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THE *Iron Age* devotes a thoughtful article to the prospects of the American trade in iron and steel with foreign countries. As a consequence of the terrified groans of the English newspapers, probably, the American public has been led to imagine that our iron-manufacturers were on the point of seizing upon the trade of the whole world, and could defy competition everywhere. The facts, however, are very far from bearing out this idea. Naturally, the trade of any country, in iron or anything else, will go to the one who can furnish the goods to the consumer at the lowest price; and, for two or three years, circumstances have been such that American mills could supply consumers in England, and even in France and Belgium, with iron at a lower price than that demanded by their own mills. Among these circumstances, the most important has been the high price of coal. The English coal-mine owners, discovering, or pretending to have discovered, that the mines were nearly exhausted, made a sudden and enormous advance in prices, and the owners of coal-mines on the Continent, thus relieved from the presence of English competition, naturally followed suit. As the cost of coal is a very large item in the expense of production of iron, it was necessary to raise prices of iron to the point at which it could be produced without loss; and the American mills, which got their coal at the old prices, thus enjoyed a considerable advantage. Moreover, as the combined American mills, under the protection of the tariff, were able to force their American customers to pay a profit of two or three hundred per cent on the iron that they were obliged to buy, it was for their interest to ship their surplus goods to any place at which they could be sold for the bare cost of production, simply as a means of avoiding the accumulation of unsold stock, which might cause a break in the immensely profitable home trade. Again, outward freights on iron have been for two or three years very low. It is said that, at one time, iron was actually sent from Liverpool to London by way of New York, a distance of more than six thousand miles, at a saving over the cost of transportation by railway over the two hundred and twelve miles separating the two places; and, although outward freights from this country are in more demand now than they were a few years ago, steamers which have brought over cargoes of foreign goods are glad to take iron back again, in place of ballast, at low rates.

WHILE the combination of a protective tariff at home, low freights, and dear coal abroad may last for some years longer, it is not likely to endure indefinitely; and, meanwhile, the Continental iron-producers in particular have by no means died of despair, or given up the business. On the contrary, realizing, as we do, that economy of fuel is the key to success in competitive iron-production, they are busy in devising and adopting new methods to secure such economy. In view of what has already been effected in this direction, the *Iron Age* thinks that the time is approaching when the coal now consumed in producing the pig-iron alone will serve also for converting it into steel, and almost for rolling it into shapes; and the German and Belgian manufacturers evidently have this idea in their minds, for, not content with buying coke, and using it in the regenerative furnaces, they are preparing, on an immense scale, to make the coke themselves, and use the gas from it for driving engines and operating blowers, dynamos, and other machines. In Belgium and Germany alone gas-engines, capable of being used in this way, are built, or in process of construction, to the amount of about one hundred and fifty thousand horse-power, while the *Iron Age* does not know of one in the United States. With coal at the ordinary price, the cost of production of steel billets is a little less in Pittsburgh or Birmingham, Alabama, than in Belgium or Germany, the difference, in the case of the best German mills, being perhaps fifty to seventy-five cents a ton. With the cost of four thousand miles of transportation, including interest and insurance, added to that of the steel, the American product can hardly be sold in Germany and Belgium, at least in competition with the native manufacture, except under abnormal conditions in regard to the price of coal, and this condition in favor of the American mills may disappear at any moment. Meanwhile, the Continental producers are using every suggestion that science can furnish to meet our competition by reducing expenses, while our mills, united into unwieldy trusts by the process of tying the badly-situated and badly-planned mills to the efficient and well-placed ones, are less favorably situated than their rivals for adopting improved processes.

THE competition for the Government Building in Indianapolis has resulted in the award of the commission to Messrs. Rankin & Kellogg, of Philadelphia. Twelve invitations to compete were issued, but only eleven designs were submitted. One of the sets of drawings bore a certain mark, and one of the jury, as it appeared, had been given to understand that this mark would serve to identify the work of a particular competitor. As the regulations applicable to Government competitions expressly forbid any identification, direct or indirect, of the work of any competitor, the jury, in this case, began their proceedings by voting unanimously to exclude from consideration the marked drawings, and the award was then made upon the remaining ones.

THE Bureau of Statistics has made a contribution to the literature of forest economy which will startle the public for a moment. According to its estimates, which cover the whole United States, the entire remaining supply of timber in the country will, at the present rate of consumption, be exhausted in about sixty years. As at least half of the timber in our forests is growing on inaccessible heights, or in swamps, or at such a distance from transportation as to be practically unavailable, it may be assumed that the period of practical exhaustion of the present supply is not more than thirty years away. Of course, new timber is growing, to replace the old, and in some of the Maine forests, which are used for lumber only, and have never been devastated to feed the pulp-mill, the increase, under the enlightened management of their owners, is said to equal the amount cut; but such forests as these are rare exceptions. Meanwhile, the rapid exhaustion of the supply of building timber is evident to architects in many ways. It is only fifteen or twenty years since an architect who desired to finish a house with painted woodwork specified, as a matter of course, that the wood should be white-pine; and, equally as a matter of course, the specifications were complied with. Ten years later, if white-pine was specified, the chances were that the contractor would substitute whitewood, and the architect, knowing the difficulty of procuring white-pine, and considering whitewood to be nearly as good for the purpose, would accept the latter in place of pine. Now, whitewood is in its turn rising in price, and the contractor for a house to be finished in paint is very likely to use North Carolina pine, in place of either whitewood or white-pine. The North Carolina pine is

less desirable for painting than whitewood, and still less desirable than white-pine; but it is now cheaper than either and, serving tolerably well, most architects accept it.

INSTEAD, however, of forests covering thousands of square miles, like the ancient white-pine forests of Michigan and Massachusetts, the tracts furnishing North Carolina pine under conditions available for transportation are comparatively small, and those which supply whitewood are still smaller; so that we must expect to see the short-lived career of whitewood followed by a period, not much longer, in which North Carolina pine plays the important part. When this comes to an end, and neither whitewood nor North Carolina pine are longer available, the question of what timber will take their place will become important. Spruce, which constitutes the greater part of the remaining Eastern forests, can hardly be used for finish, on account of its propensity to twist, warp, crack, and do nearly everything else that a well-behaved finishing wood should not do; and the Southern pine, which also still exists in great quantities, is not much better, its disposition to exude pitch, as soon as it becomes comfortably warm in an inhabited room, without regard to the paint or varnish which may have been put over it, unfitting it for the refined society of modern domestic decorations. Oak, in many ways, is the best of finishing timbers. Although its shrinkage is about double that of pine, it is hard and smooth, and takes paint well; and, when properly seasoned and cut, it stays tolerably well in place. The architects and builders of to-day, to whom oak is an expensive material, will probably smile at the idea of using it in the cheapest houses; but cost is comparative, and oak at its present price would not seem so expensive if whitewood and North Carolina pine cost more.

THE Boston Museum of Fine-Arts loses an admirable officer by the resignation of President Endicott, which was offered to the Trustees a few days ago. Mr. Endicott succeeded Mr. Martin Brimmer as President some six years ago, and has filled the office to the highest satisfaction of the Trustees and the community; but the duties take much time, and Mr. Endicott found it necessary to turn over to others a part of the burden which he has so efficiently borne. Mr. S. D. Warren, who has been for several years a member of the Board of Trustees, was unanimously chosen to succeed Mr. Endicott as President.

THE final balance of the accounts of the Paris Exposition of 1900 does not show so serious a loss as has been reported, and, indeed, counting the value of the permanent works, the profit to the city has been considerable. It appears that the sale of official admission-tickets amounted practically to nothing, nearly all admissions being either free, or on coupon tickets, cut from the "bons" which were issued at the beginning of the proceedings. Of these "bons" twelve million dollars' worth were sold, and they formed the principal financial resource of the Exposition. Most of the original purchasers probably lost money on them, but the individual losses are not likely to have been large, and were, in many cases, more than made up by the extra profits of business in Paris during the Exposition year. Besides the subscriptions to the "bons," money was received from the city of Paris, to the extent of four million dollars, and from the French Government to the same amount; the Western Railway, the Chamber of Commerce, the Paris Police Department, the city of Le Creusot, and other contributors, supplied two hundred and sixty thousand more; four hundred thousand dollars came from French exhibitors and foreign Commissions as reimbursement for expenses of installation, and nearly two million dollars were paid for concessions. Besides these, the sale of old materials will, it is estimated, bring in four hundred and fifty thousand dollars more.

ON the expense side, the cost of the buildings and other works amounted to about eighteen millions; the expenses of administration to seventeen hundred thousand; the cost of policing, lighting, and so on, to two-and-one-half millions, "unforeseen expenses" to nearly a million, and miscellaneous expenses to about two hundred and fifty thousand, leaving a net loss of a little less than four hundred thousand dollars. On the credit side, however, the city has acquired the two Fine-Art buildings, the Alexander III. bridge, and will probably also retain the two horticultural buildings, the "passerelle" across the Seine, and the "quais," which were built to accommodate the Rue des Nations and the Vieux Paris, with other temporary attractions, but will be useful for boat-landings and other purposes. All these cost the Exposition managers between six and seven million dollars; so that, if the city pays a reasonable price for them, in addition to its previous contribution, the administration of the Exposition may close its books with a balance on the credit side. At the worst, the loss is far less than it was in 1878. The expenses of the Exposition of that year, which, as an heroic attempt of the French to show their courage and resources after the devastating war of 1870–71, was one of the most interesting in history, were eleven million dollars, in round numbers, while the receipts were less than five millions, leaving a net loss of more than six million dollars, which, however, as the French tried to persuade themselves, was partly made up by the extra profits of business during the year, and by the acquisition of the Trocadéro Palace. The Exposition of 1867 closed also at a loss of nearly a million dollars, leaving no permanent buildings; so that, on the whole, that of 1900 has been quite as successful as the average of its predecessors.

A YOUNG English architect, settled in the United States, has been writing to the *Builder* some details of American practice, particularly in connection with frame houses, which are interesting to the profession on this side of the water, as well as the other. It must be remembered that the American frame house is, to the average Englishman, an object of mistrustful curiosity. "I should think your houses would all blow away," we were once told by some one in England who was interested in the subject, and Mr. Budden, as an Englishman, deserves a certain amount of credit for having conquered his natural prejudices so far as to find much merit in our system of wood-construction, and, we are pleased to see, still more in our labor-saving, but clear and precise, methods of office-work in connection with wooden buildings. Naturally, his experience is still somewhat limited, and even his English readers will probably receive with a grain of allowance the information that on the exterior of American frame houses, "all finish from 'gambol roof' to water-table is painted white, and probably varnished." Some details of construction also are, apparently, not quite understood, for, while speaking with approval of the balloon-framing "used in Ohio and the West," Mr. Budden afterwards informs us that "there exists with some architects an old custom called fireproofing, or brick-filling, which it is advisable to know the meaning of, in case you are told to 'fireproof all walls and partitions,' or 'walls only.'" After describing, correctly enough, the usual method of brick filling, the writer goes on to say that "the reasons for this construction are so vague and varied that I will not attempt to explain it." Insurance inspectors could probably give reasons which would neither be vague nor varied for this brick-filling, or "ratting," as it is often called by mechanics, but it may be sufficient for us to explain that the balloon-frame construction, in which the joists of upper floors rest on ledger-boards, cut into the studs, although once almost universal in the East, as well as the West, has long been abandoned, on account of the great danger to which such construction is exposed from fire, which, creeping up the spaces between the studs, over the rough and dry surfaces of timbers and laths, quickly burns off the ledger-boards, which are, as a rule, only four inches wide, and an inch thick, letting the floors drop. As the spaces between the studs run past the ledger-boards to the top of the building, a fire starting in the cellar might, and often did, run in a few minutes to the roof, kindling everything within its reach on the way. For this reason, the use of balloon frames is forbidden by law in most Eastern communities important enough to have any building regulations, the "old-fashioned" or "full-frame" construction, in which the spaces between the studs are cut off in every story by the girts, being very much safer. Even with the full-frame, however, fire has many opportunities for creeping through the spaces among the studs, and between the floor-joists, and it is for that reason that local building-regulations usually require these spaces to be interrupted, at least once in each story, by courses of brickwork in mortar. The importance, as a protection against fire, of this precaution has been so many times demonstrated that it is rather amusing to be told that the reason for adopting it is that the extra brickwork "helps to hold the house down."

RECENT PROGRESS IN ARCHITECTURAL DESIGN.[1]

"ANOTHER observation," writes Prof. Langford Warren in his very interesting little essay prefixed to the Catalogue of the Boston Architectural Exhibition of 1899 — "another observation which has forced itself upon our attention during the last two or three years is the marked growth of distinctive local character in the architecture of our principal cities. This may be regarded as decidedly a hopeful sign — a sign of wholesome and natural life and vigor. Chicago, New York, Boston and Philadelphia, while all have improved, differ from each other in their architecture in a way they did not a few years ago." How true this observation is, I have had many occasions to remark; and any one who has had the opportunity, as most of us have had, to make flying visits to other centres of architectural activity than his own, must have been not only struck by the distinctively local character in the newer buildings of which Professor Warren speaks, but also by the slightly exotic appearance of some of them, which on investigation prove to have been conceived in other cities and under other influences than those of their State. It is these differences which make it dangerous for any one who has not been able to study them more carefully than I have to speak on the Progress of Architectural Design except from a local standpoint, and I must depend on others to correct me when any general conclusions have been unduly affected by the narrowness of my horizon.

In former times, writers on architecture have always endeavored to explain changes of style from one period to another by referring them to general changes in the civilization of the countries affected — by modifications in the lives of the people and their modes of thought — or by changes in the materials used or the constructions adopted. These are, of course, generally gradual, although constant, in their operation, and only to be seen distinctly when different centuries are compared. For instance, the Gothic development was largely the result of constructional necessities, as the architects of the day understood them, as well as of certain changed conditions in the lives of the people and their history; while the comparatively rapid development of the Renaissance in architecture was entirely coincident with the extraordinary revival and popularization of Greek and Latin learning and of Classic ideas as they appeared to the Italian mind of that period, and was not at all due to any new conditions of materials or structure.

In our recent development it is quite possible to see, even in the course of a very few years, the same kind of influences at work — the changes in the temper, the needs and the desires of our clients, as well as the changes in the materials used and in the constructions adopted; and as our different cities do not advance on strictly parallel lines in other respects, it is quite natural that this should also be the case in their architecture. The unity of language and political institutions, the constant interchanging of our population, will certainly prevent any great radical differences; but such variety as we see existing in Europe between two modern cities has already begun here, and bids fair to become with time more, rather than less, marked.

Any consideration, however, of the causes of our progress in design would be most incomplete which failed to take account of the direct influence of the architects. The tendency of the historians of our art, more than any other, has been to consider the architect as the more or less unconscious agent in the general forward movement of the world, whose style was an inevitable consequence of some unseen power which urged him on in spite of himself. It is perhaps on account of this view that the names of so many of our great masters are quite unknown to the general public, and far less known than should be the case even in our own ranks. Whatever the truth may have been in the past — and I am not now pleading the cause of individual genius — it is quite certain that to-day and in our country the style and character of a building often proceeds directly from the individuality, the traditions and the education of the architect rather than from any general trend of the artistic and intellectual ideas which surround him. Never in our time has this been so true as it is at the present moment, and one is tempted to say that much of the architecture of the present day has been rather imposed upon the community by the architects than imposed upon the architects by the community. For instance, our domestic work in New York has broken radically away from the tradition of the high-stoop brownstone house; and this only because the architects took the initiative of a better plan and persuaded the client that it was a better one.

All these causes then, change in the general ideas and conditions, constructive necessities and the initiative of the architects are responsible for the recent advance in design. It is to the last-named and to the far better artistic education of the architects of to-day that is due a great and notable improvement in the study of both *ensemble* and details in most of our recent buildings. Nor is this true only of the work of the better-known men: in a great deal of the work where there is no real architect at all, the better influence is felt to some degree; even those speculative structures which cast so much unmerited discredit upon us in the mind of the casual visitor to New York, — even these are distinctly better than similar buildings were ten or fifteen years ago, and reflect, however dimly, quite unmistakably our real architectural work.

The tall building with its skeleton construction, which some of us are fortunate enough to design, and the existence of which nearly all of us deplore, is the result of constructional necessity. Far be it from me to enter here into any discussion as to its future development. In no kind of work are we so much at sea. We try an excess of sincerity and are appalled at the resultant ugliness; we decorate our sincerity first at the bottom, then at the top, then all over, and are still wondering which is the best. We are confronted with the problem of a tower, mostly windows, with two or three blank walls which may be covered up any day by an adjoining building, and are tempted to say with the prayer-book that there is no health in us. Few of us think that an absolutely successful solution has been reached; and yet few buildings are more interesting to study on account of the many earnest and skilful attempts to solve the problem. Look at Mr. Sullivan's buildings with their strong individuality and local character; one of them stands in New York and shouts tidings of Chicago to us as one preaching in the wilderness, and still we wonder and admire and are unconvinced. Then there is Mr. Reid's building in San Francisco, one of the most successful I know, and Mr. Bruce Price's and Mr. Eidlitz's and a score of others. But as soon as we begin to talk about them, we are involved in such a quantity of theories of all kinds and descriptions that we are apt to forget that, after all material conditions are filled, there is really only one paramount question: How far are they beautiful? Given the most impossible conditions of the problem, and it seems to me that there has been a steady progress towards better and more harmonious compositions; and yet — and yet it is impossible to feel certain what is the true path. The temptation to the strange, to the unusual, to the grotesque even, is great; may it be that through much tribulation we may enter into the kingdom?

It is a comfort to turn to our domestic work, in which Americans have so long since achieved a large measure of success. In no field has this success been so well maintained as in our city and country houses, and this is apparent wherever you may go, east or west, in all its varied manifestation. The differences of development in different places are not only very marked, but a constant source of entertainment and interest. I defy the architect from Boston or New York to see without lively pleasure and sense of novelty the work of the group of men who have done so much in Philadelphia for their city and their art; and this is only one example. Wherever we turn we find evidences of increased study, of greater ambition to do the good thing, of greater knowledge of the good traditions and a more educated, if less slavish, adherence to them.

"Good Americans," said Dr. Holmes, "when they die go to Paris." We have to some extent changed this. To-day a great many good Americans, a great many rich Americans especially, come to New York to live long before they die; and so it has become not only the commercial metropolis of the East, but the abiding place of a large population, partly New Yorkers, partly from other States, who have plenty of money, plenty of leisure and the chief business of whose life is amusement.

In this life of leisure and amusement, the house is the greatest element; receptions, dinners, dances, take place there, and it is the visible sign of the wealth, the social position or aspirations and the tastes of the owner.

This is, I think, why the New York house that is the most *en evidence* is the one planned with a special view to entertainments; and why our house-architecture seeks to express it outside and inside. It is one of the cases where a change in the ideas and desires of the client has been the greatest influence at work; just as similar changes in ideas were instrumental centuries ago in determining the character of Venice. It is easy to see from this point-of-view what is called the American basement plan has been almost universally adopted; for this plan, with all its other advantages, gives the greatest available space to the rooms devoted to entertainment; and yet, originally, it had to be almost forced upon the conservative clients, who could imagine nothing except the traditional high stoop.

Another thing which has influenced our particular city architecture has been the practical abandonment of the red pressed-brick which used to be the conventional standard of respectability and elegance, and for whose disappearance we can hardly be too thankful; and the very general use of light-colored stone, especially of Indiana limestone, which invites to a greater elaboration of design and detail.

These various determining causes have resulted in a great number of houses which are, to me, very full of interest. New York is becoming more cheerful, gayer and brighter in its aspect, and there are more evidences of study and individuality in a single street to-day than in a whole quarter formerly. To those who know the city, the neighborhood of 54th Street, with the imposing building of the University Club as a centre, will serve as an example of what I mean.

It is however always useful to see ourselves as others see us, or even as one other sees us; and so with apologies to Professor Warren, I will quote him once more.

"In New York," he writes, "the influence of the École des Beaux-Arts is paramount in much of the work, often even to the sacrifice, if not of local, of national character, so that many of the buildings look as if they had strayed from the boulevards of Paris. Though we may regret this wholesale importation, this direct imitation with all its mannerisms, of a style which is full of bad taste and solecism, in spite of the strength in plan and mass of its originators, it does seem to express New York; and it certainly has been acclimatized there, and is affecting nearly all its work, while it has received but little welcome in other parts of the country; so that this direct Parisian influence has come to be peculiarly characteristic of New York, and may possibly be the starting-point of a local manner of

[1] A paper by Mr. Walter Cook, F. A. I. A., read before the Thirty-fourth Annual Convention of the American Institute of Architects.

building — lavish display, richness of effect, characterize most of the work and express the luxury-loving New Yorker."

I confess to have read with mingled feelings this blast of doctrine from the precincts of ascetic Boston. Is it true that we have a wholesale importation of style which is "full of bad taste and solecism?" I think Professor Warren has allowed himself to draw too sweeping conclusions. It is a fact that the influence of the École des Beaux-Arts and its pupils has been a strong one. But this influence has been principally felt in the methods of study, and not in the introduction of certain forms, and more powerfully in the study of plan than in any other way. It has done much to persuade us that there is such a thing as beauty in its arrangement and not merely convenience — to teach us that there is such a thing as a beautiful plan; and it is not so very many years ago since the idea that there could be such a thing was ridiculed.

As to the adoption literally of French motives, which Professor Warren characterizes so frankly and with so much authority of tone, I think we need not be alarmed. It is rational and eminently proper that the young architect — and most of the Beaux-Arts men have that inestimable advantage — should pretty accurately reflect his teaching, (if it has been good for anything), at the beginning of his career. Raphael in his first stage was a close imitator of Perugino. But as he progresses, his individuality asserts itself, the changed conditions and surroundings exercise their unconscious influence, and he is himself in spite of it. It may be that the school-work is to be the foundation of a special New York architecture; but it is certain that in that case the results will not be a series of copies.

Whatever may be the case, however, in the future, as yet the influence of the École can hardly be called paramount in New York. McKim, Mead & White and their now numerous architectural progeny are not under the baleful spell, as Professor Warren considers it; Mr. Hardenbergh, Mr. Eidlitz, Mr. Robertson, and a host of others whom it would be too long to catalogue are untouched by the poison. It is a source of strength to us that our architects are divided into a number of separate groups by a process of natural selection, each working in different ways, each influenced unconsciously by the others, but preserving its own individuality. I imagine this to be the case in most of our architectural centres, and I hope it may never happen — I am sure it will never happen — that we shall all serve the same gods in our designs.

Before leaving the city house, some mention should be made of the interiors, to which an increased care and study has been given of late, when they have not fallen into the hands of our common enemy, the commercial decorator. The best work which has been done in this field will, it seems to me, compare very favorably with any done in the world at the present time. There is still often too great a desire to conform to some given style; but the habit of making a house a sort of architectural encyclopedia, with an Empire room, an Elizabethan room, a Colonial room, a Moorish room, is on the wane, I think, and one is more often struck with appropriateness and beauty than with historic parallels.

It is hardly more than twenty-five years ago that we began to design country cottages, by the seashore or in the mountains, for the city family to spend two or three months in during the summer. At first they were cottages indeed, little more than a more convenient version of the farmhouse which preceded them, and following closely its simple style, with here and there a Norman or an English reminiscence added. As the taste for country life, or, perhaps rather, life in the country, spread, these cottages grew in size and importance year by year till it became quite ridiculous to call them cottages. Still the same traditions were potent, and we saw country houses, manors, châteaux, call them what you will, of great size, masquerading as overgrown cottages, with huge shingled gables, shingled towers, and an attempt at a certain elephantine picturesqueness.

This was the epoch when, Mr. Russell Sturgis mournfully tells us, the only real American contribution to architecture was made, and when American architects still designed — the golden age between 1880 and 1890.

Now, the *laudator temporis acti* has been a familiar figure ever since Nestor compared the besiegers of Troy to their mighty ancestors; and we are pretty well accustomed to hearing of the superiority of our fathers' deeds to our own in all the arts of war and peace. But it is a somewhat novel experience to hear how much better we ourselves were ten or fifteen years ago than in our present decrepitude; and it is worth while questioning whether we have really fallen short of the high standard we ourselves set.

Of course there are many real country cottages still built; and in many of these Mr. Sturgis's ideas are still followed, not less successfully than in the past, I think; with many interesting experiments in other directions, like Mr. Atterbury's semi-oriental houses on the south shore of Long Island. But the country house of our day is continually assuming greater importance, not only in Newport and in Lenox, but all over the country. It is often a great establishment, rivalling, if not surpassing in importance, the town-house, and lived in for half the year instead of a few summer months. For these houses we have drawn our inspiration from those of similar importance in our own and other countries. The large Colonial houses, especially those in the South, have been studied and freely imitated; England and Italy have furnished us types; but all of these have been so modified and changed that the result is in no way a literal imitation. We are in a fair way to have a great variety in our stately country places, and I for one do not fear they will suffer by comparison with their predecessors. The question of their setting and their surroundings becomes one of great importance, involving, as it does, all the problems of landscape-gardening; and it is most necessary that the general designing of these features should be under the control of the architect, however needful it may be that he should take expert advice in certain details.

In our public buildings a new era has opened, thanks to the intelligent interest and sympathy which we have learned to expect from Secretary Gage, and to the general awakening of interest in good architecture all over the country. It is due to these causes that the Custom-houses in New York and Baltimore and other of the more important Government buildings have been put into hands which may well assure us that they will be far in advance of their predecessors; and that the New York Public Library and the State Capitols of Minnesota, Rhode Island and Washington have become objects of architectural rather than political interest. It is with impatience that the results of this new era will be awaited, for it is as yet too early to draw any general conclusions about tendencies in the matter of style. In the consideration of public buildings, however, it is of interest to note the beginnings of an idea of fixed types; the State Capitol is beginning to be understood as a building with a dome — perhaps following the lead of the National Capitol at Washington. My attention was drawn to this by a criticism I heard of one of the designs submitted in the competition for the Providence Capitol — a non-professional criticism. The design in question had a cupola somewhat like that of the Paris Hôtel-de-Ville, and my critic said quite decidedly that the building didn't look to him like the capitol of a State, because there was no dome. I have heard the same thing since, and it would seem as though one feature of our State-houses was in a way to be almost taken for granted.

I hardly know of any other instance of a fixed architectural type in this country, except, of course, the ecclesiastical one, which seems to be pretty firmly implanted in spite of some very notable exceptions. As a rule, the moment we turn our faces to the religious problem we become, or try to become, mediæval and that without much regard to the traditions of the particular sect who are to worship in our temple. In much of this work there are abundant evidences of care and knowledge. The results seem to me generally more successful in the country than in the cities. But these results are so special in their character, so unconnected with the general architectural movement of the day in other fields, that they can hardly be considered with them, but should rather be the subject of a separate paper. In church building we express ourselves in a different architectural language from the one we use every day, just as in the Catholic Church the service is in Latin, and not in a tongue "understanded of the people."

The important buildings recently erected or projected for the Universities of Pennsylvania, Columbia, Yale, Princeton and Harvard, as well as those designed for the University of California and Washington University in St. Louis, show quite varying tendencies in our college architecture. Harvard, in the Phillips Brooks Building, the University Club and the Architectural Building, returns in a great measure to her own Colonial traditions, and most naturally and wisely. Elsewhere there seem to have been no local traditions powerful enough to influence architectural style. Accordingly, at Columbia we find the strong personal note of the architects, dignified, correct and, notably in the case of the library, imposing. Princeton and the University of Pennsylvania are to be strongly reminiscent of certain of the English colleges, and St. Louis is to follow in their footsteps, while New Haven is to have a memorial hall which will be a total departure from anything there at the present time and whose materialization is to be awaited with the utmost interest. In California, where there are no traditions except those of a population which has ceased to exist, the most important general scheme ever made for a university, the entire realization of which neither we nor our immediate successors are to see, has been adopted and is now in process of further study and elaboration by M. Bénard, who has all our best wishes; and it is indeed an epoch in our architecture when Berkeley and St. Louis both recognize that the random and haphazard arrangement of college-buildings which has prevailed in the older colleges is not the ideal way to proceed to-day.

No survey of the current architecture of the time and its tendencies of style can be otherwise than an incomplete sketch, without far exceeding the limits of a paper to be read before you. But I have said enough to show you how hopeful I think the outlook is. It is true that many bad things — things which all of us, wherever we believe the truth lies, recognize as bad — are still built, and that what used to be known as the Peorian style (doubtless with great injustice to that city) is not yet entirely dead. But it is just to look at the best, the most representative buildings, rather than their weaker companions; and in these I see little that is not encouraging.

The newer architecture has, it is true, its foundations in a more complete knowledge, a more thorough comprehension of the best that has been and is done in other countries; but we are too genuine Yankees to be able to imitate blindly, even if we wished to do so; and I know few examples, if any, where the distinctly indigenous character is not apparent. To those who are impatient for novelty, who demand an American architecture as they used to demand an American novel, who proclaim with alliterative enthusiasm the doctrine of Progress before Precedent, I would recall the sentence quoted by Thomas Bailey Aldrich in one of his essays — "Nothing but mediocrity is ever wholly original."

The paths taken by us are widely different, and yet, in a way,

they all lead to Rome. We are as far as ever from being of a mind as to which is the only true one, although each of us is privately convinced that he knows it. In these individual convictions and differences lies much of our strength. Like the ship on the shield of the city of Paris, our architectural ship is rocked hither and thither, but never sinks — *fluctuat nec mergitur.*

THE EVOLUTION OF DECORATIVE MOTIVES.[1] — XIV.

THE ACANTHUS AND SPIRAL SCROLL. — IV.

THE RINCEAU MOTIVE. — I.

Fig. 221. Typical *Rinceau.*

THE most common and familiar motive in the ornament of the last few hundred years has been that to which the French have given the convenient name of *rinceau.* The word has no English equivalent, but may be defined as a repeatedly-branching scroll motive adorned with foliage at various points. The nearest approach to an English name for this motive is "foliated scroll," a less precise and convenient term than the French name, which is rapidly being adopted into our own usage. The combination which it designates — the union of leafage, usually of the acanthus type, with branching scrolls in continuous repetitions forming either bands or all-over patterns — is of such constant occurrence that we hardly notice it, or recognize its various manifestations as belonging to one fundamental motive. Friezes and pilasters, panels and bands, book-covers and furniture, typographic borders, carpets and silverware, ironwork and embroidery, and other objects equally diverse, offer us examples of this motive. The most casual inspection of the architecture and decoration of the last four centuries and a half reveals its remarkable vogue, while a closer scrutiny discovers its presence in a host of examples in which it appears under a partial disguise of unfamiliar variations. When we carry our investigations into the art of the Middle Ages, and then backward through Byzantine to Roman art, we encounter this familiar motive at every stage of the inquiry. It is even more abundant and protean in its variations and applications than its near relative, the Corinthian capital; and like that capital, traces its origin back to the Alexandrian period of Greek art. Its only rival in historic favor has been the anthemion motive, but the latter never attained the universal popularity and vogue of the *rinceau,* and for reasons inherent in the character and movement of both these motives. The anthemion pattern is composed of distinct emphasized units, loosely connected by reversed scrolls. Each unit is constructed on an axis at right angles to the direction of their successive repetitions, and produces a strong accent at each recurrence, thereby interrupting, as it were, the onward progress of the whole design. The typical *rinceau,* on the other hand, is a continuous pattern (Fig. 221), moving in a given direction with an orderly and rhythmic advance, its successive scroll-branches starting out in a direction tangent to that of the main waving stem, while the recurring rosettes in no sense interrupt the harmonious movement of the whole design. In this respect it is superior to the anthemion, which it also excels in its adaptability for the decoration of panels and surfaces of the most varied form. The Romans first (as in Figs. 240, 241), but even more successfully the artists of the Renaissance, extended its use from mere border-patterns or bands to the adornment of pilasters and of panels of every conceivable shape, both in carved and painted patterns. The variety of forms and effects attainable with the *rinceau* motive is extraordinary; and when it has once been recognized, it no longer seems surprising that it should have become in modern times the most popular and the most frequently employed of all ornament motives.

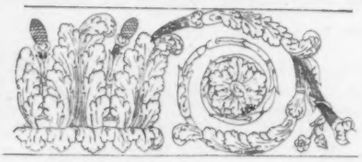

Fig. 222. Scroll from Maison Carrée, Nimes.

Fig. 223. Detail of Frieze: Temple of Vespasian, Rome.

Fig. 224. Fragment in Lateran Museum.

Fig. 225. Painted *Rinceau,* Temple of Isis, Pompeii (after Zahn).

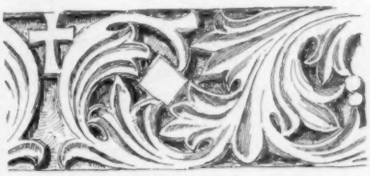

Fig. 226. Byzantine *Rinceau,* from an unidentified Fragment.

The development of the Corinthian capital was sketched in the last previous paper of this series (*American Architect,* 1290). Its relationship to the *rinceau* appears when we examine the fully-developed Roman *rinceau,* each branching of which reveals two diverging spirals, coiling in opposite directions, springing from a wrapping nest of acanthus leaves (Fig. 222). But this is precisely what appears eight times repeated in the Corinthian capital. The *caulicoli,* with their branching volutes coiling up, one under the corner and the other under the middle of each side of the abacus, are identical in motive, as in origin, with the endlessly-repeated branchings of the *rinceau.* As a matter of history, the two combinations were closely related in their development as in their origin. It was in the latter part of the fourth century B. C., the Alexandrian period, that the Corinthian capital and the *rinceau* both became prominent in Greek architecture. In Roman architecture they were almost inseparably associated. In developing and perfecting the *rinceau* the Romans provided a most appropriate decorative accompaniment for the splendid order which they had adapted from Greek models and completed by the invention of the modillion cornice and Corinthian base.

Fig. 227. German Romanesque *Rinceau,* Eleventh Century.

Fig. 228. Detail from "Mandorla" Door, Cathedral of Florence.

Simple as is the *rinceau* in conception, it has lent itself to a remarkable variety of uses as well as to the widest range of treatment, from the simplest to the most complex and elaborate. The example given in Figure 222 illustrates one of the simpler interpretations of the motive: in Figure 223 it appears in more complex and elaborate dress. Figure 224, from a fragment in the Lateran Museum, shows its application as a detail of a symbolic relief, while in the next figures it is seen employed as a frieze-design in the painted decoration of a Pompeiian

[1] Continued from No. 1290, page 85.

temple. This quality, the extreme simplicity of the fundamental motive, with endless capacity for elaboration of details, has made it a favorite resource of decorators for two thousand two hundred years. Originating in Greece in the fourth century, it entered Persia and India in the wake of Alexander's conquests, and has ever since continued in favor with the artists of those countries (Figs. 256, 257). The Byzantine carvers and mosaicists inherited it from the declining arts of Rome, treated it in their own dry, flat and sharp manner (Fig. 226) and transmitted it in one direction to the Northern Italians of both the Eastern and Western seacoasts, to the Lombards and thence to the Germans of the Rhine Valley and the monks of Southern and Central France; and in another to Christian, and then to Moslem, Syria and Turkey. It survived the naturalistic treatment of the French lay-builders of the thirteenth century, and can be recognized in many carved bands of the various Romanesque and Gothic periods alike in France, England and Germany; while in Italy it was in constant use all through the Middle Ages. Towards the end of the fourteenth century, even before the general Renaissance awakening and revival of Classic forms in decoration, the Florentine Gothic carvers had begun to inspire themselves from Classic models. In the embellishments of the Mandorla door on the north side of the Florentine Duomo they executed a double *rinceau*-pattern, with tiny nude figures instead of rosettes in each oval space enclosed by the pattern, the whole so elegant and so Roman in detail and execution, and so free from mediæval feeling, that it is hard to believe its date is 1399 and not 1450 (Fig. 228). After the systematic study of Roman works, of which Brunelleschi, Alberti and Donatello had set the example, became the habitual practice of architects and decorators, the *rinceau*, in its Classic form, was adopted and universally employed by the artists of the Renaissance, and has continued ever since in common use.

Fig. 229. Elementary *Rinceau*, from a Greek Vase (after Jacobstahl).

Fig. 231. Carved Anthemion with Branching Scrolls (repeated from Fig. 134).

Fig. 234. Painted Scrolls from Late Greek Vase.

Fig. 235. Painted Scrolls from Handle of Late Greek Amphora (after Lau).

The successive steps of this development cannot be treated with great detail, owing to the immense abundance of material to be examined; but a brief survey of the subject may be both interesting and instructive.

The origin of the *rinceau* is not as simple and obvious as it at first appears. Its elementary form, as shown in Figure 229, suggests those vine patterns of Greek vases of the fifth century B. C. in which a waving stem sends out alternately on either side leaves and berries which occupy the hollow spaces formed by the concavities of the wavy stem (Fig. 230[1]). The step from these vine patterns to the *rinceau* motive of Figure 229 is so easy and obvious, and the resulting pattern is so graceful, flexible and so well suited to the purposes of vase-decoration, that it surprises the student to discover that the Greek vase-painters, with all their cleverness, never took that step. Here, as in so many other cases already cited in these papers, the apparently obvious development was the last to suggest itself. It was not the vase-painters, and not the painters of vine-patterns who discovered and achieved this step. It was the architects and carvers, working upon suggestions derived from painted anthemion-patterns, who finally evolved the perfected *rinceau*, but it took the better part of a century — perhaps more than that — to accomplish this.

In a previous paper the development of the anthemion was sketched, and its transformation from a painted ornament on pottery to a carved ornament on marble buildings explained. We may briefly recapitulate here one phase of that history. The carvers employed on the Erechtheum, borrowing their decorative motives presumably from the painted terra-cotta finishings of earlier and cheaper temples, — ornaments which had in turn been borrowed from pottery-decoration, — found in the anthemion-pattern the richest conventional design available for carved bands. They adopted that form of this pattern in which alternating variants of the anthemion or palmette are connected by opposed S-scrolls.

Fig. 236. From Temple of Apollo Didymæus.

Fig. 237. From a Sidon Sarcophagus in the Museum at Constantinople.

Carving these in strong relief, it appeared to them inadvisable to crowd the units as closely as was the custom in vase-painting; but neither was it desirable to leave the interspaces wholly bare. The simple device of branching the connecting S-scrolls two or three times between the alternating units, supplied a filling and an enrichment for these interspaces, and there resulted the familiar and beautiful pattern, Figure 231. Single branchings of scrolls are not uncommon on Greek vases; but the succession of several branchings to form a decorative element in the design was a new idea, full of far-reaching possibilities. I have never been able to discover more than one example of this device on vases of this (the Fine) period: that given in Figure 232[1] is from Owen Jones's "*Grammar of Ornament*," Plate 12. Its origin is not stated in that work, but it was evidently imitated from the carved example on the Erechtheum.

Fig. 238. Typical Roman Scroll and Rosette.

Further steps were, however, needed to produce the perfected *rinceau* motive. In the Erechtheum ornament the scroll is branched three times and then ends in a little flower. It is a restricted or "defined" ornament. The branchings succeed each other vertically, while the movement of the whole carved band is horizontal. The scrolls are a mere accessory, and diminish in size successively. In the *rinceau* motive the scrolls are not accessories but essentials; they succeed each other in the direction in which the whole ornament moves: they are all equal, and the pattern is an "unrestricted" pattern; it can go on forever. Yet to us, all these four elements of difference seem so easily removed or traversed, that the change from the scrolls in Figure 231 to the simple *rinceau* in Figure 229 appears like a single step, and an obvious one. It was not so in fact. For a century, more or less, — that is, from the time of Pericles to the time of Alexander, — the Greeks continued to use the branching-scroll as a restricted motive. It became, as we have seen, in connection with the acanthus-leaf, the controlling feature of the Corinthian capital,

Fig. 239. Roman *Rinceau*, from Lateran Museum.

[1] Owing to the mislaying of the cuts we cannot repeat here, as intended, illustrations used in earlier parts of Mr. Hamlin's paper. Therefore for Fig. 230 read "Fig. 186, *American Architect* for June 2, 1900," and for Fig. 232 read "Fig. 188" of the same issue; also for Fig. 233 read "Fig. 197" of the same issue.—EDS.

and a very important element in the elaborate marble stele-heads of the fourth century, but it was never used, during the period in question, as a continuous running pattern. The acanthus-leaf, used at first very timidly, in a form very like a thistle-leaf to cover the awkward junction of the fluted, carved scrolls of Ionic friezes or bands, and marble stele-heads (Fig. 233 [1]), was gradually developed into the wrapping "scroll-nest," or caulicolus, of the Corinthian capital, an essential feature in the decorative effect of the whole. In some late stele-heads there are two or three branchings of the scroll, springing from a nest of acanthus-leaves. But there is in none of these examples, splendidly rich and decorative as they are, any hint as yet of the development of a continuous unrestricted pattern.

Fig. 240. Detail of the "Florentine Tablet."

The last step necessary to achieve this result would seem to have been taken in the Alexandrian period. On many of the florid vases of this period may be seen instances of the fondness of the painters of that time for elaborate and intricately-coiled scroll-ornaments

Fig. 241. Semicircular Fragment, Villa Mattei.

(Fig. 234). On the handle of an amphora of this period figured by Lau I have found one example of these ugly and over-done patterns which comes very near to being a true *rinceau* (Fig. 235), while one of the large plates of Jacobsthal's "*Grammatik der Ornamente*" shows the pattern already given in Figure 229, from a Greek vase evidently of this period, but which I have been unable to identify. This last is an elementary, but complete, *rinceau*-pattern, except that it lacks the acanthus-nest or wrapping-leaf — an essential in the carved ornament, but easily omitted in painting. In this example the great step has been accomplished by the marriage of the scroll to the wavy vine-stem. Whether the carved *rinceau* was derived from such pottery patterns, or, as seems more likely, was itself the form in which the *rinceau* was first perfected, to be copied later on vases, is not quite clear, but that the development belongs to the Alexandrian period is proved by the fine example on the base of a column from the great Temple of Apollo at Didyme, near Miletus (Fig. 236). On the sides of the octagonal plinth of the same base the foliated scroll is carved as a panel-ornament; while in the pediments of one of the smaller sarcophagi of the magnificent Sidon "find," now in the Constantinople Museum, it is used with admirable effect to decorate the triangular tympanum (Fig. 237). Thus, in the Alexandrian age, to which the temple and these sarcophagi alike belong, the *rinceau* seems to have come suddenly into completeness of development and application, both as a running pattern and as a restricted ornament in carved decoration.

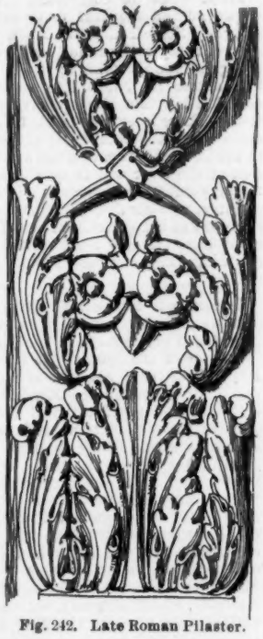

Fig. 242. Late Roman Pilaster.

This age was the period of greatest splendor in Greek architecture, so far as grandeur of scale and sumptuousness of carved detail are concerned, and it was the ornament-forms of this period which most strongly appealed to the conquering Romans. Greece became a province of Rome in 146 B. C., but the Romans had previously for a hundred years, in various expeditions as well as through increasing commerce, come in contact with the art of the Greeks, not only in Greece proper but in Southern Italy and Sicily.

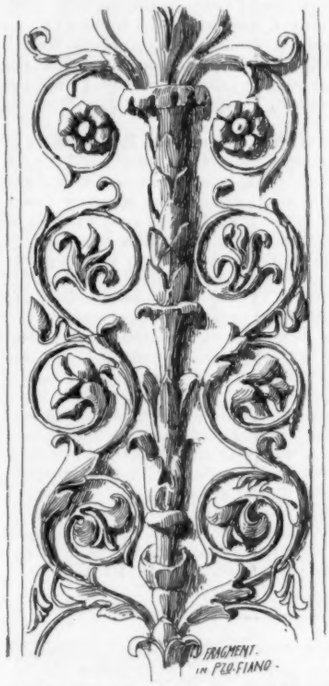

Fig. 243. Pilaster, Fragment from Palazzo Fiano, Rome.

The Corinthian order became the typical Roman order; it was perfected and elaborated in Roman hands, and the *rinceau* motive applied to its friezes and to other parts of buildings as the most suitable and sumptuous carved ornament possible. It was composed of scrolls and acanthus-leaves; its elements were thus the same as those of the Corinthian capital and modillion, while its richness made it preëminently appropriate for the decoration of buildings in this rich and elegant style. It became as characteristic an accessory of the Corinthian order as in Greek hands the anthemion had been of the Ionic.

The ornament thus adopted by the Romans they elaborated in the same spirit in which they had treated the Corinthian capital. In the Greek examples the "scroll-nest," or swathing-leaf, is relatively small, thick and crisp, and simple in detail. The stem is polygonal or fluted, and the branching-scrolls are usually channelled with a deep V-shaped channel between two fillets. The scrolls have in most cases one-and-one-half or two complete convolutions, and terminate in a point, and every part of the ornament is in strong and sharp relief (Fig. 237). In other words, the traditions of the Periclean age, as shown in the carved ornament of the Erechtheum, persisted for a century or two in the treatment of detail. The great scroll-ornaments of the roof of the Choragic monument of Lysicrates are like interpretations into "the round" of the relief-carved ornamentation of the Erechtheum. In the continuous scrolls of the Temple of Apollo at Didyme we have simply the conversion of the Lysicrates scrolls into a continuous pattern: the details and the relief are still very much like those of the Erechtheum.

Fig. 244. Roman Pilaster, Fragment from Villa Medici, Rome.

In Roman hands this simplicity of detail and vigor of handling were exchanged for a more elaborate and sumptuous treatment, less vigorous, but far more flexible and varied. The caulicolus, or scroll-nest, was magnified into an essential instead of accessory feature, and was modelled with the softness and minute detail which the Romans had introduced into the acanthus-leafage of the Corinthian capital. It was made to enwrap the stems of the branching-scrolls for a long distance; its base was enriched with a cup-like reversed flower, and its free end curled back with a graceful curve. The stems were more slender than the Greek, and the scrolls, modelled like the

stems, described rarely more than one complete convolution, or at most one-and-a-half, before disappearing behind the rosette or tuft of acanthus-leaves in which they terminated (Fig. 238). Besides the main scroll-nests, subsidiary wrapping-leaves swathed the stems at various points, and other adornments of tendrils, peduncles of seeds or fruit, and even birds and insects, were sometimes added to fill up vacant spaces. The object was to produce an evenly-distributed, continuously-moving frieze-ornament, without unduly-emphasized units, the rosettes recurring at regular intervals providing sufficient rhythm and repetition of accent. Figures 223, 239 illustrate characteristic types.

While perfecting the details of this ornament the Romans were at the same time extending its applications. If the scroll could branch once, it could be made to branch not only many times, but in many directions, and be thus made to fill any designated space or panel. The so-called Florentine tablet in the Uffizi Gallery is an example of the way in which the motive was expanded from a linear into a panel pattern (Fig. 240), while in even more masterly fashion it was applied to a semicircular tympanum in the example from the Villa Mattei Collection, shown in Figure 241. Quite as characteristic and successful was its adaptation to pilaster decoration by repeating a vertical *rinceau* symmetrically on either side of a central axis, the two either intersecting as in Figure 242, or opposed on either side of a central stem, composed of candelabrum and vase forms, growing fantastically one out of the other (Fig. 243). It is likely that this was a development from the fantastic painted decorations of Roman and Pompeiian interiors. Sometimes a single *rinceau*, starting from a tuft, or nest, of acanthus-leaves, was used on pilasters, as in a fragment in the gardens of the Villa Medici, which has figured in nearly every collection of examples of Roman ornament, and of which a part is shown in Figure 244, from a cast at Columbia University.

All these applications of the motive are found in Renaissance ornament, and many of them appear, more or less disguised, in Byzantine, Romanesque and Gothic ornament. A. D. F. HAMLIN.

[To be continued.]

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A CORRECTION.

NEW BRITAIN, CONN., January 22, 1901.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Dear Sirs, — Through an error our address was given in the text of your last issue as Boston, Mass. Will you kindly correct it and greatly oblige, Yours respectfully,

WALTER P. CRABTREE.

NOTES AND CLIPPINGS

A LARGE SIGN. — The largest sign in the world is being erected on the factories of a sewing-machine company at Elizabeth, N. J. It is to be 683 feet long and 5 feet high, is of the wire-screen order and upon the screen are to be wooden letters 9 feet high and 4 feet wide. The trademark of the company, a shuttle or bobbin, will be the size of an ordinary rowboat. The sign will weigh about fifty tons. The wooden letters have all been carved by hand. — *Boston Transcript.*

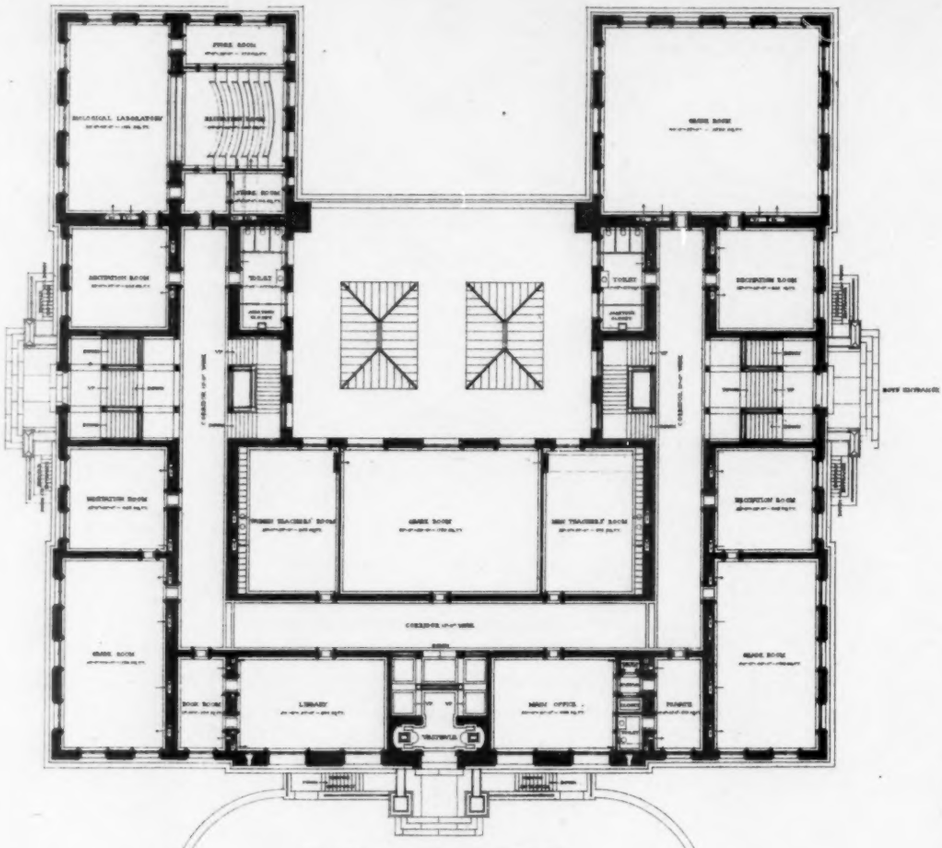
OLMSTED PARK. — The Board of Park Commissioners of Boston, desiring to record their appreciation of the genius of Frederick Law Olmsted, and also to perpetuate in a conspicuous and fitting manner, in connection with the comprehensive and beautiful park system which he has created for this city, the name of a great artist and public benefactor, has voted that those parts of the park system heretofore known as Leverett and Jamaica Parks shall hereafter be called Olmsted Park. — *Exchange.*

ROSHERVILLE GARDENS, LONDON. — Rosherville Gardens, almost the last of the famous private parks of London, is soon to follow the other famous gardens of the city. Vauxhall, the most celebrated of them, disappeared in 1859, Cremorne followed in the '70's, and the horticultural gardens at South Kensington about the end of the '80's. Rosherville, "the place to spend a happy day," was built on the site of an old chalk quarry, and the irregularity of the grounds gave opportunity for some pretty landscape effects. Originally it occupied some twenty acres. — *Boston Transcript.*

PROGRESS ON THE NILE DAMS. — Sir John Aird, M. P., of the great English contracting firm, is now in Egypt in connection with the great works in progress upon the Nile. In the course of a recent conversation he said that the construction of the two dams at Assuan and Assiut was proceeding satisfactorily, and he hoped that within two years it would be completed. About 15,000 men were and had been employed for the last two years, about 90 per cent of them being natives. Some Italian workmen were executing the granite work, but a great many artisans and engineers were English. The Assuan dam is the greater undertaking; it will stretch when finished one mile and a half across the Nile. The smaller work at Assiut will, it is hoped, be completed within about twelve months, provided the Nile this year is low, as there is every reason to expect that it will be. When the two dams are finally completed, the effect will be that the level of the water in the Nile will be raised for a distance of 180 miles, and while navigation of the river will be much easier, the general power of the country to carry out irrigation-work will be considerably increased. The whole country, said Sir John, will be benefited by the enterprise, which is also expected to bring about an era of prosperity in the Soudan. But these great dams are only the forerunners of similar structures, necessary to anything like a complete system of irrigation. — *N. Y. Evening Post.*

PURIFYING MISSISSIPPI RIVER-WATER AT NEW ORLEANS. — The officials of the municipal water-purification experiment-station at Audubon Park, who have been investigating the problem of purifying the water of the Mississippi River, announce that they have solved it. For several years, not only at New Orleans, but at St. Louis, Memphis and other places on the Mississippi, experiments have been under way looking to the purification of the river-water from the excess of sand and sediment it contains, and millions of dollars have been expended without result. While filtering on a small scale accomplished some good, it was far too expensive to be used in obtaining a supply of water for the city. The experiment station at Audubon Park was established to determine whether the water could be purified in any way, either by filtering or by coagulation. Mr. Witlin, who has charge of the work, reports that the problem has been solved, and that in sulphate of aluminium a good coagulant has been obtained. When sulphate of aluminium is added to a water containing alkali, as that of the Mississippi River, it combines with the alkali, forming an insoluble precipitator, which acts as a net, catching in its meshes all the impurities and holding it where the filter separates it from the water, leaving the latter clear and beautiful and free from all impurities. The process of purification is far the cheapest and most satisfactory that can be devised for Mississippi River water. The discovery will reduce the cost of the waterworks system of New Orleans from $15,000,000 to $6,000,000. — *Boston Transcript.*

S. J. PARKHILL & CO., Printers, Boston, U. S. A.



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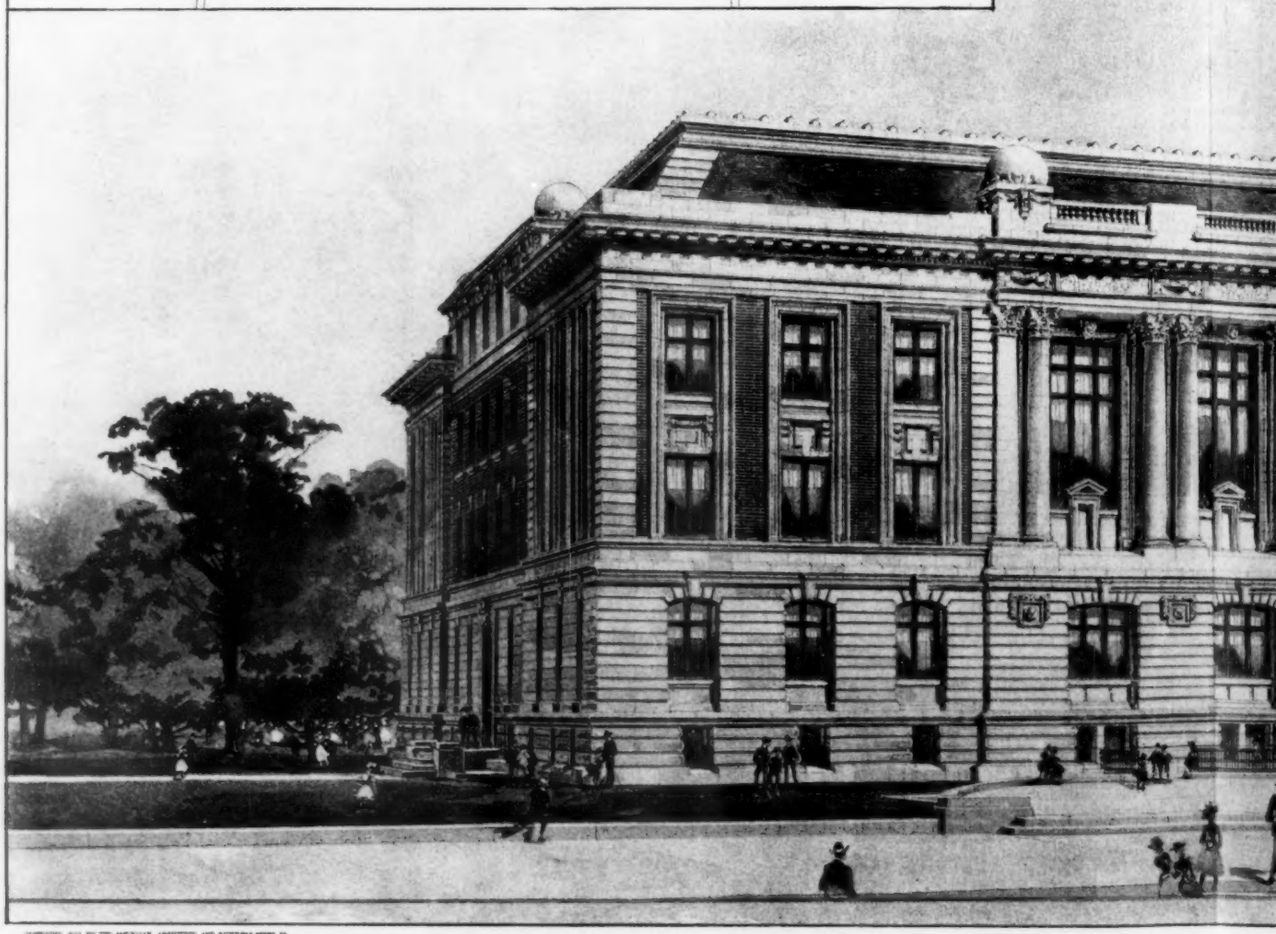
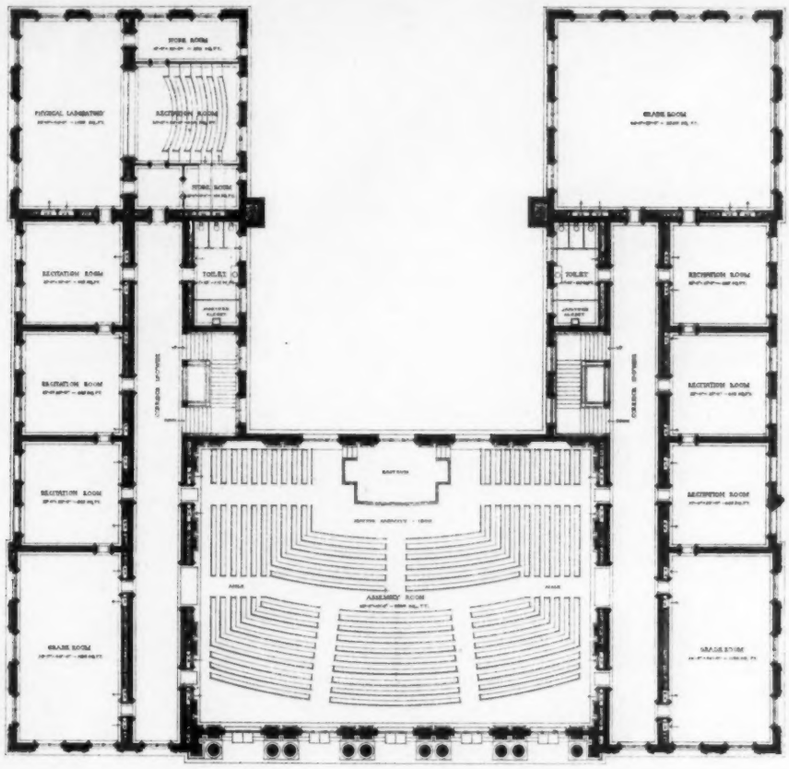


DESIGN FOR A SCHOOL-HOUSE.

ACKERMAN & ROSS AND C. D. SWAN, As



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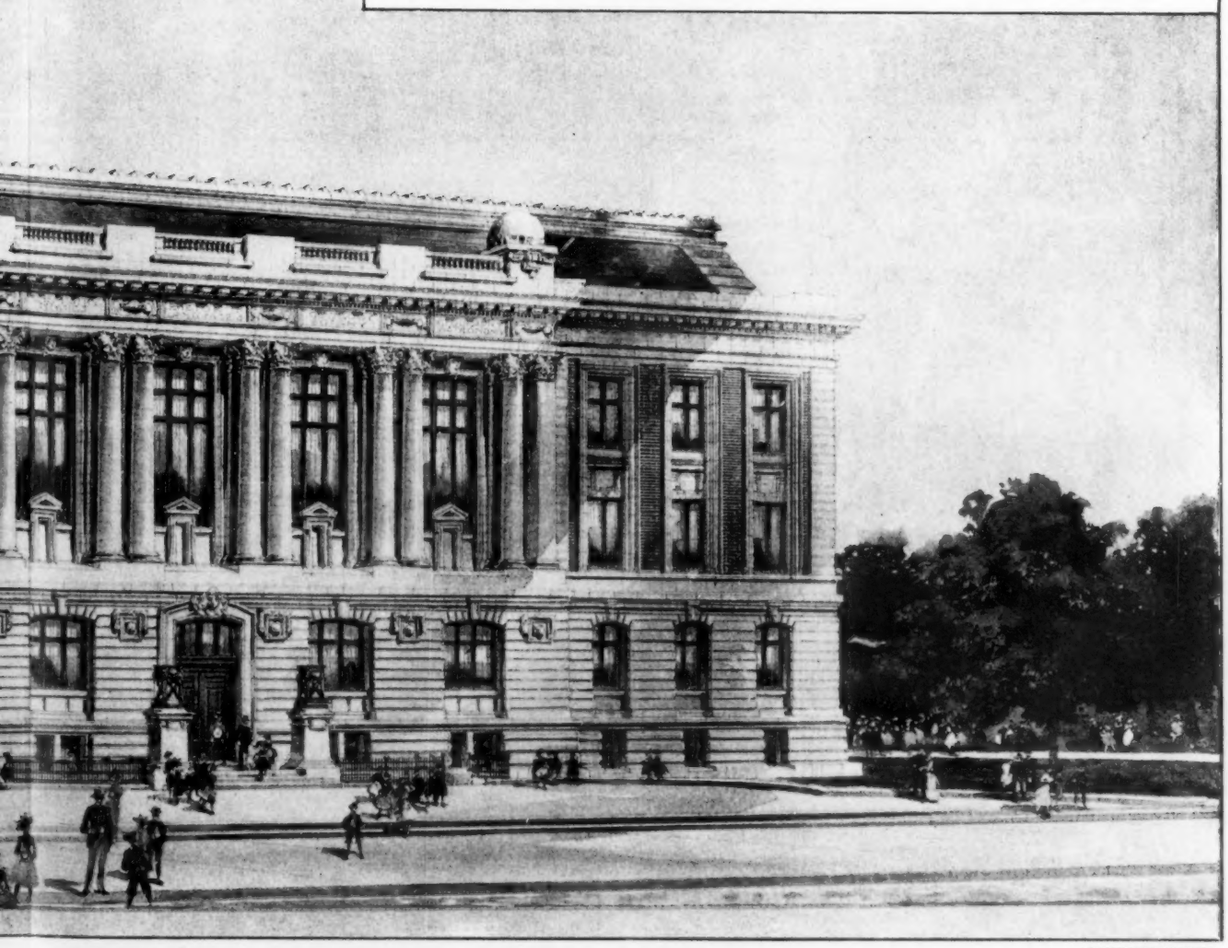

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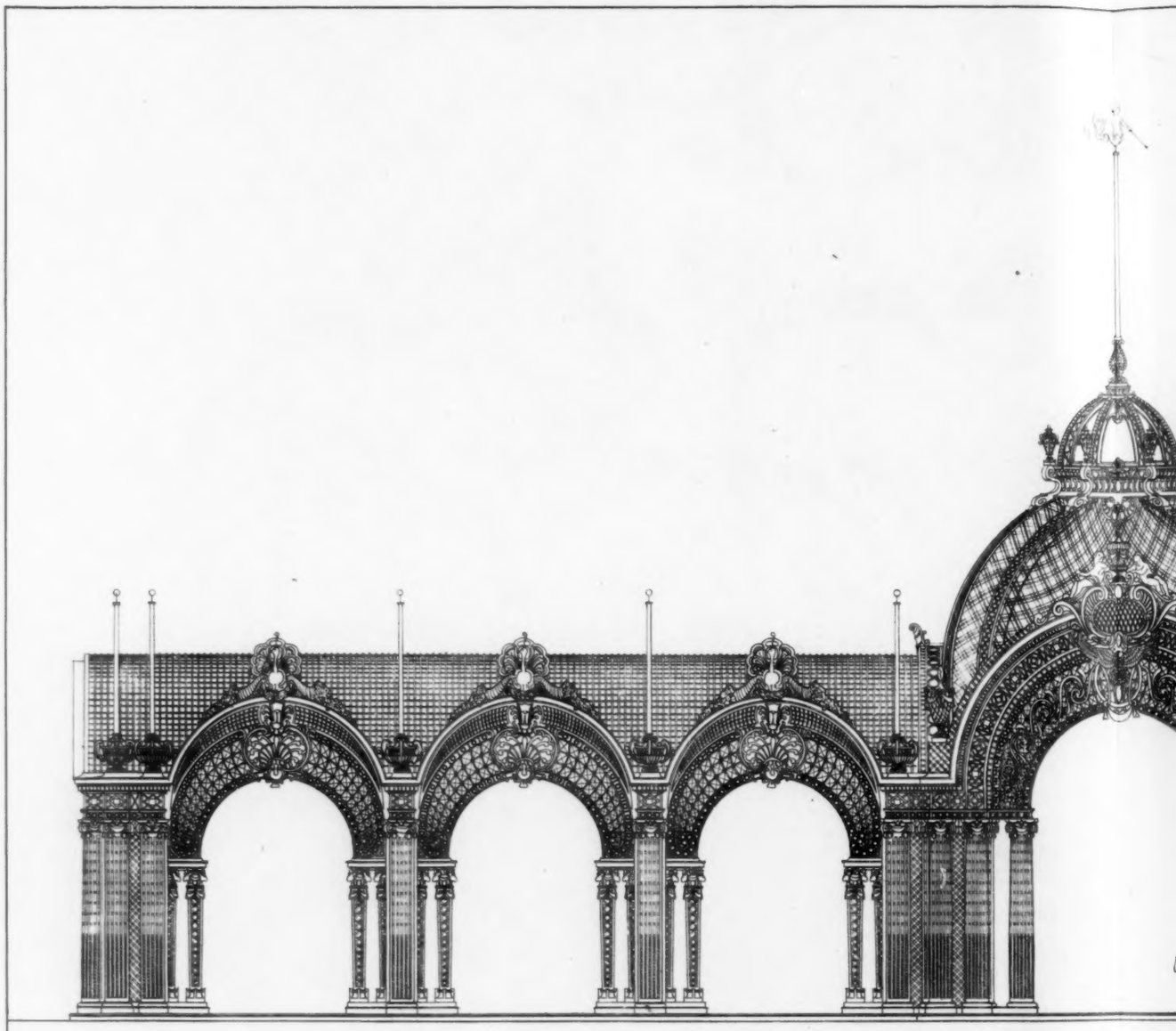
. SWAN, ASSOCIATED ARCHITECTS.

The American Architect
Jan. 26, 1901.
No. 1309.



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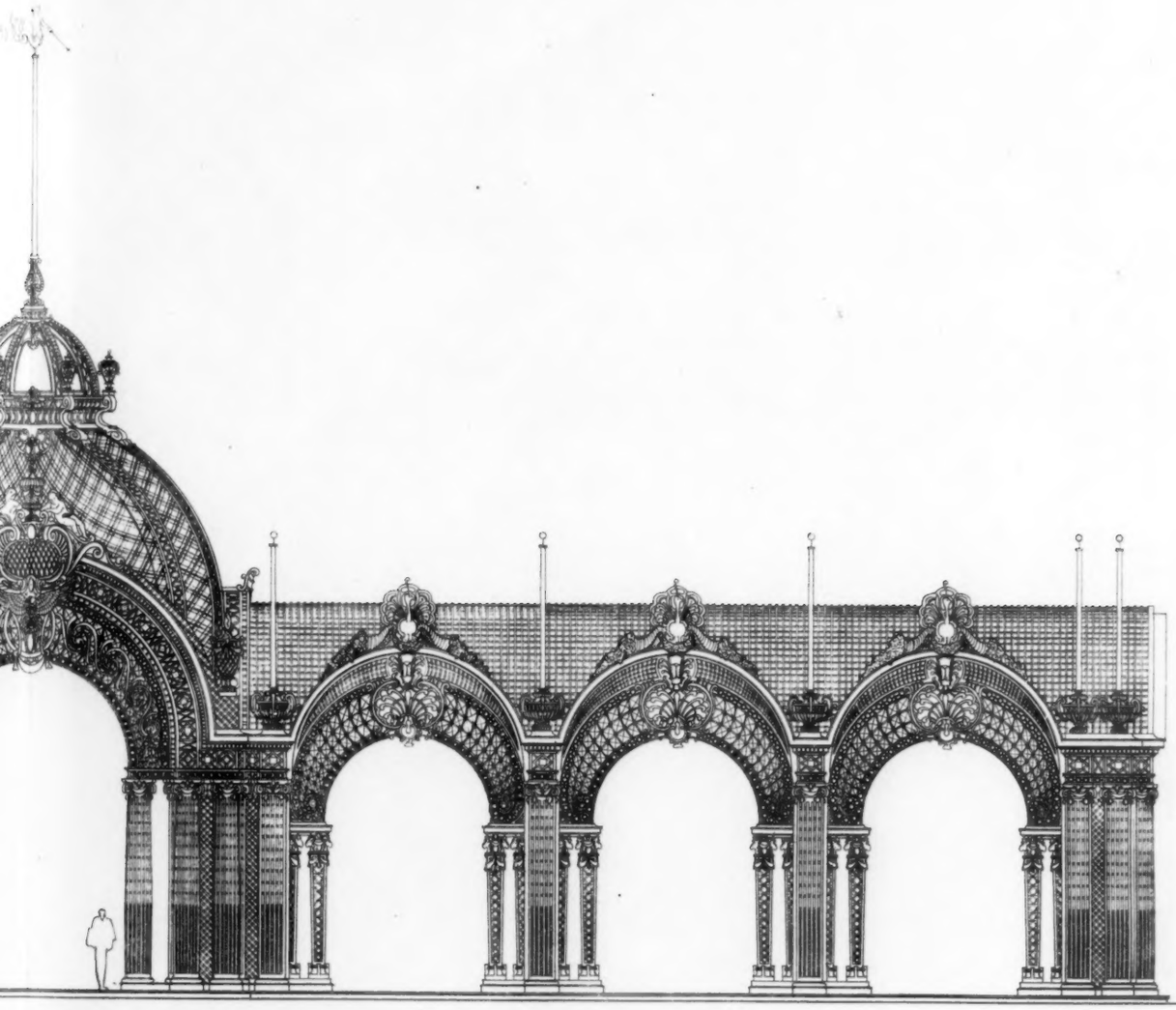

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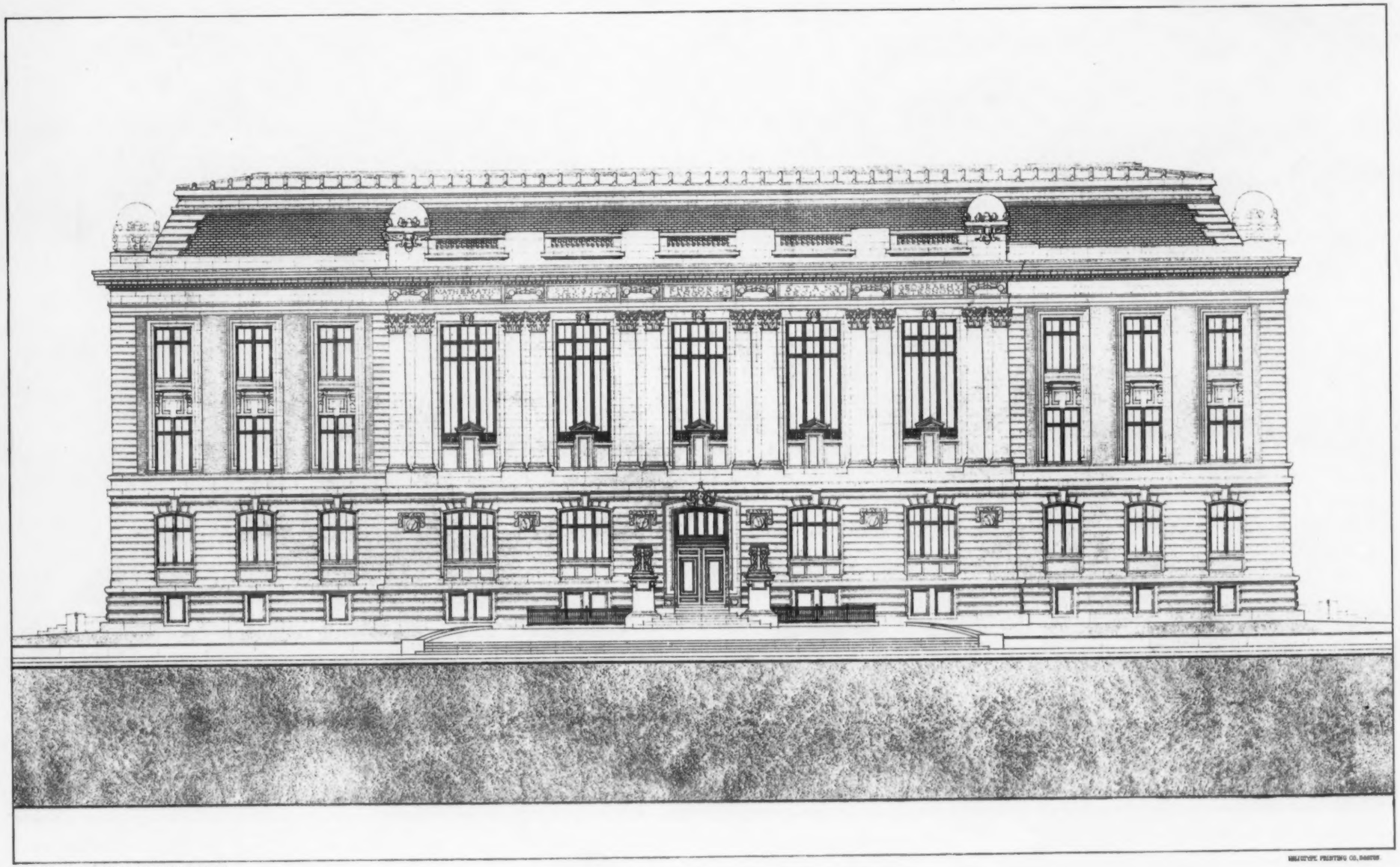
ASTINGS, ARCHITECTS.

HELIOTYPE PRINTING CO., BOSTON

POSITION, BUFFALO, N.Y.



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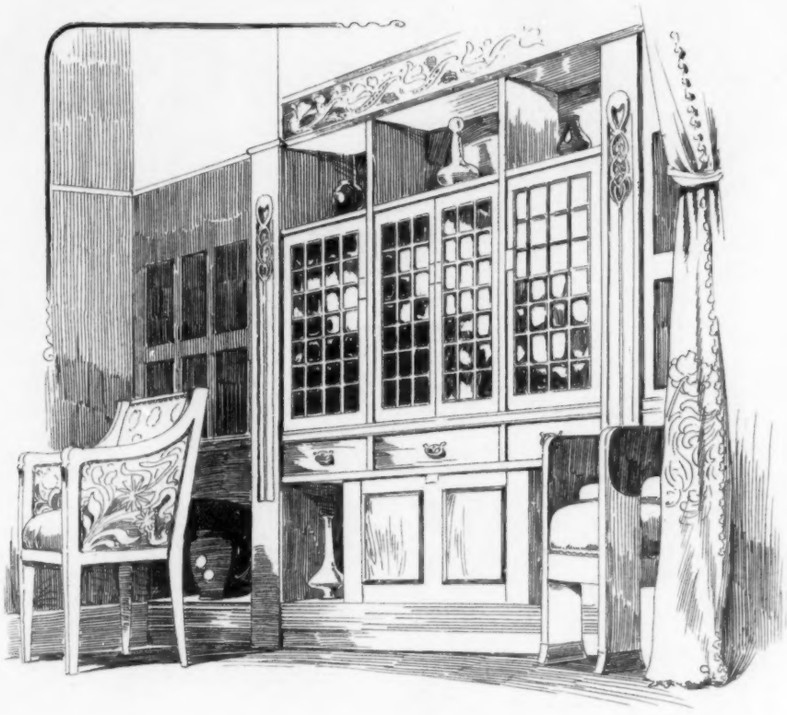

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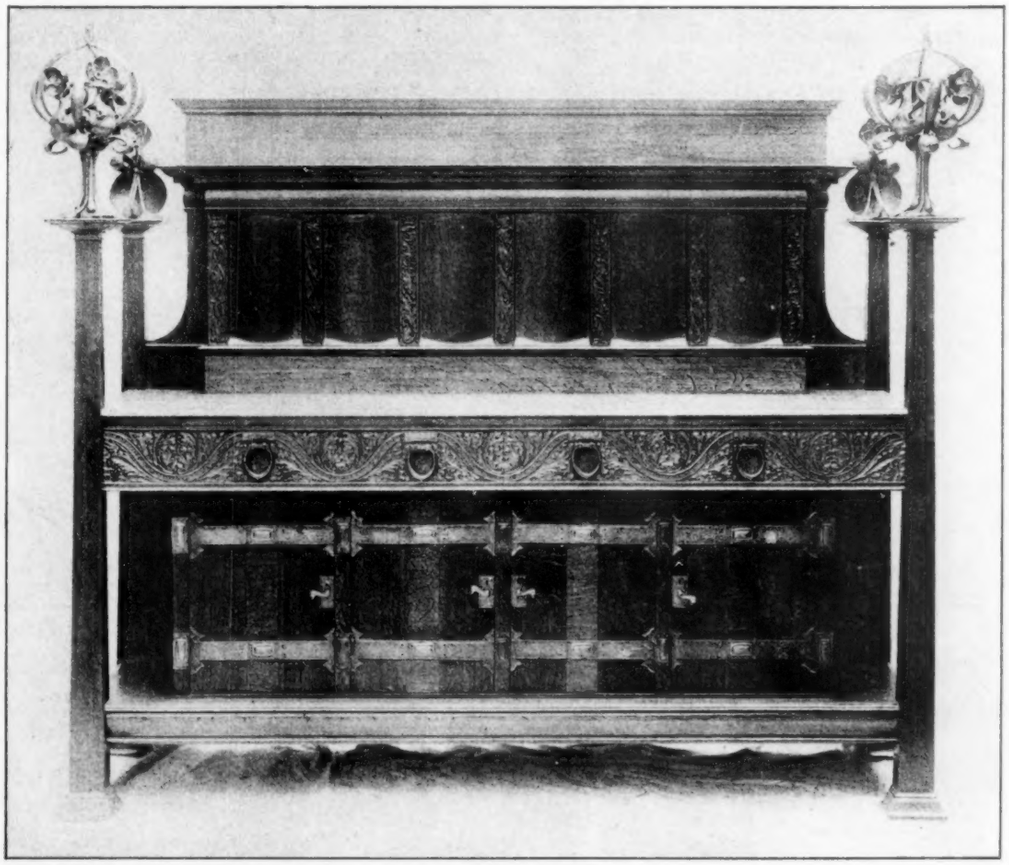

AN ENGLISH EXHIBIT.

HELIOTYPE PRINTING CO., BOSTON

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THE AMERICAN ARCHITECT AND BUILDING NEWS

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXXI. — No. 1309.] SATURDAY, JANUARY 26, 1901. PRICE, { INTERNATIONAL ISSUE, 50 CTS / REGULAR " , 15 "

Topographical Index of Advertisers.

[*For pagination, see Alphabetical Index on Cover 2.*]

METALWORK XIX.—No. 14 EAST 45TH STREET, NEW YORK, N. Y.

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ARCHITECTS' REMOVALS, Etc.

MESSRS. HOWARD, CAULDWELL & MORGAN, architects, announce the termination of their partnership on the completion of work in hand. Future work will be undertaken by individual members of the firm, who will retain their present offices in common, 10 and 12 E. 23d St., New York City. 1310

January 1, 1901.

GEORGE S. MILLS, architect, of Toledo, has opened a branch office at Lima, O., in Room 305, Masonic Building, which has just been completed from his plans. Charles W. Dawson, who formerly practised for ten years at Colorado Springs, Col., has been placed in charge as representative. He will be pleased to receive a full line of samples and catalogues.

BUILDING PATENTS.

664,862. Slab-Support for Plumbers' Use. — Frank H. Higgins, Ithaca, N. Y.

664,866. Sectional Water-Heater. — David E. Howatt, Roslyn, N. Y.

664,873. Asbestos-Felt Covering for Boilers, Steam-Tubes, etc. — Carl Lamprecht, Stettin, Ger.

664,879. Fireproof Ceiling, Arch, etc. — Jas. S. Merritt, Philadelphia, Pa.

664,894. Smoke-Producing Machine. — John Porsch, Erie, Pa.

664,907. Electric-Elevator Controller. — Barrington S. Stephens, New York, N. Y.

664,932. Heating Device. — Francis J. Doyle, Denver, Col.

664,945. Sink. — Barnard R. Guion, New York, N. Y.

664,983. Elevator. — Thomas L. Tincher, Chicago, Ill.

664,993. Window. — Charles Chmelitzek, New York, N. Y.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

[*Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.*]

ADVANCE RUMORS.

Arlington Heights, Mass. — The Boston Elevated Railway Co. will erect, after plans by corporation engineer, a $150,000 building, of steel construction, to be occupied as a car-house, and with offices, waiting-rooms, etc.

Charlotte, N. C.—It is reported that the Chadwick Manufacturing Co. will erect a new cotton-mill at this place, on the Seaboard Railway; cost, $225,000.

Galveston, Tex. — $31,000 will be spent in rebuilding the Galveston Cotton Exchange building in this city.

Houston, Tex. — A library costing $50,000 will be erected at this place.

Jackson, Miss. — W. A. & A. E. Wells, of Philadelphia, Pa., have been awarded the contract for the construction of a state hospital, at $830,000.

Kansas City, Mo. — Report states that the old exposition building will shortly be torn down and a large three-story apartment building erected on the site. Architects are now at work upon the plans for the new structure, which will cost in the neighborhood of $35,000.

A. Van Brunt, 716 Delaware St., has prepared plans for alterations to the Midland Hotel, at 7th and Walnut Sts., owned by the Grand Ave. Hotel Co.; cost, $25,000.

Lawrence, Mass. — Three or more one and one-half story brick and stone hospital buildings will be erected here, on the W. A. Russell estate. Buildings will include operating rooms, wards, power-house, etc.; aggregate cost, about $100,000. Messrs.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Dwight & Chandler, architects, 6 Beacon St., Boston.

Louisville, Ky. — A ten-story brick office-building is to be erected on 4th and Market Sts.; cost, $125,000. Clarke & Loomis, 502 Fourth St., architects.

Millville, N. J. — Permission has been asked of the Council for permission to erect a $20,000 opera-house.

Mt. Pleasant, Ia. — The plans of Brown, Burton & Davis, Neave Building, Cincinnati, O., have been accepted for a $25,000 Methodist Church, to be erected on N. Main St.

New Haven, Conn.—An eight-story brick and stone office-building is to be erected on Chapel St. for Edward Malley, costing $200,000. Plans by Brown & Van Buren.

New York, N. Y. — Report states that the tenants of the Bolkenhayn apartment-house, corner of 5th Ave. and 58th St., which has been leased by the owners of Hotel Savoy, are looking for a site on 5th Ave., thereon to erect a fine apartment-house.

The old buildings at 238-248 E. 31st St. are to be replaced by a parish house and chapel for the church of the Incarnation, to be called the "Arthur Brooks memorial" in honor of the lamented rector. The plans are by Henry Vaughan, of Boston, Mass., and the cost will be in the neighborhood of $80,000. $52,000 has already been promised.

Mr. Kirk La Schelle has secured control of a plot on 47th St., near 7th Ave., on which it is proposed to build a new theatre.

A private dormitory, costing several hundred thousand dollars is to be erected on Amsterdam Ave. and 120th St. It is said that it will be to some extent a part of the Columbia University system, as the stock company is composed of friends of the college.

The Chamber of Commerce has purchased the old Real Estate Exchange property, 59-65 Liberty St., for $700,000. The present buildings will be removed in the early spring and a new three-story structure erected. The first floor of the building will be occupied by the Central Realty Bond & Trust Co.

Mr. Henry Phipps, of the Carnegie Steel Co. has purchased the two plots at the corner of 5th Ave. and 87th St., on which he will build a magnificent residence.

A new power station is to be built by the Brooklyn Rapid Transit Co. on 3d Ave., near 2d St., adjoining the one now there. The cost, including six 4,000 horsepower engines, will be about $3,000,000. The contract for the engines has been awarded to the Westinghouse Electric and Manufacturing Co.

The Harlem Railroad contemplate erecting a fourteen-story fireproof hotel at the corner of 42d St. and Park Ave.

Omaha, Neb. — A $200,000 auditorium is to be erected on Howard and 14th Sts. by the Auditorium Co.

Petersburg, Va.—It is stated that D. Wiley Anderson, Richmond, has prepared plans for a $10,000 residence to be built for Dr. H. Gilbert Leigh.

Philadelphia, Pa. — George C. Boyd, Provident Building, is asking for bids on an operation of 92 dwellings, which will be built in the northern section of the city, at an estimated cost of $400,000 or more.

It is stated that the Federal Market Co. has sold to John Quigg their lot at the southeast corner of 17th and Federal Sts., for $15,000. Mr. Quigg transferred the site to John D. Baltz for $20,500. Architect Carl P. Berger has sent out preliminary sketch plans for a new market-house and stores to occupy the ground, which measures 130′ x 130′.

It is reported that William McClary, of this city, has given $50,000 to the Masonic Home of Pennsylvania in memory of his son, Charles J. McClary. It is his desire that $20,000 be used for the general

(*Continued on page xii.*)

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

welfare of the Home, and that the remaining $30,000 be used for establishing an orphanage for the children of members of the order.

The Council has appropriated $80,000 for new buildings for the Philadelphia Hospital.

Providence, R. I. — The ceremony of the laying of the corner-stone of the new Free Baptist Church at Eden Park took place Sunday, the first Sabbath in the new century. The new church building is to be on Pontiac Ave.

It is stated that plans for the new administration building for Brown University are finished, but they cannot be definitely decided upon until the cost of the memorial gates at the head of College St. is determined. The late A. S. Van Wickle of the class of '76 left a bequest of $45,000 to provide an administration building and gates. The material for the building is to be red brick with Indiana limestone trimmings. This will match the masonry of the memorial gates. It was said that the new building will provide offices on the first floor for President Faunce, Dean Upton, Registrar Guild, and Steward Delaney. On the second floor are to be a seminar room for the philosophical department, a conference room for the corporation and faculty, and a small assembly hall, capable of seating 200 or 300 people.

Springfield, Mass. — A four-story brick hotel is to be built at White and Allen Sts., for D. J. Bateman; cost, $30,000.

St. Charles, Mo. — A new court-house is to be erected at this place at a cost of $85,000.

Syracuse, N. Y. — If the city will furnish a good location and agree to spend $30,000 a year upon its library, Andrew Carnegie offers to erect a $200,000 building. The city will comply with the conditions.

It is announced that John D. Archbold, of New York, vice-president of the Standard Oil Co., has given $400,000 to the endowment fund of Syracuse University, conditional only on a like amount being raised among the friends of the institution.

Thompsonville, Mass. — The Higgins & Hartford Carpet Companies have consolidated, under a capitalization of $5,000,000. The buildings now occupied by the Hartford Carpet Co. will not be used but new and larger mills will be built, and the machinery placed in them will embody the latest and most marked improvements in carpet-making mechanism.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Washington, D. C. — Messrs. Ludlow & Valentine, 100 Broadway, New York, have drawn plans for remodelling the brick and stone residence of Miss Anne D. Paulding, corner of M and 19th Sts.

West Palm Beach, Fla. — It is stated that Joseph Jefferson, who is at the Royal Poinciana, Jacksonville, will erect a $100,000 hotel at this place.

Willimansett, Mass. — The Springfield Brewing Co. has had plans drawn for a $50,000 brick and stone addition to the Hampden branch of their brewery.

Youngstown, O. — Plans have been prepared by Owsley & Boucherle, Wick Bank Building, for a $35,000 building to be erected by the Elks.

APARTMENT-HOUSES.

Boston, Mass. — *Commonwealth Ave.*, four-st'y bk. & st. apart., 25′ x 82′, tar & gravel roof, steam; $18,000; o., M. S. Fratus; a., G. H. Smith, 13 School St.

Calumet, Mich. — Four-st'y st. & bk. store & flat building, 52′ x 54′; $18,000; o., Richard Craze; a., Carl E. Nystrom.

Chicago, Ill. — *Park Ave.*, nr. Hamlin Ave., three-st'y bk. & st. flats, 44′ x 76′, comp. roof, steam; $15,000; o., E. S. Bloomquist; a., W. C. Miller, 1992 W. Madison St.

Robey and Lincoln Sts., two-st'y & base. bk. & st. store, hall & flat building; $200,000; o., Henry T. Carr; a., W. J. Brinkman, Metropolitan Block.

New York, N. Y. — *Bank St.*, nr. Bleecker St., 2 six-st'y & base. bk. flats, 25′ x 86′ 10″; $57,000; o., Elias Kempner, 55 E. 61st St.; a., G. F. Pelham.

E. Eighty-first St., Nos. 151-53, seven-st'y bk., st. & iron apart., 24′ x 92′; $85,000; o., Morris Monsky; a., Geo. F. Pelham, 503 Fifth Ave.

BUILDING INTELLIGENCE.

HOUSES.

Boston, Mass. — *Mapleton St.*, nr. Murdock St., Ward 25, 2½-st'y fr. dwell., 28′ x 50′, pitch roof, furnace; $6,000; o. & b., Geo. E. McKay, 1123 Tremont Building; a., S. J. Rantin & Son, 1117 Columbus Ave.

Monroe St., nr. Warren St., Ward 21, 8 two-st'y bk. dwells., 23′ x 65′, flat roofs, steam; $55,000; o., Sarah Zindell; b., M. Pearlman; a., G. H. Smith, 15 School St.

Geneva Ave., nr. Park St., Ward 20, three 2½-st'y fr. dwells., 26′ x 40′, pitch roofs, furnaces; $14,000; o., a. & b., Fred'k J. Rockwell, 22 Learnard St., Dorchester.

Chambers St., No. 138, Ward 8, two-st'y bk. dwell., 23′ x 72′, flat roof, stoves; $9,000; o., Betsey Levenson, 12 Ashland St.; a., C. A. Halstrom.

Park St., No. 17, Ward 23, 2½-st'y fr. dwell., 39′ x 48′, pitch roof, furnace; $5,500; o., Carl M. Mitchell; a., W. C. Harding; b., Guy W. Mitchell, W. Roxbury.

Park St., No. 17, 2½-st'y fr. dwell., 39′ x 48′; $5,500; o., Carl M. Mitchell; a., W. C. Harding: b., Guy W. Mitchell, W. Roxbury.

Centre St., nr. Day St., Ward 22, two-st'y fr. dwell., 25′ x 50′, flat roof, furnace; $5,000; o., Louis Anderson; a., S. Rantin & Son, 1117 Columbus Ave.

Brighton, Mass. — *Mapleton St.*, two 2½-st'y fr dwells., 28′ x 50′, shingle roofs, furnaces; $14,000; o., Geo. C. McKay, 1123 Tremont Building; a., Samuel Rantin & Son, 1117 Columbus Ave.

Newton, Mass. — *Hunnewell Ave.*, Ward 7, two-st'y fr. dwell., 40′ x 46′, furnace; $7,500; o., Anna T. Viets; a., Brainerd, Leeds & Russell; b., W. Calkins, Somerville.

Newton Centre, Mass. — 2½-st'y fr. dwell., 60′ x 62′, steam; $18,000; o., Geo. L. Forristall, Esq.; a., Prescott & Sidebottom, 113 Devonshire St.

New York, N. Y. — *Seventy-second St., Nos.* 37-39, 2 five-st'y & base. bk dwells., 28′ x 98′ 2″ x 22′ x 62′; $140,000; o., Cornelius W. Luyster; a., J. H. Duncan.

COMPETITIONS.

COURT-HOUSE. [At Taylorville, Ill.]

Competitive plans will be received by the Building Committee of the County Board of Supervisors until

(Continued on page xiv.)

COMPETITIONS.

February 4, for a court-house to cost, including heating, plumbing and electric and gas furnishings complete, not more than $70,000. R. A. GRAY, chmn, Blue Mound, Ill. 1309

REMODELLING HOSPITAL. [At Milwaukee, Wis.]
The county clerk will receive plans and specifications **until February 18, 1901**, for remodelling the Milwaukee County Hospital. Bids will also be received for an addition. OTIS T. HARE, county clerk. 1309

PROPOSALS.

BUILDINGS. [At Fort Point, Cal.]
Bids are wanted **February 4** for constructing two buildings for officers' quarters; also a barracks at Fort Point, Cal. J. M. MARSHALL, Deputy Q. M. Gen., Ch. Q. M. 1309

SEWER PIPES. [At Dedham, Mass.]
Sealed proposals will be received by the Board of Sewer Commissioners of Dedham, Mass., **until January 31, 1901**, for furnishing about 10 miles of sewer pipes of sizes from 5 inches to 24 inches in diameter. Specifications, forms of proposals and contract may be had on application at the office of Sewer Commissioners, Insurance Building, Dedham, Mass. 1309

SEWER CONSTRUCTION. [At Findlay, O.]
Sealed bids will be received **until February 7, 1901**, for the construction of brick and pipe sewers and appurtenances, estimated to cost $23,000. For specifications and other information address JOHN W. S. RIEGLE, city engineer. 1310

STEAM HEATING APPARATUS. [At Galesburg, Ill.]
Bids for the construction and installation of a steam-heating apparatus for the public library building will be received at the office of Albert J. Perry, Commercial Block, **until February 11**. 1310

PROPOSALS.

ADDITION. [At Renville, Minn.]
Sealed proposals will be received **until February 15, 1901**, for constructing a brick addition to school. F. C. GREENE, secretary board of education. 1310

HALL. [At Jeffersonville, O.]
Bids are wanted **February 11** for a township hall. SMITH J. TODD, township clk. 1310

CHURCH. [At Gray, Ia.]
Bids are wanted **February 15** for an edifice for the Evangelist Lutheran Church. JOHN POLZIN, chmn. 1310

SEWER CONSTRUCTION. [At Fort Du Pont, Del.]
Office of Constructing Quartermaster, Delaware City, Del. Sealed proposals will be received here **until February 15, 1901**, for construction of a sewer system at Fort Du Pont, Del., as per plans in this office. Forms and specifications furnished on application. J. DE L. LAFITTE, constructing quartermaster. 1310

CITY-HALL. [At Birmingham, Ala.]
Bids are wanted **February 25** for a city-hall; probable cost, $165,000. Address D. A. HELMICH, archt., 306 N. 19th St. 1311

BUILDING. [At Fort Fremont, S. C.]
Sealed proposals will be received here **until February 2, 1901**, for constructing 3 frame buildings. Information furnished on application. STANLEY D. EMBICK, Q. M. 1309

PROPOSALS.

BRIDGE. [At Waco, Tex.]
Bids will be received **February 4** for a bridge across the Brazos River; cost not to exceed $100,000. STEPHEN TURNER, city engr. 1309

STEAM-HEATING SYSTEM. [At Charlotte, N. C.]
Bids are wanted **February 1** for a system of low-pressure steam heating, for New Presbyterian College for Women, including plans and specifications. W. W. PHIFER, chmn. bldg. com. 1309

BRICK AND PIPE SEWERS. [At Findlay, O.]
Sealed bids will be received **until February 7, 1901**, for the construction of brick and pipe sewers and appurtenances, estimated to cost $23,000. For specifications and other information address JOHN W. S. RIEGLE, city engineer. 1309

BUILDINGS. [At Fort Point, Cal.]
San Francisco, Cal. Sealed proposals will be received here **until February 4, 1901**, for construction of two buildings for officers' quarters and one building for barracks, at Fort Point, Cal. Information furnished on application to J. M. MARSHALL, deputy quartermaster general, chief Q. M. 1309

HALL. [At Danville, Ill.]
Danville Branch, National Home for D. V. S., Treasurer's Office, Danville, Ill. Sealed proposals will be received at this office **until Thursday, the 31st day of January, 1901**, for furnishing materials, labor, etc., and erecting a memorial hall building, and the heating and ventilating apparatus, plumbing apparatus, electric lighting apparatus, etc., in said building, at the Danville Branch, N. H. D. V. S. For all necessary information apply to Wm. C. Gunnell, civil engineer, at the headquarters of the Danville Branch. W. C. TUTTLE, treasurer. 1309

[*See Alphabetical Index on Cover 2 for Pagination.*]

CLASSIFIED ADVERTISEMENTS.

[Advertisers can be indexed only under a single head free of charge.]