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AMONG the innumerable propositions which are made in the newspapers for perpetuating the name of our late President, the most popular one appears to be that which contemplates the establishment of hospitals bearing the name of Garfield, and endowed in such a way as to rank with the best of their kind. Whatever the American people undertake they are likely to carry through, and it is worth considering whether in the present state of knowledge more good might not be accomplished, and the name of the eloquent and upright Garfield kept quite as much in mind by dedicating to his memory, not a few vast city establishments, but a much larger number of cottage-hospitals, which, scattered through the towns and large villages of the country, would be of incalculable value. In manufacturing towns, particularly, where a large part of the population is often crowded together under conditions which would hardly be tolerated in the worst streets of New York, some such public charity is urgently needed, while even in the remoter country districts a careful inquirer will often hear of instances where whole families have been swept away by outbreaks of contagious disease which might have been confined to a single case, if means of isolation and rational treatment had been available. The requisites for securing this are simple and inexpensive. A thoroughly clean, sunny building, carefully heated and ventilated, with accommodations for a nurse or two, and a modest provision for medical attendance, would do far more in any village of four or five thousand inhabitants to restore the sick to health, and protect the well from needless attacks of disease, than could be accomplished by contributing the money which it would cost toward the erection of a huge city or State structure, and for the present, at least, the country districts are far more in need of such charities than the towns.

WE print elsewhere the excellent rules adopted by the Board of Health of the City of New York for the arrangement of plumbing-work in dwelling-houses and other buildings. Some of them, as will be observed, are suggestions merely, while others are put forth as positive requirements, which will be enforced in every future case. All are, however, most judicious, and the document forms a pretty complete *résumé* of the best plumbing practice of the day. It will be remembered that a provisional set of regulations was drawn up by the Board some weeks ago, and published, with the intention that experts might offer such criticisms upon it as should seem to them proper, and although the first draught was unexceptionable in its way, some new rules and suggestions of much value have been added. Among these is the suggestion that soil and other pipes should be placed in a vertical shaft, at least two and a half feet square, extending to the roof and covered by a skylight with louvered ventilator. Access would be provided to the shaft at every story, and an iron grating put in at each floor, to stand on in case of need, while the whole would fur-

nish an effectual means of ventilating bath-rooms and water-closets. The practice of using chimney-flues as outlets for sewer ventilation-pipes is, we are glad to see, prohibited altogether, as is also the employment of sheet-metal tubes for a similar purpose. Another habit which is discountenanced, though not absolutely forbidden, is the use of galvanized iron for drinking-water tanks. Opinions differ as to the deleterious effect of zinc upon water, but there is probably a preponderance on the affirmative side, and the Board has done well in choosing to err on the side of safety, if at all. Although hardly intended for such a purpose, we know of no document which young architects could with more advantage keep by them for reference in preparing specifications, or in criticising work already executed.

THE long strike in the iron trade in Cincinnati is virtually over, and most of the mills have started again, with wages at the same scale that existed before the strike began in June. For four months two thousand men have remained idle, and have allowed their families to suffer because they had in a foolish moment surrendered their common-sense to obey the dictates of a few noisy demagogues, who knew nothing and cared nothing about any one's business but their own, in regard to the terms on which they should sell their labor. The aggregate amount of money which the iron-workers have lost since the strike began is about five hundred thousand dollars; they have exasperated the manufacturers, who believe that they were deliberately betrayed by the chiefs of the Union for the profit of their Pittsburgh rivals, and hundreds of the best of them, unable, even for the sake of fidelity to their Union, to face the misery of their wives and children, have broken up their pleasant homes and sought employment in distant towns. Meanwhile, the price of iron has steadily risen, until it is now almost at the highest point. All the mills are busy, and importations have begun; but the manufacturers of Cincinnati have three million dollars of losses to make up, the Union is completely crushed, and the men who have so lately sacrificed their employer's interests to an unjustifiable whim cannot hope to share in the general prosperity of the trade for many months to come.

A REMARKABLE instance of the way in which a little thoughtlessness may nullify the effect of laborious skill is afforded by the report of the expert appraisers upon the fire which caused the destruction of the Girard Point elevator in Philadelphia last April. The elevator was built at great expense, with the intention of making it, if not fireproof, at least less combustible than other structures of the kind. The bins for grain were all of iron, the walls were of brick, and the interior supports were formed of heavy white-oak and yellow-pine timbers. The roof was of corrugated iron, laid upon iron rafters, and most of the tubing and other apparatus for handling the grain was also of metal. For additional precaution, the boilers and furnaces were placed in a separate building, and the steam was conveyed by long pipes to the engines, which were situated in the upper story of the elevator structure, and the staircase, which is usually the most vulnerable portion of such buildings, was a spiral one wholly of iron. As usual, the ground floor was devoted to railroad tracks, and contained a transfer table at one end. The only inflammable portion of the structure consisted therefore in the wooden posts and girders, with a small amount of wooden flooring. Outside the brick walls, however, on each side, was a one-story frame shed or lean-to, used for the storage of miscellaneous merchandise, and communicating with the track-room under the elevator. The fire which destroyed the property is supposed to have originated in a small pile of kindling wood in the boiler room. In spite of the efforts of the engineer to extinguish it, the flames spread, and bursting out of the door of the boiler room reached one of the storage sheds, the contents of which were quickly in a blaze. Notwithstanding the incombustible material of the elevator, its great height caused it to act as a chimney up which the flames rushed, quickly twisting the iron work to pieces, and in an incredibly short space of time bringing down the whole superstructure, including walls, floors, engines and roof, together with all the grain, in a disordered mass of smoking ruins.

THE insurance companies of New York have this week to mourn an exceedingly destructive fire, which destroyed in a few hours more than two million dollars' worth of property.

The stables of the Fourth Avenue Horse Railroad Company, occupying the block between Lexington and Fourth Avenues, and Thirty-second and Thirty-third Streets, New York, took fire in some unexplained manner, and were totally consumed. Just across Thirty-second Street stood a storage warehouse, of immense extent, but apparently of somewhat inflammable construction, which soon took fire from the burning stables, and was destroyed, together with all its contents. Its situation near the most fashionable quarter of New York had made it a place of storage for costly furniture and other valuables of similar character, which were quickly swept away. In such cases the loss is generally under-estimated, so that although much of the property was carelessly left uninsured, the losses of the underwriters will probably reach the full two million dollars. The Park Avenue Hotel stands nearly opposite the burnt buildings, but being wholly constructed of brick and iron no further damage could be inflicted upon it than the scorching of the paint and cracking of glass.

THE *New York Tribune* publishes a letter from a correspondent in relation to the scheme of preserving the scenery at the Falls of Niagara from total obliteration which was proposed some two or three years ago by Lord Dufferin and seconded by the best and most thoughtful men in Canada and the United States. It will be remembered that a Commission was appointed by the Legislature of New York to consider the matter, which employed Mr. James T. Gardner, Director of the State Survey, and Mr. Frederick Law Olmsted as experts. The report of the Commission recommended in the strongest terms the immediate acquisition by the State of a narrow strip along the right bank of the river, to be cleared of the disgraceful sheds which now nearly cover it, planted with trees, and allowed to revert to its natural quiet beauty. The cost would not be very large; in fact one of our rich men might purchase the whole tract as a private pleasure-ground for less money than is spent on many modern dwelling-houses, and it is absolutely necessary to take some definite steps at once, or allow the American Fall to become a mere mill-race. The process has already gone so far that no one who has once seen Niagara from the New York side ever wishes to visit it again, and the Horse-shoe Fall will before many years be little more respectable. The passion for utilizing the most imposing display of natural forces on the face of the earth to drive horse-cars and sewing-machines is spreading rapidly, and the discovery of a practicable means of transmitting the power to a distance would assuredly be followed by a formidable attempt to gain possession of the Cataract for purposes of speculation, unless the attention of the public can be turned to the irreparable loss which awaits the country, and especially the state of New York, if action is any longer delayed.

THE correspondent of the *Boston Herald*, whose account of his visit to Mr. Frank H. Cushing at the pueblo of Zuñi, in New Mexico, we commented upon some weeks ago, writes us to say that our suspicion that some of the interest attaching to the description might have been due to the embellishments added by the journalist was quite unfounded, and that the statements made were given without exaggeration, just as they were received from Mr. Cushing. In fact, as we have the pleasure of learning from him, some of the most remarkable circumstances about the character and traditions of the Zuñi Indians have not yet been made public, and Mr. Cushing's discoveries indicate the existence of an inner life among these poor savages, as we call them, which bears a close and suggestive relation to that of the greatest nations of history. We hope some time to be able to lay before our readers a few further details of this remarkable tribe, relating, for instance, to their maintenance of a chosen family of bards, as we may call them, whose appointed duty it has been for ages to hand down by memory from father to son, and to recite at stated periods, the ancient chronicles of the race. What dusky Homer may have gathered the scattered traditions and given them consistent shape we do not know, but aside from the artistic character that they are said to possess, the manner in which they have been preserved is most interesting. It is worth noting in illustration of another remarkable point in the *Herald* narrative, that the belief in the interference of spirits with the affairs of men seems to be very widely spread among the Indians of the Southwest. The souls of deceased warriors are believed to appear in battle, just as the gods and heroes intervened in the

combats of the ancient Greeks; and it is said that the recent outbreak among the Apaches in Arizona was stimulated by the priests, who assured the Indians that those who fell in the struggle against the whites should immediately revive again, to be restored, with their deified ancestors, to the ancient glory of the tribe.

AN important case touching the responsibility of architects has been for some years before the French courts, and is now, after several contradictory decisions, pending before the court of final appeal. In 1861, M. Parent, an architect, was employed by the Count of Béarn to conduct some important works of restoration in the castle of Clères. The operations continued for two years, and were completed to the entire satisfaction of the owners. In 1873, not quite ten years after the conclusion of the work, the Countess of Béarn, her husband being deceased, summoned M. Parent before a referee, to answer for a serious rotting of the girders in a principal floor. An expert was called in to investigate the case, but before his report was made, Madame de Béarn concluded to bring suit for damages in the civil courts. At the first hearing M. Parent claimed that the article of the Code which limits the responsibility of the architect to ten years barred the action, which was not brought until after the expiration of that term. The Tribunal of the Seine rejected this defence, on the ground that the demand for a reference, which was made by Madame de Béarn just before the ten years expired, sufficed to interrupt the course of prescription, and continued the architect's responsibility until a judgment should be obtained. The Court of Paris, on appeal, reversed this decision, declaring that the ten years, and with them M. Parent's responsibility, must be held to have expired. In August, 1879, the case had reached the Court of Cassation, which again reversed that of the tribunal below, on the ground, which, with all due deference to so high an authority, appears to us untenable, that the ten years of prescription should, under the Code, only begin to run from the time that the defect was discovered, in this case a few months before the commencement of the suit.

THE Court of Amiens, a tribunal which holds an important place in French justice, but whose functions we do not precisely understand, next reviewed the decision of the Court of Cassation, and pronounced against it, confirming that of the court below, and expressing its opinion that the Article 2270 of the Code, which was avowedly enacted for the protection of architects, in saying that at the end of ten years the architect and contractor should be discharged from the guaranty of works done under their charge, evidently excluded the idea that the duration of the action could be prolonged beyond that term; and that the notion that the commencement of the ten years' guarantee dated only from the discovery of a defect was entirely arbitrary and wrong, and contrary to the principles of the common law. Judgment was therefore again given in favor of M. Parent, and a last appeal taken to the full bench of the Court of Cassation, whose decision is not yet reached. Although we have no means of comparing adjudicated cases under the *Code Civil*, our daily experience makes the meaning of the articles in question plain enough. The French common law limits all ordinary guaranties to a duration of thirty years, even in respect of matters which are simple and easily controlled. Important constructions, on the contrary, are so complex, and so liable to be affected by causes which no human judgment can foresee, that it would be preposterous to make an architect liable for all the unexplained accidents which might occur to his buildings in a lifetime after their erection, and it is only reasonable to set a definite term for his release from so heavy a burden. Every expert would say that a building which remained perfect for ten years after its completion must have been planned and constructed with the reasonable skill which is all that the law expects of professional men, and if defects should appear after that period, the presumption would unquestionably be that external and accidental causes were accountable for them. In the case of Madame de Béarn's château, a concealed infection, such as often lurks in old stone walls, or an unusually wet season, or some infiltration of dampness from a neglected gutter, might easily have communicated dry-rot to beams which were originally in perfect condition, and set with the utmost skill; and if they had remained a whole decade previously in good preservation, the probability that their decay was due to some such cause would be overwhelming.

THE NEW TURKISH MUSEUM OF ANTIQUITIES.

TURKEY has taken a step in advance during the last year, a rare move for that country in these days. Solely in the interests of culture, the Turks have opened a museum of antiquities in Constantinople. For some years past there has been the nucleus of a collection, a few remains of different degrees of historic value, gathered during the late reign of Sultan Abdul Meschid. That monarch dying in 1861 left the state finances at a very low ebb, and the embryo museum seemed to be checked in its growth, although M. Albert Dumont, a well-known French archaeologist, wrote with enthusiasm and discrimination in its behalf. It was placed in three sections of the old Irene Church, whose patron saint was that empress through whose influence the seventh Ecumenical Council sanctioned the use of images to represent the holy characters, and whom a grateful church therefore canonized. There seems a certain fitness in the thought that although no longer occupied by those figures which made her religion more tangible St. Irene's Church should shelter these relics that give a reality to the past. It was chiefly used as an armory, and but limited space was left for the display of the antiquities. Many curiosities were concealed under masses of objects in no way connected with archaeology, and all suffered from dampness, while the few labels upon them were so often disarranged or unreliable as to leave an impression of vagueness upon the minds of such visitors as were sufficiently interested to breast the difficulties of getting a special permit to enter it, or the endless complications before permission to study there was granted. It was M. Dumont's earnest wish that the weapons should be removed and the whole edifice devoted to the museum. "Nothing," he thought, "could be more suitable for the purpose than this curious remnant of the old imperial dwelling which formerly crowned the first hill of the new Rome, one of the most perfect and best preserved works of primitive Byzantine art." Situated in Stamboul, the Mohammedan part of the cosmopolitan metropolis, it stands among the last decaying remains of the city of Constantine. It has since his time been twice destroyed and immediately rebuilt on the original plan, the last time by Leo the Isaurian (718-740). Its Christian consecration has not been profaned, for in all the changes since the fourth century it has never been a mosque.

The only catalogue ever made was that by M. Dumont in 1868, in which he divides the collection into specimens of four epochs: the Greek, Græco-Roman, Early Christian, and Byzantine. Among the Greek remains are two statues of women, almost perfect, but broken below the knees, recalling in their style the Soldier of Marathon and the Apollo in the Temple of Theseus, at Athens. They are clothed in a simple, very full tunic, and have four necklaces each, the first of six or seven rows of coins close together and high about the neck (a kind of ornament still seen in the East), the others, of pearls or threaded stones, falling upon the breast. The head-dress is circular, a sort of low crown, with a veil falling behind the head, an arrangement common in the terra-cottas of Cyprus. The attitudes are stiff, but the expression of the faces fine; the lips have a slightly mocking smile. To be mentioned with these statues are two heads with the same characteristics, except that in one, that of a man, the regularity of the waves of hair, which covers the head and falls upon the shoulders, shows a variation of the type. All four of these fragments are from Rodosto, and are of a calcareous stone easy to cut. Of the best period is a bas-relief in marble representing a young girl running, one arm raised and the hand grasping a hatchet, the other holding the last folds of her drapery. The dress is simple, and the folds, finished with great care, follow every bend of the body. The movement is perfectly natural, but the face has suffered from time and dampness. The original brightness of the marble has disappeared under a deep green tint. This fine piece was found near the ruins of the Mausoleum at Halicarnassus, and a copy in plaster is in the British Museum.

Besides these are several heads of Asiatics and Cyprians, and more than eighty in terra-cotta, curious to compare with those from Rodosto. Perhaps the most precious relic in the entire Museum belongs to this epoch. It is one of the bronze heads of the three-headed serpent of the Hippodrome. This serpentine column is of such great interest that perhaps a brief notice of it will not be out of place. It is one of the oldest and most authentic remains which have come down to us from antiquity. It stood, fifteen feet high, before the Temple of Delphi, near the altar, and wore upon its triple head the golden crown which represented one-tenth of the coin taken from the Persians in the battle of Plataea (B. C. 479), and dedicated to Apollo.¹ The column consisted of three bronze serpents intertwined, with their heads spreading outward. Pausanias the Spartan had written upon it a distich in honor of his country, but all Greece exclaimed against this usurpation of a common victory, and instead had the names of all the cities which had taken part at Plataea and Salamis engraved there. "It was a monument of glory," observes Thucydides, "for those who had deserved to be there inscribed, of shame for those who had betrayed the cause of Greece." It was honored down to the time of Constantine, although its golden crown had long before been the booty of the Phocians in the Sacred War. The bronze pillar was carried away by Constantine in the beginning of the fourth century, and set up among many other artistic exiles in the At-Meidan or Hippodrome of his new capital, where it still stands, mutilated but eloquent, for at its base the names of those old

Greek towns, in irregular and antique lettering, testify now to the age of the monument as well as to the ancient glories of Greece. In clearing away the debris of ages from around its foot in 1856 these names became visible, thirty-one, exactly the number given by Plutarch. The column was perfect in 1675, for a drawing is preserved showing the three heads, but by the end of the eighteenth century they had disappeared, until this one was found near the Hippodrome in the middle of the nineteenth. The upper jaw is all that remains, but the chief characteristics are there, the flat and lengthened head, the sharp teeth and the deep cavity of the eye which it has been thought may have once been filled with some precious substance, although the roughness of the work does not warrant the hypothesis. It appears, however to have been made in a single cast, which shows how far this art had progressed B. C. 478. This column is the only work of art existing to-day of all those collected in the sanctuary of Apollo. Dethier and Mordtmann, after looking up all the text concerning it, from the battle of Plataea to the excavation of Newton in 1856, and all the sketches (the Turkish representation of 1530, a drawing by a German in 1578, and the one by Wheeler in 1675), constructed a restoration both ingenious and probable, which was exhibited at the World's Exposition of 1867.

Among other relics are brass urns containing when found the remains of jewels, a diadem of beaten gold, decorative flowers in painted terra-cotta, gilded pearls, and what was doubtless ashes and burned bones.

The Græco-Roman remains are not so valuable. There is a beautiful white marble sarcophagus bas-relief, however, of the time of Antoninus, representing on its four faces respectively, Phædra struck by Eros, Hippolytus returning from the chase, sleeping Ariadne abandoned by Theseus, and a sphinx. It is one of the few things in the collection which have ever been engraved, and was the first (so-called) funeral banquet discovered on the shores of Thrace. The most interesting inscription in this epoch is that commemorating the building of an aqueduct by the inhabitants of Odessa. The stone was found at Varna, 1851.

A statue of the Good Shepherd carrying a lamb on his shoulder is the only relic of early Christianity. If the Græco-Roman specimens are mediocre, the Byzantine bas-reliefs of the circus are incredibly barbarous; the sculptures of the time of Justin II. grotesque. The former are thirty in number representing men and Asiatic or African animals, all equally ill-done, but if united they would form a vast whole which probably decorated the Hippodrome, perhaps in memory of the frequent wars with Egypt and Syria. The porphyry sarcophagi of the emperors only are valuable intrinsically. Their sole decorations are Byzantine crosses and the initials of Christ, and they probably belonged to the Church of the Holy Apostles founded by Constantine, and intended as the sepulchre of the emperors. Dethier supposes that the porphyry obelisk of this period may be a part of the famous tomb of Constantine which we know was decorated with twelve monoliths in memory of the Apostles.

These Byzantine remains are very varied, and are, perhaps, the most valuable part of the Museum, considered historically. They form a splendid study of the decadence, and as interesting as the laws of growth are the laws of decay. These relics, like the coffins, show how the Eastern Empire advanced with strides toward artistic barbarity, although the workmen had before them the best efforts of Hellenic genius in the Hippodrome and elsewhere, the plunder of Greek sanctuaries. It was a unique phenomenon, which these remains will help to revive in all its curious reality; for "never in the history of the world have mediocrity, decrepitude and senility in all their forms had a like chance to vary themselves and grow for more than eleven hundred years," says one of the most discriminating students of this æsthetic decline. Art existed there no more, but the prodigality, luxury, brilliant colors, gold and jewels which took its place are not without some accord with a taste for the beautiful, and under their glittering confusion lay the beginnings of the Renaissance. Space would fail if we but mentioned the lamps, vases, ancient weapons and helmets which are to be seen in this Museum, although the old bell of St. Sophia and the kettledrum of the now extinct Janizaries should be noticed. Among the newer additions are some valuable pieces, notably the Amazon from Ephesus, which was a personal gift from the Sultan to Sir Henry Layard. Specimens of the culture of all times now enter into this cabinet; Syria, Babylon, Greece, Assyria and Byzantium are represented there, making a very creditable collection, although they cannot compare with the older institutions of Greece and Egypt.

And so, after years of patient work by a few devoted men, the Turkish Museum in Constantinople was opened about twelve months ago with appropriate ceremonies; not in the old Irene Church as M. Dumont hoped, but in a new building near by, fitted up handsomely in the Oriental manner. On that occasion Munif Pasha made a speech in which he regretted that Turkey had not before owned an institution so important to progress. The Europeans, he said, had better known how to appreciate the value of the classic and antique, as they have for hundreds of years plundered the provinces of the Ottoman Empire, and filled museums with their riches. He ended by remarking that all Turks think with bitterness of the Cyprian booty now in America, and earnestly hope that a limit will be put by Turkish law to the excavation of the antiquities.

At first it was undecided whether to admit the public, but so much interest was shown by the people that it was quite recently decreed

¹ See Herodotus, Calliope 81. Edited by Schweigaluser, IV., page 244.

to open it through the week. On Tuesdays, the day reserved for the upper classes, the price of admission is five piastres (twenty-two cents,) but upon other days it is but two piastres (nine cents.)

The whole people seem interested in the new possession, the merchants of Galata, on the border, the Turks of Stamboul, the ambassadors and aristocracy of Pera and the manifold races and nationalities that crowd the city's narrow streets, for all have in this museum one more common ground of brotherhood. No complete catalogue has as yet been prepared. Dr. Dethier died some time ago, and the museum is now under the management of a sub-director.

Negotiations are pending with archaeologists in Germany, and a new director is soon expected from that country.

Thus, Turkey will now preserve the precious remains scattered throughout her provinces, daily being destroyed without profit to any one; beautiful statues many of them which, as a critic of the thirteenth century said, speaking to the Franks, "*martelées, brisées, frappées de blessures irréparables et souvent mortelles, viennent chaque jour augmenter la martyrologe sacrée des œuvres d'art.*"

The museum will form the valuable elements of a new study, deep, sympathetic and worthy the intelligence of the critic, a study of that great empire which Constantine founded and which only disappeared centuries after him, borne down before a power which conquered the whole East.

M. G. M.

A NEW "HISTORY OF ART."

MESSRS. Dodd, Mead & Company have issued several standard works on art, and their imprint might be supposed to guarantee at least moderate merit and accuracy when seen upon a volume dealing with the subject. Such presumptions, however, are by no means confirmed by an examination of the work now before us. The offer of a comprehensive illustrated history of art for the small sum of two dollars will doubtless have a seductive sound in the ears of many a young student. It is because this journal reaches a multitude of such that it has seemed advisable here to discuss Miss DeForest's book more thoroughly than it might be worth one's while to do in a periodical of another sort.

A "Short History of Art" might surely be prepared so as to win at this present moment a cordial welcome from the public and an honorable place among educational works; and this, although it might be nothing more than a piece of mere book-making, in no sense a work of originality in thought or arrangement. A brief synoptical and statistical history, for example, might have been advantageously put upon the market, — a *manual*, to be more or less thoroughly memorized as a preparation for the study of completer works, or an accompaniment in the same. Still more, a concise *narrative* history of art would have been widely welcomed, — a consecutive account of the growth of art, of its various developments and the general causes and influences which produced and moulded them. Such a book as either of these would not have needed illustrations beyond a few outlines and diagrams in explanation of things not easily made clear in words, and could therefore have been low in price. Miss De Forest's book has been conceived upon neither of these schemes, however. It is planned and carried out after the manner of Lübke's History and of other familiar German works. It is divided and subdivided into many sections, in order that the various branches of art may be separately treated and yet be carried forward in chronological correspondence. More, too, is essayed than an account of general progress, more than a description of main outlines and fundamental characteristics and grand developments of aim and style. There has been an effort to crowd much detail into totally inadequate limits. It may be questioned whether detail of any very serviceable sort could be included within limits much narrower than those of Lübke, for example; but Miss De Forest's book numbers only three hundred and fifty small octavo pages, loosely printed with large type; more than a third of this space, moreover, being absorbed by illustrations. The room that should, under such circumstances, have been given to main outlines and important generalities, has been frittered away in biographical and anecdotal and descriptive notices of many men and many works of art; notices which are still, however, too few in number, too cursory in nature, and too arbitrarily selected to serve a useful purpose. A double sort of failure is thus to be traced all through the book.

Small attempt is made, as I have said, to explain the main characteristics of the various schools of art that have developed at different times and in different lands. Yet this is the first thing to be done in an elementary work, the thing without a clear setting-forth of which no accumulation of minor facts can inform the mind of any student. The author shows no synthetic grasp of any branch of the subject. A careful and intelligent student might of course obtain such a grasp for himself while studying a completer book: but in so scanty a one as this he has not sufficient data from which to work. If all the author's statements as to facts and details were correct, this would still be true; but they are far from being correct. The sins of commission in the volume are as numerous and as fatal as the sins of omission. To make this patent I need quote but a few instances taken at random from its pages, beginning with the chapters which treat of architecture.

The notice of Egyptian art, to begin with, is hopelessly inadequate. No idea is given of the peculiar characteristics of the style, its

extreme appropriateness to its physical surroundings, its wonderful incarnation of the civilization which gave it birth. Yet this might easily have been done, even in the few pages at command. Nor is the treatment of Greek architecture any better. The origins of its styles are not discussed, and monuments of various periods are not discriminated from each other. The Treasure-House of Atreus, at Mycenæ is attributed to Pelasgian builders, and its ornamentation is said to be "evidently of Asiatic origin;" but there is no hint that the lions' gate belongs to the same school of art. Though called "Archaic," it is classed with pure Greek specimens, its description being immediately followed by that of the Propylæa of the Athenian Acropolis. When the more complicated mediæval periods are reached, the confusion is still deeper. Neither the fundamental relationships of classic and mediæval buildings, nor their fundamental divergencies are clearly noted. There is no reference to the time when the classic entablature was abandoned and the arch placed immediately on the column, — an insignificant change, possibly, in the author's eye, but surely a most vital one, and most far-reaching in its issues. As may from this be surmised, the palace of Diocletian at Spalatro is not even mentioned. The differing developments of Romanesque architecture in the south and in the north of Europe are not properly discriminated in any way, nor is the part that was played by Byzantine art in moulding that of western countries intelligibly shown. Details, too, are most carelessly reported. If it was worth while to say, in an elementary manual, that Romanesque churches have sometimes an apse at either end, it was surely worth while to say where only such examples may be found. Passing to page 146, we read that "The introduction of the pointed arch is the only dividing-line between Romanesque and Gothic architecture; in all other respects, Gothic architecture is a development of the Romanesque style." A more ingenious way of coming near to truth and yet missing it altogether, a more ingenious misstatement of a case, first on one side and then on the other, it would be hard to find. Yet something quite as bad follows on page 148: "After a series of experiments, architects began to realize that a given amount of wall, concentrated in piers and buttresses, had a greater supporting power than the same amount of wall distributed evenly the whole length of the building." It might have been somewhat better to say that it was found advisable to mass the support when it was found advisable to concentrate the weight at certain points. On page 151, painted glass is spoken of as "the excuse² for the increase of large windows." And on page 158 we have the statement, — true, but rather mildly put, — that "Italian Gothic always showed a few traces of classic influence in the predominance of horizontal lines and mouldings." We are also told, on page 151, that "previous to the Gothic period the exterior of Christian churches had received little attention. A few mouldings, which have been called 'an architect's substitute for lines,' emphasized the construction, and these mouldings were for the most part horizontal. Towards the close of the Romanesque period, architects began to pay more attention to external effect; but it was left to the Gothic architects to perfect the exterior of their building and to complete the Christian cathedral." Nothing beyond this paragraph is needed, I think, to show the extent of the author's familiarity with the subject. Yet in conjunction with the one quoted just before it, it contains an implication for which we must be thankful. These two negative references, I mean, are the only evidence borne to the importance of the vertical line in Gothic building. No mention is made of the contrast between two such important variations in structure as the Northern spire and the Italian campanile. I need not follow the author through her description of Renaissance architecture. We may leave the architectural section of her book with one or two more citations. On page 93 we are told that in the buildings of Arabia Petra "strong Oriental influences are at work modifying Roman forms, and producing a style that may be called 'a classic Rococo.'" On page 159 we find the phrase "the Gothic style was invented and perfected . . . by the monks and secular clergy of the North," and finally, on page 158, we are gravely told that "Westminster Abbey, in London, is the best-known of the English cathedrals."

Turning to the other sections of the book — to those which treat of painting and sculpture — there is found at least as much to criticize. If the lack of sound and clear general conceptions is less distressing than when architecture was the theme, mistakes in matters of detail are even more frequent, and, if possible, are even harder to excuse. There is absolutely no reference to the technics of either art, and there is strangely little acquaintance shown with the rank and characteristics of individual workers. Again I must quote a few passages which are but fair samples of many left uncited. We have often been told, of course, that Michael Angelo "exaggerated" in his work, but it remained for this volume to inform us that "in order to give the fullest possible expression to some abstract thought, he violated all the laws of natural proportion and made his figures monstrous and ungainly." As an offset to this, however, we find it stated on another page that "in his conception of God the Creator, Michael Angelo is the only artist who has not been irreverent." The long-abandoned sentimental theory about the two infants in Holbein's Meyer Madonna is here repeated at full length, and Holbein is stated to have been the engraver as well as the designer of his Dance of Death — a supposition which has been discredited, of course, for many years. Adam Krafft's bas-reliefs on the road to the

¹ A Short History of Art, by Julia B. DeForest. Illustrated. New York: Dodd, Mead & Company, publishers.

² It will be understood, of course, that the Italics throughout these quotations are not the author's.

Cemetery of St. John are mentioned, but not his *Sacrament's-Häuslein*. A notice of Van Dyck concludes thus: "As an historical painter he was inferior to Rubens; but in drawing, in refinement of expression, and in *purity and depth of color he excelled him*. As a portrait painter he ranks *second only to Titian*." Later on we read that "Gaspar de Craeyer has sometimes been ranked with Rubens and Van Dyck. He was not as ambitious as Rubens, and never dared or executed as much, but preferred a more modest and sober correctness." Surely discretion was here the better part of valor! An ignorant reader may be led to suppose that the painters contemporary with Teniers the Younger were not very skilful, for it is said of him: "His knowledge of perspective was good and he worked very rapidly." With regard to Francis Hals, as he is called, there is also an instructive little paragraph. "As a portrait painter he was unsurpassed by any of his *countrymen* (?) except Van Dyck. His coloring was strong and pure and his heads full of character. His masterpiece is the large picture in the Hall of the Archers at Delft." It is a new assumption, I think, that any pictures represent Franz Hals better than the magnificent series at Haarlem. Of Gaspar Netscher we hear only that he was "much employed in painting *portraits*." From the list of Netherland painters the names of Van Mieris and De Hooze are omitted, though that of Pynacker is given. The first place among Spanish artists is accorded to Murillo. Unfortunately, the notice of Velasquez is a little too long to quote, but I may at least cite the fact that "his pictures were most effective when viewed from a distance." Zurbaran on the one hand and Goya on the other are not mentioned among the Spaniards. The notes with reference to the French school are equally eccentric. Of Lebrun we are only told that "he was theatrical in his compositions." We hear that "Boucher painted pastoral scenes, and Hyacinth Rigaud was an able portrait painter;" but Watteau is quite forgotten.

The nearer we come to the present day the less of patience there is left us as we read. It is thought a proper characterization of Ingres to say that he "stands next to David as a representative of the classic school." In the same place (page 337) we read that "a tendency to represent painful and horrible subjects became apparent in the French school early in this century, and Paul Delaroche was one of the great promoters of that taste," and that "Géricault displayed undoubted genius in the same line as Delaroche." Decamps is said, — rather vaguely, perhaps, — to have had "a peculiar method of putting on his color." A beginner might gather a strange idea of Gainsborough's place in art from the following: "Gainsborough was established as a portrait painter in London at the early age of sixteen. His deep love for natural scenery, however, induced him to turn his attention to landscape painting, and he has the honor of being the first great landscape artist of England. The character of his pictures is thoroughly national." That is all! When Cornelius is mentioned and some of his works described there is no reference to his Campo Santo cartoons. But it is unnecessary, I think, to quote more instances of the sort, unless it be one that is, perhaps, — all things considered, — a little more remarkable than any thus far cited. On page 343 we read "The only other *German artist* whom we shall mention is Paul Gustave Doré." Though he has lived since childhood in the French capital, perhaps Doré may rank as a German in virtue of the fact that he was born in Strasburg, which, some generations before, had certainly been a German town.

It is, of course, the fault of the publishers and not of the author that many of the woodcuts are so poor — a defect especially to be deplored in view of the fact that they form so prominent a feature of the book. Had they been fewer in number the reader would naturally have turned to other sources for illustration as he read. But their profusion will doubtless give him the idea that he need look no further. The explanations appended to the cuts, moreover, are faulty in some places, not only in their spelling of proper names but in more serious ways — as, for example, on page 47, where an elevation of the Doric order is given, with the parts quite wrongly named.

It is not necessary, when such grave deficiencies have been noticed in a book, to insist with equal emphasis upon those of a lesser sort. I will but say that they are very plentiful. The spelling is consistent only in its carelessness. Page 241 may furnish an example: "Raphael Sanzio was born in 1483. His father, Giovanni Santi, was an Umbrian painter." There are constant faults, again, in the use of simple terms. "Nave," for instance, is throughout used as though it were the equivalent of "aisle," and the definitions are equally incorrect, especially in the glossary. The term "propylæa," for example, is defined: "Gateway or entrance to *Egyptian* temple," and the term "archaic" by the sole word "ancient." Nor are the teachings of this glossary in accord at all times even with the text itself.

It has not been a pleasant task thus to examine a book and call attention to a multitude of faults. But a distinct enumeration of those faults was necessary if the reviewer was to justify the general impression left upon the mind by a careful reading. I need hardly repeat that this impression has been reported — and justified by free quotation — solely in the interests of our youngest and most ignorant, and therefore most defenceless, band of readers. We are at a point now in our national education when there is a widespread craving for art-instruction. It is more than ever necessary, therefore, that none should be encouraged, especially of an elementary sort, which is not accurate and edifying. I have a sure conviction that this book was written with the best of motives — with the de-

sire to supply a real need of our schoolrooms and our studios. It is because that need is so real that the absolute uselessness of the volume is so strongly insisted upon. It is said in the preface that free use has been made of standard authorities, and Lübke is especially pointed out as the best guide for students. But it is difficult to see how even the author can believe her book an abstract of any standard work or works. I have turned several times to Lübke, for example, to decide between the varying ideas of writer and reviewer, and I have found his statements and implications in such direct contrast with those of the text that it seems marvellous how the latter can be due to any one familiar with and believing in his writings. It is but fair to say, perhaps, that I have used a German edition for this purpose. It is commonly reported that the translation published by Messrs. Dodd, Mead & Company is not altogether accurate. Yet I should hesitate to credit it with the errors of this smaller volume. Where they originated, however, does not matter in the least. That they are errors and that they are here printed in a book destined for beginners are the only facts important to reader or reviewer. A work which appeals to those already familiar with a subject may be safely left, perhaps, to find its own true level, but beginners cannot criticise for themselves.

M. G. VAN RENSSLAER.

THE FAIR OF THE MASSACHUSETTS CHARITABLE MECHANIC ASSOCIATION. — IV.

NOT many exhibitors have provided pavilions for their wares, and of those which are here, only one, the pavilion of R. H. White & Co., is of marked merit. This, by the way, might serve as a very excellent example of how not to make a pavilion, that is, if the real object of such a structure is to show the goods contained in it to the best advantage. In the present case this shortcoming is not a material disadvantage, as the object of the firm was evidently less to show their goods than to advertise themselves.

After this, the most noticeable structure, perhaps, is one near the centre of the main hall, which we should think might have been designed by a Choctaw Indian after a six months' course at a South Kensington art-school, when his remembrance of the manner in which he usually put together the framework of his winter wigwam had become somewhat confused by studying the Moorish rooms in the Museum. One thing he has evidently not forgotten, and that is, the combination of colors which adorned his tribal totem. No catalogue could be more lugubrious, no picnic-pagoda more glaring. How Messrs. N. W. Turner & Co. could believe that this structure would form a suitable framing for the display of the artistic gas-fixtures they exhibit, we do not know. It is a relief to turn the back on this and look towards the pavilion that occupies the place of honor in the middle of the stage in the main hall. If the structure behind us is barbarous without mitigation, this at least has the merit of a certain specious air of barbaric splendor, and though it is but sheet-metal it glows and glitters like nobler material. Messrs. S. D. Hicks & Son have here shown what results can be produced by skilful workmen, and what complex and tortuous forms those much maligned materials, sheet-iron and zinc, can be made to assume, the gargoyles being *tours de force* in their way. It would have pleased us more could we bring ourselves to believe that the coloring of the roof and some of the points of interest in the design were due to some of the reported new processes of chemically coloring zinc, and were not simply the effect of the vulgar paint-brush and bronzing buffer. Most of the detail is of the stereotyped form, and would have been no loss if entirely omitted. If sheet-metal must be used — as it must — why can it not be used as a simple metal? To our mind, the plain zinc rail around the pavilion is the most satisfactory thing about it. Even the stacks of galvanized-iron expanding-conductors have about them the dignity of honesty, which wins more approval than the theatrical splendor of the central structure. Alongside of it is another structure, a sort of cross between a travelling photographer's van and a pavilion-tent, which houses the "Town and Country" ready-mixed paints of Messrs. Harrison & Brothers, of Philadelphia. So far as can be discerned, neither the building nor its contents require particular mention.

There is one firm, at least, which has made an exhibit far within the limits of its possibilities. The Yale Lock Company, of Stamford, Conn., shows only a portion of its fine line of builders' hardware. The most interesting article exhibited is the Weston Differential Pulley-Block, which, judging from the comparative rarity of its presence on the scene of building operations is not as highly appreciated by builders as it deserves to be. By the differentiating of the sheaves in the upper block a very material increase in power is obtained, the ratio between the power of this tackle and the old-fashioned kind being about as thirty to four. Add to this its other characteristic, the power of holding suspended at any point in its course the weight it is raising, and it will be seen how useful an implement can nowadays be obtained. A similarly useful and effective apparatus is Weston's Hoisting Crab and Winch, which might have saved many a poor fellow whose life has been crushed out by the load falling swiftly from the derrick-boom because the men at the crank had carelessly let it get away from them, and many a poor fellow who has paid dearly for his carelessness by having the breath beaten from his body by the backward whirling winch-handle would be alive had he been working at one of these winches, which allow neither load nor crank to stir unless the workman wills it, and revolves the crank one way or the other. The display of locks and

door-furniture is not what it might have been, and does not attract the attention as much as the obelisk in another part of the hall which bears some of the fascinating imitations of old-time brass-work that Enoch Robinson, of Boston, is putting on the market.

The idea of furnishing the door of your room with fixtures which shall match the color of the walls or furniture, although it savors somewhat of the dress-maker, has a certain merit, and may in time develop articles of real value. At present the fixtures of the Boston Door-Knob Company have rather a cheap look, because of the quality of their mountings, while their "feel" to the hand is not pleasant. Moreover, had we a room whose furniture or walls matched the colors of the celluloid portion of these door-knobs, we should feel that we had announced to the world our utter inability to grapple successfully with the color problem. Another door-knob which we imagine will make some noise in the world is shown by the Alarm-Bell Door-Knob Company. It is a hollow knob, to be used on the inside of a door, which has concealed within it a powerful gong-bell which strikes whenever the outer knob is moved. Those who prefer to put their safety in the keeping of a jangling piece of metal rather than in a good watch-dog, big or little, will doubtless pardon the present uncouthness of the door-knob as it is now put on the market, for the sake of its serviceableness. This section of the room is perhaps as interesting as any, for here are gathered many of those ingenious devices which under the generic name of "Yankee notions" are finding a market in all parts of the world. There is here a clever little invention, a lady's, by the way, which may escape notice as it is fastened unobtrusively against one of the gallery pillars. Miss Hicks has done a service to those who store and use rain-water, by inventing this trap or strainer which can be inserted in a water-conductor at any desirable point, where it may be easily inspected by simply raising the upper portion, which is arranged as a sliding sleeve. The apparatus has the practical merit of being useful, simple, and not easily disarranged.

After the exhibit of the Wight Fire-Proofing Company, perhaps the exhibit most interesting structurally is that of the puttyless system of glazing practised by A. E. Rendle, of New York, and here explained by a full-size model. At first sight it takes a good deal of faith to believe that this slight construction has enough stability to stand the wear and tear to which it must be exposed, but when actual manual test shows how immovable is each sheet of glass when subjected to pressure in any ordinary direction, and yet how easily moved even the midmost sheet would be, should it become necessary to replace it, this doubt is appeased. Further inspection shows how water draining down over a given sheet on the outside, or on the inside where it may possibly have been driven by being forced through one of the vertical lapping joints by a high wind, is discharged onto the outside of the sheet below, at points where it must flow down the outside. This same system of gutters, if such short and diminutive ducts deserve the name, provides for the transference to the outside of the roof of such water of condensation as may collect on the inside of it. A later development of the same system, shown on the opposite side of the model, is a more finished and more agreeable, if more expensive mode of roofing with glass. Its distinguishing feature is the employment of sheet-metal vertical muntins, so that the longitudinal edges of the sheets of glass are not lapped one over the other, as in the earlier method, but would abut against each other but for the interposition of the muntin, so that each sheet of glass slopes only in one direction, instead of in two as in the other method. The earlier method seems however to have the advantage, in that broken panes can be the more easily replaced. Both methods are so obviously admirable that we are glad they have been imported into this country.

Near by are the exhibits made by the New England Felt-Roofing Company and the Warren Chemical & Manufacturing Company whose exhibits are very similar, indeed were it not that the latter employs the natural asphaltum in its roofing while the former, we believe, uses coal-tar products, these exhibits might be called identical. Each company, too, shows a specimen of the tile-paved roof made by T. New, of New York. In this particular the Warren Chemical & Manufacturing Company has better appreciated the proprieties of the occasion than has its competitor, and shows a model which can be taken to pieces—to a degree—and easily understood, as cannot be said of the other model which is disguised with paint. The New system has its merits, but as it is a very heavy roofing, it can only be used on very strong roofs. As shown by the models it is a fire-proof roof on the outside, and where mill-roofs are used it would give ample satisfaction, but if used on a roof of ordinary construction it can become truly fire-proof only when the rafters and roof-boardings are protected on the underside by porous terra-cotta or plaster tiles, and when the air-spaces are cut at intervals.

Associated by its odor with these, though divorced from them in ordinary usage by the whole height of the building, is the exhibit of creosoted wood prepared by the Hayford process and here shown by E. R. Andrews. It is unfortunate that the odor of creosote is so strong and lasting, else architects would use it more often than they do for cellars in damp places. However it can be used for stables, and we should think that the Oakes Manufacturing Company could use it to advantage in the floors of their ingenious horse-stalls which are shown in the centre of the building.

A system of roofing which is shown by a model in the main hall seems to possess the possibilities of a useful invention. What is the composition of the Elastic Soapstone Roofing, manufactured by E. Ross & Co., of Charlestown, Mass., we do not know, nor do we con-

sider that a roofing material that has been in use but ten years has fully established its right to be accepted for what it claims to be. But it has some obvious advantages, the chief of which are that it can be put on so as to form a continuous surface, and its comparatively small weight—two pounds to the square foot.

THE ILLUSTRATIONS.

THE DESIGN FOR THE YORKTOWN MONUMENT.

This design was prepared by a commission appointed by the Secretary of War under an Act of Congress. The commission was composed of Messrs. R. M. Hunt and Henry Van Brunt, architects, and J. Q. A. Ward, sculptor. It is the design accepted by the joint Congressional Committee. It will be constructed in one material throughout. The preference of the commission is in favor of Ellettsville limestone. The Act of Congress, following the original resolution of one hundred years ago, specifies "a marble column"; and in accordance with the evident intention of Congress, the commissioners, in the design, have confined themselves to classic precedents.

The monument is composed of three principal parts. The first is a base, which, with its stylobate and its pediments, is thirty-seven feet high, and occupies an area thirty-eight feet square upon the ground. The second is a highly sculptured podium, twenty-five and a half feet high and thirteen feet in diameter, in the form of a drum supporting a column. The latter, which is part third, is sixty feet high and at the base somewhat more than seven and a half feet in diameter. This shaft, for the sake of economy, is composed of a succession of drums or courses of masonry, giving practical reasons for a departure from the conventional treatment which belongs to monolithic shafts. The joints are partly masked by four bands, decorated with laurel leaves, and justified by a decoration of stars symmetrically disposed upon them and breaking the outline of the column. From the symbolical point of view, the monument is intended to convey, in architectural language, the idea set forth in the dedicatory inscription that by the victory at Yorktown the independence of the United States of America was achieved or brought to final accomplishment. The four sides of the base contain, first, an inscription dedicating the monument as a memorial of the victory; second, an inscription giving a succinct narrative of the siege, prepared in accordance with the original archives in the Department of State; third, the treaty of alliance with the King of France, and fourth, the treaty of peace with the King of England. In the pediments, over these four sides, respectively, are presented, carved in relief, emblems of nationality, of war, of the alliance, and of peace. The base is thus devoted to the historical statement. It explains the subsequent incidents of the monumental composition, which are intended to appeal solely to the imagination. The immediate result of the historical events written upon the base was the happy establishment of a national Union of thirteen youthful, free and independent States. To celebrate this joyful Union, the sculptor has represented upon the circular podium which arises from the base, a solemn dance of thirteen typical female figures, hand in hand, encircling a drum, which bears upon a belt beneath their feet the words, "One country, one constitution, one destiny." It is a symbol of the birth of freedom. The column above, surmounted by a figure of Liberty, may be accepted as typifying the triumphant results of a century of freedom, in the harmonious union of thirty-eight independent States, each of which is marked by a star upon the shaft. In the midst of this constellation appears the shield of Yorktown covering a branch of olive. The model will be taken to Yorktown and exhibited during the coming celebration.

[NORTH SIDE.]

ERECTED

IN PURSUANCE OF

A RESOLUTION OF CONGRESS ADOPTED OCTOBER 29 1781

AND AN ACT OF CONGRESS APPROVED JUNE 7 1880

TO COMMEMORATE THE VICTORY

BY WHICH

THE INDEPENDENCE OF THE UNITED STATES OF AMERICA WAS

ACHIEVED

[EAST SIDE.]

THE PROVISIONAL ARTICLES OF PEACE

CONCLUDED NOVEMBER 30 1782

AND THE DEFINITIVE TREATY OF PEACE

CONCLUDED SEPTEMBER 3 1783

BETWEEN THE UNITED STATES OF AMERICA

AND GEORGE III KING OF GREAT BRITAIN AND IRELAND

DECLARE:

HIS BRITANNIC MAJESTY ACKNOWLEDGES THE SAID UNITED STATES

VIZ: NEW HAMPSHIRE MASSACHUSETTS BAY RHODE ISLAND

AND PROVIDENCE PLANTATIONS CONNECTICUT NEW YORK

NEW JERSEY PENNSYLVANIA DELAWARE

MARYLAND VIRGINIA NORTH CAROLINA

SOUTH CAROLINA AND GEORGIA

TO BE FREE SOVEREIGN AND INDEPENDENT STATES

[AMENDED INSCRIPTION FOR SOUTH SIDE.]

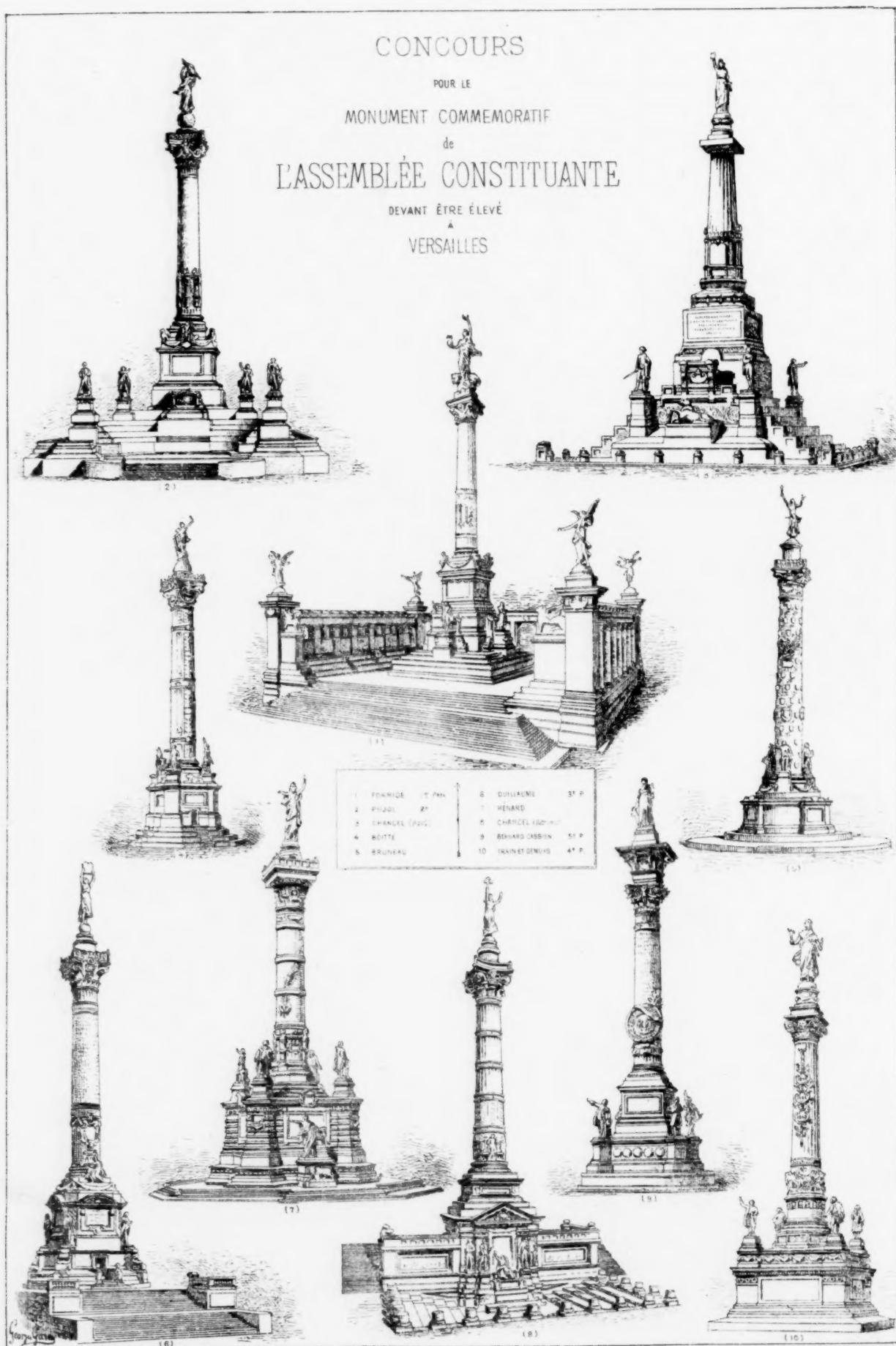
AT YORK ON OCTOBER 19 1781

AFTER A SIEGE OF NINETEEN DAYS

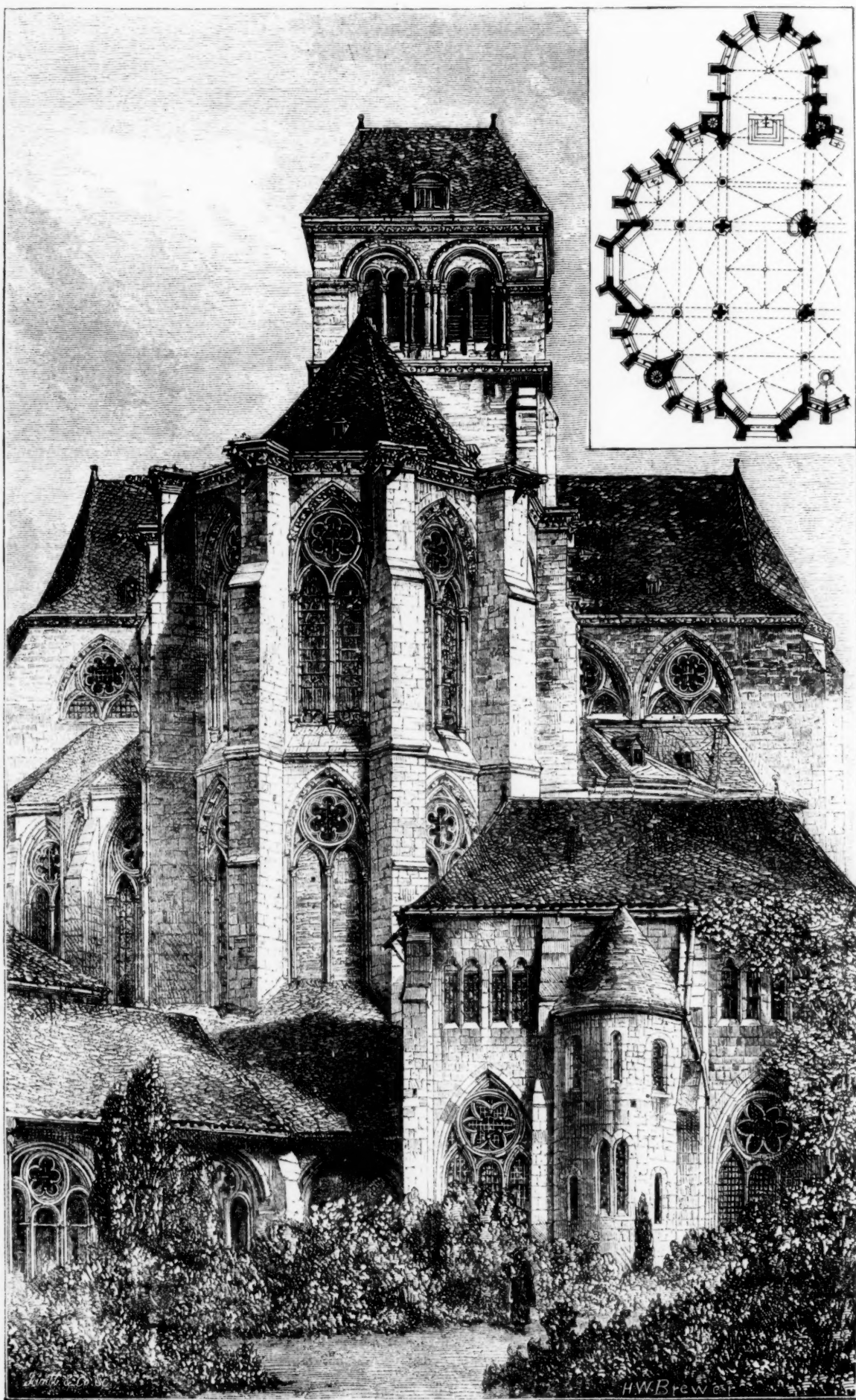
BY 5500 AMERICAN AND 7000 FRENCH TROOPS OF THE LINE

3500 VIRGINIA MILITIA UNDER COMMAND OF GENERAL THOMAS NELSON

IAS



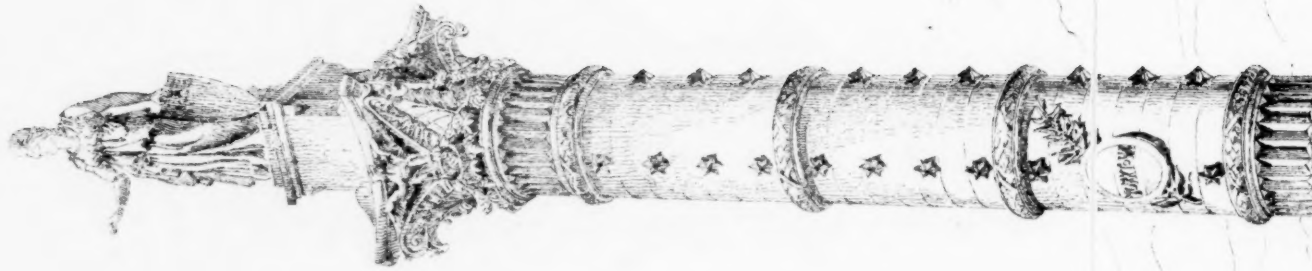
COPYRIGHTED, 1881, JAMES R. BLOOM & CO.



The Builder.

THE LIEBFRAUENKIRCHE, OR CHURCH OF OUR LADY, AT TREVES : A.D. 1227 TO 1243.

DESIGN FOR THE
YORKTOWN
MONUMENT.
Prepared by
R. M. HUNT and
H. VAN BRUNT.
Architects.
and J. Q. A. WARD.
Sculptor.





AT YORK ON OCTOBER 15 1781.
AFTER A BATTLE WITH THE ENGLISH
AND THE AMERICAN ARMY UNDER
THE COMMAND OF GENERAL CORNELIUS
AND THE BATTLE OF BUNKER HILL.
THE AMERICAN ARMY WAS DEFEATED
AND THE ENGLISH TOOK POSSESSION
OF THE CITY OF PHILADELPHIA.
THE AMERICAN ARMY WAS FORCED
TO FLEE AND THE ENGLISH TOOK
POSSESSION OF THE CITY OF PHILADELPHIA.
THE AMERICAN ARMY WAS FORCED
TO FLEE AND THE ENGLISH TOOK
POSSESSION OF THE CITY OF PHILADELPHIA.

Wm. G. R. Tolman Del.

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AND 36 FRENCH SHIPS OF WAR
EARL CORNWALLIS
COMMANDER OF THE BRITISH FORCE AT YORK AND GLOUCESTER
SURRENDERED HIS ARMY
7251 OFFICERS AND MEN 840 SEAMEN 24 CANNON AND 24 STANDARDS
TO HIS EXCELLENCY GEORGE WASHINGTON
COMMANDER-IN-CHIEF OF THE COMBINED FORCES OF AMERICA
AND FRANCE
TO HIS EXCELLENCY THE COMTE DE ROCHAMBEAU
COMMANDING THE AUXILIARY TROOPS OF HIS MOST CHRISTIAN
MAJESTY IN AMERICA
AND TO HIS EXCELLENCY THE COMTE DE GRASSE
COMMANDING-IN-CHIEF THE NAVAL ARMY OF FRANCE IN
CHESAPEAKE

[WEST SIDE.]

THE TREATY

CONCLUDED FEBRUARY 6 1778

BETWEEN THE UNITED STATES OF AMERICA
AND LOUIS XVI KING OF FRANCE

DECLARES:

THE ESSENTIAL AND DIRECT END
OF THE PRESENT DEFENSIVE ALLIANCE
IS TO MAINTAIN EFFECTUALLY
THE LIBERTY SOVEREIGNTY AND INDEPENDENCE
ABSOLUTE AND UNLIMITED
OF THE SAID UNITED STATES

AS WELL IN MATTERS OF GOVERNMENT AS OF COMMERCE

COMPETITIVE DESIGNS FOR A MONUMENT COMMEMORATIVE OF
THE CONSTITUENT ASSEMBLY, TO BE ERECTED AT VERSAILLES.

As an interesting comparative example of the manner in which French architects handle a design for a structure of a character similar to that which forms the subject of our principal illustration this week, we reproduce these designs from the *Moniteur des Architectes*.

THE LIEBFRAUEN KIRCHE, OR THE CHURCH OF OUR LADY, AT TREVES.

The Church of Our Lady at Treves, reproduced from the *Builder*, is another of those architectural puzzles with which Germany abounds: fortunately the date of its erection is known, and according to Kugler, it was built between the years 1227 and 1243. The plan of this remarkable building is very interesting. As will be seen, the whole composition grows out of the square of the area of the central tower or lantern; from this grow out a nave and transepts of precisely similar size and plan, each consisting of two bays and terminating in three-sided apses. The choir is similar to the nave as far as its first two bays are concerned, but beyond these it is carried two extra bays, and terminates in a magnificent five-sided apse. Instead of aisles, it will be noticed, there are four square compartments occupying the angle-spaces formed by the nave, transepts and choir. Again, filling in the angles formed by each of these square compartments, and the second bay of each of the transepts and choir, or the second bay of each transept, together with the second bay of the nave, are triangular compartments, each of which forms the base upon which a semi-octagonal apse is described. Kugler¹ points out the great similarity between the arrangement of this church and that of the choir of St. Yved at Braine, near Soissons.

Now as St. Yved at Braine was consecrated in 1216, and the Liebfrauen Church at Treves commenced in 1227, it is possible that they are the work of the same architect, or that the church at Treves was copied from that at Braine. Upon examining the church at Treves, one is led to the conclusion that its design was the work of two different architects, — the one perhaps a Frenchman or a German working under French art influences, and the other a thorough German. The apse of the choir, the smaller apses and body of the church generally look like the work of the Frenchman, and are well-developed Gothic, whereas the central tower or lantern and the west doorway, which are evidently no earlier than the rest of the building, and most probably are the latest things about it, are quite Romanesque in style, and Romanesque of a decided German character, they seem, in fact, to have no connection with the other portions of the building. The windows of this church and the columns under the central tower bear a most remarkable resemblance to those of Westminster Abbey, and the absence of the square abacus, and the fact that the arches are acute and only very slightly "stilted" seem to suggest that the architect of the church may have been an Englishman, especially when taken in combination with the fact that the architect of the clerestory and east end of the Abbey Church of St. Willibrord at Echternach, about ten miles from Treves, was certainly an Englishman.² Notwithstanding this there seems, judging from the plan, to be the greatest probability that the Liebfrauen Kirche at Treves is a French design.

The cloisters which unite this church with the cathedral are most singular. The windows which light them have regular three-light

geometric tracery, but all the arches are round-headed, — even those of the lights. It is quite evident that they are the work of some obstinate German who, while delighting in the beauty of French tracery, was determined not to give up the round arch. The experiment which is also to be seen in a pilgrimage church near Echternach, has proved beyond a doubt that Gothic tracery is ill suited to the round arch, and that windows with circular heads do not admit subdivision so well as pointed ones.

The internal fittings of the Liebfrauen Church are interesting. The altars, with the exception of the high altar, which is a modern Gothic erection, are excellent examples of Early German Renaissance; and there is a noble monument of the same style to Archbishop Jacob von Syrk. These probably date from about the year 1525 or 1530; the monument may be a little earlier.

Upon the twelve columns supporting the tower and clerestories of the church are paintings, life size, of the twelve apostles, executed in the fifteenth century. From one point in the church, just as you enter it, all these can be seen together.

FOURTH COMPETITION IN INTERIOR DECORATION.

It seemed to us best to interrupt during the hot weather and vacation season our series of competitions in interior decoration, but now that cooler weather is approaching, and architects and draughtsmen will soon settle down to the less time-consuming and harassing labors of the winter, we have decided to resume them, and therefore now repeat the usual announcement and regulations.

*FOURTH COMPETITION IN INTERIOR DECORATION.

The publishers of the *American Architect and Building News* offer three prizes of fifty dollars (\$50) each, for each of the three designs, submitted in accordance with the following programme, which shall be adjudged of highest merit. Also an indeterminate number of "consolation prizes" of a minimum value of five dollars (\$5) will be awarded under the same conditions. The award will be made by a jury, the members of which are Messrs. Henry Van Brunt, Arthur Rotch, and Eugène Létang, all architects of Boston. The conditions governing the competition are these:—

1. Every competitor, by taking part in the competition, signifies his willingness that his design be published in the *American Architect and Building News*, if the editors desire to publish it.
2. Each competitor is to submit two drawings, each measuring 14" x 22" within the inner framing line, the drawings being executed in pen and ink, on smooth white paper, in a manner suitable for reproduction in this journal.
3. The authors of the successful designs surrender to the publishers all property right in their respective drawings and designs.
4. In awarding the prizes heed will be taken of the manner in which the programme has been followed, the excellence and appropriateness of the design, and the execution of the drawing.
5. Each competitor is requested to sign his drawing with some motto or simple device, which can be recognized from its verbal description, and to enclose to the editors, together with his *nom de plume*, his real name and address.
6. The drawings are to be received at the office of the *American Architect and Building News*, 211 Tremont St., Boston, Mass., on or before Saturday, November 26, 1881.
7. Drawings which are received after the day named will be excluded from competition, but not necessarily from criticism and publication.

PROGRAMME.

The subject for the present competition will be a billiard-room in the little country hotel which has formed the subject of our previous competitions.

Situated in the upper story, the room, which must be large enough to accommodate three billiard-tables with players at each, will naturally be covered by an open-timber roof of light construction. Proper provision for a limited number of spectators must be made, and also for the heating, lighting, and especially the ventilation of this most troublesome of rooms.

Required: Two drawings, one showing a perspective of the interior, and the other showing the plan to one-eighth scale, an elevation of the billiard-table to the scale of one-half inch to the foot, a section showing the construction of the roof and details to a larger scale of the roof, billiard-table, cue-cases, chairs, chandeliers and other appointments of the room.

LEGAL NOTES AND CASES.

Partnership. — Statute of Limitations.

A statute of limitations will not commence to run as between partners so long as there are debts due to or by the partnership. *Jordan vs. Miller*. Virginia Court of Appeals, May, 1881. H. E.

Arbitration. — Technical Formalities.

In cases of arbitration, a substantial compliance with the statute is all that can be required. It is not reasonable to demand that proceedings, which it was intended should be carried on without technicalities, should become as formal as an action at law. *Alexander vs. Mulhall*. Supreme Court of Texas, May 30, 1881. H. E.

Negligence. — Violation of Municipal Ordinance.

The violation of a city ordinance is not, in itself, negligence. It is a circumstance, only, which will go towards establishing negligence. *Kaupfle, Adir vs. Knickerbocker Ice Company*. New York Court of Appeals, March, 15, 1881. H. E.

Trespass. — Damages. — Cutting Trees and Hauling Sand.

Compensation for the actual damage done in entering upon the land of another and cutting and carrying away timber, and hauling sand

¹ Handbuch der Kunstgeschichte von Franz Kugler, Stuttgart: Verlag von Ebner & Seubert, 1859.

² This interesting church has a clerestory and east end of pure Early English work, with mouldings and caps of the Salisbury type, triple lancet windows, and "dog-tooth" enrichments. The east end is filled up with a very large triple lancet window. The rest of the church is exceedingly early Romanesque work, except the towers, which probably date from the fifteenth or sixteenth century. This noble church had been used for many years as a china factory, but it has recently been purchased by the town of Echternach and reconverted to its original purpose. Unfortunately, the writer saw it late one evening, and there was no time to sketch it.

therefrom, will not be a limit to the measure of damages to be allowed, but exemplary damages may be given by the jury. *Rosser vs. Burn*. Supreme Court of Alabama, May, 1881.

H. E.

Municipal Corporations. — Negligence. — Blasting in Streets. — Notice.

1. It is a proper instruction to a jury, in an action for negligence against a city arising out of work done on its streets by blasting to charge them, that when the work was begun some days before the injury complained of was suffered, the street being much used, and the city authorities being aware that the work must be done by blasting, actual notice to the city that the street was in a dangerous condition from the work need not be proven, the city authorities must be presumed to be informed. 2. It is negligence in a city to allow dangerous excavations to be made in its streets by blasting, or to permit the blasting to be done in a dangerous manner, unless such care is used that persons using ordinary care will not be injured thereby. *City of Joliet vs. Seward*. Supreme Court of Illinois, May 14, 1881.

H. E.

VERDICT IN THE DENVER BUILDING ACCIDENT.

BELOW will be found the full text of Judge Elliot's instructions given to the jury in the case¹ of Frederick C. Eberly, the architect of the Strauss building, upon his trial for manslaughter, on Friday, September 23, to which we referred last week. The facts of the case are too familiar to the public to need repetition, but the trial excited great interest, especially among the members of the legal profession, because it was the first of its peculiar character which has ever taken place in Colorado, and it involved a very thorough and full discussion of the doctrine of criminal negligence, particularly as applicable to injuries resulting from the fault of contractors, builders and architects.

Gentlemen of the Jury:

"The second count of the indictment which you have been sworn to try charges, in substance, that in March, 1881, in this county and State, the defendant Eberly was the architect of a certain building then and there in process of erection and construction; that the defendant Hohenberger was the contractor of the stonework of said building; that the defendant Link was the brick contractor, and that the defendant Klock was the City Building Inspector, and that said defendants did then and there in an unlawful and felonious manner so execute and perform their respective duties in and about the construction of said building, that a considerable portion of said building then and there fell to the ground before the completion thereof, and that in so falling struck and instantly killed one Patrick J. Smith; and so it is charged in said second count that the said defendants did unlawfully and feloniously kill and slay the said Patrick J. Smith.

"Said second count, which is the only count upon which evidence has been introduced, charges the crime of involuntary manslaughter against the defendants.

"A crime consists in the violation of a public law, in the commission of which there shall be a union or joint operation of act and intention, or criminal negligence.

"Involuntary manslaughter is the unlawful killing of a human being without any intent so to do in the commission of an unlawful act, or a lawful act which probably might produce such a consequence, in an unlawful manner.

"Upon the trial of a person charged with the commission of involuntary manslaughter there need not be shown any intention on the part of the accused to do the killing, but the act of killing, and also criminal negligence must be proved against the accused.

"The defendant, Eberly, is the only one now on trial, and there is no evidence to show that the killing of said Smith occurred while said Eberly was in the commission of an unlawful act, or in consequence of Eberly being engaged in an unlawful business or undertaking, so, before he can be properly found guilty it must be proved that the said Eberly, in the performance of his duties as the architect or superintendent in and about the construction of said building, did not use due caution or circumspection, or that he was guilty of criminal negligence.

"If you find from the evidence that the defendant, Eberly, engaged and undertook as an architect to superintend the construction of the building as charged in the indictment, then it was his duty to exercise and use all reasonable care, diligence and precaution to see to it that said building should be built and constructed of such materials and in such a manner that it would be safe for the workmen engaged in and about the construction thereof as well as for the owner or occupant, though after its completion. And if you believe from the evidence beyond reasonable doubt, that said defendant failed to exercise such reasonable care, diligence and precaution, then he was guilty of criminal negligence. And if you further believe from the evidence, beyond reasonable doubt, that the said building fell and killed said Smith by reason of such neglect on the part of the defendant in and about his duty as architect and superintendent, then you should find him guilty as charged in the indictment.

"To warrant you in finding the defendant guilty, you must be satisfied from the evidence beyond reasonable doubt that the defendant, Eberly, in the performance of his duties in and about the construc-

¹The People, etc., vs. Frank C. Eberly, Anton Hohenberger, Benjamin Link and John I. Klock.

tion of said building was guilty of some personal neglect or misconduct whereby said building fell. That is, it must be proven beyond reasonable doubt that the defendant either directed or permitted the use of materials or the doing of work in and about said building which a reasonable or prudent architect and superintendent would not have done under the circumstances; or else it must be proven beyond reasonable doubt that he neglected to take such care and precaution in and about the construction of said building which a reasonable and prudent architect and superintendent would have taken under the circumstances, and that by reason of directing or permitting such materials to be used or such work to be done, or that by reason of neglecting to take such precautions the building fell and killed Smith.

"You are not bound absolutely by the opinions of the architects and builders who have given their opinions as experts as to what caused the building to fall; you may determine for yourselves from the facts shown by the evidence what caused the building to fall, considering the opinion of the experts to aid you in arriving at such determination.

"You are the judges in this case of the evidence and the weight thereof, and unless you believe, upon consideration of all the evidence, that the defendant has been shown to have been guilty of criminal negligence in the performance of his duties as superintendent and architect of the building spoken of by the witnesses, you should acquit the defendant.

"It is not claimed by the prosecution in this case that the defendant was actuated by any bad motive or evil intent with respect to any of the matters alleged against him, but it is claimed that as architect and superintendent of the building he was guilty of criminal negligence, which caused the death of Patrick Smith.

"The burden is upon the prosecution to prove that the defendant was guilty of negligence; that this negligence was criminal, and that such negligence caused the accident which resulted in the death of Patrick Smith.

"Negligence to be criminal must be so great as to indicate on the part of the person guilty of it, an indifference as to the consequences which might result to others therefrom.

"If you believe, from all the evidence, that the building fell because of the trench dug along the westerly wall, in the basement, and that without the digging of this trench the building would have stood, and that this trench was dug contrary to the instructions and without the knowledge of the defendant, and that it was so dug just before the building fell, while the defendant was absent from the building, then you should acquit the defendant. But if you believe, from a consideration of all the evidence, that the direct and immediate cause of the falling of the building was the improper and defective condition of the girder or truss, in the front part of the building, or the walls upon which it rested, then it will become necessary for you to consider whether or not the defendant exercised reasonable care, diligence and precaution in and about the construction of said girder or truss, and the walls upon which it rested, and the weight resting upon it.

"If the negligence of the defendant has not been proved to have been the direct and immediate cause of the accident, you must acquit the defendant.

"You are the judges of the weight of the evidence and of the credibility of the several witnesses, and in determining such weight and credibility you may take into consideration their manner and appearance upon the witness-stand, their means of knowledge as to the matters of which they have testified respectively, and the interest which any of them may have been shown to have had in the event of this trial, if any interest has been shown in respect to any witness. You are also the judges of the weight of the defendant's testimony and of his credibility, and you will give to his testimony such weight as you think it deserves; and in determining the weight and credibility of the defendant's testimony, you have the right to take into consideration the peculiar interest he has in the event of this suit, as well as other matters, including those matters indicated above as to the several witnesses."

The case was very thoroughly tried by an intelligent jury, and by Messrs. Benedict & Phelps, the attorneys for the defendant, and Hon. I. E. Barnum, representing the people, and after being out for something over two hours, the jury returned a verdict which, while it declared the defendant "not guilty," still coupled with this happy result to Mr. Eberly a decided reflection upon the manner in which he had designed and executed the construction of the Strauss building.

THE NEW PLUMBING REGULATIONS OF THE NEW YORK CITY BOARD OF HEALTH.

The following are the new rules adopted by the Board of Health of New York City, governing the plumbing and drainage of all buildings hereafter erected in that city.

PLAN OF DRAINAGE AND PLUMBING APPROVED BY THE BOARD OF HEALTH.

1. All materials must be of good quality and free from defects; the work must be executed in a thorough and workmanlike manner.

2. The arrangement of soil and waste pipes must be as direct as possible. The drain, soil and waste pipes, and the traps should, if practicable, be exposed to view for ready inspection at all times, and for convenience in repairing. When placed within walls or partitions they should be covered with wood-work fastened with screws, so as to be readily removed. In no case should they be absolutely inaccessible.

It is recommended to place the soil and other vertical pipes in a special shaft, between or adjacent to the water-closet and the bath-room, and serving as a ventilating shaft for them. This shaft should be at least two and a half feet square. It should extend from the cellar through the roof, and should be covered by a louvered skylight. It should be accessible at every story, and should have a very open but strong grating at each floor to stand upon.

3. Every house or building must be separately and independently connected with the street sewer by an iron pipe caulked with lead.

4. The house drain must be of iron, with a fall of at least one-half an inch to a foot, if possible.

It should run along the cellar wall, unless this is impracticable, in which case it should be laid in a trench cut at a uniform grade, walled up on the sides and provided with movable covers, with a hydraulic concrete base of four inches in thickness, on which the pipe is to rest.

It should be laid in a straight line, if possible. All changes in direction must be made with curved pipes, and all connections with Y-branch pipes and one-eighth bends.

It must be provided with a running-trap placed at an accessible point near the front of the house. The trap must be furnished with a man-hole for convenience in cleaning, which should be placed in the house-side of the trap of at least four inches in diameter.

5. There should be an inlet for fresh air entering the drain just inside the trap, the cover of which must be properly fitted and the joint made tight with some proper cement, leading to the outer air, and opening at any convenient place not too near a window.

No brick, sheet-metal or earthenware flue shall be used as a sewer-ventilator, nor shall any chimney-flue be used for this purpose.

6. Every soil-pipe and waste-pipe must be of iron and must extend at least two feet above the highest part of the roof or coping, of undiminished size, with a return head.

Horizontal soil and waste pipes are prohibited.

There should be no traps on vertical soil-pipes or vertical waste-pipes.

7. All iron pipes must be sound, free from holes and of a uniform thickness of not less than one-eighth of an inch for a diameter of two, three, or four inches, or five thirty-seconds of an inch for a diameter of five or six inches. Before they are connected they should be thoroughly coated inside and outside with coal-tar pitch, or some other equivalent substance.

The weight of all iron pipe used should be not less than:

For twelve-inch pipe.....	54	pounds per lineal foot.
For ten-inch pipe.....	45	" " "
For eight-inch pipe.....	33	" " "
For seven-inch pipe.....	27	" " "
For six-inch pipe.....	20	" " "
For five-inch pipe.....	17	" " "
For four-inch pipe.....	13	" " "
For three-inch pipe.....	9	" " "
For two-inch pipe.....	5	" " "

Iron pipes, before being connected with fixtures, must have openings stopped, and be filled with water and allowed to stand twenty-four hours for inspection.

Iron pipes should be painted white, so that any leakage will be readily detected.

8. All joints in the drain-pipes, soil-pipes and waste-pipes must be so caulked with oakum and lead as to make them impermeable to gases.

All connections of lead with iron pipes should be made with a brass sleeve or ferrule, of the same size as the lead pipe, put in the hub of the branch of the iron pipe and caulked in with lead. The lead pipe should be attached to the ferrule by a wiped joint.

All connections of lead pipe should be by wiped joints.

9. Every sink, basin, wash-tray, bath, safe, and every tub or set of tubs should be separately and effectively trapped. The traps must be placed as near the fixtures as practicable. All exit-pipes must be provided with strong metallic strainers.

10. Every trap should be protected from siphonage by a special metallic air-pipe not less than one and one-half inch in diameter: if it supply air to a water-closet trap, not less than two inches in diameter, the size to increase with the number of water-closets.

These air-pipes should extend two feet above the roof, and if independent of the upper end of the soil-pipe, these extensions should not be less than four inches in diameter to avoid obstructions from frost. If, however, they are branched into a soil-pipe, it must be above the inlet from the highest fixture. They may be continued by branching together those which serve several traps, giving such combined pipe a capacity equal to the sum of the branches. These air-pipes must always have a continuous slope to avoid collecting water by condensation.

11. Every lead safe under a wash-basin, bath, urinal or water-closet or other fixture, must be drained by a special pipe not directly connected with any soil-pipe, waste-pipe, drain or sewer, but discharging into an open sink upon the cellar-floor or outside the house.

12. No waste-pipe from a refrigerator shall be directly connected with the soil or waste-pipe, or with the drain or sewer, or discharged into the soil, but it should discharge into an open sink. Such waste-pipes should be so arranged as to admit of frequent flushing and should be as short as possible and disconnected with the refrigerator.

13. All water-closets must be supplied with water from a special tank or cistern, the water of which is not used for any other purpose. The closets must never be supplied directly from the Croton supply-pipes. A group of closets may be supplied from one tank if on the same floor and contiguous.

The over-flow pipes from these tanks should discharge into an open sink, or into the bowl of the closet itself, not into the soil or waste pipe, nor into the drain or sewer. When the pressure of the Croton is not sufficient to supply these tanks a pump should be provided.

14. Cisterns for drinking water are objectionable; if indispensable they should never be lined with lead, galvanized-iron or zinc. They should be constructed of iron or of wood lined with tinned copper. The overflow should be trapped, and should discharge into an open sink, never into any soil or waste pipe or water-closet trap, nor into the drain or sewer.

15. Rain-water leaders should never be used as soil, waste or vent pipes; nor should any soil, waste or vent pipe be used as a leader.

When connected with the house-drain, the leaders should be trapped beneath the ground, with a deep seal to avoid evaporation, and if placed within the house, should be made of cast-iron, with leaded joints.

No steam exhaust will be allowed to connect with any soil or waste pipe.

16. Cellar and foundation walls should be rendered impervious to dampness by the use of asphaltum or coal-tar pitch in addition to hydraulic cement.

Subsoil drains should be provided whenever necessary.

17. Yards and areas should always be properly graded, cemented, flagged or well paved, and drained by pipes discharging into the house-drain. These pipes should be effectively trapped with a catch-basin to keep sand out of the drain.

18. No privy-vault, or cesspool for sewage, will be permitted in any part of the city when a sewer is accessible.

DEPRECIATION OF A DEMESNE BY SEWERS.

AN important case was heard last week at the Institution of Surveyors, London, before Mr. F. Vigers as umpire, with Mr. F. Hod-sall and Mr. J. Tootell as arbitrators. It was a claim made by Sir William Hart Dyke in respect to an easement interfered with by the Darenth Valley Sewerage Board in running certain two-foot drainage pipes through the residential estate and appendages of the claimant's property, Lullingstone Castle, near Dartford, Kent.

Mr. Pollard, on behalf of the claimant, said that a board having the powers of a sanitary authority, in laying down drainage, were not compelled to purchase any individual's land for the purpose of carrying out their scheme; but according to the same Act of Parliament which gave them these powers the owner could estimate the damage he suffered and claim compensation. There was no general rule that could be laid down as to the amount an owner of land could make for compensation. In this case it could not be estimated at per foot or per acre; it was not a mere matter of calculation in pounds, shillings and pence, as the damages his client had and would sustain were of a peculiar nature. These cases entirely differed from cases where railway companies were concerned. A railway company could be compelled to purchase the land if they required it for such purposes as a tunnel, and in running through private property they had always to pay pretty smartly for it. He should ask the umpire to pay attention to the Public Health Act, and that clause which entitled his client to come before that court and make a claim for compensation. The words in this Act were much larger in their scope than what would be found in any clause in any other Compensation Act. This Act provided that while land could be taken without purchasing, there was power to claim compensation for any damage sustained. The nature of damage might be various; if any view was interfered with, any annoyance caused by smoke, or any detriment was made to the property in any way, they were entitled to claim compensation. The estate possessed to some people a peculiar, exceptional, and, indeed, extraordinary value. Lullingstone Castle could be traced back as far as the thirteenth century. Since the thirteenth century there were archaeological associations about it, and it was rather peculiar to the Hart Dyke family. The damage to the character of the property, while lessening its saleable value, affected the peculiar fancy and sentimental regard which was held for it. If property was so interfered with as to materially affect its sentimental value — which was really its marketable value — the amount of compensation would have to be estimated thereby. In this case the board in exercising their powers had chosen to go through the most valuable and antiquarian portion of the estate. There were three or four man-holes so situated as to entirely rob the property of any ideas of fancy. The question for the umpire to consider was whether what had been done was likely to impair the sentimental value of the property. There were thirty man-holes in a length of 9,124 feet, and so close did they seem that they suggested that the board had had an object to do the most damage to the property they could. The very best part of the Darenth for fishing had been destroyed by the man-holes. On this particular part of the embankment Sir William Hart Dyke and his friends could angle, and there entertain friends, but owing to the presence of these man-holes, which were in such close proximity, that would not now be possible. In the meadow farm, where the sewer ran under a green-house, the value of that property was somewhat destroyed, for if it were required for building purposes, it could not be adapted without extra expense, and the necessary license for building on a sewer. On the estate there was land used as a tilting-ground by Queen Elizabeth and Henry VIII. Whether it was antiquated or antiquarian, there was special value attached to it by that fact. This had been destroyed by the presence of the sewer. It might be contended that Sir William could only claim compensation for actual damage, no regard being paid to sentimental damage. He would call attention to the 308th section of the Public Health Act on that point. Where there was a property in private ownership of a peculiar character, even if by any interference by any one that property was even improved in monetary value, and its existing sentimental value impaired, that supposed increased value would have to be rejected. In support of his argument Mr. Pollard cited the claim made by the Duke of Buccleuch in respect to Montague House. In that case £5,000 was awarded by Mr. Baron Pollock as umpire in respect to sentimental value, as shown in the evidence of the umpire on page 422 of the "Law Reports of English and Irish Appeals." Though the circumstances in this case were different, the point in question was the same. The claim made by the Duke was founded on sentimental depreciation, notwithstanding that that property would have produced more money let as offices, etc., or building ground. The residential qualities were, however, here destroyed by the frontage to the Thames being taken away, and, after considerable difficulties in law had been overcome, the award of Mr. Baron Pollock in favor of the claimant was supported. In this case not only was the value of the frontage to the river destroyed by the presence of these man-holes, but the privacy was taken away. After dwelling on matters which were contended to interfere with claimant's privacy, the learned counsel concluded by drawing the attention of the umpire to the damage done during the construction and repairs.

Mr. W. J. Beadel said he estimated the total value of the estate at £125,000, and the depreciation consequent on the sewerage works at £20,000. Cross-examined: — The park was 700 acres in extent. He did not know how much land is in the occupation of Sir William

Hart Dyke. Two thousand acres should go with the Castle. If purchasing this land he should expect to get it for £20,000 less now than the sewer was down. It would certainly fetch £10,000 less. This depreciation in value was not only on the ground of damage, but on its privacy and sentimental value. If it were sold for building purposes its value probably would be increased. He put before the umpire £10,000 certain, and £20,000 in his judgment; and £1,000 as compensation for inconvenience during construction and repair.

Mr. R. L. Cobb estimated the depreciation in value at £16,000.

Mr. W. Hodsall said he placed his valuation at 15 per cent five years' purchase, or £19,540. The number of buyers, if the estate were for sale, would be decreased to the extent of an equivalent to five years' purchase less. The very site of this sewer would deter any one from taking it. As to the amount of compensation due to Sir William Hart Dyke, it was agreed to set the figure at £1,000, but that was insufficient. If the Castle had been let during the summer, it would have produced a larger sum than that.

Evidence was then taken for the Sewerage Board. Mr. E. Tewson, of the firm of Debenham, Tewson, Farmer & Bridgewater, said he divided the course of the sewer, and found that there are 60 chains through the park. Then there are 60 chains outside the park to the village, and 17½ chains through Mrs. Mandey's field. Sixty chains equal three acres, which he put at £150 per acre, or £450. There are fourteen man-holes, ten of which have gratings and four stone covers. So far as his experience had gone, £10 per man-hole was usual; but these being through this park, he put them at £20, making for them a compensation of £280. Then the 60 chains through the village, with a half-chain in width, equalled three acres, which, at £75 an acre, amounted to £225. There are eleven man-holes taken at £10, equalling £110, and 17½ through Mrs. Mandey's field, equal to 3 roods 20 perches. He put that at £100 per acre, £87 10s.; with five man-holes at £10, or £50. In consideration of the possible depreciation in the estate through the right of privacy being interfered with, he allowed £1,500. The land itself would let for exactly the same; the only depreciation being compensated for at £1,500. In consideration of any inconvenience which Sir William Hart Dyke might have been put to, before he had heard the evidence of witnesses on the other side, he had put the figure at £500. He confined himself to estimated damages actually sustained, and paid no regard to sentimental damage; his total estimate of compensation was £3,202 10s. He did not think that the estate would be materially affected in its saleable value. If the estate was brought into the market an extra buyer might be found for it. He remembered several cases where large properties had been sold, and was not aware that in any case they had been more valuable on account of their historical associations unless the estates possessed some social attraction—more, at any rate, than this does. If it possessed things that could be carried away—such as pictures and engravings—and placed in a museum, it might have some appreciable value, but he did not think money could be had for those at Lullingstone. If you sold them you must sell them as damaged. You would not get much money for them.

Cross-examined: Have you never heard of property making more on account of the nature of its historical associations? He tried over and over again, but never succeeded in getting an exceptional price on account of historical associations.

Mr. Virgoe Buckland said his estimate was £3,302. Mr. George Langridge, of Tunbridge Wells, said his estimate was £3,192 10s. So far as its antiquarian associations are interfered with, the value of the property was not depreciated. £1,500 represents the damage for interference with privacy and sentimental dread of the presence of these sewers. The damage is to the privacy, but it is well compensated for by the total amount.

Mr. Joseph Tootell, land agent and surveyor, Maidstone, estimated the damage at £3,005. Cross-examined: £500 was fair compensation for injury to residential enjoyment. He had known places with antiquarian associations, but had not known a precisely similar case to this.

Mr. Thomas Hennell, C. E., said all the man-holes near the Castle were covered with stone slabs, and there would not be any necessity to uncover them. There would be a quantity of spring water pass into the sewer with the sewerage of Shoreham and other places that was conveyed through it. The course of the sewer was selected in regard to the levels and the character of the property. As to the embankment mentioned by counsel and witnesses for claimant, it was simply an old stopped-up road, grass having grown upon it. By the insertion of this sewer in Sir William Hart Dyke's land, Lullingstone Castle would be benefited. At present the provision for the conveyance of sewerage from the Castle was inadequate.

The umpire said he should take time to consider his award.

THE MOSAICS IN THE CATHEDRAL AT AIX-LA-CHAPPELLE.

EARLY last month the mosaic decorations in the cupola at Aix-la-Chapelle were completed. The subject represented is that of the "Court of Heaven" as described in the Book of Revelation, with the twenty-four elders offering homage. The work partakes somewhat of the nature of a restoration, for it is on record that such mosaics once existed and were destroyed.

As soon as the work was decided on, Baron Bethune, of Ghent, (according to the details before us) undertook to furnish the designs,

in which it was intended to follow as closely as possible the outlines given by historians of the original mosaics. The changes made are only in point of detail, such as the omission of the seats of the elders, which, as their owners were represented standing, must in their emptiness have produced an ungraceful and monotonous effect in the original work. The execution of the designs was entrusted to Dr. Salviati, of Venice, about whom our readers have often heard.

Professional and general opinions seem agreed as to the success of this work, in which simplicity of design united with brilliancy of color produces a striking effect. From the octagonal construction of the dome, and the fact of the light being thrown upwards from the eight windows, the effect is heightened in a singularly effective manner. The comparative rapidity with which the work has been executed speaks well for the suitability of Salviati's process for modern requirements; and when we consider that the space covered is three thousand square feet, the time occupied seems relatively short. The whole has been done within two years, we note, although the time allowed by contract was three years. This rapidity is only attainable by the conjunction of material, financial, and technical facilities of the highest grade. In the different processes of manufacture there are, it is said, the most recent improvements; but the chief advantage of the system is in a process described at some length in the notice before us.

The ancient method of fixing mosaic work was to cover the wall under treatment with a coating of cement, and insert the pieces separately. This system (still in operation at Rome) only allows two or three workmen to be engaged at any one time, if due regard be given to regularity of effect. The Salviati process consists in the distribution of various parts of the design amongst different workmen at the factory. Each part of the design is pasted on paper, the reverse of the blocks being outwards, and thus when being placed in position it is only necessary to bring the separate sheets and fix them into the cement. The removal of the paper from the face of the blocks is, we presume, easily accomplished. Apart from the advantage of rapid execution, it is remarked that the uniformity and regularity of surface (so necessary in mosaic work) are much more easily attained by this method than when each block has to be fixed separately. Of course, the saving of labor allows of a proportionate reduction in the cost of the new system as compared with that of the old.

There remains, however, the question of durability to be glanced at, and under this head we notice that although some of Salviati's mosaics have been twenty years in position, they are as firm as when first executed, although in some cases exposed to unfavorable climatic and atmospheric influences. The testimony of the late Sir Gilbert Scott is cited in the remarks before us in support of this assertion, with respect to work executed under his direction, such as the Wolsey Chapel at Windsor, the Albert Memorial, etc.

It is suggested that the remaining portions of the octagon should be decorated in a similar manner. Its present undecorated state is to be changed, and the effect produced by the mosaics overhead leaves no option to the chapter but to make the rest of the Emperor Karl's chapel in harmony with the dome. According to the *Echo der Gegenwart*, "Germany has been enriched by a noble work which meets not only the religious but also the artistic requirements of such a task. Aix-la-Chapelle thus offers a new inducement to art-loving strangers to pay the city a visit." — *The Builder*.

SUGGESTIONS FOR THE PATERSON, N. J., WATER-SUPPLY.

St. Louis, Sept. 26, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:

Dear Sirs,—It appears to your correspondent that the people of Paterson, N. J., who suffer almost annually from a deficiency in their water-supply might find great relief and at very slight expense by returning to the use of cisterns for many or all domestic purposes, and for fire protection. The rain-water shed by an ordinary dwelling roof during a year is generally amply sufficient for all the wants of an average family, and with properly constructed cisterns, and care in letting the first discharge run into the sewer till the roofs are washed clean, it is easy to obtain a supply of palatable and healthful water. The chief objections would be that it could not be used in plumbing work in the houses without being pumped into a tank, with which probably the houses are not provided, and that people who have paid for city water do not wish to be deprived of it at any time.

One of our agricultural papers gives a suggestive description of experiments made with cisterns to be filled by surface drainage. A trial of four years with such a cistern was so successful that another was built, and soon thereafter the fire-department of the neighboring village adopted this plan of water-supply for fire protection. Twelve cisterns holding 500 barrels each, and two of 2000 barrels each, built in locations where it was impossible to fill them from roofs, were connected with the town gutters, and an ample supply quickly secured. The experiment is said to have proved completely satisfactory in every respect.

Very respectfully, C. E. ILLSLEY.

HANGING TAPESTRY.

DES MOINES, IOWA, September 22, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Can you give us any ideas in regard to tapestry decorations, especially the different ways of hanging it, whether tufted

or hung from a rod; in fact, anything you can tell us of it, or where we can learn of the art, will be greatly appreciated by us, and many thanks to you for the same.

Yours truly,
REDHEAD, WELLSLAGER & CO.

[Such materials are sometimes put on in plaited panels drawn up to knots in the centre, but the usual way is to fasten strips of wood, two inches wide and five-eighths inch or so thick around the top of the room and above the base-board or wainscoting, with vertical strips of the same kind at the angles, and spaced along the wall so that one shall come at each seam of the cloth. The breadths of tapestry or damask are then sewed together, edge to edge, with great care, and tacked to the strips. A line of gimp or other finish is run around the top and bottom. The thinner the strips to which the stuff is tacked, the better the surface will arrange with the base or other mouldings, but the cloth must always be stretched clear of the plaster. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS.

PAPERHANGING ON DAMP WALLS.—A mode of hanging paper on damp walls has been patented in Germany. Lining-paper, coated on one side with a solution of shellac in spirit of somewhat greater consistency than ordinary French polish, is hung with the side thus treated towards the damp wall. The paperhanging is then proceeded with, in the usual way, with paste. Any other kind of resin easily soluble in spirit may be used in place of shellac. A layer of paper thus saturated with resin is said to be equally effectual in preventing the penetration of damp. It is not stated how long lining-paper prepared in the manner described will adhere to a damp wall. As far as we are aware, French polish peels off moist surfaces, or is decomposed by damp. However, the suggestion with regard to the new process remains a matter for speculation, and experience alone will solve the question. For this reason, it is worth while, in our damp climate, to try the experiment.

A BOTTOMLESS PEAT-BED.—On the extension of the New England Road from Brewster's to the Hudson there is one of those peat-beds like the one which, near Wallingford, has caused the Consolidated Road so much trouble. This one west of Brewster's required over 600 car-loads of earth to fill it before a foundation could be had for the abutments of a bridge across the shallow pond. For this structure piles, one upon another, have been driven 110 feet into the peat, and the longest goes down 114 feet below the surface. A 3,000-pound weight has been used in driving them, and, at the last fall of this immense hammer, a fall of 20 or 30 feet would drive the piles only half an inch, so great was the friction on the sides of the piles. As it was, bottom was not reached after all; the friction on the piles sustains them. Some 70,000 or 80,000 cubic yards of earth have been dumped into this pit. — *Hartford (Conn.) Times.*

FIRES IN ST. LOUIS AND CHICAGO.—Whipple's Fire Reporter prints the following comparative statement of fires in Chicago and St. Louis for the first eight months of this year. Chicago has a population, by last census, of 503,304; St. Louis, 350,522:

TOTAL LOSSES AND INSURANCE FOR EIGHT MONTHS.

	Loss.	Insurance.	Loss to Insurance Cos.
St. Louis.....	\$1,383,807.14	\$2,394,972.49	\$1,056,365.25
Chicago.....	457,997.89	4,540,374.60	393,251.85

DOUBLE-GLAZING.—A writer in the *English Mechanic* points out some of the advantages of double-glazing in promoting the health of homes in winter. Skylights, he says, ought never to be put up unless double or double-glazed. Double-glazing answers perfectly if the sashes are grooved out for glass on each side, and are then glazed with an air-space of one half-inch or more between the panes of glass. The glass must be put in with its inner faces perfectly bright and clean, and the glazing should be done on a cold, dry day, so as not to include watery vapor, which in cold weather will condense inside the air-space, and cause mistiness. This double-glazing with an air-space makes a window almost as warm as a brick wall, and not only keeps up the temperature of a room in winter, and saves fuel, but it keeps the room cool in hot weather, and it makes the temperature more uniform throughout the apartment. With ordinary thin glazing in winter, the inmates are always being chilled on that side which looks toward the window, and baked on that side which is toward the fire. Double-glazing our window-sashes would save all this trouble.

THE CEDARS OF LEBANON.—The cedars of Lebanon have of late years suffered much from the destructive tendencies of visitors. The Governor-General of the Lebanon has therefore laid down certain regulations for the protection of the cedar-grove of Becherré, and appointed a custodian to see that the rules are enforced. A wall has been built around the cedar-grove, and although the cedars will be accessible to all travellers wishing to visit them, the erection of tents and establishment of encampments will not be permitted within this enclosure, except in such places as may be pointed out by the guard. No fires may be lighted in the vicinity of the trees, and all cooking operations must be carried on outside the enclosure. The observance of this precaution is all the more necessary, as three of the largest cedars were recently destroyed by fire, through the carelessness of servants attached to the suites of travellers. It is absolutely prohibited to cut branches or sprigs either for local use or for carrying away. The horses and mules of travellers will not be allowed to remain within the enclosure; while other animals, such as oxen, cows, goats, sheep, etc., are not to enter under any pretext, and will be impounded if found trespassing. The interpreters and muleteers of travellers will be held responsible for the infraction of any of these rules, which the natives also are expected to observe. By these judicious steps it is hoped that the famous cedars will be preserved from destruction. — *St. James's Gazette.*

PICTURE OF COLUMBUS.—The picture of Columbus just found in the Spanish Colonial Office represents him as about forty, without a wrinkle on his broad forehead, with dark, thick hair, a brilliant eye and beaked nose.

THE FORTIFICATIONS OF ROME.—Not only are most strenuous efforts being made at the present moment to complete the defensive works already in course of construction round Rome, but it has also been lately decided largely to extend the system of fortifications designed in 1878 for the defence of the city. In that year four million lire were voted for the construction of forts on the southwestern, eastern, and northeastern fronts of Rome; but these works were not intended to form an entrenched camp or pivot for strategical operations, such as, for instance, has been created round Paris since the conclusion of the late Franco-German war, but were designed solely to secure the capital against capture by a sudden and unexpected attack, and enable it to hold out until a field army sufficient for its defence could be concentrated. Recent events have, however, determined the military authorities to now give a far greater development and strength than was originally intended to the defences on the right bank of the Tiber. In the neighborhood of Rome this latter runs in a nearly due north to south direction, and the ground on its right bank being considerably higher than that on the left, completely commands the town of Rome. To render the capital secure, it is therefore essential that the right bank of the river should be strongly fortified; and a scheme for this purpose has now been approved of. The character of the country in front of the girdle of forts will, it is anticipated, prove extremely advantageous to the defenders, since it is a treeless, sparsely populated and malaria-stricken waste, which will offer little cover or shelter to an attacking force. The roads, moreover, traversing the Campagna all radiate from Rome, and will therefore facilitate the operations of the defenders, while the absence of lateral communication in advance of the fortifications will greatly inconvenience an attacker. — *St. James's Gazette.*

TESTS FOR STONES.—For purposes of the engineer, or in geological surveying, the physical character of a rock is of value. There are a few tests which it may be necessary to have recourse to. Mr. W. H. Penning, F. G. S., says: "To ascertain the kind of rock exposed in a pit or quarry, a fragment is detached from that part which has been least altered by the action of the weather. A good-sized piece of the rock is broken off, and afterwards reduced by chipping into a square lump. Good edges are thus obtained for observation of its texture by the aid of a pocket-lens." Scratching is a tolerably good means of testing hardness, and the young architect or geological student might examine the hardness of the stones in any locality with the aid of his pocket-knife. Those which are easily scratched, effervesce rapidly by dilute hydrochloric acid; and generally the degree of durability of a stone may be ascertained by the rapidity or slowness of effervescence. Calcite, or carbonate of lime, limestones, etc., are easily scratched and effervesce rapidly under acid. Magnesian limestone and dolomite do not effervesce quickly, and many sorts of stone, like gypsum sandstone, do not effervesce at all. Other important tests may be resorted to if additional information be required, and the texture and color are important for the architect. Texture is discovered by chipping an angle, and this may be crystalline, earthy, fibrous, granular, or compact. The behavior of a stone before the blowpipe is another valuable test: some stones reduce to quicklime, as those in which carbonate of lime is the chief constituent; others are fusible more or less, and some yield copper, lead, glass, slags, etc. It would be as well if these simple means of testing were more generally known and exercised in the selection of building-stones. — *The Building News.*

STRAPONTIN SEATS.—The recent attempt to enforce new regulations against fire in the Paris theatres resulted in little more than an increase in the quantity of water kept on the roofs in tanks for the use, in case of need, of the official fireman. Something like a revolt of the managers appears to have been aroused by the prohibition of what are known as "strapontin" seats, and it is said that in certain theatres these obstructions have, by way of defiance, been actually increased in number. The "strapontins," as the word indicates, are seats forming a sort of bridge across a gangway, thus making the lines of seats continuous. They were adopted at the Gaiety Theatre when the great demand for places to witness the performance of the "Comédie Française" offered a temptation to increase the amount of accommodation by such means; but their introduction was speedily followed by an order for their removal from the Lord Chamberlain's Office. As these extra seats were probably adding to the receipts on that occasion nearly £200 a week, it is easy to understand their popularity with managers in prosperous times. In defence of them it is urged that, as they are always provided with a spring which compels them to fly up and stand erect when not sat upon, they do not practically form any obstruction; but it cannot be denied that they cause annoyance to visitors, who are not able to pass to and from their seats without requesting the occupants of "strapontins" to rise. For the rest, their dangers are probably exaggerated. Some time since, when an ingenious American was reported to have invented "anti-panic seats," which would instantly disappear upon an audience rising "en masse," it was sensibly observed that in the case of a panic very little would be gained by enabling the entire audience to precipitate itself instantly upon one or two narrow exits. — *London Daily News.*

TALKING A HOLE THROUGH A DEAL BOARD.—One day at Menlo Park Mr. Edison had been showing his phonographs and telephones to a friend, who at last remarked, in a kind of despair, "Mr. Edison, you had better invent a machine to talk a hole through a deal board." In a week the machine was complete, and may now be seen in the exhibition. It consists of a mouth-piece, with a diaphragm across it, to the centre of which a light steel rod with a ratchet at the end is attached. On being sung to, the diaphragm and the rod vibrate rapidly, and the ratchet, gearing into a little cog-wheel, causes it to revolve. The axle of the cog-wheel carries a minute drill. Many inventors may have had as many brilliant ideas—few have carried out so many in actual practical form. The secret of Mr. Edison's success in this direction may be summed up in his own words: "Whenever by theory, analogy, and calculation I have satisfied myself that the result I desire is impossible, I am then sure that I am on the verge of a discovery." — *The Athenæum.*

BUILDING INTELLIGENCE.

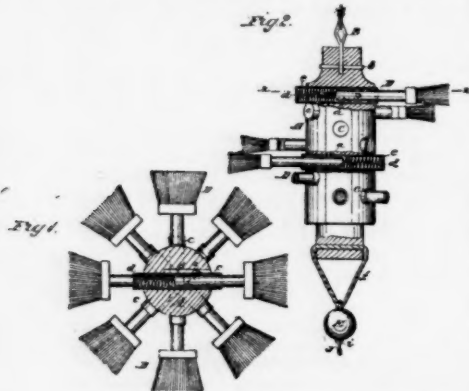
(Reported for The American Architect and Building News.)

[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.]

BUILDING PATENTS.

[Printed specifications of any patents here mentioned, together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for twenty-five cents.]

246,757. CHIMNEY-FLUE BRUSH.—David C. Greenway, Abingdon, Va. The object of this invention is the production of a brush by which chimneys and other flues may be conveniently and thoroughly swept, and one which is adapted to flues of different sizes. The block A, of hard wood, should be of such size as to easily pass through small chimney-flues, and is pierced with any desired number of holes a, arranged spirally around the block. In these holes are secured the metal casings, c, c, which may be of greater length than the diameter of the block, and are so placed that the open ends are flush with the periphery of the block. Within the tubes are placed the spiral springs d, d, and upon these springs the shanks of the brushes D D rest, the brushes being held in place in the tubes by the pins e, which pass through the slots e' in the tubes and into the shanks of the brushes. In the



upper end of the block is secured, by means of the key b, the staple B, to which a rope may be attached for lowering and raising the brush through the flue, and to the lower end of the block is attached the weight E, which serves to cause the brush to pass down large and medium-sized flues of its own weight. In case the weight is not sufficient to cause the brush to descend the flue, it will have to be drawn down by a rope, and for this purpose the bottom of the weight is provided with the staple i, to which a rope may be attached. In use the brushes are to be forced in upon the springs in the casing to such an extent that the device will enter the top of the flue. The springs, being thus compressed, cause the brushes to press against all sides and all parts of the chimney with a considerable force, and thus, in being drawn up and down the flue, accomplish the sweeping in a thorough manner.

247,485. GRATE FIRE-PLACE.—John M. Cook, Cincinnati, O.

247,491. CURTAIN-FIXTURE.—Charles E. Fritte, Oneonta, N. Y.

247,529. APPARATUS FOR HEATING CITIES.—William C. Baker, New York, N. Y.

247,558. CIRCULAR SAW GUARD.—Joseph G. Groff, Cornersville, Ind.

247,567. HOLLOW AUGER.—Jno. C. Kimes, Wadesville, W. Va.

247,569. ART OF AND APPARATUS FOR CUTTING OR DIVIDING STONE.—Hiram S. Maxim, Brooklyn, N. Y.

247,591. EXPANSION-JOINT.—Joseph B. White, Brooklyn, N. Y.

247,636. ARTIFICIAL STONE.—Carl Grünzweig and Paul Hartmann, Ludwigshafen-on-the-Rhine Germany.

247,639. SYSTEM FOR HEATING BUILDINGS.—Benjamin R. Hawley, Chicago, Ill.

247,675. FASTENER FOR THE MEETING-RAILS OF SASHES.—William Miller, Boston, Mass.

247,682. EVAPORATOR FOR HOT-AIR REGISTERS.—John Peard, Brooklyn, N. Y.

247,708. FIRE-ESCAPE.—Edward E. Swett, Biddeford, Me.

247,711. POINTER FOR PLUMB-LEVELS.—Nathan J. Thomas and Benjamin D. Schofield, Fowlerville, Mich.

247,731. DOOR-SECURER.—Jeremiah Lockwood, Sullivan, Ind.

9,883. (Reissue.) ILLUMINATING ROOF AND ROOF PAVEMENT.—Thaddeus Hyatt, New York, N. Y.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS.—The following are the more important of nineteen permits granted since our last report:

E. W. Robinson, three-sty brick building, Robinson St., 100' south of Hudson St.

George Bauernschmidt, two-sty brick building, Belair Ave., between Oliver and Chester Sts.

H. Whyte, five-sty warehouse, 27' x 130', Frederick St., bet. Baltimore and Second Sts.; cost, \$15,000.

Alex. Rieman, 3 three-sty brick buildings, n e cor. Howard and Mulberry Sts.; cost, \$9,000.

J. B. Irvine, 9 three-sty brick buildings, n w cor. Carrollton Ave. and Mulberry St., fronting on Carrollton Ave.

J. B. Irvine, 7 three-sty brick buildings, Mulberry St., between Carrollton Ave. and Carey St.

John McLennan, three-sty brick building, n e cor. Front and Centre Sts.

Foss & Gorman, 3 three-sty brick buildings, Chesapeake St., beginning 20' south of Dillon St.

E. W. Gorman, three-sty brick building, 17' x 43', Patterson Park Ave., beginning 37' n of Gough St.

Benj. C. Rayne, three-sty brick building, 17' x 64', Patterson Park Ave., beginning 54' n of Gough St.

A. S. Clayton, 12 two-sty brick buildings, Vincent Alley, between Baker and Presbury Sts.

PARSONAGE.—Mr. E. G. Lind, architect, is preparing drawings for a parsonage for the Brown Memorial Church, of this city, to be built on a lot adjoining the church, fronting on Park Ave., to be 2' x 40', constructed of brick and stone; cost, about \$10,000.

Boston.

BUILDING PERMITS.—Brick.—Boston St., rear of, near Hanlet St., for Samuel B. Pierce, stable and dwell., 32' x 40', two-sty and mansard; William J. Jobling, builder.

Lincoln St., Nos. 44 and 46, for Geo. C. Kennedy, mercantile building, 27' 10' x 65' 3", six-sty; Weston & Shepard, builders.

Marlborough St., Nos. 192 and 194, for N. Henry Chadwick and Samuel Stillings, 2 dwells., 25' x 56', three-sty and mansard; Samuel Stillings, builder.

Newbury St., No. 33, for Alden Avery, dwell., 19' x 70', three-sty and mansard; Alden Avery, builder.

Granite St., cor. Baldwin St., for John Stebbins & Co., stable, 25' x 80', three-sty; Stevens & Barstow, builders.

Columbus Ave., No. 216, for Edwin L. Gerrish, family hotel, 44' x 82', six-sty; Geo. D. Cox, builder.

Wood.—Monadnock St., near Bird St., for Wm. H. Saywood, dwell., 26' 3' x 32' 3"; William Saywood, builder.

Unnamed Pl., cor. East First St., for C. C. Walworth, dwell., 30' x 41' 8", three-sty; Clark & Lee, builders.

Unnamed Pl., cor. East First St., for Edmond C. Coleman, 5 dwells., 24' x 33', two-sty; Wm. T. Eaton, builder.

West Third St., for Hornel Benckers, stable, 18' x 24', two-sty; Wm. T. Eaton, builder.

Walnut Ave., near Glen St., for Jacob Frottler, stable, 20' x 40'; Henry Wood, builder.

Circuit St., rear of, near, for Abbott L. Hatch, dwell., 22' x 30', two-sty; C. A. Jefferson, builder.

Wheatland Ave., near Washington St., for A. Davenport, dwell., 30' x 39' 6", two-sty hip; F. A. Noyes, builder.

Carruth St., cor. Van Winkle St., for Elizabeth A. Beal, dwell., 23' x 30', two-sty; Beal & Spear, builders.

Greenville St., near Winthrop St., for Wm. Barton, dwell., 22' x 33', two-sty; Wm. Barton, builder.

Savin St., near Tupelo St., dwell., for Wm. Barton, 22' x 31', two-sty; Wm. Barton, builder.

Egleston Sq. St., near Weld Ave., for Mrs. Ella J. Emerson, dwell., 20' x 32', two-sty.

Waverley St., near Market St., for Granville Fuller, dwell., 25' x 30', two-sty; Chas. W. Bowers, builder.

Fenton Pl., near Greenwich Pl., for Ann Heavy, dwell., 17' x 27', two-sty.

White St., for City of Boston, voting precinct, 18' x 26'; Henry L. Jones, builder.

Border St., Nos. 75 and 77, for John McDermott, 2 dwells., 17' 6' x 36', three-sty; A. Macauley, builder.

Temple St., cor. Winslow St., for Jos. S. Eastman, dwell., 22' x 31', two-sty; Wm. A. Blazo, builder.

C St., cor. Baxter St., for Michael Welch, dwell., 20' 4' x 38'; Covey & Hanlon, builders.

HOUSES.—A four-sty brick and stone dwell., 24' x 62', is now being built on Newbury St., for Mr. J. Avery Richards; Louis Weissbein, architect; Chas. Chipman & Javis Sears, contractors.

STORE.—A four-sty brick and stone building, 23' x 60', to be used for business purposes, is to be erected on Haywood Pl., for H. L. Perry, agent; J. H. Coon and Kelly & McNamara, contractors; Louis Weissbein, architect; cost, \$12,000.

Brooklyn.

BUILDING PERMITS.—Gates Ave., s e cor. Lewis Ave., three-sty brick dwell.; Casper Koster, Gates Ave. near Lewis Ave.; architect, S. W. Osmun; builders, M. J. J. Reynolds and A. A. Reeve.

Kosciusko St., between Broadway and Held Ave., three-sty frame tenement; cost, \$3,700; owner, Julius Brininger, 872 Broadway; architect, Paul Hele; builders, E. Loerch and E. C. Bauer.

Adams St., No. 339, s e, south of Myrtle Ave., four-sty brick warehouse; owner, N. Langier, 335 Adams St.; builders, Thomas Donlon and Conrad Dietrick.

Fifth Ave., e s, 50' 2" n Seventeenth St., 2 three-sty brick stores and dwells.; total cost, \$8,000; owner, Thomas Pibblado, Fifth Ave. and Twenty-fifth St.; architect, G. Ingram; builder, Wm. Corrigan.

North Second St., s s, 200' w Fifth St., four-sty brick extension to factory; cost, \$12,000; owner, Frederick Haberman, 294 Pearl St., New York; architects, Thom & Wilson; builder, E. Snedeker.

St. John's Pl., n s, 174' s Sixth Ave., 3 three-sty stone dwells.; cost, \$7,000; owner and carpenter, Thomas Green, 195 Sixth Ave.; mason, W. Rowentree.

Fifth Ave., s e cor. Prospect Ave., 4 three-sty brick stores and dwells.; cost, \$5,000 each; owner, etc., Daniel Doodly, 598 Fifth Ave.

Gates Ave., s e cor. Ralph Ave., two-sty brick stable and car-house; owner, Brooklyn City Railroad Co.; architect, A. W. Dickie; builders, Jas. Ashfield & Sons.

Penn St., No. 251, between Harrison and Marcy Aves., two-sty stone dwell.; cost, \$4,500; owner, Henry Mander, 126 North Fourth St.

On dock foot Twenty-seventh St., about 2000' w Third Ave., two-sty frame storage shed and office; cost, \$4,000; owners, J. W. Ambrose & Co., 94 Wall St., New York; architects, J. W. Ambrose & Co.; builders, M. Gibbins & Son.

York St., n s 200' e Jay St., one-sty brick factory; cost, \$8,000; owners, Bradley White Lead Co.; builder, J. Allen.

ALTERATIONS.—Lefferts Pl., No. 169, one-sty brick extension; cost, \$2,000; owner, S. Jenny, on premises; architects, Farfitt Bros.; builder, Cornelius King.

Bushwick Ave., cor. De Kalb Ave., three-sty brick extension; cost, \$3,500; owner, The Little Sisters of the Poor, on premises; architects, Farfitt Bros.; builders, Smith Reppingdale, Jr., and Bernard Gallagher.

Clinton Ave., No. 451, three-sty brick extension; cost, \$4,500; owner, W. H. Wallace, on premises; architect, Mercein Thomas; builder, C. Cameron.

Chicago.

BUILDING PERMITS.—Bishop of Chicago, three-sty stone dwell., 52' x 85', Cass and Superior Sts.; cost, \$30,000.

E. B. Sheldon, three-sty brick dwell., 22' x 30', Wisconsin St., near Clark St.; cost, \$5,000.

J. S. Runsey, five-sty store and office building, 40' x 72', 44 La Salle St.; cost, \$18,000.

F. J. Magin, two-sty brick dwell., 25' x 64', Prairie Ave., near Twenty-seventh St.; cost, \$12,000.

Lincoln Park Congregational Church, church, 65' x 95' Garfield Ave. and Mohawk St.; cost, \$30,000.

V. Kohr, two-sty front addition, 21' x 36', 105 DeKoven St.; cost, \$2,000.

H. Meyer, three-sty brick store and dwell., 31' x 70', 533 Sedgwick St.; cost, \$7,000.

P. Roach, two-sty brick dwell., 24' x 38', 320 Webster Ave.; cost, \$3,000.

G. McDonough, three-sty brick store and dwell., 20' x 64', Thirteenth Pl. and Paulina St.; cost, \$6,500.

J. Merchack, two-sty brick store and dwell., 21' x 40', 444 Nineteenth St.; cost, \$3,800.

M. Murphy, three-sty brick store and dwell., 25' x 60', 278 Sedgwick St.; cost, \$4,800.

J. Wasota, two-sty addition, 24' x 28', 577 Thirty-first St.; cost, \$2,000.

R. Colekin, two-sty brick dwell., 22' x 50', Hoyne Ave., near Monroe St.; cost, \$3,300.

G. Gastel, two-sty brick store and dwell., 21' x 60', 555 Ogden Ave.; cost, \$3,800.

L. Matter, three-sty brick dwell., 24' x 64', 604 Union St.; cost, \$7,000.

J. Hecker, one-sty addition to factory, 40' x 70', 209 Superior St.; cost, \$8,000.

Cincinnati.

BUILDING PERMITS.—During the past two weeks and since our last report the following permits have been issued:—

9 permits for repairs; total cost, \$4,600.

B. McMill, alter three-sty brick, 230 Richmond St.; cost, \$2,500.

Mrs. S. Betts, 6 three-sty brick, n w cor. Hopkins St. and Central Ave.; cost, \$21,000.

T. T. Haydock, three-sty stone dwell., McMillan St. and Grand Ave., Walnut Hills; J. W. McLaughlin, architect; cost, \$25,000.

W. Hoeft, addition to three-sty brick, Baker St., near Race St.; cost, \$2,000.

C. M. Murch, three-sty brick, Richmond St., between Buy Miller and Linn Sts.; cost, \$3,500.

John Schutz, two-sty brick, n w cor. Neave and German Sts.; cost, \$5,000.

Fred. Lischbein, two-sty brick, State Ave., near Gest St.; cost, \$3,000.

Daniel Stickney, 3 two-sty frames on Wheeler St.; cost, \$3,500.

Crane, Reed & Co., alteration to three-sty brick, 683 West Eighth St.; cost, \$10,000.

S. Stern, three-sty brick, 252 Ninth St.; cost, \$9,500.

R. Cresap, 4 two-sty brick, Nassau St. and Gilbert Ave.; cost, \$6,000.

Dr. Bigney, three-sty brick, Division St., near Bank St.; cost, \$4,500.

J. W. Feldman, two-sty brick; cost, \$4,500.

Total permits, 25.

Total cost, \$99,300.

Total cost to date, \$1,580,800.

Total permits to date, 501.

New York.

BUILDING PERMITS.—One Hundred and Nineteenth St., n s, 225' e Second Ave., 5 four-sty brick tenements; cost, each, \$14,500; owner, John H. Babcock, 1404 Third Ave.; architect, John Brandt.

Third Ave., n e cor. Fourteenth St., five-sty brownstone store and dwell.; cost, \$30,000; owner, Charles A. Buddensiek, 201 Broadway; architect, H. J. Dooley; builder, A. Hafker.

Third Ave., e s, 25' n Fourteenth St., 3 five-sty brownstone stores and dwells.; cost, each, \$23,000; owner, architect and builder, same as last.

Broadway, Whitehall, Beaver and Stone Sts., six-sty brick, granite and terra-cotta offices and Exchange; owner, The New York Produce Exchange; architect, Geo. B. Post.

Seventy-fifth St., s s, 100' w Fourth Ave., 3 four-sty Connecticut stone dwells.; cost, \$20,000; owner, Terence Farley, 165' e Sixty-first St.; architect, Thom & Wilson.

Fifty-first St., n s, 100' e Ninth Ave., five-sty apartment-house; cost, \$17,000; owner and builder, Andrew Ewald, 432 West Fifty-first St.; architect, Thom & Wilson.

One Hundred and Twenty-fourth St., s s, 350' e Seventh Ave., four-sty brownstone flat; cost, \$12,000; owner, Mary A. McCormick, 235 Second Ave., architect, J. H. Valentine.

One Hundred and Thirtieth St., s s, 73' w Fourth Ave., four-sty brick flat; cost, \$10,000; owner, Jol n A. Hardy, 86 East One Hundred and Eleventh St.; architect, J. H. Valentine.

Madison St., w s, from One Hundred and Twenty-ninth St. to One Hundred and Thirtieth St., 12 three-sty brownstone dwells.; cost, each, \$8,000; owner

(Continued on next page.)