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We will venture once more to call attention to the artistic competition whose terms and object were described at length in our last issue, and will hereafter be found in our advertising columns, although we hope that no one will need a second reminder of the benefit and pleasure to be derived from taking part with some degree of earnest endeavor in such contests. The jury in this affair will consist of Messrs. Henry Van Brunt, Eugène Létang, and Arthur Rotch. Of Mr. Van Brunt's eminent qualifications as a juror no one needs to be told: of the other two gentlemen, one is instructor in architectural design to the Massachusetts Institute of Technology, while both were for many years members of the *Ecole des Beaux-Arts*. Those who think of competing may thus be well assured that their work will be judged by those trained in the best modern school of pure architectural design; that they will win neither prizes nor honorable mention without deserving it, and that if the merit of their drawings should not be equal to their intention, they will at least have the opportunity, by comparing their treatment of the subject with that of the more successful ones, to teach themselves invaluable lessons in regard to the true standard of design, which they could gain in no other way, and which they will find of inestimable service on many subsequent occasions.

MR. ALEXANDER KIRKLAND, the superintending architect of public buildings in Chicago, has submitted to the City Council a report upon the construction and present condition of the new City-Hall. The document is a model of brevity, clearness, and straightforward, scientific treatment of the subject. Unpleasant rumors had been circulated in regard to the building; bad settlements were said to have taken place, and the portico over the La Salle Street entrance was reported to be in danger of falling, so that Mr. Kirkland's report dwells particularly on these points. The settlements of the walls were found not to be serious. In fact, considering the great weight of the floors and masonry, together with the yielding character of the Chicago ground, the stability of the building seems to us quite remarkable, especially if our impression is correct, that a large part of the settlement as now observed had taken place long ago, almost before the foundations were completed, on account of the insufficient spread of the footings, and that the concrete underpinning put in at that time has completely checked further movement. Another difficulty in construction, which has been met with much skill, was the necessity for joining the new walls of the City-Hall with those of the County building, which were already nearly finished, and had settled almost to their full extent before the quarrel between the two sets of authorities was appeased, and that remarkable compromise adopted which our readers will remember. The City's architect, therefore, was compelled to allow for a settlement in his wall which he estimated at no less than four inches, before it could be brought up to the height of the County wall, and his floors and other levels were modified accordingly. The

result has proved the accuracy of his calculations, and, thanks to his skill, the most serious constructive difficulty about the building was disposed of with apparently complete success. The dislocations of the portico Mr. Kirkland shows to proceed from neglect of the principle, not so well understood when the foundations of the structure were put in as now, of distributing the load so as to bring a uniform pressure all over the footings. In this case, the base of the portico was much larger in proportion to its weight than that of the adjoining wall; hence it compressed the earth beneath it less, and settled less, and was therefore torn and broken at the junction, but by no means dangerously, or beyond remedy.

THE destruction by fire of the Manhattan Market in New York some weeks ago should serve as a warning against a very common construction in so-called fire-proof buildings, — that of covering the roof with wood, for greater convenience in slating. As fire-proof building was understood a few years ago, the market was sufficiently incombustible; nothing appeared near the ground but masonry, iron and concrete; the stalls which occupied the space contained a trifling amount of inflammable material compared with the vast accumulations of goods usual in warehouses, while the wooden roof-boardings were so far above them as to be, it seemed, out of reach of harm. Hundreds of iron roofs show the same construction, and have been considered perfectly safe. Nevertheless, a comparatively small conflagration soon attacked the upper wood-work, and spread beyond control, affording just heat enough to cripple the wrought-iron trusses one after another, until the whole was in ruins, and the structure which cost a million and a half of dollars was as completely destroyed as if it had been a mere shed of inch boards. This is only one of the many lessons which have lately shown the untrustworthiness of iron as a fire-resisting material, except when carefully protected. The expense of large buildings will be very much increased if wood is not to be used for the light purlins or rafters, as well as boarding, but we can no longer shut our eyes to the fact that economy and security are in these cases incompatible.

THE Free-masons seem to have taken the New York obelisk under their protection, and on Saturday last assembled in a grand parade to assist at the ceremony of laying the corner-stone of the foundation which is being prepared for it in the Central Park. A very large number of persons were present, and the celebration appears to have been of an imposing character. We are glad to see the wandering monument adopted, as it were, by so powerful an organization, even though we are not clearly convinced of its historical connection with the order. Either we have been unfortunate in the selection of what we have read on the subject, or some, at least, of the arguments which are brought forward to show that Free-masonry had anything to do with the original construction of the obelisk are not remarkably convincing. One writer says, for instance, that the Egyptian priests were "a mysterious brotherhood," which no one will dispute; then quotes from Herodotus to show that the "mysteries of the Cabiri" existed in Egypt at the time of his visit, and infers, from the fact that, as he says, Herodotus was writing for "the Greeks and Romans," that "this Masonic Cabiri order existed at that time in Europe." Considering that the Cabiri were a family of Pelasgian divinities, answering perhaps to Neptune, Apollo and Ceres, it seems a little strained to regard them as constituting a "masonic order," and their mysteries, which, so far as we know, resembled those of Eleusis, or the rites of the Bona Dea, appear also to lack that resemblance to the modern manoeuvres of trowel and square which would indicate a close historical connection.

A CORRESPONDENT writes us a familiar tale of woe, from which we will try to extract a short moral. In the city where he lives there has been for some time talk of building a new school-house, and like so many other young architects, our friend perhaps thought he could gain a little advantage by being early in the field, and therefore, as he says, "saw several of the interested parties," "ascertained the requirements," and devoted his leisure moments to making some sketches. By and by the matter took definite shape, a building committee was appointed, and authorized to employ an architect, and our correspondent showed his sketches to some members of the committee and

other influential persons, who professed to be much pleased with them. The superintendent of schools, and the principal of the one which was to occupy the new building, came to see him and expressed their admiration of the plans, and the superintendent asked that some unimportant changes might be made. Soon after, the chairman of the building committee told him that he was authorized to invite the architects of the city to submit preliminary drawings at the next meeting of the committee, and our friend sent his, which proved to be the only ones presented. Nevertheless, the committee subsequently engaged another architect to construct the building. Our correspondent wishes to know whether he can collect payment for his plans. This, we think, depends on the terms of the invitation to compete. If only a gracious permission was vouchsafed the designers to exhibit their poor drawings, which is what most committees and many architects understand such invitations to mean, he has hardly any ground for demanding payment; but if any promise was expressed or implied that the author of the best design would be employed as architect of the building, he has a good claim to be so employed, or indemnified for his labor and the injury to his reputation by being thrown over. However this may be, we hope he will see how much his case is injured by his over-readiness in the first place to make sketches on pure speculation, without any one's request, or promise to pay for them. But for this undue eagerness on his part, the committee would probably have treated him far less cavalierly, while his chances of getting paid are much diminished by his having previously done so much work for nothing.

THE coroner's inquest in the case of the fatal accident at the Hudson River Tunnel ended in a verdict exonerating the tunnel company from all blame. The expert testimony, as might have been supposed, went to show that no reasonable precautions to insure the safety of the workmen were neglected, unless the experiment of supporting the excavation from the interior by means of compressed air may be called an unwarrantable risk. It was certainly a bold, almost an adventurous attempt, but, carried out with due precaution and careful preliminary trials of the ground, we should be reluctant to say that such essays are to be considered outside the scope of legitimate engineering practice. There is a wide difference between a failure to foresee all the contingencies inseparable from an advance, like this, into an untried field, and such neglect of ordinary and well-known precautions as is charged against the designer of the Tay bridge, for instance, and if the engineer of the tunnel company had made known to his workmen the uncertain nature of the safeguards which were provided, no neglect of reasonable duty can justly be attributed to him.

A LITTLE anxiety is felt, now that the Cape Cod Ship Canal is fairly begun, lest it should prove less useful than was anticipated by freezing over in winter, so as to make it useless at the very time when it should prove most serviceable to the coasting vessels which would depend upon it to enable them to escape the winter storms from which they suffer so severely at present. The strong currents flowing through the cut will do much to keep it clear, but it is hardly probable that any continuous movement will be maintained of greater velocity than the flow of the East River at New York, for instance, which is periodically frozen over, in spite of its width, and the great volume of water which it carries, so that an occasional obstruction of the comparatively slender and shallow stream which fills the canal seems very possible. In case the closing of the passage should prove to occur very frequently, it might be worth while to apply the remedy which has more than once been proposed for keeping the Erie canal free of ice; that is, to lay a line of iron pipes in the excavation, and force steam through them when required. The whole length of the cutting being but nine miles, the necessary preliminary outlay would not be very large, and it is not impossible that the force of the tidal streams might be utilized in generating, at least, a part of the requisite heat. In fact, a device has already been put into practical form for heating railway-cars by means of the friction of revolving disks, set in motion by the movement of the train, and, although there might be some inconveniences about a warming apparatus for passenger trains which would cease to act in case of detention or snow blockades, there would be no such objection to its employment for converting into heat a portion of the momentum contained in a stream of water, for the purpose of keeping it from freezing.

THE *London Architect* is responsible for the assertion that "a wealthy American" has made an offer of a million and a half of francs for a certain fountain now standing in the Place de la République, with which he proposes to adorn "one of his estates" in his native land. Whether this means that he proposes to erect the structure, which is designated by the Parisians as a "masterpiece of confectionery," in the front area of his Fifth Avenue house, or among the stumps and boulders of the country, we are not informed, but do not doubt that his devotion to art will be appreciated by his fellow citizens. Such efforts toward exterior display on the part of private individuals are very rare among us, those Americans who have three hundred thousand dollars to spend on fine art generally preferring either to purchase costly pictures and statuary, or, if they fancy monumental design, to turn their taste and their money to the general benefit by the erection of some public structure. If the fashion should spread, we may look for a corresponding change in the character of our highest class of domestic architecture. The fronts of face-brick and brown-stone, or the fragile wooden enclosures, which serve well enough to shelter such luxuries as gold and silver plate, diamonds and jewelry, Meissonnier pictures and ivory statuettes, will not accord with a display of bronze fountains and statuary before them; the forty-foot façades, and twelve-foot stories, must give way to the pomp of interior courts, lofty and spacious rooms, and greater complexity of form, before the fitting expression of preëminent wealth and luxury will be attained.

OUR readers will recollect the reference made in these columns not long ago to the new "Donatello Society," founded in Florence principally through the energy of M. Léon Gauchéz, proprietor of *L'Art*, for the promotion and revival of Italian art. Three exhibitions were projected to inaugurate the enterprise, the first to include modern paintings of all nations; the second to illustrate the minor arts, such as goldsmith's work, tapestry and bric-à-brac, of all ages; and the third to show the application of art to industry. The first of these exhibitions has just been opened by the king in person. One of the generous and patriotic nobles who are always to be found in Italy, offered a suite of rooms in his palace for the use of the Society, and many fine pictures are shown, from France, England and other parts of Europe, as well as from Italian artists. The other exhibitions will occur this month. We confess that we read with envy of these enterprises; not that our own country is totally deprived of such advantages, for the display of pictures at Philadelphia, in 1876, perhaps equalled the present one at Florence, and some of the temporary loan collections in New York and elsewhere comprise pictures of the greatest interest and value, but these are far from having an influence upon our art such as would be exercised by exhibitions with a distinct purpose of exciting emulation, especially by great competitive trials of skill, like those which will, it is understood, follow in Florence the present enterprise, free to all who have merit enough to gain entrance, and dispensing at regular intervals their needed encouragement to thousands of timid but talented artists, and wholesome rebuffs to the undeserving, as well as their rewards of fame and fortune to those who, after years of effort, it may be, succeed in winning the first place.

AN artesian well is now being sunk in Boston which seems to have at least one peculiar feature. The well has been driven rather more than fifteen hundred feet without reaching any considerable spring, although there is a constant moderate flow of water into it, but it seems that at a distance of fourteen hundred feet from the surface a stratum of gold-bearing quartz, twenty feet thick, was reached and pierced. As the city is itself situated on a mass of diluvial clay and gravel, although surrounded on all sides, at a distance of a few miles, by granite and porphyry formations, it might naturally be inferred that the auriferous vein would crop out somewhere about the edge of the basin, and as "bonanzas" twenty feet thick are not only rare but valuable, possibly further attempts may be made to trace the course of the deposit. We are not informed whether the material brought up by the auger proved to be very rich in the precious metal; probably it was not, but no surprising results could be expected from a random incision into the rock. Whether any one succeeds in making any profit out of it or not, the thought that Boston, alone of large cities, rests upon a plateau of gold ore may at least serve to gratify the vanity of its inhabitants.

THE OPEN FIRE-PLACE.—XXIII.

APPENDIX.—MISCELLANEOUS EXAMPLES.

In Fig. 245 the amount of decoration is carried to its utmost limits. The chimney-breast is overladen with sculpture. The walls are richly

on the southern coast of the Black Sea. The entire central frame of the fire-place is of a hard grayish stone, somewhat resembling granite. The decoration of the mantel and of the two sides, or wings ornamented with niches, is moulded plaster-work vigorously retouched with the tool. The whole is fitted in the wooden facings of the walls, which are garnished with divans and

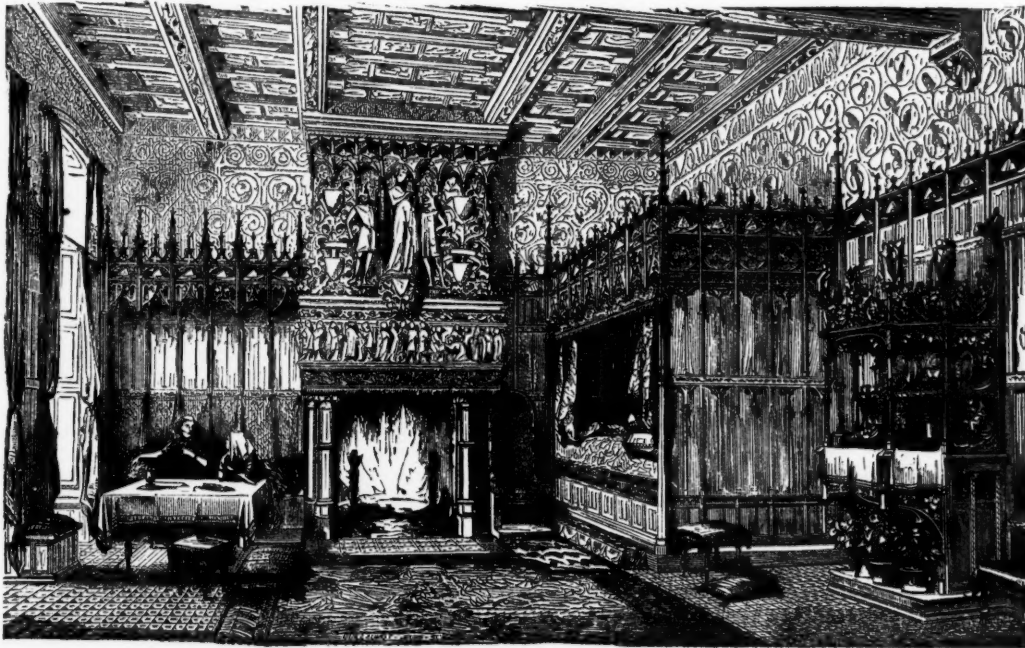


Fig. 245. Bed-Chamber in a Fifteenth Century Chateau.
From Viollet-le-Duc's "Dictionnaire du Mobilier Français."

panelled on all sides, the dado being crowned with delicate mouldings in the late Flamboyant Gothic. The hearth is tiled. The breadth and simplicity of the twelfth and thirteenth centuries is lost in the repetition of tracery, buttresses, fretwork and crocketing. The effort

cushions. The climate of this country demanding often a speedy and bright flame, the combustible logs or fagots are placed vertically

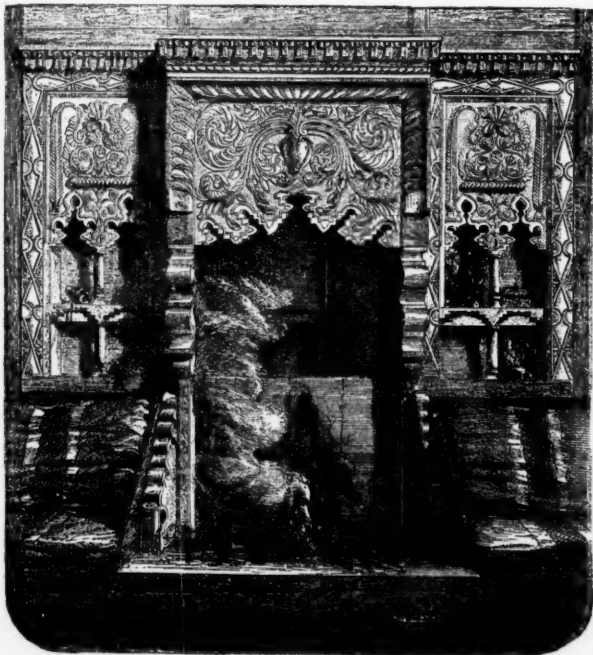


Fig. 246. Turkish Chimney at Keresoun. Seventeenth Century Oriental Art.
L'Art Pour Tous, 1861.

appears rather to cover than to display the members of the construction, though in the example before us the main lines are guarded with unusual care and skill.

The chimney-piece (Fig. 246) is in the Pacha's palace in the city of Kérésoun, (ancient Cerafonta,) which stands on a rock

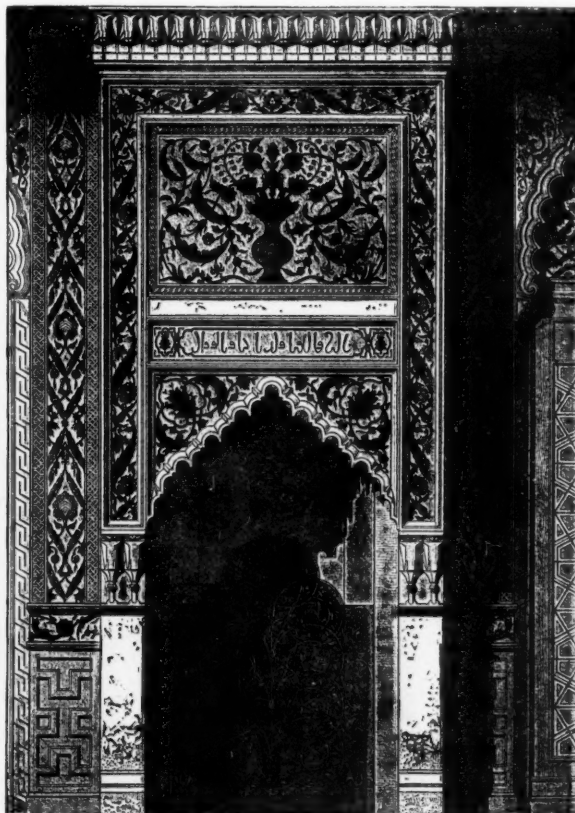


Fig. 247. Fire-Place in the "Persian" Drawing-Room, House of M. le Comte Branicki, Paris. Roguet and Boileau, Architects.
From the "Encyclopédie d'Architecture."

as in Persia. The lighting is effected by means of dry aromatic herbs.

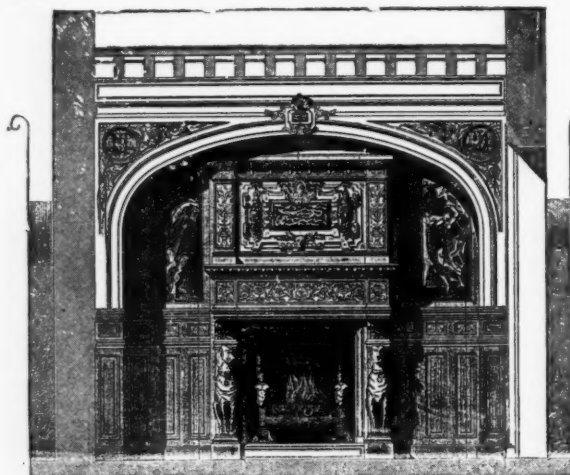


Fig. 248. Dining-Room Fire-Place, by M. Escalier, Architect.
From *Le Moniteur des Architectes* for June, 1880.

ART AND ARCHITECTURE IN BERLIN.

AMONG the results of the recent political aggrandizement of Prussia and the establishment of the empire, has been a more decided recognition of Berlin as the centre of north-German life and activity. It is not probable that any city will ever gain in the fatherland the complete ascendancy that Paris has obtained in France, or London in England. Nor is it, of course, in the interests of art — with which alone at present we are concerned — desirable that such should be the case. Nevertheless, it is well that there should be some one town which, while by no means monopolizing all the artistic interests of the country, should be regarded as in some sort their headquarters. Munich has for long shared this honor with Berlin. I put Vienna out of the enumeration as concerned chiefly with her own productions and with some that come to her from Bavaria and other portions of South Germany. Düsseldorf, name once so beloved by a now almost obsolete school of artists and amateurs, has little influence to-day. This was more than proven, I may pause to say, by the non-success of its recent general exhibition, where the names of Germany's foremost artists were so conspicuously absent. Munich and Berlin have been the two great centres of artistic activity since the rise of the school which now holds sway. The Munich Academy and the well-known *ateliers* which are its offshoots, are still the best places for an artist to learn the practice of his craft. We Americans should be especially cognizant of the fact since our younger artists have almost all there learned to do us honor. Berlin, however, seems day by day to be becoming the centre of art in the way, not of training it, — though here also we are told it is now only second to Munich itself, — but of bringing it before the public and distributing it throughout the empire. Hitherto, as naturally to the national capital, gravitate the best products of the country, and its periodical exhibitions rank for importance before those of any other German city. There is another way, moreover, wherein the growing political importance of the capital has tended to a certain centralization of art. Not only the increased influx of strangers to the city, the increased cost and splendor of living, the increased pride of the Government in its abiding place, have forwarded the architectural embellishment of the city, but the growing needs of a great empire demand new establishments of various kinds and the imperial capital is the place where they naturally find their home. And here, moreover, have naturally been placed many of the monuments in memory of great persons and great events. It may not be uninteresting to the readers of the *American Architect*, if I note for them some of the principal works that were completed in Berlin during the winter of 1879-1880, and some of the principal exhibitions of works of art that were held there during that period. My materials have been gathered from various German publications, especially from different numbers of *Im Neuen Reich*.

One of the principal points in the city is the Pariser Platz, through which one passes from the "Unter den Linden" to the Brandenburg Gate, and under this to the Thiergarten, the great park of Berlin. This square is in process of being improved, — at the suggestion of the Emperor, it is said, — by a different distribution of carriage and foot ways, by ornamental planting, the erection of fountains, etc. This work has been most fortunately seconded by the entire remodelling of the French embassy which stands on one side of the square, an undertaking that has been entrusted to French architects. It has an entirely new façade, with a fine colonnade, a well-designed mansard, and details of especial elegance throughout. Opposite to it stood the Wrangel Palace, formerly the residence of Blücher. This has also been altered into a sumptuous structure for the use of the First Regiment of Foot. It is in the style of the "later High-Renaissance."

By means of these various alterations the Pariser Platz has been so improved that those of us to whom it was familiar in its former state would hardly recognize it for the same.

Most travelers who have taken trains from Berlin for Dresden and the south will have no very pleasant recollections of the shabby, inconvenient little *Anhalt'scher Bahnhof* which was in such strong contrast with the other railroad stations of the city. At the beginning of the present year it was replaced by a new one which is the largest in Berlin. It is built of light yellow brick and has a stately arcade in front surmounted by a sculptured group, high above which rise the immense arches of the roof. This last, where it covers the tracks, is said to be for both length and breadth of span larger than any other in the world, "with the exception of a single one in America." The Askanischer Platz in which the station stands has been laid out as a park, and the neighborhood which for so long has been an eye-sore to Berliners bids fair to become one of the most attractive in the city.

In the adjacent Königgrätzer Strasse, a few hundred feet from the square, stands the new Industrial Museum, of which Messrs. Gropius & Schmieden have been the architects. The exterior is completed and the building is to be opened for use during the present autumn. The spot on which it stands has been unoccupied till now, and was designated at one time as the site for new Houses of Parliament. The building faces south, and is to be surrounded by gardens. A new street will be opened in front of it through the grounds of the Ministry of War. The idea from the beginning was that the structure should exhibit in itself and in all its details the perfection of which German art-industries are capable. From this and from all architectural points of view it is said to be eminently successful. It is almost square in shape, the front having a magnificent portal and the centre of the elevation being decorated with pilasters. Exactly in what style the work has been designed and executed I have not been able to discover. Pictures in Venetian glass-mosaic adorn the frieze beneath the roof. The interior, for beauty, convenience, and general felicity of arrangement, surpasses, we are told, all other museums and public buildings in the city.

In the Kloster Strasse, the very centre of the old City of Berlin, the same architects have just completed the new Royal Art-Academy. The place where it stands is identified with the oldest and most interesting memories of the town. Here stood the Franciscan Cloister, locally known as the "Grey Cloister," which was built before the year 1300. Near it stood in former times the so-called "High House," the original residence of the Margraves and Hohenzollern Electors, who inhabited it until the year 1451, when Frederic II removed into the castle which has been the nucleus of the present palace. In 1713, the old castle was turned into a storehouse and magazine, and this name of *Lagerhaus* is still borne by the more modern building which now stands on the old foundation walls and is used for the preservation of the State Archives. One wing, which was especially appropriated to the Ministerial Archives, has been torn down to make room for the art-school. It certainly stands on a spot which should be inspiring to the students if any spot can be in this comparatively new and quite unpicturesque and unromantic capital. The school is said to be in the pure Renaissance style, whichever of the several styles that can with perhaps equal propriety be so designated may be meant. It is constructed of brick relieved with sandstone. A strikingly designed bay, supported by brackets in the shape of eagles, projects from the façade, and the frieze shows a line of portraits representing such artists as Schlueter, Schinkel, Bötticher, etc.

The new Imperial Palace of Justice on the Voss Strasse is another great building which the past year has seen completed. It is built entirely of sandstone. The upper story of the main portion is divided by pilasters which frame effective bas-reliefs, and statues of marble crown the cornice, while the ends of the somewhat lower wings are adorned with large groups of sculpture. The ground floor is very massive in appearance and is separated from the lighter upper story by an entresol which projects upon volute-like brackets.

There is no large city in the world, perhaps, where parks and gardens are so much a matter of absolute necessity as in Berlin. Situated in the midst of a vast sandy plain, almost devoid of natural wood and equally wanting in beauty and variety, its inhabitants are driven to provide for themselves some substitute for the natural beauty which has been so lavishly supplied about Dresden, Vienna, and most of the large German cities. The Thiergarten, of old establishment, is vast and beautiful, in its more secluded parts resembling a forest rather than a park properly so-called. The Government which has wisely provided that its territory shall not be encroached upon in spite of the pressure of the fast-growing city, has also in recent years seen to the establishment of new enclosures, which shall supplement its work. To note what has been done in this way we must look back somewhat farther than the course of the past year, though all the greater improvements fall within the time since the raising of the royal capital to imperial dignity. The largest of the new parks, which rivals the Thiergarten for size, is beautifully situated on the bank of the Spree where it enters the city near the Silesian Gate and where its waters are still pure and untroubled. Some remnants of ancient forests have been worked into the new designs of the gardeners and a broad expanse of marsh is being converted into a lake.

The Kreutzberg is a steep, sandy hill on the southern side of the city, some one hundred and fifty feet in height, — an imposing elevation in the neighborhood of Berlin. It has for long been surmounted

by Schinkel's large Gothic monument commemorating the victories of 1813-15. Otherwise it has not been very sightly. It could only be ascended on one side where large flights of stairs had been built, and the steeper sides were mere barren slopes of sand. An elaborate scheme has been conceived for its embellishment, which will include many terraces, walks, stairs, cascades and statues to complete it. On the steepest side of all, the rapid ascent of the terraces is to be entirely concealed by plantations of trees giving a pyramidal effect of unbroken green. The numerous statues, in part the work of Schadow, which, until now have decorated the Königs and the Hercules Bridges, but which are to be removed in the course of improvements undertaken there as well, are to find a new resting place on this hill. At its base is to be a square with a large basin in the middle, and into this portion of the scheme are to be incorporated busts of all the Hohenzollerns who have reigned in the past.

Two quite new parks, the Humboldtshain and the Friedrichshain, respectively in the northeastern and the eastern suburbs of the city, may also be mentioned as among the wise establishments of the Government.

When we turn to consider the Thiergarten itself, we are struck by the vast advance the city has made beyond its limits of a comparatively few years ago. It is not very long since the park was the western boundary of the town; now another quarter exists west of it again, which reaches out to Charlottenburg, and makes it, instead of a village with a royal residence, in fact one of the suburbs of the capital. North and south of the Thiergarten, the spread of the city has been equally great. The southerly or Potsdam quarter is one of the finest in the town, and the northerly-tending streets have stretched themselves out as far as Moabit, which not long ago was a quite independent village of machine-works and their dependencies. Moabit is in process of becoming a suburb, too, and has a fine park of its own, and a new monument to its sons who fell in the late war.

The Thiergarten itself has been improved in many ways. Chief among its new attractions is the statue of Queen Louisa, which was unveiled last March with the most imposing ceremonies. It is unnecessary to refer to the place which the great queen holds in the hearts, not only of her son and his family, but also of the Prussians at large, and especially of the Berliners. It is not a mere feeling of loyalty or of admiration, but a romantic and yet quite justifiable hero-worship, which sees in her the personification of patriotic martyrdom. The heroine of Prussia's degradation—when there were few heroes to stand beside her—she has naturally become the patron saint, as it were, of the country in the day of its reprisals and successes. It was a truly popular fête, in the best sense of the term, which saw the unveiling of her statue. No more inspiring task could have been given to a German sculptor than its creation, and, fortunately, the subject was one that lent itself readily to artistic treatment. The beauty and majesty of the queen are well known from tradition, and have been made familiar to the world by Rauch's sarcophagus at Charlottenburg. The new statue is by Erdmann Enke, and has been placed opposite to that of Friedrich Wilhelm III. From an historical and emotional point of view, we must agree that the artist has done well to represent the queen, not in the time of her youthful bloom, but later, when the troubles of her nation and her family had already cast a shadow upon her. Artistically also, we are told, this decision has justified itself. Before quite making up our minds as to the actual artistic excellence of the statue, however, it may be well to wait for a criticism of it from some less biased pen than that of a loyal Berliner in the first flush of the enthusiasm excited by the fête. The costume is that of the queen in life—a close dress with a high girle, and a long train that hangs down over the pedestal. One hand holds her veil about her; the other is pressed upon her bosom. The pedestal is ornamented with appropriate bas-reliefs.

Scarcely more foreign to the German heart will be the statue which is also to take its place in the Thiergarten; perhaps, indeed, has already done so by the present writing—Friedrich Schaper's monument to Goethe.

To turn now to the exhibitions which have marked the past year. The Industrial Exhibition, which closed early in the autumn of 1879, opened the season. Close upon it followed the regular Academy Exhibition of works of art. The pictures are reported to have been of average excellence, notwithstanding the fact that the Munich Exhibition happened to be open at the same time. Sculpture and architecture, however, are said to have been but poorly represented. The work which attracted the most attention was again a representation of Queen Louisa, this time a picture by the well-known Gustav Richter.

It is unnecessary to speak in detail of the exhibition of casts from Olympia, which has been almost uninterruptedly open to the public for many months. The energy and success with which the German government has prosecuted its researches in the field of ancient art are by no means the least important of the influences which have tended of late to make Berlin the centre of art for the empire. Not only the Olympia sculptures, I may add, but also those from Pergamon which have already been described in this journal, and of which Berlin possesses the precious originals, have been visible to its public during the past year.

Among the minor picture-shows of the year may be mentioned a collection of the works of Feuerbach, drawn from all parts of the empire, especially from the public collections of Stuttgart and Carls-

ruhe. There were sixty-five pictures exhibited, besides some one hundred and forty sketches and studies. Other deceased painters—Edward Meyerheim, Friedrich Nerly, and the landscape painter, Fries, of Heidelberg—received posthumous honors in the shape of a special exhibition of their works. These make ten exhibitions of the works of recently-deceased German artists that have been held under the superintendence of Herr Jordan, the capable director of the National Gallery.

It is not uninteresting to note, in conclusion, that in speaking of the show which the decorative and industrial art-producers made in the shops at Christmas time; more than one journal attributes their vast progress during the past year or two in great part to the impulse given to these branches of manufacture at the Philadelphia Exhibition, and the emulation it excited among German manufacturers.

M. G. VAN RENNELAER.

PASCAL COSTE.

In the last number of the *Transactions* of the Royal Institute of British Architects is printed the following obituary notice of the venerable Pascal Coste:

On the 30th December, 1877, the subject of this memoir wrote in his diary thus:—"Accablé par les infirmités survenues à l'âge de 90 ans, je me suis vu forcé de clôturer mes courses artistiques et de me livrer au repos, un peu malgré moi, après avoir fait: trente mille lieues, seize navigations à la voile et à la vapeur, et plus de 3,900¹ dessins et croquis sur les diverses contrées que j'ai parcourues, et après avoir doté ma ville natale de plusieurs monuments et édifices." Less than fifteen months after writing this, Coste died in the ninety-second year of his age, having been born on 26th November, 1787. The son of a small contractor (*entrepreneur de menuiserie*) of Marseilles, he was placed in 1804 with an architect; ten years afterwards he started for Paris, armed with letters of introduction to MM. Labadié, Percier, and Fontaine, architects. With their assistance he was admitted into the Ecole des Beaux-Arts, and worked in the architectural class which was then under the direction of Vaudoyer, the father of the late M. Léon Vaudoyer, architect of the new Cathedral of Marseilles. In the summer of the following year Coste returned to Marseilles, and re-entered the office of the architect with whom he had been originally placed. But when in Paris he had made the acquaintance of a learned geographer, who formed part of the famous Scientific and Archaeological Commission at the time of the French expedition to Egypt, and who took much notice of young Coste. By the assistance and recommendation of that gentleman, who kept up a communication with Mehemet Ali, Coste started in 1817, being then in his thirtieth year, for Alexandria, in order to superintend the erection of certain buildings for manufacturing purposes. He was to take with him a *maître-maçon*, and the agreement was for one year. Coste, however, remained ten years, and returned to Marseilles after a voyage of 39 days from Alexandria, in January, 1828. At the end of the following year he published a map of Lower Egypt from his own measurements taken between 1818 and 1827, and he dedicated his work to Mehemet Ali. In 1832, he made his first trip to Italy; the following year, having arranged his drawings of Arab architecture for publication, he went to Paris, submitted the drawings to the Minister of Fine Arts, and obtained a Government grant of 25,000 francs (£1,000) to defray the expense of their publication. In 1835 he went to Tunis; in 1837 he was at Amsterdam and in parts of Belgium. The year afterwards, the French embassy to Persia started from Toulon; it included Coste, architect, and Flamin, painter. This journey occupied Coste more than three years. Touching on his way at Palermo, Athens, Constantinople and Trebizond, he went thence over the plains of Armenia through Erzeroum and Bayazid to Persia; returning by way of Bagdad, Diabekir and Aleppo to the coast, he touched at Cyprus, Smyrna and Malta, and arrived at Marseilles on the 4th of February, 1842. A month afterwards he had the honor of submitting the drawings executed during his tour to King Louis Philippe, who made him a Knight of the Légion d'Honneur, and authorized him to wear the decorations given him by the Persian sovereign. In June of the same year he arrived in London, and his first visit was, in his own words, to "M. Donaldson, architecte, très-aimable et très-obligéant," who gave him letters to Messrs. Cockerell, Hardwick, Alexander, and Owen Jones. He describes in his diary a visit he paid to Sir Charles Barry on the 13th June, 1842, and notes that the same evening he was present at a meeting of the Institute of British Architects. Under orders to go to Tangier and Morocco he started in September, 1847, returning by Gibraltar to Malaga, and coasting Spain, touched at Barcelona on his way back to Marseilles. He paid a second visit to Spain in 1861, having previously made excursions on the River Garonne and in the Pyrenees with his friend, the late M. Duc. In the following year he was again in London, and saw the International Exhibition of 1862 with Professor Donaldson and the late Mr. Bonomi, whom he had known in Egypt. It was during this visit that he went to Dublin and Belfast, crossing thence to Glasgow and returning by Edinburgh, Newcastle and York to London. Not long afterwards he was at Geneva, Hanover, Hamburg, Berlin and Vienna, and for a third

¹ Three hundred and sixty of these drawings have been engraved and published, with Government assistance, in his three works on Arab Architecture and the Ancient and Modern Monuments of Persia, the *Architecture Arabe ou Monuments du Kaire*, the *Monuments Modernes de la Perse*, the *Voyage en Perse pendant les Années 1840-41*, in six volumes, and the *Relation du Voyage en Perse*, in two volumes.

time visited Italy. He was in Paris in 1867, and made eighteen visits to the Great Exhibition, being then eighty years old. Five years later he was at Copenhagen, Stockholm, St. Petersburg, Moscow, and he returned on Christmas-day, 1875, to Marseilles. He mentions in his diary a visit he received on 9th of February, 1872, from the late Mr. T. H. Wyatt; and in June, 1876, he was again in Paris, when he happened to call on Duc just after his arrival from London, where notes he, in his diary, "Duc a obtenu de la reine Victoria la grande médaille d'honneur accordée aux architectes étrangers les plus distingués par leurs travaux architecturaux." Hardly a year seems to have passed, excepting of course during the periods of Coste's travels in Asia and Africa, that he did not take an opportunity of visiting some part of his native country, every corner of which appears to have been seen by him, and every building of value contained there noted or sketched. So late as 1875, when he was in his eighty-eighth year, he paid a visit to Viollet-le-Duc, who then gave him advice as to a tour he wished to make in Normandy. Some few days after, on the 17th June, he was at Evreux, where, to quote his words, "Je m'empressai de lever le plan de la cathédrale et de faire deux croquis extérieurs de ce remarquable édifice de 111 mètres de longueur." At Bayeux and St. Lo he made sketches; at Coutances he took a plan of the cathedral, and after having made two sketches of the exterior he continued his walk through the town to see the churches of Saint Nicolas and Saint Pierre. He returned through Tours, Toulouse, Montpellier and Nîmes to Marseilles, which he reached on the 1st August, thus completing a two-months' sketching tour, and noting the day after his arrival home: "fait mes visites aux parents et amis, et continué à passer à l'encre les divers croquis faits pendant mon excursion." In a review of Coste's work on "L'Architecture Arabe," Viollet-le-Duc gave a characteristic description, some passages of which are here translated:—"A sort of pioneer of archaeology, M. Coste only stops when his strength fails him, and happily it has never failed him. Do not go thinking that Coste is a kind of man of war, robust, imposing, knowing like certain English and Americans how to make room for himself everywhere. No. Coste is a little man, timid in appearance, lame in consequence of a broken leg, taking the least possible room wherever he finds himself; but in his quick eye, in a smile at once kind and a little sly (*naïvois*), in a certain squareness of forehead, one of those natures, vivacious and persistent, which finds the means of arriving at their ends, is very quickly recognized. When one knows the man well and the East a little, one understands how M. Coste has been able to pass everywhere and draw everywhere as in his office. . . . Expect nothing from M. Coste but a simple description, some dates, some historical facts relating to the edifices he has engraved; and then that's all. He leaves the public to make deductions, he journeys hundreds of miles, never mind how, and passes to another building. I confess that this modesty, antique after the fashion of Herodotus and Xenophon, is a considerable advantage: this is homage that I am pleased here to render to our venerable senior (*doyen*), M. Coste."

Several communications have passed between M. Coste and the Institute. A recent reference made to him in the *Transactions* occurred during the discussion on "The question of Oak or Chestnut in old timber roofs," in a letter received by the late Mr. F. P. Cockerell from M. Henri Révoil, *Hon. and Corr. Member* (Nîmes). This last named gentleman had been solicited for information concerning the use of chestnut in old roofs, and after stating a few facts he added:—"J'en ai causé avec notre *doyen*, M. Pascal Coste, notre digne confrère; il n'a eu dans ses souvenirs—lui qui connaît si bien la France—aucune charpente de bois de châtaignier à me signaler. Ce beau vieillard est vraiment admirable; à 90 ans passés, il dessine encore avec la sûreté de main d'un jeune homme, et s'occupe à remettre en ordre tous les précieux croquis de ses longs et nombreux voyages."

It might fairly be inferred that Pascal Coste, though an architect, was remarkable principally for his powers as a traveller, a draughtsman and a critic. But Coste designed and superintended the erection of the Palais de la Bourse at Marseilles, a building commenced in 1854 and completed in 1862, the construction of which involved an expenditure of 3,200,000 francs (£128,000). He was also the architect of the Church of St. Izaire, the Church of St. Joseph, the Church of St. Barnabé, the Marché de la Place de Rome (built in 1845), the Church of Mazargues (finished in 1849), the Abattoir de Marseilles, the Chapel of the Cercle Religieux (1860), and of a large mansion erected in 1846 on the Place des Chartreux, together with several smaller works, all being situated in his native town. He was Professor of Elementary Architecture at the Ecole des Beaux-Arts of Marseilles, and a Corresponding Member of the Institut de France.

THE ILLUSTRATIONS.

PORTRAIT OF M. CHARLES GARNIER AFTER THE PAINTING OF M. PAUL BAUDRY.

GRAND STAIRCASE OF THE NEW OPERA HOUSE, PARIS. M. CHARLES GARNIER, ARCHITECT.

This illustration together with the portrait of M. Garnier are reproduced, with the kind permission of the publishers MM. Ducher & Cie, of Paris, from the sumptuous monograph "Le Nouvel Opéra" which has been publishing in parts for the last year or two.

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COMPETITIVE DESIGN FOR THE METHODIST EPISCOPAL CHURCH, SEWICKLEY, PA. MR. W. S. FRASER, ARCHITECT, PITTSBURGH, PA.

DESIGN FOR A CHURCH. J. H. KIRBY, ARCHITECT, SYRACUSE, N. Y.

DR. SCHLIEMANN'S DISCOVERIES.

THE new book on the excavations at Hissarlik will be published early in November, by Mr. Murray. The title will be "Ilios, the City and Country of the Trojans," and it will contain many engravings. It is anticipated that the evolution of the author's ideas, especially with regard to the historical stratification of the Hissarlik Mound, cannot fail to cause surprise.

The present state of the case has been thus described by a writer in *The Times*:—"Homer's Troy, which, at the outset Dr. Schliemann had identified with the first city ever built upon the site, that beneath which there was nothing but the virgin rock, while his discovery of what he called Priam's treasures in the next overlying layer of ruins clinched what had long been his conviction that this must have been the gold-bedight metropolis of the King, has now become the third of seven successive cities, instead of the first or second of five. The Homeric archæologist has, in fact, adopted the view of his friend, Professor Sayce, of Oxford, who during his visit to the Troad, in the autumn of last year, discovered that two cities, both built of stone, preceded the brick city then, as now, identified by Dr. Schliemann with Homer's Troy, and not one stone city only, as had hitherto been thought. The evidence, reserved until now, for thus dividing into two the undermost bed of stone *débris* at Hissarlik (a bed about seven yards thick stretching from the same height above the level of the plain to eleven yards below the top of the hill), will be given at large in "Ilios." Whether the people of the second of these stone cities were driven thence by an enemy or voluntarily abandoned the site Dr. Schliemann could not find out from the ruins. Of a great fire, he writes us, he saw no trace; three burnt houses only turned up here. The site seems to have lain waste for a long time, for the rain had had time to scoop out a great number of large holes shaped like funnels. These and other inequalities of the ground the new settlers filled up with stones or cakes of clay, shooting the superfluous rubbish down the steep slopes of the Mound. Their own new town they reared of very large bricks baked slightly and mixed with straw and grass. In a few instances only the walls of the ground floor were of small stones with clay cement, but the upper stories were always built of bricks joined together with brick-earth. As the old rampart on the south side could be easily sealed, they erected just in front of it another wall sloping at an angle of 15 degrees. On this and the adjoining old walls they built a large double wall of brick, with an interior passage and surmounted by many towers. The stupendous masses of brickwork with which the gateway was covered to the depth of 8 feet and even 10 feet leave no doubt that this portal was crowned with a huge tower. Where the new city shrunk far within the lines of the old, as on the east side, or overlapped it, as on the south-east, the old ramparts could not be used as substructions. Hence in these places the new settlers either built fresh ramparts to support their brick walls, or else laid on the *débris*, single or double courses of large flags, which they then covered with double or treble layers of clay cakes, and on these latter erected the brick walls. Of these brick walls, with the interior passage, large segments may still be seen on the north-east, south-east, and south sides. With tiny saws of silex or chalcedony and stone axes the builders could neither cut nor cleave planks, but used beams covered with brick-earth to floor their houses, each of which had also a clay-paved terrace. Besides the large street leading to the gateway there was but one other, about 6 feet broad and paved with great flags, which is to be seen to the east of Dr. Schliemann's great north and south trench. This city, the discoverer holds as firmly as ever, must have been fired by the hand of an enemy. It fell suddenly, as is clear from the skeletons found helmeted and with arms in their hands, as well as by the ten treasures of gold and other jewels, plainly left by hurrying fugitives. Nine of these he picked up in or hard by the royal house, near the gateway, from which it was only separated by what was plainly the Agora, which the "Iliad" locates before Priam's doors (ii. 788; vii. 346). Yet, as visitors may satisfy themselves, the south-east corner of the city was spared by the flames, so far verifying the local tradition attested by Sarabo (xiii. p. 600), that Troy was not utterly destroyed by the avenging Greeks. From the prophecy which Homer (ii. xx. 307-8) puts into the mouth of Poseidon, that the sons of the sons of Æneas should rule over the Trojans, Dr. Schliemann infers the currency of this tradition in the bard's own time. The Homeric archæologist seems now to think, in spite of some appearances to the contrary, especially the difference in architecture, that out of this remnant of the third city sprang, like a phoenix, the fourth. His principal arguments are the striking resemblances between the pottery of both (notwithstanding the emergence of new types in the later stratum) as well as in the idols, particularly those of the owl-faced Athene, and in the votive whorls dedicated to her. Again, he says:—"The supposition that the people of the fourth city was identical with that of the third—the burnt city—seems likewise confirmed by the configuration of the layers of *débris* above the road which leads from the gate to the plain. In fact, as visitors will convince themselves by a glance at the strata of the

large blocks of *débris*, 40 feet high, which I have left *in situ* on the gateway road, the very same road, though covered to the depth of 8 feet or 10 feet by the *débris* of the burnt city, continued to be used by the inhabitants of the subsequent city for going in and out." As to the striking architectural difference, that not a single brick was found by him in this later city, it is urged that the conflagration may have convinced the Trojans of the unsafeness of that material. Hence "they agreed by common consent to abandon it, and to build thenceforward only stone house-walls, such as visitors see above the burnt city."

Dr. Schliemann concludes the long letter whence the above brief extract is taken by resuming the arguments for his identification of the Homeric Troy—no new points, however, being made—and by answering the objections drawn from the "Iliad" itself against his theory. The bulk of the stumbling-blocks, scorning to fall back on the bard's poetic license at the cost of his historical fidelity, he evades by what the lawyers call the plea of confession and avoidance. He frankly owns that, with the above exception, the third Hissarlik city was not broad-streeted, as Homer calls Ilios. Nor was it either well-built or populous, great or flourishing. It had no Acropolis, the meanly built brick town on the hill being its own Pergamos, with no lower city on the table-land beneath to defend. Its area was about that of Trafalgar square, and its population 3,000 at the utmost—say a tithe of that of Torquay. But we are reminded that when Homer visited the site, about the middle of the ninth century before our era, the Ilios of the Æolic Greeks had supplanted not only the rebuilt Troy of the Æneade, but a couple of other cities besides, and was itself in the third century of its age. It had long outgrown the sacred site, which had now become only its citadel, where its gods were housed in their temples, and which centuries afterwards Xerxes climbed to sacrifice to Athene. This was the Pergamos Homer described as Priam's—which was really at that time seven yards below the soil—and the Troy of which he sang so loftily was that which lay at its feet on the plateau, a city truly great, broad-streeted, populous, and flourishing, so as to be well able to sustain, with the help of its powerful allies, a siege of ten years. A still stronger objection against regarding Hissarlik as the site of Troy has always been drawn from the hydrography of the plain. For, according to all the indications in the "Iliad," the Simois falls just in front of Ilios into the Scamander, whereas Dr. Schliemann's river Simois (the Doumbrek Su) falls into the Kalifatli Asmak, not into the Mendere Su, which he agrees with others in identifying with the Homeric Xanthos, or Scamander. Moreover, the Homeric Scamander undoubtedly flowed between the Greek camp and Ilios, whereas the course of the Mendere is really on the west side of the Plain of Troy, so that the hostile armies in their movements between the Hellespont and Troy need not even have approached it. It is but fair to Dr. Schliemann to say that from the very outset he has insisted (in meeting these objections) that in the time of Homer the Scamander, as far as the modern village Koum Kioi, filled the immense bed of what has now dwindled to the little rivulet known as the Kalifatli Asmak; that from that point it turned eastward; and that it flowed into the Hellespont by the broad bed of the dead, and, in the rear, blind watercourse called the In Tepeh Asmak. It will be shown in detail in "Ilios" that this hypothesis of a change in the bed of the Scamander is triumphantly borne out by the geological investigations of Professor Virchow. His numerous and deep dredgings in the bed of the Kalifatli Asmak and in that of the In Tepeh Asmak, have brought to light in those ancient channels the tell-tale scour of disintegrated syenite brought down aforetime by the Scamander as it flowed through the stratum of that mineral, through which the Homeric river breaks just above Ewjlilar, at the foot of Ida. From the In Tepeh Asmak fragments of brick have also been fished up. They have belonged to brick-built Ilios itself, which, from this point of view, may not improbably have descended towards the river, a site very suitable for a suburb. The ancient estuary marked by the In Tepeh Asmak seems to bear the name Old Scamander, in Pliny, H. N., v. xxxiii. 1—a passage plausibly cited by Dr. Schliemann as throughout supporting his view of the hydrography of the Troad.

"The *débris* of the fifth city," writes Dr. Schliemann in his last descriptive letter, "is characterized by a complete absence of stone weapons and implements, which occurred in such immense abundance in the preceding towns. But as to the pottery, I have not noticed any great change. Though wheel-made vases are more abundant here, yet by far the greater part of the pottery is still hand made. There occur here some new types of terra-cotta vessels, but most of the old forms remain, and the mass of terra-cotta whorls, ornamented or plain, is here just as great as before. The small marble idols with an incised owl-head are here even more abundant than in any of the preceding cities. But the architecture of this fifth city must have been totally different, because there are here neither brick nor stone walls. Hence I cannot help thinking that this last pre-historic city was of wood." This wooden Troy he thinks must have been succeeded by a Lydian settlement, mainly on account of the very strong resemblances between its pottery and that of the Etruscans, whose migration from Lydia to Italy, as reported by Herodotus, he unreservedly accepts. The plantation of this Lydian colony on the Hissarlik Mound he dates long before this westward movement. Besides the marked Etruscan affinities of the pottery found in the layer of ruins next below those of the Æolian city, as contrasted with the ceramic remains of the older strata,

attention is called to another very interesting point. Dr. Schliemann affirms that in the ruins described by him as Lydian are repeatedly found the same strange written character which figures above the doors of the ancient hut urns said to have been found below the *peperino* at Marino, near Albano, as published by Sir John Lubbock and Signor Pigorini. As this written character is common to the Lydian with the third, fourth, and fifth cities, Dr. Schliemann has submitted to Professor Sayce, who writes for "Ilios" the appendix on the score or so of short inscriptions which have turned up in the pre-historic strata at Hissarlik, his idea that the Lydian language must have been identical with that of the three cities in question. Professor Sayce replied as follows:—

"You are right in thinking that the Trojan language was akin to that of the Lydians, and that both Trojans and Lydians used the same syllabary. I have been brought to exactly the same conclusions by my researches. The most important fact acquired is the one derived from Mr. George Smith's discovery of a clay cone inscribed with Kypriote characters under the floor of Assurbanipal's palace at Kouyunjik. This cone is almost a duplicate of the two cones you discovered inscribed with the Kypriote character which I read *mo*, and the Kypriote characters upon it belong to the Trojan form of the Kypriote syllabary. Now, Gog or Gyges, King of Lydia, sent tribute to Assurbanipal, who states that the very name of Lydia had previously been unknown to the Assyrians. Indeed, we learn from the Assyrian monuments that up to that time the Assyrians had never penetrated westward of the Halys. You see, therefore, what important consequences follow. 1. The cone must have been brought to Nineveh by the Lydians, and either there was a close and intimate connection between Lydia and Troy, or else the Lydians used exactly the same form of the Kypriote syllabary as did the Trojans. 2. This syllabary was in use in the Troad (and Lydia?) at least down to about B. C. 650. 3. The painted archaic vase-fragment, with the character signifying *mo* thereon, found by you in the Æolic Ilios, would belong to about the latter period, from which we may gain some idea of the great age of the inscribed objects you found at greater depths, and of the objects associated with them. I do not hesitate to say that the discovery of the Trojan inscriptions constitutes the most important contribution that has been made of late years to the science of paleography. And, what is more, it reveals a new and unexpected chapter in the history of Asia Minor. If only we possessed some Lydian inscriptions we might be able to determine the age of Troy and its relations to Lydia."

The seventh city—that of the Æolian Greeks—has already been touched upon. Dr. Schliemann thinks it was built soon after their expulsion from the Peloponnesus by the Dorians—an event usually dated about B. C. 1100. Formerly the Homeric archaeologist followed Strabo in dating the foundation of the Greek Ilios some four centuries later.

THE USE OF VARNISH ON INTERIORS.

THERE seems to be a general lack of care or intelligence on the part of the house-painter in the use of varnish for a finish or final coating on the wood-work of buildings, and it is my purpose to give some facts connected with this much-abused material, based upon an experience of some thirty years in varnishing carriages, railway-cars, and interiors; the work of the former being, as is well known, one which requires great skill in the manipulation of the tools, and a certain amount of knowledge of the action of the material used, when changed from a bulky mass to a thinly spread out sheet or layer. The carriage varnisher is required to produce with varnish a mirror-like surface; and the care with which he performs his work, the temperature of the place, and the choice of materials and tools, are as important to the varnisher of interiors, though seldom if ever thought of. In order to present the matter in a proper light, we will first look at the varnishes best adapted for the work.

Carriage varnish, which is compounded with the greatest care and skill from the best copal gums and pure linseed oil, is the standard, while common resinous mixtures are ignored; the former giving results, if the work be properly done, which cannot be secured in any case by the use of the latter. The copal being melted and mixed with the oil, it is boiled for a while, and when slightly cooled, spirits of turpentine is gradually added, until the proper consistency is secured, when it is run off into large tanks to settle and become "ripe" with age before it is fit for use. The addition of turpentine to the mixture while the latter is quite warm, is the only means of causing a perfect assimilation of the component parts, while, if it be added after the oil and gum are cold, a partial separation of the ingredients takes place.

Here is a particular point for the house-painter to remember. He invariably thins varnish with turpentine or oil to enable him to make a small quantity of the varnish cover a large surface, or to render it easier of application, and by so doing, he destroys a large share of its durability, much of its lustre, and nearly all of its binding or adhesive properties.

The varnish maker puts his goods upon the market ready for use; no mixing, no thinning is necessary, and the carriage painter knows that to do good work he must not tamper with the varnish furnished him by a reputable manufacturer.

For interiors, particularly on those parts frequently handled, the varnish should be of that character which possesses elasticity and yet is capable of drying sufficiently hard to give a surface which is not easily softened by the warmth of the hand. A hard, inelastic var-

nish is liable to crack and flake from the ground on which it is spread, and to show a gray or white mark where bruised or scratched; but an elastic varnish, such as is used on carriages, will furnish a yielding surface for the change made in the ground by atmospheric influences, and consequently adapt itself to the case and not crack; and at the same time be unaffected by the slight warmth of the hands.

Such varnish may be applied "flowing" and present a smooth, glass-like lustre, or the gloss may be removed by rubbing the surface with a rag dipped in wetted pulverized pumice-stone. The former is known to the trade as a "gloss finish," the latter as "dead" or "oil finish."

The application of varnish, the tools necessary for doing the work, and the temperature of the apartment in which the work is to be done, are of importance. We often see varnished work which has a rough or corduroy appearance, or it is covered in parts with "festoons" and "heavy flows," and although there may be such evidence of bad work coming from the hands of an experienced workman, it is seldom the case. The first-mentioned fault, *i. e.*, streakedness or "corduroy," is brought about by working the brush over the varnish after it has begun to "set"; or by applying the varnish too sparingly, whereby the material has no opportunity to "flow" or spread out evenly into a glassy surface. The second fault, "runs" and "flows," is caused by want of care in "wiping up," or neatly laying the varnish; while both of these troubles may rise from adding oil or turpentine to the varnish before applying it. Varnish should be laid on "full," that is, a good supply must be spread on, then carefully leveled down with the brush before it becomes thickened or "set." Unlike paint, the least working of the brush to lay it level, the better, while paint is best when well laid by repeated passing over with the brush.

The tools best adapted for laying varnish are flat, bristle brushes, the size being governed by the size of the work, although for very small panels, a flat, badger's-hair brush is best, owing to its soft yet elastic properties. Round and oval shaped brushes answer a very good purpose on some parts of the work, but he who accustoms himself to the use of flat brushes will, as a general thing, make the best work.

The temperature of the room in which varnishing is to be done should never be below seventy degrees nor above eighty-five degrees Fah. If the room be cold the varnish will probably "crawl" or go in patches, "work stiff" and give an endless amount of trouble. If too warm, it will "flatten" or dry with a subdued lustre. Where the best results are desired a mean temperature of about seventy-five to eighty degrees should be maintained.

G. F. B.

MR. RUSKIN'S IDEAL ART MUSEUM.

In a recent letter to a friend, Mr. Ruskin says that he had before pronounced Mr. Frith's picture of a race-course unfit for such an institution, and continues:

"And the reason that such a picture ought not to be in a museum is precisely because in a museum people ought not to fancy themselves on a race-course. If they want to see races, let them go to races; and if rogues, to Bridewell's. They come to museums to see something different from rogues and races. But to put the matter at once more broadly, and more accurately, be it remembered, for sum of all, that a museum is not a theatre. Dramatic interest is one thing; æsthetic calm another; a pantomime must not depend on its fine color, nor a picture on its fine pantomime. . . . Not that dramatic, still less didactic, intention should disqualify a work of art for museum purposes. But, broadly, dramatic and didactic art should be universally national—the lustre of our streets, the treasure of our palaces, the pleasure of our homes. Much art that is weak, transitory, and rude may thus become helpful to us. But the museum is only for what is eternally right and well done, according to divine law and human skill. The least things are to be there, and the greatest, but all good with the goodness that makes a child cheerful and an old man calm; the simple should go there to learn, and the wise to remember. And now to return to what I meant to be the subject of this letter—the arrangement of our first ideal room in such a museum. It must be a lordly chamber, which shall be large enough to exhibit the true nature of thread and needle—viewed in Threadneedle street! The structure first of wool and cotton, of fur and hair, and down, of hemp, flax and silk—microscope permissible, if any cause can be shown why wool is soft, and fur fine, and cotton downy, and down downier; and how a flax fibre differs from a dandelion stalk, and how the substance of a mulberry leaf can become velvet for Queen Victoria's crown, and clothing of purple for the house-wife of Solomon. Then the phase of its dyeing. What azures, and emeralds, and Tyrian scarlet can be got into fibres of thread! Then the phase of its spinning, then the mystery of weaving. The eternal harmony of warp and woof, of all manner of knotting, knitting, and reticulation; the art which makes garment possible, woven from the top throughout, draughts of fishes possible, miraculous enough in any pilchard or herring shoal, gathered into companionable catchableness—which makes, in fine, so many nations possible, and Saxon and Norman beyond the rest. And finally the accomplished phase of needle-work, the *acu teligisti* of all time, which does, indeed, practically exhibit what mediæval theologians vainly tried to conclude inductively—how many angels can stand on a needle-point. . . . All that is reasonable, I say of such work is to be in our first museum room. All that Athena and Penelope would

approve; nothing that vanity has invented for change or folly loved for costliness, but all that can bring honest pride into homely life, and give security to wealth and honor to beauty."

THE LARGEST OAK IN GREAT BRITAIN.

IN spite of a rival claim put forward on behalf of an oak at Newland, in Gloucestershire, I believe that the largest oak in Britain—and our island home can boast of not a few giant oaks, many of them famous, too, for their historical associations—stands in the parish of Cowthorpe, three miles from Wetherby, in the West Riding of the county of York. The Cowthorpe oak; whose age has been computed to exceed 1,500 years, has, as may be supposed from its extraordinary size, been noticed in numerous works devoted to natural history and forestry. The circumference of its trunk close to the ground was, at the close of the last century, according to Evelyn's "Silva," seventy-eight feet. Shortly after the publication of this work, earth was placed around the base of the trunk with a view to the preservation of the tree, which, by covering over some very considerable projections, reduced the girth of the stem at the ground line to sixty feet. In 1829, the Rev. Dr. Jessop measured the tree and communicated its dimensions to Strutt's "Silva Britannica." We transcribe the reverend doctor's details, which, he assures us, may be relied upon:

	Ft.
Circumference at the ground.....	50
Circumference at the height of 1 yd.....	45
Height of the tree in 1829.....	45
Extent of the principal remaining limb.....	50
Greatest circumference of ditto.....	8

Dr. Jessop adds: "The tree is hollow throughout to the top, and the ground-plot inside (the account of which has been much exaggerated) may possibly afford standing-room for forty men." In Loudon's "Arboretum" the diameter of the hollow within the tree, close to the ground, is given at nine feet, ten inches. "The circle occupied by the Cowthorpe oak," says Professor Burnett, "where the bottom of its trunk meets the earth, exceeds the ground-plot of that majestic column of which an oak is confessed to have been the prototype, namely, Smeaton's Eddystone Lighthouse." In Burnett's "Outlines of Botany" we also read: "So capacious is the hollow of the Cowthorpe Oak that upwards of seventy persons have been, as the villagers affirm, at one time therein assembled." In the twelfth volume of Loudon's *Gardner's Magazine*, the Cowthorpe oak is said to be undoubtedly the largest tree at present known in England. Shaw, in his "Nature Displayed," says: "Many suppose the Cowthorpe oak to be the Father of the Forest;" and in Kent's "Sylvan Sketches" (1825) mention is made of this oak as surpassing all others.

Tradition asserts that at one time the branches of this tree overshadowed half an acre of ground. A large branch which fell about the commencement of last century is said to have extended to a wall ninety feet from the trunk of the oak. On this wall, which still remains, the villagers, so the story runs, used to mount and pick the acorns from the overhanging branches. The leading or top branch fell before the date of any record concerning the tree. The manner in which it is said to have fallen is, however, remarkable. The main trunk having become hollow, the perpendicular shaft dropped down into the empty space and could never be removed. There it remained wedged in, doubtless tending to strengthen the hollow cylinder, and prevent compression from the pressure of its enormous branches. In 1772 one of the side branches was thrown down in a violent gale of wind, and on being accurately measured was found to contain upwards of five tons of wood. The largest of the living branches at present extends over forty feet N. N. E. from the trunk. This giant limb is supported by a substantial prop of timber.

A century ago Yorkshire children used to amuse themselves with a game called the "Dusty Miller." The Cowthorpe oak was a meeting place for this diversion. Through the rents in the shell of the trunk, then only large enough to admit them, troops of merry village lads and lasses crept into the interior, and, provided with a spout, which was balanced in a hole in the wall of their living play-house, they gathered the dry, crumbling dust and fragments of wood and shot them down the spout to their companions outside. It has been reported that for some time the cavity within the tree was used as stabling for cattle, but this, we think, is fiction. The openings in the trunk, though evidently enlarging constantly, are even now scarcely wide enough to give color to this assertion.

In connection with this tree, an anecdote is related of that notable Yorkshireman, John Metcalfe, the blind highway contractor and surveyor, better known as "Blind Jack of Knaresborough. Blind Jack was a frequent visitor to the tree, and would measure its girth correctly at any height within his reach, going round it with his long arms extended. He used to point out, too, with accuracy, by putting up his staff, the exact spot from which the great branch had fallen. Whenever he came, an old bloodhound which was kept near the tree, whose wont was to snarl at every stranger, fondled him and licked his hand. Blind Jack now lies at rest in Spofforth churchyard, almost within sight of the old oak.

So great was the fame of the Cowthorpe oak that formerly small saplings raised from its acorns were sold in pots to visitors by the villagers for as much as a guinea each. As the old oak now stands, it is a very picturesque object. It is situated in the centre of a small green paddock; hard by is the little village church, a very ancient structure, and the clear waters of the winding Nidd glide noiselessly

past. The battered trunk, annually crowned with green foliage, is grand in its venerable decay. The old tree has been termed "the glory of England and the pride of Yorkshire;" and its enormous size, the growth of many centuries, entitles it to all the fame it has acquired.—*London Antiquary.*

EFFECTS PRODUCED BY MIXING WHITE WITH COLORED LIGHT.

It was noticed several years ago that when white light was mixed, by the method of rotating discs, with light of an ultramarine (artificial) hue, the result was not what one would naturally have expected; namely, instead of obtaining a lighter or paler tint of violet-blue, the color inclined decidedly toward violet, passing, when much white was added, into a pale violet hue. Two attempts have been made to account for this curious fact. Brücke supposes that the light which we call white is really to a considerable extent red, and that the mixture of this reddish-white light with the blue causes it to change to violet. Aubert, on the other hand, following a suggestion of Helmholtz, reaches the conclusion that violet is really only a lighter-shade of ultramarine-blue. He starts with the assumption that we obtain our idea of blue mixed with white from the sky, which, according to him, is of a greenish-blue color. We then apply, as he thinks, this idea to the case of a blue which is not greenish—namely, to ultramarine blue, and are surprised to find that the result is different.

It will be shown in the present paper that these explanations are hardly correct, since they fail to account for the changes which, according to my experiments, are produced in other colors by an admixture of white. I prepared a set of brilliantly-colored circular discs, which represented all the principal colors of the spectrum and also purple; these discs were then successively combined in various proportions with a white disc, and the effects of rapid rotation noted, a smaller duplicate colored disc, uncombined with white being used for comparison. Under these circumstances it was found that the addition of white produced the changes indicated in the following table:

Vermilion became somewhat purplish.
Orange became more red.
Yellow became more orange.
Greenish yellow was unchanged.
Yellowish green became more green.
Green became more blue-green.
Cyan-blue became less greenish, more bluish.
Cobalt-blue became more of a violet blue.
Ultramarine (artificial) became more violet.
Purple became less red, more violet.

Exactly these same effects can be produced by mixing violet with the above-mentioned colors. These experiments serve to explain the singular circumstance that when complementary colors are produced by the aid of polarized light, it is difficult or impossible to obtain a red which is entirely free from a purplish hue, a quantity of white light being always necessarily mingled with the colored light. In the case of the red, orange, yellow, ultramarine and purple discs, I succeeded in measuring the amount of violet light which different proportions of the white disc virtually added to the mixture, and found that it is not directly proportional to the amount of white light added, but increased in a slower ratio, which at present has not been accurately determined.

For the explanation of the above-mentioned phenomena, Brücke's suggestion that white light contains a certain amount of unneutralized red light is evidently inapplicable, since the effects are such as would be produced by adding a quantity not of red, but of violet light, and for the present I am not disposed to assume that white light contains an excess of violet light. The explanation offered by Aubert does not undertake to account for the changes produced in colors other than ultramarine, and even in this case seems to me arbitrary: neither have I succeeded in framing any explanation in accordance with the theory of Young and Helmholtz, which seems plausible.—*Professor O. N. Rood, in the American Journal of Science.*

ARCHITECTS' CHARGES.

TO THE EDITOR OF THE AMERICAN ARCHITECT:—

Please inform me where to procure a book containing the rates of architects' work adopted by the American Institute of Architects; also where I can find Trautwine's complete tables, and oblige.

Yours,

WESTERN.

[The schedule entitled "Professional Practice and Charges of Architects, being Those Usually and Properly Made, and Indorsed by the American Institute of Architects, may be found as an appendix to the little pamphlet containing the Constitution and By-Laws of the Institute, and published by its Committee on Library and Publications, of which Mr. A. J. Bloor, 128 Broadway, New York, is the Secretary. This may be considered the official standard. It is republished in one or two books, we believe, treating of architectural subjects, and many members of the Institute have the same schedule printed for them in the form of a card or circular.

Trautwine's *Engineer's Pocket Book* containing the tables desired, and a vast amount of other information, is published by Claxton, Remsen and Haffelfinger, Philadelphia, Pa. A new edition is issued every year or two, containing additions and revisions. EDS. AMERICAN ARCHITECT.]

ANTIQUITIES AT KIEFF.—A rich discovery has recently been made at Kieff, two yards below the surface, of a number of gold and silver vessels of ancient manufacture, buried several centuries ago. Among other things are thirty-four plates of pure silver, each weighing one-and-one-half pounds, and richly engraved with Greek designs.

NOTES AND CLIPPINGS.

ADDITIONS TO THE CORCORAN GALLERY.—Colossal statues of Michael Angelo and Albert Dürer by Mr. Ezekiel, the American sculptor in Rome, have been received at the Corcoran gallery in Washington. They are companion statues to his Phidias and Raphael.

STRASBURG CATHEDRAL.—Some of the German papers are urging the completion of the Strasburg Cathedral, and suggest that the association which has so successfully brought to an end the work on Cologne Cathedral should transfer the seat of its operations to Strasburg. Other papers urge the propriety of completing the cathedral at Ulm.

NEW YORK AND PARIS TO EXCHANGE TREASURES.—The Trustees of the Metropolitan Museum of Art in New York are in treaty with the authorities who have charge of the Museum of the Louvre looking to an exchange of duplicates between the di Cesnola collection and the Cypriote collection of the Louvre.

SOLAR ENGINES.—The New York *Tribune* says that Mouchot's success in Algiers in pumping water and making it boil by solar force alone, brings to mind Ericsson's prediction: "The time will come when the Nile and the Ganges will be lined with cotton and other factories driven by solar heat; and, the raw material being at hand, labor plentiful, and the motive power inexpensive, these regions will defy all foreign competition.

ROOF COVERINGS.—The following table will be found of service by those who wish to calculate the loads on roofs. The weights are given in pounds per square foot:—

Slates.....	5 to 11
Tiles.....	7 to 20
Pantiles.....	10
Boarding $\frac{3}{4}$ in. thick.....	2 $\frac{1}{2}$
Sheet-iron (16 w. g.) and laths.....	5
Corrugated-iron and laths.....	5.5
Sheet-lead.....	7
Sheet-zinc.....	1.25 to 1.63

In iron roofs, a common truss of 50 feet span will weigh about 3 to 5 pounds per square foot of area, though many large railway-station roofs constructed on the bowstring or arched principle, weigh from 10 to 24 pounds.

ARIZONA CEMENT.—The Arizona *Citizen* says: It is not generally known that the very foundation of Tucson is underlaid by a valuable mineral deposit which will without doubt prove of great value to the Pacific States and Territories. It is the white cement-looking deposit found everywhere hereabouts by sinking a few feet, and in many places crops out at the surface. Hundreds of tons of it were recently excavated by the Railroad Company in levelling the ground for their round-house at this place. It is easily converted into quick-lime by burning, after which, if mixed with from two to four parts sand, it produces a hydraulic building mortar, or artificial stone, said to be equal to that made with the best English Portland cement. By similar treatment with three parts of fine sand through a one-eighth mesh sieve it produces a concrete, which, when moulded and pressed, gives a hydraulic stone-brick of superior quality, suitable for all common building purposes. There are hundreds of thousands of barrels of Portland cement used on the Pacific coast which may be entirely supplanted by an Arizona production.

MUSEUMS OF ART AND PUBLIC TASTE.—Mr. W. Cave Thomas writes to the London *Times*: "One would imagine from the continuance of the discussion upon museums of art that their existence was of vital importance to the development of national taste and national art, whereas this is far from being the case, as the careful study of the history of the two great art epochs—the Grecian and the Italian—would demonstrate. The mere looking at fine painting and sculpture never created public taste and art. It requires the culture of the highly-educated artist to appreciate the finest works; what, then, can the less educated make of them? Neither Grecian nor Italian art was developed by such means. The establishment of museums of art is quite a modern fashion and craze. It is a mistake to do too much for people in the way of teaching; we do not want art museums to be established at everybody's door. Let the public, as of old, have in a great measure to seek their knowledge under some degree of difficulty, and then there will be more likelihood of their obtaining and making the best use of it. And let us make those few collections which we do possess complete in classification and tasteful arrangement, having at all times a greater regard for quality than quantity. You do not find the artists who best understand the needs of art agitating for an increase of the number of art museums, but *dilettanti* and persons without any special occupation."

MARK TWAIN, RUSKIN, AND TURNER.—"What a red flag is to a bull, Turner's 'Slave Ship' was to me, before I studied art. Mr. Ruskin is educated in art up to a point where that picture throws him into as mad an ecstasy of pleasure as it used to throw me into one of rage, last year, when I was ignorant. His cultivation enables him—and me, now—to see water in that glaring yellow mud, and natural effects in those lurid explosions of mixed smoke and flame, and crimson sunset glories; it reconciles him—and me, now—to the floating of iron cable chains and other unfloatable things; it reconciles us to fishes swimming around on top of the mud—I mean the water. The most of the picture is a manifest impossibility—that is to say, a lie; and only rigid cultivation can enable a man to find truth in a lie. But it enabled Mr. Ruskin to do it, and it has enabled me to do it, and I am thankful for it. A Boston newspaper reporter went and took a look at the Slave Ship floundering about in that fierce conflagration of reds and yellows, and said it reminded him of a tortoise-shell cat having a fit in a platter of tomatoes. In my then uneducated state, that went home to my non-cultivation, and I thought, 'Here is a man with an unobstructed eye.' Mr. Ruskin would have said, 'This person is an ass.' That is what I would say now."—*Mark Twain's Tramp Abroad.*

ST. MARK'S LIBRARY, VENICE.—The history of the library, which enjoys a world-wide fame for its Greek, Latin, and Oriental codices, its objects of art and antiquity, and the modern works, is a curious legend, and may not be known generally. Francesco Petrarca, having been sent to Venice on a special mission by his master, the Duke of Milan, was so pleased with his sojourn in Venice that, in the year 1362, he took up his permanent abode in the house of Arrigo Molin, on the "Riva degli Schiavoni." It having occurred to him afterwards to institute a public library, he made a present of his valuable books to the Venetian Republic, with the following letter:—"Francesco Petrarca, being desirous of having for his heir the pious evangelist, St. Mark, if so pleases to God, hereby bequeathes to him all the books he now possesses, or may possess in future, on condition that they should not be sold or spoiled in any way, but preserved in a proper place where there is no danger of damp or fire, in honor of the saint above mentioned, in memory of him, the said Francis, and for the perpetual consolation of the nobles of this city who may interest themselves in such matters." The books were then placed in a small room close to the famous four horses on St. Mark's Church. In 1422 the Senate began to purchase some books for the institution of a library. The example set by Petrarca was subsequently followed by many others. First of all, Cardinal Bessarione, Patriarch of Constantinople, through the inducements of the Venetian ambassador to that Court, presented to the Republic a precious collection of valuable ancient books and manuscripts, in Greek and other languages, saved by him after the ruin of the Grecian Empire and the capture of Constantinople. On the receipt of the books, which were forwarded to Venice in thirty cases by the ambassador, the Republic decreed that they should be placed in a hall of the Ducal Palace. In 1589, Genlandino Melchior, of Marienberg, bequeathed all his books to the Republic, with a legacy of 1,000 scudi for the erection of proper bookcases. The Patriarch of Aquileja bequeathed afterwards to the library all his precious books, among which is the famous manuscript called "Grimani's Breviary" bound in velvet and silver, and containing inestimable miniatures. In 1560, Jacopo Contarini left to the library all his rich and voluminous works, among which there was the original book of architecture by Palladio. Antonio Dei Vescevi, Gasparo Ventura, Pietro, Morosini, Giovanni Recanatì, Nicolo Manuzzi, Domenico Pasqualigo, Monsignor Fontanni, and many other illustrious persons, left subsequently precious works, maps, and globes to the library. The Venetian Republic afterwards enacted that a copy of all books of any kind published in its dominions should be sent to that institute. The library, which is still in the Ducal Palace, is opened every day, except on Sundays, from 9 A.M. to 3 P.M., and the entrance is free to natives and foreigners.—*The Architect.*

A MONUMENT TO SPINOZA.—On the 14th of this month the statue of Spinoza was unveiled at The Hague. It is the work of M. Frédéric Hexamer, a young Parisian sculptor, as yet little known to the world, but even that part of the good folks of The Hague who hold the name of Spinoza in abomination will have to admit in spite of themselves that Spinoza's image henceforth takes its rank beside that of William the Silent among the ornaments of their town. The figure is of bronze, cast in Paris, and rests on a pedestal of Swedish marble, wrought in Berlin, thus by a happy incident symbolizing the extinction of national rivalries in the serene atmosphere of philosophy. Spinoza is seated in an arm-chair, his head leaning downward, the right hand, which holds a pen, is raised to meet it, the left hand rests on the left knee, and holds a roll of paper. The whole attitude indicates meditation, not of the brooding, but of the constructive kind; thought and expression seem equally balanced in the activity of the master's mind. The pen rests while some fresh idea is being shaped or some doubt once more considered, but it is ready to resume its task. The features are modelled after a contemporary engraving, which is the most authentic portrait of Spinoza, if it be not indeed the only one that can be trusted. M. Hexamer has wisely been faithful to its testimony, and has avoided all attempts at idealizing; at the same time he has given a true artist's reading of his materials, and has brought out the character of earnest and subtle intellect which the engraving rather suggests than discloses. Details of dress, always a troublesome thing for the modern sculptor, are to a great extent got rid of by representing Spinoza in a long flowing gown, which was commonly worn in-doors at the time, and which is specially described as his habitual wear. There is no inscription on the pedestal beyond the one word "Spinoza." Doubtless it was felt that comment or description would be out of place. The world does not need to be told who Spinoza was.—*Pull Mall Gazette.*

STONE BRIDGE ON THE DEE.—The construction of a large masonry bridge is an event in civil engineering, for of late years stone has been superseded by cast and wrought iron. The new bridge over the Dee between Aberdeen and Torry is now nearly completed, for the keystone of the last arch was driven a few days ago. The bridge consists of five segmental arches, the central span being 66 feet, with a rise of 12 feet 6 inches, and the others 63 feet 6 inches and 60 feet 6 inches. The width is 40 feet. The superstructure is in good proportion, and resembles one of Telford's or Rennie's bridges. There was some difficulty in securing foundations for the piers. Cast-iron caissons were sunk (some of them for about 40 feet) and filled with concrete. Originally it was intended to follow the customary practice and construct the bridge of cast-iron, but subsequently it was agreed that there was more fitness in granite. The cost will be about 20,000*l.*, and there is no doubt that in appearance and durability the bridge is superior to a cast-iron structure. It was designed by Mr. A. Gibb, F. S. A.—*The Architect.*

THE SALT WELLS OF SYRACUSE.—Syracuse, N. Y., has thirty-eight producing salt wells, varying in depth from 250 to 430 feet, and in strength of brine from ten to twenty per cent of salt. Over 1,500,000 gallons of salt water are pumped daily. The daily production per kettle from the steam process ranges from 300 to 550 bushels, according to the strength of the brine, and costs eight to nine cents a bushel. The solar evaporation costs, of course, little for labor. There are about 50,000 vats in use, with the annual production of 60 bushels per vat.

A KINDLY WORKMAN.—In one of the antiquated towns of Emilia, only a few miles from Bologna, on the romantic road to Ravenna, so long the capital of Italy, was celebrated not long since a simple yet characteristic ceremony, which roused from the dead slumber of bygone magnificence the quiet town of Castel San Pietro, sleeping under the now useless protection of its Middle Age castle, and almost in the shadow of the towering Apennines. An honest carrier of the Castel San Pietro has bequeathed to the Working Man's Society of his town the small savings of a life-time, to give a little marriage-portion to a poor girl every two years. The Senator Pepoli, president of the Working Man's Society of Castel San Pietro, has wisely addressed to all the similar societies throughout Italy a circular stating the circumstances of the generous gift of the worthy Francesco Fabbri, whose example and memory merit even wider notice than such a step will assure his philanthropic action. From his boyhood a carrier, Fabbri toiling honestly and laboriously, commenced to set aside his savings that were to assure him in his old age a happy existence in the bosom of his family. But even in his youth—we quote from the Senator Pepoli's circular—in his leisure hours, or when the fogs and wind prevented his exercising his business, he betook himself to the well-peopled slopes of the Apennines, gladdening with the sound of fiddle the joyous meetings of the country-folk, and never ashamed to gather from his work its ill-paid gains. The sums thus amassed and jealously set aside were never expended on himself. He used to tell his friends and relations that he had in view a secret object, which he would in due time make known. The day has at last come, and the honest old fellow has kept his word. During last Easter he came, accompanied by a notary, to the rooms of the Working Man's Society of his town and declared,—so states the Senator Pepoli,—that he presented to the association seven hundred *lire* (about 30*l.*), scraped together by him little by little, with the intention that two hundred *lire* should go to augment the loan fund, and five hundred *lire* to serve to form a capital which, at five per cent, would enable the sum of fifty *lire* to be given every two years to the daughter—chosen by lots—of one of the members of the Association. Astonished at such a bequest, I asked, continues Senator Pepoli, whether such was in reality his fixed desire. Fabbri's reply, in its curt simplicity, is a model of eloquence:—"This has been the dream of my life. To have the pleasure of being useful to my fellows I have worked incessantly, and now I have attained my object, and I am happier than a Caesar." When a wealthy person, either during his lifetime or on his death-bed, presents to the poor of his native town a sum of money to alleviate their suffering, there rises throughout the country a cry of gratitude, and the example is in everybody's mouth. It seems to me, remarks Senator Pepoli, that the fact I have related, contains the sublimest expression of human charity, and that this honest and aged benefactor deserves the gratitude of the nation and of the Government. It is a noble example which it is to be hoped will find emulative imitators, as it visibly raises the moral level of the workman in the face of the incredulity and selfishness of his eternal detractors, and this example merits to be inserted in the transactions of all the Working Men's Associations throughout the country. As a further and even more lasting token of Fabbri's generous donation, an inscription has been placed on the house in which he was born, "Here Francesco Fabbri, a workman, gave on the 29th of March, 1880, the economies of a long and honest life to the Working Man's Society of Castel San Pietro to afford a marriage-portion to a poor young girl,—the public sentiment hopes that from the marriages thus made may spring citizens, laborious, upright, and provident like their pious benefactor."—*The Builder.*

A SIGNBOARD AND A QUESTION.—The newspapers have given particulars of a singular dispute touching the ownership of the signboard of the Royal Oak Hotel, Bettws-y-Coed, submitted for the decision of the Bangor District Court of Bankruptcy. The sign, which is well-known to most tourists in Wales, was painted by David Cox in 1847 as the signboard of the hotel. David Cox re-touched it in 1849, and in 1861, at the request of many admirers of the artist, it was placed in the hall of the hotel. The late landlady having gone into liquidation, the trustees claimed to include in the effects the old signboard, for which it was stated a connoisseur had offered 1,000*l.*, and a dispute now arose whether the painting was not a fixture, and as such belonged to the lessor, Lady Willoughby D'Eresby. The judge, after a perusal of the voluminous affidavits, decided in favor of her ladyship, directing that the costs of the application should be paid out of the debtor's estate. To make us agree in the decision as to this old sign, we ought to hear that no other signboard had been put up in its place outside. The incident reminds us of Sir Edwin Landseer's old shutter. Mr. Jacob Bell had done some friendly commission, as on many other occasions, for the artist, and the latter desired to give him something. Bell would have nothing, but ultimately said, "Well, give me the old shutter in the stable window," a rough panel on which Landseer had partly painted a picture. For this, as he told us himself, he was afterwards offered 600*l.*—*The Builder.*

SIR ROBERT PORTER'S BATTLE OF AGINCOURT.—A few weeks ago a painting one hundred feet long and thirty feet deep, was hung in the Guildhall, London, to remain on view for a week. The picture contains upwards of one thousand figures and is a representation of the battle of Agincourt. It was painted by Sir Robert Kerr Porter (painter of the Siege of Seringapatam) when nineteen years of age, and was, about the year 1819, presented by him to the Corporation of the City of London. It has occasionally been utilized as a screen at the Mansion House, but owing to its immense size it has been found necessary to cut it into three sections. The centre piece, which is fifty-four feet long, represents the battle at its height. The side pieces are each twenty-three feet long. The one on the right portrays the retreat of the French army, while the left is a beautiful landscape, with a portion of the English army advancing through a well wooded and watered country to give battle to the foe. As it is impossible to find space for the picture in its entirety, a committee has been appointed to consider the advisability of mounting and restoring it.

BUILDING INTELLIGENCE.

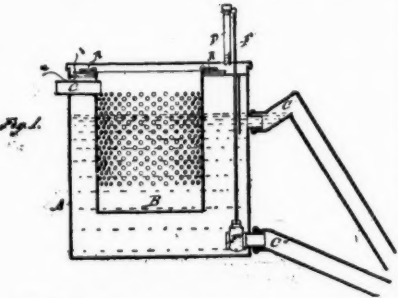
(Reported for The American Architect and Building News.)

[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.]

228,084. SEWER AND CATCH-BASIN. — John F. Lavery, Chicago, Ill. This invention has for its object to provide a catch-basin by means of which the heavier portions of sewage passing off from the basins, tubs, water-closets, and waste-conduits leading from a building can be automatically separated from the lighter and liquid portions and conveniently removed from the trap, also to provide for the ready cleansing and flushing of the trap, and to permit the escape of noxious gases and prevent their access to the building. It consists of an outer casing provided with a removable top and an inner removable receptacle having perforated walls, which is connected with the waste-pipe leading from any source of sewage, and the outer vessel with conduits, one of which is in constant communication with the sewer by means of a suitable trap-pipe, and the other of which may be thrown into communication with the sewer by means



of a suitable valve having a valve-rod extending out of the outer vessel and suitably packed to prevent the escape of gas, the outer vessel being provided with a ventilating-pipe leading to the open air for the escape of noxious gases. A is the outer casing, and B the inner casing. Near the upper edge of the outer casing, on the inside, is formed an annular seat, a, upon which rests the flange b of the inner vessel, B, thus suspending it within A. The walls of B are perforated, beginning some distance above the bottom, in order to form a receptacle at the bottom for solid matters that may settle in it. C indicates a pipe leading through the outer casing A, to which it is permanently fastened, and extending into the vessel B. R are two rings, by means of which B can be lifted out of the casing A when desired. C' indicates a trap-pipe leading from the upper part of A to a sewer, and C'' a pipe leading from the lower part of A to a main. The connection leading into the pipe C'' at the lower part of A is provided with a valve, F, from which extends a valve-rod, F, D indicates a ventilating-tube extending from the interior of the outer casing to the outer air. The parts being in proper position, the sewage enters through C into the perforated casing B. Here all the larger or solid portions are retained, the lighter and liquid portions passing through the perforations into the casing A and out through the trap-pipe C'. When it is desired to cleanse the trap, the cover is taken off, the vessel B and its contents removed, and the vessel A cleared and flushed by opening the valve F. After this the parts are all placed together again as before, and the trap is ready for further operation.

232,813. SHUTTER. — Henry Goff, Corning, N. Y.
232,820. CISTERN SPOUT AND TRAP. — Josephine M. Hicks, Boston, Mass.
232,821. STEAM-HEATING RADIATOR. — Birdsill Holly, Lockport, N. Y.
232,828. DOOR-HANGER. — Charles Johnson, Towanda, Penn.
232,829. MACHINE FOR SHEARING METAL. — John Kinhart, Athens, Ill.
232,830. ICE-HOUSE. — Joseph Lederle, Edgewater, and Ludwig Oberlein, New York, N. Y.
232,843. DOOR-HANGER. — Charles W. Pierce, Oak Hill, N. Y.
232,844. STEAM RADIATOR AND GENERATOR. — Goldsberry H. Pond, New York, N. Y.
232,846. JACK-SCREW. — David Rankin, San Francisco, Cal.
232,851. BORING-BIT GAUGE. — William F. Rutter, Atlantic City, N. J.
232,883. SHUTTER-AWNING. — James Carey Jr., Baltimore, Md.
232,892. VISE. — George A. Hitchcox, Brooklyn, N. Y.
232,894. FAUCET. — Charles H. Koetzer, Baltimore, Md.
232,898. CURTAIN FIXTURE. — Pelatiah Osgood, Waterville, Me.
232,902. OPERATING WATER-CLOSET VALVES. — James J. Powers, Brooklyn, N. Y.
232,923. WRENCH. — Alfred Beard, Cincinnati, O.
232,930. SOLDERING-TOOL. — John Campen, Baltimore, Md.
232,937. PIPE CUTTER AND WRENCH. — Genry A. Chapman, Strawberry Point, Iowa.

232,942. FAUCET. — William S. Cooper, Philadelphia, Penn.
232,948. SEWER. — Fanny Derrham, Cincinnati, O.
232,954. LOCK-STRIKE. — Henry Fellows, Bloomington, Ind.
232,957. WEATHER-STRIP. — James A. Franklin, America, Ind.
232,963. CURTAIN-FIXTURE. — Wm. H. Harrison, Newark, N. J.
232,968. TELESCOPIC LADDER. — Ferdinand W. Hofele, Brooklyn, E. D., N. Y.
232,975. CUTTING PLIERS. — Moses C. Johnson, Milford, Conn.
232,982. SPIRIT-LEVEL. — William Langdon, Upland, Penn.
232,988. COMBINATION RULER. — Jacob S. Lowe and John H. Leiter, Shelby, Ohio.
232,989. SAW-GAUGE. — Stephen Lonergan, Lewiston, Me.
233,008. SAW. — Joshua Oldham, New York, N. Y.
233,017. FAUCET. — John Quinlan, Chicago, Ill.
233,020. ROCK DRILLING APPARATUS. — Henry Richmann, San Francisco, Cal.
233,029. FIRE-PROOF BUILDING. — John J. Schillinger, New York, N. Y.
233,030. REFRIGERATOR-BUILDING. — John J. Schillinger, New York, N. Y.
233,037. FIRE-EXTINGUISHER. (Reissue). — Andrew J. Sparrow, Potsdam, N. Y.

SUMMARY OF THE WEEK.

Boston.

BUILDING PERMITS. — *Brick. — Atlantic Ave.*, near Central St., for Central Wharf & Wet Dock Corporation, building for storage, 35' x 95'; Jas. F. Hornden, builder.
Dorchester Ave., Nos. 100 and 104, for Andrew Alexander, 1 dwell. and stores, 44' x 74', three stories; Samuel H. L. Pierce, builder.
Washington St., Nos. 391-405, for offices, stores, etc., 70' x 165', five stories; Thomas J. Whidden, builder.
Waterford St., near Shawmut Ave., for Plympton & Boyce Bros., tenement-house, 22' x 38', five stories.
Columbus Ave., cor. Berkeley St., for People's Church Society, church, 100' x 125'.
Northampton St., No. 79, for Haywood P. Hall, dwell. and stable, 35' x 90', three stories.
Emerald St., near Castle St., for Swedish Emanuel Lutheran Society, church, 60' x 66', two stories; Samuel T. Waters, builder.
Cazenove Pl., near Columbus Ave., for N. M. Jewett, two tenement-houses, 44' x 52', four stories.
Wood. — Bicknell Ave., for Geo. D. Cox, 1 dwell., 34' x 36', three stories; Geo. D. Cox, builder.
Brook Ave., near Dudley St., for Cassie L. Austin, 1 dwell., 21' x 30'; W. J. Austin, builder.
Richmond St., near Adams St., for Jos. F. Howland, stable, 30' x 33'; James Pope, builder.
Taylor Ave., near Taylor St., for New York & New England R. R., 1 passenger R. R. station, 72' x 8'; Chas. Ensign, builder.
Howard St., near Hartford St., for Wm. S. Ewell, greenhouse, 22' x 78'; Wm. Ewell, builder.

WAREHOUSES. — A block of brick buildings, with carved brick trimmings, is being built on estates of Alex. Moseley, Wm. H. Allen, Emerson & White, and T. Thompson, on South St. The buildings are five stories high and cover 14,000 feet of land, and are to be used for stores and business purposes. Messrs. N. J. Bradlee & Winslow, architects, of Boston.

GRAIN ELEVATOR. — Work on the grain-elevator for the New York & New England Railroad Company has already begun. The dimensions are: length, 162 feet; width, 80 feet; height of tower, 136 feet. It will be ready for use in March, and the cost will be not far from \$200,000.

STONE. — Ground has been broken on Summer St. for a granite-front store, 42' x 79', six stories high, which is to be built by Messrs. Kirby & Lewis, architects.

Brooklyn.

BUILDING PERMITS. — *Bowne St.*, two-sty brick shop, 20' x 40'; cost, \$2,000; owners, Richardson, Boynton & Co.; architect, G. L. Morse.

Bergen St., 1 three-sty and 1 four-sty brick stores and dwell., 22' x 50'; cost, \$6,000; architect, John H. Woolley, East New York; builder, Edward A. Woolley.

Fourth Ave., Bergen and Wyckoff Sts., 14 three-sty flats, 20' x 62'; cost, \$7,500 each; owner, Thos. H. Brush, 331 Wyckoff St.

Lafayette Ave., 3 two-sty frame dwell., 18' 9" x 40'; cost, \$3,000; owner, F. C. Debevoise, 808 DeKalb Ave.; architect, W. W. Levitt; builders, Jas. E. Brittingham and Marinus & Gill.

Lee Ave., three-sty brown-stone dwell., 22' x 42'; cost, \$10,000; owner, Robert Thomas; architect, Wm. H. Gaylor; builder, Thos. Gibbons.
Broadway, cor. Linden St., 4 three-sty brick stores and dwell., 25' x 55'; cost, \$18,000; owner, A. Meeker; builder, J. V. Smith.

Madison St., two-sty brown-stone dwell., 17' x 40'; owner, John G. Sturges; builder, E. B. Sturges.

Floyd St., three-sty brick factory, 30' x 115'; cost, \$11,000; owner, Frederick Horst, on premises; architects, Thom & Wilson; builders, B. Rauth & Son and John Kueger.

Central Pl., two-sty frame dwell., 19' 6" x 32'; cost, \$2,200; owner, E. Schmitts, 798 Bushwick Ave.

Bushwick Ave., 2 two-sty brick dwell., 20' x 40'; cost, \$3,600 each; owner, Eben F. Blaisdell, 173 South Second St.; builders, G. Cutter and Samuel Bennet.

Nostrand Ave., cor. Quincy St., one-sty brick church, 80' x 63'; cost, \$25,000; owners, Nostrand Avenue Methodist Episcopal Church; architects, Parfitt Bros.; builders, T. B. Rutan and Elbert Snedeker.

Prospect St., No. 165, four-sty brick tenement and stable, 25' x 100'; cost, \$4,000; owner, A. Haviland, 167 Sands St.; builder, B. S. Dusenberry.

Strong Pl., 2 three-sty brown-stone dwell., 20' x

45'; cost, \$7,000 each; owner, W. E. Donnellon, Pacific St., near Henry St.; architect, — Dixon; builder, P. J. Carlin.
Gowanus Canal, one-sty frame storage, 110' x 150'; cost, \$3,700; owner, E. D. Litchfield, London, Eng.; architect, D. E. Harris.

Vernon St., 6 two-sty frame dwell., 18' x 38'; total cost, \$3,800; owner and builder, Thos. E. Greenland; architect, Isaac D. Reynolds.

Halsey St., 14 three-sty brown-stone dwell., 17' 6" x 45'; cost, \$7,500 each; owner and carpenter, T. B. Jackson.

Vernon St., 3 two-sty frame dwell., 18' 9" x 38'; total cost, \$3,800; owner, R. F. Boerum; architect, Isaac D. Reynolds; builder, T. E. Greenland.

Park Ave., 3 two-sty frame dwell., 20' x 40'; cost, each, \$2,200; owner, Conrad Southard, on premises.

South Ninth St., 2 three-sty brown-stone dwell., 21' 10" x 45'; cost, each, \$7,500; owner, E. Lyon; architect, W. H. Gaylor; builders, W. & T. Lamb, Jr.

Bond St., four-sty brick tenement, 18' x 40'; cost, \$4,000; owner, Mr. Riley, Union and Bond Sts.; builder, Owen Nolan.

Boerum St., near Boulevard, 4 two-sty frame dwell., 22' x 28'; cost, about \$2,000 each; owners, Cross, Austin & Co., cor. Kent Ave. and Cross St.; builders, A. Sheldt and F. J. Berlenbach.

Thirty-Ninth St., one-sty brick factory, 47' x 100'; cost, \$2,000; owner, Phenix Chemical Works, foot of Thirty-Ninth St.; architect, — Saunders; builders, P. Carlin and N. Miller.

Eleventh St., 3 three-sty brown-stone dwell., 16' 8" x 42'; cost, \$4,000 each; owner, V. B. W. Bennett, 220 Seventeenth St.; architect, J. F. Wood.

Van Buren St., two-sty brown-stone dwell., 18' x 40'; cost, \$3,000; architect, Daniel B. Norris, 417 Putnam Ave.

ALTERATIONS. — *Gates Ave.*, cor. Tompkins Ave., raised one story; cost, \$2,075; owner, John Deterling, DeKalb and Tompkins Aves.; architect, S. W. Osman; builders, M. J. J. Reynolds and S. C. Whitehead.

Delavan St., raised one-story; cost, \$2,000; owner, Mr. Chesburg, on premises; builders, M. Gibbons and W. Furey.

First St., Nos. 212 and 214, repair damage by fire; cost, \$3,500; owner, John Wilson; builder, C. L. Johnson.

Java St., No. 18, front rebuilt; owner, John Miller; architect and builder, M. Vogel.

MONTHLY REPORT. — Permits granted for new buildings 166; of these 110 were of brick, and 56 frame.

The character of the buildings were: Eighty-seven private dwellings, thirteen containing two to four families; fifteen stores and dwellings, one tenement-house, four work-shops, eleven stables, three halls, ten storage sheds, ten stores, four storehouses, one asylum, four factories, and one greenhouse.

The number erected in each ward are: Four in Second Ward, one in Third, two in Fifth, four in Sixth, four in Seventh, eight in Ninth, two in Twelfth, six in Thirteenth, four in Fourteenth, one in Seventeenth, twenty-six in Eighteenth, twenty-four in Nineteenth, eight in Twentieth, twenty-two in Twenty-first, twenty-one in Twenty-second, six in Twenty-third, ten in Twenty-fourth, and thirteen in Twenty-fifth.

There were seventy-one applications to alter buildings, for which sixty-eight permits were granted and three denied.

Estimated cost of new building, \$645,375; estimated cost of alterations, \$47,600.

Number of violations reported, fourteen. Number of notices served, thirteen.

Chicago.

BUILDING PERMITS. — *Downs & Co.*, one-sty brick planing mill, 20' x 60', Blue Island Ave., near Robey St.; cost, \$2,500.

— *Thompson*, three-sty brick dye-house, 16' x 60', 2601 Archer Ave.; cost, \$3,500.

— *P. W. Jennings*, two-sty brick dwell., 17' x 56', 345 South Hoyne St.; cost, \$2,000.

— *John P. Eck*, four-sty brick malt-house, 34' x 125', Twenty-Fourth St., cor. Stewart Ave.; cost, \$10,000.

— *N. Carney*, two-sty brick dwell., 20' x 44', Lock St., near Archer Ave.; cost, \$2,500.

— *U. S. Express Co.*, two-sty brick barn, 107' x 200', Harrison St., cor. Franklin; cost, \$30,000.

— *F. Schuntz*, two-sty brick dwell., 21' x 66', Newberry Ave. and Wright St.; cost, \$2,500.

— *E. D. Colgan*, two-sty brick dwell., 22' x 43', 186 North State St.; cost, \$3,500.

— *Anna A. Cobb*, three-sty brick dwell., 40' x 68', 133 and 135 Desplaines St.; cost, \$10,000.

— *Union Iron and Steel Co.*, one-sty brick frog-house, 60' x 100', Thirty-First St. and Ashland Ave.; cost, \$2,500.

— *Geo. W. Higgins*, three-sty brick stores and flats, 100' x 60', 403 to 411 West Van Buren St.; cost, \$25,000.

— *Joseph Houda*, two-sty brick dwell., 20' x 20', Nineteenth St., near Robey St.; cost, \$3,000.

— *Charles C. Gautzer*, four-sty brick store and dwell., 25' x 75', 246 Indiana St.

— *S. N. and J. Nelson*, three-sty brick shop and dwell., 25' x 100', 158 Wesson St.; cost, \$7,000.

— *Bartholomae & Roessing*, one-sty brick ice-house, 40' x 30', Brown St., near Twelfth St.; cost, \$6,000.

— *J. C. Dore*, four-sty brick store and dwell., 24' x 104' 6", Wabash Ave., cor. Harrison St.; cost, \$12,000.

LABOR MARKET.

Stone-mason.....	\$2.75 @ 3.00
Laborer.....	1.75 @ 2.00
Bricklayer, common.....	3.00 @ 3.25
" front.....	3.25 @ 4.00
Stone-cutter, 8 hours.....	@ 3.00
Carver.....	4.00 @ 4.50
Stone-setter, 10 hours.....	3.75 @ 4.00
Slatier.....	2.25 @ 2.50
Tinner.....	2.25 @ 2.50
Plasterer.....	2.75 @ 3.00
Carpenter.....	2.25 @ 2.50
Finisher.....	@ 2.75
Plumber.....	3.00 @ 3.50
Painter.....	2.25 @ 2.50
Grainer.....	3.50 @ 4.00

Cincinnati.

BUILDING PERMITS.—C. Schmolt, 4 one-sty frames, between Oliver and Liberty St.; cost, \$2,500.
W. H. Fitzgerald, one-sty frame stable, No. 54 Poplar St.; cost, \$1,800.
Robert Rogers, two-sty brick, near Summit Ave., between Price Ave. and Eighth St.; cost, \$2,500.
Jas. Gurren, three-sty brick, No. 120 Mound St.; cost, \$2,600.
Werdman & Webbelsman, three-sty brick; cost, \$4,000.
Daniel Koch, three-sty brick; cost, \$4,000.
B. Swegman, four-sty brick; cost, \$7,500.
Mrs. T. Berchman, three-sty brick; cost, \$4,000.
John H. Bosse, two-sty frame; cost, \$3,000.
Eugene Buckley, two-sty frame; cost, \$3,500.
J. R. King, two-sty frame; cost, \$4,000.
Hugh Ryan, four-sty brick; cost, \$4,000.
J. H. Skelton, three-sty brick; cost, \$4,000.
Cincinnati Street Railway Company, stables; cost, \$20,000.
Mrs. Fisher, three-sty brick; cost, \$4,000.
George Enders, two-sty brick; cost, \$3,000.
C. E. Brockman, four-sty stone front; cost, \$3,000.
S. L. Wilder, three-sty brick; cost, \$9,000.
34 permits for repairs; total cost, \$25,700.
Total permits for the month, 58.
Total cost for the month, \$116,900.
Total cost to date, \$1,363,950.
Total permits to date, 559.

New York.

BUILDING PERMITS.—*Sheriff St.*, No. 89, four-sty brick store and tenement, 25' x 67'; cost, \$9,000; owner, John Clauss, 87 Sheriff St.; architect, Julius Beckell.
One Hundred and Fourteenth St., two-sty brick dwell., 18' 6" x 40'; cost, \$5,000; owner, Mr. Feig, Second Ave., cor. One Hundred and Fourteenth St.; architect, John C. Burne; builder, not selected.
Eighty-Second St., 2 four-sty brown-stone apartment-houses, 25' 6" x 69'; cost, \$11,000 each; owner, Andrew Kelly; architect, John C. Burne.
First Ave., four-sty brown-stone stores and apartment-houses, 25' 6" x 69'; cost, \$11,500 each; owner, Andrew Kelly, 415 East Eighty-Fourth St.; architect, John C. Burne.
Fourth Ave., cor. One Hundred and Fifth St., 6 three-sty Connecticut brown-stone dwells., 16' 8" x 46'; cost, each, \$6,500; owner and builder, C. Borncamp, on premises; architect, A. Spence.
One Hundred and Fourteenth St., 2 four-sty brown-stone tenements, 25' x 60'; cost, \$5,500 each; owner, J. K. Coates, One Hundred and Fourteenth St.; architect, Andrew Spence.
One Hundred and Fourteenth St., four-sty brick tenement, 20' x 52'; cost, \$8,000; owner and builder, James Duffy, 228 East Fifty-First St.; architect, Andrew Spence.
Fifty-First St., Nos. 411 and 413, 2 five-sty brown-stone tenements, 25' x 70', extensions 18' x 20'; cost, each, \$20,000; owner and builder, James Lee, 420 West Fifty-Second St.
Locust Ave., one-sty brick church, 37' x 66'; cost, \$7,000; pastor, Rev. M. Nolan; architect, Arthur Crooks; builders, James Power and James Thompson.
Ninety-Second St., 3 three-sty brick dwells., 16' 8" x 56' 8"; cost, \$6,000 each; owner, Albro Howell, 113 East Forty-Sixth St.; architect, A. B. Ogden; builder, George Whitefield.
Lexington Ave., cor. Seventy-Fifth St., 6 three-sty brown-stone dwells., 17' x 50'; cost, \$11,000 each; owners and builders, Farley Brothers, 165 East Sixty-First St.; architects, Thom & Wilson.
Lexington Ave., cor. Fifty-Sixth St., four-sty brick store and tenement, 18' 11" x 56'; cost, \$6,000; owner, Wm. J. Demorest, 17 East Fifty-Seventh St.; architect, Anthony Pfund.
Twenty-Third St., 5 six-sty brick flats, 35' x 90'; cost, \$50,000 each; architect, Geo. W. Da Cunha, 111 Broadway.
Avenue A., four-sty brick tenement, 17' x 60'; cost, \$6,000; owner, R. Allen, 1420 Avenue A; architect, Andrew Spence.
West Thirty-Sixth St., No. 415, three-sty brick dwell., 25' x 34'; cost, \$2,000; owner, P. Palm, 484 Ninth Ave.; architect, C. F. Kidder, Jr.
Eighty-Ninth St., four-sty brick tenement, 33' x 60'; cost, \$16,000; owner, etc., J. B. Squires, 55 East Seventy-Ninth St.
Third Ave., five-sty brick refrigerator-building, 52' 8" x 90' 4"; cost, \$22,000; owner, John Eichler, Fulton Ave., cor. One Hundred and Sixty-Ninth St.; architect, Anthony Pfund.
One Hundred and Twenty-Seventh St., 6 three-sty brown-stone dwells., 18' x 50'; cost, \$10,000 each; owner, etc., John W. Smith, 31 West One Hundred and Thirty-Fourth St.
ALTERATIONS.—*East Fifteenth St.*, No. 103, raised one sty; cost, \$3,000; owner, R. W. Gilder; architects, McKim, Mead & White; builder, W. A. Vanderhoof.
Third Ave., cor. One Hundred and Fortieth St., raised one sty, also one-sty brick extension, 25' x 16'; owner, Thomas Fisher, Third Ave., and One Hundred and Fortieth St.; architect, James Stroud; builders, Smith Bros. and John Knox.
Nutten St., No. 24, cor. Grand St., raised one sty, and one-sty brick extension, 12' x 38', front alterations; cost, \$4,000; owner, Samuel Cohen, No. 236 East Seventy-Second St.; architect, J. W. Marshall; builders, John Hankinson and J. Leslie.
Cortlandt St., No. 79, raised two stories; cost, \$2,500; owner, Wm. A. Martin, on premises; architect, W. E. Waring.
Seventy-Eighth St., near Lexington Ave., 2 brown-stone three-sty dwells., each 16' x 45'; estimated cost of both, \$17,700; Washington Bros., owner.
One Hundred and Twenty-Third St., near Mount Morris Ave., 6 brown-stone three-sty dwells., each 16' x 50'; cost, each, \$9,000; Adams & McGuire, owners.
Pleasant Ave., cor. One Hundred and Fifteenth St., brown-stone tenement and store, 22' x 70'; cost, \$12,000; Martha White, owner.

Pleasant Ave., adjoining the above, 3 brown-stone tenements, each 18' x 60'; cost, \$10,000 each.
Eighty-Sixth St., cor. Avenue A, 4 brown-stone tenements, each 25' x 60'; cost of corner house, \$13,000; the remaining buildings, \$11,000 each; John Sedgwick, owner.
Avenue A, 2 buildings; cost, \$11,000 each; owner, John Sedgwick.
Avenue A, near Sixtieth St., brick five-sty tenement; cost, \$10,000; Daniel Cogney, owner.
One Hundred and Third St., near Third Ave., 2 brick four-sty tenements, each 25' x 60'; estimated cost, \$11,000 each; A. M. Jenney, owner.
One Hundred and Twelfth St., near First Ave., 2 brick four-sty tenements; cost, \$8,000 each; A. M. Jenney, owner.
Sixty-Ninth St., near First Ave., 14 brick and stone four-sty flats, 25' x 76'; cost, \$14,000 each; Wm. Noble, owner.
FLATS.—At the corner of One Hundred and Sixteenth St. and Lexington Ave., flats, 25' x 80', brown-stone fronts, are to be built for Mr. H. O'Neil, at a cost of \$17,000, from designs of Mr. M. C. Merritt.
BUILDING MATERIALS show no material alteration. The brick market is firm at quotations given.
OPERA-HOUSE.—The plans of Mr. J. C. Gady for the new opera-house on the square bounded by Vanderbilt and Madison Aves. and Forty-Third and Forty-Fourth Sts., have been accepted. The building will cost \$450,000. The entire seating capacity will be 3,100. The exterior will be of Philadelphia brick and terra-cotta; the brickwork will be carved and the general style of the architecture will be the early Italian Renaissance.
BUILDING IN SEPTEMBER.—Inspector Esterbrook's report of the operations of the Bureau of Buildings for September shows that 239 plans for new buildings were filed, of which 80 are to be first-class houses, 65 French flats, and 44 tenement-houses. Plans for the alteration of 119 old structures were filed, and 47 plans for frame structures in isolated locations were approved. Twenty-nine unsafe buildings were reported, and 46 unsafe ones, including some previously reported, were made safe.

Philadelphia.

BUILDING PERMITS.—*Montgomery Ave.*, 5 three-sty dwells., 16' x 48'; J. S. Albright, owner.
Bouvier St., two-sty stable, 30' x 50'; E. F. Durang, architect.
Fairhill St., two-sty dwell., 18' x 36'; Bernard Frank, owner.
Seventh St., near Montgomery Ave., three-sty dwell., 22' x 70'; R. J. Whiteside, contractor.
Fifteenth St., near Oxford St., three-sty dwell., 20' x 68'; R. J. Whiteside, contractor.
Twenty-Seventh St., near Jefferson St., 2 three-sty dwells., 15' x 28'; Preston B. Jones, owner.
Lawrence St., near Oxford, two-sty stable, 20' x 25'; H. H. Hummel, owner.
Falls Schuykill, gas-house, 22' x 50'; J. & J. Dobson, owners.
Hutton St., Nos. 403 and 405, 2 three-sty dwells., 16' x 43'; J. Longacre, contractor.
Darien St., near Montgomery Ave., 2 two-sty dwells., 25' x 28'; owner, W. Wolf.
Mill St., between 7th and 8th and Paul St., one-sty foundry, 68' x 185'; Green & Limahan, owners.
Clematis Lane, near Ridge Ave., three-sty dwell., 18' x 32'; John Hiley, owner.
Shackamaxon St., near Richmond St., 2 three-sty dwells., 14' x 40'; Robert Kaighn, contractor.
Morris St., near Sixth St., two-sty dwells., 15' x 42'; H. W. Maloy, contractor.
Fairmount Ave., near Broad St., two-sty shop and stable, 20' x 100'; P. H. Somerset, contractor.
Second St., and Erie Ave., four-sty factory, 50' x 108'; Jas. McCartney, contractor.
South Sixth St., Nos. 308 and 310, four-sty warehouse, 34' x 50'; M. Whalen, contractor.
Willow St., near Fifteenth St., two-sty shop and storehouse, 35' x 61'; C. D. Supple, contractor.
Grays Ferry Road, near Thirtieth St., one-sty foundry, 60' x 100'; J. I. Dawson & Bro.
Lancaster Ave., near Edlin St., 3 three-sty dwells., 17' 4"; Michl Dellaven, contractor.
Smalley St., between Thirty-Sixth and Thirty-Seventh Sts., two-sty stable, 26' x 34'; J. A. Decker, contractor.
Mechanic St., No. 1021, two-sty dwell., 16' x 26'; Chas. O. Kronglowicz, contractor.
Mutter St., near Lehigh Ave., two-sty stable, 22' x 32'; J. S. Steel, contractor.
Clementine St., near Jasper St., two-sty dwell., 16' x 24'; Thos. Gain, contractor.
Fifty-Fifth St., between Vine and Haverford Sts., two-sty factory, 26' x 50'; J. Kavel, owner.
Alterations and additions that were allowed during the week numbered thirty-five (35).

MONTHLY REPORT.—There were three hundred and fifty (350) permits issued during September, in which the manufacturing interests of the northern section of the city were fairly represented, in the erection of entire new structures, or large additions to prosperous establishments.

St. Louis.

BUILDING PERMITS.—Twenty-four permits have been issued for the week ending Oct. 8, 1880, of which four are for frame structures of slight importance. Of the rest, those worth \$2,500 or over are as follows:—

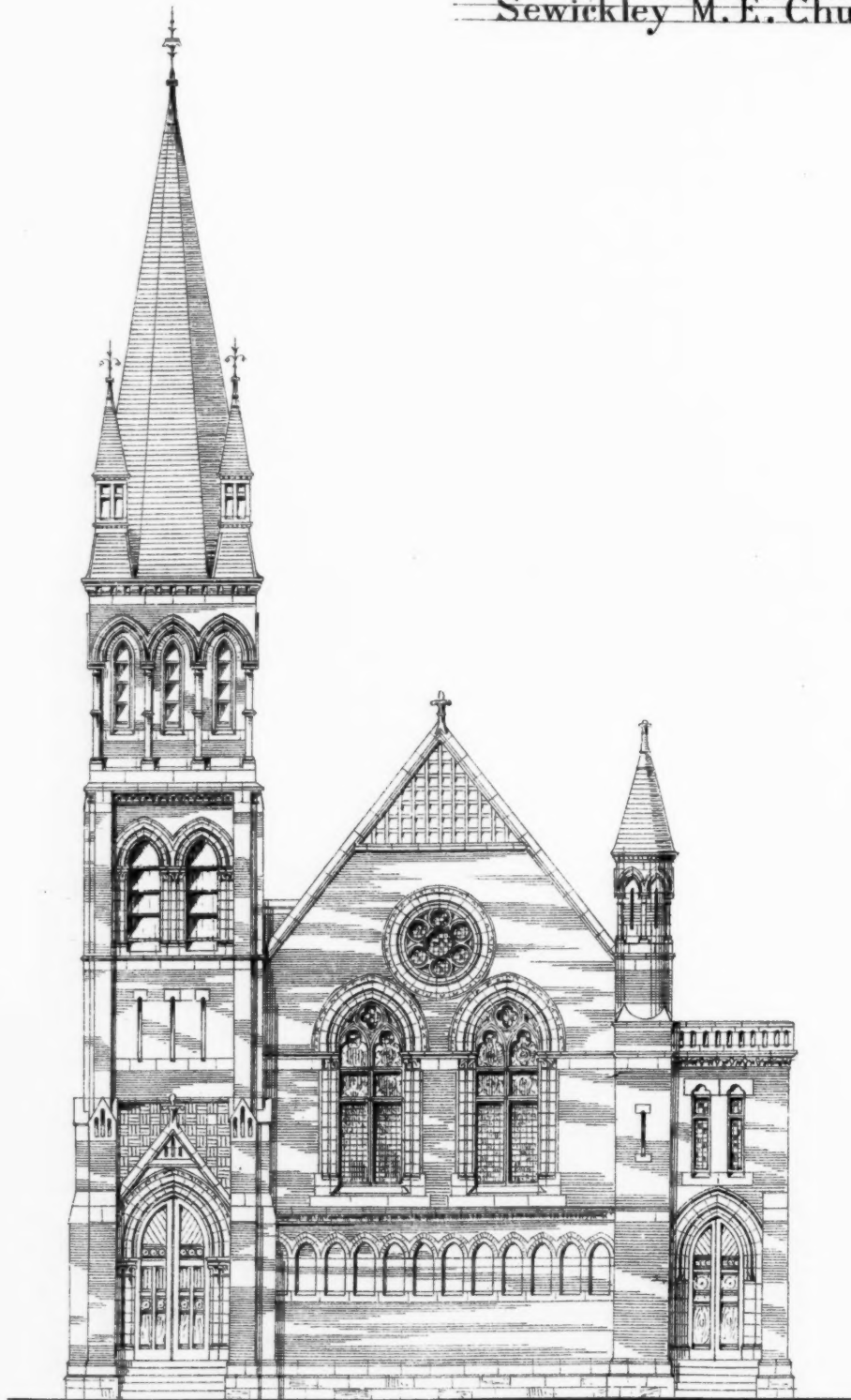
OWNERS' NAME.	USE.	Sty's	Est.	Cost.
J. A. Bowers,	Dwell.	2	8	\$4,000
F. W. Reinhardt,	Dwell.	2	36	5,000
Miss L. W. C. May,	Stable.	2	2	3,000
J. Hoffman,	Dwell.	2	14	6,000
H. Schlingman,	Dwell.	2	18	3,785
L. H. Pritchett,	Dwell.	2	12	3,000

General Notes.

ELIZABETHTOWN, PA.—Mr. John Hirtler is about building a brick house on Market St.
Mr. Joseph Peck is building a frame house on West High St.

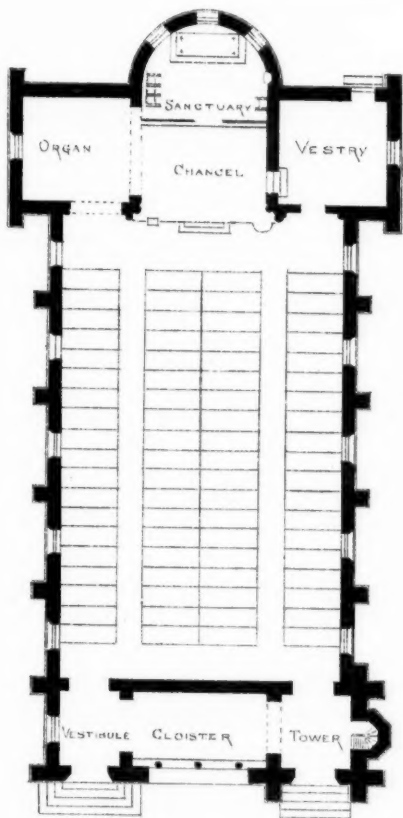
Mr. Frank Halbleib is building a frame house on West High St.
JAMAICA PLAIN.—Mr. O. F. Smith, of Boston, is the architect of a house for Mr. G. W. Russell, on Harvard Ave.; cost, \$5,500; John F. Haines, contractor.
KEENE'S VALLEY, ADIRONDACK, N. Y.—A residence is to be erected for Prof. Morales, from designs of Mr. M. C. Merritt, of New York.
LANCASTER, PA.—The City Passenger Railway Co. is building a new office and stables of brick, corner of Third St. and Delaware Ave.
LOUISVILLE, KY.—Phillip Samm is to build a two-story brick store and dwelling, Broadway, between Shelby and Clay Sts. Cost, \$2,100.
MIDDLE BASS ISLAND, (LAKE ERIE.) O.—An apartment-cottage (eight suites); cost, \$4,000; architect, N. B. Bacon, of Toledo; owners, L. S. Banningardner, Geo. Emerson, Gosline & Harbour, and others.
MIDDLETON, CONN.—Mr. H. C. Olds, of the Gilsey House, N. Y., is to have a frame house built from designs of Mr. M. C. Merritt, of New York.
MILTON, PA.—Mr. H. N. Swartz is about to build a three-sty house on Broadway, of brick, with Sutherland Falls marble finish; to contain two stores on first story.
J. T. Hartranft is rebuilding the Broadway House, on the old site, of brick, three stories.
John Koush is building a two-sty brick house on Broadway.
S. Moore is building a frame dwelling and store on Broadway.
Dr. Lavis is building a brick house on Broadway, of brick, two stories.
Mr. Wilhelm is building a two-sty dwelling, of brick, on Broadway, and a brick stable in the rear.
Cyus Brown is building a two-sty block on Broadway, of brick, with Sutherland Falls marble finish. The first story for a store, and tenements above.
Mr. Weaver is building a two-sty brick dwelling on Broadway.
Mrs. Overpeck is building a brick block on Broadway; the first floor to be occupied for stores, and tenements above.
John Bowie is building a three-sty brick block for stores and tenements on Broadway.
Wm. C. Lawson, Esq., is building a two-sty tenement-house on Front St., of brick, with marble finish.
Dr. McCleary is building a two-story brick residence on Front St.
S. L. Phinney is building a two-story residence on Front St.
Mr. Hackenburgh is building a block on Front St., of brick, with Sutherland Falls marble finish, to be occupied as stores.
Benj. H. Haag is building a two-story brick block on Front St., for stores and tenements.
J. F. Gauger is building a two-sty brick block on Front St., for stores and tenements.
Henry Huth is building a two-story hotel, of brick and Sutherland Falls marble, on Front St.
The First National Bank is building a two-story brick building on Front St., to be occupied for bank.
The Goodlander estate is building a two-story block of brick and marble on Front St., to be called Goodlander's Hall.
W. H. Phillips is building a two-story brick block on Front St., for stores and tenements.
W. W. Huth is building a block of brick, with Sutherland Falls marble finish, on Front St., for confectionery store and dwelling.
The Methodist Society are building a church on Front St., of mountain stone, rough ashler, and brown-stone finish. Davis Bros., of Baltimore, architects; Miller & Ottinger, contractors for the cut-stone work.
Mr. Ballett is building a residence on Front St., of serpentine stone, rubble-work; Frank Jordan, of this place, architect; Miller & Ottinger, contractors for stone-work.
Krouser Bros. are building a block with serpentine stone front on Front St., to be occupied for drug-store and tenements. Peter J. Christie, of this place, architect; Miller & Ottinger, contractors for stone-work.
MONMOUTH, ILL.—The Presbyterian Church, which is to be built in accordance with the plans of Mr. Perley Hale, architect, of Burlington, Io., is to cost about \$15,000.
MORRISTOWN, CONN.—A frame house is being built for Mr. Wm. Paxson, from designs of Mr. H. R. Marshall, of New York.
MORRISTOWN, N. J.—A frame house is being built for Mr. A. R. Chisholm, editor of the *Mining Record*, from designs of Messrs. Tribit & Berger, of New York.
NEWARK, N. J.—The corner-stone of the new building of the Home of the Friendless was laid Oct. 9. The site of the new edifice, which will be built of North River brick, is on South Orange Ave.
SAN FRANCISCO, CAL.—It is said that the Synod of the Russian Church is sending a Greek priest with some \$4,000 to purchase a site for a church in San Francisco. Other officials will follow, with more money, a choir and all the accessories of a full-fledged Russian-Greek church.
TOLEDO, O.—The Ohio Central Railroad Company will expend \$250,000 in building passenger and freight depots and improving grounds.
Block of two brick dwellings, two-story, with bay fronts, Locust and Huron Sts.; cost, \$6,000; architect, N. B. Bacon; owner, F. B. Dodge.
Frame dwelling, two stories, Collingwood Ave.; cost, \$2,000; architect, N. B. Bacon; owner, W. F. Adams.
The Masonic temple, on Adams St., from design furnished by D. W. Gibbs, has its roof in place, and the work is being pushed forward rapidly by Contractor Niles.
The large business building of Mr. V. H. Ketcham, on Summit St., from plans furnished by N. B. Bacon, is well under way.
Industrial.
LYNN, MASS.—Two large factories are being built for Messrs. Keen Bros., for the manufacture of shoes, 100' x 140', and 40' x 200'; Messrs. N. J. Bradlee & Winslow, of Boston, architects.

Competitive Sketch for
Sewickley M. E. Church.



Front Elevation

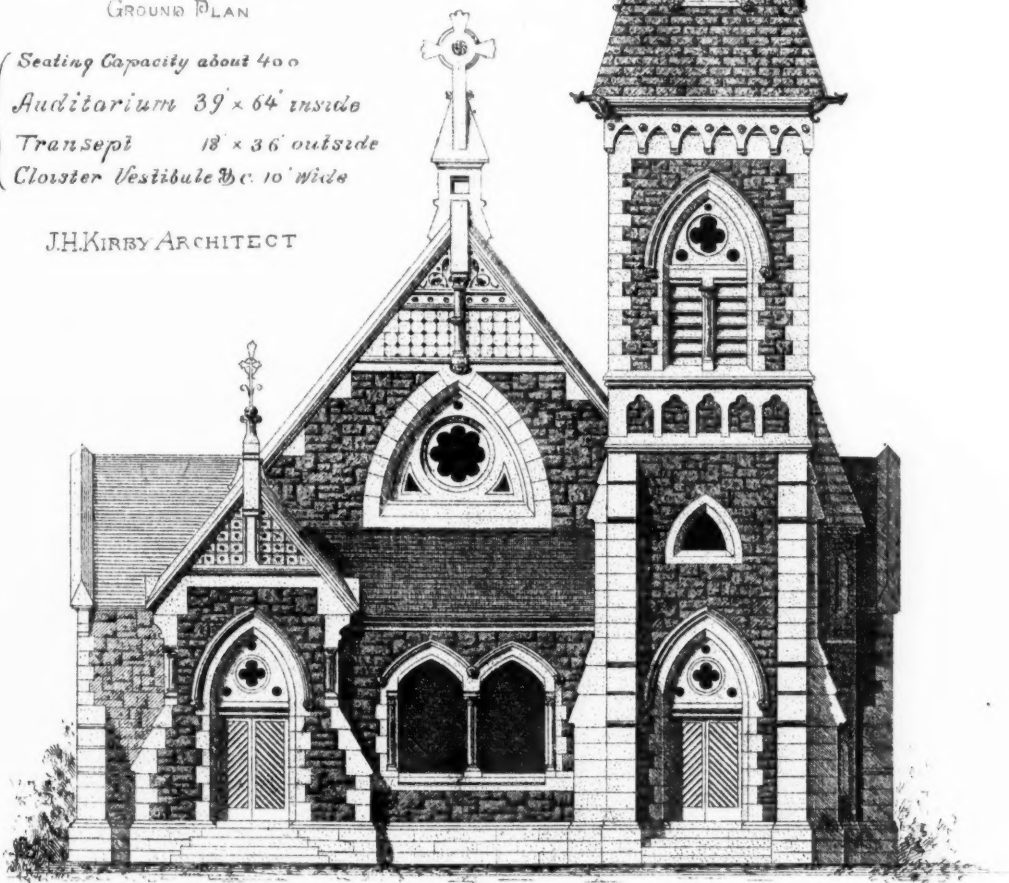
W. S. FRASER-ARCHT.,
PITTSBURGH, PA.



GROUND PLAN

Seating Capacity about 400
 Auditorium 39' x 64' inside
 Transept 18' x 36' outside
 Cloister Vestibule &c. 10' wide

J.H. KIRBY ARCHITECT



FRONT ELEVATION

The Reliance Engraving Co. 221 Tremont St. Boston.

DESIGN FOR A CHURCH.

M. DEVEAUX A SON AMI C^{te} GARNIER. D'APRES LE PORTRAIT DE P^r BAUDRY. 1868



THE HELIOTYPE PRINTING CO. 211 TREMONT ST. BOSTON

A. W. W. W. W. W.

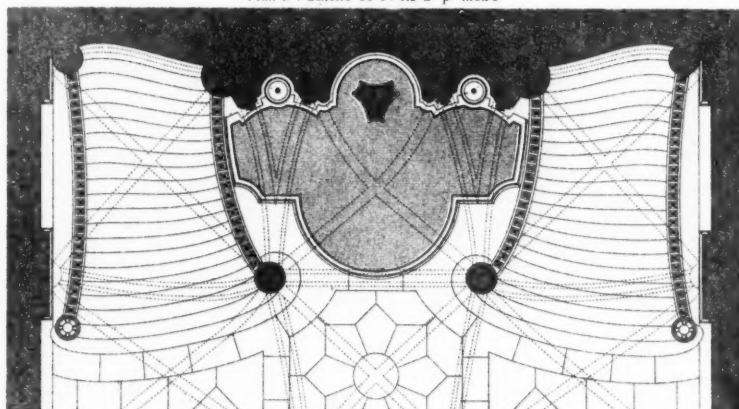
1880

Charles Garnier

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Plan à l'Echelle de 0^m 012^m par mètre



Riquois del

CHARLES GARNIER, ARCHT

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LE NOUVEL OPÉRA
DE PARIS
GRAND ESCALIER D'HONNEUR
DEPART A LA HAUTEUR DU C^o VESTIBULE D'ATTENTE