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The past fortnight has witnessed two very serious conflagrations, both occurring in public buildings, and both in Pennsylvania. The first was in an orphan asylum at Hyde Park, where some forty young children were cared for by sisters of charity. One of the sisters had just locked the doors of the dormitories after putting the little ones to bed, when in descending the stairs she discovered smoke issuing from one of the rooms below, and opening the door she saw fire "raging along the ceiling;" in other words, just breaking out from its hiding-place between the ceiling and floor. Running back up-stairs, she found the girls' dormitory, just above, full of smoke. She was able to hurry some of the children to a place of safety before the flames prevented further effort, but three little girls and fourteen boys were found dead when the firemen, who came promptly to the spot, were able to enter the building. The second disaster was even more startling. In the same way, it would appear, by working its way silently through the concealed crevices of an inflammable construction, fire seized upon one wing of the great lunatic asylum at Danville, Pennsylvania, with such overwhelming force and suddenness as very nearly to cut off the escape of its inmates. Although the building was totally destroyed, the helpless inmates were successfully conveyed to a place of safety. Another fatality was near being added to the sad list in Minnesota, by the burning of the State Capitol at St. Paul, which took fire during the session of the Legislature, and was so rapidly consumed that the members were with difficulty rescued by a hook-and-ladder company stationed near by. It is said that some of them were actually singed, and we venture to suggest that if the friends of good construction in Minnesota will draw up an efficient building-law, they have now an opportunity for securing its enactment which may not soon present itself again.

THE Boston plasterers, without giving what their employers consider reasonable warning, have struck for higher wages, demanding a further increase of fifty cents per day, which would make their pay fifty per cent higher than the ruling prices of a year ago. Nothing in the present state or prospect of the building market in Massachusetts justifies such an enormous advance, and it seems doubtful whether it can be sustained. Plastering work in New England is already proportionally dearer than in other places, and the quality is generally inferior, so that the public will not be disposed to uphold the men in violent and treacherous measures for extorting extra wages from their distressed employers, and in case these should hold firm in resisting the demand, their journeymen would have little hope of finding employment elsewhere. The Plasterers' Union has in times past been discreditably conspicuous for its arrogant and unreasonable conduct, and no one will be very sorry if the wholesome discipline of disappointment should occasionally serve to teach its members the value of honor and good faith toward those whose money they take, and who are in turn dependent upon their fidelity.

AN event of considerable architectural importance is the opening of the Senate Chamber in the New York State Cap-

itol, which takes place this week. This room is hardly less interesting as a work of art than the Assembly Chamber in the same remarkable structure, although totally different in design. More modest in its proportions than the imposing hall in which the lower house holds its sittings, the Senate Chamber has the advantage of combining picturesque disposition with great richness and preciousness of material. The ceiling is of dark oak, elaborately carved, and supported by columns of marble, the shafts being a dark red porphyritic variety, while the capitals and bases are of orange-colored Sienna. The walls are lined for a considerable portion of their height with the white and semi-transparent Mexican onyx; and rich string-courses of marble mark the horizontal lines. This warmth and variety of colored material lends a charm to the place which not even Hunt's noble frescoes can give to the dull-colored, heavy stonework of the Assembly Chamber, although we are by no means sure that there is not in both the rooms a lavishness of architectural display which detracts from their sentimental interest. No one, we fancy, would wish to see the beautiful but modest rooms, finished with English oak, in which the Queen, Lords and Commons of Great Britain govern a sixth of the human race, exchanged for the richest marble that ever decorated the halls of a life-insurance company, and it is within every one's experience that the charm which association gives a building, — the light of the Lamp of Memory, as Mr. Ruskin would call it, — is hardly compatible with great costliness of material.

THE Trustees of the Boston Museum of Fine Arts have issued their fifth annual report, which contains much interesting matter. Particularly in regard to the number of visitors on different days some useful suggestions may be derived from the statistics given. On Saturdays and Sundays the admission is at present free, twenty-five cents admission being charged on other days. The consequence of this is that the average attendance on Saturday is fourteen times as great as on the other week-days, and on Sunday is nearly twenty times as great, while the total amount received from sales of season tickets during the year was thirty-five dollars. It is worth inquiring seriously whether these figures indicate the advancing interest in art which it is the object of the Museum to foster. The average number of visitors on free days varies from one to two thousand, crowding the small rooms so much as to take away all opportunity for attentive study of the pictures; and while perhaps a passing glance at works of art may be beneficial to some who can have nothing more, it is more than probable that many persons who are entirely able and willing to pay the trifling admission fee if entrance could not be had without it are now led by a natural impulse to choose the free days for their visits, and waste in the distraction of a crowd the hours which could be spent with infinitely better result in the undisturbed study for which only the "pay-days" now give opportunity. The small sale of season tickets is a strong evidence that the passion for painting and sculpture which can be satisfied only by frequent and quiet contemplation of works of art is very rare in the community, and if, as we believe, it is to the cultivation of this habit of mind that we must look for the real development of artistic feeling and capacity, there is room for some doubt whether the liberality with which the privileges of the Museum have been thrown open to the public has been altogether advantageous.

MR. GEORGE EDMUND STREET has begun his course of lectures as Professor of Architecture at the Royal Academy with most distinguished credit. Succeeding, as he did, the late Sir Gilbert Scott, whose admirable discourses are, we hope, somewhat familiar to our readers, it would hardly have surprised those who knew him only as an extremely active and successful practitioner to find the new professor's merit as a teacher by no means equal to that which he possessed as an artist; and the two books of travel which he has published do little to dispel that impression; but no one can read the earnest and suggestive discourse with which his series of lectures was inaugurated without feeling that the influence which Mr. Street is destined to exert upon the art of his age will be exercised not less by his teaching than his example. Very different in temper from Sir Gilbert Scott, it is not to be denied that Mr. Street possesses far more originality and versatility of mind. He is less popular in the profession than his predecessor, and there have been some who were unwilling to give him credit

for settled principles of thought and action like those which did so much honor to Scott. These will, we believe, find themselves in the wrong, and perhaps, now that we are likely to have the mind of a great artist revealed to us, we shall discover that his ideas are none the less valuable for having been elaborated, so to speak, in solitude.

THE Temple Bar Memorial seems likely to be removed in spite of the large sum which it has cost. Mr. Labouchere lately inquired sarcastically in the House of Commons how long that "obstruction," consisting of a "griffin, with statues of Her Majesty and the Prince of Wales beneath," was to remain in the middle of the Strand; and while the Memorial appears to have no artistic qualities which might enlist people of taste in its defense, its objectionable character as an obstacle to traffic becomes every day more apparent. The whole history of the structure has been unfortunate. Instead of consulting Mr. Street, who, as architect of the adjoining Palace of Justice, had some claim to advise in the matter, the city authorities seem to have concocted a pet scheme of their own, which, as so often happens with laymen's hobbies, they kept to themselves, sheltered from unwelcome criticism, until it could be carried into execution. Common as it is, this way of managing an affair of the kind is unworthy of those charged with the interests of a great municipality, and we shall not be sorry if it receives a signal rebuke.

LA ROUTE DE CONCARNEAU, Mr. Picknell's famous picture, has lately brought discord into the Philadelphia art-world. Every one knows that the Society of Artists of that city has lately held an exhibition in the rooms of the Academy of Fine Arts, the authorities of the Academy lending their assistance, and interesting themselves to procure pictures from American painters residing abroad. One of these pictures was the landscape in question, which was sold during the exhibition by the Society under whose auspices it was displayed. When the new owner, however, desired to take away his purchase, the authorities of the Academy refused to allow it to leave the building except on payment of the money to them, claiming that they were responsible to Mr. Picknell, as well as to the Custom-House. It is not very clear why any one should object to this claim of the Academy, which certainly seems well founded, but for some reason the negotiations ended in the abandonment of the bargain, and the picture was thrown back upon the hands of the Society, which accused the Academy of having lost it the sale, and claimed that it should be paid the amount of the commission which it had earned by negotiating it originally. This was refused, and the artists very naturally express their determination to submit to no more divided authority in such matters, but henceforth to hold their exhibitions separately.

RAILROAD corporations everywhere are in the habit of encouraging settlement along their lines by various inducements, for the sake of the future assured income which they will derive from a temporary liberality. Some of the Western roads even make a free gift of farming lands to actual residents, while those radiating from the great cities accomplish the same end more cheaply by offering a free pass over their lines for one, two or three years to those who purchase land and build houses in the suburban districts which they serve. By such means many of the most flourishing towns about New York have been built up, the city in its turn profiting by the prosperity of its tributary neighbors; and the less enterprising railroad corporations of Massachusetts have at times adopted a similar course. A characteristic piece of legislation in that State has recently, however, prohibited the offering of such attractions to settlers, on the ground, as decided by the railroad commissioners, that they amount to a "discrimination" between one class of passengers and another. The Old Colony and the New York and New England roads, the former of which is one of the best managed lines in the East, while the latter enjoys the advantage of traversing a very beautiful suburban region, had been endeavoring to increase their local business in this way, and notwithstanding the burdens imposed upon building operations, a feeble activity had begun to manifest itself along these routes, which will be effectually choked out by this singular exercise of authority.

A WARNING to those unbusiness-like individuals who save themselves the expense of definite plans and specifications by making a "trade" with a builder to construct for them a house "exactly like" some given house, is contained in a recent case

decided in England. A Mr. Bryant had procured plans and specifications, in the completeness of which, however, he seems to have with reason placed little confidence; for although he engaged a contractor to build him two houses in accordance with them, he further stipulated that they should be built like the two houses adjoining. Having secured a promise to this effect, he apparently thought himself quite secure, particularly when the builder, after being told by Mrs. Bryant that she did not understand the specifications, and that the houses were to be like those next door, replied, "You may take my word I shall include it all;" with other reassuring expressions. Not until the final settlement did Mr. Bryant learn that, although the builder had given "his word as a man" that he would make his houses similar to the adjoining ones, he did not mean by those phrases to imply that he should not charge him a round extra price for everything which was not included in the miserable apology for a specification which, as he claimed, formed the basis of his contract. As this document omitted all mention of cupboards, dressers, folding-doors, shutters, fencing and other items, the extra bill for supplying these in conformity with the model amounted to a considerable sum, which the judge, in spite of Mr. Bryant's representations, directed to be paid in full. "It was perfectly clear to him," said His Honor, "that there ought to be no dispute about the matter at all. If the things now charged for as extras were to have been included in the price agreed upon, the defendant should have taken care to protect himself by having them stated in the specification."

AN interesting decision has been given in the English Court of Appeal in regard to the clause often inserted in building contracts, to the effect that in case of non-performance of his agreement by the builder, the owner may enter and take possession of the works with all materials on the ground. The lower court held that this clause, in a contract which formed the subject of an action before it, constituted a bill of sale of the property to which it referred, and not having been registered as the Act of Parliament provides for bills of sale, it could not hold against the builder's executor, who claimed possession of the goods; but on appeal this judgment was reversed, the Lords Justices saying that the authority given by the agreement did not imply that it was given as security for any debt; and that damages for non-fulfilment of a contract although they might be proved in bankruptcy as a debt, did not constitute a debt within the meaning of other Acts. The relation of an owner to the assignees or executors of a contractor under the ordinary agreements is a matter of difficulty as well as importance, and all decisions which may serve to define and elucidate it are valuable.

SCRIBNER'S MONTHLY for March contains an appeal to the New York Historical Society to carry out the suggestion of Mr. Frederick Law Olmsted, and place its admirable collection of pictures, statuary and antiquities in the Metropolitan Museum of Art, where it would be accessible to the public. The Society owns at present a great number of valuable Egyptian antiquities, besides the Lenox collection of Assyrian sculptures, probably unrivalled on this side of the Atlantic, and in addition many pictures of the highest class. The catalogue contains the names of Cimabue, Perugino, Leonardo da Vinci, Raphael, Fra Bartolommeo, Giorgione, Titian, Tintoret, Veronese, Del Sarto, Correggio, Annibale Caracci, Domenichino, Guido, Salvator Rosa, Cuyp, Douw, Van Ostade, Potter, Rembrandt, Rubens, Teniers, Wouvermans, Holbein, Velasquez, Murillo, Nicolas Poussin, Greuze, Reynolds, Vernet and Hogarth, besides many others, and with a guaranty of authenticity very inferior to that which the collection derives from its present ownership, it would be a remarkable one. The loss to the Society in having its property removed to the Museum would be compensated by the satisfaction which few New Yorkers fail to experience from the consciousness of having done a service to their fellow-citizens, and if it should wish to place some restrictions on its liberality, the public confidence in the enlightenment and good-will of one of the most reputable associations in the city will make them seem less burdensome. Another matter is also alluded to in the latter part of the article, — the acquisition of the complete set of casts which, as our readers will remember, has been offered to the Museum. The cost — fifteen thousand dollars — is so small that if attention can be properly called to it, so valuable a possession will not long be lacking to the New York galleries.

THE NEW YORK PRODUCE EXCHANGE COMPETITION.

NEW YORK, Feb. 21, 1881.

THE competition for the Produce Exchange has come to a most lame and impotent conclusion, if the present stage of it can be called a conclusion. The architectural opportunity has never been equalled in New York. The site, on lower Broadway, partly opposite the Bowling Green, so that the building can be well seen from a distance great enough to permit a general view, is something over 300 x 100 feet. The cost was at first limited to \$600,000, but a movement is now on foot to allow \$300,000 more to be spent upon the building, and it is also given out that the Cotton Exchange desires to take part in its erection and is willing to contribute some \$300,000 more, so that there is not likely to be any lack of money. Moreover, the problem of an exchange for some 2,500 or 3,000 members, which had far outgrown its present roomy quarters, was intrinsically one of much interest. It was natural to expect several interesting solutions of it, as the competition was a limited and paid competition, and the invitations included such architects as Mr. Withers, Mr. Eidlitz, Mr. Upjohn and Mr. Post. It is not easy to find out exactly whom else they did include, as the committee in charge has made a secret of it, for the sake, it is said, of preventing a "combination" among the competitors. The instructions were explicit enough, although they seem unnecessarily minute. Some of the defeated competitors complain that the instructions have been entirely disregarded by the four competitors whose plans have been chosen by the committee for submission to a vote of the Exchange.

We need not go into that question. What is evident from a study of the four designs submitted, which are presented in floor-plans, sections and in elevations, simply outlined in ink according to the instructions, but all shaded in fact, is that not one of them is at all satisfactory as a solution of the problem; not one indeed is of much architectural interest. Not one can be the work of either one of the architects I have named, unless possibly Mr. Post is represented by the motto, "*Omnis spes mea in me est*," which has some of his mannerisms, but is distinctly inferior to his recent works, such as the Metropolitan Concert Hall, the Brooklyn Historical Building, and particularly a brick office-building near the Custom-House.

What is most surprising in these designs, in a competition of which so much was reasonably expected, is that two at least of them should be absolutely illiterate, and that not one of them should note what can be called a conception of the structure as a monumental building. The instructions contemplated a basement for rental, and several stories above the exchange, for rental also. But the main hall is of an importance so preponderating that the office stories would naturally, it seems, have taken a subordinate position in the designs. In fact, the masses of the exchange and of the offices are nearly equal in all these designs, and the treatment such as to give the building the look of one building superposed upon another, a treatment, of course, fatal to repose.

The main features of arrangement are alike in all the plans. This similarity certainly does not proceed from the instructions, nor can it be supposed that all the architects took the same view of their problem. Most likely it proceeds from the preconceptions of the judges who, having excogitated the average layman's idea of the building, accepted the designs which merely noted that idea, and declined to consider those which transcended it. The instructions, for example, stipulated for an exchange-room from 45 to 60 feet high. All the competitors whose designs are shown have been content with the lower limit. All have built the outer walls to the edge of the allotment, some of them, it is said, beyond it, and all have lighted the centre of the exchange-room from a court 50 feet wide in the centre. When I add that in every design the walls of this court are carried on cast-iron columns in the centre of the exchange-room, and that the result is in every case a room 300 feet long, 100 wide, and 45 high, with a flat ceiling, the middle third of which is glazed, you will perceive that the monumental idea was not uppermost in the mind of any one of the designers, any more than it was in the minds of the committee. One is inclined to wish that a perspective of the exchange-room had been among the obligatory drawings!

The treatment of this interior does not vary much. In every case the cast-iron columns look inadequate for the great work they have to do; but one of the advantages of competitions is that a support can be drawn so as to appear slender, and to take up little room on the ground plan, no matter how thick it may be necessary to make it when the question is not of drawing but of construction. If a bold competitor had ventured to represent the exchange-room without any supports at all between the walls 120 feet apart, the exhibition affords reason for believing that his project would have been hailed with rapture.

In none of the plans does the exchange-room occupy the whole of the main story. In the section of the design of "*Omnis spes mea*" it appears to do so, but the plan asserts that a third of the floor is set off for subordinate rooms. In every elevation, however, the great windows of the exchange-room are continued along the whole front, and one of the difficulties of treatment thus surmounted — by shirking it. The ingenious author of "*Omnis spes mea*," however, has further evaded it by putting three heavy transoms in each of his great windows, behind all of which there may be a lurking floor, while his competitors present in each a vast and serene expanse of plate-glass. "*Omnis spes*" designs for his main entrance a projecting pavilion, not on Broadway nor on either of the streets at the end of the building, but upon a court some 20 feet wide at the rear, and this pavil-

ion, thus concealed from the vulgar gaze, contains the principal entrance, and not only the principal, but the only staircases and elevators of the enormous building, so that one must perambulate the structure to arrive at one of the offices on the Broadway side of an upper floor. There are five of these office floors on the transverse section, but only two in the longitudinal section, though such trifling discrepancies as these are too frequent in the plans to be very noticeable. It is noticeable, however, that some of the offices are lighted only from the top of a round-arched window, the transom of which is at a level with the floor, and that water-closets are so placed that the soil-pipes must pass through the exchange-room.

The elevations of this design, however, show a much more experienced hand than is visible elsewhere in the competition, and an effort for an expression of dignity. The main elevation, that on Broadway, is unfortunately lacking. The other two present the long windows of the exchange-room as round-arched openings, the spandrels decorated, apparently in carved brick or terra-cotta, and the windows arranged with a sense of the value of repeated openings upon so long a front. It is only on the north and south fronts, the shorter fronts, that the arcade is unbroken. In the middle of the east front, facing the narrow court aforesaid, it is interrupted by the projecting staircase pavilion. The Broadway elevation, as has been said, is missing, but the ground plan indicates only a porch at the basement story. An emphatic cornice passes above this main story, and over this is an attic of three stories which contains the offices. The style of the building is Renaissance, as is that of the only other design which can be classified at all; and an "attic" of three full stories, with a flat roof, puts a considerable strain on the architecture.

When we have done with "*Omnis spes*," however, we have done with the architectural interest of the exhibition. "*Adsum*" shows a willingness to be decorous which seems commendable in view of the performances of the two remaining competitors "*Qui Tam*" and "*Ceres*," but not much more can be said of his design. It is also classic, and his windows, each of which is a round arch flanked with narrow lintelled openings, though singular enough, are treated with an evident endeavor to be quiet and to avoid monstrosities. The section of this plan, by the way, indicates a curve at one end of the exchange-room which is not explained by the plan. Above the exchange-room, the division from the offices is marked by a wide carved frieze, which emphasizes the division from the plainly treated offices above, but unfortunately emphasizes it so much as to have the result of cutting the building into two halves. Although careful to avoid monstrosities in his elevations "*Adsum*" has broken out in a tin cupola, of extreme vulgarity, I regret to say, and in an entrance equally unfortunate.

There is no desire to avoid monstrosities on the part of "*Qui Tam*," who is plainly a seeker after novelty and variety. There is much novelty and much variety in his work, so much, indeed, that his work cannot be classified except as "Peorian." His design is of the kind which one might expect to see in a competition by local architects for the State House of Kansas, say, and which was probably seen in competitions in New York in the year 1850, but which it seems very strange to see in an important competition in the year 1880. The vast elliptical arches of the main story, the oriel hung at one end thereof, the rudimentary tracery of the arch in the pavilion, the sphinxes at the entrance, the vigor and variety of the stone-dressing throughout, all, all are Peorian. Even more Peorian if possible is the interior treatment, the clusters of iron columns which support the roof, their tall and "rusticated" pedestals, the rings which encircle them, the flutings of the middle third, the festoons under the capitals. One can almost see the gildings which shall transmute them from the pure white Peorian into the Hudson River steamboat style.

Peorian as "*Qui Tam*" is, even more of disdain — and ignorance — of the effete architecture of the old world is expressed in the design of "*Ceres*." "*Ceres*" has introduced more variety even than "*Qui Tam*." Indeed one is inclined to believe that he has conscientiously striven to embody in his design every feature which he has admired in every building which he has seen. I did an injustice to "*Ceres*" in saying that the main treatment of all plans was alike. "*Ceres*" has an interior court, with a skylight, in deference to public opinion. But he has covered the court with a solid roof, so that all the light of which the exchange and the offices in the court get the benefit comes from a range of openings under this roof at the top of the court. He has also in some cases put the sills of the windows in these offices at the height of seven or eight feet from the floor. One regrets also to observe that two of the large windows of the exchange itself which appear in the elevation are not visible upon the plan. But these discrepancies must be pardoned to genius. "*Ceres*" was thinking of his architecture, and of its variety. His principal entrance at the centre of the main front is a classic composition of columns and a pediment. The entrances in the towers are deeply recessed, with nook shafts and arches, and treated in Gothic. The angles of the main towers are fortified by two enormous pilasters, with fully developed capitals, one over the other. The fenestration of each story above the exchange-room is entirely different from that of every other. One has segmental arches, one pointed arches, a third round holes. The treatment of the dormers is that with which we are familiar in suburban villas designed by rural carpenters, where a wooden window-frame sustains an acroterium, wrought by the cunning jig-saw, and a like ornament is nailed to each side at its base. Certainly more variety was never seen in a public building. In miscellany and heterogeneity, "*Ceres*" leaves absolutely nothing to be desired.

One runs into levity in talking about these things. And yet, it is a serious matter that a competition for so important a public building, which might be and ought to be a noble public building, should come to so ignoble an end as this, not from lack of competent architects, nor even because competent architects did not compete, but simply for want of competent judges. For really, while the worst of these designs shows such a lack of training that it is simply surprising that an architect capable of it should be invited to compete for an important public building, the best no more than the worst exhibits that mastery which, out of a complicated scheme of details and requirements, evolves a whole, as parts of which the details fall into their places. The best of these four plans is as distinctly as the worst an aggregation, not a development. It is melancholy to have to add that the feeling of the members of the exchange, who will have to vote upon the designs, is reported to be in favor of the design of "Ceres." The selection of that design would, however, be an appropriate enough completion of this Survival of the Unfittest. S.

THE SECOND CHRISTMAS-CARD COMPETITION.

NEW YORK, March, 1881.

THE most recent topic of artistic interest has been Mr. Prang's second Christmas-card competition. The public has thronged Mr. Moore's gallery, led on not only by its usual interest in pictures of all sorts, but also by the fact that prizes were here in question; and prizes are very unusual accompaniments of exhibitions in this country. As the competition was anonymous, moreover, there was the further excitement of guessing at artists and at probable prize winners. We all went in the beginning to make mental bets as to the successful cards, and later, I fear, to test the jury's knowledge rather than our own by the correspondence or want of correspondence between prediction and result. There has been as much growling in word and print as there was last year about the justice of the awards; but I noticed that while many found fault with the cards that had been selected, no one suggested any that could have been preferred to them — pretty good proof, I should say, that the judges had done the best thing possible under the circumstances. The first prize was awarded to Mr. Vedder, the second to Miss Dora Wheeler, the third to Mr. C. C. Coleman, and the fourth to Miss Rosina Emmet. The jury also recommended that Mr. Coleman's prize be made equal to the second one.

I cannot say that the exhibition as a whole seemed to me greatly superior to that of last year. A vast number of designs were offered besides the five hundred on exhibition, but they did not see the light upon Mr. Moore's walls. One cannot but rejoice at the fact if they were really worse than the average that were shown — that were exposed would, perhaps, be a better word, and one need not take it exactly in the French sense, either. The technical incompetence of the average exhibitor was beyond description; and, even when the work appeared moderately good by comparison, it showed only in the very rarest cases any actual proof of true artistic instinct or rudimentary artistic training. It was surprising, I think, in view of the value of the stakes that more among our competent artists had not entered the lists. Perhaps another year they may do so for they have certainly received every encouragement in such a course. The jury gave the preference in every case to accomplished work and not to the incompetent expression of pretty ideas. All four of the prizes fell to professional artists, two of them gentlemen of long standing and much distinction in their profession, and the other two young ladies who have studied hard for years and are locally very well known as the authors of good painstaking work of various kinds. Both of them have been attendants at the "Art-Students' League" in New York, and both are now pupils of Mr. Chase. Miss Emmet is known, of course, as the first-prize winner of last year, and Miss Wheeler will be remembered by readers of this journal in connection with its notices of the Philadelphia Exhibition last autumn. The jury have just published a card in the daily papers giving the reasons upon which their awards were based. It is, as I have said, a strong encouragement to artists, properly so-called, for they explain that their preference was founded chiefly upon the fact of good workmanship, it being imperative that the public should be made to understand that that is the one essential quality in all art of every kind, no matter to how small a purpose it be applied. Mr. Vedder's and Mr. Coleman's cards were not particularly appropriate to Christmas, but they were artistic and valuable in themselves, and so were rewarded. Miss Wheeler's was selected for its decorative effect and its appropriate symbolism. But we may be sure, in view of the principle just stated, that it would not have been selected for these reasons had it possessed any serious technical faults. Miss Emmet's was considered a good — that is, well-executed — example of a simple treatment of the problem.

Mr. Vedder's card was an admirable specimen of workmanship, perfect in drawing, balanced and clear in design, and strong in execution. It was upright in shape and divided into two unequal sections, in the upper and larger of which one saw against a blue sky the three-quarters figure of a woman. The lower division contained scrolls with the motto, and with spaces for inscribing the names of sender and recipient. The border, scroll-work, and general conception showed perfect unity of design, — certainly a valuable quality in decorative art, and a quality most rare to-day when the fact that two bits of ornament are pretty in themselves is often held to be a sufficient reason for linking them together. The style of the card was certainly not original with Mr. Vedder. It was a bit of adapted late

seventeenth or early eighteenth century work, reminding one strongly of the portraits in elaborate settings one is apt to find in books of that period. But it was style of a decided and consistent kind, and therefore had an actual artistic value. There was, as I have said, very little reference to Christmas in the design; very little reference, as I heard some one remark, to anything in particular. The woman's figure was like a dozen others that Mr. Vedder has baptized with different names — solid, heavy, matronly, and voluminously draped, the fluttering ribbons about her head giving her a little the air of a Medusa. The color was dark in tone, not showy or striking, but artistic and good in its way, and capital, I should think, for printing. The card, as a whole, was not one that the average purchaser will be likely to find "pretty," but any artist who gets a copy will be able to pin it up on his studio wall and not find it out of place.

Turning to Miss Wheeler's card, we found something very different. Christmas symbolism was here abundant. The card was nearly square, and the centre showed three angels blowing on trumpets, their action interpreted by the accompanying motto: "Shout with joy, ye mortals, pray, For Christ was born on Christmas Day." A crescent moon, the star of Bethlehem, and the attributes of the shepherds filled the remainder of the space, the whole being combined in a decorative and not in a pictorial way. The border was in raised work, giving something the effect of stamped leather, and intended, I presume, to be embossed when printed. The drawing was open to criticism, I think, in one or two points — in one of the horns, and in the legs of one angel. The drapery was a little "tortured," and the attachment of the peacock wings a little uncertain. But these minor faults, which the artist can easily correct before the card is printed, were amply compensated for by the many excellencies of design and execution. The design was original, appropriate and spirited, and, with the exception of the details to which I have referred, was very well carried out. The color was especially good. The angels were in dull green against a background of shining green-bronze. The star and other emblems were in gold and silver, and the border showed delicate tints in star-like patterns. This beauty of color and gilding will make the card very attractive, while there was so much skill and delicacy shown in the employment of the metallic tints that there will be none of the glare and vulgarity that often result from their use. I shall find myself much mistaken if, when this card is printed, it does not prove more effective than any of the four, or than any of those issued last Christmas.

Mr. Coleman's card was a most beautifully executed bit of still-life painting. A wall formed the background, the upper part composed of stained glass, the lower of gold tapestry. In front was a table covered with bric-à-brac and a tall branch of the flowering shrub so dear to Mr. Coleman's brush. A tiny picture, hung against the wall, represented the Nativity. This and the motto, "May you have many, many happy days," and a long inscription in tiny characters on the pages of an open book, summed up the Christmas element. If the card can be printed so that the exquisite execution will still be apparent, it will be a most lovely little souvenir.

Miss Emmet's card was well drawn and colored in a simple style. There was a central panel relieved against a background composed of a tracery of mistletoe boughs and a crowd of cherub faces. On the panel was shown the figure of a lovely young mother, in the most artistic of gowns, kissing a small boy who hung around her neck in a charmingly natural way. The card was artistic and complete in every way, and in execution a great improvement on Miss Emmet's of last year. It will successfully appeal for patronage next winter to all who like simple clever work, as well as to all the mothers, aunts and other relatives who delight in some especial and very demonstrative small boy. Whatever one may say of the competitive cards as a whole, there can be no doubt that the prize-cards of this year are an improvement in beauty of effect and in artistic execution upon those that were selected a year ago.

Miss Emmet showed much wisdom in presenting a card so different from the one she offered then. Naturally, Mr. Prang did not want duplicates of those already so familiar, and one was surprised that Mr. Sandier, for example, should have overlooked that fact and have sent three elaborate designs, exactly like his of last year in coloring, and two of them very similar in motive. Each of these two was, in my opinion, more attractive than its successful predecessor; but it would have been impossible to have awarded the prize again to him. There was also a card which seemed to have been done by the same hand that painted the fourth-prize winner of last season; if not, it was by some enterprising competitor who had thought imitating another's success would be the best way to score one for himself. Mr. Vedder exhibited a second card which was more ambitious than the one that gained the jury's favor, but although it was beautifully executed, it was not very attractive. It represented the Goddess Fortune sitting on the hub of a wheel that was inclined at an angle of forty-five degrees, and having, apparently, a good deal of trouble to keep her balance. Miss Wheeler also sent a second card representing angels in two parallel rows. It had some good points but the color was not nearly as good as in the one preferred to it.

There were but few other designs on the walls that called for comment. One, however, representing a queer, mouse-like little elf riding on a withered leaf was wonderfully well conceived and executed. If not available as a card it should be seized upon by some publisher as a book illustration, for nothing could be cleverer or merrier. It is an axiom, I believe, that no one can paint an actual portrait who has not seen the original. If this be so, there is one artist who has an

intimate personal acquaintance with the typical elf. There was, moreover, an oil-sketch copied from Mr. Bridgman's decorative panel, *La Cigale*, which was very pretty and ably executed, but scarcely pretended to be a card of any kind, for it did not show so much as a motto. One also noticed several delicate copies of old illuminated missal borders, surrounding vignettes so weakly conceived and carried out that the value of the card was *nul*. Nor could, in any case, the preponderance of white ground seen through the delicate tracery have made an effective card.

"*Essayez*" signed a well-drawn card representing a child looking through a barred window. The idea was pretty and if the child had not been so very ugly would have produced a charming effect. Some oil-sketches, very inappropriate for printing, were not badly done, and No. 419, marked "R," showing a sleigh which had carried some tiny children on a charitable errand, was very nice indeed, and might well be purchased for use by Mr. Prang.

As one glanced again, in conclusion, over the whole exhibition, one almost forgot the inefficient execution of the average designs in wonderment over the lack of common-sense displayed in their conception. The ideas were alternately trivial, grotesque, irreverent, or simply ludicrous. As a sample, and not the worst, I may mention a card showing a large portrait of Gen. Garfield, backed by two American flags and bearing a threadbare campaign cry for its motto. In view of the mottoes in general, by the way, one was led to wish that some one would offer a prize for poetry, as well as for designs, appropriate to Christmas cards.

I have given a good deal of space to the detailed consideration of these cards, for this journal is one that especially interests itself in decorative art. And while Christmas mementoes are not very important things in themselves, they may yet be held typical—when their production is so sedulously encouraged and so munificently rewarded—of the general condition of decorative art in our midst. In view of this exhibition one cannot but think that the lesson the jury has taught the public was the one it needed most—the lesson that good workmanship is the necessary foundation of all good work. One is anxious to see what will be offered at the competition for designs for art-needlework to be held in May. There will then be no suggested "idea" for the incompetent artist to fall back upon. The art as such will be the only thing considered by producer and by jury, and we may hope that untrained efforts will be in a minority.

Another effect of this past competition upon the observer was that he was forced to wonder at the supreme self-confidence, not only of the ignorant worker who offered his wares, but of the ignorant spectator who criticised them. One might think the latter would, on finding his own judgment controverted by that of such men as Mr. La Farge, Mr. Stanford White and Mr. Colman, be inclined to think that perhaps he himself had been mistaken or had been too hasty in making up his mind. Listening in the exhibition-room, however, to the crudest criticisms, one did not find them accompanied by any such humility. The verdict of incompetent was as constantly passed upon the able and conscientious judges as upon the drawings they had selected. To be a rejected aspirant in such a competition may be disappointing, but one is at least anonymous. A more disagreeable and more thankless fate must be to serve as a member of the disinterested little jury.

M. G. VAN RENSSELAER.

METHODS FOR JUDGING OF THE WHOLESOMENESS OF DRINKING-WATER.—II.

THOSE who are familiar with the most recent sanitary experience realize that it is the *quality* rather than the *absolute quantity* of organic matter that is the most important factor in the sanitary judgment of a drinking-water. A water which contains a large amount of one kind of organic substance may be much more wholesome, or far less unwholesome, than that which contains only a small amount of another kind. It is a matter of actual experience that a water, notwithstanding it contains a large amount of nitrogenous organic matter capable of yielding albuminoid ammonia, may be found to be practically wholesome, or at least may be drunk for a long period without apparently producing any injurious effects; while, on the other hand, a water which contains *even a minimum* of organic substance capable of yielding albuminoid ammonia may nevertheless contain or develop the *materies morbi* or unknown causal "something" of a specific disease.

While Wanklyn's ammonia method is certainly of very easy and expeditious performance, yet great caution is necessary in the formation of an opinion from the analytical results; and thus it may frequently happen that serious mistakes may be made through hasty conclusions from insufficient data. It is said very truly that a really very bad water will rarely, if ever, escape condemnation, and an exceedingly pure water will undoubtedly be shown to be pure, so far as this is possible by any chemical investigation. But by far the larger number, of well-waters more especially, lie between these extremes, and must take their place under the head of doubtful purity, and it is in the judgment of the latter that the analyst is liable to error, even to the extent of rendering an opinion diametrically the opposite of that of another chemist.

One of the precautions necessary to be taken in these and in fact in all cases is to avoid placing any *strict* reliance, for purposes of judgment, on the standards of purity which have been published in the treatise on Water Analysis by Wanklyn, and quoted in a number

of recent works on hygiene. It is impossible to lay down exact standards or rules for judgment, which will hold good for all countries and all localities in any one country. Such "standards" are, as Prof. Nichols observes, only of relative value, and different kinds of water cannot be judged by the same standard.²

We must, first of all, discover, by numerous and carefully selected analyses, what are the chemical characteristics of good wholesome water in any given locality. These data then form a standard of purity for all waters of one kind within that particular district. A general knowledge of the geological and mineralogical character of the soil and rock of that region is an important factor in such a standard. A knowledge of the chemical character of the ground-water of the district, entirely free from any artificial conditions, such as polluted soil, is necessary for judgment of the well-waters of the same district.

As regards different kinds of waters we must distinguish between

I. Ground-waters, which include shallow well waters.

II. Deep well waters, including artesian wells.

III. Surface-waters, such as rivers, streams, lakes and ponds.

These three classes have essentially different characteristics, and one should not be compared with another without making proper allowances for these differences. It is thus incorrect to compare well-waters near Philadelphia directly with the water of the Schuylkill River, as is sometimes done.

Upon reflection it will be readily understood that well-waters are not commonly subjected to the oxidizing influences to which river-waters are so freely exposed, such as direct sunshine, air in motion over the surface, and aeration due to falls and currents in the river. Some mineral salts from factory refuse, from coal mines, etc., have possibly a modifying influence which is absent in the case of wells. Now there is a general feeling, among the medical profession and sanitarians, that organic matter which is more liable to rapid decomposition is more dangerous to health than more stable organic substances. In river-waters there are greater chances for this decomposition to have been completed, leaving such substances as may be of the latter class in much greater proportion.

Hence a larger amount of organic matter will be allowable in river-water in the condition used for drinking than in well-waters, provided that the supply is taken at a sufficient distance from the places where polluting material enters the stream.

Another point of importance in forming an opinion on the wholesomeness of a surface-water is the natural character of its source. A river-water which originates in peat bogs, or the tributary streams of which pass through a peaty district, will contain extract of peat in solution throughout its whole course. These waters certainly should not be compared, without qualification, with river-waters which do not come in contact with peat, but nevertheless yield on analysis an equivalent amount of albuminoid ammonia derived from sewage contamination.

Thus, for instance, the water of Lake Cochituate, one of the sources of supply for Boston, probably contains considerable extract of peat or other "vegetable extractive matter," which is, so far as we know, perfectly harmless in drinking-water. So, also, is this the case, I believe, with the water of Jamaica Pond, which also supplies a part of Boston. Now, the Schuylkill River water supplied to Germantown, and taken from the river at Flat Rock Dam, pumped at the Roxborough Water-Works of Philadelphia, gave, according to my own analysis, during the winter and summer of 1878, almost exactly the same results as Prof. Nichols's analysis of the Cochituate and Jamaica Pond waters in 1873 and 1875, respectively, and with the same degree of variation at different times. But, while the analytical results are the same in both cases, a comparison of the general characters and sources of these waters convinces me that we cannot call the Germantown supply nearly so pure from objectionable organic matter as the Boston water. I think we may safely say that the Schuylkill contains no extract of peat, and the albuminoid ammonia undoubtedly comes from material which is far more objectionable. At times, also, since 1878, this albuminoid is as much as one-half greater than the largest amount from the Cochituate water in 1873, as supplied at the Massachusetts Institute of Technology, and nearly twice as great as the average amount of the latter. At such times the water has a perceptibly disagreeable taste and a slight odor, and this occurs usually when the water in the river is very low from drought.

In general, it may be said to be very necessary to know the exact source of any water submitted for analysis, the physiographical and geological characteristics of the locality from which it comes, and the location of any sources of pollution, such as cesspools, privies, drains or sewers near the place of water-supply. Whatever method of analysis is used, or in whatever way performed, the necessity of a knowledge of the previous history of the water is not diminished. Even with this knowledge, as is stated by Prof. Nichols, cases may arise in which an experienced chemist will be unable to give a decided opinion.

When the river-water is pumped up into distributing reservoirs, the water from near the surface and at the bottom of these reservoirs should be submitted to analysis, so as to locate more accurately any trouble which may exist.

Furthermore, attention should be especially called to the fact previously referred to in this paper, that it is probably not so much a

¹ Abstracts of lectures delivered before the Franklin Institute, by Reuben Haines, December 1880, in which additional original matter has been introduced.

² Prof. W. R. Nichols's paper on "Drinking-Water and Public Water-Supplies," in Dr. Buck's *Hygiene*, vol. 1, page 303.

question as to how much organic matter, *per se*, may be consumed without danger in our drinking-water. This point does enter, it is true, into the consideration. But it is *mainly* a question as to whether there is any danger of the water being contaminated with faecal discharges from human beings suffering from infectious disease. It has been found that water containing so large a proportion of organic matter as to be called "loaded" with it may be drunk with impunity by some persons, or, at least, without any disastrous result being apparent for a long time; provided it does not also contain the "contagium" or unknown "something," whatever it may be, which will of itself develop specific disease. As soon as this "something" appears to be added by a previously diseased person, an epidemic of this disease breaks out among those who consumed the water, and who until this time remained apparently healthy.

Inasmuch as we have no means whatever of discovering the presence of this "contagium," because we know nothing of its character, any contamination with sewage is dangerous in proportion to its amount, and to the nearness of the pollution in time and place. Some authorities in Holland were once asked how much organic matter was allowable in drinking-water without danger, to which they replied that drinking-water should be, like Cæsar's wife, above suspicion. It may be laid down as a positive rule that a suspicious water is always a dangerous water.

The extent of dilution of the sewage in a river with a large body of moving water of good quality is undoubtedly an important factor, but this may be entirely counterbalanced by the fact of the water-supply being taken very near a large sewer.

Upon these considerations lies the importance of the estimation of the nitrates and nitrites in a drinking-water. These salts are among the results of the decomposition of organic nitrogenous matter, and are hence an evidence of what was either previously contained in the water, or which became oxidized by filtration through soil or by other means of decomposition before it reached the water. The greater the amount of nitrates above the natural limit, the larger the amount of organic material which has hitherto undergone oxidation, and hence the greater the danger, in the case of wells, of the soil becoming saturated and clogged with organic substance until a part of it will escape filtration and pass unchanged into the water. Moreover, this part which has escaped oxidation may contain, for aught we know, the poison of a specific disease. Hence it is important, in order to form a correct opinion of the sanitary character of a well-water, never to omit the proper tests for nitrates and nitrites, unless all the other quantitative tests concur in pronouncing the water pure. If any one of these gives a doubtful answer, the nitrates should always be tested for, and if more than traces are present, it will be best to make a quantitative estimation of them. It is true that nitrate may probably also result from reduction of the true ammonia, but this fact does not render the estimation any the less important, for this ammonia itself, under ordinary circumstances, results from the decomposition of the organic matter, and in shallow wells is usually regarded as evidence of pollution with urine.

We should remember, however, that deep wells may furnish a very pure water, containing very little organic matter, but large quantities of free ammonia, chlorides, and nitrates, all present in the same sample, which are derived from certain kinds of soil, such as the sand beds beneath the London clay and about 250 feet below the surface.¹

Mr. Ekin² considers it necessary to estimate the amount of nitrates and nitrites in every instance, and states that a small increase in their amount should materially influence the judgment to be given. He states that he has been forced to this conclusion by facts ascertained in the course of his somewhat wide experience in the analysis of about 2000 samples of water, many of which were directly connected with cases of typhoid-fever.

The estimation of nitrates, etc., in a river-water, however, has manifestly not the same significance which it possesses in the case of well-waters, on account of the superior influences effecting oxidation in the former, and the probable absorption of nitrates by aquatic plants. As regards *nitrites*, it is stated that delicate tests have not revealed their presence in the Thames River water.

In partial corroboration of the opinions of Mr. Ekin and Dr. Fox, as to the necessity of the estimation of nitrates, I will contribute a case in my own experience. I refer to the epidemic of typhoid-fever in Spring Alley, or Royal Street, in the southernmost part of Germantown, which occurred last summer during the last week of July and first of August. There were upwards of forty cases, including four which proved fatal; and all, except one, were grouped in the immediate neighborhood of a well situated at the intersection of two narrow streets. This well, known as the Spring Alley well, has had a wide reputation as a remarkably strong, pure spring for, it is said, nearly a century. It is also said that typhoid-fever never occurred in this locality before 1880. The well is only ten feet deep, the ground slopes down towards it from three sides, and a brick sewer passes within about ten feet of it, at about the same depth and having two badly choked up inlets directly opposite the well. An overflow drain connected the well directly with the sewer, *entering the latter near the bottom* at a short distance beyond the well. On the 5th of July a very heavy rain occurred, which deluged the vicinity of the well. As the sewer has, at this place, scarcely any fall, it must have become suddenly clogged up with filth, and backwater must have occurred through

the overflow drain directly into the well, polluting it, no doubt, to a very great degree. It was subsequently found by Dr. A. F. Müller, of Germantown, that a case of typhoid-fever, probably imported from elsewhere, had occurred in a neighboring house about six weeks before the heavy rain, and that the drain from this house connected with the sewer above the well. There were also other circumstances probably contributing to the pollution of this well. Another well, frightfully foul, but in no way connected with the sewer, being on higher ground, and the sewer lying between the two wells, increased, no doubt, the malignity of the epidemic. All the cases of fever developed at nearly the same time. The exceptional one, before mentioned, which did not occur close to the well, but at a house two blocks distant, was a child in a family who had sent to the first-mentioned well for water, shortly after the pollution took place. All the people of the locality, and especially all those who had the fever, had used the Spring Alley well; some of them continued to do so after the fever broke out, some had also used the water of the other well, but none had used the city water from the Schuylkill until after the outbreak.

The chain of evidence thus seems unusually strong and clear. My analyses of this well-water were made during the prevalence of the epidemic and while new cases were developing. They are as follows:—

	Parts per million,	I.	II.	III.	IV.
Free ammonia		0.034	0.010	0.010	0.058
Albuminoid ammonia		0.116	0.080	0.090	0.140
Chlorine		2.3	2.6	2.3	2.4
Total solids		30.5	—	—	28.0
Nitrogen as nitrates and nitrites	Grains per imp. gal.	—	1.94	—	2.45
Nitrogen as nitrates only		—	0.096	—	0.032

The samples were collected in the order of the numbers respectively, Aug. 10, 12, 13 and 21; the last three early in the morning and the first at noon. No. II was taken nine hours after a heavy rainfall lasting 1½ hours. No. IV was collected half an hour after a short but heavy shower. The water, nevertheless, remained quite clear. All the samples were bright and colorless, with no odor, and having a refreshing taste. The water was quite hard.

In order to judge properly of these analyses, I give, for the sake of comparison, analyses of a hard and of a soft water which are typical of the purest well-waters in Germantown and perfectly free from contamination:—

	Free NH ₃ .	Albuminoid NH ₃ .	Chlorine.	Solids.
Hard water,	0.010	0.050	2.2	34.0
Soft water,	0.014	0.034	0.7	6.0

The hardness in Germantown waters is due chiefly to sulphates. It will be noticed that the chlorine in the Spring Alley well water was not greater than is usual in pure hard waters here. What is still more remarkable is, that the other well in Spring Alley contained not a particle more chlorine, notwithstanding that enormous amounts of free ammonia (from 2.7 to 5.2 parts per million) were present, with large excess of albuminoid ammonia, and large amounts of nitrates and considerable nitrite. In these two cases, therefore, *freedom from excess of chlorine did not prove freedom from contamination by sewage*, according to the rule usually stated. Three privies stood close to the second well, hence the chlorine test was of no value at all in this latter case. It may be added that the test was repeatedly made with the same result.

The following well-waters of Germantown, which I analyzed in 1878, are examples of what we may find in wells in highly dangerous situations, which tend to confirm Mr. Ekin's statement, that dangerous wells may contain a small amount of organic matter along with considerable nitrate, and that in such cases the opinion to be rendered will depend very much on the presence of the latter:—

	Parts per million,	I.	II.	III.
Free ammonia		0.040	0.022	0.016
Albuminoid ammonia		0.046	0.058	0.080
Chlorine	Grains per imp. gal.	3.2	3.2	2.7
Nitrates		considerable.	considerable.	large am't.
Nitrites		traces.	—	—

Hardness in all these waters, about 12°, due to sulphates chiefly.

The situation of the wells is as follows: No. I, Mechanic Street west of Morton Street, in close proximity to a number of privies which are on somewhat lower ground; soil: loose micaceous sand. No. II, Haines Street, near M. E. Church; pump on street pavement, exposed to infiltration from gutter, etc. No. III, Haines Street, east of Hancock Street; well under kitchen porch. The owner felt anxious about it, and asked to have the water analyzed. I have not heard of any sickness having been attributed to any of these wells.

The chlorine is very slightly in excess of the amount frequently found in pure hard waters of this district, and it would, therefore, by itself, scarcely be considered a suspicious circumstance.

I will conclude this paper with the analysis by Prof. Nichols of a well-water in Fairhaven, Massachusetts, published in the Massachusetts State Board of Health Report for 1879, which will be interesting in comparison with the foregoing analyses. It should also be stated that my analyses have shown that many other wells in Germantown are *far more polluted* than this one, particularly those in crowded localities.

Well in Fairhaven, Massachusetts.

Free ammonia,	0.01 parts per million.
Albuminoid ammonia,	0.13 " "
Chlorine,	3.3 " 100,000
Total solids,	20.3 " "
Nitrates,	Not in large amount.

¹ Dr. Cornelius B. Fox. "Sanitary Examinations," page 140.

² "Potable Water, How to form a Judgment on the Suitableness of Water for Drinking Purposes." By Chas. Ekin, F. C. S. London: 1880.

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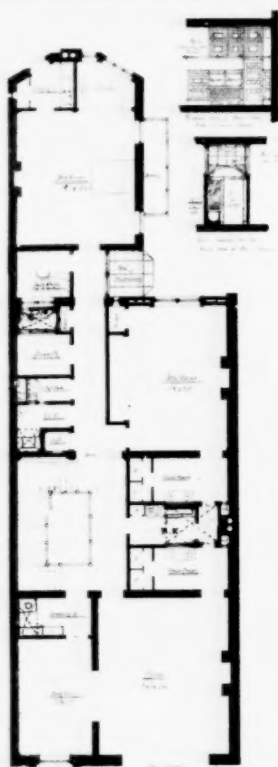
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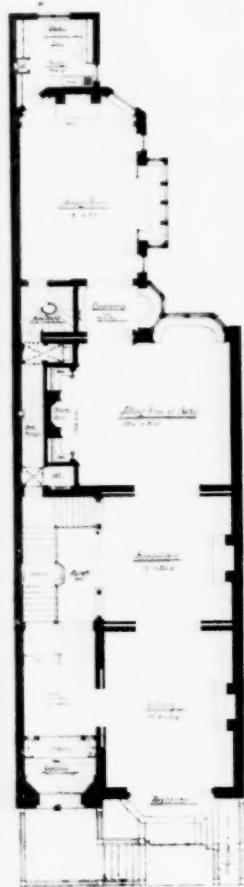
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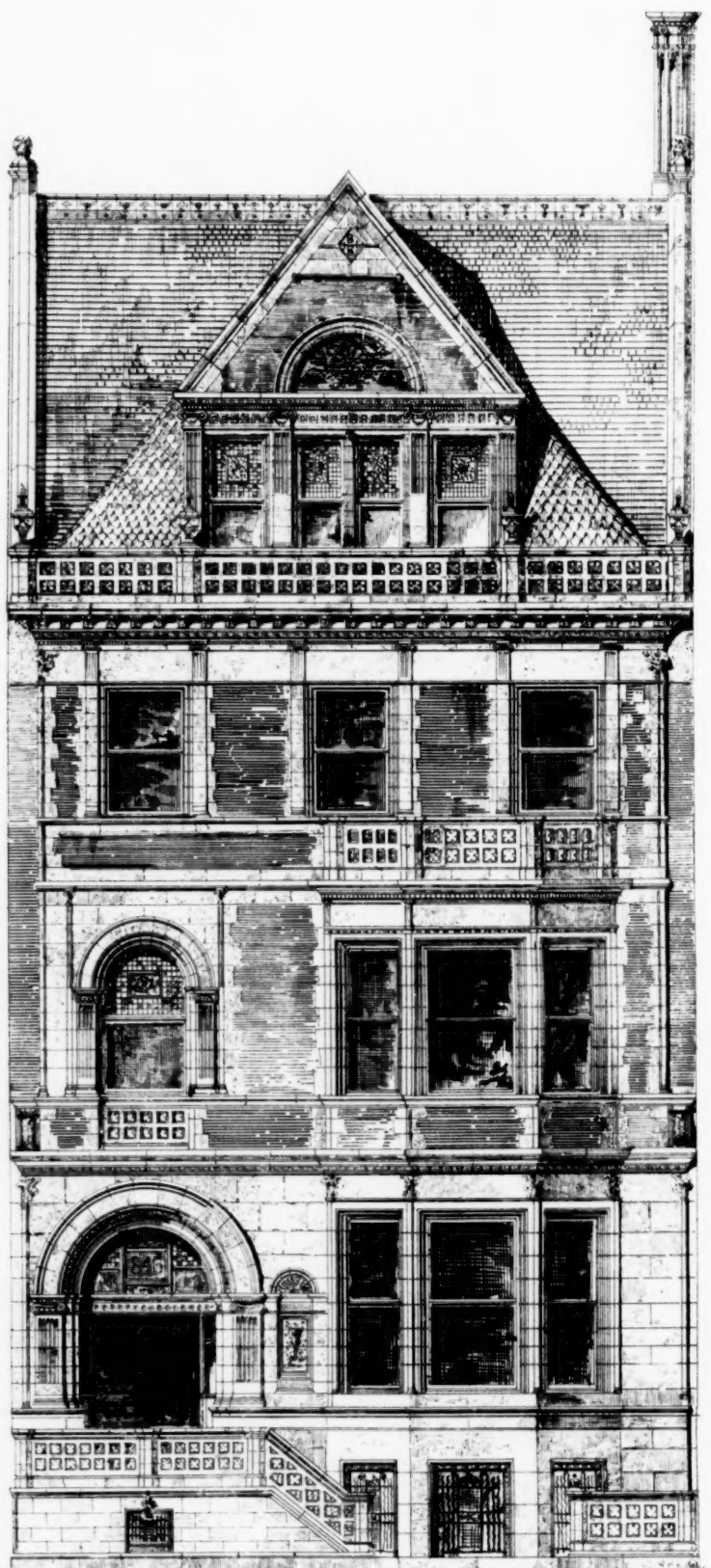
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SECOND FLOOR



FIRST FLOOR



Front Elevation

R. H. Robertson Archt.
52 W. 5th St. N.Y.



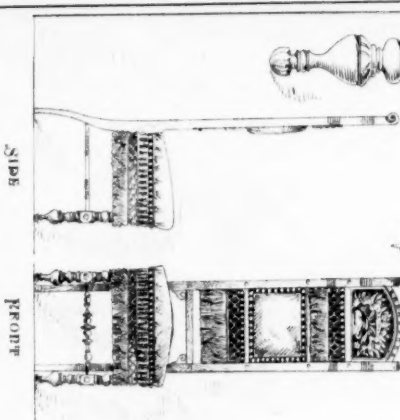
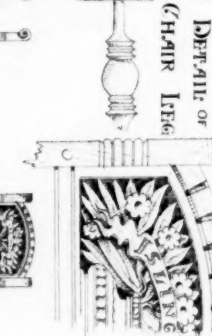
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• IN THE HALL AT SLINGTON.

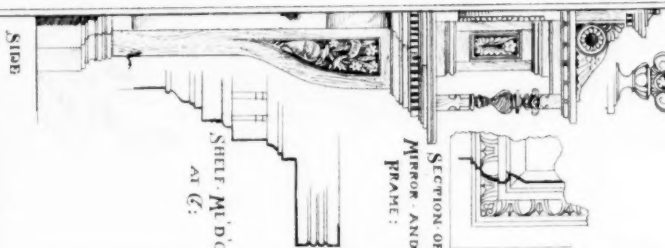
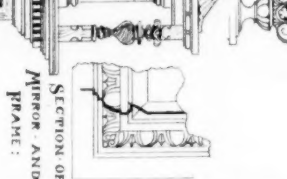
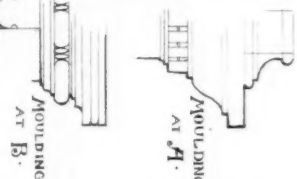
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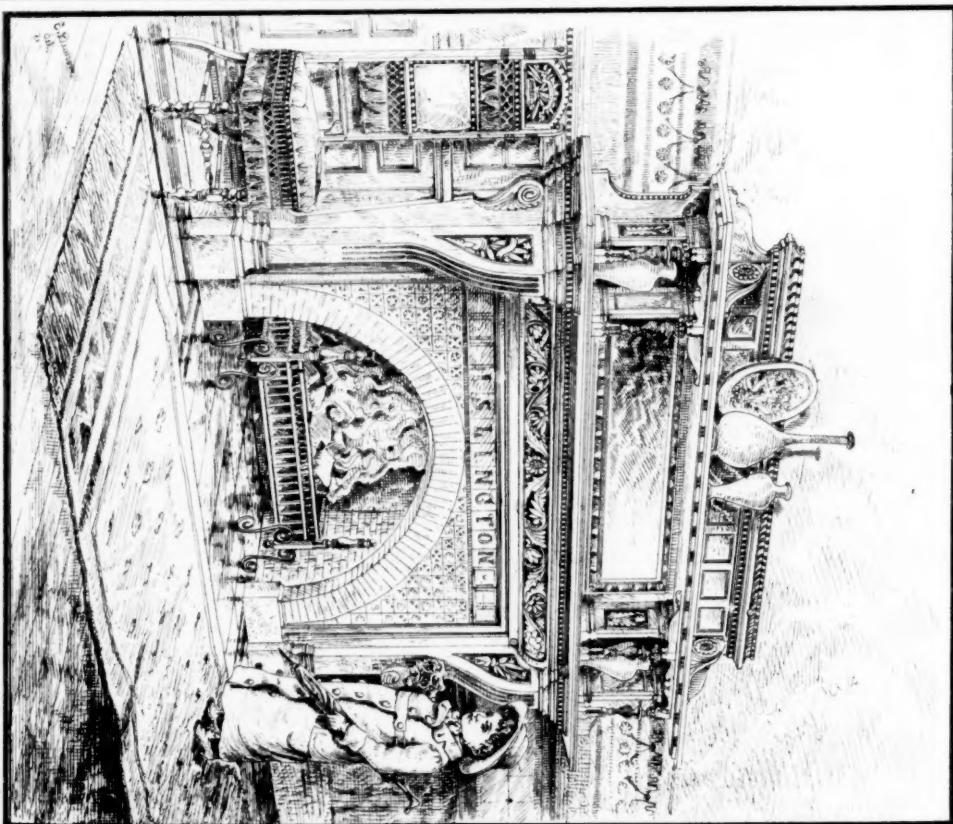
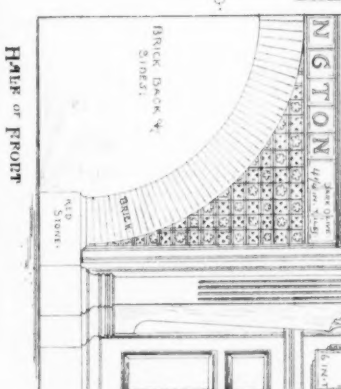
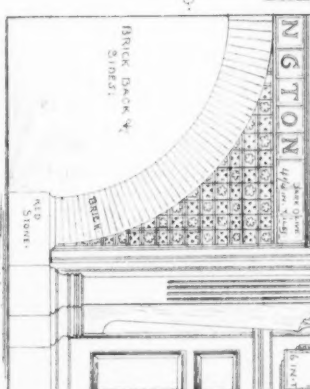
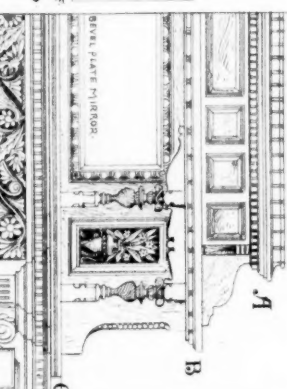
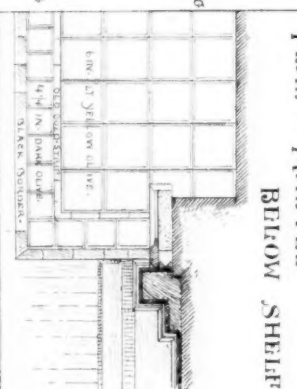
THE HAIR AND DETAILS.

THE WOODWORK OF CHAIR & MANTEL PIECE IS OF SLASH OAK, STAINED DARK. THE COVERING OF CHAIR, RUSTLE-LEAF, STAMPED LEATHER; TRIMMED WITH ROSEBERRY LACE. FINISHED WITH BLACK VELVET DRAPED AROUND DRUMS, PANELS.



THE HALL MARTIN AND DETAILS.

THE WALL TREATMENT IN HALL IS — OLD GOLD BODY, WITH
DIE BAND OF TWO SHADES OLIVE, WITH PEACOCK BLUE AND BLACK
OLD WOODWORK of DADO — BLUE, WHITENUT, WITH NEW TOP OF
STAINED OAK, AND OLIVE TILES. — {Loves ART TILE }





The privy-vault was one hundred feet distant from the well. The soil was composed of gravel and loam. On the 7th of September the husband was taken quite ill with typhoid-fever, and his dejections passed freely into the privy-vault. On September 30, and during the next twelve days, his wife and six children were successively taken with typhoid-fever, and another child took the same disease a few days later. Thus, every member of this one family who had used the water of the well was ill with typhoid-fever. The water was probably poisoned by the excreta of the husband, and the usual incubative period intervened before the disease appeared amongst the rest of the family. The chlorine in the water was found to be one part per one hundred thousand more than the natural amount for that locality. In order to compare it with that in the other analyses given above, multiply by $\frac{7}{10}$ to reduce to grains per imperial gallon. The date of the analysis was October 17, within a day or two of the development of the last case of fever.

THE ILLUSTRATIONS.

ST. ETIENNE DU MONT, PARIS, FRANCE. TRACED OVER A PHOTOGRAPH BY MR. MAXWELL WRIGLEY, NEW YORK, N. Y.

DWELLING TO BE BUILT ON FIFTH AVENUE, NEW YORK, N. Y. — MR. R. H. ROBERTSON, ARCHITECT, NEW YORK, N. Y.

THIS house, for which the excavations are now being made, will be commenced early in the spring, and built, with slight modifications of plan and elevation, as shown in the preliminary studies published to-day. The width of the lot is 34 feet, and the material to be employed in the front Belleville grayrock and pressed bricks. It is proposed to make the construction fire-proof throughout.

DESIGN FOR A COURT-HOUSE FOR AIKEN, S. C. — MR. W. M. AIKEN, BOSTON, MASS.

The requisitions for the proposed court-house at Aiken, S. C., specified a building of two stories: "The first floor, containing offices, divided by two passages at right angles; the second floor, reached by a circular stairway entering from a lobby in the front part of the building, to contain a court-room, two jury-rooms, a small room for the judge, and a small balcony for the crier." In the accompanying plans the staircase has been kept isolated for structural as well as decorative reasons. In view of possible enlargement of the building, the addition of large dormers would secure several available rooms on a third floor, the staircase tower being then carried one story higher, thus obviating the necessity for other foundation walls, etc. The court-room is remote from the noise of the two streets at whose intersection the building is placed. A lobby at the head of the stairs is arranged with blinds, by which means a free draught across the court-room may be had at any time through the wide folding-doors; in winter glazed sashes take the place of blinds and a corner fireplace affords heat and ventilation. Ventilation in the court-room is insured by two fireplaces, by the air-space in the roof overhead, and the cross draughts from doors and windows. The foundation is of South Carolina granite, quarry-faced; walls of first story of brick, with four-inch air-space; the second story and roof covered with cypress shingles; the tower being entirely of brick. The only cut stone used is for steps and sills. The amount appropriated for the building was \$16,000.

MANTELPiece, ETC., FOR R. M. PULSIFER, ESQ., AUBURNDALe, MASS. DESIGNED BY MR. EDWARD DEWSON, BOSTON, MASS.

LEGAL NOTES AND CASES.

Street Obstructions. — Indictment for Nuisance.

THE Supreme Court of Indiana in *The State vs. Burdette*, decided Jan. 25, 1881, has considered the question of obstructions upon sidewalks and in the streets as public nuisances.

An indictment was found against Burdette, a fruit-vender, for maintaining a public nuisance in keeping a permanent fruit stand on a street in Indianapolis. The stand was twenty-three feet long, three feet and eleven inches wide, and seven feet high, and the sidewalk was fifteen feet wide. The prosecuting attorney asked the court to instruct the jury that it is sufficient to sustain the indictment, if the State proved the existence of a permanent obstruction in the highway, but the charge was qualified to the effect that the State was bound to show, also, that the obstruction was a material interference with the comfortable enjoyment of the sidewalk. The jury found a verdict for the defendant, and the State appealed.

Judge Elliott delivered the opinion of court, as follows: A street is a public highway, and a sidewalk is a part of the street. 7 Ind., 9; 21 lb., 277. The common law doctrine was that a public highway was a way common and free to all the king's subjects to pass and repass at liberty, and that an unauthorized obstruction was indictable and punishable as a nuisance. Nor was it necessary to show anything more than that there was a permanent obstruction of the public way. 28 N. Y., 396; 13 Met., 115; 1 Iowa, 439. It is true that we have no common law offences, and that criminal prosecutions can only be maintained for such offences as are prescribed by statute; it does not, however, follow from this that there is no such thing as an indictable public nuisance under our statute. It has been held that there is such an offence. 37 Ind., 431. If the case just cited should be followed to its logical consequence it would require us to hold that what was at common law a public nuisance is such under our

statute, and that permanently obstructing a highway is *per se* a public nuisance because it was always such at common law. We are inclined to believe this to be a correct ruling. The permanent obstruction of a public street is in itself an unlawful act essentially interfering with the free use of property as well as the comfortable enjoyment of life. The right of adjacent proprietors in and to the highway is one of which the legislature itself cannot deprive them without compensation, nor can the municipal authorities, broad and comprehensive as their powers are, devote the street to private purposes. 7 Ind., 38; 32 American Reports, 286. Broader and more comprehensive rights than those of adjacent proprietors, as well as a far more numerous class of citizens than those owning lots abutting on the street, are, however, injuriously affected by the unlawful obstruction of a public highway. All citizens are affected, for a highway is a road which every citizen has a right to use. The right to pass and repass is not restricted to any part. Angell on Highways, § 226. The question is not whether travel was interfered with, but whether there was an unlawful encroachment upon a public street by the erection of a permanent obstruction. Upon the facts in the present case, the rule of law must be that the obstruction is *per se* a nuisance, or we might have on the same street, indeed, on the same square, an obstruction pronounced by one jury to be a nuisance, and another of the same character and dimensions, by another jury, decided not to be a nuisance.

There is a distinction between the temporary occupancy of public streets for commercial or building purposes, and its permanent obstruction. 12 Ind., 605. Sidewalks may be temporarily occupied for private purposes, when authorized, but even with respect to temporary use of such streets, it must be borne in mind that it may go to the extent of becoming a public nuisance. 32 Penn. St., 65; 13 S. & R., 403; 6 East, 427.

Nuisance. — Abatement. — Defence of Great Outlay and Employment.

A farmer applied for an injunction against the defendant, a lead company, upon the ground that the fumes and vapors discharged from the chimneys of the works were blown upon the farm, and destroyed the vegetation. Upon a reference the master reported that the works were of the largest capacity in the whole country, and that the precautions taken to prevent lead escaping through the flues were exhaustive of all known remedies, but that the vegetation of the farm was destroyed, and the value of the farm greatly diminished, that the works were a nuisance to the plaintiff, and reported a decree that an injunction be issued, requiring such a use of the works as would prevent the escape of the poisonous discharges. The injunction was issued, and on appeal to the Supreme Court of the State, it was decided: 1. That the lead works were a nuisance to the adjacent lands. 2. That it is not a sufficient answer to a bill for an injunction to restrain a nuisance that the outlay upon the works has been very great, and that a large number of workmen are employed, and that the stoppage of the works will cause great injury to the owners and the workmen. 3. That the plaintiff has not waived his right to ask for an injunction by not having given notice of his objection before or at the time of the erection of the works. *Pennsylvania Lead Co.'s Appeal*, Supreme Court of Pennsylvania, Jan. 3, 1881. H. E.

Negligence of Municipality. — Falling of Bricks Piled in Street for Building Purposes. — Danger. — Notice.

An action was brought against the city of New York to recover \$20,000 for injuries suffered from the tumbling down of a pile of bricks in the street. Upon the trial it was proven that the bricks had been placed in the street, temporarily, to be used in the construction of neighboring buildings; that the pile fell from no apparent cause; that there was no danger evident, and that no warning of any danger had been given to the city. On the motion of defendant's counsel, the complaint was dismissed, the court being of the opinion that the city was not liable, since no notice of any danger had been given; and that the city could not be charged with notice, as the time between the existence of any defect and the occurrence of the accident was not sufficient to raise the presumption that the danger must have existed and been noticed. *Rehberg vs. New York*, New York Common Pleas, Feb. 25, 1881. H. E.

Contract. — Sale. — Agreement.

A sued B for damages for the breach of his contract to take a quantity of his bricks. B wrote to A that he would take one million bricks at a price named, and inclosed a check for \$100 on account of the purchase, but to this offer A made no reply. B did not call for the bricks, and the price falling, A sued for the difference as damages. The court dismissed the complaint upon the ground that there was no contract proven, since no agreement was shown to exist. There had been a bid made for the bricks, and a sum sent to bind the bargain, if the bid should be accepted; but it was not accepted; there was no obligation upon A to consent to the sale, nor to answer B's letter, and B, failing to hear from him, was justified in considering the transaction at an end. H. E.

Negligence of Contractor. — Injury to Workman. — Falling in of Excavation.

A workman was engaged in laying water-mains in New York, and becoming alarmed at some parts of the earth falling upon him, complained to his employer, who was standing above, of the danger of the excavation falling in, and was about to stop work; but the contractor told him to go on, that there was no danger. In a few min-

utes the bank fell in upon him. The workman brought an action for damages for his injuries, and the jury gave him a verdict of \$200. *McNamara vs. Crimmins*, New York Common Pleas, Feb. 25, 1881.

H. E.

What are Family Portraits Worth?

A family portrait is not an article of "great and intrinsic value," when coupled in an exemption clause in a carrier's receipt with "specie, drafts and bank-bills;" but the measure of damages for its loss is the value to the owner, and not the market value, and so evidence that it was the only one extant would be competent. — *Massachusetts Supreme Court*.

Employers' Liability.

The first decision for damages under the Employers' Liability Act has been a strange one. A Board school-master accidentally dropped his pen from the desk and thereby injured an eye of one of the scholars, so that he eventually lost the sight of that eye. The parents obtained a decision of £100 damages against the school Board, as responsible for the accidental damage done by its servant.

THE LATE ARCHITECT OF THE LOUVRE AND THE TUILERIES.

DURING the year just closed, an architect of some fame and distinction in his native land of France has passed away comparatively unnoticed. Many persons have not remarked that Lefuel had ceased to be, and many more persons who may have seen his death chronicled only a few weeks ago will not have known how prominent a place he held in the history of modern French architecture. Charles Blanc, the great French art-critic, has devoted over three long columns of the *Paris Temps* — a serious and well-written and reliable paper, be it observed, very different, indeed, to the *Figaro* and its fellows — to the consideration of M. Lefuel's architectural genius. There are, says M. Blanc, two widely different paths to be followed in the pursuit of architecture — the scientific and the aesthetic; and two architects have flourished in our day in France, who have perfectly represented the two branches, Duban and Lefuel. Duban had a certain poetic gift; he pondered on the possible moral effect of a fine architectural study; his mind lingered over the subtle connections between matter and thought, and he saw in architecture not only practical utility, but the eloquent expression of a sentiment. Lefuel, on the contrary, was a man of downright positive turn of mind, and his foremost preoccupation was always on behalf of that which was necessary and commodious. He was perfectly well informed respecting the qualities of various materials, their relative solidity and weight; and the two most prominent points in a building, in his opinion, were its solidity and its adaptability to the purposes and exigencies of life. If Duban committed an architectural fault, it would be likely to be in favoring the beautiful at the expense of the practical; while Lefuel's fault would be in sacrificing the beautiful in favor of the practical.

Lefuel's father was an architect who had had the management of some important architectural enterprises at Versailles, and the son's tastes naturally turned towards architectural pursuits. Young Lefuel was put in the hands of M. Huyot, an excellent master, who soon found that the love of architecture was innate in his pupil. M. Huyot was a real artist with broad views, who had travelled a great deal and seen a great deal, and whose wanderings in Greece, in Constantinople, in Asia Minor and in Egypt had given him correct ideas of the architecture of the ancients. He was, it is generally believed, the first in this century to explore the classic ground of Athens.

In 1833 Lefuel, who was then twenty-three years old, competed for the Prix de Rome, but he only obtained the second prize. It was not till 1839, the year when Gounod had the grand prize for music, and when Hébert had the grand prize for painting, that Lefuel had the grand prize for architecture. The French Academy at Rome was then under the directorship of Ingres, who, by the high character of his genius and the incisive humor of his manner, governed his pupils with a firm hand. Under his direction, the students worked cheerfully, and at the same time seriously and steadily. Lefuel, in particular, seemed gifted with an extraordinary power of will and work. He was somewhat better off, in a pecuniary sense, than his fellow-students, and he made the rooms allotted to him extremely comfortable and even elegant, and as there was no general meeting-room then at the Villa Medici, the students used to meet by common consent in Lefuel's rooms, and many friendships that lasted a lifetime were cemented there. While Hébert was at Florence studying the early masters, he fell down in the street and broke his leg. Directly Lefuel, who was his intimate friend, heard of this, he started immediately for Florence, and took up his place at his friend's bedside in the Via dei Canzainoli, and finished his architectural work on a wretched little table, utterly unfitted for such uses, and on which he could not dispose the necessary implements. His architectural designs were conspicuous for their correctness and precision; indeed, it was often said that no one surpassed him in these points. At that time every one was crying up Duban's drawings, in Rome as well as in Paris; and these were certainly extremely effective, and had an irresistible charm, due to the artist's keen imagination and depth of emotional feeling. Lefuel was more sober in his studies, and was content with a perfectly truthful rendering. When once he had reached a rigorous and incomparable correctness in his design, he

left his admirers to find poetry in the exactitude of his reproduction. He agreed in spirit with Keats, who said that, —

"Beauty is truth, — truth beauty."

M. Charles Blanc tells us that he spent several hours in examining the drawings Lefuel executed in Rome, Naples, Sicily, and Tuscany. These were all together in a portfolio, and Lefuel had always during his lifetime refused to show them, declaring that, for an architect, early drawings and designs are a means, not an end. These early drawings are, in M. Blanc's opinion, specially fine, and show how intently Lefuel had studied. In copying at Rome the tomb of Sabelli — a Middle Age monument erected in the Basilica of Araceli — Lefuel had perfectly rendered its character, its delicacy, its refinement. At Naples he thoroughly studied the forms and decorations of the antique vases, and the style of the bronzes found at Herculaneum and Pompeii, — the candelabra, the lamps, tripods, perfume-boxes, drinking-cups, flutes, shells, and musical instruments, — rendering each outline with perfect skill, and indicating the hardness and glitter of the metal. Lefuel reproduced with the utmost exactitude every architectural fragment that he came across. A few strokes of his brush sufficed to give a serpentine curl to a cornice, to give majesty to a palm-leaf; his color was bold, and even crude at times, but was always correct.

The characteristic features of Lefuel's drawings are their striking truth, and the fact that you do not feel, as you look at them, that the artist has been led astray by his feelings. Contemplating Duban's drawings, you feel instinctively that the man's heart beat over his work; that he chose his moment and his light. Lefuel's drawings, you perceive at once, come from reason. They are the products of a lucid intelligence and indomitable will, a keen and sure observation. They reveal no enthusiasm, no poetry; but they show that such a man would be able to fit a building for its destination, to master the difficulties of soil, to fulfil the conditions imposed upon an architect by the climate, the materials, the customs, and the exigencies of a public work. Lefuel was an excellent constructor, a clever engineer, as well as a learned architect.

When he had passed his five years in Rome, Lefuel returned to Paris, and opened a studio, where he took in pupils. During five years he devoted himself to private architecture, and it was not till after the Revolution of 1848 that he was called upon to work at the Château de Meudon. After that he was summoned to Fontainebleau, where he built at the right wing of the court called Du Cheval-Blanc a theatre that is the admiration of all art-critics, who find it perfectly adapted to its purpose — that of holding a small, and friendly, and intimate audience, accustomed to the utmost elegance and comfort. At Fontainebleau, Lefuel felt himself in congenial surroundings. He had always inclined to the Renaissance school, and his art was based on the study of Roman art. He had never been induced to go back as far as Athenian art, and had never been led to compare Athenian architecture with the travesty of it due to the Roman emperors. It seems odd that the pupil of a master who had studied among and reproduced the monuments of Greek art, should have displayed such antagonistic tastes, but the fact is undeniable. Lefuel was all his life thoroughly imbued with the art of the Renaissance, so that when, at the death of Visconti, Lefuel was called upon to become the architect of the Louvre and of the Tuileries, he had nothing to acquire, nothing to alter in his views of art; he simply passed from Serlio to Philibert Delorme, from Primaticcio to Pierre Lescot. As architect of the Louvre, he had some difficulties to face. Visconti, in his plans, had given the new buildings only one story, in order that the old Louvre, which had two stories, might remain pre-eminent. Napoleon III, however, had other ideas, and in the joining of the Tuileries to the Louvre wanted to make a handsome effect, which would also be a useful effect as regards the many needs of the empire. Lefuel had not the strength of mind nor the necessary authority to prevent the changes in Visconti's plans, and he had to considerably modify the original designs. He consented to give the new building two stories; then he consented to the undue particularization of the corner pavilions; he consented, in fact, to overcharge the new buildings with ornamentation that, in the minds of many connoisseurs, spoiled the general effect of the splendid quadrangle that was defaced by the terrible episodes of 1871.

One must judge the architect of the Louvre according to the work he himself conceived, and which was not imposed by his imperial director, and M. Charles Blanc lays special stress upon the beauty of the vaulted galleries beneath the Louvre library that lead from the Palais Royal Square to the Carrousel Square. These are the works of a master-spirit in architecture, as is also the magnificent staircase leading to the private room of the minister of finance, the beauty of which cannot be seen by the public, for the staircase is only trodden by eager claimants whose souls, sunk in the keen desire for some special favors, are lost to art. On the other hand, every one can cross the Place du Carrousel, and every one is grateful to the architect who opened a roadway from the Place du Carrousel to the Quais. Lefuel was always at his best when there were any difficulties, and he was especially pleased at the work he achieved in giving unity and charm to the hitherto disconnected bits of splendid architecture.

Lefuel put his mark also upon the Pavillon de Flore, and its symmetry and its consecutiveness were due to his genius.

It would be impossible to fully describe all Lefuel's work in the Louvre and at the Tuileries. Says M. Charles Blanc: "To con-

struct a riding-school and stables conspicuous for their magnificence and comfort in one of the southern courts of the palace; to decorate the official and private rooms with pomp and splendor and grace; to contrive ornaments for doorways and for mirrors, arabesques for panels, rosaces for centre-pieces, corner ornaments for ceilings; to design garlands of acanthus-leaves for columns of doorways; to temper the brilliancy of the colors and gilding by the most delicate of neutral tints; to deck a black marble mantelpiece with silver ornamentation; to make a fireplace a work of art, — all this was but child's play to this indefatigable artist whose early studies had given him an inexhaustible supply of resources and examples."

Some of Lefuel's best works remain comparatively unknown to the public; the private hotel of the Foulds in the Faubourg Saint-Honoré; the splendid monumental mantelpiece, executed after Lefuel's designs, in the ducal palace at Florence; the private hotel of Mr. Riggs in the Rue Murillo; and other examples are by no means familiar except to the appreciative art connoisseur of Paris. To the general public, Lefuel's name is and will remain known, principally, as the man who stepped into Visconti's place as architect of the Louvre and the Tuileries. — *The Builder*.

DIFFERENT MODES OF ERECTING IRON BRIDGES.

At a recent meeting of the Institution of Civil Engineers, the paper read was "The Different Modes of Erecting Iron Bridges," by Mr. Theophilus Seyrig, M. Inst. C. E., of Paris.

The various modes were ranged by the author in four classes: 1, Erection upon staging; 2, Erection by lifting bodily; 3, Erection by rolling-over; 4, Erection by building-out.

1. In erection upon staging, the timber piles or standards were either spaced in rows at equal distances apart, or clustered together, leaving wider spaces between the clusters. The use of standards equally spaced was illustrated by descriptions of the timber stagings employed in the erection of the railway bridges over the Theiss, at Allgö, in Hungary, with 328 ft. span; over the Erdre, at Nantes, in Brittany, with 321 ft. span; and over the Thaya, at Znaim, in Moravia. As examples of clustered standards, the timber stagings were described of the Pont du Carrousel, Paris, with 157 ft. spans; Bordeaux bridge, with 253 ft. span; the railway bridge over the Lek, at Kuilenburg, in Holland, with 492 ft. span; and Bommel bridge over the Waal, with 393 ft. spans. A light iron platform suspended from chains was employed for erecting El Kantara bridge, in Algeria, at a height of 393 ft. with 184 ft. span. Light iron lattice girders, supported on clusters of timber piles, were used for erecting the railway bridge over the river Inn, at Königswart, in Bavaria, with three spans of 227 ft.; but the intermediate piles in the middle span having been swept away by a flood, a temporary wrought-iron framework, stretching across the entire opening, was erected by overhang, its panels advancing from the piers at each side, and meeting midway. Erection upon staging involved the cost of a temporary structure, the whole of which had to be removed after the completion of the permanent work. In many cases this cost was compensated by rapidity, convenience, safety, and cheapness in the erection of the bridge. The danger incurred by staging constructed across rivers liable to floods and drift was exemplified by disasters to the staging at Hamm railway bridge in Rhenish Prussia, crossing the Rhine with 340 ft. spans; by settlement of the staging at Kuilenburg bridge; and by the mishap at Königswart bridge. Otherwise staging afforded safety and facility for erecting the permanent work, which latter was subjected to no undue strain prior to its completion. Rapidity of erection upon staging was illustrated by examples of bridges put together on the American system of pin connection, without riveting.

2. Erection by lifting bodily had its origin at the Britannia bridge in 1848, the four large tubes of 470 ft. in length being constructed on shore, and floated upon pontoons into position between the piers. The plan was imitated at the Saltash bridge for the two large spans of 455 ft.; and at the railway bridge over the Weser, near Bremen, in 1867. The railway bridge at Moerdyk, in Holland, having fourteen openings of 328 ft., had lately been erected in a similar way; by aid of the tide the girders constructed upon the bank were floated on pontoons, first to an intermediate halting place, and thence to the bridge piers. At Niagara bridge, spans of 197 and 248 ft. were erected upon a floating staging, consisting of a platform carried on pontoons. Erection by lifting bodily admitted of large girders being constructed conveniently and in a safe situation, whence they were afterwards floated in a few hours to their intended position; the difficulties were thus concentrated at the fewest points, and the danger was limited within the shortest time. It required, however, the employment of a special gang of bargemen; and involved a considerable outlay for pontoons and tugs, which on a very large work was more than recouped, but not on a small number of spans or light girders.

3. Erection by rolling-over is applied to continuous girders extending over two or more spans. It involved the principle of planning the work with regard not only to its final purpose, but also to the means whereby it was to be carried out. The facility of erection by rolling-over led to its original adoption for the Sarine railway viaduct at Freiburg, in Switzerland, where the roadway was constructed on the hill, behind one of the abutments, and then, by means of windlasses, was pushed bodily forwards upon rollers across the successive openings of 160 ft. between the piers. A similar method was carried out for Stadlau bridge at Vienna, crossing 132 ft. spans. At Waldshut bridge over the Rhine, in Switzerland, the windlasses were replaced by ratchet-wheels keyed on the roller-spindles, and worked

by levers, whereby the rollers were transformed into driving-rollers, and the use of hauling-ropes was dispensed with. Erection by rolling-over presented the advantages that the main work of constructing the bridge was carried on in safety and convenience upon the bank, the actual rolling was attended with but little expense, and the plant used could be again employed. It was limited, however, to continuous-girder bridges; the bottom booms of the girders must be of 1 section; and the lattice sides must be strong enough to withstand considerable compression, and prevent the bottom booms from bending dangerously. The bottom booms were strained by repeatedly passing over the rollers, with changing direction of the strains; and the joints of the lattice-bars were liable to be injured thereby. For the replacing of existing bridges by new work in a very speedy way, the new roadway had been erected alongside the old one, and had then been rolled into its place sideways. On railways in Hungary and Austria a number of timber spans, varying from 26 ft. to 210 ft., had thus been successfully replaced. A description was given of the operations at Hernad bridge, on the Oderberg and Kaschau line, where two 82 ft. spans were thus renewed with only about four hours' interruption of traffic. In the renewal of one of the Prater bridges on the Austrian State Railway, near Vienna, the new bridge of 350 tons weight, constructed of bowstring girders of 200 ft. span, and carrying two lines of way, was rolled into position upon a live set of old cannon-balls, instead of upon rollers; the same device had previously been used in renewing a single-line bridge over the Waag, at Tornocz. Rolling had also been applied to the temporary timber staging employed for the erection of the permanent structure. This method was illustrated by the successful erection of Saint Just Road bridge over the Ardèche, in France, with 152 ft. clear openings spanned by arched wrought-iron ribs. Another example was Regoa bridge over the Douro, in Portugal, with spans of 162 ft. and 263 ft.; here the rolling timber stage got so strained in the earlier operations as to require the support of intermediate timber piers in crossing the later spans.

4. Erection by building-out, in which the permanent structure was made use of for its own erection, dispensed altogether with extraneous appliances, these having been successively less and less depended upon in the modes of erection previously described; lifting bodily required less plant than staging, and building-out still less. El Cinca bridge, in Spain, the first erected by building-out, had an arch of 230 ft. span, each half of which was erected as a cantaliver or wall-bracket projecting from the abutments until their ends met midway. At the steel bridge over the Mississippi, at St. Louis, with two side arches of 502 ft. span, and a central one of 520 ft., the half arches were erected from the masonry piers, proceeding on both sides of the piers simultaneously, so that the lateral strains should counter-balance one another. The most recent example of erection by building-out was the railway bridge crossing the Douro, near Oporto, with a crescent-shaped arch of 525 ft. span, the height of the extrados at the crown being 200 ft. above the water. The abutments and the iron piers on each bank having been first erected, and the continuous roadway girders having been pushed across them far enough to overhang the arch 105 ft. at each side, the arch itself was then erected, panel by panel, from the springing, the overhanging panels being successively supported by wire ropes tying their outer extremities to the horizontal girder overhead, where it rested on the pier. The principal details connected with the erection of this bridge were described at length, as an example of work carried to a completely successful issue under conditions insuring great safety. Exceptional cases apart, iron bridges of all kinds, from arched bridges to lattice swing-bridges, admitted of being erected without the use of auxiliary girders or staging; and under good management it seemed likely that such independent modes of erection would most frequently prove economical.

TREES AND LEACHING CESSPOOLS.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Sirs, — The suggestion of B. F. Leeds on page 105, for a deep well, planted about with deep-feeding and water-loving trees, as a substitute for the sub-surface irrigation system, will not, in my judgment, be found satisfactory in practice. The mechanical difficulty might arise that the filling of the well with roots would obstruct the free discharge of the sewage and, even though there were no such obstruction to the purification of the sewage by vegetation, we should lose the good effect of oxidation in the soil during those seasons when, vegetation being dormant, oxidation is our only reliance.

In fact, I attach much more importance to the oxidation of the impurities of the sewage — *intermittently applied* — by the contained air of the soil than to the effect of grass roots. So far as it has been possible to observe the operation of the system, the purification is complete when there is no vegetation on the ground, or when vegetation is entirely inactive during the winter season.

Respectfully, GEO. E. WARING, JR.

BOOKS ON CONCRETE.

GAINESVILLE, TEX., Feb. 13, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Sirs, — I wish information on concrete as a building material, together with information as to manner of preparing and using it. Can I get such from the *American Architect*? if so, from what numbers? From what other source can I get useful information on the manner of preparing and using it, and the proportions of cement

and sand, lime and gravel. By answering you will greatly oblige,
Yours Respectfully,
C. B. H.

[The best work on the subject is Reid's "Practical Treatise on Concrete," published by E. & F. N. Spon, London and New York, which contains an immense amount of practical and reliable information. The book is English, and treats therefore mainly of English cements, so that our correspondent would do well to procure in addition General Gillmore's standard work on limes, hydraulic cements and mortars, published by D. Van Nostrand, New York, which will furnish information regarding many American limes and cements, besides giving valuable suggestions for investigating the qualities of new varieties; a very essential point, since no reliance can be placed on any concrete until after rigid tests have been applied to it. — EDS. AMERICAN ARCHITECT.]

BOOKS ON VENTILATION.

NEW YORK, March 1, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Sirs,—Will you have the kindness to inform me through your valuable paper the name of the best and most reliable treatise on ventilation and where I can procure it? By doing so you will confer a great favor on a constant and admiring reader. J. E. T.

[The best treatises on ventilation are Morin's "Etudes sur la Ventilation," Peclet's "Traité de la Chaleur," and Bosc's "Traité du Chauffage et de la Ventilation," which can be ordered through Chaistern or any other foreign bookseller. The English works on the subject are numerous, but no one of them is quite complete. Dr. D. F. Lincoln's article on the "Atmosphere" in Vol. I of "Buck's Cyclopaedia of Hygiene," forms one of the best and most modern treatises, and Dr. Billings's "Letters to a Young Architect," now publishing in the *Sanitary Engineer*, are excellent. Mr. Tudor's paper published in the *American Architect* of Jan. 22, 1881, is sensible and useful, and many articles have appeared from time to time which will repay reading. The advance of the science in this country is now so rapid that the student should make himself familiar not only with the literature of the subject, but with the best practical examples, such, for example, as the Madison Square Theatre, and Dr. Hall's church in New York, the more modern hospitals, and so on. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS.

THE ENGINEER states that Clarke's apparatus for clearing off snow has been used in London. It consists of a series of metal plates placed in an inclined position, one above another, directly beneath the man-hole, so that the snow falls upon them. Beneath each plate are gas-burners, by which heat is imparted to the plates and the spaces between them.

A MAINE TREE.—Recently a white-pine tree was cut on the "Milford Timber Tract," which for size, length, soundness, and symmetry of proportion has challenged the eager lumbermen to produce an equal in the local forests of Maine. The circumference of the tree at the butt is 14 feet (diameter 48 inches); at the top, as far as used, 33 inches; the length, between the above dimensions, 103 feet, scaling 3,559 feet. The tree was divided into six logs, the largest of which scaled 1,003 feet. Thus perished a monumental reminder of the palmy days when lumbering was profitable in Maine.

DANGEROUS BATHS.—An inquiry was held at the Royal Oak Hotel, Oakfield Road, Pease, as to the death of Mr. Charles Frederick Deacon, 30, of 1 Minden Villa, Anerley Road, Anerley. It appeared from the evidence that the deceased was a solicitor. On Monday evening last, about half-past 11 o'clock, he went to the bath-room for the purpose of having a warm bath. The water was heated by an atmospheric burner. At one o'clock in the morning his wife was alarmed to find that he had not returned to their room. The door was forced, and Mr. Deacon was found leaning against the wall dead. Mr. J. Sidney Turner, surgeon, of Stanton House, Thicket Road, Upper Norwood, said he had made a *post mortem* examination of the body of the deceased. The brain, the ventricles of the heart, and all the internal organs were healthy. The appearance of the intestines and the organs led him to the conclusion that death had resulted from inhaling carbonic acid gas and carbonic oxide. The atmospheric burners used for heating the water of baths similarly constructed to the one used by the deceased were extremely dangerous. They threw off a considerable quantity of poisonous fumes. There was no ventilation in the bath-room at the time Mr. Deacon met his death. Carbonic acid gas and carbonic oxide did not kill by suffocation, but by direct poison. The effect upon the brain was very similar to the inhalation of chloroform. He had no reason to suspect that the deceased had committed suicide. During the last fortnight the witness had attended six persons who were similarly attacked after using a similar bath. The jury returned a verdict that Mr. Deacon died from inhaling carbonic acid gas and carbonic oxide. — *The Builder*.

SALT WATER FOR CITIES.—In the ensuing session of Parliament leave will be asked to bring in a bill for the incorporation of a company with powers to construct conduits, reservoirs, a pumping-station and other works between Lancing, in Sussex, and London. Powers are asked to enable the company to take and supply sea-water for public and private purposes, to connect by branch pipes the property they may acquire for selling and distributing the water along or adjacent to the lines of conduits mentioned, to erect standpipes or other apparatus in the roads or streets along which the conduits are situated, and to construct all necessary conveniences and works for collecting, filtering, storing and distributing sea-water. Further powers are asked to enable the company to purchase the property required, by compulsion or otherwise, to supply sea-water by meter, to demand and recover rates, etc., to make special provision for protecting the works, preventing frauds and imposing penalties, to incorporate certain provisions of general acts, and to make agreements with sanitary and other authorities. It will not be many years before all the great seaboard cities of this country will use salt water for sanitary, manufacturing and fire purposes. When properly introduced, under sufficient pressure to give good fire streams from the hydrants, great conflagrations will be rendered impossible. — *The Spectator*.

THE EMPLOYMENT OF WATER IN BLASTING.—It appears that at some of the fiery coal-pits near Barnsley, in Yorkshire, England, there is a system of blasting in vogue where water is used in addition to gunpowder, with the best possible results. The system is simple in the extreme, and, so far from its being costly, it is an economy, for, in the blasting operations performed with water in conjunction with gunpowder, a greater amount of work is done with considerably less powder and the powder is rendered harmless. The value of the foregoing will be best appreciated by a short description of the operation. Ordinarily, blasting with gunpowder is done somewhat as follows: A bore-hole is made in the face of the coal about two inches in diameter and four or five feet deep. Into this hole a powder-cartridge is inserted, with a slow fuse attached; the hole is then tamped, that is to say, it is filled with any available dry refuse rammed in tight, the fuse is lighted and the cartridge fired. In this operation a flame, very dangerous in fiery pits, is created, and carbonic acid and sulphurous acid gases and smoke are generated. Blasting with water and gunpowder is performed in the following manner: Into the bore-hole is inserted a powder-cartridge, with fuse attached; next to the powder-cartridge is inserted into the bore-hole a tube containing water. These tubes should be as large as the bore-hole will admit, and of any convenient length, the longer the better. They may be made of any convenient cheap material—thin tin-plate or of stout brown paper turned round on a wooden roller and pasted together, the ends closed with corks; the bore-hole is then tamped, the fuse lighted and the cartridge fired as usual. The result of this operation may be briefly summed up. The powder, in exploding, bursts the tube containing the water, the rending force of the powder is extended through the water by the well-known principles of hydraulics, demonstrated years ago by Bramah, over the enlarged interior area of the bore-hole, due to the space occupied by the water-tube. A much larger quantity of coal is thereby brought down with a smaller quantity of powder; the heat given off by the burning of the powder and the gases converts a portion of the water into steam, the elastic force of which assists in the operation of blasting; the steam and water together put out the flame and flash of the powder, and absorb and neutralize the greater portion of the gases and smoke resulting from the explosion. It will readily be seen that herein are met together economy and safety by the adoption of a system simple as it is effective, and it is to be hoped that, in the best interests of humanity, our large and intelligent coalowners will not be slow to adopt an amelioration in their present crude and dangerous practice of blasting, which will tend, in a great measure, to make explosions in coal-mines a thing of the past, rather than of almost daily occurrence. — *Iron Age*.

COST OF TRANSPORTING THE OBELISK.—At the close of the obelisk presentation exercises at the Metropolitan Museum of Art, a letter was read from Lieutenant Commander Goringe, giving the following statistics as to the cost of bringing over the obelisk:—

Net cost and expenses of removing, transporting, and erecting the New York obelisk.....	\$73,844.03
Net cost and expenses of removing, transporting, placing and repairing the pedestal, steps and base.....	28,732.00
Total net cost.....	\$102,576.03

This sum does not include the cost and expenses of the steamer, which must be recovered from her sale. The word "expenses" is used to designate the amounts that have been paid for the use of the money needed to carry on the work. These amounts aggregate \$15,973.03. Deducting this sum from the total cost, the actual cost of lowering and removing, transporting 5,382 miles by water and 11,520 feet by land, and erecting the New York obelisk and its pedestal and base is \$35,603. After the arrival of the obelisk in the port of New York, Mr. W. H. Vanderbilt advanced the sum of \$45,000 in three instalments towards defraying the current expenses of carrying on the work. On February 1, he paid \$18,732, and on February 7, \$40,000, making \$103,732 in all. The steamer *Dessau* is the property of the gentlemen who advanced the money to purchase and repair her and gave her up to me without reserve for the sole purpose of transporting the obelisk, pedestal and base. These gentlemen will receive and are clearly entitled to all the profit that may be derived from her sale, in return for their pluck and their faith in my ability to accomplish what I undertook. From their standpoint the risk was enormous, and nothing but their personal friendship could ever have induced them to take such a risk.

SET A THIEF TO CATCH A THIEF.—The following letter is one of the 175 applications sent in to the Corporation of Barnsley (Eng.) for the appointment of Borough Surveyor, and its reading at Tuesday's meeting of the Barnsley Town Council excited great mirth:—"January 15, 1881. H—W— offers himself as candidate for Borough Surveyor of Barnsley—having had great experience as builder in cheap and jerry line, would know all tricks of jerry builders, and would see good property was put up in Barnsley. Jerry building in Sheffield now does not pay, so having made a bit would leave it 2 accept post of Borough Surveyor of your important and rapidly increasing town, which I have visited several times, and the air of which agrees me, also with my wife and five children, youngest of which is 4 years old. I would give the whole of my time to the job, and would accept £200 until you discovered my great capabilities, when I am sure you would give me the full salary. I used to be clerk of works for building firm until I went into the jerry building line (cottage), and should have done very well, but Sheffield is overbuilt with jerry property. I will look after your important town well, and catch them, knowing their tricks. I can wait on you any day this next week if appointment be made, and will give you reference to people here.—Your humble servant, H—W—"

CEDRADA, A BURIED CITY.—Among the interesting discoveries made by the French Trans-Saharan Commission is that of a large city called Cedrada, the ruins of which are covered with the sand of the desert. It is situated in the valley of the Wed Wya, and near it in former times were a number of springs which afforded water for very large groves of palm-trees. It is expected that with some labor the walls can be re-opened.

BUILDING INTELLIGENCE.

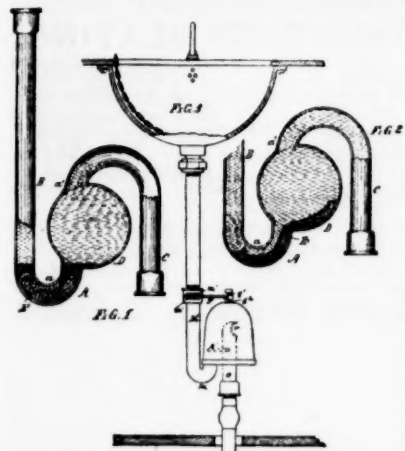
[Reported for The American Architect and Building News.]

[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.]

237,362. MERCURY-SEAL FOR STENCH-TRAPS.—Joseph Benner, Philadelphia, Penn. This invention provides a mercury-seal joint for traps, being so constructed that it will open readily under direct downward pressure, but will close again on upward pressure. The improvements consist, essentially, in a trap which holds mercury in such manner that it normally forms a seal-joint, opens readily without loss or waste of mercury under fluid-pressure, closes automatically, and elongates itself in a solid vertical column against back-pressure from sewer-gases. Figures 1 and 2 show the principle and the simplest form of construction of such a trap. A shows a S-trap, in which, above its lower bend, a, and on the side adjacent to the other pipe, C, is a chamber, D. E represents the mercury-seal in the trap. When water in



sufficient quantity to overbalance the mercury is admitted to B, the mercury will be forced in sufficient quantity into D to open the joint and permit such water to pass through the trap, the mercury spreading over the bottom of the chamber, and by reason of the enlarged area of the chamber relatively to the neck of the trap leaving ample space above it for the passage of the water. When the water has been discharged sufficiently to restore equilibrium the mercury will return to the bend, a, of the trap, having then a body of water above it in the pipe, B, and another body in the arm, a', of the trap.

237,382. FIRE-PROOF BUILDING.—Joseph Gilbert, Philadelphia, Penn. Figure 1 is a side elevation of a span embodying this invention. This invention consists of metallic lathing connected to the beams of buildings, so that when the plaster is applied a level ceiling is formed and the beams are protected from the direct action of fire, the invention being also applicable to partitions, the connection of the lathing to the beams being by means of hangers which are suspended from the beams, and have base-strips which support the lathing. A represents I or flanged beams or girders for buildings. B represents metal hangers, which are suspended from the lower flanges of the beams, and to them are connected metal cross-strips, C, on which are placed and secured longitudinal slats, D, of metal, and the upper embracing portions, the hangers, are held in position by the skewbacks, E, and



spaces exist between their lower portions and the bases of the beams for the reception of the strips and slats, C, D. If desired, transverse strips may be connected to the slats, D, at places intermediate of the hangers, and may be interwoven with the slats, or iron netting employed in their stead, so that proper open-work is produced for plastering purposes. When the plaster is applied it is effectively keyed by the slats, and likewise by the strips, so that the ceiling formed is level and secure throughout. Or the invention may be applied to partitions, in which case the parts are set at a right angle to that shown, and a flat wall is produced possessing all the advantages of the ceiling. Furthermore, the bottoms of the lower flanges of the beams are covered by and sheathed with the plaster, so that fire is prevented from reaching and acting upon the flanges.

238,220. LUMBER-SORTER.—Evan T. Davies, Manistee, Mich.

238,222. SUPPLEMENTAL FLUE FOR FURNACE REGISTERS.—C. H. Fife, Salem, Mass.

238,251. VENTILATING OR COOLING BUILDINGS.—Elisha E. Rice, Washington, D. C.

238,290. MACHINE FOR DRESSING WOOD, STONE, ETC.—Nicholas Jenkins, New Haven, Conn.

238,292. MACHINERY FOR DRESSING AND SHAPING WOOD, STONE, ETC.—Nicholas Jenkins, New Haven, Conn.

238,309. BLIND-SLAT ADJUSTER.—Oliver Pierson and Alexander H. Hill, Oskaloosa, Iowa.

238,310. SLIDING-DOOR HANGING.—Edwin Prescott, Hampton Falls, N. H.

238,320. HINGE.—Ephraim G. Adams, New Haven, Conn.

238,322. TOOL-HOLDER.—John F. Allen, New York, N. Y.

238,341. COMPOUND FOR PRESERVING WOOD.—Wm. W. Bunnell, Thomasville, Neb.

238,343. COMBINATION WRENCH.—Edward M. Butler and W. H. Campbell, Cleburne, Tex.

238,369. WRENCH.—Bernard Donoghue, Yonkers, N. Y.

238,376. COUPLING FOR PIPES.—John M. Foster, Philadelphia, Penn.

238,381. BAY-WINDOW.—Willis S. Garrison, LaPorte City, Iowa.

238,398. DOOR-BELL.—Joseph W. Johnson, New Britain, Conn.

238,439. WATER-SUPPLY FOR CITIES.—Chas. H. Roberts, Evansville, Ind.

238,442. KITCHEN-BOILER.—Geo. Salmon, Taunton, Mass.

238,453. WATER-CLOSETS.—Jas. H. Spencer, Philadelphia, Penn.

238,460. FIRE-ESCAPE LADDER.—Seymour Torrance, Hadley, Mich.

238,462. SASH-FASTENER.—William Tyler, Georgetown, D. C.

238,469. APPARATUS FOR HEATING BUILDINGS.—Edwin A. Wood, Utica, N. Y.

9,590. DAMPER REGULATOR FOR FURNACES.—(Re-issue.) Daniel C. Kellern, Detroit, Mich.

SUMMARY OF THE WEEK.

Boston.

BUILDING PERMITS.—Brick and Stone.—Endicott St., for Michael J. Barr, stable, 40' x 60', three stories; Otis Wentworth, builder.

East Dedham St., for Baldwin & Emerson, storage, 22' x 85', three stories; H. J. Bartlett, builder.

Wood.—Chelsea St., No. 97, for Patrick Hughes and Mary O'Donnell, dwell. and store, 22' x 50', two stories and mansard; Archibald Macauley, builder.

Orchard St., near Boston St., for Stephen Clapp, dwell., 21' x 28', two stories; Wm. Eades, builder.

Monadnock St., near Bird St., for Wm. H. Saywood, dwell., 28' x 32', two stories; Wm. H. Saywood, contractor.

Shurtleff Court, near Rutherford Ave., for Frank H. Wellington, stable, 33' x 80', three stories.

East Sixth St., for Patrick Coyne, dwell. and store, 20' x 20'; Geo. Thomas, builder.

Foundry St., near Dorchester Ave., for Sumner Crosby & Son, storage, 30' x 40'; Esterbrook & Ferguson, builders.

Monadnock St., near Bird St.; for Wm. H. Saywood, dwell., 29' x 32', two stories; Wm. H. Saywood, builder.

Chelsea St., near Eagle St., for T. Brigham Bishop, building for refining precious metals, 50' x 50'; Edw. C. Coffill, builder.

Bellerue Ave., cor. Roslindale Ave., for August Mann, dwell., 21' x 30', two stories; John String, builder.

Dale St., near Poplar St., for Chas. Moses, dwell., 23' x 30', two stories; Alexander Rogers, builder.

HOUSE.—A house is to be built this spring for Mr. Chas. A. Kidder, on Commonwealth Ave. It will be a brick-and-stone front, four stories high; Messrs. Allen & Kenway, architects.

Baltimore.

BUILDING PERMITS.—The following building permits have been issued since the last report:—

Chas. Rein, three-story brick building on Lexington St., between Charles and Liberty Sts., 20' x 74'.

Amanda Blanck, three-story brick building, s e cor. Fulton Ave. and Lexington St., 35' x 45'.

John Q. Codling, 20 three-story brick buildings, on Hanover St., near Randall St., nineteen 12' front, one 14' front.

John Q. Codling, 27 three-story brick buildings, on Hanover St., between Heath and Barney Sts., two 16' (each) front, twenty-five 12' (each) front.

John L. Reed, three-story brick building, on Frederick St., between Baltimore and Second Sts., 16' 6" x 44'.

Benj. F. Smith, 7 two-story brick buildings, on Hull St., near Fort Ave.

Francis White, 7 three-story brick buildings, on John St., between McMechen and Wilson Sts.; two 16' 9" and five 16' 6" front (each).

Wm. Shirley, three-story brick building, on German St., between South and Calvert Sts.

Geo. W. Gill, three-story brick building, on Madison Ave., between Biddle and Orchard Sts.

Wm. Fifer, 2 three-story brick buildings, on Federal St., between Cathedral and Oliver Sts.

Wm. Fifer, 4 three-story brick buildings, on Oak St., between Oliver and Federal Sts.

Chas. Shipley, three-story brick building, s e cor. Sterrett and Fremont Sts.

Thirty-three permits issued for the week.

WAREHOUSES.—Mr. Frank E. Davis, architect, of this city, is preparing drawings for a new warehouse for Mr. Ensminger, of Harrisburg, Penn., to be of brick with stone, terra-cotta, and moulded brick finish, 56' x 60', five stories and basement; cost, \$18,000.

Mr. James D. Mason is building a large five-story brick warehouse, on Pratt St., near Charles St., on the site recently occupied by Nos. 155, 157 and 159. The work will be done under the supervision of Mr. E. W. Robinson.

GRAIN ELEVATOR.—The Union Elevator Company, recently organized in this city, have begun to work out the details of construction of the elevator, which will be of 850,000 bushels capacity.

HOSPITAL, ETC.—Work on the Johns Hopkins Hospital buildings, North Broadway, will be resumed this week, and from 300 to 400 men will be employed about the grounds in masonry-work, excavating, etc.

OTHER WORK.—Work will also be resumed on the new Baltimore & Ohio Railroad building, and the Chamber of Commerce buildings this week, the severe weather having been the cause of the suspension.

Brooklyn.

BUILDING PERMITS.—South Ninth St., No. 176, three-story brick tenement, 21' x 58', tin roof, iron cornice; cost, \$11,000; owner, L. Friedman, 258 South Fourth St.; architect, Wm. Jose; builder, James Rodwell.

South Ninth St., No. 174, three-story brick dwell., 21' x 58', tin roof, iron cornice; cost, \$13,000; owner, L. Friedman, 258 South Fourth St.; architect, Wm. Jose; builder, Jas. Rodwell.

Orient Ave., n s, 150' e Bushwick Ave., two-story frame dwell., 19' x 38'; cost, \$2,000; owner, John Williams, Maspeth Ave.; architect, John Mumford; builder, F. F. Williams.

Boerum St., No. 167, three-story frame tenement, 25' x 50', tin roof; cost, \$3,300; owner, etc., Joseph Herte, 169 Boerum St.

Graham Ave., w s, 75 n McKibbins St., three-story frame tenement, 25' x 60'; owner, Ulrich Maurer, 193 Meserole St.; builders, Ulrich Maurer & Son and M. Metzger.

Eighth St., n s, 210' e Sixth Ave., 4 two-story and basement brick dwells., 18' 9" x 42'; owner, Mrs. Sarah J. Bergen, 201 Montague St.; builder, John H. Gallaher.

Dobbin St., No. 154, two-story brick dwell., 20' x 29'; cost, \$3,000; owner and architect, D. W. L. Moore; builder, J. H. Whitlin.

St. Johns Place, n s, 124' e Sixth Ave., 3 three-story brownstone dwells., 16' 8" x 45'; cost, \$5,000 each; owner, etc., Thomas Green, 195 Sixth Ave.

Tompkins Ave., n e cor. Stockton St., 3 three-story frame tenements, 21' 8" x 44'; cost, \$3,200 each; owner, etc., George Loeffler.

ALTERATIONS.—Monteth St., n e cor. Bremen St., add one story, 2 two-story frame extensions; cost, \$2,800; owner, J. Kerschendeiter; builder, George Loeffler.

Court St., No. 251, raise roof; cost, \$3,000; owner, Eliza J. Smith, Brooklyn Ave. and St. Mark's Place; builder, O. K. Buckley, Jr.

Grand St., No. 393, two-story brick extension, 13' x 17'; cost, \$2,600; owner, Mr. Bear, on premises; architect and builder, C. L. Johnson.

Buffalo.

HOTEL.—Work has just been commenced on Dr. Cary's hotel, mentioned in these columns some months ago. An entire new set of drawings was prepared, to cover an irregular-shaped corner lot, with a total frontage of 178'. The building is to be six stories in height, and will be built of brick and buff Ohio sandstone. The hotel will contain 125 bedrooms, and is estimated to cost about \$150,000. The plans were prepared by Richard A. Waite, architect.

SANATORIUM.—Dr. R. V. Pierce, the owner of the unfortunate Palace Hotel, has published a letter announcing his intention not to rebuild the hotel as such, and although he avers his intention of building a sanatorium for the use of his patients, leads us to infer that it may not be upon the hotel site.

Chicago.

BUILDING PERMITS.—W. Gill, two-story brick dwell., 21' x 46', 689 Ashland Ave.; cost, \$3,000.

M. Hughtitt, two-story brick dwell., 39' x 67', 2850 Prairie Ave.; cost, \$20,000.

Jonathan Clark, four-story brick store, 30' x 138', 145 State St.; cost, \$25,000.

G. W. Brown, two-story brick store and dwell., 25' x 56', 3118 State St.; cost, \$3,000.

J. Carbutt, 2 three-story brick dwells., 43' x 60', Throop and Congress Sts.; cost, \$8,000.

M. M. Wolf, two-story brick store and dwell., 23' 6" x 67' 8", 3156 Wabash Ave.

W. Looz, two-story brick store and dwell., 24' x 65', 335 Thirteenth St.; cost, \$4,000.

J. Schwerin, two-story brick store and dwell., 25' x 68', Superior St.; cost, \$4,700.

J. Persha, two-story brick dwell., 20' 8" x 54', Nineteenth St.; cost, \$3,000.

V. Mrazek, same, 21' x 60', Eighteenth St.; cost, \$3,500.

H. Barth, same, 20' 8" x 68', Newberry Ave.; cost, \$4,100.

H. F. Wait, 3 three-story brick stores and dwells., 22' x 46' each, Clark and Twenty-Second Sts.; cost, \$12,000.

W. W. Welles, two-story, same, 22' x 36', 384 Oakley Ave.; cost, \$2,000.

Mobile.

STORES.—At s e cor. Government and Royal Sts., 2 three-story brick stores, 53' x 83', fronts faced with Mobile front brick, with finish of cement, cast-iron, and galvanized-iron; cost, \$14,500; owner, Mrs. E. J. Manser; builders, C. Farley and L. Morrison; architect, Jas. H. Hutchisson.

SAW-MILL.—On Bayou Marmot, at head of Water St., two-story frame building, dimensions, 60' x 150'; owners, March & McDonald; builders, Jourdan & Hand; cost, \$15,000.

DWELLINGS.—At south-east corner Spring Hill Shell Road and Pine St., one-story frame dwelling; cost, 1,200; owner and builder, John Z. Bailliff; architect, Jas. H. Hutchisson.

At corner of Royal and Conte Sts., the old Post Office Restaurant, lately known as the Academy of Music, is being repaired and re-modelled at a cost of \$1,400; owner, A. Philippe; contractor, M. Smith; architect, Jas. H. Hutchisson.

New York.

BUILDING PERMITS.—Third Ave., w s, 237' s One Hundred and Sixty-Seventh St., one-story frame store and dwell., 22' x 52'; cost, \$2,500; owner, Mina Rabe, Third Ave., near One Hundred and Sixty-Seventh St.; architect, Louis Falk; builder, J. McGerity.

West Broadway, Nos. 108, 110, 112 and 114, and Nos. 126, 128, 128 and 130 Varick St., nine-story brick grocery

[Continued on next page.]

Publishers' Department.

The American Architect and Building News.

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TO SUBSCRIBERS.

The publishers respectfully refer subscribers who have not yet paid their subscription for 1881, to the notification printed at the head of their respective bills, and desire to remind them that the time within which subscribers who pay in advance can benefit by the discount of \$1.50 on the subscription price (\$7.50) has elapsed.

KEENE'S CEMENT.

OFFICE OF ENGINEER AND ARCHITECT,
RECONSTRUCTION OF PATENT OFFICE BUILDING,
WASHINGTON, D. C., Oct. 20, 1880.
MESSRS. J. B. WHITE & BROS., OF LONDON, 23 Liberty Street, New York:—
Gentlemen,—We have used your Keene's Cement in various ways on this work, the superfine mixed with colors for scagliola on pilaster shafts, and pure for capitals and carved work; the coarse we have used for all our plasterings on brick walls and brick piers, and for extensive floors underneath the areas occupied by model cases. In all cases this valuable material has come up fully to all that the manufacturers claim for it. To great strength and durability in the coarse, pure color and capacity for a high polish is added in the superfine quality. The satisfaction it has given was not marred by any shortcomings.

CLUSS & SCHULZE, Architects.

ENGLISH SILICATE PAINT.

The following testimonials are worthy of attention:—

OFFICE OF ENGINEER AND ARCHITECT,
RECONSTRUCTION OF PATENT OFFICE BUILDING,
WASHINGTON, D. C., Feb. 18, 1881.
MR. HOWARD FLEMING, 23 Liberty Street, New York:—

Sir,—I have used your Silicate Paint throughout for all painting in this work, and am glad to state that the claims of the manufacturers as to the superiority of this material, combined with economy, have been fully justified by the result obtained, in all respects.

Very respectfully yours, ADOLF CLUSS.

CONNECTICUT HOSPITAL FOR INSANE,
MIDDLETOWN, Feb. 21, 1881.

MR. HOWARD FLEMING, 23 Liberty Street, New York:—

Dear Sir,—I have used Silicate White Paint, also Silicate Enamel Paint, furnished by you during the past eight months, and am satisfied that it is more durable and retains its color much better than lead paints. Walls and wood-work finished in Silicate can be repeatedly scrubbed with hot water and soap without marring its color or gloss.

Yours truly, A. M. SHEW, Sup't.

STATE OF NEW YORK,
WILLARD ASYLUM FOR THE INSANE,
WILLARD, SENECA LAKE, Feb. 23, 1881.

HOWARD FLEMING, Esq.:—

Dear Sir,—After examination, we felt so much confidence in the adaptability of your Silicate and Enamel to hospital wards and public rooms, that we have covered the walls and rooms of thirty-four wards, and shall apply it to the remainder of our wards.

We have sufficient confidence in it to continue its use. Yours truly, M. J. GILBERT, Steward.

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DRAUGHTSMAN.—Draughtsman well versed in general office work and perspective. Address: A. W. F., care of the American Architect, 211 Tremont Street, Boston, Mass. 272

WANTED.

A COMPETENT ARCHITECTURAL DRAUGHTSMAN,—one familiar with office-work, and capable of detailing. Address, stating terms, experience, reference, etc., "Architect," P. O., Baltimore, Md. 273

WANTED.

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BUILDING INTELLIGENCE.

warehouse; cost, \$130,000; owner, Francis H. Leggett, 97 to 101 Reade St.; architect, Geo. W. da Cunha.
Fourth St., Nos. 426 and 428 e, 2 five-sty brick stores and tenements, 25' x 75'; cost, \$16,500 each; owner, etc., Richard Deever, 243 East Thirtieth St.
Eighty-first St., n s, 100' e Fourth Ave., 5 three-sty brownstone dwell., 20' x 50'; cost, \$12,000 each; owner, Margaret Crawford, 956 Third Ave.; architect, J. H. Valentine.
Third Ave., e s, 40' s One Hundred and Sixty-Ninth St., three-sty brick offices and dwell., 26' x 60' 4"; cost, \$10,000; owner, John Eichler, One Hundred and Sixty-Ninth St., near Third Ave.; architect, Anthony Pfund.

One Hundred and Twenty-Eighth St., s s, 385' w Fifth Ave., four-sty brick tenement, 25' x 62'; cost, \$14,000; owner, Cowan Keys, 116 East One Hundred and Twenty-Sixth St.; architect, Thos. S. Godwin.

Sixty-Third St., n s, 100' e Fifth Ave., four-sty brownstone dwell., 25' x 70', and extension 17' 9" x 29' 6"; cost, \$45,000; owner, Mrs. Annie Fetterich, 950 Park Ave.; architect, Wm. B. Tuthill; builder, James Fetterich.

Division St., No. 26, four-sty brick store and tenement, 25' x 60'; cost, \$8,000; owner Peter Spies, 44 Division St.; architect, Julius Boeckell.

Seventy-Eighth St., n s, 219' w Ave. A, four-sty brick tenement, 25' x 58'; cost, \$7,500; owner, John Goerlitz, 338 East Sixtieth St.; architect, Julius Boeckell.

One Hundred and Third St., n s, 175' w Second Ave., 3 four-sty brick apartment-houses, 25' x 55'; cost, \$8,900 each; owner, M. C. Tremble, 113 Suydam St., Brooklyn; architect, William Jose.

One Hundred and Twenty-Seventh St., s s, 75' e Fourth Ave., three-sty frame store and dwell., 25' x 45'; cost, \$3,500; owner, Louis Eickwort; architect, T. E. Thompson; builders, H. & C. Clark.

Forty-Fourth St., s s, 200' e First Ave., two-sty brick slaughter-house, 25' x 100'. cost, \$4,000; owners, J. B. Hoyt & Co., 28 Spruce St.; builders, Murphy & McGinty.

Sixty-Sixth St., s s, 185' e Fourth Ave., two-sty brick private stable, 25' x 90'; cost, \$10,000; owner, Henry G. Lapham, 5 East Seventy-Sixth St.; builder, C. W. Luyster.

BUILDING INTELLIGENCE.

Allen St., No. 72, three-sty brick store and dwell., 16' x 50'; cost, \$4,500; owner, Estate Maria C. Cadwalader, 54 Bond St.; architect, Julius Boeckell.

Eight St., s w cor. Ave. C, five-sty brick tenement, 20' x 74'; cost, \$17,000; owner, Patrick O'Connor, on premises; architect, Wm. Jose.

One Hundred and Twelfth St., n s, 100' w Second Ave., 2 four-sty brownstone tenements, 25' x 65'; cost, \$20,000 each; owner and builder, John W. Warner, One Hundred and Sixth St.; architect, Wm. Graul.

One Hundred and Twelfth St., n s, 150' w Second Ave., 2 four-sty brownstone tenements, 18' 9" x 55'; cost, \$16,000 each; owner and builder, John W. Warner, One Hundred and Sixth St.; architect, Wm. Graul.

Forty-Sixth St., s s, 100' e Ninth Ave., 6 three-sty brownstone dwell., 16' 8" x 55'; cost, \$9,000 each; owners, Trustees for Henry Astor, 1477 Broadway; architect, John Sexton; builders, C. Callahan and W. H. & C. Gedney.

Eighty-Seventh St., s s, 117' w Third Ave., 2 four-sty brick tenements, 26' x 65'; cost, each \$11,750; owner, Emma J. Johnson, 439 Grand St., Astoria, L. I.; architect, J. C. Burne; builder, John Askey.

Ave. A, s e cor. Eighty-Ninth St., four-sty brownstone store and apartment-house, 20' x 50'; cost, \$13,000; owner, Wm. R. Croft, 419 East Eighty-Fifth St.; architect, J. C. Burne; builder, J. A. Frame.

Ave. A, e s, 20' s Eighty-Ninth St., 2 four-sty brownstone stores and apartment-houses, 20' x 50'; cost, each \$12,000; owner and builder, same as last.

Eighty-Ninth St., s s, 60' e Ave. A, 2 four-sty brownstone apartment-houses, 20' x 50'; cost, each \$13,000; owner and builder, same as last.

One Hundred and Thirty-Third St., s s, 355' w Fifth Ave., 8 four-sty brownstone apartment-houses, 18' 9" x 68'; cost, each \$15,000; owner, architect and builder, same as last.

One Hundred and Fourteenth St., n s, 125' e Lexington Ave., 2 four-sty brick tenements, 25' x 64'; cost, each \$13,500; owner, M. Braender, Ave. B, near Eighty-Fourth St.; architect, J. Brandt.

ALTERATIONS.—Fourth Ave., Nos. 104 and 106, one-sty brick extension, 50' x 55'; internal alterations; cost, \$10,000; owner, Wm. Astor, 22 West Twenty-

BUILDING INTELLIGENCE.

Sixth St.; builders, Jas. Webb & Son and J. Downey.
Thirty-Fifth St., s s, Nos. 322 to 330 w inclusive, one-sty brick extension, 24' x 66' 8"; cost, \$4,000; owners, Decker Brothers, 33 Union Square; architect, G. B. Pelham; builders, Van Dolsen & Arnott and Jeans & Taylor.

Thirty-Fourth St., No. 165 w, raised one story, also four-sty brick extension, 7' x 13' x 21'; cost, \$12,000; owner, Dr. Chandler; architect, Geo. W. da Cunha.
Tenth St., No. 292 w, raised one story, flat tin roof and iron cornice, three-sty brick extension, 20' x 35'; owner, Harriet H. Jeffers, 1426 Broadway; architect, W. W. Gardner.

Thirty-First St., No. 109 w, three-sty brick extension, 18' 6" x 34'; cost, \$6,000; owner, Eliza Sterns, 3 East Twenty-Seventh St.; architect, J. I. Howard; builder, T. J. Duffy.

Twenty-First St., Nos. 513, 515 and 517, two-sty brick extension, 21' 6" x 30' x 75', tin roof; cost, \$3,000; lessees and builders, Ellin & Kitson; architects, Kimball & Widdell.

Thirteenth St., Nos. 134 and 136, front and interior alterations; cost, \$4,500; owner, Jacob Blank, 100 Third Ave.; architect, W. Jose.

Sixth Ave., Nos. 54 and 56, three-sty brick extension, 19' 4" x 38' 8"; interior alterations; cost, \$7,000; owner, James Denarest, 159 East Eightieth St.; architect, C. E. Hadden.

William St., No. 136, raised three stories, also seven-sty brick extension, 25' x 30'; cost, \$2,500; owner, Berlin & Jones Envelope Co., on premises.

Washington St., Nos. 525 and 527, raised two stories, etc.; cost, \$6,000; owner, C. Amory Stevens, No. 51 West Fifty-Second St.; architect, John Rogers; builder, Walker Coburn.

New St., No. 40, interior and front alterations; cost, \$7,000; owners, Charles and Julia De Rham, 24 Fifth Avenue; builders, F. & S. E. Goodwin and Isaac Thomas.

OPERA HOUSE.—John N. A. Griswold, one of the directors of the Metropolitan Opera House Co., states that the three sites most favorably regarded are in Broadway, between Thirty-Third and Forty-Second Sts. George Henry Warren, one of the principal promoters of the enterprise, thinks that a site in Fifty-First St. would probably be accepted.