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A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART

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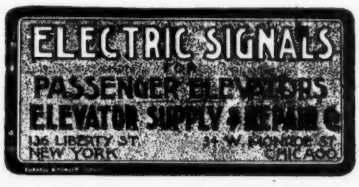

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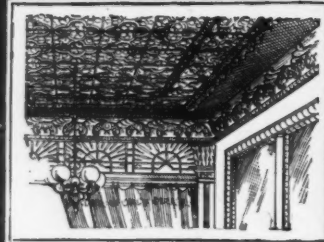

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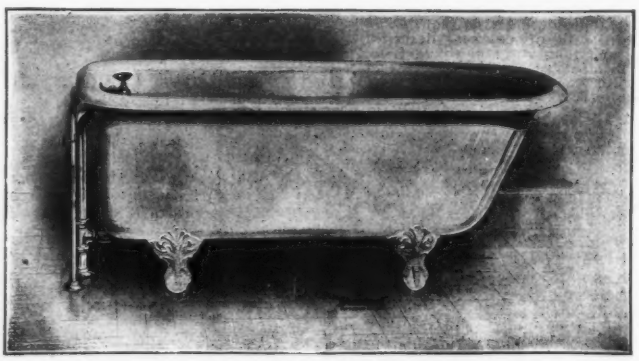

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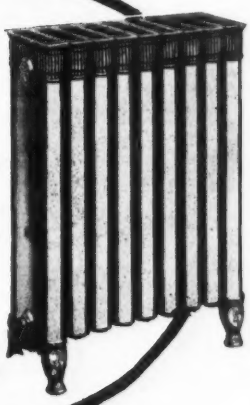

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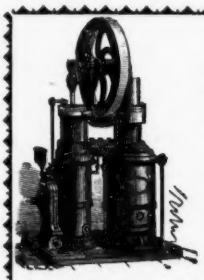

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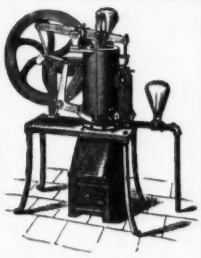

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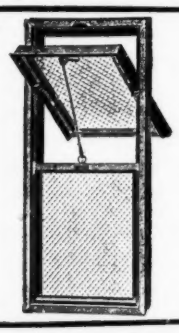

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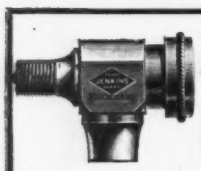

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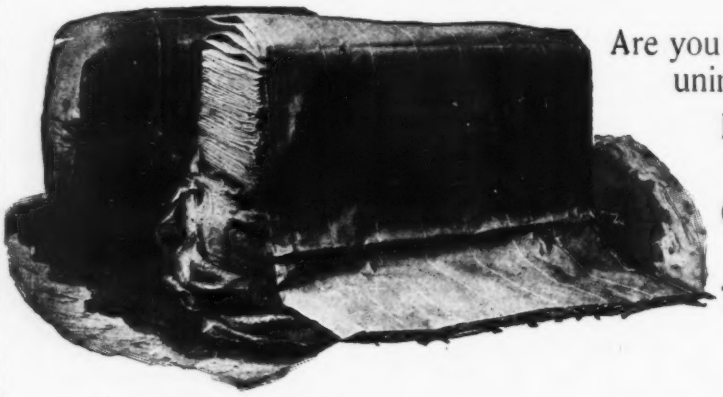

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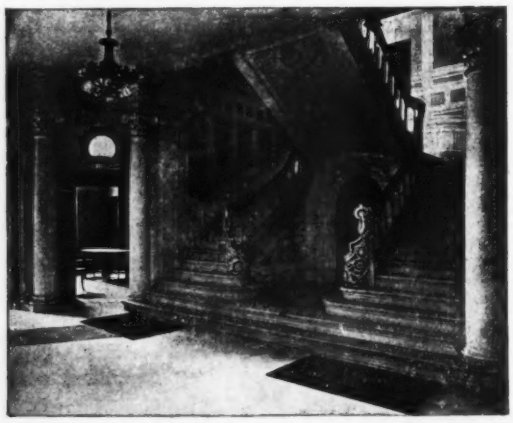

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THE AMERICAN ARCHITECT AND BUILDING NEWS

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IT may be remembered that some three or four years ago our columns contained some reference to and correspondence about the proposed new City Hall at Bridgeport, Conn. The situation was the not unusual one where the citizens were divided into two parties, because it had been decided to give local talent the cold shoulder and place the work in the hands of architects from another State. The matter of actual building seems to have hung fire in a most unexpected way, due probably to the ability with which the upholders of the local architects conducted their campaign, but a crisis has been reached at last, and it comes in the shape of a suit for twenty thousand dollars, which the selected architects, Messrs. McKim, Mead & White, bring against the city for breach of contract. From this it is apparent that the city has decided it to be more economical, and just as satisfactory, to remodel the present building than to pay five hundred thousand—and probably more—for a new one. Even including the cost of the suit, the city will probably save a good deal of money, and the officials will doubtless be as comfortably provided for. Against the certain loss of a presumptively fine building, which might have been had for half a million, there can be set the preservation, and perhaps the architectural betterment, of the present structure, which is a dignified little building and quite worth preservation. It seems to us that in this case the second thought is likely to find its justification in the event, but many people will long make political capital out of this claim for twenty thousand dollars for the rejected design.

AS a consequence of the disastrous destruction of the Iroquois Theatre in Chicago and the more recent burning, unattended with loss of life, of a theatre at Lynn, Mass., a general State theatre law has been reported in the Massachusetts legislature by its Committee on Cities, which is a striking case of the harm that may be done by the incorporation in such a measure of the customary clause that "all acts and parts of acts inconsistent herewith are hereby repealed." Should the bill not be seriously amended and improved, the repealing clause, which would cancel the clauses in Boston's building law relating to theatres, would work a very grave injury. The Boston building law now requires all new theatres to be of the "first class," that is, really fireproof, while the new State law would allow them to be of the second class, that is, only partially fireproof, and this step backward alone would be a grievous mistake. Moreover, the new law does not define the position of the stage, and hence a theatre may be built in any story of a building, while the Boston law limits a new theatre so that its stage cannot be more than five feet above the street level, and hence the parquet seats must be at the street level. As the proposed law would bring about an improved condition of things in small towns and cities, it might be enough of an amendment to add a clause excepting from its operation Boston and such other towns as already have more stringent laws.

WE hope that the good people of New York may not find they have put themselves under the rule of King Stork in seeking to evade the inertia of King Log. The Board of Aldermen have at length added to the building ordinances a section prepared at the instigation of the New York *Tribune*, which puts into the hands of the Superintendent of Buildings the power of summarily putting a stop, with the aid of police, if needful, to building operations where, in his opinion, through defective work or because of violation of the building law, there appears to be likely to result danger to life or property. The new provision may, perhaps, be useful in the hands of a really competent official or harmless in the hands of an honest, if not so competent, one. But it furnishes a dishonest man with as dangerous a weapon for exacting blackmail as could well be devised, and everyone knows that in the past contractors and building owners have been made to "give up" freely, not so often directly to any one connected with the Building Department as indirectly, so that the money exacted reached either the treasury of one political party or the other, or the private pocket of a party boss.

IT is matter of common observation that during times of business depression and that, even more, during times of widespread epidemics, the business of the playhouses is even more than normally prosperous. People go to the theatre to lose sight of their own troubles while beholding the trials or pleasures of mimic heroes and heroines: they forget not only themselves, but also where they are, and lose not only their own identities but all sense of actual locality. It is evidently through counting on this latter peculiarity that the owners of the ill-fated Iroquois Theatre are desirous of putting the structure—remodelled and improved, of course—again into use as a theatre. The idea of having the scene of so lurid and terrible a disaster again made the home of jest and gaiety seems to have revolted the city officials, and they declined to issue to the new owner of the building the necessary building permit. Upon this he applied for a writ of mandamus compelling the issue to him of the desired permit, and the judge, perceiving that there was no lawful objection, properly issued the writ as asked, but in signing the order he also intimated, in a rather left-handed way, his sense of the impropriety of using the building again as a theatre, saying: "If a man desires to open a vaudeville show in a private graveyard, and the city is issuing permits of this kind, and if the building complies with all ordinances, the city must issue the permit."

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WE hope that Mr. Hornbostel was as much surprised as we were at seeing published in the New York *Evening Post*, a few days ago, an interview with himself in which he is alleged to have not only shown considerable soreness at being ousted from his position as architect to the Manhattan Bridge—a sensation entirely natural under the circumstances—but to have exhibited an unfortunate feeling against his successor. Good taste ordinarily leads artists of all kinds to be very chary of making in public unfavorable criticisms of one another's work, even after that work has been accomplished; but it is distinctly a novelty to find one of the class declaring that his successor's work is unquestionably fore-ordained to failure: that it can be only "an architectural patchwork," "a curious and inartistic piece of work," "a piece of botchwork," etc. Mr. Hornbostel's treatment of the architectural setting of the bridge was successful and admirable in its way, but that does not prove that Mr. Carrère's treatment of the same problem may not be as satisfactory after quite another style. A public outburst of this kind transcends professional proprieties and we cannot but believe that the interviewer misunderstood or misreported what was actually said. The incident perhaps comes within the debatable ground of what is a "privileged communication," a defence that is likely to be put forward by another architect, who, at this moment, is being sued by a certain sculptor because of a letter written by this architect to a third party, in which he seems to have expressed such an opinion of the sculptor's work as to prevent his securing an order he was hoping to get. On the whole, it is safest, when one feels like criticising a fellow-artist, to commit the matter to paper and then act on the advice of the astute Mr. Blaine and "burn this."

NEXT to the trade-unions, English architects find their greatest tyrant in the law of ancient lights, and they must rejoice that it has received rather severe punishment recently in the House of Lords, which, for the first time, apparently, has been called upon to pass judgment on the essential right of the dominant over the servient tenement. The case, that of Colls *vs.* the Home and Colonial Stores, Ltd., was one of the usual kind that is generally settled in favor of the preservation of the ancient rights to light that have existed for twenty years or more; but it was quite typical, and it was only owing to the personal perseverance of the plaintiff that it was brought before the House of Lords a second time. Across a street, forty feet wide, Mr. Colls had the audacity to replace an old building nineteen feet high with one which measured forty-two feet, and was naturally pleased when Mr. Justice Joyce held that the dominant tenement still had enough light left to it for the ordinary purposes of the business therein conducted. The Court of Appeal, however, reversed this decision and ordered Mr. Colls to pull his building down to the nineteen-foot level, but a stay of proceedings was granted so that appeal might be taken to the House of Lords. The Lord Chancellor in expressing his opinion adopted very nearly the view that is held in this country, when he said that the strict logical enforcement of the statute "would formidably restrict the rights of people to utilize their own land," as "it would render it almost impossible for towns to grow." The Lord Chancellor maintained that, in order to secure relief, it must be proved that a servient tenement is a "nuisance," and quoted with approval the opinion of Lord Hardwicke in 1752, who declared that "it is not sufficient to say it will alter the plaintiff's light, for then no vacant piece of ground could be built on in the city, and here there will be seventeen feet"—in the Colls case under discussion there were forty feet and the possibility of proving a nuisance the more remote. The Lord Chancellor held that one cause of the common misunderstanding of light and air cases was the belief that the dominant tenement has a property right in all the light that there is, while actually the right to light is common to every one, and hence one person cannot absorb it all.

ONE of the most useful additions to Boston's educational forces is Simmons College, now two years old, an institution conducted largely by women for the sake of giving to girls such instruction in art, science and industry as "would best enable women to earn an independent livelihood." With so elastic a programme as this, a limitless development is possible, and although the start was made on conservative lines, very rapid progress has been made, and the courses of instruction have been amplified and added to in a degree that was expected to be found possible only after many more years had elapsed. Almost anything is an "art" nowadays, but though the homely arts of housekeeping—cooking, sewing, nursing, marketing, etc.,—were meant to be rather the long suit of the undertaking, all gathered into the "School of Household Economics," the curriculum already covers other interests of a special nature, in addition to the ordinary college courses of general education. As no self-respecting college can exist without a department of architecture, we find that this new institution asserts equality with its peers by maintaining a course on the "Economics of Architecture," and among the officers of instruction are listed the names of several of the younger architects of Boston, as lecturers in this department. But the scheme is not to educate the young women to become practising architects, but merely to give them some enlightenment in the history of architecture as a fine art and more specifically to enable them to understand and properly care for the complicated modern structures that henceforward must come so largely under their domestic oversight. Instruction, therefore, in the reading of drawings is a desirability, while a knowledge of sanitary matters, in all that concerns plumbing, heating and ventilating, is an essential.

THE taking of testimony in the great case of St. Louis against the city of Chicago because of the alleged pollution of the former's water-supply, through the discharge of the latter's great drainage canal into the Illinois River, has come to a close, but it will be long yet before the case itself is heard and decided. Recently but little about the case was to be found in the daily papers and this was doubtless due to the volume of the testimony that was taken, so vast, that to publish it, or digest it even, probably called for more space than the newspapers were willing to give to it: it is said that the testimony now to be placed before the United States Supreme Court will consist of eight or ten printed volumes of about one thousand pages each. The general feeling seems to be that St. Louis has made out an unexpectedly good case and that, as a consequence, some of the theories of modern sanitary science will have to be seriously revised. The various harmful bacilli seem to be more tenacious of life than was expected, and the virtues of aëration and dilution seem to have been overestimated.

REPORT ON THE CONFLAGRATION IN BALTIMORE.

OF the reports of observation made upon the results of the great fire in Baltimore last winter that have been laid before the public, so many have been made at the instigation of interested manufacturers, who desired to have made public only those facts that redounded to the credit of the system or material in which they had a financial risk, that even the well-informed architect is puzzled to know whom to believe and feels that he would like to visit the scene and make his own observations.

As there can be no question of the integrity and sincerity of the reports issued by the Insurance Engineering Experiment Station, of Boston, it seems desirable to put on record the report recently issued by Prof. Charles E. Norton and the introductory remarks of Mr. Edward Atkinson.

THE first lesson taught by this conflagration is for the underwriter to expunge the term "fire-proof" from his dictionary; even to distrust every mode of construction, paint or process to which it is applied.

This great practical test by fire has sustained several conclusions that had been indicated in other fires of less magnitude and by our laboratory tests of materials and processes.

Granite again proved to be most unfit. This conclusion had long since been reached from the results of the conflagration in Boston. On witnessing that all the granite exposed had been reduced to sand, I asked an explanation of the late President William B. Rogers, who told me that granite was more or less porous, all varieties containing sufficient water in hygroscopic form to make steam under heat, which rends the rock into sand. Granite is also a crystalline conglomerate which splits or spalls under heat, because of the stress set up by its unequal expansion in different parts and in different directions.

Marble being a limestone has been calcined wherever it was long exposed to high heat and stands very low as a fire resistant. There was not much common limestone in the Baltimore buildings; it, of course, utterly failed to resist heat.

Sandstones vary much in density. They crumble by splitting into smaller pieces and otherwise are affected under heat in a manner closely corresponding to granite.

The relative fire resistance of building materials of an artificial character was thoroughly tested. Well-made and well-baked brick stand first in their class, as they always have. Their fire-resistant qualities rest upon the thickness of the walls, upon the manner in which they are bonded or laid; while their relative resistance within the building depends, to some extent, on the quality of the brick that may be exposed therein, it being customary to use a lower quality, or softer brick for inside work than for outside walls.

Terra-cotta has failed. We had been led to expect such failure from the condition in which single buildings had been left after serious interior fire, but these cases had not been sufficient to establish a rule. In this conflagration the rule seems to be established. The failure to resist high temperature is due both to the quality of the material itself, which is more or less subject to disintegration under heat, and to its expansion. The greater fault is that terra-cotta blocks, plates, and other forms are detached by expansion in large masses from the steel. This is due to the fact that terra-cotta and steel expand and contract under heat in sufficiently different ratios to render such encasement or protection of little service. The photographs of the conditions under which terra-cotta parted from the steel or was practically destroyed, sustain this view, while the laboratory tests and exact measurements made by Professor Norton give the rule of relative expansion and contraction.

Plaster of Paris used in blocks or otherwise utterly failed under the high and long-continued heat.

Well-made concrete encasing steel proves to be most fully a fire-resistant when it is made with true Portland cement rammed and tamped in a proper manner. It fortunately happens that a well-made concrete of this kind is subject to a law of expansion and contraction under heat so nearly identical with that of steel as to assure its position being maintained under high and varying temperatures. It will be remarked that the temperature in this conflagration must have reached a higher point in many of the buildings of ordinary construction than it did in the steel-framed buildings. In the former many examples of melted iron and steel were found; in the latter, few traces of a temperature reaching these melting points.

It will be observed that a large building protected by automatic sprinklers, both within and without, suffered very little and was doubtless protected in large measure by these safeguards. This immunity from loss may doubtless be in part credited to the sprinkler protection; it would have been wholly credited had not the wind changed at a critical time, turning aside the extreme danger to which this building would otherwise have been subjected.

This qualification is given simply as a caution. An automatic sprinkler system is the most valuable auxiliary ever invented and applied to the prevention of loss by fire. Yet it must be deemed an auxiliary only and must not be considered a substitute for complete protection by powerful steam fire-engines, fixed or movable, hydrants and hose streams with adequate supplies of water. In our factory system two sources of a full supply of water are made the condition of insuring the risk. Yet more: no system of safeguards for the prevention of loss by fire can be considered in any sense adequate or complete in which large supplies of water are not carried to hydrants upon roofs or to hydrants within high buildings, from which vantage points fires in lower buildings may be promptly flooded.

In the recent fire in Rochester, New York, one large building had been furnished with its own steam fire-pump and pipe-service, with hydrants upon the roof, from which effective streams were thrown, stopping the extension of the fire at that point and helping to protect the building on which they were. In another building a standpipe, with hydrants at every floor, served hose from many windows, again checking the fire in that direction. Roof hydrants and streams from upper windows stopped what threatened to be a conflagration in Philadelphia, and the steam pumps, pipes, hydrants, and hose in the silk mills of Paterson stopped that conflagraton at its most dangerous point, and saved the silk industry from destruction.

Again: Outside, or eave sprinklers, are of special value in preventing the spread of fire from building to building. This fact was fairly demonstrated at the O'Neil Building in Baltimore, yet more fully in the Kelgour Building in Toronto, in the Mohair Plush Building in Lowell, and in the American Bicycle Company's Building in North Milwaukee. The two latter buildings escaped without damage, when without eave sprinklers they would probably have suffered a heavy loss, if not total destruction.

The general conclusion which may therefore be derived from this conflagration and from other investigations is, that as yet no fire-proof building has been constructed for general purposes, either as shops, warehouses, hotels, office buildings, or other purposes; nor will there be such a fire-proof building so long as combustible materials are used within for the finish and flooring of the building, or perhaps, so long as combustible material is used within for desks, tables, shelves, chairs, and other furniture. It is hopeful to know that there are now numerous types of metal-clad or incombustible material for inside finish quite as ornamental as any kind of wood, many of them much less costly; and that office furniture of incombustible material is being made on a large scale. It is perfectly conceivable that a practically fire-proof office building may be constructed and so occupied as to be proof against fire generated within, or even against a conflagration without. The window spaces and wall spaces of an office building may be so planned that fire-resistant shutters may be recessed between an inner and outer wall at the side of each window without affecting the stability of the construction; these sliding shutters closing the window spaces automatically when tripped or set in motion by a fusible link exposed upon the outside of the wall between the windows.

If these windows, fewer in number than are of late provided in office and other buildings, are glazed in the upper sash only with ribbed or maze glass for the diffusion of light, the rooms will have more effective light than is or can be provided from the larger area of plain glass commonly provided.

The danger which seems to be least considered in the planning of office buildings, department stores, and the like, is the open stairway, the open hallway, the open elevator, and other flues pervading the building from top to bottom. In factory practice, the vertical hazard is regarded now as a greater danger than the hazard of large areas. The large areas necessary in the conduct especially of textile work, sometimes of several acres, often of one acre on one floor, may be sufficiently well guarded by automatic sprinklers to be considered very safe; but the condition in these rooms is wholly different from that of the department store. In the factory a small quantity of very combustible material is spread over the machines away from the walls, under such conditions that the water from the sprinklers can cover nearly every point where fire can exist or spread, other precautions being taken in the few instances where a fire may lurk in the hollow space within the machine. It follows that in all but one instance in our practice the water from the sprinklers has overleaped the fire and has held it until the mill fire-departments have extinguished it with relatively very small loss; in only one instance has a fire gone over the stock faster than the sprinklers held it, leading to a considerable loss; but in that instance the cause was probably due to the natural effort of the fire-department to put

on water from the pumps and hydrants a little too soon, drawing water away from the sprinkler service.

When these conditions are contrasted with those of a so-called fire-proof hotel or department store, it will be observed that in the latter great quantities of combustible material are exposed on the stairways, other great quantities protected from water coming from the sprinklers in shelves or under counters; in hotels there is often an excess of draperies, carpets and carpet lining, the combustion of which may do little injury to the building, but may suffocate many guests, as in a notable instance in the city of New York. It follows that the very A B C of preventing loss by fire in any building of steel-and-concrete construction or any other so-called fire-proof building is to stop the open ways from floor to floor, to encase the stairways in fire-resistant walls, to encase the elevators in wired glass, and not to provide chutes for passing packages or parcels for the laundry or to the packing room without automatic apparatus for closing such ducts the moment the heat begins to pass.

Many questions have been put to us in regard to the origin of this fire. That matter was the subject of close investigation by Mr. Gray and Professor Norton. It was proved that after the existence of fire in the building in which it originated had been discovered, the building had been entered, and a large amount of smoke discovered rising from the basement through open shafts, without finding the fire itself in the basement. This so-called smoke was unquestionably the gaseous product of the slow combustion of the contents of the basement, which were not what would be ordinarily considered of an explosive character. This gaseous product rising to the upper stories and becoming mixed in due proportion with the air, was suddenly ignited, making what is commonly called by firemen, a "heat explosion," throwing burning fragments throughout the neighborhood. Such explosions have not been infrequent in the Factory Mutual practice and their source and cause have been fully established. There can be little doubt that the dangerous explosion by which this conflagration was spread may be attributed to the open ways giving free passage to the hot gases generated by slow combustion in the basement, and carried thence to the very top of the building.

This so-called smoke which may be generated by the slow and imperfect combustion of textile fabrics, paper or other organic matter, consists mainly of hydro-carbon gases rendered volatile by heat, needing only the admixture of oxygen to make them explosive. In other words, a slow combustion in a mass of goods of many kinds converts the room into a gas retort and the gases generated pass upward, heated to such a degree that not even a spark is required for explosion when they meet the requisite supply of oxygen.

These facts have been developed in several of the most destructive fires to which the Factory Mutual Insurance Companies have ever been subjected, and while it has not been possible to prove the existence of these conditions, they yet constituted the only possible explanation of the explosive conditions under which the property had been destroyed. This theory has been fully justified by laboratory experiments.

When the large city buildings are planned with the slightest consideration to their own safety from internal hazard and with full consideration of the danger of the neighborhood, they may not only be made safe in themselves, but may be made the standing places for resisting the spread of conflagrations around them in the most effectual manner; and when steel frames are imbedded in Portland-cement concrete that will not only resist fire but prevent corrosion, they may become permanent safeguards in every city where many of them now constitute a constant menace.

If the real lesson taught by the Baltimore conflagration shall lead that city to provide a complete system of water supply, if possible, not only from reservoirs but also from the water side; if the height of buildings is suitably limited not only for purposes of safety but to maintain the rights of light and air in every neighborhood; if roof hydrants and other adequate supplies of water at vantage points are distributed; then in a very few years Baltimore will have gained immensely in its position, at the cost of the private and insurance losses of the present time, and will set a lesson to other cities which has ever been only half learned or not learned at all.

A conflagration in Baltimore or elsewhere had long been foreseen; plans, estimates, and methods of meeting this hazard were prepared by the undersigned and his associates in 1884. The calamity in the Iroquois Theatre was foreseen, and right methods of providing against it were also printed in detail in these documents, which then and since have had a wide circulation. It, however, seems to require a Chicago calamity and a Baltimore conflagration to force the attention of citizens and of the authorities to take the simple, plain, and adequate measures for the prevention of these disasters.

Respectfully submitted, EDWARD ATKINSON, *Director.*

PROFESSOR NORTON'S REPORT.

I VISITED Baltimore five days after the beginning of the fire and spent three days in looking over the field in a general way, interviewing eye-witnesses, and making a rather limited examination of the ruins, largely from the streets. Ten days later I made a second visit of four days, spending the time almost wholly in studying the condition of the so-called fire-proof buildings, examining them all except the *Herald* building. The details of the fire and the general description of the condition of the district after the fire, have been so thoroughly published as to call for no further repetition here, and it is my purpose to call attention only to the more technical lessons to be learned from this conflagration.

A study of the conditions prevailing in the portions of Baltimore which were recently destroyed by fire, and of the structures in this district after the fire, leads to two general lines of suggestion for future safety of similar districts in cites now built or to be built.

The first thought that ocurs to one in looking over the situation is the similarity of conditions prevailing in almost all large cities in the matter of lack of preventive measures in retarding fire spread from building to building, the lack of protecton against exposure hazard. The second thought brought home by the towering remains of the tall steel-frame buildings is the failure of the word "fire-proof" to give any proof of its right to exist as applied to such buildings.

The danger of spread of fire through the whole of such a district needed no new emphasis. Boston, Chicago, Paterson, and other cities had shown that none of the preventive measures in use in such cities would avail against a fire started during a gale of wind in a district composed largely of buildings of inferior construction. What happened in Baltimore is likely to happen in New York or Boston, if once a fire gets well underway. The danger is not so great, perhaps, in some other cities as it was in Baltimore, but its presence must be admitted.

The measures to be adopted to prevent the possible conflagration spread in cities have been enumerated by abler pens th n mine, but I will venture upon a few suggestions: First, remove from these crowded cities the greatest cause of quick spread of fire, in the shape of explosive material. It has been said that explosions of chemicals occurred in the early part of this fire, but whether or not this was really the case or whether there was a series of so-called hot-air explosions from the products of distillation, it seems clear that something in the nature of an explosion scattered the fire.

As is well known, the products of distillation in a slow fire, smoldering for some time before becoming rapid in its spread, may, when mixed with air, become explosive. The opening of a door or breaking of a window may cause a draft that leads the flames toward the smoky mixture and starts the explosion, known to the firemen as a "hot air" explosion. Sprinklers and ventilation and stops in vertical openings tend to minimize this danger.

Stringent laws against storing explosive merchandise and care in installing ventilation systems, thermostat systems and sprinklers will tend to minimize the danger of early spread of fire by explosion.

Unless violently scattered, as by an explosion, fire spreads through such a district by the carrying of sparks, by direct contact of flame, and by radiation across open spaces. Protection against all these dangers is to be sought by means of non-inflammable roof materials, shutters, and wired-glass, in metal or metal-covered frames for all openings, and roof hydrants.

Fire has apparently in this case found its way from building to building through doors and windows and through roofs which offered but slight resistance. There were buildings in this district equipped with tinned and sheet-iron shutters and some with other protective devices, but few or none withstood against the enormous volume of flame and hot gases coming from the majority of partially protected or unprotected risks. There is nothing new in this, but it is a condition so common and so dangerous as to bear repeated references.

I am satisfied that with roof hydrants having a good supply of water, and the universal use of wired-glass and tinned shutters and metal-covered sash in this district, the Baltimore fire of 1904 had been relatively a small conflagration. And, further, the systematic use of these three preventive appliances and sprinkler systems in other cities where they are not in use would greatly decrease the conflagration risk.

The second and more interesting line of suggestion comes from a minute study of the condition of some seventeen so-called "fire-proof" buildings in the burned district. Some of these are untouched. Some are ruined. Some are sadly damaged. Let us see why their conditions are so different, and why some fared so badly.

It is apparent at once that some of the buildings are intact in large part because of their having been less vigorously attacked by the fire than were the others and for no other apparent reason.

These buildings being low, surrounded by taller neighbors, or situated on street corners, seem to have been actually jumped over by the wave of combustion. There is ample evidence that the outside of these buildings did not rise in temperature to the igniting point of wood or paint. On some of them not even the skylights are broken, and an almost incredibly small amount of damage was done to their exterior. In most cases the buildings may be said to have been without a severe fire trial.

A second group of fire-resisting buildings includes those which have been well described by the word "monumental." The Court House and City Hall offer examples of this type, being heavy stone buildings, with comparatively few window-openings. Offering a small area for the entrance of fire and a non-inflammable exterior, these buildings withstood great heat, with no damage except from the spalling of the stone and charring of window-frames. It should not be assumed, however, that the fire was driven toward these buildings with such fury as that which it expended on some of the steel-frame buildings, as accounts indicate that a change in the wind diverted the fire from them at the most opportune time. On the whole, these monumental buildings demonstrate the effectiveness of a minimum window area in reducing the danger of ignition rather than anything else. They further call attention to the frailty of stone. The modern steel-frame construction, popularly called "fire-proof," was exemplified by some half-score of buildings in the edge and centre of the burned area. These buildings furnish material for much study, and, from their defects as here demonstrated, I have no doubt that we may learn much that will go far to prevent even the partial destruction of such buildings built in the future.

The general condition of the steelwork itself is apparently good, except in a few instances. Neither the fire, nor corrosion preceding the fire, has sensibly affected it, if we may judge from its appearance. The "fire-proof" buildings of steel-frame construction show in general failures along the same lines. Where the walls are substantial and of good red brick, they stood the test fairly well. There was some spalling and in some cases a crumbling, but good red bricks seem to have lived up to their earlier reputation. Where brickwork of a lighter color, ornamented with terra-cotta, was used, considerably more damage was noticeable, especially after the slight snow storms of the week following the fire. Stone trimmings, almost universal on the lower fronts, demonstrated the unfitness of that material beyond all question. Granite, marble, sandstone, and limestone all fared about alike, even when, as near as can be ascertained, very little or no water was thrown upon it. In general, all outside wall material suffered, but brick much less than the rest.

It has already been said that the steel frames themselves appeared in good condition. Exceptions to this may be found in the Equitable Building and in the upper stories of some of the others. None of these frames, however, collapsed, and none are likely to do so, though some posts and beams were bent or crushed, and some will need to be replaced in nearly every one of the steel-frame buildings. The light steel frame of the somewhat older Equitable Building is seriously injured, and a considerable amount of reconstruction is needed here. Posts are bent and sagged, and beams are badly deflected. It is probable that this light frame was subjected to a great strain from the falling of the safes after the plank top floor burned through, the arches of terra-cotta not being strong enough to carry their weight.

The steel frames will need careful examination to note possible distortion or weakening. In general the frames are not injured by more than ten per cent., and in some cases by a much less amount, though in the Equitable Building the loss to the steel would seem to be between fifty and seventy-five per cent., or even more.

The posts and beams in about all these buildings were covered either with terra-cotta or with "lime-teil," a material whose composition appears to be in the nature of a plaster and cinder mixture. Generally the covering served its protective purpose well, but was itself destroyed or badly damaged. A very large percentage of the terra-cotta and lime-teil block must be replaced, and it is the general, almost universal, condition that the beam covering of the flanges is gone. The loss of terra-cotta beam and post coverings was at least seventy-five per cent.

The partitions of terra-cotta and lime-teil are very largely destroyed and the unfitness of these materials for this purpose seems clear. Many partitions have fallen and more are in such condition that they must be replaced. Much of the lime-teil is softened and the terra-cotta is cracked or broken, and the bond between blocks is loosened. If metal lath partitions were in existence to any great extent, they failed as well, for few were in evidence in good order.

The floor arches of many different spans and of different details of construction, but in the main of terra-cotta or lime-teil, show much the same sort of distress as the partitions. The bond between the tiles is broken, quite generally, and the tiles themselves are cracked and broken in great numbers. The lower face or soffit of the tiles has split off over large areas, and fifty per cent or sixty per cent of the terra-cotta floor construction will, I fear, need to be replaced or reinforced.

Where concrete floor arches and concrete-steel construction received the full force of the fire it appears to have stood well, distinctly better than the terra-cotta.

The reasons I believe are these: First—Because the concrete and steel expand at sensibly the same rate, and hence when heated do not subject one another to stress, but terra-cotta usually expands about twice as fast with increase in temperature as steel and hence the partitions and floor arches soon become too large to be contained by the steel members which under ordinary temperature properly enclose them. Under this condition the partition must buckle and the segmental arches must lift and break the bonds, crushing at the same time the lower surface member of the tiles. Especially in the Calvert Building I found evidence which leads me to believe that not an excessive temperature, but the differential expansion, under a moderate high temperature, of the terra-cotta of the top and bottom members and of the enclosing steel, is responsible for the general failure of the terra-cotta partitions, beam-covering, and floor arches. Secondly: Mr. Gray, suggests that there is a similar unequal expansion of the top and bottom faces of the separate tiles, which causes the lower faces to expand and shear off. Evidences of this were found everywhere.

Further examination of the expansion phenomena points to them as the main source of distress to the whole beam and po t covering, floor, arches, and partitions. Most of the fallen terra-cotta partitions and the floor bricks were still hard and had a clear ring when struck, though cracked and broken. There was no evidence of any such temperature as that at which the terra-cotta had been baked originally, and the material of the blocks could not have been altered chemically. It will be readily understood that the thin-walled hollow tiles would become heated upon one side much more quickly than would the equivalent area of a solid partition of brick or concrete Terra-cotta, cinder concrete, and stone concrete all have about the same heat-absorbing power, or specific heat, and hence the heavier and more solid the partition or floor, in other words, the more material there is in it, the slower will be its rise in temperature and its subsequent expansion.

I question whether any floor, containing so little material on its outer faces as did these hollow blocks, could remain sufficiently cool in this fire to avoid serious injury from expansion.

The minor details of the structure and finish fared badly. Wood is not in evidence except in secluded corners. Marble, slate, plaster, and in fact all similar surfacing material suffered to the point of destruction. The cast-iron stair frames and rails stood remarkably well in most instances.

The building of United States Fidelity and Guarantee Company is an interesting example of reinforced concrete in the district. As near as I could ascertain, it was subjected to a severe fire and I found evidence of temperatures up to the softening point of cast-iron. The condition of the lower part of the structure and apparently of the whole structure showed the great fire-resisting powers of this type of building. It is of especial interest in that the Experiment Station made a preliminary test on an arch of this same type and of almost this exact thickness and span and weight of metal, which failed because of the slender six-inch posts, and not through the failure of the floor, at the end of three hours and forty minutes' exposure to a 1,700 to 2,000 degrees Fahrenheit fire.

Further, in the International Trust Company Building a small paper room having a Hennebique floor and ceiling, was so intensely heated that at the end of three days the lumps of cast-iron which had earlier been a copying-press and an embossing stamp were still red hot, and yet neither floor nor ceiling show signs of distress. This is the more remarkable in that the walls of the adjoining building fell through the skylight upon the Hennebique floor. There were in the Commercial and Farmers' National Bank of Commerce concrete floors which stood the fire test well.

The general condition of the fire-proof building is such as to indicate to my mind the unfitness of terra-cotta for beam and post covering and floor construction as here used when compared with concrete or brickwork. Second, there is no evidence that the tall steel building was subjected to an unusually severe test. While it must be admitted that not enough concrete received the full effect of the fire to make the test a perfectly complete one, when I add to this the experience of several years in examining the action of fire upon concrete, I am convinced that had the floors of the Continental Trust or the Calvert Building been of any one of the better class of concrete types and had the beams

and posts been encased in four-inch coatings of sound concrete, then renewal would have required little but plastering.

Little difference in the action of the fire on stone concrete and cinder concrete could be noted, and as I have earlier pointed out, the burning of the bits of coal in poor cinder concrete is often balanced by the splitting of the stones in the stone concrete. I never have been able to see that in the long run either stood fire better or worse than the other. However, owing to its density the stone concrete takes longer to heat through. When brick or terra-cotta are heated no chemical action occurs, but when concrete is carried up to about 1,000 degrees Fahrenheit its surface becomes decomposed, dehydration occurs and water is driven off. This process takes a relatively great amount of heat. It would take about as much heat to drive the water out of this outer quarter-inch of the concrete partition as it would to raise that quarter-inch to 1,000 degrees Fahrenheit. Now a second action begins. After dehydration the concrete is much improved as a non-conductor, and yet through this layer of non-conducting material must pass all the heat to dehydrate and raise the temperature of the layers below, a process which cannot proceed with great speed.

Much has been said about the uncertainty of concrete. The value of concrete in theory is often admitted by those who consider it unwise to use it because of the difficulty of getting the materials properly proportioned, mixed, and placed in position. I have never been able to see the force of this. It is quite as easy to lay sound concrete as it is to put somewhat irregular and confessedly brittle blocks of terra-cotta into place with proper bonding. The main difference seems to be that poor concrete reveals its weakness when it falls on "pulling the centres," while terra-cotta is likely to be strong enough to hold itself in position even when it can do little more. Further, a prolonged search revealed only occasional evidence of temperatures as high as 2,400 degrees Fahrenheit, and no instance could be found of real fusion of terra-cotta or brick in them. Occasional evidences of temperature of 2,200 degrees Fahrenheit were found, but in general there was ample evidence that the temperature of the fire in these buildings had never in most places risen amove 1,700 degrees Fahrenheit. This is likely to happen in almost any office building where little care is taken as to the nature of its contents and must be provided for if these buildings are to be proof against the combustion of their own contents.

It seems apparent that, with care, steel-frame buildings can be so constructed as to stand the destruction of their contents without injury to the steel and probably without danger to the protecting material or floor arches; that, with shutters and wired-glass, the burning of more combustible neighbors may be expected to cause little permanent injury to the structure proper; and that a district composed wholly of such buildings would be reasonably immune from danger of conflagration.

C. L. Norton.

In the week following the fire I visited Baltimore and spent the greater part of two days' time in examining the result of the fire on the different types of construction and studying its effects, as far as it was possible for me to do in that length of time. My conclusions are similar to those of Professor Norton's and with some slight variations, which would not affect the main body of the report, I heartily approve of the same. I especially approve of that part of the report relating to the advantages of concrete construction, basing my opinion on observations made not only at this fire, but at previous ones which have occurred in buildings of concrete and other types of so-called "fire-proof" construction.

J. P. Gray, C. E.

WHO'S WHO IN WESTMINSTER ABBEY.

We are thinking of heroes to-day. In Westminster Abbey, by the grave of David Livingstone, there recently occurred the funeral service—though not the burial—of the man who found him in the depths of Africa; in the House of Commons on the same day the prime minister moved that a national monument be erected to the man who was prime minster of England longer than any other man, for eighteen years. Sir Henry Stanley is not to lie, as he wished to lie, by the side of Livingstone. England's great Valhalla is all but full. But is it full of heroes?

There, in the shrine sacred to the memories of centuries of immortal men, in the shadow of the Houses of Parliament, lies all that is left of the dust of the makers and builders of England, all that is mortal of the men and women whose lives fill the history books and whose works were the beginnings of a greatness nobler and vaster than they conceived. Yet there, too, though we would forget it, lies the dust of those who worked for ill.

It is a strange and startling company that would fill the Abbey, if its honored and dishonored dead could wake up in the night. The son of Charles Stuart would meet the daughters of Cromwell; William Pitt would be standing, it might be, with a pugilist or a spy; Robert Browning would be in the company of a writer of disgraceful plays. Great and little, good and bad, famous and infamous, meet at this shrine of immortalities. The shelter of the Abbey has not always been so jealously guarded as it is to-day. Here, in the holy quiet of the cloisters, is a monument to —a prize fighter! Why it is here, probably no man knows—no man in the world knows why some of the people buried in the Abbey should ever have been there.

John Broughton, if he had ever any title to a place at Westminster, has certainly not left it clear to his posterity. He was a waterman, who lived through most of the eighteenth century, and revealed his bent for fighting by knocking his brother down. He knocked his brother down so well that he left his boat to become a "public bruiser," and his booth in Tottenham-court-road was the resort of the elite of the bruise-loving fraternity. You would have found even royalty there, until one day when the Duke of Cumberland backed him for ten thousand pounds, and Broughton lost. The duke never forgave him, and, though he had made his protege a Yeoman of the Guard, he took away his patronage and left Broughton to grow rich alone at his theatre off Oxford street. There he fought until he died and was carried to his grave by five pugilists appointed by himself. He has a niche in fame as the father of prize-fighting in England, and it is surely the strangest claim that any man has ever had for being honored in the most sacred spot of English earth, among statesmen and poets and kings.

There would be room for all our great men in the Abbey if great men only had been buried there. The doors in centuries past were thrown open very wide. The Duke of Buckingham buried a Scotsman there for no other reason than that he was his friend, and on the funeral day a dog was buried in Tothill Fields in public ridicule. Thomas Parr, though he did not write poems, was not a poet, could advance at any rate one claim to lie in Poets' Corner. Was he not the oldest man alive? That is reason enough, clearly, why he should lie where Shakespeare does not lie, and it was reason enough in his day, it would appear, why he should lie among our kings.

Parr, if the inscription in the Abbey speaks true, was 152, and lived under ten rulers of England. He married again, it is said, at one hundred and twenty-two, and threshed corn at one hundred and thirty. He began life as a farm servant in Shropshire, and would have died no doubt on his Shropshire farm if the Earl of Arundel had not unearthed him, brought him up to town by stages, and presented him as a "piece of antiquity" to the king. "What," asked Charles Stuart, "have you, who have lived longer than other men, done more than other men?" And Parr informed the king that he had done penance in a white sheet when he was a hundred. Parr was exhibited as a curiosity at a tavern in London until he died, and in 1635 the "old, old, very old man" was buried in—Poets' Corner! He had perhaps one other claim to the honor than his years; he adopted the religion of his ten kings and queens. He came into this world raw, said he to Charles Stuart, and he saw no good in being broiled out of it.

More bitter was the insult paid to the dead when Thomas Thynn was laid in the Abbey in 1632. He was an infamous man, murdered in Pall Mall by the creatures of a Swedish count, who wanted to marry Thynn's wife—a girl three times married at seventeen. The men were hanged at the scene of their crime, where Waterloo Place now is, and the assassination is depicted in bas-relief in Westminster Abbey, where the villainous Thynn lies with Chatham, and Dickens, and Wilberforce.

In the same company lies Alpha Behn, the barber's daughter, who was the first woman to live by her pen in England. She was a notorious and scandalous person, fit for the Court of Charles II, who used her as a spy, and some of her plays were the worst plays ever acted. She delighted in her wickedness, and rests with the saints.

The stage in olden times was more closely allied to the Church than now. Thomas Betterton tottered off the Haymarket stage into a grave in Westminster Abbey. He was old and crippled with gout when he trembled through his last triumph before a house packed with great people, and in two weeks the same great people were gathered again in the Abbey to see the actor go dumbly through his last part. Here lies Mrs. Bracegirdle, and here, too, Ann Oldfield, her rival for fame. Born in a tavern, she went on the stage almost before she was in her teens, and she grew up a woman with a great gift and no character. The ready Dean of the Abbey found her a place when she died, and Ann went to her grave as she would have gone to a play.

> **One would not, sure, be frightful when one's dead,**
> **And, Betty, give this cheek a little red.**

Pope makes her say, and the actress was laid in her coffin decked

with Brussels lace and wearing new kid gloves. The preacher in the Abbey buried her, he told the mourners, "very willingly and with much satisfaction."

Under the seat in which he sat so many years lies strange old Peter Heylin, the sub-deacon, whose quarrels with the dean were the scandal of Westminster. When the squabble about the ownership of the great pew, the seat of highest honor came to an end, Peter won, and Dean Williams had his ears nailed to the pillory and went for three years to the Tower. He came back one day when Peter was preaching, and, led by six bishops into the Abbey, he took his seat, banged his stick on the staff of the floor, and cried out: "No more on that point, Peter," so insistently, that Peter had to stop.

But the incongruities of the Abbey are endless, and we must break up our mixed assembly. Here and there, not to be counted on one or two hands, are graves of little children. The oldest inhabitant of the Abbey is (?) 152 years; the youngest is one day old. The little son of Henrietta Maria, the exiled queen of Charles I, was born, christened and buried in one day. Beside him lies his sister of four. The first child buried in the Abbey was dumb, the little daughter, five years old, of Henry III. "Jane Lister, dear childe," is one of the touchingly simple inscriptions to be found in the cloisters. Jane was a little girl of five, whose father was a queen's physician. "Nicholas Bagenall" we read on another tablet. Nicholas died in 1688; he was two months old, and his heart was placed in an urn. Twenty-five years after his mother came to the Abbey, never to leave it until the dead awake. There was a pathetic petition in her will. "I desire," said Lady Anne Bagenall, "that the heart that is in the urne be thence taken out and put into my body with mine." Many strange things have been done in the Abbey, but it is not known to-day whether or not the heart of little Nicholas was taken from the urn.—*London Daily Mail.*

ILLUSTRATIONS

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

EMMANUEL CHURCH, CLEVELAND, O. MESSRS. CRAM, GOODHUE & FERGUSON, ARCHITECTS, BOSTON, MASS.

THE new Church of Emmanuel parish, Cleveland, which, complete except for its narthex or western porch, was dedicated on Feb. 14, merits attention, says *The Churchman,* alike for the strength of its architecture and for the ingenuity by which an irregular plot of ground has been utilized to the uttermost with no sacrifice of unity in structure or of architectural dignity. The accompanying plan shows the problem that confronted the architects. The church is placed well back from the street, twenty-six feet from the sidewalk line, so that the front stands out effectively and can be seen in proper perspective from Euclid avenue, the broadest in Cleveland. The whole length of the building, from the narthex to the rear wall of the parish house, is 195 feet. Of this 105 feet is given to the nave of the church and 42 to the chancel, so that from the west door to the altar the length is 147 feet, and the longitudinal effect is emphasized by the treatment of the transepts which, though the church is cruciform, are in so far subordinated that their usual foreshortening effect is hardly perceived. As will be seen from the plan, the three bays next to the chancel arch are widened out so that additional seating capacity is provided; but, as all seats in the nave are between the arcades of the clerestory, there is an uninterrupted view of altar and pulpit from every part of it. Besides this, the wider transept on the right can, if desired, be shut off from the body of the church by screens of oak tracery filled in with glass, and thus be used as a Morning Chapel, while the main body of the church will be lighted hardly less effectively from this side than if there were no architectural division. The width of the nave is 47 feet; that of the chancel 34. The church will seat between 800 and 900; the Morning Chapel 100 more. Around the whole chancel is an ambulatory joining the side aisles to right and left, and affording immediate access both from the nave and from the chancel to a working sacristy, priest's sacristy, the rector's study, the choir sacristy and the parish building. From this ambulatory, as may be seen by reference to the plan, communicants retiring from the chancel rail may conveniently return to the body of the church without interfering with those who are coming forward to receive the Sacrament. This is an admirable provision, which church architects who are called upon to provide for our larger congregations ought more frequently to consider.

As the ground slopes gradually toward the choir end, room for a full story beneath the sacristies is gained, yet these do not rise so far as to obstruct in any way the light which falls upon the chancel through the great chancel window. The parish house rises higher; but, as it stands well to the right, it shelters without obstructing. The length of this parish building is 100 feet; its width 35. The first floor is shown in the plan. The second floor is designed for a large Sunday-school hall, while a kitchen and toilet-rooms find their place in the basement. The portal of the church, which remains to be built, extends across the whole western end, where also is the tower. In the lower story of this the architects have placed the baptistery, according to ancient use at the entrance to the church, architecturally symbolizing the place of the rite. The church is built of what is known as Ohio stone without, and within the columns and arches are of the same material.

REAR VIEW OF THE SAME.

A GROUP OF SEMI-DETACHED HOUSES, MADISON, WIS. MR. ELMER GREY, ARCHITECT, LOS ANGELES, CAL.

THE PRINCE REGENT LUITPOLD SCHOOL, BAMBERG, BAVARIA. HERR H. ERLWEIN, ARCHITECT.

This plate is copied from *Deutsche Bauzeitung.*

Additional Illustrations in the International Edition.

A DUTCH TREATMENT. MESSRS. MORTENSEN & HOLDENSEN, DECORATORS, BOSTON, MASS.

WE confess to having been completely at fault in guessing at the actinic values of the colors used in this really very pleasing piece of decorative design that was shown at the recent exhibition of the Boston Architectural Club, consequently the print conveys but a poor suggestion of the quiet and sober richness of the color scheme adopted.

"PEACE," MR. KARL BITTER, SCULPTOR; "VICTORY," TONETTI, SCULPTOR. LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, MO.

The figure "Peace" surmounts the Louisiana Purchase Monument.

MODEL FOR THE NATIONAL SCHOOL OF FINE ARTS, RIO DE JANEIRO, BRAZIL. PROFESSOR A. MORALES DE LOS RIOS, ARCHITECT, RIO DE JANEIRO, BRAZIL.

THE FESTIVAL HALL: LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, MO. MR. CASS GILBERT, ARCHITECT, NEW YORK, N. Y.

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

"ART AND ENGINEERING."

NEW YORK, May 4th, 1904.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs:—In your issue of May 28th appears an article by Mr. Louis H. Gibson entitled "Art and Engineering," which sets forth very forcibly and even baldly what may be termed the up-to-date, hustling, engineering idea of architecture.

The view advanced is that the architect, casting aside the traditions of the past, should evolve an original and modern system of ornament and should make his work a matter of decorated engineering, applying systematically and thoroughly the twentieth century commercial spirit of economy of materials and labor, even to the extent of substituting machine-made ornament for hand work; in a word, conform to the rules of progressive, scientific business.

The half-truth contained in such a theory renders it all the more dangerous, and the fact that it voices, in all probability, the opinion of the majority of engineers and many business men of to-day renders it worthy of an answer.

With the amount of knowledge of the history of architecture which Mr. Gibson exhibits, it is astonishing that he should so completely have missed its spirit.

Architecture has its business side and its engineering side, and, as far as they go, there is no excuse for old-fashioned, out-of-date

methods; but when you have covered the ground of the practical you have not touched upon the vital and important part of the subject, that which makes and will always make it something fundamentally distinct and separate from building and engineering.

Art is not a thing of to-day, to be re-created in a different mould to-morrow, but is a continuous growth, reaching back as far as the history of the human race, with no sudden breaks or new beginnings at any point. Each style represents a gradual development of some one which preceded it. This is necessarily so, for the reason that every decorative element, outside of a few simple geometric forms or forms borrowed directly from Nature, owes its value to the fact that the public taste has been cultivated to appreciate it and it has come to be regarded as right and fitting and as representing certain aesthetic ideals and historic reminiscences.

The Ionic order, for instance, owes its effectiveness far more to the associations connected with it than to its intrinsic beauty. If anyone doubts this, let him attempt to give a logical explanation why the members and proportions should be just what they are and why any material deviation is so unpleasant; or, better yet, let him attempt, however good a craftsman he may be, to create a new order which shall have anything like the artistic value of the Ionic or either of the other established orders.

The language of art, and especially of architecture, is largely and necessarily one of conventional symbols, but while the language is old the thought expressed need not and should not be, and we quite agree with the writer that architecture should be equal to the task of giving beautiful form and appropriate decoration to every structure, even the sky-scraper, without falsifying or limiting its structural requirements, and thus be fully abreast of the progress of the age. We must, however, disagree with him in thinking that good engineering means beauty of form, or even has any tendency in that direction, but rather, as a rule, is inimical to beauty.

There is a class of engineering structures in which the conic curves play a prominent part which are without doubt naturally beautiful. Such are suspension and arched bridges, a good example being the new Alexander II Bridge in Paris, and structures like the Eiffel Tower, which have the effect of spreading in a graceful curve at the bottom. Aside from this single class, engineering works are as a rule inherently ugly, except where the engineer has had the rare good sense to give the architect a controlling voice in the form as well as the decoration.

A good idea of the relative merits of the engineer's and the architect's bridge may be formed by comparing the original design for the proposed Manhattan Bridge with Mr. Hornbostel's revision of the same design. Very likely the latter may involve some sacrifice of engineering economy, but the result in so important a structure amply justifies the slight additional expense, and it is very much to be hoped that the authorities in charge will see the short-sightedness of the proposal to go back to the original design.

Good construction is right and desirable and the architect is willing to acknowledge his obligation to, and need of, the engineer.

Truthful expression of structure is an important element in design, but there may be good architecture where there are no structural requirements to be met; for instance, in memorials, monuments or decorative landscape work. And even architecture may be so good as to justify neglect or concealment of structure, as in the facades of the French cathedrals of the thirteenth century, to which Mr. Gibson so confidently refers as instances in which the architect and engineer went hand in hand.

It is a fact also that the æsthetic sense of dignity and stability commonly requires a more lavish use of materials than are structurally necessary, which to the engineer is the unpardonable sin.

As Mr. Gibson says, "the artist and the engineer must sympathetically join hands," but it must be with the understanding that each has a province of his own which is and must always remain distinct and separate from the other, and it is only by the mutual recognition of the paramount authority of each in his own province that the two can harmoniously co-operate.

The conservatism and lavishness of the architect are just as necessary as the progressiveness and economy of the engineer.

Truly yours, C. R. McNeil.

NOTES & CLIPPINGS

New Sculpture Society Incorporated.—Papers of incorporation of the Society of American Sculptors, which is made up partly of members who seceded from the National Sculpture Society, were filed in the County Clerk's office May 27. Among the incorporators are Clifford Wayne Hartridge, James S. Rice, editor of the *Forum;* W. R. O'Donovan, and William Ordway Partridge. Some of the directors are A. A. Anderson, Dr. J. E. Kelly, and B. O. Flower, editor of the *Arena*. The temporary home of the society will be at No. 111 East Twenty-third street.

Legal Difference Between Height and Depth.—The word "height" is mentioned several times in the course of the Workmen's Compensation Act. It is essential that the building where an accident arises should be thirty feet or more. In one case, however, the Court of Appeal held that the height of a building is immaterial where steam, water or other mechanical power is employed as an auxiliary in the construction or reparation. But if height becomes important, there is a neglect of any reference to depth, although some of the difficulties which have arisen would have been avoided if certain depths were defined. For instance, there has been considerable discussion in the courts as to how much of the depth of sub-structure or foundations should be taken into account. We suppose it was owing to the neglect to take cognizance of depth that Judge Lumley-Smith on Monday, in the City of London Court, was compelled to decide that the Compensation Act did not apply in the case of a man who fell 140 feet into a well and was killed. He was engaged in preparing a piston rod in a lift-well at Artillery Mansions, Victoria street. It was argued that the well, which was a structure of bricks and mortar, was a part of the building. But the judge could not accept that view, although he supposed that the crypt of a cathedral would be part of a building. The decision was therefore given for the defendants. The opinion was once expressed by Lord Macnaughten that the provisions in the Act relating to the height of a building were "intended to exempt a certain class of buildings, and perhaps a certain class of builders of the humbler sort, from the operation of the Act." Underground structures are often of great importance, and accidents may arise in them. It is not absolutely necessary that the machinery necessary for the working of a lift should be carried underground, although it is found more convenient to make that arrangement. The well, in fact, corresponds with the flues of chimneys, which are sometimes carried horizontally or at a slight angle instead of being made vertical at once. Whether the shaft which is constructed in connection with a lift corresponds to an ordinary well which may be at a distance from the building is a question worthy of the consideration of a higher court.—*The Architect.*

Sanitarium vs. Sanatorium.—Dr. A. H. Ring, writing in the *Medical and Surgical Journal*, says: "We are frequently asked, 'What is the difference between sanitarium and sanatorium?' Gould's dictionary of medicine gives the following definitions: 'Sanitarium,—A health station—a place or institution where the conditions are such as especially to promote health and vigor. The word is often incorrectly employed for sanatorium, which is a hospital or place for curing those who are sick. A sanitarium may be used for a sanatorium, but is not necessarily the same thng.' Also, 'Sanatorium,—An establishment for the treatment of the sick; especially a private hospital.' In England and on the Continent, sanatorium is largely used to designate a hospital for the treatment of consumptive patients. And in this country the word has been seized upon for the same purpose, and is rapidly becoming associated in the public mind with 'retreats' for cases of tuberculosis. So prevalent is this idea becoming that a large institution in New York State, which for half a century has been designated a sanatorium, has found it advisable to drop the name and substitute the word 'retreat.' This state of affairs is unfortunate, for while sanatorium rightly includes the treatment of consumptive cases, it by no means excludes other diseases. The word 'hospital' is so entirely associated with the idea of acute and surgical illness, with bedridden patients and red tape, that its use is rightly restricted to this kind of work. 'Asylum' has come to be entirely given over to places caring for the insane; and in the minds of many, 'retreat' conveys the similar idea when attached to a private institution. Various private places have endeavored to surmount this difficulty by substituting fancy names ending in 'hurst' or 'croft' or 'hall'; none of these, however, convey any idea of the end sought. If, then, we relegate the word 'sanatorium' to the institution for consumptives, what are we to do for a word to convey the idea of an institution where, amid congenial, semi-homelike surroundings, the chronic sufferer—nervous, rheumatic, cardiac, dyspeptic, etc.—can secure that environment and scientific treatment which his case demands"?

The Vanishing Cedar Supply.—The demand for cedar timber near Shelbyville, Tenn., amounts to almost a craze. Buyers representing large plants and heavy capital are always in that section, and the high prices that have been offered for cedar have caused numbers of fences to be torn down with the view of selling the rails. Likewise old cedar log stables, barns, kitchens and other buildings have been pulled down and the logs put on the market. Bedford County has always been noted for its cedar rail fences, but these are rapidly disappearing, and the whole county will soon have nothing but wire fences, because the demand for cedar is so very active. There is still a considerable amount of cedar in Bedford and adjoining counties, but as a rule it is in the hands of people who are not forced to sell and who are holding it because it is appreciating in value. Other woods which have become very scarce in various portions of the State are poplar and walnut. Tennessee once stood very high as a producer of poplar, but there is now almost none of this wood left, while the supply of walnut is so small that very fancy prices can be obtained for everything that is offered.—*Exchange.*

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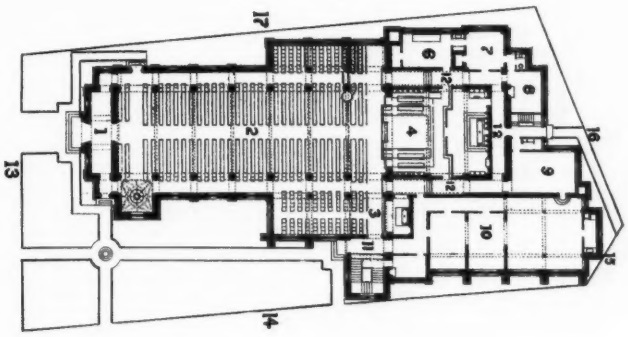
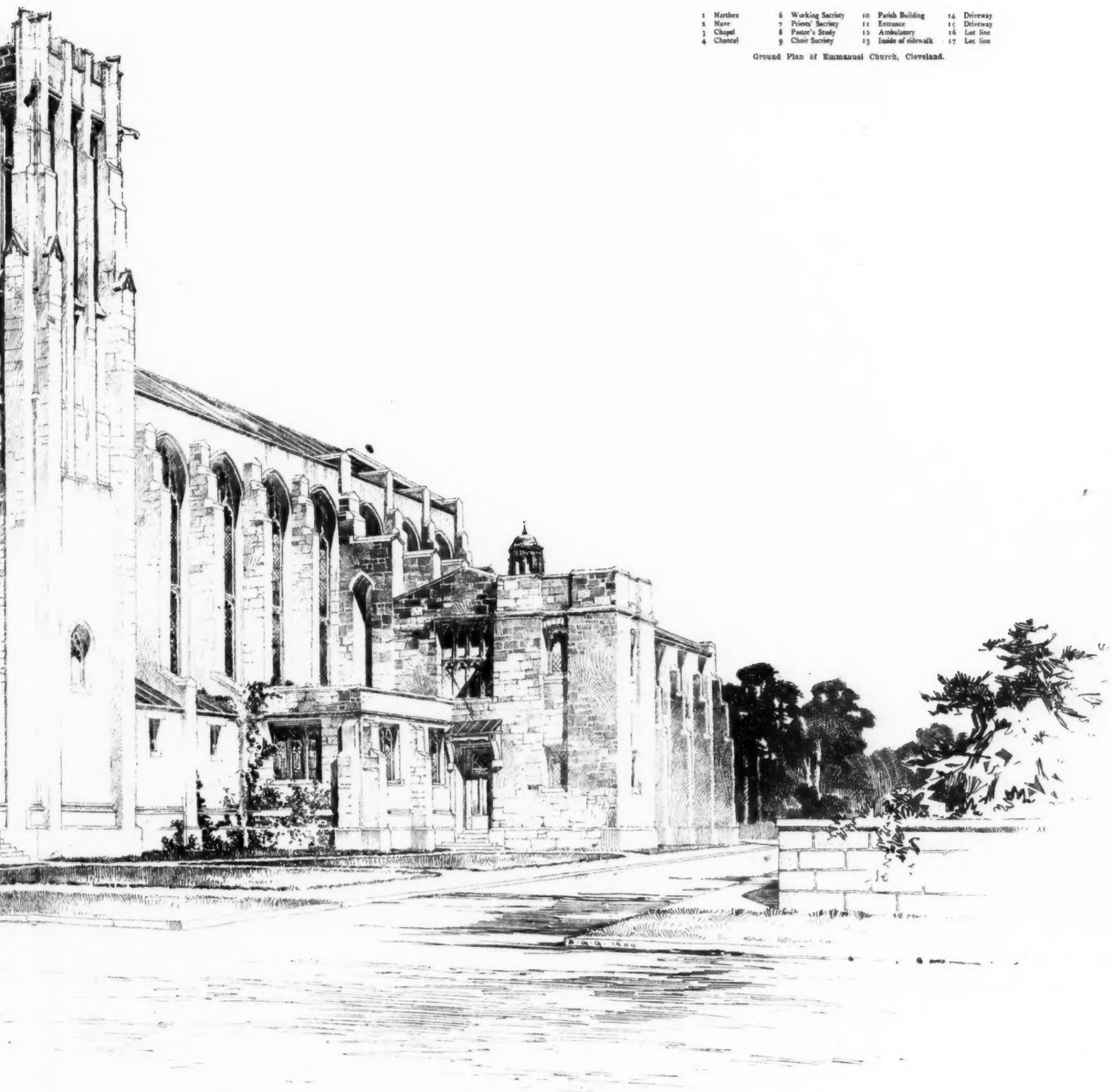


1	Narthex	6	Working Sacristy	10	Parish Building	14	Driveway
2	Nave	7	Priests' Sacristy	11	Entrance	15	Driveway
3	Chapel	8	Pastor's Study	12	Ambulatory	16	Lot line
4	Chancel	9	Choir Sacristy	13	Inside of sidewalk	17	Lot line

Ground Plan of Emmanuel Church, Cleveland.



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June 11, 1904.
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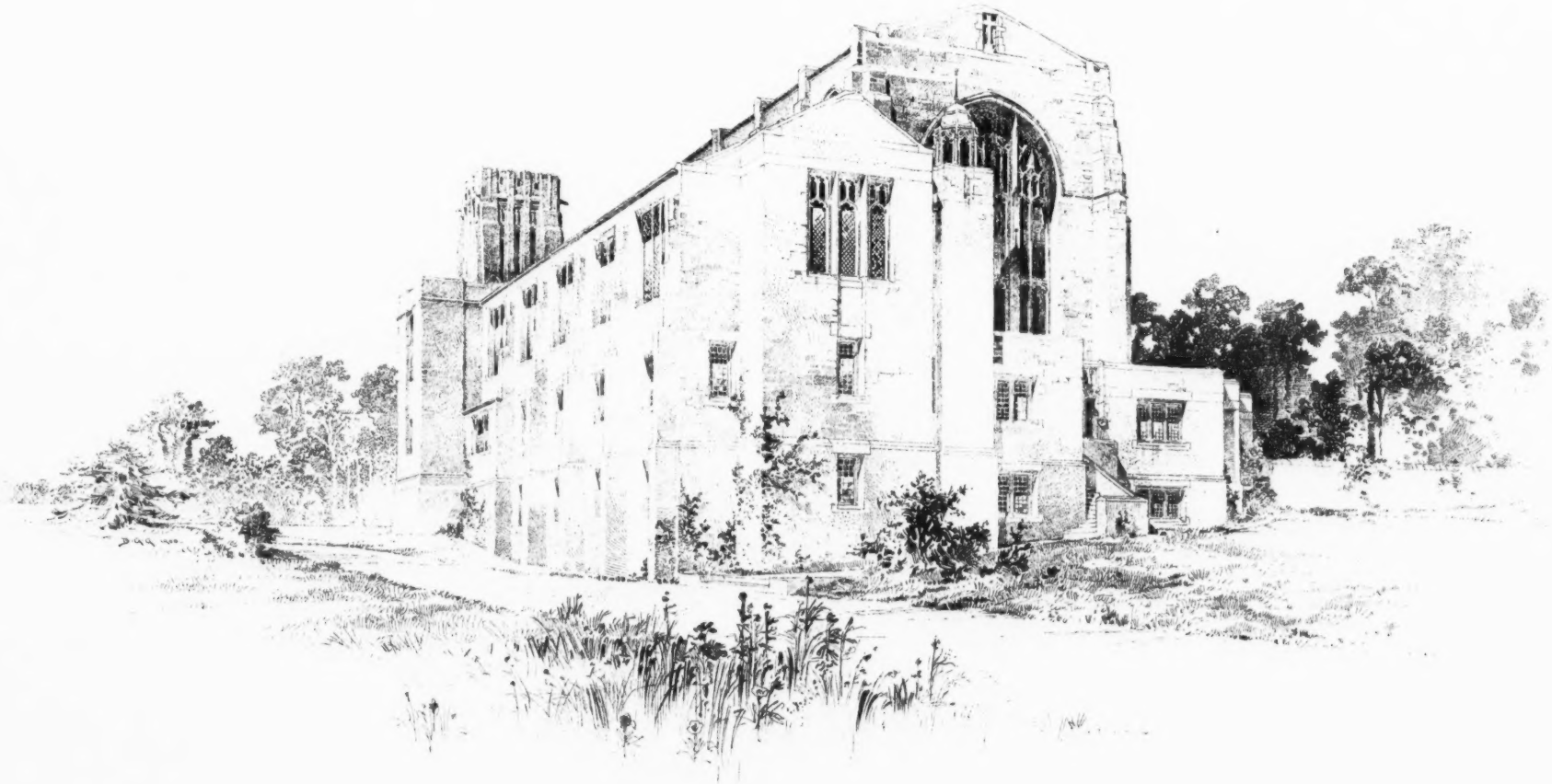

REAR VIEW: EMMANUEL CHURCH, CLEVELAND, O.

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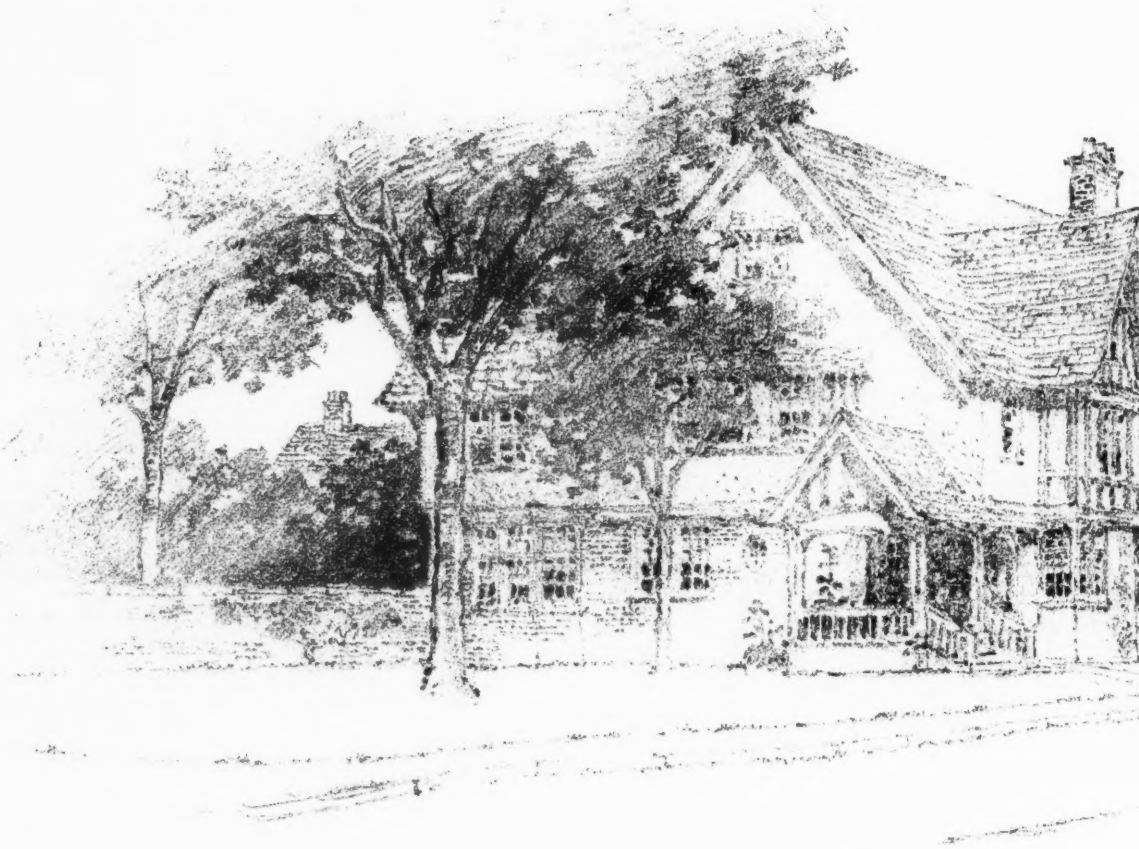

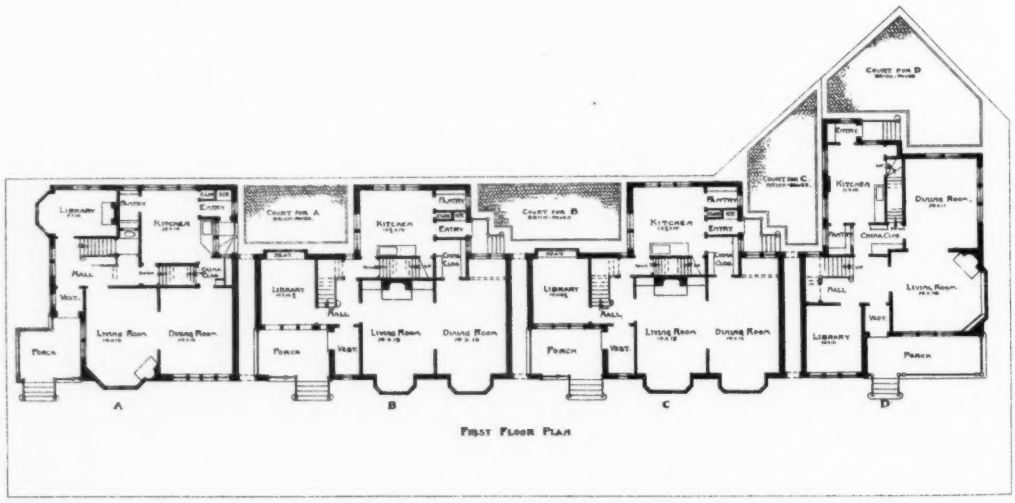

First Floor Plan

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SEMI-DETACHED HOUSE

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Semi-detached Houses for
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Second Floor Plan

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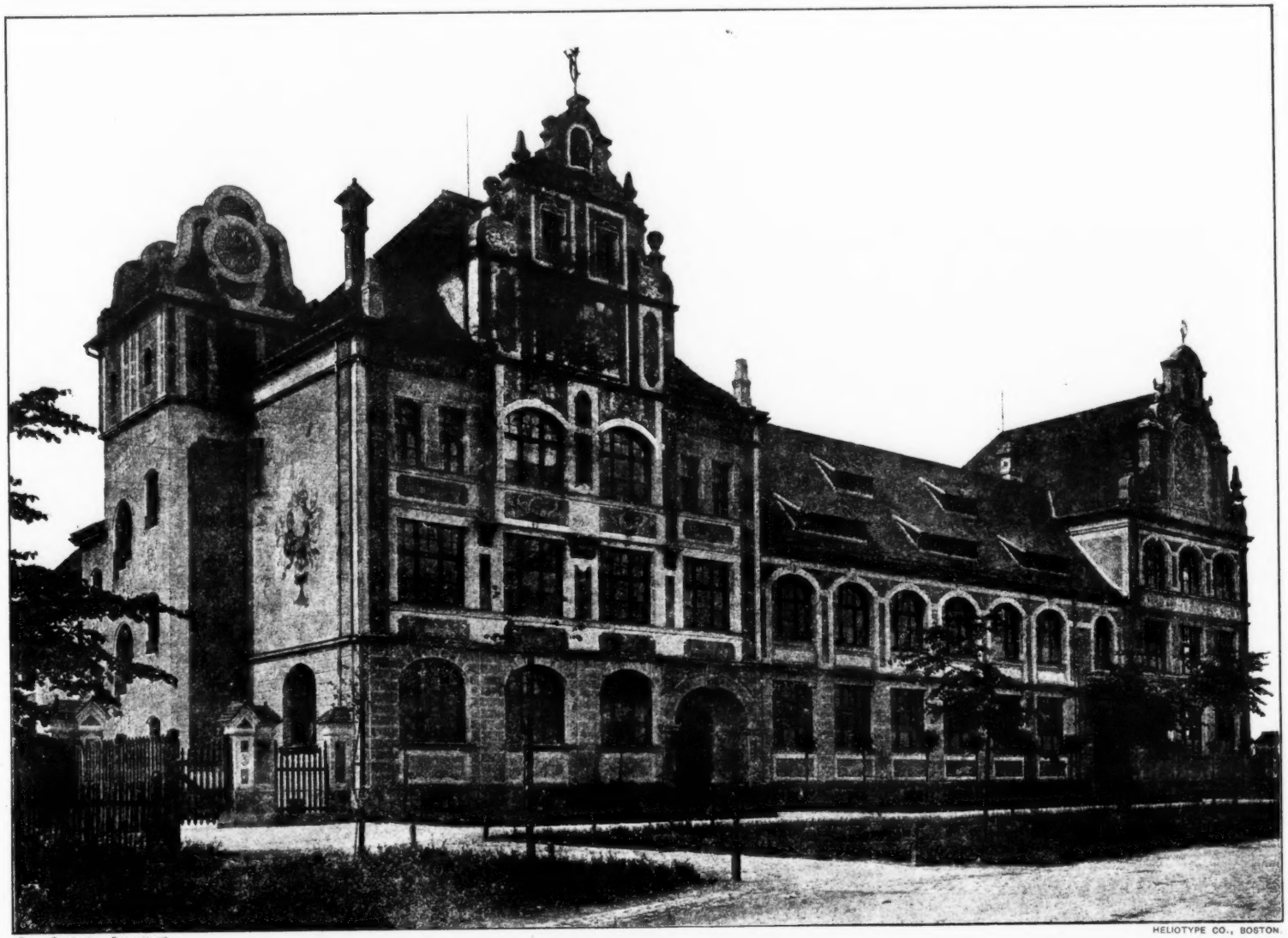

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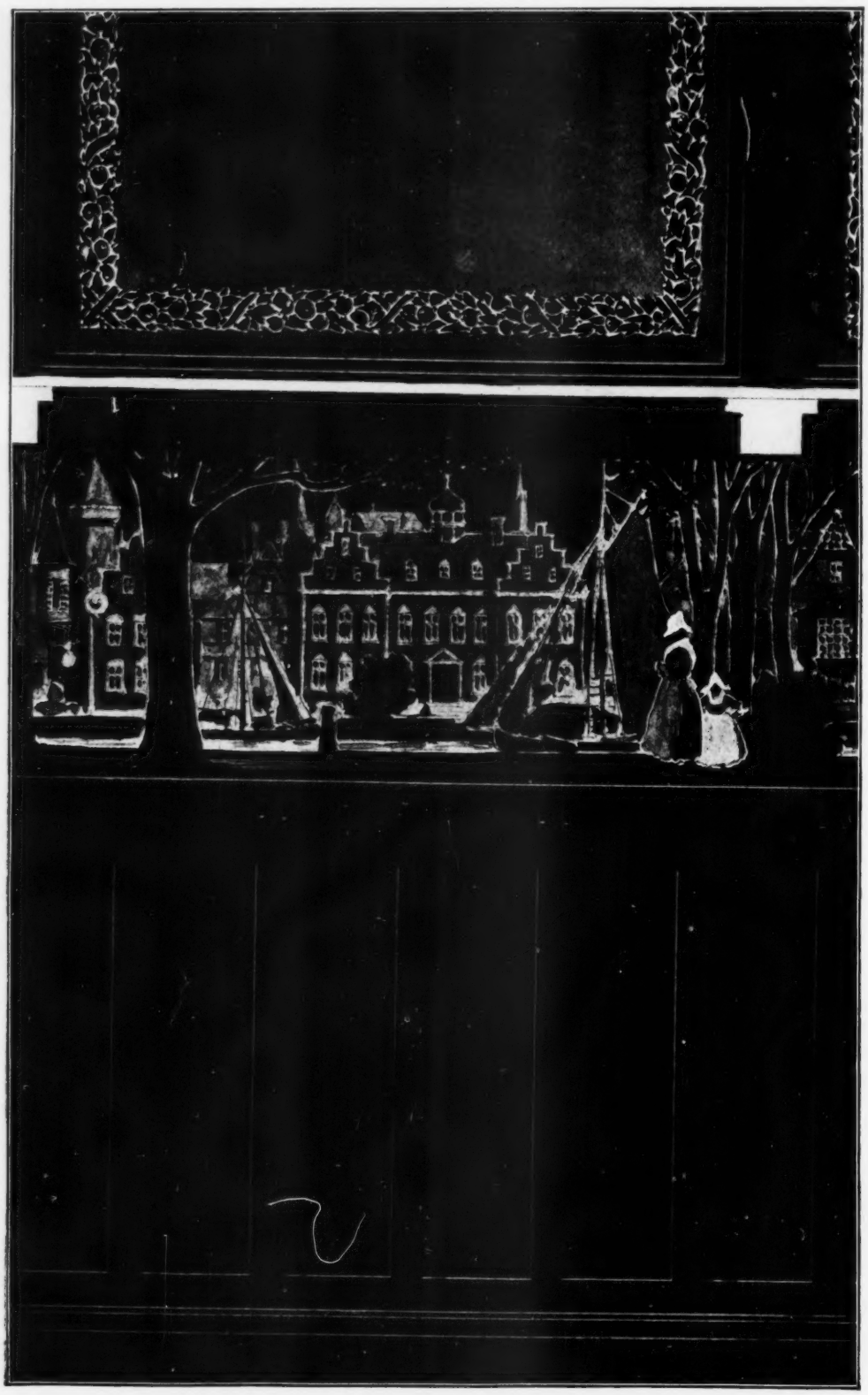

A Dutch Treatment.

Mortensen & Holdensen, Decorators.

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"Peace." Karl Bitter, Sculptor.

"Victory." Tonetti, Sculptor.

Sculpture at the Louisiana Purchase Exposition, St. Louis, Mo.

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Festival Hall: Louisiana Purchase Exposition, St. Louis, Mo.

Cass Gilbert, Architect.

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June 11, 1904
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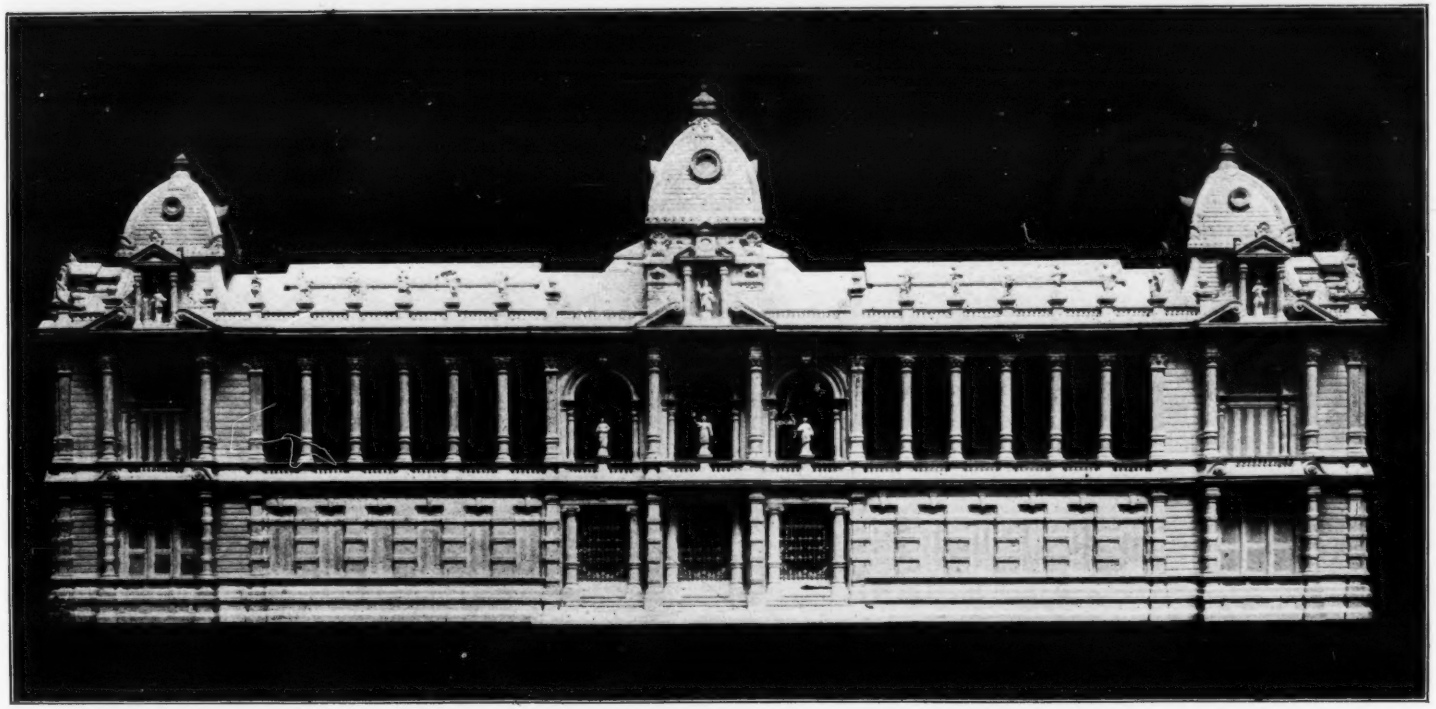

Model for the National School of Fine Arts, Rio de Janeiro, Brazil.

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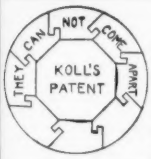

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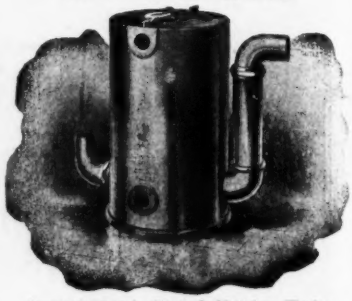

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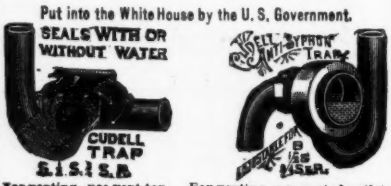

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BUILDING INTELLIGENCE.

(Reported for the American Architect and Building News.)

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

ADVANCE RUMORS.

BAR HARBOR.—It is reported that J. Montgomery Sears will erect here next winter a large and handsome house on the site of his present dwelling house on the Shore drive.

BATAVIA, N. Y.—Extensive improvements are contemplated for the Methodist Episcopal Church, but they will not be made before next spring. It is expected that plans will be drawn by the first of October. The tall spire will be taken down and the front of the building materially altered.

BOSTON, MASS.—Again an offer of over a million dollars has been made for the Park Street Church property. The offer is made by a well-known firm of brokers, in the interest of a prominent syndicate, which intends to raze the old structure and erect a large building for its own occupancy.

It is reported that the so-called State Bank block, corner of Devonshire and Water streets, with all those extending on Water street to Congress street, are soon to be removed, and a building erected in which the Shawmut National Bank is to occupy the entire first floor.

A large lot of vacant land on the north side of Beacon street, near the corner of Hereford street, has been purchased by Ralph B. Williams, who will improve with two houses. Total land area, 9,720 square feet.

There has been sold on Commonwealth avenue a large tract of vacant land. It is the intention of the syndicate purchasing to improve with a block of handsome houses to contain all the latest improvements.

The Simmons Female College has purchased another large tract of land in the Back Bay section, and will improve the same with a number of new dormitories. The location is directly opposite the grounds of the Longwood Tennis Club, and has a frontage on Brookline avenue of 200 feet and on Short street of 300 feet, while the frontage on Bellevue street is 200 feet. It is the intention of the College to occupy the present frame buildings on the property until final arrangements have been completed for the construction of the new dormitories.

BROOKLINE, MASS.—It is expected that an apartment hotel will be built on Beacon street, between Mr. Lombard's and Mr. Jordan's residences in the near future.

It is reported that Wm. Firth, the cotton machinery man, is going to build a castle on the seven acres he has just bought at Chestnut Hill. The land alone represents about $40,000.

CAMBRIDGE, MASS.—Work on the excavation for the foundations of Emreson Hall, Harvard's new philosophical building, has commenced. The contract for beginning the construction was awarded to the J. W. Bishop Company. It is hoped to complete the structure by Aug. 1 of next year.

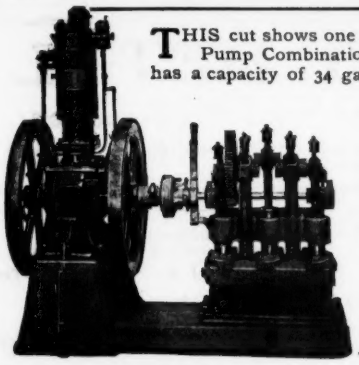
DES MOINES, IA.—A. G. Maish has had plans prepared by Liebbe, Nourse & Rasmussen, for an $8,000 residence. The same architects have plans for a $6,000 residence for E. Croak and one for David Evans.

DETROIT, MICH.—The Visiting Nurse Association has bought the lot corner Beaubean and Forest Avenues, next to the Woman's Hospital, and will build a home.

N. Wardrop has prepared plans for a cement-stone residence for the Geo. E. Currie Cement Construction Co., 1250 Jefferson Avenue, to cost $5,000.

Baxter & O'Dell have made drawings for a terrace of four houses for T. W. McInerney, to be erected on the corner of Woodward and Bethune Avenues. Cost, $13,000.

DORCHESTER, MASS.—Four lots of vacant land on Lithgow Street, near the corner of Talbot Avenue, containing 20,680 square feet, have been sold by the Edmund J.



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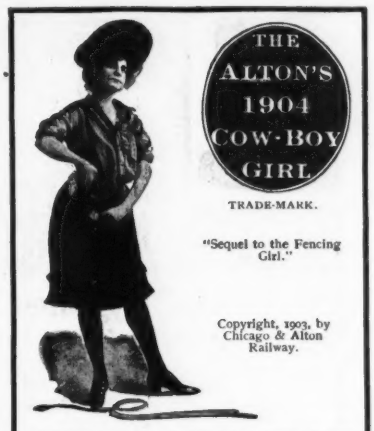

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BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Baker estate to Katherine C. Rockwell, who will improve with a number of high-class frame houses.

Henry W. Bursand has purchased the two-family house numbered 99 Dakota Street, and corner lot, with frontage of 78 feet. He will improve the property by erecting a modern three-apartment house.

FARIBAULT, MINN.—Bids will soon be asked for a brick dormitory at the school for the blind; also an addition to one of the buildings for feeble-minded. These will cost $35,000.

MARBLEHEAD, MASS.—George W. Brown has sold his property on Green Street, containing four acres of land and buildings, to a New York manufacturing firm. This property for a number of years has been used as a glue factory. Two new buildings will be erected.

MILWAUKEE, WIS.—The Summerfield M. E. Society has adopted plans by Turnbull & Jones, of Elgin, Ill., for a modern church and parsonage. It will be of Bedford stone and will cost about $40,000.

Architect Fred Graf has plans for a double residence to be erected on Lake Drive, near Kenilworth Place, for B. W. Felthousen. Cost, $15,000.

MINNEAPOLIS, MINN.—Clarence H. Johnston has begun work on plans for the large bacteriological building to be erected at the State University grounds. The State Board of Control will call for bids as soon as plans are completed. Estimated cost, $100,000.

NAHANT, MASS.—John McManus has purchased land fronting on the Fuller estate, and has moved thereon a building that formerly stood on the new schoolhouse lot. This will be remodeled for the owner's occupancy.

H. J. Kelley of Boston has bought of Leonard Tufts a lot of land fronting on a proposed street from Castle Road, 45x118, and will build thereon.

NEWPORT, R. I.—Edward Stephen Rawson, a New York millionaire, who graduated from Harvard in the class of '90, has purchased a lot of land on Ocean Avenue containing 596,989 square feet, and will build a fine summer residence.

NEW YORK CITY.—The Manhattan Eye and Ear Hospital, which has for many years occupied a large building at the corner of Park avenue and Forty-first street, has bought a plot of nine lots on Sixty-third and Sixty-fourth streets, east of Third avenue, on which it will erect a new hospital building. The hospital recently received a donation of $40,000 with which to continue its work.

Plans have been filed by McKim, Mead & White, for the building of Hartley Hall, a dormitory for Columbia University. It will occupy a site on the South field on

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

University Heights, and will comprise two nine-story and attic buildings, connected by a wide corridor with a large ornamental iron gateway. The facades are to be of brick, granite and limestone. Estimated cost, $473,000.

Plans have just been filed for a handsome housekeeping apartment at Nos. 71-73-75 West Forty-fifth street, Longacre Realty Company, owners. Cost, $300,000. It will be eight stories, with large rooms, handsome finish, first-class material, etc. The front is to be modern French style, of limestone, terra cotta and brick. The building will be fireproof. The contracts are not let. Augustus N. Allen, F. Garvin Hodson, Associated architects.

Plans have been filed for a new twelve-story office and store building to be erected for Robert Walton Goelet, at Nos. 114, 116 and 118 West Thirty-ninth street. It is to be 75 feet front and 98.9 feet deep. The cost is estimated at $300,000. Schickel & Ditmars, architects.

It is stated that New York society is interested over projected improvemnets in the William K. Vanderbilt chateau, on Fifth Avenue. One of the first alterations proposed, it is said, is the building of a wooden staircase on the third story, outside.

NORTHAMPTON, MASS.—The directors of the Home Culture Club have awarded the contract for the construction of its proposed new building to Myron C. Bailey who will start work at once. The building will cost about $45,000. It will face on Gothic street and will be 100 feet in width, 63 feet in depth, and three stories high. The material will be red brick, with light-colored stone trimmings.

OMAHA, NEB.—Plans have been drawn by Henry Voss for a three-story brick business college for W. A. Pareton, Jr. It will be 66x105, of pressed and common brick. Cost, $20,000.

PEABODY, MASS.—Property on Lowell street belonging to the Ayer estate, and occupied at present by T. L. D. Perkins as a grocery store, has been sold to W. A. Shea. The estate is in the centre of the village, and Mr. Shea will add a business block to the site before long.

PENN YAN, N. Y.—Plans and specifications for the proposed changes and alterations of the Penn Yan Academy have been received from the architect, and may be seen at the rooms of the Board of Education, in the Lown block, at the rooms of the Board of Trustees

PITTSBURG, PA.—The Hotel Colonial Company has been formed, with a capital of $500,000, of which about $400,000 is to be spent in rebuilding the present structure on Sixth street, erecting a twelve-story annex, and completing other improvements. The

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

new annex will be strictly fireproof in construction.

POTTSTOWN, PA.—Muhlenberg Brothers are preparing plans and specifications for extensive improvements to the farm of Prof. Herman V. Meigs, of the Hill School, near Pottstown, which will include a model barn, besides alterations and an addition to the home.

POUGHKEEPSIE, N. Y.—The Florentine Council, K. of C., has formally adopted the plans for its new building submitted by W. J. Beardsley. When completed it is expected that the new building will be one of the most up-to-date in the city. It will be four stories in height, the front of Indiana granite or light brick with granite. One of the features of the new building will be its gymnasium. Work on the building will be started as soon as the McCurdy stables are completed and the work of tearing down the old stable can be accomplished. This, it is thought, will be about the middle of July.

READING, PA.—Plans have been drawn for a three-story apartment house which Albert A. Thalheimer expects to build on the lot at 124 North Fourth Street.

Plans and specifications are being made for improvements at the new business place of Funeral Director Theo. C. Auman, which he recently purchased, at 247 Penn Avenue. A new stable will be erected in the rear of the premises.

Muhlenberg Brothers will shortly receive bids for the erection of a large addition to the Eagles' home, on Mt. Penn.

REVERE, MASS.—A lot of vacant land on Baker avenue, owned by Edward L. Fitzgerald, has passed to the ownership of Alvin C. Norcross, who will improve for investment.

RICHARDTON, N. D.—Anton Dohmen, of Milwaukee, has completed plans for an elaborate church and monastery here. It will be two-story, 56x155, of brick and stone. Cost complete, $150,000. Contracts will be let soon.

ROCHESTER, N. Y.—The site for the new Rochester Orphan Asylum is on Monroe avenue, and the officers of the institution are now making efforts to raise $80,000 with which to erect and maintain the buildings needed other than those which have been donated. For this special building fund $20,000 has already been subscribed. The site is an admirable one for the work that is to be carried on and the new Asylum will be on the cottage plan, thus giving the children the advantages of home life. The site consists of thirty acres.

ROXBURY, MASS.—Mr. A. C. Chisholm is to erect a handsome brick apartment block upon his property at 548-570 Warren

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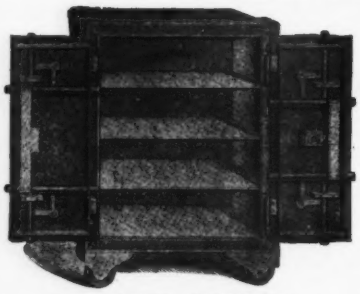

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BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

street. The houses will be semi-detached, located on both sides of Chisholm Park, and will be constructed of stone and brick, each three stories high. They will be 28x60 feet each, there being four in number, on each side of the park. They will contain three very large suites. Cost, above the land, $120,000. As soon as the foundations will permit, the work on the houses will be pushed as rapidly as possible.

A lot of vacant land on Dalrymple street, containing 3,800 square feet, has been sold to Elizabeth Scheid, who will improve.

A large tract of vacant land situated in the South Bay district, Roxbury, has been sold to F. N. Rock, of J. T. Crofts & Co., iron manufacturers. It consists of about 12,575 square feet on Magazine Street, near the corner of Massachusetts Avenue. It is the intention of the new owner to improve the land with a large manufacturing plant.

Sacramento, Cal.—Louis Caffaro is to build and conduct a new hotel. It will be located on the lot on the north side of the alley between I and J streets, fronting on the east line of Second street, and now occupied by the ruins of the old Sullivan-Kelly building. On this land Mr. Caffaro will erect a modern three-story building with iron and pressed brick front. Mr. Caffaro has his plans drawn, bids have been submitted to him, and an award will be made within the next two or three days, when construction will at once begin.

Scranton, Pa.—Architect J. A. Dempwolf has been engaged to draw plans for the addition to be made to the court-house. The new addition will cost $300,000, and it will be necessary to put in stone pillars, which will cost several thousand dollars more.

Ground was broken recently in South Scranton for what will be one of the finest church buildings in the city. It is for the congregation of the Nativity, and is to be of gray stone, with pink and blue stone trimmings.

Seattle, Wash.—E. J. Delbridge has taken out a permit for a row of flats at Thirteenth avenue and Madison street, to cost $35,000.

The California Powder Works will erect a thirty-ton powder factory here. Cost, $250,000.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Shreveport, La.—The cornerstone of St. Mark's Episcopal Church was laid recently. The structure when completed will cost in the neighborhood of $50,000, and will be the most costly church edifice in Shreveport.

Sibley, Mich.—Plans have been drawn by H. W. Chamberlain, of Detroit, for twelve cottages to be erected by the Sibley Brick Company. They will be entirely of brick and cement.

Spokane, Wash.—The Spokane Implement Company has had plans drawn by L. L. Rand, for a brick warehouse, 80x100, two-story and basement. Cost, $20,000.

The Shaw-Wells Company will erect a $40,000 warehouse, three-story, stone and brick.

St. Louis, Mo.—August Gehner, who recently purchased the northwest corner of Tenth and Locust streets, announces his intention to improve the property at an early date with a modern office building. The building is to be used by the Kinloch Telephone Company. Plans have not yet been drawn, but it will probably be twelve stories in height.

Storm Lake, Ia.—W. A. Jones will build a two-story colonial house, 43x44, from plans by Architect Barber, of Nashville, Tenn.

Suterville, Pa.—Architect Frank P. Keller has submitted plans for the erection of the new bank building. If the project meets with encouragement, besides the bank offices the building will contain storerooms, residences and offices, forming a business block, to be constructed of brick.

Swampscott, Mass.—Mrs. M. E. Willey has sold land fronting on Andrew Road, 161x16 feet, to William W. Seymour, of Seymour & Jackson, who will build.

Waban, Mass.—C. J. Page has sold to Arthur E. Marr 35,000 square feet of land, bounded by Upland, Avalon and Sylvan roads. The purchaser intends building for his own occupancy.

Waltham, Mass.—The Waltham Clock Company has had plans drawn for a new plant. They call for a four-story brick building with a large winding tower, on top of which will be placed a large clock, with

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

striking chimes that may be heard several miles away.

Washington, D. C.—Osterman & Butler are about to build from plans prepared by Appleton P. Clark, Jr., ten three-story houses at Eleventh street and Columbia road. The houses are to have fronts of red brick and brown stone, will contain ten rooms and bath each, and will have furnace heat. The cost of the improvement, including price of land, will be about $75,000.

Sunderland Bros., architects and builders, will immediately begin the construction, at the corner of Nineteenth street and California avenue, of twelve three-story houses. They are to be first-class in every respect. The cost including the price of the land, will be appoximately, $130,000.

Washington, Ia.—Plans are out for the armory building and bids will be taken.

West Medford, Mass.—The corner-stone of the new Congregational church was laid a few days ago. It is expected the structure will be ready for occupancy in the fall. Plans by Brainard, Leeds & Russell. Cost, $45,000.

West Roxbury, Mass.—A lot of vacant land on the corner of Glenham and Baker streets, has been sold to Agnes Penderghast who will improve with a frame house for occupancy.

Winchester, Mass.—It is announced that $25,000 has been pledged toward the erection of a new $40,000 church building for the Parish of the Epiphany (Protestant Episcopal). The new structure will stand on a lot secured some years ago on the west side of the town, at the corner of Church and Central streets. The erection of a parish house is now being considered.

APARTMENT-HOUSES.

San Francisco, Cal.—Chestnut st., nr. W. Hyde, two-story and basement frame dwelling; $8,000; o., Maud S. Woods; a., T. Paterson Ross, 222 Sansome; b., Petterson & Persson, 318 Bush.

14th st., cor. Mark; four-story and basement frame, apartments; $43,000; o., Wm. Wilson, 2327 Devisadero; a., E. M. Frasier, Callaghan bldg.

California and Devisadero sts.; four-story and basement frame, store and

BUILDING INTELLIGENCE.

(*Apartment-Houses Continued.*)

apartment; $20,000. O., Jas. Spieker, NE corner California and Devisadero; a., Seadler & Hoen, 309 Rialto bldg.; b., Seller Bros., Hotel Franklin.

Ellis and Larkin sts.; five-story and basement frame apartment house; $25,000; o., Richard Kennedy, 26 Montgomery.

COMPETITIONS.

AUDITORIUM. (At St. Joseph, Mo.)

Plans and specifications will be received until July 2 for an auditorium. Cost, $200,000. HARRY BLOCK, Chmn. Bldg. Com. 1485

PROPOSALS.

BUILDING. [At Ft. Williams and Ft. McKinley, Me.]

Bids will be received **until June 16** by Capt. A. W. Yates, Constr. Q. M., Portland, for constructing an exchange building with gymnasium combined, plumbing, heating, electric wiring and furnishing of gymnasium apparatus, at Ft. McKinley, and also for constructing, plumbing, heating and electric wiring at exchange building at Ft. Williams. 1485

BUILDING. [At Standing Rock, N. D.]

Bids will be received **June 21** by W. A. Jones, Comr. of Indian Affairs, Washington, D. C., for furnishing material and constructing 2 dormitories, warehouse and gas-house, water and sewer system, etc., at Agricultural School, Standing Rock Agency, N. D. For further information, apply to J. M. CARIGAN, U. S. Indian Agent, Fort Yates. 1485

CEMENT SIDEWALKS. [At Takoma Park, Md.]

Bids will be received **until June 20** by the Mayor and Council for laying 10,000 sq. yds. of cement sidewalks. BEN C. DAVIS, Town Clerk 1485

SEWERS. [At Boston, Mass.]

Sealed Bids for constructing new sewers of brick, of concrete and of vitrified pipe, required on account of the Washington St. Tunnel, will be received by the undersigned at 20 Beacon St., Boston, Mass., **until June 16, 1904.** Plans can be seen, and specifications and forms of contract can be obtained at 20 Beacon St., fifth floor. B. LEIGHTON BEAL, Secretary. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 28, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 7th day of July, 1904, and then opened, for the construction (including heating apparatus, plumbing, electric wiring and conduits) of the U. S. Post-office at Sterling, Ill., in accordance with the drawings and specifications, copies of which may be had at this office or the office of the Postmaster at Sterling, Ill., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 28, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 11th day of July, 1904, and then opened, for the construction (including plumbing, heating apparatus, electric wiring and conduits) of the U. S. Post-office at Elkhart, Ind., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Elkhart, Ind., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 31, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 6th day of July, 1904, and then opened, for the construction (except heating apparatus) of the U. S. Post-office and Court House at Charlottesville, Va., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Charlottesville, Va., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 31, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 12th day of July, 1904, and then opened, for the construction (including heating apparatus, electric wiring and conduits) of the U. S. Post-office and Custom House at Perth Amboy, N. J., in accordance with the drawings and specifications, copies of which may be had at this office or at the office of the Postmaster at Perth Amboy, N. J., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 25, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 28th day of June, 1904, and then opened, for the installation of an electric passenger elevator, in the U. S. Post office and Court House at Montgomery, Alabama, in accordance with the drawing and specification, copies of which may be obtained at this office at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1485

Treasury Department, Office of the Supervising Architect, Washington, D. C., May 26, 1904. Sealed proposals will be received at this office until 3 o'clock P. M., on the 17th day of June, 1904, and then opened, for furnishing and delivering Post-office Lock Boxes in Public Buildings under control of the Treasury Department, during the fiscal year ending June 30th, 1905, in accordance with drawing and specification, copies of which may be had at the discretion of the Supervising Architect, by applying to this office. JAMES KNOX TAYLOR, Supervising Architect. 1485

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