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CONTENTS.

SUMMARY:—

Veto of the Bill to relieve the Builders of the Westminster Chambers, Boston.—History of the Case.—Some Reasons why a reasonable Relief might be granted.—The College of Architecture at Ithaca.—The Utilization of Slag.—Reduction of Price of Structural Steel.—Sub-contracts for Electrical Work to be declined in Boston.	89
ARCHITECTURAL EDUCATION.	91
INDIGENOUS AND INVENTIVE ARCHITECTURE FOR AMERICA.	91
AMERICAN ARCHITECTURE AS OPPOSED TO ARCHITECTURE IN AMERICA.	93
LETTER FROM CHICAGO.	93
GAS-PLANTS IN LARGE BUILDINGS.	94
ILLUSTRATIONS:—	

Evangelical Lutheran Church, Broadway and 93d St., New York, N. Y.—The Parlor: House of Charles H. Coster, Esq., Tuxedo Park, N. Y.—Metalwork.—I: Entrance to No. 252d St., New York, N. Y.—Metalwork.—II: Entrance to the Bolkenheim Apartment-house, New York, N. Y.

The Temple of Music and the Propylæa: Pan-American Exposition, Buffalo, N. Y.

Additional: The Lawn Front: House of Charles H. Coster, Esq., Tuxedo Park, N. Y.—Hall of the Board of Education, 59th St. and Park Ave., New York, N. Y.—The New York "Box-stoop,"—XV: No. 724 Fifth Ave., New York, N. Y.—The New York "Box-stoop,"—XVI: No. 229 Madison Ave., New York, N. Y.—Metalwork.—III: No. 27 East 20th St., New York, N. Y.—Metalwork.—IV: No. 111 Washington Place, New York, N. Y.

NOTES AND CLIPPINGS. 96

THE bill passed by the Massachusetts Legislature, authorizing the owners of the building called Westminster Chambers, on Copley Square, which was built to a height of ninety-six feet, in violation of a statute of 1898, placing a special limit of ninety feet on all buildings on Copley Square, to leave it in its present condition, without removing the portion above the statutory limit, has been vetoed by the Governor, on the very reasonable ground that, as the building is confessedly higher than the statute applicable to it allows, it would be improper for him "to sanction a measure intended to relieve citizens of the Commonwealth from the consequences of deliberate disregard of the provisions of a statute of the General Court," and the Senate has sustained the veto.

EVERY one will applaud the firmness and good sense of Governor Crane in taking this position; but it is possible that there may be a way of granting relief from what is certainly needless and oppressive injustice, without encouraging violation of the laws. To recall briefly the history of the case: the owners of the ground on which the building stands made plans and contracts for a ten-story apartment-house, carrying it up to the limit set by the general law, of one hundred and twenty-five feet. The Trustees of the Museum of Fine-Arts, believing that the collections of the Museum would be endangered by the proximity of a building so much higher in the immediate neighborhood, endeavored to obtain official intervention to avert the peril. In this they were joined by the representatives of Trinity Church and the Boston Public Library, who although they could not claim that there was any danger to their property in the nearness of a fireproof apartment-house, thought that the appearance of their buildings would be injured by the neighborhood of the more lofty structure. As a result of the efforts of the persons interested, a special Act was passed, removing Copley Square from the operation of the general building-law, and imposing upon all the territory fronting on it a special restriction, limiting the height of buildings thereon to ninety feet, and prescribing that the city of Boston should pay any damage that might be caused to owners of property by this special restriction. The Westminster Chambers building was by this time half built, and its owners, finding that the ninety-foot level would come in the middle of a story, ventured to build six feet above the prescribed limit, rather than terminate the structure a story lower, taking the precaution, however, to ornament the upper story with caryatides, in the hope that this might bring it within the provision of the new law which allowed statues to be placed above the ninety-foot level. This rather forced interpretation of the law did not stand the test of the courts, which, in a suit brought by neighboring owners, decided that the upper story, although ornamented with statues, was not in

itself statutory. Meanwhile, the owners of the building applied to the city of Boston for reimbursement, as provided in the statute, for the damage that they had suffered in being compelled to lose three stories of their projected apartment-house, but were met with the response that the statute itself was unconstitutional and void, and that the city would not pay anything under its provisions. The question of the constitutionality of the law is still awaiting decision by the courts; but, in the meantime, an attempt was made to compel the owners to remove the upper six feet of their building; and it was to meet this attempt that the bill was introduced into the Legislature, and passed, permitting it to remain unchanged.

A PART from the academic question of the policy of condoning the violation of a statute, the owners of Westminster Chambers seem entitled to relief. They have, undoubtedly, suffered a very heavy loss, in being obliged, after all their plans were made, to abandon three of the most rentable stories of their building, and they are refused indemnity, on the ground that the law under which they made this sacrifice was unconstitutional. Certainly, if the law was unconstitutional and void, they have not violated anything, and, even if it should, in the end, be declared constitutional, they will have been put to great expense in maintaining the suit. Meanwhile, supposing it to be constitutional, and to have been enacted for good cause, the circumstances which led to its enactment have unexpectedly changed in such a way that it has now less reason for existence. It may be observed that although the æsthetic desolation which would be wrought by a ten-story building on Copley Square was the source of much newspaper eloquence, considerations of this kind do not have much legal value in this country, and the only suggestion that was made of any tangible damage that would be caused by its erection was the claim of the Trustees of the Museum of Fine-Arts that the Museum collections would be in danger from it. To this intelligible and reasonable apprehension the Legislature, very properly, gave heed, where it would have paid no attention to æsthetic pangs. Now, as the decision has been unexpectedly taken to remove the Museum of Fine-Arts and its collections within a few years to the Back Bay Fens, the danger to them from a building ten stories high would be of very limited duration, and that from a seven-story building is practically nothing. There is, therefore, no substantial reason, apart from sentimental or moral ones, why the Westminster Chambers should not remain at its present height. It does not appreciably injure or endanger the property of the Museum of Fine-Arts, and, after the latter is moved to the Park, no one would be injured or threatened in body or estate if all the buildings on Copley Square were carried to the full height of ten stories. That some persons would feel that the artistic effect of the Public Library and Trinity Church was injured thereby is quite likely, but the uniform course of American jurisprudence goes to show that the right of one man to hinder another from doing what he pleases with his own property, on the plea that he intends to build something ugly, or injurious to the artistic effect of neighboring buildings, has no existence here, so long as no danger to health or property is alleged; and the idea that a man who owns a two-story house in a crowded locality is entitled to get the Legislature to intervene to prevent any one from building a three-story house near him, and can have his fellow-citizens taxed to pay the expense of restricting all the buildings in the neighborhood to the limit that he has himself fixed, would find no acceptance in an American court. We have, therefore, in the present instance, a party suffering great damage through an attempt, although an imperfect one, to comply with a special statute which, when passed, was of doubtful constitutionality, and has now lost what reasonable ground it originally had. Although the statute of 1898 is now useless, and inapplicable to the conditions, people should not, as Governor Crane says, be encouraged to violate it; but it seems as if the ends of justice would be equally well subserved, and a large sum of money saved to the city, by the repeal of the original statute, so that the Westminster Chambers could be left unmolested, at the same time imposing a fine on the owners for the original violation. This fine might be heavy enough to serve as a warning to others, without approaching the cost of the endless litigation in which the case will otherwise be involved, at the same time that the question of constitutionality, always a rather embarrassing one for

legislatures, could be allowed to drop; and the city of Boston, which will, if the law is retained on the statute-book, and sustained by the courts, be obliged to pay millions of the taxpayers' money in compensation for special restrictions which, with the removal of the Museum of Fine-Arts, will have lost their last legal ground, is likely to be willing to aid in seeing that justice is done.

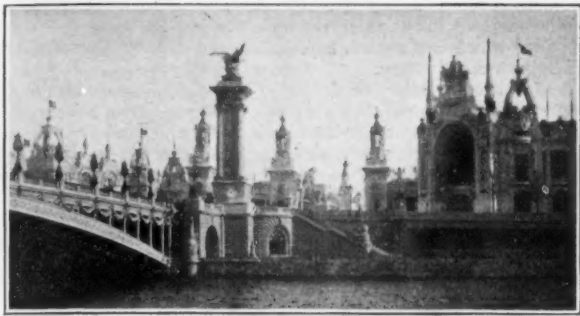
THE paper by Professor Trowbridge read before the Architectural League of America a fortnight ago, and published elsewhere in this issue, reminds us that he quite unknowingly and against his will is publicly associated in a piece of accidental injustice done both to the College of Architecture, at Ithaca, over which he presides, and to his predecessor, Mr. Charles Babcock, now Professor Emeritus. The injustice lies in a statement to be found in the "*Year Book of the Art Societies of New York, 1898-9*," which has recently fallen under our notice, and is, we believe, the only issue of the work yet in print and so is for the time a standard and final authority. The statement is there made that "Cornell, strong in science, has a school of architecture recently established under Professor Trowbridge." As the department of architecture at Cornell was established in 1871, it is in point of age either the second or third architectural school in the country, closely preceding or following the one at Champaign, Ill., and as Professor Babcock presided over it for more than a score of years through all the difficulties and experiments of its formative stages it is very unfair that in a publication of this sort both the school and its original head should be deprived of their well-earned reputation and identity. The main claim to merit and usefulness in such publications as dictionaries and directories is their entire accuracy and reliability, and it is always serviceable to have essential errors in them pointed out.

NOW that the United States has become the first country in the world in the production of iron, it would certainly be advisable to pay attention to the utilization of slag from the blast-furnaces for the manufacture of cement, for which there is an unlimited demand in this country. It is said that one of the largest iron-producing corporations is already experimenting in this direction; but, in the sharp competition which is sure to come in the trade before long, every possible source of economy in manufacture, or of utilization of waste-products, will be of importance, and the iron companies would do well to set apart some of the profits of the present season of prosperity for making preparation for a time when neither protection nor combination will help them. Naturally, the Portland-cement manufacturers have been inclined to look with disfavor on slag cement, and not without reason, as ordinary blast-furnace slag is a rather variable article, and the methods of converting it into cement have often been very crude and unreliable; but good slag-cement, as it is now made in Germany and Belgium, gives, with three parts sand, an average tensile strength of more than three hundred and fifty pounds to the square inch after twenty-eight days, and more than six hundred pounds at the end of a year. This is quite equal to the average of the Portland-cements sold in this country, and a material like this, sold at a small profit over cost, should have an immense sale. Even in Belgium and Germany, the product of the slag-cement factories employing the most improved methods is sold many months in advance; and here, where every city street needs, in consequence of the severity of our climate, a thick concrete foundation for its pavement; where concrete sidewalks, either with or without a surface of asphalt, are almost equally necessary, in consequence of their freedom from liability to settle by the freezing of the ground under them, and the superior foot-hold which they give in icy weather, and where artificial stone is coming every day more into demand, to take the place of perishable wood, or of natural stone, with which our country is, in general, poorly furnished, a cheap, good and reliable cement is imperatively required. It is not likely, moreover, that the competition of slag-cement would be very injurious to the makers of Portland-cement, which is now manufactured of admirable quality in this country. The cement from blast-furnace slag always contains a certain amount of oxide-of-iron, which does not injure its strength, but is likely to affect its appearance unfavorably; so that the fine Portland would always be used for finished work, and the provision of an abundant supply of cheap and rough material for massive constructions would probably, in the end, increase the demand for the higher grades of the same material.

FOR some reason, which is not quite clear, the manufacturers of structural steel have announced a great reduction in prices of beams, angles and other shapes, amounting to nearly twenty per cent, and bringing average rates at the mills down to about two cents a pound. These prices, although low in comparison with those prevailing a few months ago, are nearly twice as high as those for which the same goods are sold by the Pittsburgh manufacturers in Europe, after four thousand miles of transportation, and including expenses of interest, insurance and handling, and about twice as high as those for which the same material has been sold at the mill in this country, before the Trusts had extinguished competition; and we doubt whether the reduction, great as it is, will do much to stimulate demand. It is in human nature, when prices are falling, to expect them to go still lower, and consumers of structural steel, as a rule, will see in the successive reductions of the past few weeks only an indication of further and larger ones some months hence, when the prospect of competition and tariff revision has come still nearer than it is now. Even if there were no prospect of further reductions, it is too late now to purchase steel for use in building for the present season, and prices of certain other materials are still so high that building is not likely to revive until they have been reduced to a reasonable scale; so that, as it seems to us, while the action of the steel manufacturers will increase consumption to a certain extent, it will do little to encourage building; and the accumulation of stock, which is much less easily disposed of abroad now than it was last winter, is quite likely to produce, before the next building season, its natural effect of further concessions in price, either open or concealed.

THE Boston Manufacturers' Mutual Fire Insurance Company has been investigating the subject of the gnawing of matches by rats and mice. It has long been common to attribute fires which could not be otherwise explained to the ignition of matches by the teeth of rats or mice; but it is difficult to understand why the little animals should wish to nibble phosphorus, which is poisonous to them, and the Insurance Company, which is a friend of facts, and has exploded many a superstition of this kind, determined to take scientific evidence on the subject. A cage was made, of iron pipe, covered with galvanized wire netting, in which was placed, for furniture, a nest of cotton waste, in a tin box. Individuals and families of rats and mice were then quartered in the cage, for longer or shorter intervals, for three months, and were kept supplied with sulphur matches, parlor matches and safety matches. It is usually supposed that rats gnaw matches only when crazy with hunger, and the occupants of the cage were alternately fed and allowed to get hungry, to determine this point. So far as the rats were concerned it seemed to make no difference in their appetite for matches whether they were hungry or not. They nibbled all the samples, apparently for amusement. The heads of the parlor matches contain chlorate of potash, which may have been disagreeable to their taste, for, although they chewed off the wood, they left the heads untouched, and none of these matches took fire; but the sulphur matches seemed to be satisfactory all through, for they gnawed the heads, setting them on fire. The safety matches appeared to be also entirely to their taste, for they ate off the heads, but without igniting them. The mice, whether hungry or not, did not gnaw the matches, but they found them very convenient for building nests, and used them for that purpose.

THE electrical contractors of Boston and vicinity have adopted a resolution, declining to bid as sub-contractors on building work. This decision is similar to that long ago adopted by the plumbers, which has, on the whole, proved advantageous to owners and plumbers alike, the former getting better work, and the plumbers being more sure of their pay. With electrical work, the reasons for separate contracting are even stronger than with plumbing, as the former is more a matter of scientific study than the latter, although, we are happy to say, the best plumbers have a great deal of theoretical knowledge. A comparatively dull plumber may, however, do tolerably good and substantial work, but a stupid electrician can do more to cause danger, vexation and loss than almost any person employed in a building. Architects have occasion to know the enormous difference between good and skilful electrical work and the botching of cheap pretenders, and will gladly support the wish of the good and responsible men to be accepted as direct contractors.

ARCHITECTURAL EDUCATION.¹

Pylon and Abutment: Pont Alexandre III, Paris.

THE very recent agitation affecting the motto "Progress before precedent" has attracted the attention of the professors of architecture, who have noted with regret that some of these architectural walking-delegates have assumed unfriendly, even hostile, attitudes toward the schools. It is safe to assume that men differ in a great variety of ways in their interpretations of this motto, and that probably very few of the "young men of the Middle West" really hope, down in their hearts, that the schools will drop precedent and reorganize on a nature-study basis. Possibly it is overstating it to assume that this is the wish of Mr. Dean and his friends, yet that is what one may very easily gather from Mr. Dean's several articles which have appeared within the past year in the architectural magazines. An accepted definition of an anarchist is "one who believes the world so good as to need no laws." While such a state of affairs is devoutly to be wished, no one in this assemblage believes for a moment that it would be safe or even reasonable for us as a nation, for instance, to suddenly drop our system of laws, and enforcement of laws. In the same way we may accept in perfect faith all that Mr. Dean advocates, as something very desirable, but we cannot for a moment dream of flying from the traditions, the laws, the precedents that have been willed to us by our professional forefathers. We are inclined to the opinion that the "young men of the Middle West" are taking themselves too seriously. At present we agree with Messrs. Wyatt & Nolting, of Baltimore, who very aptly state, "We suggest that before writing and theorizing more on the subject, he would produce actual work by his proposed methods, which will be accepted by the art-world as superior to that produced by the training of either the European or American schools." The professors of architecture will give an enthusiastic reception to any new piece of work which shows truth, logic and fitness. It must not be forgotten, however, that no matter how excellent some of this inventive work is to be, it cannot reduce the intrinsic merit of some of the modern buildings which we have all enjoyed together, and which everywhere shows the influence of precedent.

We recalled a sentence from something that was said, if we remember rightly, by Mr. Sullivan, to whom many turn in their search after originality. If the quotation is not exact, at least the meaning is the same. "Learn what is in the books and then throw the books away." There is a good deal of sound wisdom in that advice for men of Mr. Sullivan's strength, but how many consider themselves in his class? Suppose, for example, we should accept this advice and apply it to the students in our schools. How long would it take the average student to learn what is in the books? We think a lucky man would perhaps feel that he had a good grasp what the books contain after he had practised architecture twenty-five or thirty years. We know some humble-minded professors of architecture who feel that three-score years and ten are not enough time for the proper study of architecture. Suppose, now, we adopt the modest plan of flying from precedent, depending upon the natural talent and inventive genius of our students for our academic results. We turn a class of beginners loose in a draughting-room, lock the library doors, issue a programme which calls for some architectural character, and then wait for the sparks of genius to illuminate the blank sheets of Whatman. We might extend the experiment so that it would be fully tried upon one class of students during its entire four years of stay with us. What would be the result? Our students would either emigrate to the "Middle West" and become great architects or they would hurl maledictions at us for the rest of their lives. The latter result is the more probable.

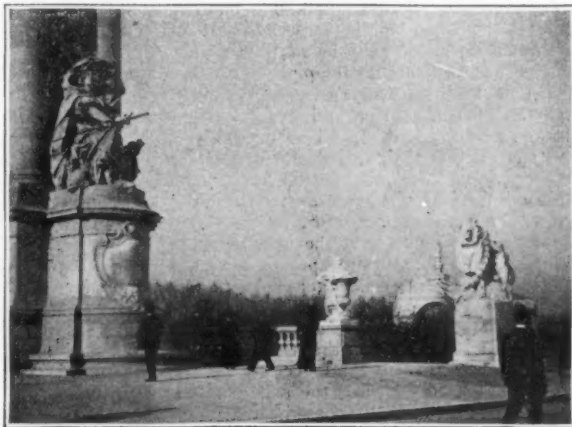
It may be that we have been extreme in our assumption that Mr. Dean and his co-workers desire so great a departure from precedent. If, however, one bit of historic detail is inappropriate to our age why are not all bits of historic detail? If it is wrong to use a Greek triglyph or a Greek column to-day because they belonged to a past civilization, then no Classic mouldings are allowable and even the carpenters in their ignorant use of the Classic cyma-reversa will have to devise something to take the place of the innocent ogee moulding, in order to be consistent.

The profession of architecture as well as the vast thinking public

have cause to be thankful that the schools of architecture are taking a stand for conservatism in teaching. If we were to allow ourselves to be carried away by the delusion that we might achieve fame by experimenting upon our students in the search for an original style of architecture, we would be infamous. We would be betraying a trust more sacred than any trust that is encountered in the practice of architecture. In practice an architect has the responsibility of disposing of his client's money and of so using it that the community concerned will be enlightened and educated. His is a trust which should not be broken through this egotistical belief in one's power to revolutionize architecture. How much greater is the responsibility of the professors of architecture who have in their hands the futures of a group of young people!

Our duty toward our students is, first, to teach them to construct according to modern practices; second, to express themselves in black and white, in color, and in plastic materials; third, to habituate them to good methods of study in the art of designing. Add to this the various courses in history of architecture, history of art, etc., and we have in a nutshell an outline of a course which is conservative and yet capable of the development of a perfectly safe amount of originality. It is not necessary to go into the details of the many courses which are required of students in developing them in the three directions stated. It is sufficient to remark in passing that the essential policy for success in the development of a school is insistence upon a stiff entrance-requirement and alertness in keeping to the standard set by the best architectural students in the world — the French. Mr. Dean is mistaken in holding that because some of the recently returned students of the Paris school have the bad taste to erect French buildings in our cities, that therefore both European and American schools are at fault. Because one dog goes mad it does not follow that all dogs should be muzzled and their mothers shot.

The ideal education of an architect is for him to first take an A. B. degree in some college or university where contact with professors and fellow-students in the so-called liberal studies will broaden his attitude toward the world. Then let him take his professional course of four or five years in a conservative school where good principles, not original theories, are taught. If he be a genius, his four years in a professional school cannot possibly repress him. His individuality will show through all the conservatism of his teaching. If he have not great talent, as is the case with many students of architecture, his conservative teaching will have been his professional life-preserver. Not only he, but the community with which he is connected, will fervently thank the men who, believing in and loving originality and invention, still had the courage and common-sense to teach traditions.

INDIGENOUS AND INVENTIVE ARCHITECTURE FOR AMERICA.²

Base of Pylon: Pont Alexandre III, Paris.

ONE of the purposes of this organization, as expressed in your constitution, is "to encourage an indigenous and inventive architecture, and to lead architectural thoughts to modern sources of inspiration."

In commenting upon the manner in which such purpose shall be attained, in the hope that my point-of-view may not be without some value, I shall assume that the indigenous and inventive qualities in our architecture will, when obtained, appear in its style. Next, I propose to indicate, as clearly as I am able to, the nature of this quality called style; and then I shall take up the words "indigenous" and "inventive" in their order, and attempt to show how, in my opinion, we can best go about to attain to an "indigenous and inventive architecture" in America.

The nature of an architectural style is closely akin to the nature of the personal style of an individual. In the case of the individual it is, of course, the result of his continued endeavors to improve his

¹ A paper read by Prof. A. B. Trowbridge, Dean of College of Architecture, Cornell University, Utica, N. Y., at the Convention of the Architectural League of America, held in Chicago, Ill., June 7, 8 and 9, 1900.

² A paper by Mr. Elmer Grey, of Milwaukee, Wis., read at the Second Annual Convention of the Architectural League of America, at Chicago, Ill., June 7, 8 and 9, 1900.

character. In doing so he does not ape someone else, neither does he discard the example of heroic types that have lived before him, or who are living in his own time. He attempts to discover the laws which ruled or rule such lives, and endeavors to follow similar laws in arranging his own conduct.

In much the same way is style in architecture evolved. We are not to copy past styles, neither are we to consider them useless as modern sources of inspiration. We are to try to discover the laws which governed their success, to discern how those laws should be modified to suit existing conditions, and then to apply them in the solution of our own problems. The result will be beauty, the exact nature of which we may not be able to define, but, like the quality in a man of which he is unconscious, but which others feel to be his personal atmosphere or style, it will be all the more vital and all the more precious because defying analysis.

In attempting to discern the modifications to be made to the laws which governed the success of past styles we are to consider, first, our increased complexity of material requirements over those of past ages, brought about by an advanced social condition; and the means of satisfying such increased demands afforded us in improved methods of construction and in new forms of building-material. We are also to consider that in all ages artists have drawn upon the work of their predecessors in seeking for inspiration, and that we are particularly fortunate in having more of such precedent to draw from, and in being provided, through the art of photography and through facilitated travel, with much readier means of access to it.

These are some of the considerations that should be incorporated as modifications of the laws which governed the success of past styles, and of the laws which we are to apply as aids in evolving a style of our own.

Now, how can we best go about to attain to an "indigenous" architectural style in America? What should be our sources of inspiration in aspiring to it? Are we, in seeking for them, to expect that they will appear only in things which refer to a building's external adornment? And even so, would we, in an appreciation of the beauty of all the architectural ornament of other times, and of our many facilities for enjoying it, be likely to express such appreciation in our art, did we reject as sources of inspiration all things not American? Surely not. The sources of inspiration for an indigenous style of American architecture are not thus limited. Style is *not* the external adornment of a building; it is the vital quality of it which has resulted from conditions inherent in its making, and which include situation, cost, material requirements, the constructional means available for meeting those requirements, and the ornament with which it was thought fitting to clothe it.

As the modern sources of inspiration for an indigenous style of architecture in America lie in a perception of the possibilities of the sites of our structures, in a knowledge of the most advantageous method of disposing the money available for their erection, in the insight which shall discern the vital offices buildings should fulfil and the manner in which they should fulfil them, in the familiarity with the building methods and building-materials best adapted to accomplish such fulfilment; and, finally in *all* things which suggest the forms of ornament most fitting for the purpose of adorning our structures.

And now how can we have an "inventive" architecture for America? That is, a *new* architecture, one that did not before exist; an architecture that shall be not only distinctively American in its style, but that shall also be new in its style.

In an address before the Boston Architectural Club in October, 1893, Mr. Robert D. Andrews said: "I think it is the custom nowadays to put our conscious effort in the wrong place in the treatment of art. We put it at the end, when it ought to be at the beginning. We elaborate our superstructure, but treat the foundation as of little account." I believe that custom still prevails.

The poets never tire of calling our attention toward the Unity of Life, toward the intimate relation all living things bear to one another; and toward the fact that this relation is a far more intimate one than we generally feel it to be. Scientific research in all its ablest conclusions emphasizes the same point, insists upon the Oneness of all Nature and all Life; upon the fact that each plant in nature is not a self-dependent organism, but that its health and its life is governed by a force which controls and sustains all living objects; upon the fact that a man is not an independent organism, but that, whether he is conscious of it or not, his fortunes are governed by a higher ambition than his own; though he is given free will to choose between the good and the bad, his final destiny will rest upon obedience or disobedience to physical, moral and spiritual laws over which he has no control.

Now, art—that is, living art, true art, art that is not merely a thing of dead forms and formulas—is one of the most potent expressions of human life. It is the conservation culminated in material form of all the artist has had of knowledge, of skill, of experience, of character; and it is subject to the same laws which govern life, and is a part of the same great unity; so that by ascertaining how those laws operate in the production of new things, of inventive things in nature, or in life, we shall also see how they operate in the creation of new things in art.

In nature we find that a plant produces in leaves, flowers and fruit only that which it has been able to draw in another form from the earth, the sun and the air; and that its perfection and distinction of type is directly dependent upon the success with which it obtains such nourishment in qualities and quantities suited to its particular

needs. And in life we know that a man can give out only that which in another form he has previously taken in; and that the distinctness of his individuality, and the value and amount of his productiveness will directly depend upon his knowledge of the sources of power which best sustain him and upon his obedience to the laws which govern his nature.

And so it is in art. For the artist is not an independent worker having supreme control over the quality and number of his creations. He is a part of a divine order of life, from which all his efficiency springs, and the originality and sustained excellence of his work depend upon the degree to which he becomes conscious of his relation to that order, and upon his recognition of and obedience to its laws in their application to his life.

Now, the application of universal law which governs the life of an individual artist each artist must discover for himself through the process of living, but some of the laws themselves, in their wider bearing upon all artists' lives, may here be briefly enumerated. The artist, then, is, first, a man and is to know himself and the world; that is, he is to recognize the natural equipment for work with which he has been endowed, the degree and nature of its power and also its limitation; and he is to try to discover the place it should occupy in the world's entire economy. As a man, he is also to recognize the importance of the physical side of his being, and he is to see that it is kept in the highest condition of efficiency for sustaining the work of his brain.

Then, the artist is a member of a social body; and, if his work is to meet the highest demands of that body and to satisfy its best taste and judgment he must obey the moral laws which require that he place himself in sympathy with that body. And herein enters the subject of compensation. For as a member of a social body the artist will increase in every possible way his own power for usefulness and good—and the power which rests in the wise use of money is one not to be ignored. On the other hand, if his work is to satisfy his own conscience and to secure him the largest degree of self-development, as well as to bestow the greatest benefit upon his client and to accord with the highest public welfare, he will not place pecuniary gain higher in the scale of values than he will excellence in the quality of the work he puts forth.

And now we come to the spiritual laws governing the life of an artist. We readily recognize the operation of physical and moral laws in our work, but we have yet to realize more fully that the artist is also a part of a universal spiritual order from which beauty of the highest kind has always come, and that if he is to produce a new beauty, an inventive beauty, which shall have a real and enduring charm, he must first absorb in other forms that which he creates.

For beautiful things of lasting quality in architecture and in all the arts are not tricks of clever fancy which some fortunate ones may discover; they are the result of an assimilation of many kinds of order, and of beauty, and of truth, into the soul of the artist, where they undergo an unconscious process of transmutation into the creations which his imagination brings forth, and which his knowledge, his skill and his character shape into new material form. He may obtain this nourishment from all sources which he finds will enrich him; from nature, from human experience, from religion, from literature, from painting, from the architecture of the past. But whatever sources he selects should be capable of refreshing him continuously. For the artist is constantly spending his vitality in creative work, and so must continually renew it. Both operations are equally important parts of a creative process, and should be equally instinctive habits of the artist's life. They are analogous to the workings of Nature in her method of giving birth to all living things, and such instinctive habits have always been those of the man of creative genius, through whom all true art has been evolved.

Now, the architectural style of a country is the result of prolonged endeavor on the part of architects to erect buildings which shall accord with the best taste and with the soundest judgment of a people, and though the endeavors of those architects may often be thwarted and the accomplishment of their purpose seem at times a long way off, a higher power than their own will guide the course of events and a mightier destiny than any private or public ambition will finally determine the quality and the permanence of the country's architectural style.

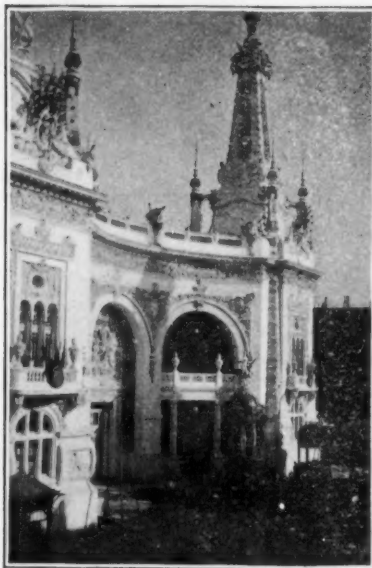
Important movements in architecture, such as the so-called Romanesque of Richardson, occasioned by the influence of creative men of exceptional individuality, may prevail for awhile. The demands of unhealthful social conditions, such as inordinate accumulation of wealth by classes of people who lack corresponding degrees of culture, may result in the vulgar and ostentatious over-adornment of their buildings. But the architecture of a country which will be truly representative in style, and which will endure with a lasting beauty, will voice the highest ideals of its people, and will spring from the hearts of conscientious men who have accomplished the architectural expression of its noblest national life.

The attainment of such an architecture involves a process of growth which cannot be hastened. It requires a condition of wide and deep culture in the people of a country and a corresponding degree of culture in its architects; and though we have such culture in this country, either the reconciliation between the people who possess it or the form through which it is trying to find architectural expression is not complete enough to point definitely toward the qualities which distinguish an architectural style, or the intangible nature of style prevents our recognition of as much of one as we may have.

Perhaps, unknown to us, it is taking form in the many noble architectural monuments that have been and are being built by contemporaries. For all architectural beauty which is natural and vital to the best American life will contribute to the growth of an indigenous and inventive American architecture.

To further the growth of such an architecture in every possible manner should be our ambition; our methods should correspond with the noblest methods of men who are working for the benefit of mankind in other walks of life; and our hope of success should lie in a consciousness of our relation to the divine Source of all life, of all growth, and of all accomplishment.

AMERICAN ARCHITECTURE AS OPPOSED TO ARCHITECTURE IN AMERICA.¹



Palais des Invalides, Industries diverses: Bijouterie Horlogerie. M. Tropey-Bailly, Architect.

AT no time since the Europeans first began to build in America has there been anything which might properly be called an American style of architecture. There have been American ways of building, as for instance, our high buildings with the skeleton construction, and the cast-iron fronts of thirty or forty years ago, but the decorative features have been used in accordance with passing fashions, supposedly modelled on European usage, with no such modification as would stamp them with what might be called an air of nationality, or else they have been extraordinary attempts by individuals at originality. None of these attempts have met with popular favor.

All the so-called "styles" of the past have been created by a slow system of evolution from what has gone before, accomplished by the combined effort of all the minds engaged, working along the same lines, each one contributing his infinitesimal share to the never-ending process, a process which is precisely similar to that which produces our fashions in dress. No one knows exactly who is responsible for the change, but we can see that change is always in progress; to the uninitiated it may not seem very apparent from year to year, but if we compare the fashions in dress at intervals of ten or fifteen years, the change is striking enough for any one to distinguish. So it is in architecture, though owing to the nature of the materials used, change occurs more slowly. If we study the history of architecture in Europe, we shall find that, from the tenth century, all the great changes in style were simultaneously common to all the countries. Thus we find in practically all European countries at about the same epoch, the styles which are classified in a general way as Romanesque, Gothic, Renaissance, Rococo, etc., but in each country or province, soon after their introduction, they assume a distinctive local character. We also find that some one country is in advance of the others, and that every great change spreads rapidly from the place where it was first developed to all the other countries, but that the minor changes do not spread rapidly, and are confined generally to the different localities where they originate, and go to make the local or national distinctions of the general style. It is natural that as communication becomes more rapid between different sections, these local differences should disappear, and this is exactly what we find has happened. In France, for instance, during the Gothic epoch, we find distinct local characteristics in the different provinces; thus the Burgundian, Aquitanian, Touranian, those of the Isle de France, etc., while to-day the style is national, or we may say, Parisian.

Now, it seems not at all unlikely that the causes which have led to the breaking down of the barriers between the different provinces of one country will in future operate to break down the barriers between the different countries, that local characteristics will become less and less pronounced, and that even the minor changes in the fashion of building will tend to become more world-wide. This is exactly what has occurred in the fashions for dress. Local distinctions are rapidly passing away, and a dress that is fashionable to-day in Paris is also fashionable in New York, Berlin, Rome, St. Petersburg, London, and in every other civilized capital. If France leads in this respect, and the others follow, it must be because there is in the French mind a quality which fits it to lead in such matters, for the bondage of the other nations is entirely voluntary.

Owing to the peculiar situation of America and to the natural

independence and lack of reverence of the American mind, the course of architecture here has presented an anomaly in the development of style, and rules which apply elsewhere do not seem to apply here. Nevertheless it is very certain that the process of development which works everywhere else will in time be found working here; indeed, it becomes more evident daily that this process is already well under way. The foundation for any such development must necessarily begin with the schools. In every European country, we find that before the young men begin to build, they undergo a long process of training, either in schools or as apprentices, to fit them for the work. In the past we have thought such preparation unnecessary. Almost every young American as soon as he is able to draw a straight line has felt himself competent to undertake any work of architecture, and not only that, but he has found that most people have been ready to agree with him in this way of thinking. People having large sums to invest, if not willing to entrust them to him at the start, have been willing to do so after a few years, when he is supposed to have had the necessary experience. These methods still hold true in many places to-day. Physicians, engineers, lawyers, and other professional men must have been properly trained before they are employed; not so with architects. Most employers, indeed, feel that they are very good architects themselves, and few have any distinct notion of what constitutes an architectural training.

This is an entirely unnatural state of affairs, and no one who understands the American mind can believe that it will last. Indeed, there is at the present time every indication that it will not last. Schools of architecture multiply on every side, young men flock abroad to seek architectural training, and the results of this movement are already beginning to be apparent in our architecture. Fortunately, this force is a unifying one. I say fortunately, though I doubt if it could be otherwise. The great majority of our students are thinking and working in the same style, though this can by no means be said of our practising architects. They are for the most part still borrowing from any epoch of antiquity, or designing in a style of their own invention as the fancy seizes them. They deprecate what they call the "Frenchifying" of American architecture, as if there were any such thing as American architecture in the hodge-podge which we see about us.

In the meantime the French influence is slowly but surely predominating. Our young men go to Paris and become convinced of the wisdom of the French methods. From the great masters of the French school, under whose influence they are brought, they imbibe such logical, reasonable and convincing instruction, that I do not believe it possible for a young man anxious to learn to come away unconvinced. The converts which these men make after they return among the young men who themselves are not able to go abroad are as ten to one.

A revolution is in full progress among us, and it is beginning just where it ought to begin; that is, with the students. Let no one mistake the introduction of what appears to be modern French architecture as only a passing fancy to go the way of the "Richardsonian Romanesque," "Queen Anne" and "Italian Renaissance." It is an entirely different affair. It means much more than appears on the surface. The French resemblance is only an incident; it may, indeed, soon pass and pass away, but the movement means that the principles which the French use are being introduced here, and these will last, because they are founded on good taste, guided by common-sense. Henceforth American architects are to be properly instructed before they enter upon their duties. American architecture is not to be Frenchified, unless France can dominate the fashions of the world in building by her taste and skill, as she has dominated them in dress. The movement means that our architects of the future will apply to the art in this country the same logical reasoning, and that they will have the same careful preparation for the work that helps the Frenchman to lead the world in the Fine Arts. It also means that in the future the whole body of American architects are to work together along the same lines, to think in the same style. Thus we are about to enter upon a course which will make possible the evolution of a national style of our own, or perhaps enable us to set the fashion for the world.



CONVENTION OF THE AMERICAN PARK AND OUTDOOR ART ASSOCIATION.—WORK ON SCHOOL-GROUNDS DONE BY AND FOR THE SCHOOL-CHILDREN.—THE SITUATION IN THE BUILDING STRIKE.

THIS month all architectural interests seem to have centred around the several conventions which are meeting here in Chicago.

First in importance, though not as to date, was that of the Architectural League of America. As an account of these meetings was published last week, no special mention will be made of them here.

The season of conventions was opened by the American Park and

¹ A paper read by Ernest Flagg, of New York, at Second Annual Convention of the Architectural League of America, Chicago, Ill., June 7, 8 and 9, 1900.

Outdoor Art Association holding its fourth annual session at the Art Institute. The landscape-gardeners assembled on the fifth of June, their first meeting being rather noticeable for the manner in which it did not live up to its programme. Much matter of interest was, however, brought up, and the morning's talk proved useful in spite of its divergence from the subjects given on the printed programme. The matter of directing school-children's interest towards the beautifying of the grounds of the school-houses and, in fact, turning those yards into little parks and playgrounds that should always be open to the juvenile public, was especially advocated. Reports were read from several towns in which what are practically village-improvement associations had been started in the different schools, the scholars doing efficient work in not only beautifying their own grounds, but in helping to keep in order their special district of the town. One enterprising set of children, in Carthage, Mo., besides beautifying their own grounds and picking up papers and rags to an astonishing amount, had buried old tins, bottles and old shoes, and had picked up and sold enough old junk to net the Association \$7, which they had used to buy a picture for the school. Certainly there are more things to learn in school than the three R's, and, certainly, if the work of the Outdoor Art Association could go hand in hand with the work which the School Art Leagues are accomplishing in many places, we should at least have a better appreciation of things beautiful in the next generation or two than at present.

To stimulate the growth of appreciation in outdoor art, the advisability of establishing a system of prizes among the school-boards of country towns and crowded city districts was discussed with a good deal of enthusiasm.

In the evening Mr. J. H. Patterson and Mr. E. L. Shuey, of Dayton, O., talked on the ways and means of improving the conditions and surroundings of factories and employes' homes. Mr. Shuey stated that only about half a dozen factories in this country had made any attempt at improving their surroundings, and of these he had photographs, which he showed with the stereopticon. He gave many interesting examples of such work in England and stated that almost without exception the improved surroundings had been a power working for good among the workmen.

On Wednesday Mr. Frederick Law Olmsted, Jr., read a paper on bill-boards and their unsightly effect on the landscape. The same day the Secretary of the Association read a paper on landscape gardening by Mrs. Cyrus H. McCormick, one of our Chicago women, who owns a fine summer-house on the North Shore, at Lake Forest. Mr. W. M. R. French, of the Art Institute, read a paper on the "Relations of Grounds to Buildings and Monuments." Mr. French pointed out with emphasis the importance of fitting surroundings for either a successful house or monument.

A small but interesting exhibit of photographs was made by the Association of various phases of landscape gardening, from the bare, unsightly, small town-block, devoid of trees or shrubs, or parkway, to the really beautiful landscape made by the judicious planting of trees and shrubs, with, in the more elaborate compositions, the introduction of water as a feature. Examples were given of the value of one well-planted tree in connection with the effect of a building and also of the poor result often obtained by planting dozens of trees on a lawn connected with a house, the trees being set out haphazard in a hit-and-miss manner, dotted around anywhere. Few people have yet begun to realize that the art of the landscape-gardener is as truly an art as that of the architect, and that even a small place, if well laid out and planted, is capable of being made very attractive and is as worthy some thought in this direction as is a larger place; in this locality, doubtless more than in the East, and people are only beginning to realize this. One small suburb of Chicago, which is always in the lead in matters municipal, is even now trying to give a real object-lesson in landscape-gardening to its citizens by having a definite plan along which to work on the grounds of a really beautiful new school-building which it has. Unlike many boards, the one in this particular district does not consider it knows the whole thing itself, and has been wise enough to hire a young man of taste, who is working in the office of one of the best landscape-gardeners here, to complete and supplement the work of the architect, by giving the building a good setting. If they are able to carry out the plan, which is very much in embryo, an interesting experiment will have been made. In this special district the local village-improvement association hopes to furnish some of the funds for planting, and in places where native shrubs are used, the children themselves can do much effective work on Arbor Day, so long as their efforts are directed in the right way.

The labor question is still an unsettled one here in Chicago, though there seems to be a something in the air, not very tangible as yet, which would indicate something like an approaching settlement. The Union men had, apparently, accepted the invitation of the contractors to the coming conference which both sides are willing to have (this willingness being the intangible something indicative of peace), with the condition that no member of the committee should be a business-agent for, or a delegate to, the Building Trades Council. This limitation was accepted and complied with by many of the trades, but the Stone-cutters Union have unexpectedly refused to accept this limitation and chose as its representative Joseph Sullivan, president of the local organization and delegate to the Building Trades Council. What effect this will have on other unions that have not yet elected their representatives is hard to say.

It is the general feeling that should the labor trouble be settled

there would be greater activity in building circles than there has been for years.

GAS PLANTS IN LARGE BUILDINGS.



Palais des Invalides, Industries diverses: Decoration.
MM. Toudoire and Pradelle, Architects.

THE great modern office, or mercantile, building is a centre of light, heat and power production and consumption. Mechanical operations, such as those for passenger-elevators, pumps, ventilation and manufacturing machinery and electric lighting often consume hundreds of horse-power; heating requires a large amount of fuel in addition to that used in making steam for engines, and besides all this, the public gas-supply is often called on for considerable outside

aid. The fuel item alone in large city buildings ranges from \$5,000 to \$25,000 per year in many cases, and any material reduction in these charges is therefore very important. A glance at the conditions under which light, heat and power production in city buildings is carried on may serve to indicate where any possible saving is to be made.

Considering, first, steam-boilers: their average efficiency in building plants may be taken at sixty per cent., though it frequently falls as low as fifty, and in some cases rises to seventy per cent. By this boiler efficiency is of course meant the ratio of the heat transferred to the steam, divided by the heat which the coal used is capable of giving out on complete combustion. The main cause for losses in connection with boilers is the escape of heat and of imperfectly burned gases in the chimney draught, which usually carries off from twenty-five to forty per cent of the heat-energy in the coal. There are also minor losses of conduction and radiation from boilers that amount to about ten per cent more of the coal's energy. The losses to be encountered in connection with boilers are the only serious ones to consider when steam is used for heating in the building where it is generated; but where steam is required to operate pumps, elevators, dynamos and machinery for manufacturing purposes, through the medium of the steam-engine, the efficiency of the conversion from heat to mechanical energy is very low. For illustration, take a case where compound engines develop one-horse-power-hour on each twenty pounds of steam which they consume, at 125 pounds pressure. At this pressure saturated steam contains 1,189.5 heat-units above water at 32° Fahrenheit; or, allowing that feed-water enters the boilers at 212°, there is added to each pound of water 1,189.5 — 180.9 = 1,008.6 heat-units to change it to steam at 125 pounds gauge-pressure. The 20 pounds of steam consumed per horse-power-hour therefore contain 1,008.6 × 20 = 20,172 heat-units, which are expended per horse-power-hour produced by the engine, and the heat expended per horse-power-minute is 20,172 ÷ 60 = 333.61 units. Now, as the horse-power rate of work amounts to 33,000 foot-pounds per minute, and as one heat-unit is the equivalent of 778 foot-pounds, the horse-power represents 33,000 ÷ 778 = 42.4 heat-units per minute. As shown above, the steam necessary in high-grade engines to maintain work at the rate of one horse-power during one minute contains 333.6 heat-units, so that the engine develops as mechanical motion only 42.4 ÷ 333.6 = .12 of the heat-energy in the steam consumed. The rate of 20 pounds of steam per horse-power-hour developed is merely assumed to represent about all that can be expected in good practice for building-plants. With triple-expansion engines and constant-load the steam consumed may be reduced as low as 13 pounds per indicated horse-power-hour, but in the great majority of building-plants the actual consumption with compound-engines is nearer 30 than 20 pounds of steam per horse-power-hour, and for simple engines the rate is of course higher.

A result of the low efficiency of steam-engines is that in buildings where considerable power is used for elevators, electric lighting and machinery, large amounts of heat are given off in the exhaust-steam. If condensing-engines are used, the exhaust-steam is consumed in the production of the vacuum, but with non-condensing engines the exhaust is available for heating purposes, provided the system of heating in the building permits its use. Were steam-heat constantly required to an amount greater than could be supplied by the exhaust-steam from engines and pumps, their efficiency would not be of much moment, but as a large amount of general heating is

only needed during about six months in the year, the exhaust-steam during the remainder is mostly wasted. Any increase that can be made in the efficiency of power-production in buildings is therefore valuable to the full extent of its saving for about one-half of the time, and in a large plant may amount to a very material yearly sum.

The total heating-power of medium-grade coal may be fairly taken at about 12,000 heat-units per pound on complete combustion; and, as seen above, the heat absorbed per pound of water at 212°, converted to steam at 125 pounds gauge-pressure, is 1,008 units, so that the production of 8 pounds of steam per pound of coal burned, as is frequent with good boilers, corresponds to a boiler efficiency of $(1,008 \times 8) \div 12,000 = .67$. Allowing, as above, only 20 pounds of steam per delivered horse-power-hour at the engine, the coal consumed, with the efficiency of boilers just named, is $20 \div .67 = 29.85$ pounds per delivered horse-power-hour.

Even in buildings that are provided with their own electric-light plants, the yearly consumption of gas is often considerable, while in buildings that buy all of their light, the gas-bill is a heavy item. In almost all cases the gas used in buildings, whether for illumination or heating and manufacturing purposes, is obtained from the public supply rather than produced in the building. Gas-engines have long been used in buildings for comparatively small powers, but their use has been greatly restricted by the current prices of gas from public supplies. In efficiency the gas-engine is decidedly superior to the steam-engine—that is, the gas-engine converts a larger per cent of the heat developed by the combustion of its consumed gas into mechanical work than does the steam-engine with the heat of steam passing through it. In moderate sizes, of fifty-horse-power and upwards, gas-engines can now be had that develop a brake-horse-power-hour on a consumption of gas that contains not more than 12,000 heat-units; and, as 2,545 heat-units are the equivalent of one horse-power-hour, the gas-engine efficiency is $2,545 \div 12,000 = .21$, or $.21 \div .12 = 1.75$ times the efficiency of the compound steam-engine in ordinary practice. It was shown above that to generate in a good boiler the 20 pounds of steam required per horse-power-hour at the engine, 2.5 pounds of medium coal must be consumed in the boiler-furnace, and it is now important to note the amount of coal required to produce gas having 12,000 heat-units on perfect combustion.

The older form of illuminating-gas, made by distilling coal in retorts, and known as coal-gas, contains about one-fourth of the heating-power of the fuel from which it is derived. Water-gas, which is now extensively used for illumination, especially in large cities, contains about one-half of the heat-energy of the coal from which it is made. Pure water-gas can only be used for illuminating purposes by heating some solid substance; but, when it is charged with the vapors of some hydro-carbon, as petroleum, the combination has excellent illuminating qualities. These two gases are the ones in general use for public supply throughout the country, but the moderate amounts of heat they contain relative to that of the coal consumed in their production and the space required by the apparatus for their manufacture, render their generation and use in buildings for general power and heating purposes impractical.

What is known as producer-gas has for several years been growing in favor, and has gained a permanent place for power-production and heating in manufacturing-plants. The application of producer-gas to these purposes is due to the economy in fuel thus attained over the use of coal with steam-boilers, and there seems to be no good reason why a like saving in fuel-cost should not operate to the introduction of gas-producer apparatus in large buildings. The gas-producer process shows a marked economy over the methods of gas-production in common use, as to the heating-power of the gas derived from a given quantity. Instead of only twenty-five or fifty per cent, as in the case of coal-gas and water-gas respectively, producer-gas is readily made to contain eighty per cent of the heat-energy of the coal consumed in its production. With a coal having only 12,000 heat-units per pound, as assumed for steam-boiler and engine-plants, gas-engines that require 12,000 heat-units in gas per horse-power-hour make necessary the consumption of $1 \div .80 = 1.25$ pounds of coal in the producer for each horse-power-hour developed at the engine, instead of 2.5 pounds, as found above for the steam-engine. Actual tests of gas-engine and producer-plants have shown a lower consumption of coal than that just indicated, going down to one pound per horse-power-hour in some cases. In addition to the advantage in efficiency of the gas-producer and engine, they have another in the quality of fuel that can be used. Buckwheat and even rice sizes of anthracite coal give good results in gas-producers, though they are not generally desirable for steam-boiler firing. Either anthracite or bituminous coal can be used in the gas-producer with good results, but the anthracite is a little more desirable in the present state of the art, for reasons connected with the process and also because of the low market-value of the fine anthracite.

The operation of a gas-producer equipment involves but a small amount of labor, not more than that for a steam-boiler plant of equal capacity. In first-cost per horse-power capacity in connection with proper engines, the complete gas-producer apparatus will not exceed by more than twenty-five per cent the cost of a first-class steam-boiler equipment, and the space occupied by the gas-outfit is so moderate as to be readily provided for in large buildings. As an illustration it may be said that the entire apparatus of a gas-producer

having capacity to generate enough gas for engines of 450 horse-power and including a gas-holder large enough to store ten minutes' supply, requires a floor-space of only about $50 \times 20 = 1,000$ square feet. It is not usually necessary to have storage capacity in the gas-holder for more than ten minutes' maximum supply, because one or more of the producers in a plant would be kept constantly at work while a large supply of gas is wanted. The greatest economy to be effected by the introduction of producer-gas apparatus in buildings occurs in connection with gas-engines, unless very large amounts of gas are used for illumination; but the producer-gas has some advantages as to the heating alone.

Application of the gas to heating purposes in a building can be accomplished in several ways, as best suited to the requirements of each case. If it is desired to heat the building by steam in the usual manner, producer-gas may be burned under a steam-boiler; and, in spite of the fact that the gas contains only about eighty per cent of the heat-energy of its coal, experiments have shown that as much steam can be made with a given quantity of gas as fuel as when the coal from which this gas is made is used directly under the boilers. These results are due to the fact that there is less loss of heat in the flue gases when gas is the fuel than when coal is so used. If a hot-air system of heating and ventilation is to be used, a steam-boiler is not necessary, and the air may be heated by passing over gas-heated surfaces. In some cases it may be desired to burn the gas directly in each room or part of the building for heating-purposes, thus doing away with the cost of either steam-pipes or air-ducts. Where heat is required for special manufacturing purposes in a building, the producer-gas is readily applied, and is of course much cheaper than gas from the public supply, or even than coal for most cases.

Lastly, for purposes of illumination, there seems to be no reason why a part of the producer-gas generated in a plant cannot be separated from that used for heat and power and easily charged with petroleum vapor so as to have a high candle-power.

ALTON D. ADAMS.



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

EVANGELICAL LUTHERAN CHURCH, BROADWAY AND 93D ST., NEW YORK, N. Y. MR. W. A. POTTER, ARCHITECT, NEW YORK, N. Y.

THIS church, which is to be built of brick and limestone, is to cost about \$70,000.

THE PARLOR: HOUSE OF CHARLES H. COSTER, ESQ., TUXEDO PARK, N. Y. MR. W. A. BATES, ARCHITECT, NEW YORK, N. Y.

METALWORK, — I: ENTRANCE TO NO. 2 52D ST., NEW YORK, N. Y.

METALWORK, — II: ENTRANCE TO THE BOLKENHEIM APARTMENT-HOUSE, NEW YORK, N. Y.

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

THE TEMPLE OF MUSIC: PAN-AMERICAN EXPOSITION, BUFFALO, N. Y. MESSRS. ESENWEIN & JOHNSON, ARCHITECTS, BUFFALO, N. Y.

THE Temple of Music will cover a plot of ground 150 feet square in the northwest corner of the Esplanade and the Court of Fountains. The exterior will be treated in the style of the Spanish Renaissance. It will be octagonal in shape, with octagonal pavilions at each corner. Each façade of the main building will have a richly ornamented colonnade. Between the columns will be large window openings and ornamental panels, each bearing a portrait-bust of some famous musical composer. The balustrade will carry tablets bearing the names of noted musicians and composers, and at intervals will have posts surmounted by flagstaffs. On the corners above the pavilions will be groups of statuary representing Music, Dancing, etc.

The chief features of the drum of the dome, which rises to a height of 136 feet, will be star-shaped windows resembling those seen in the ancient Spanish mission-buildings. These windows will light the interior of the auditorium. The dome and the roofs of the pavilions will be richly gilded. Gold and brilliant coloring will be freely used in all the exterior decoration.

The auditorium will have seats for 1,200 persons, and in addition the restaurants and balconies will give further seating accommodation for 1,600 people. The other pavilions in addition to the one used for the main entrance will be occupied by the stage and for a fully equipped restaurant, with the necessary kitchen adjuncts, serving-rooms, etc. The auditorium is only a few steps below the floor-grade of the restaurant, and the partition between the restaurant

and the auditorium will be glazed, so that people seated at the tables can overlook the audience and enjoy the concert or entertainment at the same time. The flat-domed roof of the auditorium will be supported by eight massive piers. Over each of the eight large arches will be a cartouche bearing an inscription indicating one of the grand divisions of music—Oratorio, Grand Opera, Symphonic Music, Lyric Music, etc. The lighting will be through the star-shaped windows previously mentioned, passing through eight ceiling lights, each having 320 square feet of glass. The front of the galleries will be decorated with a frieze of singing cherubs.

In the Temple of Music will be erected one of the largest and finest organs in the United States. It will have four manuals and about fifty speaking stops, and will be voiced on three different wind-pressures. The action will be the most complete style of tubular pneumatic. Of the four manuals the great organ will have 14 stops: two 16-foot stops, six 8-foot stops, three 4-foot stops, one 2-foot stop, a twelve and a four-rank mixture.

The swell-organ will have 14 stops: one 16-foot stop, nine 8-foot stops, three 4-foot stops and a three-rank mixture.

The choir-organ will have 11 stops: one 16-foot stop, seven 8-foot stops, two 4-foot stops and one 2-foot stop.

The solo-organ will have three 8-foot stops and one 4-foot stop.

The pedal-organ will have 10 stops: one 32-foot stop, five 16-foot stops, one 10-foot stop and three 8-foot stops.

The case will be of Gothic design, to harmonize with the architecture and decorations of St. Louis Church, Buffalo, for which the organ is intended after it has served its purpose at the Exposition.

THE PROPYLEA: PAN-AMERICAN EXPOSITION, BUFFALO, N. Y.

The Propylea will mark the northern boundary of the Plaza and the extreme northern limit of the Grand Court and will serve the purpose of a colossal screen, shutting out from the Exposition the noisy and smoky reminders of the toil and care of our every-day life. It is 500 feet long, consisting of two massive arched entrances at the extreme eastern and western ends of a curved colonnade. These gateways are 36 feet wide and 54 feet high. Two open towers surmount the sides of each arch, and above the twenty tall Ionic columns that form the colonnade is a pergola, or arbor, over which growing vines will wind their delicate tracery of green. Behind the colonnade will be the railway-station, reached by a broad promenade. In the spaces between the great columns statues will be placed, showing their outlines distinctly against a background of color.

[Additional Illustrations in the International Edition.]

THE LAWN FRONT: HOUSE OF CHARLES H. COSTER, ESQ., TUXEDO PARK, N. Y. MR. W. A. BATES, ARCHITECT, NEW YORK, N. Y.

[Gelatin Print.]

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THE UPSIDE-DOWN HOUSE AT THE PARIS FAIR.—"The strangest thing in the Paris Exposition Midway is the 'upside-down house,'" said a guest at one of the hotels, who has just returned after a visit to the other side of the pond. "Nobody but a Frenchman would ever have thought of such a thing. It is a big, old-fashioned three-story manor house, apparently resting on its gables, with the foundation 80 feet in the air. One goes in through a dormer window in the attic, and finds everything upside down. Underfoot are what appear to be the ceilings, spouting chandeliers like giant toadstools, and overhead are chairs and tables and all the other ordinary furniture of a house, miraculously clinging to the reversed floors. There are even books and small articles scattered about on the carpets, and sticking to them as if by magic, and on some of the tables lamps are burning, top down. Everything about the place contributes to one of the most bewildering illusions imaginable, but the really amazing feature of the house is the view through the windows. They command a considerable expanse of the exposition grounds, and, incredible as it may seem, everything is upside down. One sees all the familiar buildings standing on their

heads, throngs of reversed people walking to and fro, and the sky yawning where the earth ought to be. The effect is indescribably startling. I puzzled over those windows for a long time, but I finally discovered their secret. The illusion is produced by means of two mirrors, both set at angles in the casing and one reflecting the other. By that means the outside scene is turned about topsy-turvy and cast back into the room with all the realism of an open-air view. Visitors are not allowed to go very close to the windows for fear, as the attendants say, that they will 'fall down into the sky.' A man should be perfectly sober before he inspects the 'upside-down house.'"—*New Orleans Times-Democrat*.

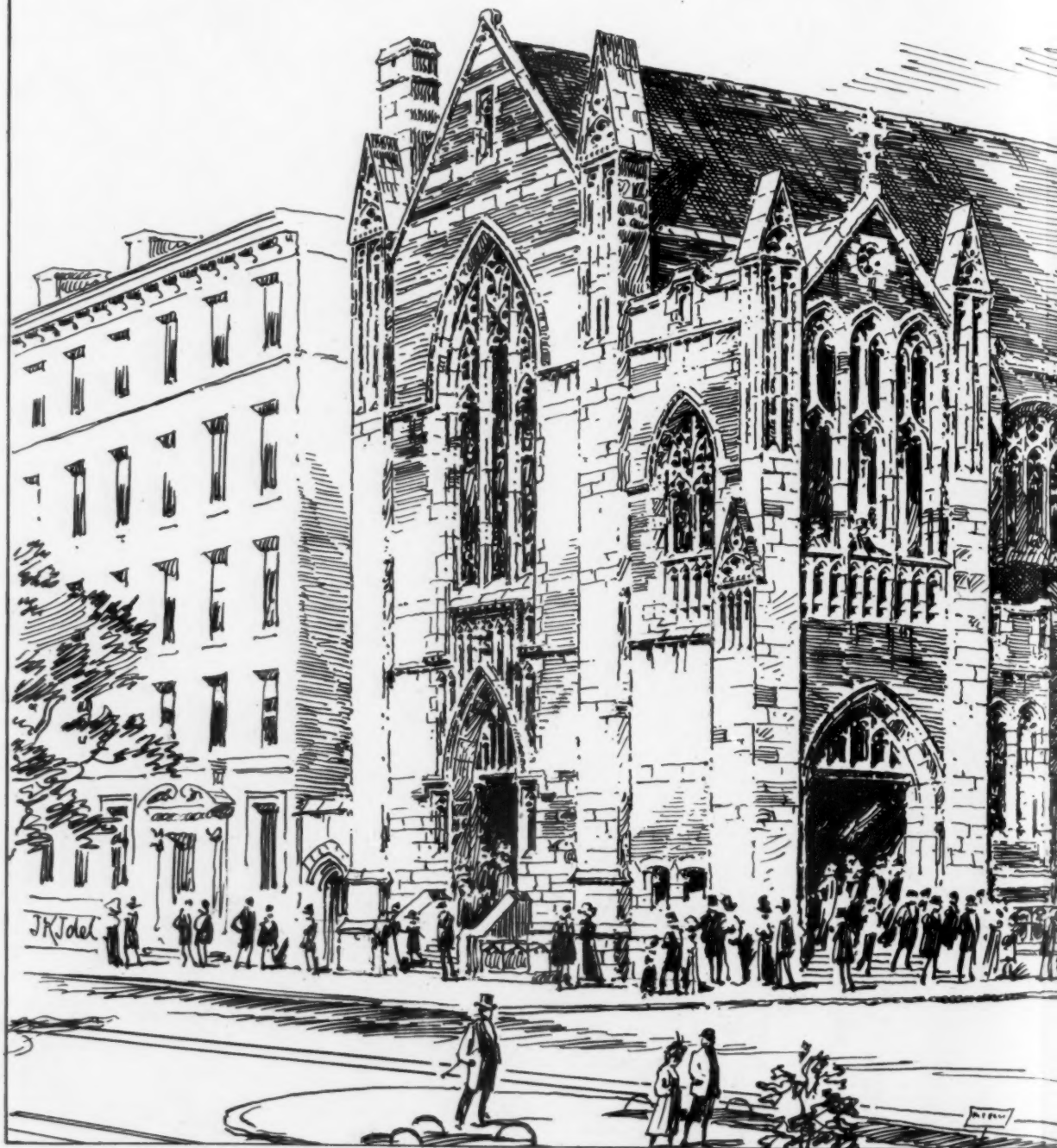
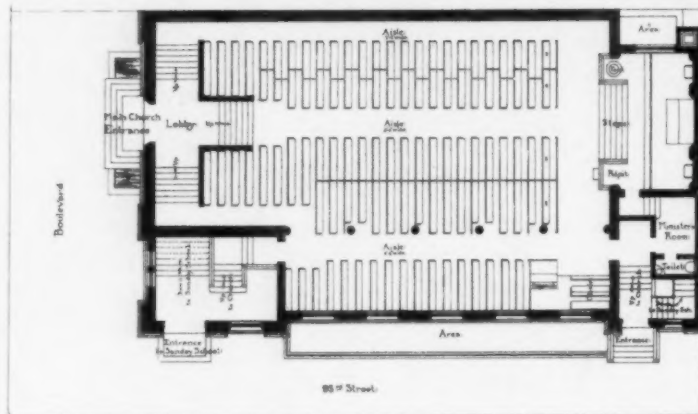
PHOTOGRAPHING UPON MARBLE.—The following process for making photographic impressions upon marble has recently appeared and is said to give very fine results. The surface of the marble is well smoothed but not polished. Upon this is spread a layer of the following mixture: Benzine, 500 grammes; turpentine, 500 grammes; bitumen, 50 grammes; beeswax, 5 grammes. This layer is allowed to dry, and the gelatine surface of the photographic plate is then applied and an exposure of 20 minutes made by sunlight. After removing the plate, wash with gasoline, which takes off that part of the varnish which has not been acted upon by the light, and the image gradually appears. The action of the gasoline is stopped at the desired point by washing in a stream of water. The surface thus prepared is plunged into an alcoholic solution of Prussian blue, eosine red, etc. When the color has penetrated by capillary action, the layer of varnish is taken off and the surface of the marble finely polished. In this way a permanent image of a fine color and great depth is obtained.—*Scientific American*.

CATALPA TO REPLACE WHITE-PINE.—The hardy Western catalpa is to be the white-pine's successor, according to John P. Brown, Secretary of the Indiana Forestry Association, who has set forth in a pamphlet the possibilities of this tree under cultivation. The catalpa is a large tree at maturity, reaching sixty to eighty feet in height, and with a trunk from two to five feet in diameter. It is indigenous to the lower valley of the Wabash River in Indiana and Illinois, and seems to prefer the overflowed alluvial lands. It has proved to be hardy, however, between latitudes 35 degrees and 44 degrees, and from 101 degrees west to New England, and it is capable of adjusting itself to soils, location and general conditions within these geographical limits. From personally measured catalpas of known age in nine States and Territories Mr. Brown figures out that they average one inch diameter increase for each year after planting. In sixteen years a catalpa will make five cross-ties, which will last thirty to thirty-five years. Not only is the wood very durable, even in adverse conditions, but it is admirably adapted to cabinet-work and inside joinery, and is worthy of being considered one of our most valuable forest products. Mr. Brown suggests that almost every railroad's right-of-way is capable of growing 640 trees to each mile of track. In sixteen years this would provide three thousand ties, or enough to relay the mile of track. As the catalpa sprouts readily from the stump and the young shoots grow rapidly, the trees would be permanent and fully supply all requirements for ties, fence-posts, telegraph-poles, and lumber.—*N. Y. Evening Post*.

WASHINGTON STATUE FOR PARIS.—Daniel C. French's bronze statue of Washington, presented to the city of Paris by the Daughters of the American Revolution, arrived in Paris June 20. The immense size of the two cases in which the horse and rider were transported, separately, prevented them from being carried by railroad, and they were brought to Paris, from Havre, on a lighter, up the Seine. On their arrival here, the cases were placed on a wagon decorated with French and American flags, and were taken direct to the American Quarter, the site selected by the City Council of Paris being at the intersection of the Avenues d'Iéna and du Trocadéro. The pedestal had already been prepared, and the horse was immediately hoisted upon it. The installation will be completed in ample time for the unveiling, July 3.—*Exchange*.

THE TOTAL COST OF OUR GOVERNMENT BUILDINGS.—Public buildings in the United States, according to a Treasury return, have cost, since the foundation of the Government, exclusive of buildings in Washington and those employed by the army and navy, \$154,775,384. Of this the sites have cost \$22,735,107, and there remains \$23,843,574 to be expended on these buildings before they are completed. In Philadelphia it is interesting to know that the site of the Mint originally cost \$31,666. The building upon it cost \$249,475. The Post-office, at \$4,623,943, has cost in construction about one quarter as much as the Public Buildings. This excludes in both cases the cost of maintenance while building, which forms a large part of the expenditure on the Public Buildings.—*Philadelphia Press*.

CLAY'S STATUE AT NEW ORLEANS.—A pathetic reminder of how soon we are forgotten is afforded by the removal in New Orleans of a statue of Henry Clay which has for forty-three years occupied a prominent position in the widest and most attractive avenue of that city. It was found to be in the way of the street-car companies and so is technically "removed," but no destination has yet been found for it, and the public does not seem to care. In 1856 popular enthusiasm there for the "great commoner" was not less than that for Dewey to-day. The erection of an out-of-door statue does not necessarily insure permanent fame. So long as it is not in the way, a statue will be allowed to remain even if its subject has been quite forgotten, as will doubtless be the case a century hence with a considerable proportion of the statues of our national capital and other cities of the land. Artistic tastes, moreover, are changing and making some old statues seem grotesque. Charleston, a few years ago, took down its statue of John C. Calhoun in Marion Square, and erected a new one more in accord with the present-day tastes. There is room for many such improvements, even if sentimental considerations are somewhat disturbed by the change.—*N. Y. Times*.



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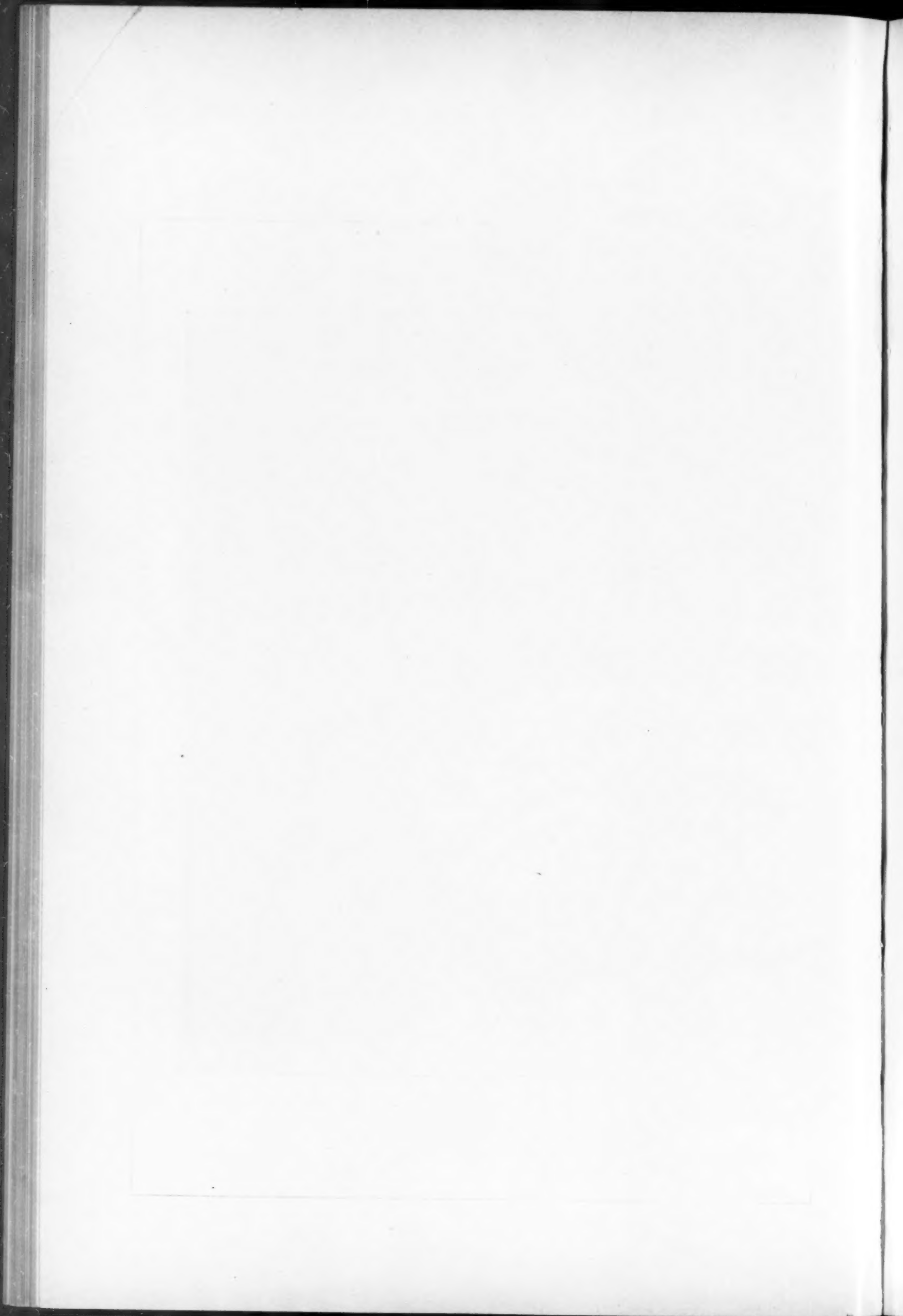
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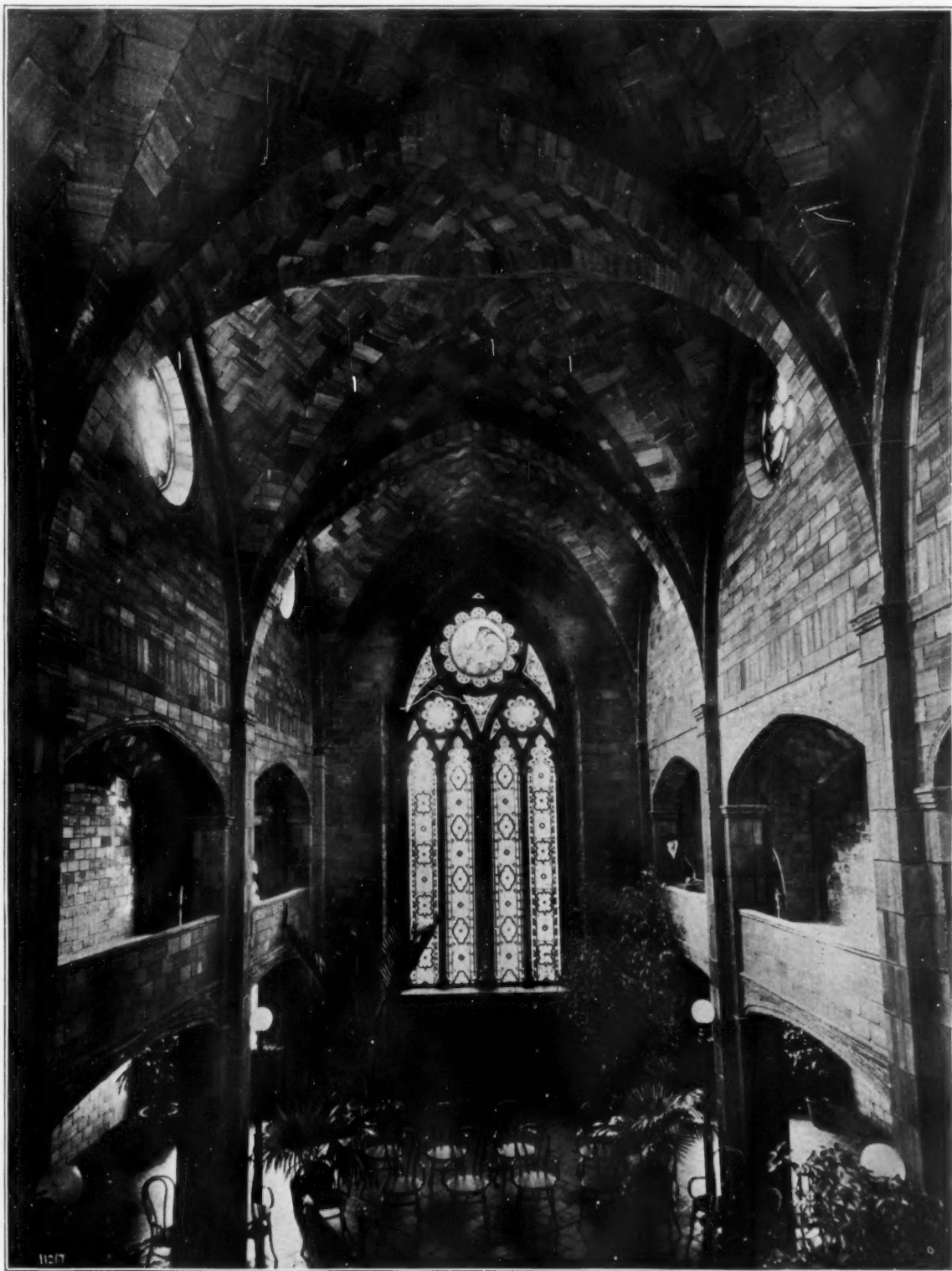


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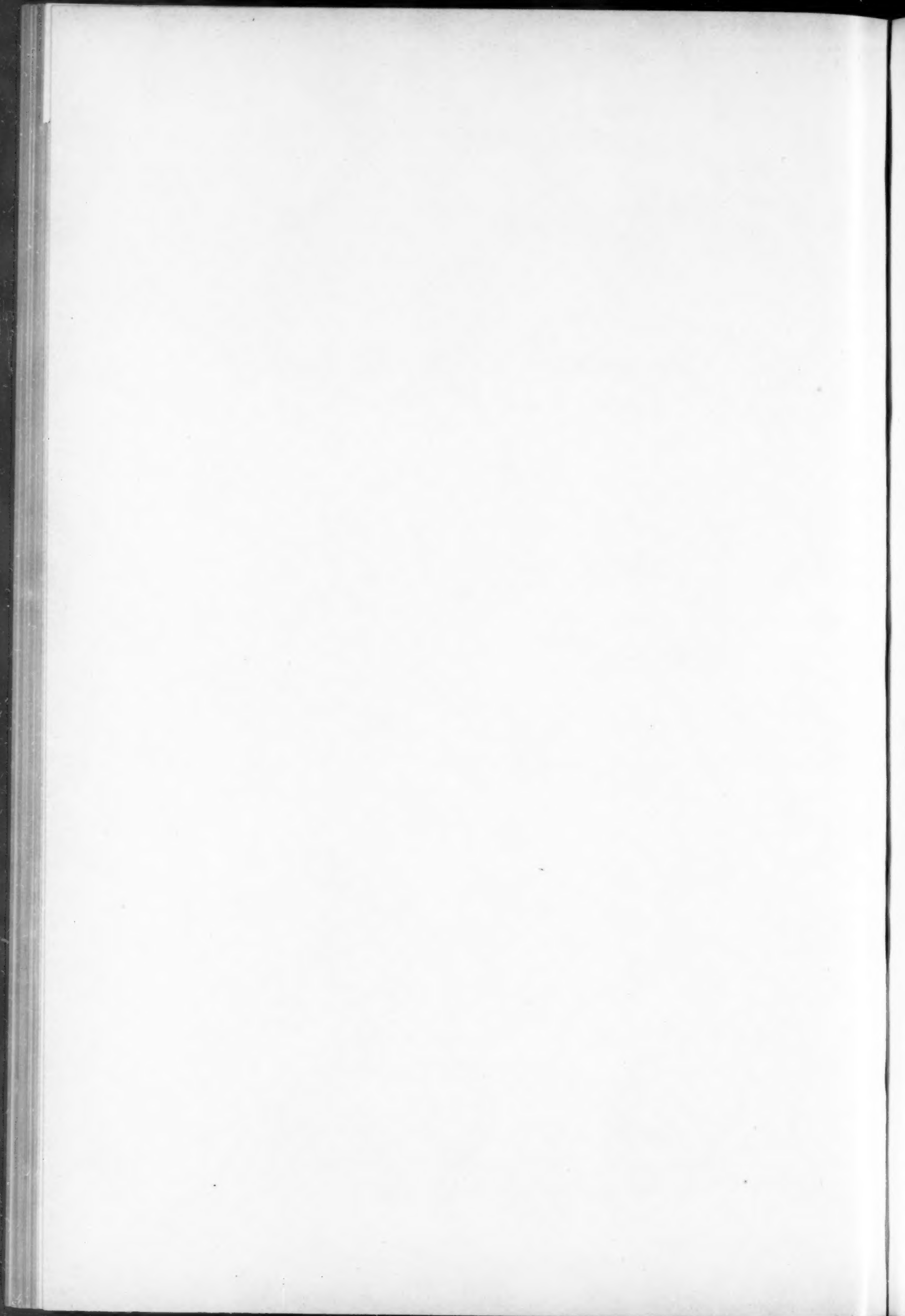
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Crematory at Mt. Auburn Cemetery, Cambridge, Mass. Photograph of interior of what was formerly the Old Stone Chapel, with the new additional floor and galleries, and new ceilings and roof, all without steel; walls and piers faced; all in rough tile in the Guastavino System. No change in exterior effect of the building.

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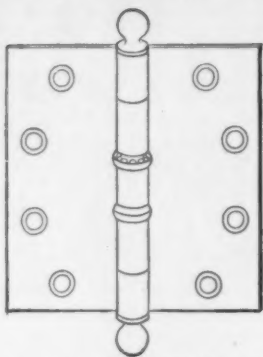
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Waterbury. Benedict & Burnham Mfg. Co.....[Seamless Nickel-Silver Tubing].	St. Louis. Ludlow Saylor Wire Co.....[Art Metal Work]. Seifert, Frank A.....[Plaster Ornaments].	St. Louis. Ludlow Saylor Wire Co.....[Art Metal Work]. Seifert, Frank A.....[Plaster Ornaments].	Dayton. Dayton Automatic Elevator Gate Co.....[Elevator Gates].
ILLINOIS. Chicago. Crane Co.....[Drainage Fittings]. Flanagan & Bradenweg Co.....[Stained-Glass]. Northwestern Terra-Cotta Co.....[Terra-Cotta]. Pioneer Fireproof Construction Co.....[Fireproofing]. Taylor, J. W.....[Photographs]. Winslow Bros. Co., The.....[Ornamental Iron and Bronze].	NEW JERSEY. Jersey City. Dixon Crucible Co., Jos.....[Graphite]. Paterson. Passaic Rolling Mill Co.....[Structural Iron]. Perth Amboy. Perth Amboy Terra-Cotta Co.....[Terra-Cotta]. Trenton. N. J. Steel & Iron Co.....[Iron].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	Toledo. Buckeye Paint Co.....[Paint].
MASSACHUSETTS. Boston. Amer. Mason Safety Tread Co.....[Stair Tread]. Bartlett Lumber Co.....[Redwood Lumber]. Butcher Polish Co.....[Floor Polish]. Cabot, S.....[Shingle-Staves]. Campbell, Walter M.....[Perspectives]. Carver Ink Co.....[Ink]. Folsom Snow Guard Co.....[Snow Guards]. Gurney Heater Mfg. Co.....[Hot-water, etc.]. Haberstroh & Son, L.....[Decorators]. Heliotype Printing Co.....[Art Printing]. Lombard & Co.....[Architectural Ornamentation]. New England Felt Roofing Works.....[Roofing]. Samson Cordage Works.....[Sash-Cord]. Sprenting Print Paper Co.....[Fine Prints]. Whitmer Machine Co.....[Elevators].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	Pennsylvania. Ambler. Kensley & Mattison Co.....[Magnesia Covering]. Philadelphia. Electric Storage Battery Co.....[Chloride-Accumulators]. French & Co., Samuel H.....[Mortar Colors]. Gara, McGinley & Co.....[Steel Corners]. Harrison Brothers & Co.....[Protective Paint]. Loomis Filters Improved System.....[Filters]. Maxwell & Co., J.....[Gypsum Water Paint]. Merchant & Co.....[Tin Roofing]. Morse, Williams & Co.....[Elevators]. Taylor Co., N. & G.....[Tin]. Thorn, J. B. Co.....[Sheet Metal].
Cambridge. Lawrence Scientific School.....[School].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	Pittsburgh. Monarch Water Heater Co.....[Heaters]. Scaife, Wm. B. & Sons.....[Filters].
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Palmer. Flynt Building & Construction Co.....[Building Contractors].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	NEW YORK. Brooklyn. Moore, Benjamin.....[Mureson]. Buffalo. Bradshaw Window Opener Co., The.....[Window Opener]. Irvington-on-Hudson. Lord & Burham Co.....[Conservatories]. Jamestown. Art Metal Construction Co.....[Art Metal Work].	York. Vapor Steam Heating Co.....[Heating Apparatus, Steam].

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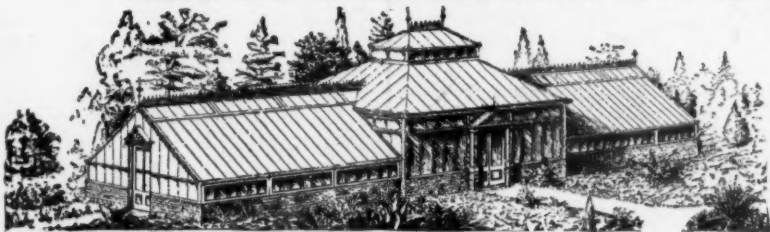
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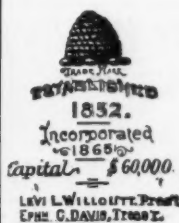
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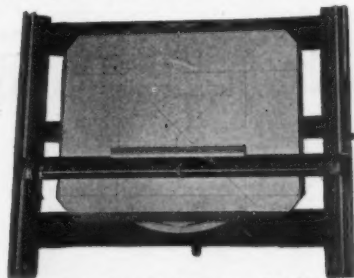
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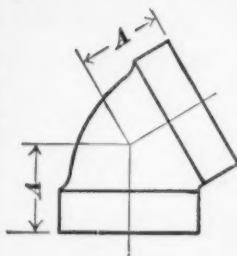
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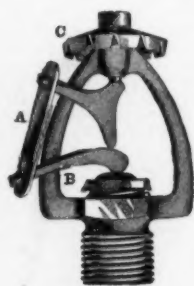
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San Francisco, Cal.—The directors of St. Luke's Hospital contemplate erecting an addition to the hospital, to cost \$50,000.

South Bend, Ind.—Parker & Austin have designed for the St. Joseph County Savings Bank a \$20,000 stone bank building.

Springfield, Mass.—G. P. B. Alderman and G. C. Friswell, of Holyoke, will build a four-story brick apartment-house on Maple St., to cost \$100,000.

Stoneham, Mass.—Architects Loring & Phipps, Boston, have prepared plans for the new high school to be built on Williams St. It will be constructed of brick, and cost \$45,000.

St. Paul, Minn.—Architects Buechner & Jacobson are preparing plans for a two-story brick fire-engine house to be erected at the West Side; cost, \$60,000.

Washington, D. C.—B. S. Simons is drawing plans for a row of houses to be erected on K St., between 6th and 7th Sts., N. E. The construction material will be brick and Indiana limestone, height two stories, 20' x 68', and cost \$13,000.

Frank W. Hart has drawn plans for six dwellings to be erected for Chas. C. Gill, of New York City, at the corner of 4th and F Sts., N. E. They will be built of brick and Indiana limestone, two stories high, 18' x 55', and will cost \$16,400.

Wells, Mich.—The I. Stephenson Co. will expend about \$25,000 in improvements to their plant.

Whitcomb, S. C.—The Glenn-Lowery Manufacturing Co. has been incorporated with a capital stock of \$300,000 for the operation and erection of a cotton-mill.

Williamstown, Mass.—At a recent meeting of the Congregational Society it was voted to build a parsonage at a cost not to exceed \$8,000. Dr. John Bascom was appointed Chairman of the Building Committee.

Youngstown, O.—W. S. Lougee, of Cleveland, is preparing plans for a theatre and apartment building. It will be of pressed brick and terra-cotta construction, and will cost about \$100,000.

ALTERATIONS AND ADDITIONS.

Barborton, O.—Two-st'y bk. & st. addition to school building, 55' x 65', slate roof, steam; \$10,000; o., Board of Education; a., S. Gintner, Akron.

Mason City, Ia.—Two bk. additions to school, 47' x 64' & 47' x 60', shingle roof, steam; \$12,000; o., Board of Education; a., E. R. Bogardus.

Milwaukee, Wis.—Three-st'y bk. factory addition, 60' x 79', comp. roof; \$15,000; o., F. Prinz; a., H. Messmer & Son.

Philadelphia, Pa.—Howard and Tioga Sts., 2 two-st'y wing addition to school-building, 28' 4" x 36' 4"; \$11,000; o., City; b., William E. Dougherty.

Thirteenth and Thompson Sts., 2 three-st'y wings to school-building, 28' x 34'; \$23,000; o., City; b., Geo. W. Pierson.

Swanson St., nr. Moore St., one-st'y addition to coopersage building, 100' x 140' 4"; \$6,000; o., N. & H. O'Donnell.

BUILDING INTELLIGENCE.

(Alterations and Additions Continued.)

Pittsburgh, Pa.—Nine-st'y bk. & terra-cotta steel construction addition to hotel, 60' x 130', flat roof, steam; \$300,000; o., D. F. Henry; a., Alden & Harlow.

APARTMENT-HOUSES.

Boston, Mass.—Hemmenway St., nr. Westland Ave., eight-st'y bk. aparts., 57' x 92' x 112', flat roof, steam; \$225,000; o., Edward A. Bangs et als., trustees; a., John Lavallo.

Philadelphia, Pa.—Wylie and Bellevue Sts., four-st'y bk. flat, 32' x 116'; \$45,000; o., A. H. Merahan; b., Frank S. Riggs; a., Frank E. Martin.

CHURCHES.

New Martinsville, W. Va.—North and Main Sts., bk. church, 65' x 72', slate roof, hot air; o., M. E. Society; a., W. J. Alexander.

EDUCATIONAL.

Alexandria, La.—Three-st'y bk. & st. high school, 112' x 160', slate roof, hot blast; \$50,000; o., Board of Education; a., L. E. Burkett, Greenville, O.

Carlyle, Ill.—Two-st'y & base. school, 100' x 119', slate roof, steam; \$20,000; o., School District No. 3; a., G. Van Hoonbeke.

Fond du Lac, Wis.—Two-st'y bk. school, 62' x 100', shingle roof, furnace; \$15,000; o., School Board; a., Van Ryn & De Gelleke, Milwaukee.

Marion, O.—Two-st'y & base. school, 46' x 60', slate roof, hot air; \$15,000; o., Board of Education; a., Yost & Packard and H. Spielman, Columbus.

FACTORIES.

Boston, Mass.—Union Ave., nr. Green St., three-st'y bk. shop, 57' x 75', flat roof, steam; \$8,000; o. & b., B. F. Sturtevant Co.

Everett, Mass.—One-st'y steel manufactory, 120' x 200', steam; \$26,000; o., U. S. Steel Co.; b., N. E. Structural Co.; a., E. G. Spielsbury Eng. Co.

Philadelphia, Pa.—Third and Race Sts., five-st'y bk., iron & pine factory, 66' x 80'; \$92,500; o., Alfred T. Moore; b., John R. Wiggins; a., Jas. H. Windrim.

HOTELS.

Tallahoma, Tenn.—Four-st'y fr., bk. & st. hotel, 60' x 104', metal roof, steam; \$35,000; o., Geo. W. Stegall, Huntsville, Ala.; a., G. H. Freese.

HOUSES.

Ashland, Ky.—2½-st'y st. dwell., 50' x 70', terra-cotta tile, hot water; \$16,000; o., E. W. Stack; a., J. B. Stewart.

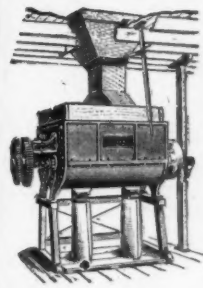
Boston, Mass.—Draper St., nr. Bowdoin St., 2½-st'y fr. dwell., 25' x 48', pitch roof, furnace; \$5,000; o., Maria McDonough; a. & b., D. McDonough.

Calder St., nr. Canterbury St., 2½-st'y fr. dwell., 28' x 48', pitch roof, furnace; \$5,000; o., a. & b., A. Kauback.

Romsey St., nr. Sydney St., 2½-st'y fr. dwell., 26' x 48', pitch roof, furnace; \$6,000; o., W. B. Smallman; a., J. Smallman.

Chestnut Hill Ave., nr. Commonwealth Ave., three-st'y fr. dwell., 38' x 46', pitch roof, furnace;

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(Houses Continued.)

\$8,000; o., Russell J. Goodnow; b., M. J. Reynolds; a., Cabot, Everett & Mead.

Henchman St., three-st'y bk. dwell., 32' x 32', flat roof; \$7,000; o. & b., Simon Dobkins; a., F. A. Norcross.

Bay State Road, three-st'y bk. dwell., 22' x 52', flat roof, furnace; \$20,000; o., Ada L. Vinal; b., H. A. Bellamy; a., Arthur H. Vinal.

Page Ave., nr. Glenway St., 2½-st'y fr. dwell., 28' x 46', pitch roof, furnace; \$5,500; o., a. & b., Lewis A. Belyea.

New St., three-st'y bk. dwell., 17' x 36' x 43', flat roof, steam; \$6,500; o., Daniel Crowley; a., T. J. Desmond.

Shelby St., cor. Princeton St., 2 three-st'y fr. dwells., 22' x 47', flat roof; \$9,000; o., Mary McCarthy; a. & b., C. W. Mathewson.

Walk Hill St., Nos. 639-641, two 2½-st'y fr. dwells., 23' x 46', pitch roof, furnace; \$8,000; o. & b., J. B. Mulvey; a., S. Rantin & Son.

Francis St., nr. Huntington Ave., three-st'y bk. dwell., 36' x 38' x 46', flat roof, steam; \$7,000; o., Daniel Crowley; a., T. J. Desmond.

Dustin St., nr. N. Beacon St., 2½-st'y fr. dwell., 26' x 34', pitch roof, furnace; \$9,500; o., D. O'Keefe; a., T. E. Sheehan.

Cabot St., nr. Linden Park, 2 three-st'y bk.

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dwells., 18' x 55', flat roofs; \$10,000; o. & b., D. & M. Rubnoff; a., G. H. Smith.
Willie St., cor. Chase St., 2½-st'y fr. dwell., 25' x 35', pitch roof, furnace; \$5,000; o. & a., F. G. Powell.
Mellen St., nr. Montague St., 2½-st'y fr. dwell., 35' x 40', pitch roof, furnace; \$5,500; o., a. & b., A. C. Sundberg.
Cambridge, Mass.—Fallen St., No. 11, rear, two-st'y fr. dwell., 30' x 43', furnace; \$9,000; o., Mrs. J. H. Ropes; b., M. C. Buelle; a., Guy Lowell.
Canton, Mass.—Two-st'y fr. dwell., 41' x 54', gambrel roof, furnace; \$5,000; o., S. W. Sumner; a., G. Walter Capen, Boston.
Grosse Pointe, Mich.—2½-st'y fr. dwell., 80' x 90', pitch roof, hot water; \$20,000; o., Hugo Scherer; a., Louis Kamper.
Marion, Ind.—2½-st'y fr. dwell., 50' x 60', slate or tile roof, furnace; \$12,000; a., Joseph Sayer; a., Richards, McCarty & Bulford, Columbus, O.
Two-st'y fr. dwell., 40' x 50', slate roof, hot water; \$10,000; o., Lee Hall; a., Richards, McCarty & Bulford, Columbus, O.
Newton, Mass.—Monteale Road, two-st'y dwell., 31' x 68', furnace; \$16,000; o., Mrs. M. S. Merrill; b., C. H. & A. F. Ireland; a., W. W. Dinmore.
Philadelphia, Pa.—Forty-ninth St., nr. Warrington Ave., 3 three-st'y bk. dwell., 18' x 62', mansard roofs; \$46,200; v. Chas. W. Budd & Bro.
Somerville, Mass.—Glen and Morton Sts., three-st'y dwell., 48' x 60', tar & gravel roof; \$11,000; o. & a., O. L. Story; b., Wm. Brooks.
Dickinson St., three-st'y dwell., 30' x 59', tar & gravel roof, furnace; \$6,000; o., Wm. A. Nichols; a. & b., Geo. A. Chaplin.

BUILDING INTELLIGENCE.

OFFICE-BUILDINGS.

Detroit, Mich.—Two-st'y bk. & st. telephone station, 33' x 61', comp. roof, steam; \$14,000; o., Michigan Telephone Co.; a., Z. Rice.
Green Bay, Wis.—Two-st'y bk. business block & lodge-rooms, 44' x 110', steam; \$10,000; o., James Kerr; a., J. E. Clancy.
STABLES.
Boston, Mass.—Kemble St., nr. Gerard St., bk. stable, 35' x 67', flat roof, stoves; \$6,000; o., Geo. D. Berry; b., W. J. Jabling; a., W. H. Benarick.
TENEMENT-HOUSES.
Brooklyn, N. Y.—Fifth Ave., nr. 56th St., 3 three-st'y bk. tenements; \$30,000; o., F. Gelston, 73d St. & 1st Ave.; a., G. F. Roosen, 68 Fort Greene Pl.
Ralph Ave., e. s. 25' x St. Mark's Ave., 3 three-st'y bk. tenements, 29' 2" x 55'; \$24,000; o., Miss Hesseman, 44 W. Central Park, N. Y.; a., F. S. Lowe, 186 Remsen St.
New York, N. Y.—One Hundred and Thirty-first St., nr. Lenox Ave., five-st'y bk. tenement, 32' x 86' 4"; \$27,000; o., Geo. Macgregor, 446 Madison Ave.; a., R. K. Davis, 247 W. 125th St.
Cannon St., Nos. 79-81, six-st'y bk. tenement & stores, 40' x 70' 6"; \$40,000; o., Baller & Wexler, 280 Rutledge St., Brooklyn; a., Sass & Smallheiser, 23 Park Row.
Washington Ave., cor. 171st St., five-st'y bk. & st. tenement & store, 50' x 84' 10"; \$30,000; o., Mehuhr & Stadlander, 1507 Washington Ave.
THEATRES AND HALLS.
Boston, Mass.—Massachusetts and Huntington Aves., bk. hall & offices, 94' x 210', pitch roof, steam; \$250,000; o., Mass. Horticultural Society; b., C. A. Dodge & Co.; a., Wheelwright & Haven.



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WAREHOUSES.

Chicago, Ill.—Carpenter and Erie Sts., six-st'y warehouse, 50' x 115', comp. roof, steam; \$25,000; o., M. Schulz; a., Edward C. La Belle.

MISCELLANEOUS.

New York, N. Y.—Third Ave., Nos. 432-436, four-st'y bk. gymnasium, 55' x 59' 5" & 60', bk., cement & asphalt roof; \$60,000; o., F. L. Slade, 47 Cedar St.; a., Howell & Stokes, 47 Cedar St.

PROPOSALS.

SCHOOL-HOUSE.

[At Westfield, N. J.]

Sealed proposals will be received at the office of the architects named below until noon, July 9th, 1900, and opened at 3 P. M., for the furnishing of all material and the doing of all labor in accordance with the drawings and specifications.

Each bid must be accompanied by a certified check to an amount of two per cent (2%) of the bid made out to John J. Cogger, Esq., District Clerk. The right is reserved to reject any and all bids, and to waive any defect or informality of any bid should it be deemed in the interest of the Board of Education to do so.

Sets of plans and specifications will be forwarded by the District Clerk on the receipt of a P. O. Money Order for fifteen dollars (\$15).

A set of heating and ventilating plans and specifications will be forwarded by the District Clerk on the receipt of a P. O. Money Order for ten dollars (\$10).

Proposals must be on form included in specifications that may be also procured from the District Clerk, addressed to the President of the Board of Education, of the township of Westfield, Union Co., New Jersey, and indorsed:

"Proposal for the erection of a Graded Primary School in the Township of Westfield, Union Co., N. J."

JOHN J. COGGER, District Clerk,
Board of Education, Westfield, N. J.

PROPOSALS RECEIVED.

Sealed proposals will be received by the undersigned until noon of July 9, 1900, and opened for the furnishing of all materials and the doing of all labor in connection with the proposed Graded Primary School, Westfield, Union Co., N. J., in accordance with plans and specifications furnished by INGLES & ALMIRALL, associated architects. CLINTON MACKENZIE, 10 and 12 E. 23d St., New York City. 1278

Treasury Department, Office Supervising Architect, Washington, D. C., June 19th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on



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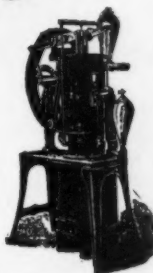
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the 17th day of July, 1900, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Post-office building at Streator, Illinois, in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Postmaster, Streator, Ill. JAMES KNOX TAYLOR, Supervising Architect. 1279

Treasury Department, Office Supervising Architect, Washington, D. C., June 14, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for the completion (except heating apparatus, electric wiring and conduits) of the U. S. Post-office Building at New Brighton, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at New Brighton, Pa., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1279

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 13th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 2d day of July, 1900, and then opened, for the construction and placing of new boilers for the U. S. Treasury Building, Washington, D. C., in accordance with drawings and specification, which will be furnished at the discretion of the Supervising Architect upon application at this office. JAMES KNOX TAYLOR, Supervising Architect. 1279

Sealed proposals will be received at the office of the Light-house Engineer until 12 o'clock M., July 7, 1900, and then opened, for furnishing the material and labor of all kinds necessary for the delivery, erection and completion of the Hog Island Shoal Light-house, R. I., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to D. P. Heap, Lieut. Colonel, Corps of Engineers, U. S. A. 1279

PROPOSALS.**SCHOOL-HOUSE.**

[At Oxford, Ia.]
Sealed bids will be received by the School Board until July 2d, for the erection of a school-house. GEO. W. SIES. 1279

SCHOOL-HOUSE.

[At East St. Louis, Mo.]
Sealed proposals will be received until June 30th, for the erection of a school-building. 1278

COURT-HOUSE.

[At Burlington, Kan.]
Sealed bids will be received until July 6, for the erection of a court-house for Coffey County. W. M. PALEN, county clerk. 1280

CHURCH.

[At Waterloo, Ia.]
Sealed proposals will be received until June 20th, by St. Joseph's Catholic Society for the erection of a church. BUILDING COMMITTEE. 1278

SCHOOL-HOUSE.

[At Cedar Falls, Ia.]
Sealed bids will be received until June 26th, for the erection of a school-building. W. T. M. AITKEN. 1278

FIREPROOFING.

[At Washington, D. C.]
Sealed proposals for fireproof floor, ceiling and roof construction, and for electric hoists, will be received until July 5, 1900, at U. S. Engineer Office, 735 N. Capitol St., Washington, D. C. JOHN STEPHEN SEWELL, Lieutenant, engineers. 1279

OFFICERS' QUARTERS.

[At West Point, N. Y.]
Sealed proposals, in triplicate, will be received here until July 5, for construction of two officers' quarters, as per plans in this office. Address Q. M., U. S. M. A. 1279

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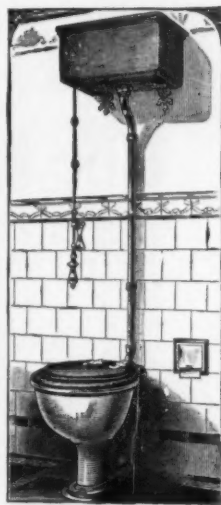
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PROPOSALS.

Treasury Department, Office of Supervising Architect, Washington, D. C., June 7, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 2d day of July, 1900, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the N. W. extension of the U. S. Bureau of Engraving and Printing, Washington, D. C., in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Superintendent at the Bureau, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1278

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 9, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for furnishing the heating and ventilating apparatus, complete in place, for the U. S. Custom-house and Post-office building at Bristol, Tenn., in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Bristol, Tennessee, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1278

Treasury Department, Office Supervising Architect, Washington, D. C., June 9th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for the erection and completion (except boilers and gas-fixture) of the boiler-house and stack for the U. S. Marine Hospital at Cleveland, Ohio, in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Custodian at Cleveland, Ohio. JAMES KNOX TAYLOR, Supervising Architect. 1278

CHURCH.

[At Anoka, Minn.]
Sealed proposals will be received until June 30th, for the erection of a church for the First Baptist Society. JOHN GOSS. 1278

SCHOOL-HOUSE.

[At Aneta, N. D.]
Sealed proposals will be received until June 26th, for the erection of a school-house. J. G. GUNDFERSON, pres. 1278



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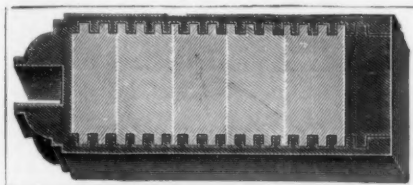
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Professional Ethics.

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. . . CODE OF ETHICS . . .

Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, WAS

ADOPTED BY THE SOCIETY, FEBRUARY 1, . . 1895. . .

SECTION 1. No Member should enter into partnership, in any form or degree, with any builder, contractor, or manufacturer.

SECTION 2. A Member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership.

SECTION 3. No Member should be a party to a building contract except as "owner."

SECTION 4. No Member should guarantee an estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer drawings or other services "on approval" and without adequate pecuniary compensation

SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

SECTION 7. It is unprofessional to make alterations of a building designed by another architect, within ten years of its completion, without ascertaining that the owner refuses to employ the original designer, or, in event of the property having changed hands, without due notice to the said designer.

SECTION 8. It is unprofessional to attempt to supplant an architect after definite steps have been taken toward his employment.

SECTION 9. It is unprofessional for a Member to criticise in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.

SECTION 10. It is unprofessional to furnish designs in competition for private work or for public work, unless for proper compensation, and unless a competent professional adviser is employed to draw up the "conditions" and assist in the award.

SECTION 11. No Member should submit drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

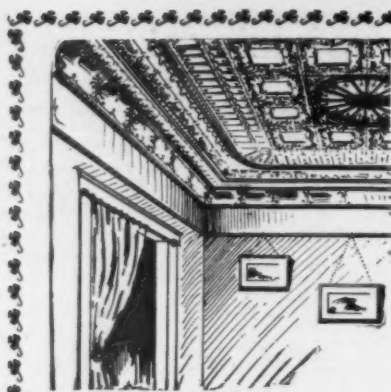
SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot give proper personal attention.

SECTION 13. No Member shall compete in amount of commission, or offer to work for less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into competition with or to consult with an architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

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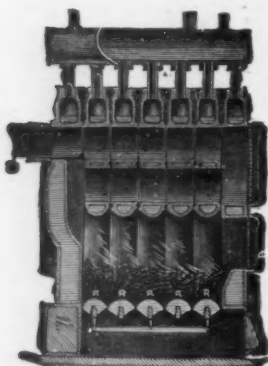
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