured on the crosses at Winwick, Lancashire, and Kilcullen, Wicklow; also on the lintel of a doorway at Glendalough, Wicklow. I have seen in the possession of Sir Henry Dryden a similar bell to these ancient Celtic bells which I have described, but its history was lost. These bells are precisely similar to the small bell now used for attaching to the neck of a sheep, the bell-wether of the flock, on the Downs. There was another sort of Irish bell of a pear shape, called "crotal," several of which are now in the museum of the Royal Irish Academy.

I now come to speak of large bells, and I might preface my remarks by an allusion to the curfew. The sounding of an "ignitegium" was a custom which prevailed in Spain, Italy and Scotland, and most of the countries of Europe, when it was instituted by King Alfred the Great at Oxford, and later on, more rigidly enforced by William the Conqueror. The law was abolished by Henry I in 1100. Pope Sabinianus (A.D. 604), having ordered the hours to be sounded on the bells, is thought to have introduced the use of the campanæ, or signa, as the large bells were called, into churches.

The Westminster clock bell, the largest we have, was cast by George Mears in 1857; it weighs 13 tons 10 cwt. 3 quarters 15 lbs. It was designed by Edward Beckett Denison, Q. C., the ornamentation being designed by the late Arthur Ashpitel, F. S. A. This bell is commonly known as Big Ben of Westminster. Peter of York is the next largest. It was cast by Messrs. Mears in 1845, and weighs $12\frac{1}{2}$ tons. The mighty Tom of Oxford is the next; it weighs 7 tons 12 cwt., and was cast in 1681 by Keen, or King, a Woodstock bell-founder. The great bell of the Cathedral of Lincoln was cast by Thomas Mears in 1834, and weighs 5 tons 8 cwt. The great bell of St. Paul's, inscribed "Richard Phelps made me, 1716," weighs 5 tons 4 cwt. The Great Peter, of Exeter, is reported to weigh 6 tons 5 cwt., and was re-cast in 1676 by Thomas Purdue. Great Peter of the cathedral at Gloucester is thought to have been founded early in the sixteenth century. It has the founder's escutcheon (three bells) and the arms of the church (a sword and two keys, saltire) and the inscription, "Me fecit fieri Conventus nomine Petri." Besides this bell—the clock—Gloucester has eight bells, of which five or six date from 1390–1418, and were founded by Robert Burford, of London. No. 5 is a Mary bell. Great Peter weighs upwards of 2 tons 18 cwt. The Moscow bell is said to weigh 220 tons, and one at Troitzkoi 171 tons. A bell of early in the fifteenth century forms the third bell of St. John's, Coventry. It bears the inscription, "Henricus Dodenhale me fieri fecit," and on the crown "c st. JOHNS," which probably stands for Campana Sancti Johannis. At St. Chad's Church, Cloughton Lane, there is a bell which is thought to be of the date 1296. It bears inscribed thus, "ANNO DNI M CC NONO AT +." The letter "v" is reversed. At Cold Ashby, Northamptonshire, one is inscribed "+ MARIA VOCOR ANO DNI M CCC XVII." Two richly-ornamented bells, dated 1323, are in the tower of St. Mary, Somercotes, Lincolnshire. Bells of the fourteenth century rarely bear their date, but generally have an invocation to some saint and the founder's arms or trade-mark. Sometimes bells have the alphabet, or some portion of it, instead of inscription. Such a bell may be seen at Ryton in this county. About thirty years ago, on taking down a bell for repairs to the steeple of the church of Ormolac, near Ussat-les-Baines (Ariège), it was found to bear the date 1079, and must, consequently, be one of the oldest hanging bells in Christendom.

¹ A paper read by Mr. S. S. Stanley, at the annual meeting of the Warwickshire Archaeologists' and Naturalists' Field Club.

The remarkably fine bells of Limerick were originally brought from Italy; they had been manufactured by a young native, and finished after the toil of many years, and he prided himself upon his work. They were subsequently purchased by the prior of a neighboring convent, and, with the profits of this sale, the young Italian procured a little villa, where he had the pleasure of hearing the sound of his bells from the convent cliff, and of growing old in the bosom of domestic happiness. This, however, was not to continue. In some of those broils, whether civil or foreign, which are the undying worm in the peace of a foreign land, the good Italian was a sufferer among many. He lost his all, and, after the passing of the storm, found himself preserved alone, his fortune, friends, family and home having perished. The convent in which the bells, the *chef-d'œuvre* of his skill, were hung was razed to the earth, and these last sold, to be carried away to another land. The poor unfortunate, haunted by his memories and deserted by his hopes, became a wanderer over Europe. His hair grew gray and his heart withered before he again found a home or a friend. In this desolation of spirit he formed the resolution of seeking the place to which these treasures of his memory had been finally borne. He sailed for Ireland; proceeded up the Shannon; the vessel anchored in the pool near Limerick, and he hired a small boat for the purpose of landing. The city was now before him, and he beheld St. Mary's steeple lifting its turreted head above the smoke and mist of the old town. He sat in the stern and looked fondly towards it. It was an evening so calm and beautiful as to remind him of his own native haven in the sweetest time of the year—the death of the spring. The broad stream appeared like one smooth mirror, and the little boat glided through it with almost noiseless expedition. On a sudden, amid the stillness, the bells tolled from the cathedral; the rowers rested on their oars, and the boat went forward with the impulse it had received. The old Italian looked towards the city, crossed his arms on his breast and lay back in his seat; home, happiness, sound recollections, friends, family—all were in the sound, and went with it to his breast. When the rowers looked round they beheld him with his face turned towards the cathedral, but his eyes were closed, and when they landed they found his body cold.

A NOVEL WATER SCHEME.

A SCHEME for the improvement of the town water-supply, which possesses some novel features, has just been carried out at Great Malvern, a popular inland watering-place and health resort in England. In the first place, no pumping has been employed either for the collection or distribution of the water. The supply is obtained direct from the surface of the Malvern Hills,—a lofty range extending about five miles north and south of the town,—by an extensive and ingenious system of catch-water drains. These drains consist of a trench, averaging four feet in depth, in which are laid "spigot-and-faucet" earthenware pipes, varying from six to twelve inches in diameter, and jointed half round with Portland cement. Of such drains, a total length of over 4,000 yards has been laid, girdling the slopes of the hills. A 9-inch wall of clay puddle forms the underside of the drain, and this acts as a dam to stop the water as it trickles from the hills above, so that it collects above the pipes and falling into them, through the half-open joints, runs down by force of gravity into intake wells, placed at suitable distances in the ravines between the hills. Thence, it is carried by fire-clay connecting-pipes, to a main conduct—a 15-inch cast-iron pipe,—which runs along at the foot of the hills to the new reservoir.

The reservoir is situated on the east side of a conspicuous hill, about four miles from Great Malvern, at a height of 670 feet above sea-water level. The main collecting-area, however, over which the catch-water drains have been laid, is on the slopes of the hills, immediately over-topping the town. Consequently, much of the water has first to be carried a distance of four miles, for storage in the reservoir, and thence brought back again the same distance, for distribution in the town. This double operation—and herein consists the novelty of the scheme,—is performed by a single main conduct. This, at first hearing, may seem impossible; but the simple explanation of it lies in the fact, that the collecting-area is thirty feet above the level of the reservoir, while the distributing-level is twenty feet below it. Thus, the water is able to flow either way, without reference to the grade of the pipe itself, though not, of course, at the same time. In the winter, when the consumption in the town is comparatively small, it is proposed that the supply should be drawn mainly from the old reservoir, which is situated close to the town. To supplement the resources of this, separate connecting-pipes have been laid to it from three of the new intake wells, and, by means of valves at the wells, the water accumulated in these can be directed into the old, instead of the new, reservoir, should occasion require it. From the old supply, thus supplemented, Malvern's winter water will be drawn, and, thus in the season of heaviest rainfall, the new main conduct, being not required for distribution, will be left free for the conveyance of store-water to the new reservoir. In the summer this store will have to be drawn upon, and then the new main will be used chiefly for distribution. In dry summers it will be quite free for such use, because the intake wells with the relief afforded by their connection with the old reservoir will be adequate for the reception of such

small contributions as come in from the catch-water drains. During heavy summer rainfall, however, the water used in the town will probably be drawn direct from the intake wells, while any which flows into the main conduct in excess of what is required in the town, will flow in the opposite direction, in its more usual course to the new reservoir.

C. H. G.

BOOKS PAPERS

WO all architects who take any interest in the construction of the stage of a theatre and in the manner in which it is used, we recommend the perusal of "*La Machinerie Théâtrale*," "Truc et Décors," by M. George Moynet (Paris: La Librairie Illustrée). The author of this popularly written book shows an intimate knowledge of the construction of the stage, its fittings and the purposes for which they are used. Apart from its technical worth, the volume is one of great interest even to those whose architectural practice does not tend towards theatre-building.

The major portion of the book is, unfortunately, confined to the description of the old wooden stage, more especially the French one. The first few chapters are devoted to the arrangement of the stage floor, the construction of the cellars, mezzanine, traps, cuts and slides, illustrated by very clear and interesting, though somewhat crude, diagrams.

Upon comparison, there appears to be but slight difference between the French stage and that used in England and America. The French stage, however, is depicted in the work we have now under our notice, as having far greater depth below the stage devoted to the "cellars" and "mezzanine" floors, there being in some of the cases illustrated as many as three or more tiers, or floors, under the stage level; indeed, in the plate showing the cellars of the Grand Opera-house, Paris, (page 172), five tiers or floors are shown below the stage; these are supported upon a series of iron columns and girders. All of these floors open to permit of scenery being taken down to the lowest floor.

Several details of the wooden traps are given, showing their construction and the method of working them, which is explained very clearly by the illustrations.

In but few theatres with wooden stages are there to be found more than one tier of flies; in a very few there are two or three; much of the scenery is now in the form of set scenes, braced up from the stage floor. It is different, however, on the Continent, as shown by the plates of the "*corridor de service*" of the Grand Opera-house, Paris, where there are six tiers of flies.

The "Gril," or gridiron, is shown in the woodcuts with the accompanying mass of "drums" and ropes, and two whole chapters are devoted to the consideration of the scenic arrangements of the Paris Opera-house.

This work gives a much better idea of the mysteries of the stage-carpenter's art than anything that has previously come before us; Having so much information to impart, it is a pity the author devotes three hundred and seventy out of four hundred pages to work entirely French, thereby robbing an otherwise interesting book of much of its value.

As in England, the wooden stage reigns supreme in France; indeed, this system has only in one or two exceptional cases, notably the Paris Opera-house, been given an iron instead of a wooden skeleton.

Some notice, however, is given of the Asphaleia stage at Budapest, a plan of which is produced, as well as a "view," showing the working of the "panorama," and the hydraulic lifts to the traps.

It is to be regretted that no notice is taken of the later development of the Asphaleia system, as seen in the Hofburg Theatre, Vienna. The whole of the efforts to modernize the stage in Austria and Germany is only touched upon in this short description of the Budapest Opera-house, and Italy's excellent work is almost forgotten. England is only touched upon with regard to the spectacular exhibitions which have found a home at the "Olympia," in London, while America is referred to in connection with a horse galloping on the Union Square stage, at New York. It is certainly a pity that nothing that can be called new is to be found in this bulky volume, and that the author seems to have little interest in what has been going on in the last decade.

It is because the work is so interesting so far as it goes, that we express regret at these omissions, for it must become a standard volume for the student of stage machinery, and we may venture to hope a supplement may be written dealing with the modernized stage machinery of Europe and America. We cannot include England, as the machinery there has not been changed, even in the latest additions to the play-houses, from what it was over a hundred years ago. As a description of a wooden stage, the study is excellent, the most complicated parts being easily understood from the popular description, and the many woodcuts, which are prepared from M. Moynet's own sketches, will greatly assist the student to understand the mysteries of stage-land. The book, as it stands, is the only one of its kind, and we are pleased to note that the publishers have ventured to put the work before the public in a more than usually clear type and not at a prohibitive price.

The chapter upon lighting should not be overlooked: the fittings for electric-light on the stage are illustrated, and the rules for measures of precaution by the French authorities, as to the electric-lighting in theatres and other places of public resort, are given in full. The arrangements for the scene-painters' room are not forgotten.

We have not noticed here a large part of the book given to an exhaustive explanation of stage illusions, and how stage thunder, lightning, wind and rain are created, as these are matters which are more for the curious than the architectural student of theatre-construction. The omission of an index is a mistake on the part of the publishers.

It is curious that, although our motley population is composed of large aggregations of foreigners, who have naturally settled in the same section of the country where their native manners, customs and language have been preserved almost intact in daily use, these foreign clans have had comparatively little effect on the architecture of the country. One would, not unnaturally, look to find the domestic architecture in sections settled by foreigners bearing evident traces of the architecture of the countries from which these people came; but, though you can find German, Swedish, French, Italian, Polish and Hungarian villages and quarters of cities, there you will find merely American buildings occupied by foreigners. The old foreign settlers stamped an individuality on their dwelling-places which still lingers, so that Quebec, the Acadian villages in Louisiana, and the villages in California and the South-west, where Spaniards settled, have, to this day, a foreign air.

In another point, one might expect to find traces of a foreign populace, and that is in the gardens. But gardens, after all, are things, which, as a rule, the working-classes have no means to procure and little leisure to enjoy, and it is hardly fair to look here and there for traces of the interesting ethnical indications that imbue Dutch, English, French and Italian gardens and gardening methods, each distinct in itself, and each different from the others. The formal English garden is as different from the formal French garden, as that is from the formal Italian garden, the progenitor of both, while the Dutch garden is as individual as that of the Japanese proprietor.

Little by little, thanks to the efforts of a few able landscape-gardeners, who have been entrusted with the development of public parks in various parts of this country, more and more consideration and respect is being shown for the art of gardening when properly practised; but, until recently, what has been done has been the work of landscape-gardeners and not of landscape-architects. What had been accomplished previously had shown a fairly distinct national character, as effort had been expended mainly in the direction of the development of picturesque effects, rather than in the devising of formal and stately ones. Perhaps the reason for this is, that so few people in this country have the trained imagination to forecast the final effect of a formal and architectural arrangement. The cold and stiff presentation of a formal and stately garden looks forbidding enough upon a paper plan, wherefrom the uninitiated cannot deduce the real value of vistas and main features, when softened and refined by the carefully guarded development of vegetation.

It seems to us that landscape-architects, who are about to present a scheme for a formal garden to public authorities or private owners, make a mistake in presenting for consideration the formal engineering drawings only, and do not have the forethought to reinforce their recommendations with the supporting testimony that can easily be procured in the shape of photographs, which would show what is likely to be the relative and final effect of the proposed scheme, after the lapse of years. For just such a purpose as this, the little book prepared by Mr. Charles A. Platt seems especially and providentially designed; though, for the purpose we indicate, the book would have been more valuable, if, to the delightful views of Italian gardens in their present aspect had been added more of the original general schemes.

The Italian garden is a thing with which architects and sculptors had much to do: it is a combination of balustrades, steps, fountains, statues, grottos, casinos, and other structures which furnish backgrounds, supports and points of interest for the main and accidental vistas, which the landscape-architect provided for in his first conception. They are wonderfully beautiful and pleasing, and their virtues are so many that it is high time they were transplanted, in the way of copies, to some portions of this country. The lush growth of vegetation in some parts of the Southern States, as well as the States on the Pacific Coast, offer the natural conditions which would make easy the reproduction, on a large or small scale, of even the most delightful gardens, once the scene of the social festivities of the High Renaissance. There are now in this country landscape-architects capable of conceiving such pleasure-grounds, and there are also plenty of architects and sculptors who can capably carry out their conceptions. All that is lacking is the class of "rich amateur," willing to spend a portion of his income upon a garden, rather than all of it upon clubs, bric-à-brac and horse-racing.

An old friend comes before us in a new dress in the shape of Clark's *Building Superintendence*, bearing the imprint of Macmil-

lan & Co. of New York. The fact that the twelfth edition is now in the market, speaks to the continued popularity of this extremely serviceable book.²

THE annual volume containing the *Proceedings* of the Twenty-seventh Annual Convention of the American Institute of Architects, held at Chicago last August, is a much more portly one than is usually issued. The reason for this is, that it contains also the papers nominally prepared for the Institute's convention, but actually by the courtesy of the officers of the Institute read before the World's Congress of Architects, and by this transforming what must otherwise have been a most gloomy failure into a fairly successful occasion.

The greater part of these papers were published in this journal, but it is always a convenience to have such things in a collected form, and doubtless many readers have awaited the anticipated issue of this annual volume before informing themselves as to what their fellows found worthy of talking about last year.

One curious fact seems to indicate once more the rather selfish and self-centred character of American architects,—or is it merely an indication of self-distrust as to the substantiality of their own acquirements? The *Proceedings* contain no indication that the reading of these papers evoked any discussion amongst the auditors, while, as a rule, the discussions that usually follow the reading of papers at World's Congresses, on the other side of the Atlantic, are quite as interesting and instructive as the papers themselves.

MR. BARR FERREE has evidently consumed a considerable amount of time in bringing into final and very complete and intelligible shape a tabulation setting forth the architectural chronology of French Cathedral churches, not only those which are popularly known under this head, but many that even well-informed architects have never heard of or seen, or if they have seen or heard of them, have not been accustomed to think of as belonging in the ranks of cathedrals. The table is arranged alphabetically, and the chronological columns set forth the changes that have transpired during each of the nine centuries, more or less, that have elapsed since its foundation.

The tabulation will be found of great use to the few who take interest in the subject and have time enough to give to the study of the archaeological branch of architectural history, and its value is enhanced by the accompanying copious bibliography of general and special works dealing with the French ecclesiastical architecture.

The table with its accompanying descriptive matter was originally published in the *Architectural Record*, and since its appearance there, has been republished in pamphlet form for private distribution.

It is quite immaterial how conceited a man may be, or how personally obnoxious a person he may be to be thrown with socially, if only he has the power to create for us elders such a living type as "Mulvaney," and for our children such lessons in pluck as are given by little "Rikki-tikki-tavi," the hero of one of the series of tales recently published in *St. Nicholas*, and now republished in book-form.³

A BOUND volume of the *Century Magazine* offers a rather impressive lesson as to what a small profit may accomplish, if only it be multiplied by a sufficiently large factor. That such a book can be sold for the price it is seems unbelievable, and the fact that it is so sold shows what a handicap is laid upon the conductors of other somewhat similar journals, whose field of operations is so restricted by the nature of things that their enterprise can never have the benefit of a gigantic multiplicand, and their accomplishment can never be commensurate with their aspirations.



DEPARTMENT OF ARCHITECTURE, BROOKLYN INSTITUTE ARTS AND SCIENCES. — OFFICERS FOR 1894 AND 1895, ELECTED MAY 16, 1894.

WALTER DICKSON, *President*; Isaac E. Ditmars, *Vice-President*; Washington Hull, *Secretary*; Gustave Jahn, *Treasurer*.

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Museum and Library: — George L. Morse, Richard M. Upjohn, and Barr Ferree.

Committee of Competition: — A. G. Thomson, J. M. Hewlett, and George P. Chappelle.

² "*Building Superintendence*." A manual for young architects, students, and those interested in building operations, as carried on at the present day. By T. M. Clark, F. A. I. A., New York: Macmillan & Co., 1894. Price \$3.00.

³ "*The Jungle Book*." By Rudyard Kipling, New York: The Century Co., 1894.

¹ "*Italian Gardens*." By Charles A. Platt, New York: Harper & Brothers, 1894.

Professional Practice:—Louis De Coppet Berg, I. E. Ditmars, and Charles T. Mott.

Social Intercourse:—H. P. Fowler, F. J. Berlenboch, Jr., and Oswald Spier.

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Committee on Architectural School and Annual Exhibition:—Not yet appointed.



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

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[Gelatin Print.]

346 STRAND, W. C. LONDON, ENG.: EXTENSION OF PREMISES FOR THE *Morning Post*. MR. H. O. CRESSWELL, ARCHITECT.

OUR illustration shows the new extension of premises of the *Morning Post*, which has been recently completed at the corner of Wellington Street and the Strand, and adjoining the old premises in Wellington Street.

Externally, the general lines of the old building had to be followed, the materials used being red brick and Portland stone. Internally, the accommodation provided includes advertisement office and cashier's department on the ground-floor; manager's department and additional rooms for the editorial staff on the first and second floors, caretaker's rooms on the third floor, and an extension of the composing-room and reading-rooms on the fourth floor. In the basement is the machine-room, including new boiler and engine, with coal stores, etc., and set of new web printing-machines by Foster, of Preston.

The building is of fireproof construction throughout, the floors being on Fawcett's system and the internal partitions of concrete and iron, wood being only used for joinery-work and fittings.

WHITE HART HOTEL, BLACKWATER, ENG. MR. GEORGE W. WEBB, ARCHITECT, READING, ENG.

This hotel has been rebuilt and stands on part of the site of the old building, which has been pulled down, owing to its unsafe condition. The new building is much larger than the old one. On the first floor there is a large assembly-room used for balls, masonic and other purposes.

The facing bricks are of a deep red tint and the tiles of a dark-red color.

HOW FRANCE SUPPORTS ART.—The sum which is voted by the Legislature for the Fine Arts is ridiculously small. Germany spends for Fine Arts more than \$100,000, and England \$160,000 a year; while France, for the galleries of the Luxembourg, Versailles, Saint Germain, and the Louvre with its six departments, appropriates only \$32,400 a year. Various attempts have been made, during the last ten years, to have the appropriation increased, but in vain, and there is no hope at present of getting any more from the State.—*E. Richtenberger in the Revue Bleue.*



[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.]

INFORMATION WANTED.

NEW YORK, N. Y., June 15, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Will you kindly inform me through your paper if the Polytechnic Club, of New York, has held meetings this spring and where such meetings have been held, if any.

Yours truly, A. MITCHELL DUNCAN.



BOSTON, MASS.—Annual Summer Loan Exhibition of Paintings; also, New Accessions to the Print Department: at the Museum of Fine Arts.

CINCINNATI, O.—Exhibition of the Cincinnati Art Club: at the Art Museum, May 17 to June 30.

NEW YORK, N. Y.—Twenty-sixth Annual Spring Exhibition: at the Metropolitan Museum of Art, opened May 8.

Group Exhibition by American Painters—William M. Chase, J. Alden Weir, Childe Hassam and others: at the Galleries of the American Fine Arts Society, 215 West 57th Street.



FAMOUS ECHOES IN BUILDINGS.—One of the most remarkable echoes known is that on the north side of Shipley Church, in Sussex, Eng., which distinctly repeats twenty-one syllables. In the Abbey Church, St. Albans, Eng., there is a curious echo—the tick of a watch may be heard from one end of the church to the other. In Gloucester (Eng.) Cathedral, a gallery of an octagonal form conveys a whisper across the nave seventy-five feet. In this gallery is the following inscription:

"Doubt not but God, who sits on high,
Thy inmost secret prayers can hear,
When a dead wall thus cunningly
Conveys soft whispers to the ear."

"In the Cathedral of Girgenti, in Sicily, the slightest whisper is borne with perfect distinctness, from the great western door to the cornice behind the altar, a distance of 250 feet. By a most unlucky coincidence, the precise focus of divergence at the former station was chosen for the place of a confessional. Secrets never intended for the public ear thus became known to the dismay of the confessors, and the scandal of the people, by the resort of the curious to the opposite point,—which seems to have been discovered accidentally,—till at length, one listener having had his curiosity somewhat overgratified by hearing his wife's avowal of her own infidelity, this tell-tale peculiarity became generally known, and the confessional was removed. In the whispering gallery of St. Paul's, London, the faintest sound is faithfully conveyed from one side to the other of the dome, but is not heard at any intermediate point. In the Manfroni Palace, at Venice, is a square room about twenty-five feet high, with a concave roof, in which a person, standing in the centre and stamping gently with his foot on the floor, hears the sound repeated a great many times; but, as his position deviates from the centre, the reflected sounds grow fainter, and, at a short distance, wholly cease. The same phenomenon occurs in the large room of the library of the Museum at Naples."—*Boston Herald.*

PROPOSED INSTITUTE OF ART HISTORY.—A circular has been issued on the part of a number of the leading gallery directors and art historians of Europe, proposing the foundation of an Institute of Art History, on lines somewhat analogous to those of the German Archaeological Institute at Rome. The main objects of such an institute are described as being, (1) the establishment of the richest and most systematic collection possible of materials for the study of Art History, in the shape alike of books, photographs, and other reproductions of all kinds; (2) the appointment of a resident director qualified to organize the library and collections, guide students in their researches, and stand as a kind of official head and leader of these studies. The place designated as the most appropriate centre for such an institute is Florence, and it is proposed to attempt to make a beginning by means of private donations and subscriptions, before appealing for aid in the shape of Government subventions. Among the signatories of the prospectus are Dr. Bede, of Berlin; the Commendatori Cavalcaselle and Gnoli, of Rome; M. Hymans, of Brussels; Professor Justi, of Bonn; Professor Lutzow, of Vienna; Professor Venturi, of Rome; Professor Schmarzow, of Leipzig; Dr. Bayersdorfer, of the Munich Gallery, and Dr. M. G. Zimmerman. The three gentlemen last named are the provisional Executive Committee for carrying out the scheme.—*Philadelphia Telegraph.*

TREES VS. WIRES.—The newspapers lately contained an account of a lawsuit which has interest for everyone who believes that the owner of a tree has a right to complain when it is recklessly mutilated. The employees of a telephone company were stretching wires along the road which skirts the property of Mr. George W. Hawkins, near Newburgh, New York, and, in doing so, they disfigured half a dozen spruce trees, which had been planted by his father, by cutting off the branches. No consent to this mutilation had been given by the owner of the trees, and the linemen, as usual, had used their saws and axes without mercy. Dr. Hawkins sued the company for \$600, estimating the damage at \$100 a tree. The jury gave a verdict for \$500. Under the provisions of the code in that State, Mr. Hawkins's lawyers then moved that a triple judgment be made, and the Court astounded the defendants by granting this, and increased the judgments to \$1,500. It is to be hoped that the higher courts will confirm this judgment, and hold that a growing tree has a value beyond the mere amount of timber it contains, and that the owner has a right to watch its growth and enjoy its beauty, and to derive pleasure from its associations. The courts should take into account that a tree cannot be replaced in many years, and the wanton destruction of such property ought to call for exemplary damages. Ever since the country was settled we have been learning how to cut down trees, but it is high time that we learn the real value of those which have escaped and stand where they can delight us by their beauty and refresh us with their shade. The decision of this Orange-County Judge is a wholesome one, and such decisions are needed to teach the linemen of telephone and telegraph companies a lesson, which will make them more cautious about invading private rights.—*Garden and Forest*.

OVERHEATED ELECTRIC GLOBES.—A fire occurred in the business portion of Victoria, B. C., on the 5th inst. Fortunately the loss was only \$15,000, and the records would show the origin "unknown," but for experiments made after the fire was extinguished. In the upper story of a dry-goods house, several thirty-two candle-power incandescent lights were installed. One of the lights was connected with a long insulated wire, and several feet of spare wire allowed the moving of the light from one portion of the room to another. Through ignorance, or carelessness, the globe was laid on a pile of goods. The fire occurred shortly after the light was turned on at the power house, which goes to prove that the globe was placed on the goods during the day. The tests were made in the room where the fire originated, and were reported in the *Victoria Times* as follows: "There is no longer the slightest doubt as to how the fire started, as two tests have shown that the incandescent light will ignite cloth. Last evening, in the presence of Mr. Hutcheson, Chief Deasy, representatives of the *Times*, and a few others, a child's woolen hood was tied around the 32-candle light, the latter having been turned for ten minutes previously. Steam came from the wool almost immediately, and then smoke. At the end of eight minutes the hood was on fire and the globe burst. A similar test was made the evening before, and the cloth ignited in six minutes. Wool is the least inflammable of fabrics, and the test last evening was as severe as could be desired. All danger in this connection can very easily be avoided, either by hanging the globes free from anything that will take fire, or by placing fireguards around them.—*Fire and Water*.

THE FERRIS WHEEL.—Preliminary work incident to taking down the Ferris Wheel on the Midway Plaisance has been begun. This consists of placing false work, engines and hoisting apparatus. It will take ten weeks to take the wheel to pieces. The car that was used for carrying the Krupp gun will be used for the seventy-ton axle. The material will be taken in five trains of thirty cars each to New York City. There are 3,000 tons of metal in the wheel and 500,000 feet of timber is needed for the false work. Taking the wheel down will be more dangerous than putting it up. Only one life was lost in erecting the big attraction. The expense of taking down, moving, and rebuilding the wheel will be \$150,000. In New York it is to be placed at Thirty-seventh Street and Broadway. Old Vienna will be reproduced around it. Here the wheel had 3,000 electric lights; in New York the number will be doubled. The old Ferris Wheel Company goes out of existence and a new company, composed of New York men, has been formed. Superintendent L. V. Rice has charge of the removal. During the Fair the wheel went around 10,000 times, and carried 2,000,000 passengers. The largest single load was carried October 19, when at 12:30 o'clock, 1,768 people were in the cars. The largest day's business was October 10, when 38,000 people were carried. October 9, 10, and 11 there were 114,000 passengers, the largest average for any three days.—*Chicago Tribune*.

THE PRESENT STATUS OF THE PANAMA CANAL ENTERPRISE.—The Panama Canal was inaugurated 1879, and digging actually commenced in 1881. In March, 1889, work ceased owing to lack of funds. Up to the stoppage of work in March, 1889, 48,400,000 cubic meters (17,085,200,000 square feet) of earth and rock had been removed, leaving a balance of 30,000,000 cubic meters to be removed for an eight-lock canal, as proposed. The total length of the proposed canal was forty-six and one-third miles, depth twenty-five feet, width at bottom, seventy-two feet, and at surface of water 124 feet. The following figures taken from the report presented to the President and Judges of the Court of the Seine, on July 25, 1890, by the liquidator, M. Monchicourt, will show the greatness of the enterprise, etc.: Total expenses at Panama, £31,330,937 (\$156,654,685); total expenses in Paris, £15,628,006; purchase of Panama Railway shares, £3,730,727; payments of the Civil Society of Obligations for the lottery scheme, £1,200,587; payment to the Colombian Government, £98,203; total, £52,078,520 (\$260,392,600). It is estimated that the total loss has been more than \$50,000,000, and that, to complete the work, quite \$30,000,000 more would be required.—*Boston Transcript*.

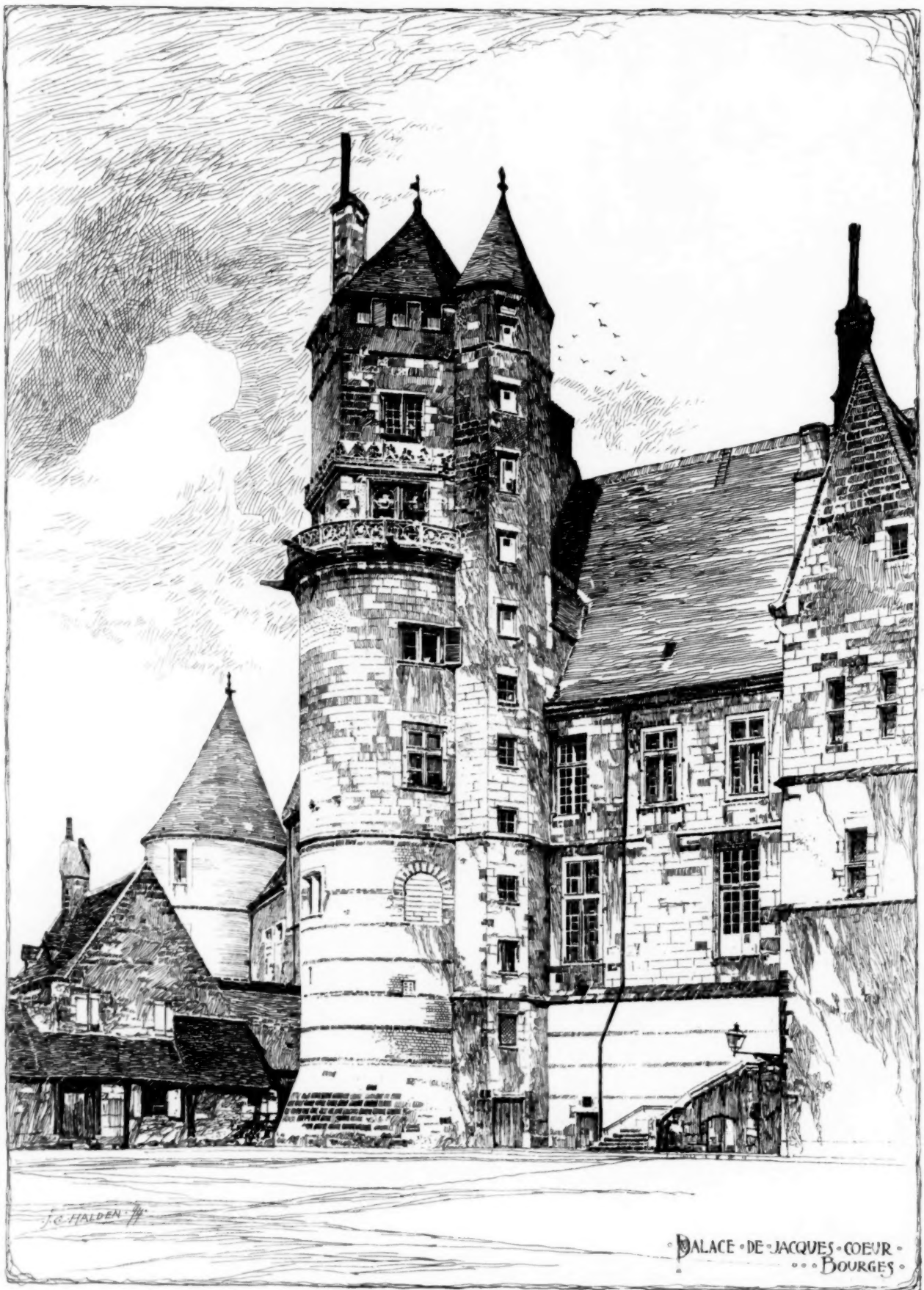
A SUEZ INDICTMENT AGAINST DE LESSEPS.—A despatch to a London news agency, from Cairo, says that a criminal indictment has been lodged at Paris on behalf of Egyptian notables, against Count Ferdinand de Lesseps and the early directors of the Suez Canal Company, for the misappropriation of money, the claims amounting to several million pounds, based upon documents given under the seal of Said Pasha, then Viceroy of Egypt, by which, in accordance with the acts of concession, he conferred founders' and ordinary shares upon the members of his army and household.—*N. Y. Evening Post*.

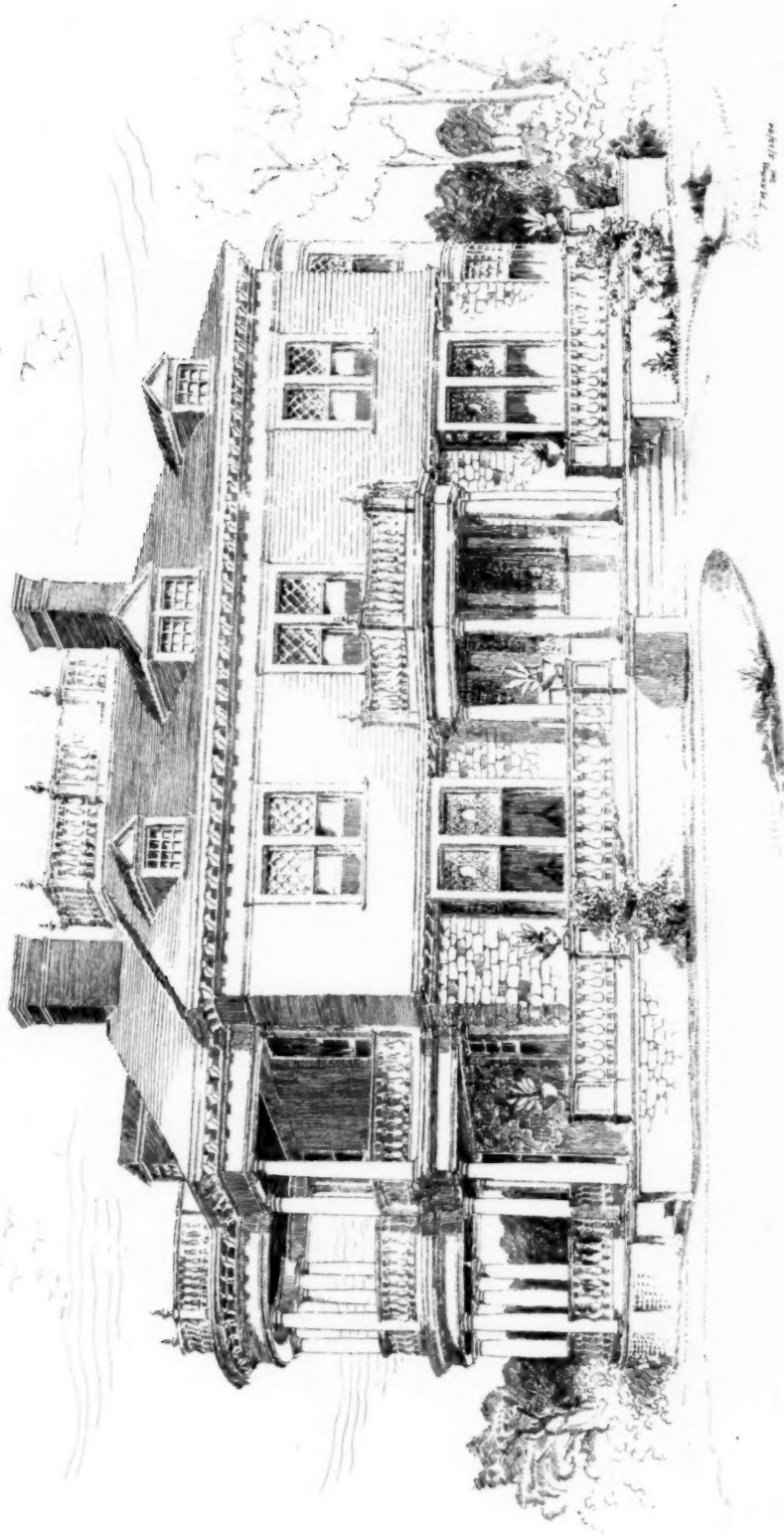
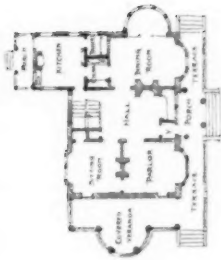
A SOPORIFIC PAINT.—A rancher on Vashon Island, Washington, has his house painted more expensively than any other house in the State. Last fall, he found a box which contained about 200 pounds of what he thought was a fine quality of fireproof paint, floating in the sound. The paint was packed in small tin cans and bore a foreign label, and, as it had cost him nothing, he thought he would paint his house with it. The house is now painted inside and out, and, in doing so, the greater portion of the paint was consumed. The rancher has discovered, much to his sorrow, that, instead of fireproof paint, he has his house covered with about \$3,000-worth of smuggled opium, which was thrown overboard by smugglers.—*Oregonian*.

EFFECT OF HEAT ON LEAD PIPES.—Text-books contain a great deal of useful information, no doubt, but they fail to give a vast amount of knowledge which is required in practice. Where, for example, do we find any mention of the effect of heat on lead pipes? In the case of a recent electric-lighting installation, exhaust steam by some means found its way into the ventilating and soil pipes leading to the drains. One of the first evidences of this was found in the warping of all lead pipes so used. It appears that the heat of the exhaust steam caused the lead pipes to expand and warp, but when the steam was entirely prevented from entering the drains the lead would not contract, and all such pipes had to be straightened by hand. This is a point which embryo engineers would do well to keep in mind, as each time the pipes were heated they expanded, but in no case did they show any signs of coming back to their normal condition.—*Industries and Iron*.

STATUES FOR THE LIBRARY OF CONGRESS.—The new Library of Congress at Washington has two porches which are to be decorated with figures of famous writers of the past; each figure to stand between columns that support the porches. On one side there are four, on another side there are five openings to be decorated with likenesses; these nine statues are as follows: Demosthenes, Dante, Franklin, Goethe, Macaulay, Scott, Irving, Emerson, and Hawthorne, a band in which the only doubtful names are those of Macaulay and Franklin, since neither was a writer of the first rank. These nine statues have been given to three sculptors. Mr. Herbert Adams will model Demosthenes, Dante, and Scott; Mr. Jonathan Hartley will furnish Irving, Emerson and Hawthorne, and Mr. F. Wellington Ruckstuhl is to prepare likenesses of Goethe, Macaulay, and Franklin. It is of good augury when Government officers begin to ask the aid of our sculptors to decorate public buildings at Washington.—*N. Y. Times*.

OVERHANGING TREE BRANCHES.—A very important decision has just been given by the Court of Appeal in the case of "Lemmon v. Webb" (*Times*, May 9), as to the legal position of overhanging branches of trees. The parties were adjoining landowners, and on the boundary of the plaintiff's land there were some fine elm and oak trees, with branches overhanging the defendant's ground. The defendant, for his own reasons, cut off some of these larger branches, which were proved to be over twenty years old—and of the existence of which he had been aware for the last fifteen years—and he did so without first giving notice to the plaintiff. At the trial, before Mr. Justice Kekewich, the Judge held that the inconvenience caused by the overhanging of a neighbor's tree must be treated as a nuisance of omission, and, so that, as there was no proof of immediate damage from the state of these branches, the defendant was wrong in having cut them down without first giving reasonable notice to the plaintiff, calling upon him to abate the nuisance, and, therefore, he must pay £5 and the costs of the action. From this ruling the defendant appealed, and it has now been reversed, Lord Justice Lindley giving a considered judgment upon the whole principle at issue, which will be useful for future guidance in similar disputes. It had been argued that the owner of a tree which was growing out over his neighbor's land, could, in fact, acquire an easement in the overhanging branches by prescription, in the same way as he can by overhanging eaves or the like. But the Court declined to adopt the analogy, which, indeed, falls to pieces when applied. For a man has no right of action for trespass against his neighbor in respect of branches overhanging his land, as he has with regard to any projecting building. There is no doubt whatever that a landowner can cut down branches overhanging his land, and the question of whether he had first to give notice calling upon his neighbor to do so, depends upon the nature of the right. If there is an absolute right to cut down such branches, and if no easement can be acquiescent in the natural growth of a tree, then it follows that the point does not depend on the law as to nuisances, and that no notice need be given. After a very learned and exhaustive inquiry into the law for centuries, the Courts of Appeal have now decided that the owner of a tree has no right to prevent a person lawfully in possession of land, into or over which its roots or its branches extend, from cutting away so much of them as projects into or over his land, and the owner of the tree is not entitled to notice unless his land is entered in order to effect such cutting. The clear right of the owner of the land to free it from obstructions above or below is not dependent upon his giving any notice. At the same time, it is better to give notice, as common courtesy would suggest, for if the case goes to Court, the judge's discretion as to costs may be used, as it was here, against the party whose unneighborly action brought about the dispute.—*Building News*.

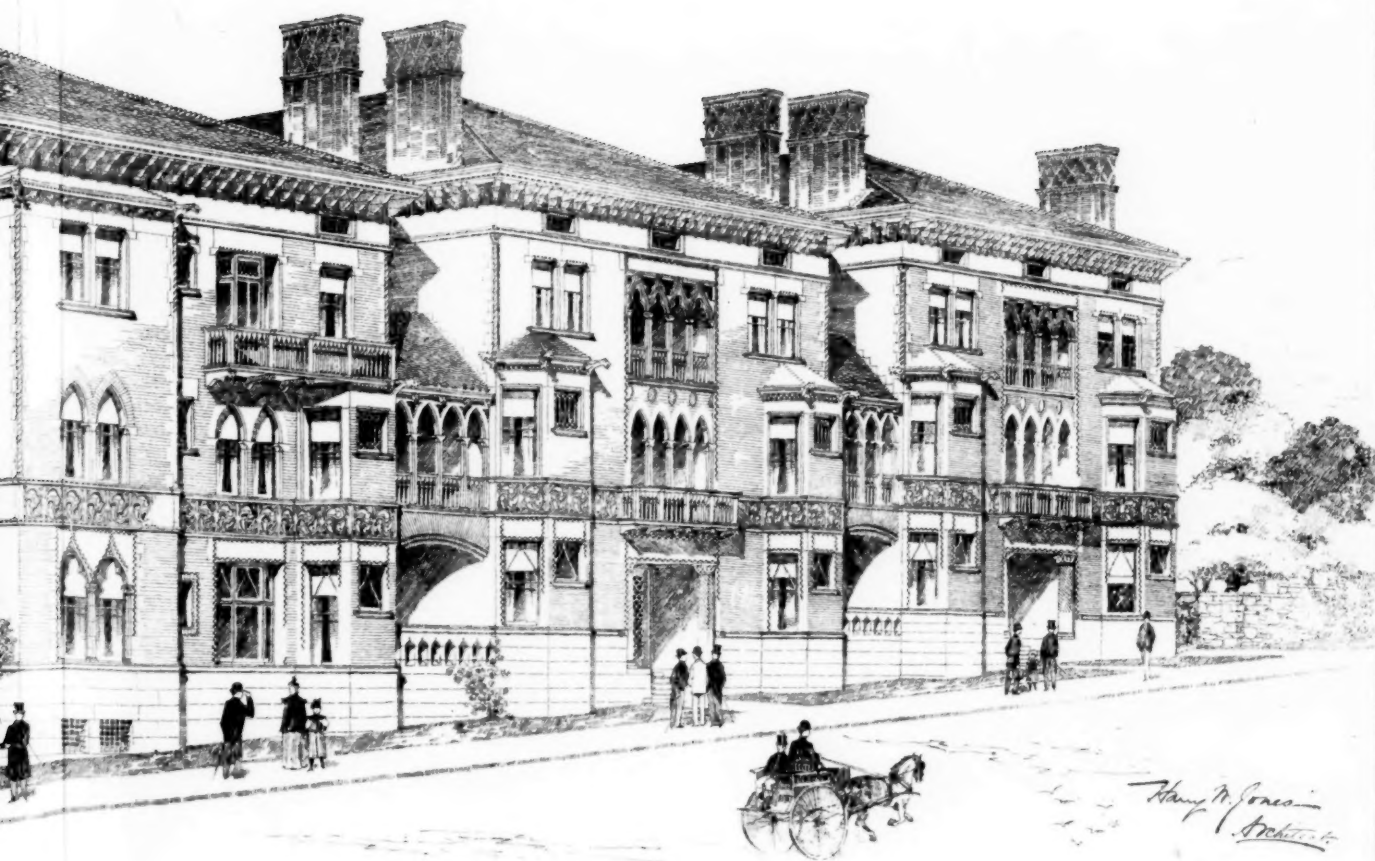




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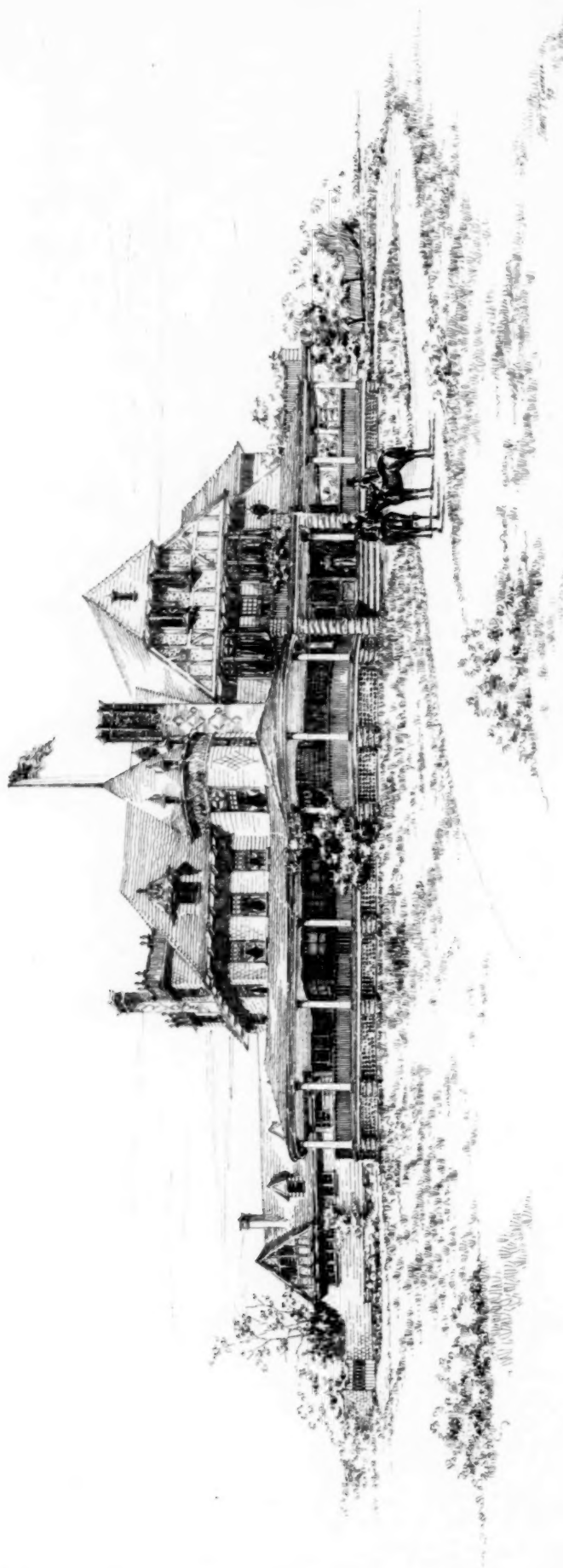
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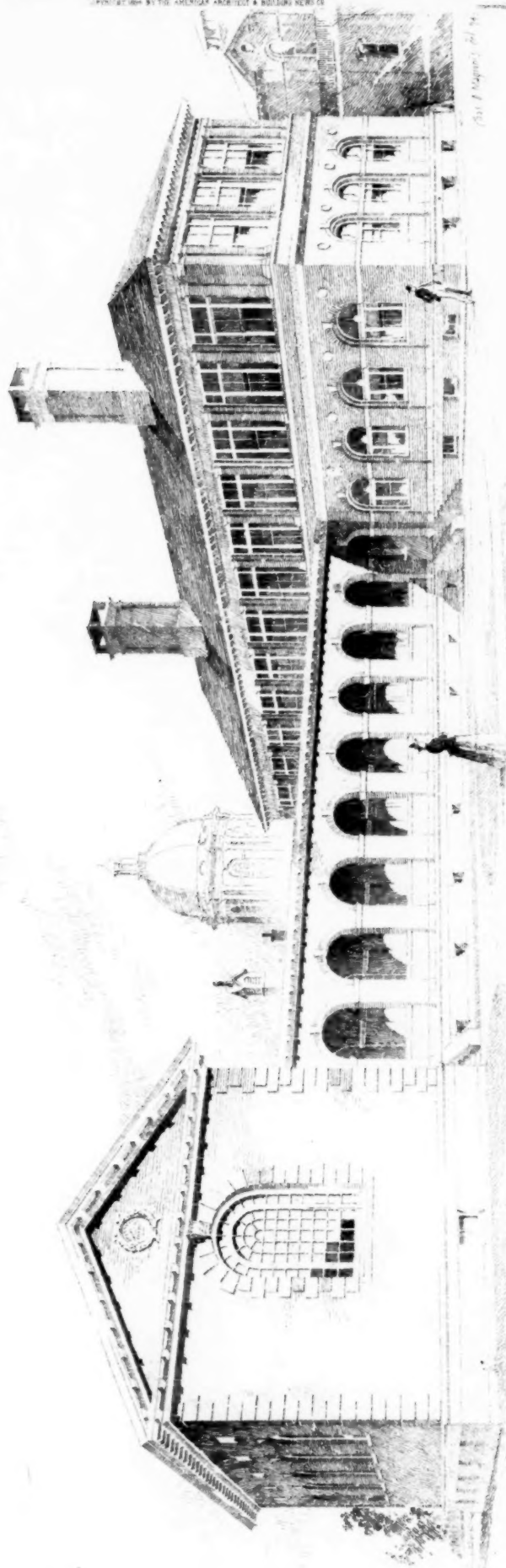
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