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MR. J. L. PEARSON, to whom was lately awarded the Royal gold medal of the British Institute of Architects, has been elected to the Royal Academy, and his place as an Associate of the Academy is to be filled by some other architect. It is understood that the choice will fall either upon Mr. William Burges, Mr. G. F. Bodley, or Mr. A. W. Blomfield, all of whom are well known as scholarly and able architects. Mr. Burges undoubtedly has gained the highest reputation in the profession, but it is possible that the very qualities which give him distinction among artists may seem eccentricities to the world at large, so as to prevent the ready recognition of his merits. There is much that is valuable in this official affiliation of architecture with the other fine arts; especially in this country, some way of uniting the interests of artists and architects is much to be desired. Each profession would gain in many ways by the relationship; the artists would lose some of the *amateurishness* which both cripples and degrades much of our native art, by familiarity with the seriousness and engrossing character of an architect's habits of design; while the latter would find infinite pleasure and encouragement in the sweet atmosphere of the best artist life, and the association of the professions would lead to the frequent association of their work in important buildings, to the great advantage of the world at large.

A CONTRACTOR writes to the *Builder* for advice in the following case. He erected a large structure on land adjoining a smaller building, both having independent walls, as it would seem. The foundation of the existing building rested upon sand, but the contractor, not being willing to trust his own work on such a substratum, excavated to the rock, thirteen feet below. He underpinned the adjoining wall carefully with masonry in cement, but in spite of the precautions taken, a slight crack occurred in the old wall, for which its proprietors claimed a hundred pounds damages, and this the contractor paid, rather than submit to a lawsuit, besides assuming the whole cost of underpinning. He, however, quotes a similar case, in which the architect, Sir William Tite, far from underpinning the adjoining walls, simply notified the abutters of his intention to build. One of them neglected to take any precautions to secure his walls, and Sir William pursued his operations just as if there had been no neighbors, only setting a man to watch the wall as the excavation progressed beside it, so as to give his employés time to escape when it began to fall. At last the courage of the adjoining proprietor failed him, and he sent men to underpin his own wall. The correspondent of the *Builder* asks which case was in conformity with the law. We shall be interested to see the answer, although our own impression is that Sir William was in the right, and that the *Builder's* correspondent spent his money needlessly. Undoubtedly a man can require that his neighbor shall not, by digging below his foundations, let the earth escape laterally from beneath them and thereby cause settlement, but if this is avoided by sheet-piling or otherwise, we are inclined to think that any one may excavate his own land to any depth he wishes without being obliged to underpin the adjoining walls to the same depth.

ESTIMATES have been made of the mileage of railroads building or to be built during the current year, which are significant of a great future activity, not only in the industries which are directly concerned, but in many other departments of business, which will be more or less affected by the demand which so large an increase in the productive facilities of the country will make upon the machinery of exchange. No doubt a large portion of the projected roads will never be more than projects, but the place of the abortive enterprises will probably be filled by more vigorous ones as the year advances. It is at least certain that since September 1, 1879, three thousand miles of new railway have been completed within the limits of the United States; a greater mileage than that of any entire year since 1873, when the country was in the full tide of inflation and railway speculation; while the extent of road either under contract or passing rapidly through the preliminary steps reaches the enormous aggregate of twelve thousand six hundred and forty-one miles more. Nothing approaching such activity in railroad building has ever been seen in this country before. Whatever the cause,—whether it is due to the low price of iron, the profitable business which the lately-built roads have been doing, or the enormous and increasing immigration of the present year, which has within two weeks added more than a hundred thousand souls to the population of the republic,—we cannot say; but the inevitable result will be, notwithstanding occasional reverses, to increase the demand, and by degrees the price of the materials which the new enterprises must consume, and to enhance the wages of the workmen trained in the use of them; a movement which will be felt in many affiliated industries.

M. BARTHOLDI, the sculptor, has brought suit against the city of Marseilles for indemnity on account of injury and loss which he has suffered in the following manner. M. Bartholdi is well known, not only as a sculptor, pure and simple, but also by works partaking of the qualities both of sculpture and architecture, such as fountains and similar monumental structures, among which may be remembered the great illuminated fountain which stood in Fairmount Park during the exhibition of 1876. On account of his reputation in such matters, the Council of the city of Marseilles, in 1859, under the mayoralty of M. Honorat, applied to him for designs for a monument with which it had determined to decorate the end of the Avenue de Longchamps, at the base of a gentle hill, whose summit it was intended at some subsequent period to crown by a museum of natural history. A second museum, that of painting, was also in contemplation, and the artist, knowing this, besides submitting models for the monument alone, also of his own motion presented another design, in which the two projected museums and the monument were combined into an imposing and picturesque group about half-way up the hill. This entirely original idea, illustrated both by drawings and a model, pleased the Council, and it was resolved to adopt it, but with the amendment that the group should comprise only one museum, as it seemed inadvisable to place both in that spot, and M. Bartholdi was instructed to prepare a new design with this modification. This was done, and the new project was received with great favor; but the sculptor, still wishing to include both museums in the group, at last converted the authorities to his views, and prepared a fourth design, which was submitted to the criticism of experts, some details corrected, and a payment on account made to the designer. Just at this time the Council was dissolved, and the whole matter postponed. Some three years afterward, M. Bartholdi learned that his project was about to be carried into execution, under the care of a certain local architect. On presenting his claims as author of the design, he was coolly ignored, and one official even had the impertinence to ask his advice as to the best sculptors to employ in carrying out his scheme. The result of the trial we do not yet know, but the artist may be sure of the sympathy of hundreds of his professional brethren.

An important point has recently been established in England concerning the right of an owner, in case of the bankruptcy of the builder with whom he has a contract, to take possession of the materials and plant upon his premises, cutting off thereby all claims of the creditors or assignee of the builder upon them. It is common to insert in contracts a clause to the effect that

"all materials shall become the property of the party of the first part" (the owner of the building) "as soon as they are delivered on the ground," the object of the clause being to defeat, by this conveyance to an innocent third party, any attempt of the dealer who furnished them, or any other creditor of the builder, to regain possession of the goods, in case he should fail to pay for them. Sometimes the terms of the stipulation are different, as in the form of contract published in England by the Master Builders' Association, which provides that "If the contractor shall become bankrupt, the proprietor or his agent may, upon notice, take possession of the materials and plant upon the ground" and complete the building; the object of this being practically the same as the other. In a recent case, however, where a condition in the latter form was inserted in the contract, and the builder became bankrupt while the work was in progress, the assignee claimed the materials and plant upon the ground, and after carrying the case to the Court of Appeal, decision was given in his favor, for the reason, as expressed by one of the judges, that "a simple stipulation that, upon a man's becoming bankrupt, that which was his property up to the date of the bankruptcy should go over to some one else, and be taken from his creditors, is void." It was, however, pointed out that if an interest and property in the materials had been given to the landlord from the commencement of the contract, and he had made the seizure in consequence of such interest, the seizure would be valid, even though the bankruptcy of the builder might be the reason why the authority granted by the contract for making the seizure was exercised. Not only architects and builders, but lawyers, especially counsel for corporations, will do well to make a note of this decision. The case, according to the *Builder*, may be found in Law Reports 14, Chancery Division 19, under the title of *Ex-parte Jay, Re Harrison*.

THE eleventh and final report of the Massachusetts State Board of Health appears under date of June 30, 1879, containing, besides an account of the work of the Board for the six months since January 1, the date of the last preceding report, a full index to the whole eleven volumes. It is impossible to glance over the long list of essays, letters, reports of experts, and tabulated statistics which the index presents, papers literally of inestimable value to sanitarians, health officers, physicians, and heads of families, without deep regret that this should be the concluding issue, the Board of Health having been abolished from that date. It is hard to believe that its place can be filled by the combined Board of Health, Lunacy, and Charity, which undertakes its work, and certainly the united report of the three commissions must lose much of its value to sanitarians, who will have to sift the information which they need out of a mass of irrelevant matter; as compared with the previous volumes, whose entire contents most of them have read with interest, and which, we venture to say, they keep near them for ready and frequent reference. The present volume contains copies of some of the circulars prepared by order of the Board for general distribution, which have proved so valuable. It is seldom that we find occasion to criticise anything in these circulars, and our regret at the demise of the Board would lead us to forbear any but the most necessary strictures, but we cannot refrain from expressing our astonishment that so authoritative, and, in general, so intelligent a document as the circular addressed to local boards of health on House Drainage should assert that "soil-pipes can be well ventilated by a pipe passing into a constantly heated chimney, provided it be so arranged as not to conduct sewer-gases into any other part of the house." Where is a chimney "so arranged" to be found? Not one house in a thousand possesses a flue which does not open by a stove-hole or fire-place into some room; and even where a separate flue exists, its walls and joints are sure to be as pervious as a piece of muslin to gases of any kind. If any one will notice how rapidly, not gas, but solid particles of soot, pass through the four-inch walls of the best built chimneys, he will have his disposition to empty the vapors of a drain into a similar conduit through his house effectually checked.

A "SOCIALISTIC Alderman," as the papers call him, has procured the appointment of inspectors to visit all the factories in Chicago where men, women, boys or girls are employed, and report upon their condition as to lighting, ventilation and drainage, with a view to compulsory improvement where serious defects are found. The inspection has already progressed so

far that the places where fifty-two thousand persons spend their toilsome days have been visited, and many reforms effected without resort to legal means; in some instances the proprietors gladly making the improvements which the inspectors suggested, while in other cases arguments or threats sufficed to produce the desired result. Such a work as this may be justly called one of the greatest services which a man in authority can possibly render to his fellow citizens. If such labors are monopolized by socialists, the more socialists we can have, the better; and the more socialism they show, the higher should be, and will be, their influence and rank in the community, and the greater will be the gratitude which will follow their memories after their good works are ended. There is no class whose condition should appeal so strongly to the sympathies of those who care for their neighbors as well as themselves as that which includes the operatives, not only in large manufactories, but also in the smaller shops and workrooms which crowd our large cities. Mere children, as vast numbers of them are, their very helplessness compels them to submit patiently to hardships which a healthy laborer would not endure for a day, while their inexperience exposes them to dangers which they cannot understand, but which those who are wiser should be prompt to expose and remove.

THE Architectural Congress in Paris closed June 14, after a week of amiable discussion and pleasant entertainment. The day which was to be devoted to the consideration of abuses in competitions ended without important result. It seemed to be agreed that something ought to be done, but no definite measure was decided upon. A very interesting paper was read in the course of the session by M. Albert Lenoir, on "Corner-stones," showing the great antiquity of the custom still so generally observed, of laying the first stone of an important edifice with special ceremonies, often commemorated by inscribed tablets or medals placed in a hollow cut in the stone itself. According to M. Lenoir, the Egyptians and Assyrians placed tablets of precious metals in the foundations of their palaces and temples, several examples of engraved gold plates having been found in such situations. In the Middle Ages the mortar for bedding the first stone of a church was sometimes mixed with holy water, and the placing of the block was done by the hands of persons of the highest rank, while the spectators often threw jewels into the trench. In modern times, the first stone is very often laid in an inconveniently deep or wet trench, so that the conventional "corner-stone" is sometimes a block in a conspicuous part of the superstructure, but it is common to place coins and documents in a hollow cut in the block, very much in the ancient way, while the mediæval fashion of blessing the stone, afterward cutting a cross on the spot touched by the hand of the priest, is still sometimes followed.

A GREAT improvement has been recently made in the Barff process for coating iron with an indestructible film of magnetic oxide. As originally invented by Professor Barff, and now carried on at a large scale, the process consisted in submitting the articles to be coated to the action of superheated steam in an oven made for the purpose. This in a few hours produced a film of a rather unpleasant appearance, but strongly attached to the metal, and very hard, so that it could only be removed by the file. To improve the appearance of the coating, intensely heated air was by some experimenters substituted for steam, but the film so obtained, though more beautiful, was easily detached, and consequently of little value. The new improvement consists in filling the chamber in which the articles to be protected are placed first with carbonic oxide; then introducing heated air, which combines with the carbonic oxide, producing a light flame, which continues till all the carbonic oxide has been converted into carbonic acid, when the surplus of oxygen in the air attacks the metal of the objects placed in the oven, converting the surface first into the magnetic oxide, and subsequently into the red sesquioxide, or ordinary rust. A second charge of carbonic oxide being admitted is burned as before, but the supply of air being purposely cut off, the combustion maintains itself partly by means of oxygen drawn from the sesquioxide coating over the iron present, which is thus reduced again to magnetic oxide. This process is repeated until the film has attained a sufficient thickness, and this is said to be firmly attached to the metal, and to be very agreeable in appearance.

THE METROPOLITAN MUSEUM OF ART, NEW YORK. THE LOAN COLLECTIONS.—I.

THE crowds which have frequented the Museum since the opening of its new building in the Central Park, sufficiently attest the public's appreciation of its privileges. There was reason to fear that its removal so far from the centre of the city, and the fact, moreover, that the elevated roads do not stop within convenient distance of its doors, would render it practically useless to the mass of the population, who had, indeed, shown no very general inclination to throng its former accessible, if uncomfortable, quarters on Fourteenth Street. But, on the contrary, visitors to the Museum have increased a hundred fold. On the four free days of each week the attendance averages about 10,000 visitors a day. On Decoration Day the score rose to 18,000. It is needless to add that whatever may have been the motive for the majority of these visits, they suggest encouragement enough on the part of the people to all such public-spirited men as are desirous of contributing permanently or temporarily to the stock of general enjoyment and profit, by the gift or the loan of works of art. These need never again protest, as has so often been protested in the past, that the people do not care for such things, and that contributing them is merely like putting pearls to the improvident Scripture use. That the people do not care very intelligently is true, perhaps, but it is in just such a case that there is most need of giving them the best of food and plenty of it. For thus our art-treasures are not contributing only to the pleasure of an already cultivated people, but to the instruction of a people which desires to cultivate itself but depends on the helping hand of its most fortunate units to accomplish the work.

The outside of the Museum cannot be called an addition to the architectural attractions of the Park as it stands to-day. It is, however, but the centre portion of a more extended whole which is to be completed as the wants of the institution require. Meanwhile, it is perhaps unavoidable that the entrance porches should be temporary wooden structures, and that a great part of the exterior should be blank expanses of brick which indicate where the wings are to grow when needed. Inside no fault can be found with the effect or with the convenience of arrangement. The large central hall on the ground floor is open to the roof, and the vast skylights, even on the darkest day, sufficiently illuminate it and the two galleries which stretch the length of its longer sides. Under these in the large hall is placed the bulk of the Cesnola collection, carefully sorted and arranged without crowding. It is soon to be explained by an exhaustive catalogue. The single fact to be regretted in its disposition is that the large statues cannot be examined from all sides, as they stand in flat cases with their backs against the wall. The single heads are ranged on the successive stages, narrowing toward the top, of cases which stand out in the room in most instances, and they may, in consequence, be very perfectly seen. One had no idea until they thus appeared to great advantage upon a dark-red background well suited to the buff tint of their stone, how great a treasure of beautiful as well as of characteristic forms they offer. All the statuary is under glass. In the wall-cases of the South Gallery is the Cyprian glass, and in those of the North Gallery the Avery collection of oriental porcelains. The table-cases in both galleries are filled with a variety of small articles,—principally jewelry, watches and silver-ware,—contributed by numerous lenders. Conspicuous here is the Prun collection of ivories and lacquers. The cases which fill the centre of the main hall are also occupied with loaned works of art in silver, porcelain, and enamel, and with specimens of the arts of the illuminator, printer, book-binder and early engraver. There is, moreover, a series of "South Kensington Reproductions," a collection of American antiquities, small but interesting, one of Egyptian antiquities, and some Greek vases of great beauty.

The vestibule of the great hall toward the west contains some samples of modern sculpture, chiefly American. From these vestibules at either end of the hall, staircases lead up to the picture-galleries which are above them, communication between the one and the other of which is effected by the galleries of the hall. In the rooms at the east end are placed the pictures of old masters belonging to the Museum, and a small loan-collection of the same character, also about fifty pictures by the late Wm. M. Hunt. In the west room is the loan-collection of modern masters, which forms, perhaps, just now the great attraction of the Museum for the general public. In speaking more in detail of the contents of the building, I shall confine myself to the loan-collections, as there is no need to-day, it is to be hoped, for the Cyprian treasures to be described, or the Avery porcelains, or the Dutch pictures which have been the property of the Museum for so many years.

There are nearly two hundred and fifty modern pictures on exhibition, few of which are without value of some sort; but the value is so different, both in degree and kind, that the collection appears even more heterogeneous than is the wont of loan-exhibitions. It bears, even more than is usually the case, the impress of having been composed of what the committee could get that was tolerably good, rather than of what they would have preferred to have,—unless, indeed, the committee were composed of units with very varying tastes and grades of artistic education. To criticize the hanging, as some have done, because American are not separated from foreign works, is surely idle. There is no such diversity in aim and idea as would make it unwise, for example, to hang side by side, pictures of the fifteenth and nineteenth centuries. French, English, American and

Spanish pictures do not kill and extinguish and falsify each other, except in so far as bad pictures always look worse in the proximity of good. To call for the separation of American from European work,—from some sorts of which it does not differ as much as those sorts differ among themselves,—is to suggest that one or the other is apt to be so inferior as to lose its value unless isolated in strictest seclusion. Such a collection as this at the Museum, fragmentary and diverse as it needs must be, is for pleasure only, or for general instruction in the qualities of good painting of various sorts,—not, like the galleries at some world's fair, for the comparing of one nation with another and the judging of the work of each as a national whole. To me it seems a thing to be grateful for, that we have now and then a chance of seeing our own work in fair contrast or rivalry with European work, and can test the correspondence or divergence of the two otherwise than by memory.

To speak now of the pictures in detail, beginning with those of home production. One is a little struck at first with their familiarity as having been seen in very recent exhibitions of the Academy or its rival Society. But on second thoughts this does not seem surprising, for one remembers how much better chance the committee had of getting good American pictures from the very recent exhibitions than from those further removed from us in date. Unfortunately there are no examples of that generation of portrait painters who distinguished the early years of the century,¹ and who should have been represented, if possible, on an occasion of metropolitan, if not of national importance, an occasion which marks, in a striking manner, the national growth of art-appreciation, and which introduces works of art to a far larger and more mixed public than has ever before enjoyed them in this country.

Mr. Chase has three canvases on view which supplement very well those he showed at the annual exhibition a few months ago. One, the earliest, I believe, is a large half-length of an old lady in a ruff, called *The Dowager*. In it is well exemplified the difference between a true portrait-study and one of those conventional imitations of unindividual faces in costume, with which we usually associate the term. The head is capital for life and expression, the hands almost as good as Mr. Chase can do them to-day,—and that is very good indeed. But there is a disagreeable tone in the flesh and a slightly hard effect in the whole picture with which the work of Mr. Chase's brush to-day may well be compared. In the other large picture, *A Girl at the Well*, no such defects can be noticed. It is a full-length of a child who has just broken her pitcher, and is looking at it with a pair of clasped hands, which yield to nothing in the room as a lovely bit of painting. The color, which is very good,—note the admirable correspondence of the landscape background—the attitude, which is unbackneyed and graceful, if a trifle theatrical, and the quaint loveliness of the child give freshness and value to a somewhat well-worn theme. It is much to say that Mr. Chase's girl suggests no other girl with a broken jug that anyone else has painted. And it is more to say that in rendering her the artist has given us not only a good portrait-study, but a fine and pictorially conceived picture. It is the one which, at the famous Academy Exhibition of 1877, where the "new men" came first to the front, and where it hung side by side with Mr. Duveneck's Turkish Page, introduced Mr. Chase to public notice in this country.

Mr. Alden Weir is most fortunately represented by his magnificent portrait of Mr. Olin G. Warner, the sculptor who has this year done an equally good turn for Mr. Weir in the portrait bust which I have already described in these pages. In the presence of such an admirable thing as this, one forgives Mr. Weir all his partial failures and agrees with his greatest admirers when they say there is no one among us who can do quite such work as he. Mr. Winslow Homer is equally to be congratulated that the public can judge him by his very best, by his *Prisoners From the Front*, which he has never excelled and, perhaps, never matched for strength combined with pictorial effect, and the same may be said of Mr. Eastman Johnson's *Corn-Husking*. Mr. A. H. Thayer has a large landscape with cattle, *Cloudy Afternoon on the Mosel*, which by virtue of its theme is vague and delicate almost to excess. Mr. Vedder's small Dominican Friars is very good, but his larger canvas, *The Lost Mind*, is unpleasant in subject and redeemed by none of the weird attractiveness with which Mr. Vedder so often endows similar themes. Mr. George Inness is seen at his best in his *St. Peter's from the Tiber*, and the late Mr. Henry Peters Gray almost at his worst, which it is needless to say was very weak indeed, in his *Rose of Fiesole*. Very good things which have already been noticed in this paper, are Mr. Eakins's *Chess-Players*, Mr. E. M. Ward's Spanish interior called *Paternal Pride*, Mr. George Smillie's *Goat-Pasture*, and Mr. Sargent's *Oyster Catchers of Cancale*. I may also note some Kensetts which are the property of the Museum, and a number of landscapes of the average American kind. Special mention should assuredly be made of Mr. Robert Wylie's fine Brittany Peasants Reading Victor Hugo. The handling is very strong and the heads have the bold individuality of a portrait group by some classic Dutchman. This is the first of Mr. Wylie's pictures I remember to have seen exhibited in this country, and all who see it must regret that the artist died so young and that he is not better known on this side of the water, to be counted in whenever we speak of the men who do us the most credit. Mr. LaFarge's great *St. Paul* attracts by the strength and truth of the head, though the attitude and hands are conventional and unimpressive.

¹ There is but one such picture in the collection,—a portrait of an unknown man, attributed to Gilbert Stuart.

THE VENTILATING FIRE-PLACE¹. — VI.

Taking first the enclosed distributor we have as items of expense.

- (1). The distributor itself.
- (2). The sheet-iron strips between the pipes.
- (3). The tin casing.
- (4). The two dampers, lower and upper.
- (5). The two register plates, lower and upper.
- (6). The flagging to support the chimney-breast above.
- (7). The hot-air flues between the distributor in question and the rooms above.

(8). The panelled front of the chimney-breast.

The cost varies with the size of the distributor, but the cost of any size may be easily calculated as follows:

(1). The cost of the distributor depends upon its material and the form and extent of its heating surface. The best material is sheet-iron of the weight of 28 oz. per square foot (8 kilograms per square meter), or what is called No. 20 sheet-iron of about a millimeter in thickness. The upright pipes may be made of common iron at, say five cts. a pound, or ten cts. a kilogram. The horizontal pipes should be made of the best bloom iron at say twenty cts.² a kilogram. The best form for the distributor is given in Fig. 188. Here we have six upright round pipes 20 centimeters in diameter each and two meters long, between two horizontal square pipes 25 centimeters on each side. The pipes are 10 centimeters apart. This makes the horizontal pipes 1.80 meters long. The distributor contains five conical dampers 15 centimeters in diameter, and 20 centimeters on the side, made of the same thickness of common iron and hung in place on two stout wires passing through the plane of the base at right angles with each other, and one ordinary disk damper 20 centimeters in diameter, revolving on an axis above the hinged panel, to be operated from the room.

The amount of iron in the six upright pipes is, then, 7.6 square meters.

That in the two horizontal pipes and their four ends is 3.85 square meters.

That in the five conical dampers is 0.32 square meters.

That in the remaining dampers is 0.03 square meters.

The weight of the upright pipes is, then, $7.6 \times 8 = 60.8$ kilograms, and the cost would be \$6.08.

The weight of the horizontal pipes is $3.85 \times 8 = 30.8$ kilograms, and the cost = \$6.16.

The weight of the dampers is $0.35 \times 8 = 2.80$, and the cost = \$.28.

Making a total cost of \$12.52 for the material, or allowing for lap and waste, say \$13.00.

If the weight of the iron were reduced to one-half the above, the cost of the material would be \$6.50.

The distributor described, would be, however, unusually large. One two-thirds the size would be more usual, and the cost would be \$8.66 or \$4.33. Allowing for the labor of manufacturer (the estimate of the furnace maker by whom the apparatus was made), from \$4.00 to \$10.00, according to the size and number ordered, we have a total cost of from \$17.00 to \$23.00 for the largest and heaviest distributors, and from \$8.33 to \$14.33 for the smaller ones. Made of terra-cotta the largest size costs from \$25.00 to \$30.00 each, when made singly. What the reduction would be where several were made, cannot yet be ascertained, but terra-cotta is, as said, only to be recommended in exceptional cases.

(2). The five sheet-iron strips 20 centimeters wide and 2 meters long, would be worth \$.80, or, with the labor of cutting the strips, say \$1.00.

(3). The tin casing should have a width of 1.80 meters, a height of 2.70, (10 centimeters clear space above and 10 centimeters below the distributor for the free circulation of the fresh air) and a depth of 35 centimeters at the bottom and at the top where it surrounds the horizontal pipes, so as to give 5 centimeters free space on each side of these pipes for the circulation of the fresh air. Where it comes against the perpendicular pipes the depth of the casing should be diminished to 22 centimeters, so as to leave but one centimeter between the perpendicular pipes and the sides of the casing. This forces the air to pass between the pipes and completely envelop each. Where no tin casing is used, these proportions should be given to the masonry, so that it may direct the air in the same manner. It is of the utmost importance that the form and dimensions specified for the envelope of the distributor should be carefully observed, otherwise a large part of the heat will be lost.

The amount of tin in the casing will therefore be about 13 square meters, and the cost we may put now at about \$15.00, painted on the inside. Then for a distributor two-thirds as large, the cost of the casing would be about \$11.00.

(4). The two dampers with frames and cords would cost about \$6.00.

(5). The two register plates (ordinary black japanned), the lower one 25 centimeters square and the upper one 1.50 meter long and 30 centimeters wide, would cost \$1.20 and \$6.00 respectively.

(6). The flagging, as before stated, need not cost more than the ordinary form of hearth.

(7). The hot-air flues connecting the hot-air chamber with the 3d

and 4th stories will not exceed 12 meters in length, or \$18.00 in cost.

(8). The panelled front of the chimney-breast is more than offset in the saving in masonry, studding, lath and plaster, and papering.

The total cost of the largest radiator and all its appurtenances for heating and ventilating four rooms would therefore be \$60.50. For the ordinary size (two-thirds as large) the outside cost would be \$47.00.

The labor of setting the above when the tin casing is used is no greater than that of building an ordinary flue including the brick trimmer-arch. No pargeting is needed on the inside of the flue. Two of these distributors, one at each end of the house, are sufficient (with a stove in the basement for heating the hall and for festal occasions) for thoroughly heating and ventilating a three-story city house, 8 meters wide and 20 meters deep, in the manner already described.

The cost of the two distributors, say one large and one small, being \$107.00, add cost of small portable furnace and ten feet of pipe for the hall (say \$80.00) (price list for McGregor Portable Furnace No. 1, and ten feet of pipe, registers, etc.) and we have a total cost of \$187.00.

To do the same work with an ordinary basement McGregor Furnace would according to maker's estimate require a No. 5 Furnace. Cost of No. 5 Portable Furnace per price list is \$225.00. If a soapstone furnace were used, the size according to maker's estimate required would be No. 36, of which the cost per price list is \$350.00. To this must be added the cost of piping and registers. Taking the same number and price of registers required in the case of the distributors we have for these and the soapstone frames at the very least cost \$27.00, allowing a minimum of 3 meters of pipe for hall register, 7 meters for front room 1st story; 7 meters for rear room 1st story; 11 meters for front room 2d story, 11 for rear room; 15 for front room 3d story and 15 for rear room, 19 for front room 4th story and 19 for rear room, we have a total of 107 meters of tin pipe. Estimating the value of this pipe at the same rate we did in the case of the distributors, we have \$160.00. Add at least \$50.00 for labor on furnace, piping and for double piping, collars, etc., and we have a total of \$412.00 for the iron furnace work and \$537.00 for the soapstone furnace work, against \$187.00 for distributors and small furnace.

There will of course be other and incidental expenses, such as cold-air box, furnace smoke-pipes, gas-pipe ventilators, etc., but these will be the same in both cases or greatly in favor of the distributor, and need not therefore be considered. That the consideration of these would be in favor of the distributor will readily be seen when we recollect that both supply and exhaust-openings are included in the arrangements of the distributors, while, with the furnace, only supply-openings are estimated upon. The estimates of cost are in all cases taken from the price lists without consideration of discounts. Where the distributor is exposed as in Figures 212-217 the cost of decorating the radiator may, for a corresponding degree of ornamental work, be taken as offset by the saving in omitting the hinged panel, so that the above figures may be taken as roughly to cover either kind.

Such being the saving in the first cost, we have now to compare the cost of management in the two cases. The heating surface of the large distributor we found to be 11.60 square meters. Add 1.4 square meter for fire-place back and connecting-pipe and we have 13 square meters.

The McGregor furnace No. 4 has, according to measurements, 9 square meters of heating surface. No. 5 has about the same as the large distributor.

The Soapstone furnace No. 18 has about 12 square meters; Sanford's Challenge No. 40, about 9 square meters; The Dunklee No. 8, about 10 square meters; The Peerless No. 16, about 8 square meters; The Chilson No. 8, about 6 square meters, all according to the writer's measurements. With the same amount of coal burned, therefore, a single distributor is capable of warming an equal amount of fresh air to the same extent with any of the above-mentioned furnaces. But since in the case of the distributor the fuel used is the same as that which supplies the open fires, while with the ordinary furnace other fuel is burned and seven-eighths of that used in the open fire-places is lost, the annual saving in the former case is equal to about half the total cost of the fuel burned in the open fire-places used in connection with the basement furnace. A Boston coal-dealer, taking at random from his books twenty houses on the Back Bay of Boston supplied by him with fuel, found the average annual amount of furnace, range, and cannon coal (for open fire-places) consumed in each was 14, 15 and 3½ tons respectively, which at a cost of \$4.00, \$5.00 and \$14.00 respectively made \$56.00 for the cost of furnace, \$75.00 for the range, and \$50.00 for the open fire-place. The use of the distributors would therefore give us in each of these twenty houses an annual saving of say \$25.00. Where, however, one of the distributors is used with the range-flue we have an additional saving of say \$32.00, making a total annual saving of \$57.00, or more than enough in two years to pay for the entire first cost of both distributors and their necessary accessories.

PUBLIC PRIVIES.³

THE need of some device has long existed by which the advantages of the water-carriage system can be brought within the reach of the large number of the laboring population who cannot afford the cost of the apparatus described above.

³ A lecture by Mr. Edward S. Philbrick, C. E., delivered before the students of the Massachusetts Institute of Technology, Boston.

¹ This paper, by the writer of the Open Fire-Place articles, will be incorporated with them in their separate form.

² The variations in the iron market render it impossible to make an accurate estimate for all time, but accuracy at any time may be obtained by substituting for the round number here given, the real price of iron at the time the estimate is made.

However well devised such an apparatus may be, nothing of the kind has ever met with any success, unless where kept under the supervision of the local authorities. Such apparatus has been perfected and used for some years past in Liverpool and Bristol, England, and something similar has been used in the schools at Dantzic for some years, and more lately in Boston, where it is now in use in several of the public-school buildings with success.

Annexed to the report of the medical officer of the Privy Council for 1874, is an interesting report by Mr. J. Netten Radcliffe on the means used in various towns for the removal of excrement. Among

"Since Dr. French has been medical officer, and mostly since 1866, he has ordered and obtained the conversion of 14,393 privies into water-closets; and there were in 1869, in Liverpool, 20,000 privies attached to ash-pits, and 31,150 water-closets, 2,150 of which are tank or trough-closets.

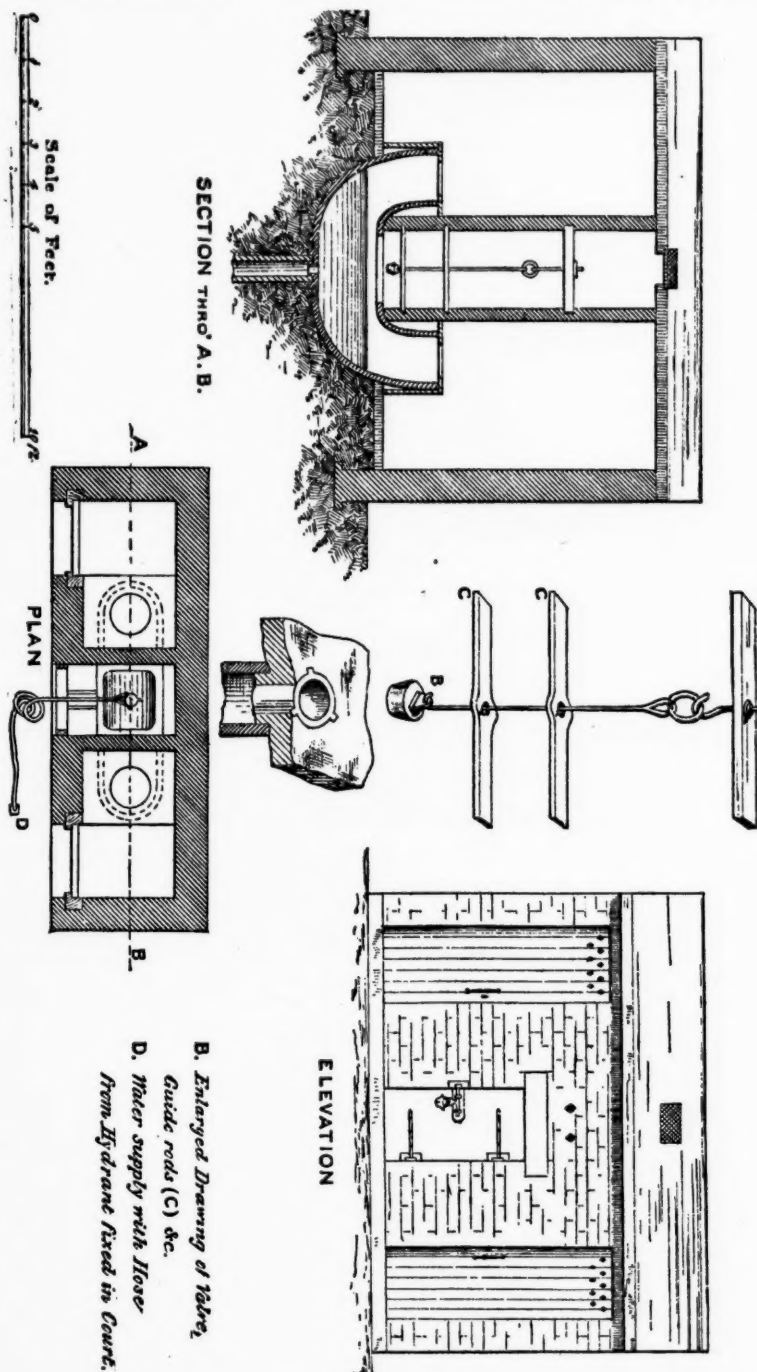
"These closets are constructed on a pattern ordered by the Corporation, and approved as to details by the Borough Surveyor. Now in 1874, the number of troughs for trough-closets is 3,304, serving for about 6,000 closets, and the number of water-closets other than trough-closets, 43,395."

To illustrate the construction of these troughs the annexed plates (Figs. 29 and 30) are copied from the same report, with the following remarks (p. 206); "There is peculiar interest in the arrangement and working of the trough-closets which are in use by numerous families in the sort of neighborhoods where in other towns ordinary water-closets are commonly a failure and a nuisance. . . . The closets that are common to several families are cleaned in rotation by the people using them, and a register is kept of the order in which this should be done. Inspectors visiting the closets every two or three days see that this duty is performed, and are themselves held responsible for any short-coming. By a little patience and firmness the inspector succeeds in obtaining the necessary cleansing, even among the most intractable classes, with very little assistance from the law. He will, if necessary, wait and see the closet cleaned out by the proper person. Last year only a dozen or so of people were summoned for neglect in this respect, and three of the offenders had to be sent to prison. It will be seen from the drawing that in connection with these closets there is an opening of access to the trough and water-supply. This opening is for the scavenger, and the people using the closets have no concern with it. The scavengers are employed by the Corporation, and every day they visit each of the trough-closets, unlock the iron door of access, discharge the contents of the trough, flush it out with hose and water, sweep it thoroughly clean, and leave it charged with fresh water for the next twenty-four hours' use.

"There can be no question of the admirable efficiency of the working of the arrangement above-described in the semi-public privies, nor of the recognition by the people of the superiority of the new to the old arrangements. Nor can there be any question that these results are due even more to the management of the whole business by the public authority than to the excellence of the constructive arrangements themselves. And not only is complete freedom from nuisance obtained where formerly filth and stink were universal, but Dr. French states that in 1868, when an epidemic of enteric fever was prevailing in and about Liverpool, the only localities that seemed exempt from it were the places occupied by the poor, in which we had removed all the privies and made trough water-closets."

URINALS.

There is no fixture connected with house-drains that is productive of more annoyance than these, owing to the rapidity with which urine becomes putrid, and the careless habits of those who use them, or the neglect of those whose business it is to keep them in proper condition. A very small quantity of urine spattered on the surfaces of the fixtures or on the floor will render the whole surroundings offensive in a few hours in warm weather. The best form for such fixtures is that where water is always standing or rather moving through a trough, and all the surfaces on which the urine is likely to fall should be constantly wetted by water from a perforated pipe or sprinkler. Of course the more impervious the material of the floor the better. Glazed tiles or slate are good. Wooden floors should never be used for such places that are frequented by numbers of men and boys. In all places, whether in private houses or elsewhere, the frequent washing with warm suds is essential for the fixtures themselves and all their surroundings. This should be repeated several times a day



B. Enlarged Drawing of Water Guide rods (C) &c.
D. Water supply with Hose from Hydrant fixed in Court.

his conclusions is the following (p. 154): "As regards the parts of a town or village inhabited by the poorer classes, a water-closet system may be managed so as to be entirely applicable to the circumstances of the most ignorant and the most careless population. Essential conditions of such applicability, however, are that the structural arrangements should be adapted to their purpose, and that the management should be wholly undertaken and efficiently done by the servants of the sanitary authority. Where these conditions are observed as thoroughly as they are observed in parts of Liverpool and Bristol, water-closets are the best means of removing excremental matters from the poor neighborhoods of a town.

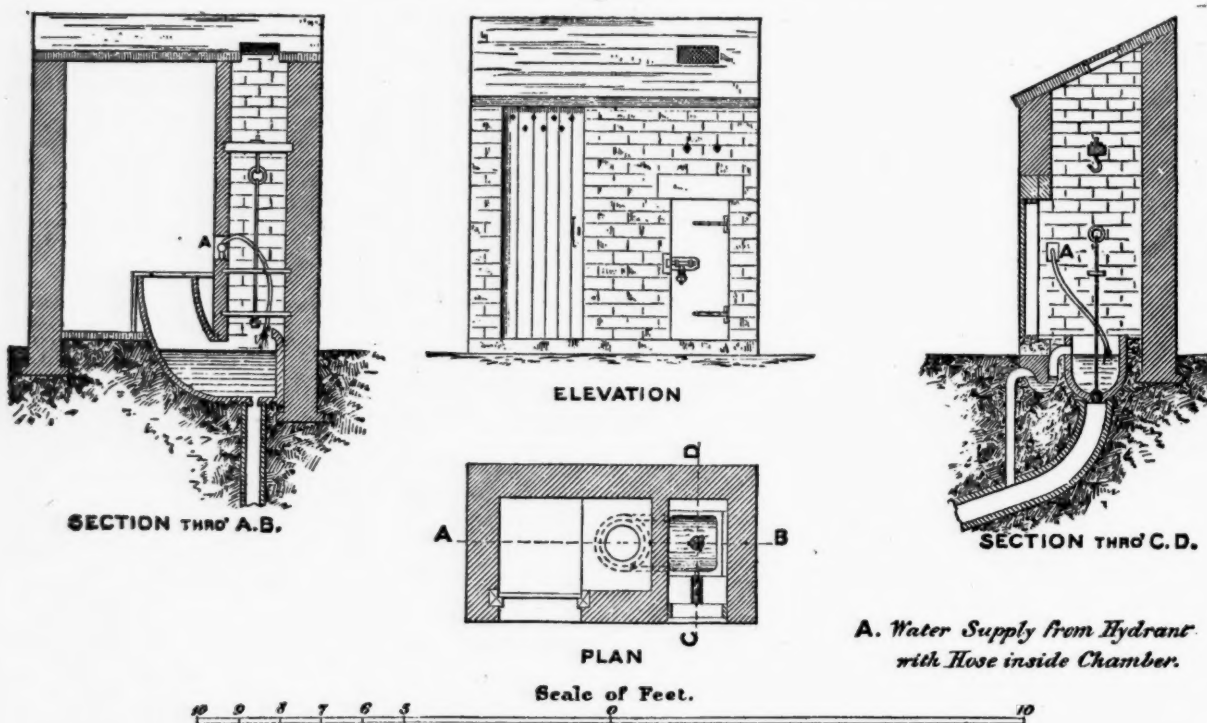
The whole surroundings offensive in a few hours in warm weather. The best form for such fixtures is that where water is always standing or rather moving through a trough, and all the surfaces on which the urine is likely to fall should be constantly wetted by water from a perforated pipe or sprinkler. Of course the more impervious the material of the floor the better. Glazed tiles or slate are good. Wooden floors should never be used for such places that are frequented by numbers of men and boys. In all places, whether in private houses or elsewhere, the frequent washing with warm suds is essential for the fixtures themselves and all their surroundings. This should be repeated several times a day

for public places in warm weather, and never omitted more than twenty-four hours in any weather or any place. The disgusting condition of the surroundings of most urinals of public resort is

Marché, tour d'Horloge, etc. Then they "*blague*" the man who is going to *lâcher*, and try to rope him in to be "*mon nègre*," to help on plans and sections when they get "*en charrette*," or near cart-time.

LIVERPOOL CORPORATION. TROUGH WATER CLOSET.

Fig. 29.



too well known to need comment. The perfection of the fixture may help, but soap and water are essential, and cannot be dispensed with, whether the floor be pine, marble, or tiles.

THE ILLUSTRATIONS.

THE MASON BUILDING, BOSTON, MASS. MR. W. G. PRESTON, ARCHITECT, BOSTON.

HOUSE OF J. W. CHENEY ESQ., SOUTH MANCHESTER, CONN. MR. W. E. CUSHING, ARCHITECT, SOUTH MANCHESTER.

AN ARCHITECTURAL STUDENT IN A FRENCH ATELIER.

I HAVE been in the *atelier* every day, and have not done much, being not quite used to it. At any rate, I get quite a good walk, fifteen minutes, at least, to the *atelier* in the rue de B. Coming back to eleven o'clock *déjeuner* does not seem very convenient, and rather breaks in, but one gets used to it, and I hope to get used to working steadily in the rabble which would drive a feeble, nervous man crazy. When you go in in the morning, every one howls, "Goude morning, Mr. W., have you well slept?" etc., and you are expected to go round and shake each *camarade* by the hand every morning and every night.

The *atelier* is a large rambling room in a court-yard, one flight up, — a dirty old place filled with drawing-tables, boards, and rubbish of all kinds. In one corner is a library of valuable but much abused books, and round the walls are plaster casts, and raw things stuck up by the fellows, who, in fact, run the place. The corporation consists of a *messe*, presided over by the *messier*, *sous-messier* and librarian, who run the *atelier*, and your fifty-five francs entitle you to boards, squares, etc., the use of the library on paying three francs a month, and twenty to the *patron*, whose part is merely that of an adviser. Three times a week the word is passed round, "*Le patron*." The Bedlam ceases. The *patron*, a modest little man with the red favor of the Institute in his button-hole, comes quietly into this quiet scene, not long since a regular stampede, perhaps. He steps up to the first man, gives him words of advice, or sketches changes on tracing paper; then right on to the next, going his rounds with not a word wasted. Perhaps he smokes a cigarette, and one day he sat down on a stool and told W. he was too fond of travelling. We all gathered round, and he was a little playful. Then suddenly he jumped up, said in a low voice, "*Bon jour, Messieurs*," took his hat and left. The fellows wait till they hear his steps on the *pavé* below, then they rush and talk it over and "*blague*" one another, but as time goes on, they get more quiet, being a little "*en charrette*." Some have determined to *lâcher*, that is, give up finishing the *projet*, which is a *grand*

They study things no end, drawing their designs over and over again, which is, of course, stunning practice. They draw it on brown paper, then make numerous *calques*, or tracings, and then begin to *rendre* on white paper. For this *projet* the elevation takes three double-elephant sheets and three large drawing-boards nailed together. I expect to be called in as *nègre* soon. They are very kind to us foreigners, and I am much pleased that they think us so "*gentil*," and really treat us with consideration as Americans, never making us do disagreeable work, as they do the French "*rapins*." But our *atelier* is the most gentlemanly as well as one of the best, if not the best, architecturally, in Paris.

The fellows use very disgusting language with sweet, smiling faces, but it does not sound so very bad in French, for all depends on association. They call one another "*cochon*" all the time, — which outside is the highest insult, — and many things worse than that. Then not long ago, they took a vote on who was the most *bête* in the *atelier*. First vote it was shared, second, B. "*chose*" got it by an overwhelming majority. He is quite young, and I hope it may do him good. I was amused at their wit not long ago. They set a *rapin* to grind ink, giving him a fine-looking piece to grind. He worked away busily for some time, the fellows trying it all the time, and "*blagueant*" him because it was not black, and he worked away. At last the funny man looked up and cried, "Why of course, what are you doing? Ink is never black when you grind it that way. *Mon Dieu! Quel bête d'homme!* Grind it the other way." So the fellow began grinding it the other way more diligently than before, and they tried it and it was still brown and watery. Then they told him he was grinding it the wrong way again, which he seemed to think perfectly possible. After a long time when things got noisy and excited, they told the *bête rapin*, with glee, that he was grinding a stick of black liquorice which they had made look just like ink, with a paper wrapped round one end.

So life in an *atelier* begins. It was disappointing not to go *en loge* on Wednesday, when they had an "*esquisse-esquisse*" or twelve-hour sketch of a kind of garden-house "*pour un riche Amateur dans un parc*," as most of those *projets* read. I am doing my little "*Tribunal*" and the *patron* is kind, and does not slang it, and in fact says very little. Then, when he is gone, some one begins a dialogue between the *patron* and "*Meester W.*," which is very funny and very untrue, except as regards my poor French. They help me through willingly and I try to enter into their nonsense and call them "*bête*" and "*cochon*," etc.; so it goes on. I am learning French slowly. I feel myself getting on, and at table am quite talkative, but at the *atelier* they often pretend not to know what I mean at all. . . .

Work goes on in the *atelier* slowly, for changing and waiting for the *patron's* advice and having the fellows find it "*laid*," and all, is

discouraging. The *patron* is very nice and does not discourage me. They are much excited in the *atelier* to find my eyes are blue, for blue eyes in France are not common, and they say, "*Ce petit W. a les yeux du Patron. Oh! c'est épatant!*" It seems the *patron* has blue eyes. Then they imitate or rather invent ridiculous conversations between the *patron* and me, which they enjoy hugely. Then they say, "*Oh! W., il est furieux,*" which they say always in the funniest way. I am at present *negre* for B., a very pleasant second-class man, and for the time being, I am his slave, he my *patron*. Later, when I am "*en charrette*," the relationship changes. Now I say "*Mon bon patron*," and he, "*Mon chère nègre*," or more generally, "*Mon excellent cochon*," which is one of the favorite *atelier* words; *atelier* slang is *sui generis*—not pretty, though often expressive. "*Mon bon cochon*," "*Mon petit cochon*" sound very queer to us, but when you are very much disgusted you say "*Sûle de cochon*," and if very angry, add "*Porc*" with terrible emphasis. Then your adversary smiles and asks, "*As-tu fini?*" Think of calling your friend "dirty thing," "hog," "pork!" just as you would say, "you aggravating fellow!" Strange how one gets used to it, particularly in a foreign language. I shall have to "*nigger*" a good deal for "*Mon bon*" this week, as their *projet* is due on Saturday next, and they have to be finished, mounted on frames, and carted to the schools. One of the French fellows who has been here longer than we, "*fait tous les courses*," as they call it, but they never trouble us, while they hurry that poor "*rapin*" about in a startling manner, which he does not seem to mind at all.

Busy week last week, mostly "*en charrette*." I hardly lifted my hand for myself, as I was *negre* for B., who had a good *projet*, and I enjoyed it. The way these fellows work for one another is very unselfish and pleasant, and the more I see of my *atelier*, the more I like the fellows, and see that beneath their vulgar talk, there is no end of good, gentlemanly feeling. They never "*slang*" a man behind his back, and some disagreeable little fellows they treat better than I could.

The "*rendu*" was Friday noon, so that Thursday night many fellows staid and worked all night. Some were there by six in the morning, and such a rush to finish as there was Friday morning! Drawing, coloring, howling, and individual silence going on all at the same time, and I indulged in them all at various times. Everyone was trying to get everyone to do everything at the same time. The drawings were about twenty in number, varying in size from a large drawing board to three screwed together, and to stretch and mount on frames all these, besides finishing, was a job. You stretch on a wooden stretcher as for an oil painting, and paste gray paper round the edges to make a kind of frame. There is *colle forte* and "*colle à pâte*" which are flying round lively toward the last, and everything rushed and bungled more than I ever imagined. The mounting is done in the yard, and it is a lively scene as the hour approaches; one man pasting the "hands," and three or four working at one frame. The cart or *charrette*, half loaded, stands ready; three or four parties getting ready the last "*coupe*," or plan;—paste gives out, brush mislaid, — and you go in and paste with your hands. Such howling! "*Où est mon plan? Sûle de cochon! Sûle de rapin! Allez chercher G.!*" and G., le *petit G.*, is fairly dragged down from up stairs, where amid the howling, like the boy on the burning deck, he stood and worked to finish some one else's plan. It is brought down all damp and fresh from the brush; is clapped upon a frame, six fellows paste the paper on the edge, and it is chucked into the cart. The *charrette* moves, the *Atelier X.* falls in behind, having made "*lorgnons Anglais*" out of mica for one eye; four walk behind the *charrette*, their hats off and their handkerchiefs feelingly at their eyes; the rest sing boisterous songs, and so they go to the school, and there they meet the other *ateliers* bringing in their papers, and perhaps with trumpets, always some nonsense or "*blague*." So the *projet* of three months is finished and the *atelier* deserted for a few days. Then a new sketch will be made at the school on Wednesday, and a month's *projet* will be begun.

I thought the *atelier* would be the place to learn French, but if you do not "*brace*" to it, you get into the bad habit of not speaking because they won't understand and *moque* you, and because you find it so hard to understand, you work away and forget to listen. You would laugh to see the *atelier*; all the fellows in gray linen blouses, working away and singing, and then to hear the door open! If it is not the *patron*, the fellows in the L of the room "*font le patron*," i. e., play the *patron*, but some one generally laughs. But if it is the little man, a death-like silence prevails. The other day, the noise was changed to stillness profound, by the simple opening of the door, and the *patron* walked in with a tall boy, saying, "*Messieurs, je présente un nouveau, qui veut faire l'Architecture, etc.*" Everyone smiled sweetly and bowed to the dazed looking *nouveau* who succeeded about as well as most boys do, when they try to bow to twenty superior beings in different parts of a big room. Then the *patron* went and the fun began. No sooner had the door closed than the *atelier* exclaimed like one man, "*Oh! mon Dieu, que j'ai soif*," with a long thirsty accent on the f — "*plus à ce moment-ci que jamais de la vie!*" This was a gentle suggestion that the *nouveau* had better treat or *payer à boire*, which suggestion was followed by various recommendations of good *cafés*, all given in a funny droll way which some of these Frenchmen have. But the "*rapin*" had no money, so they let up on that and began to *blague*

him mildly. B. who is the droll man of the *atelier*, and librarian, began, "*Mon chère petit cochon, je suis Bibliothécaire; voulez-vous me donner votre nom et payer à la bibliothèque; mais attendez, êtes-vous vacciné?*" Then they demand his name and make puns on that and *blague* him in every possible way. Then B. says gravely, "*Dites donc rapin êtes-vous intelligent?*" and so it went on till the boy left; but even then he was called up-stairs again, and when he arrived breathless, some one said gravely, "*Prenez la rampe*," or take hold of the balustrade. If a *nouveau* kicks or says anything saucy, they douse him with water, as he goes out into the court. They have the funniest way of saying, "*il est furieux*," after they "*blague*" you — "*Cet animal là — Espèce d'animal, tu es furieux!*"

They have a dialogue between me and the *patron*, which they think very funny, in which they change all the genders and pronounce even worse than I do.

"*Les Sauvages*" have made a "*grand succès*" this week, singing some loud chorus songs. They happened to take right and they laughed till they cried. We can make more noise than they, and that is a feat. The day before Thanksgiving, we thought we would pay treat. They had not asked it, which made us the more anxious, so we bought four bottles of Madeira, one of Grenadine, and three siphons of soda, and forty-eight cakes, which were brought up by the *pâtissier's* boys, in white jackets, aprons and caps. Then the *atelier* came with a rush. "*Mais ces Américains sont très intelligents. Epantés ces Américains*," and they pitched in, and drank our health and ate our treat with true French delight. Then nothing was left but the three siphons with more or less soda-water, so they began to squirt at one another with siphons, and I never laughed harder in my life, they got so excited. B. exclaimed "*Mais non, ce n'est pas convenable à donner un coup de l'eau à nos camarades, mais aux pâtissiers*," upon which they drove the *pâtissiers* from the room. But just at that moment the door opened and in walked an "*ancien*" in his best "*chapeau de forme*" and all. They could not resist; the three siphons were turned upon the innocent man, who fled the building; then they finished by one man hooking his siphon on to another man's collar and playing the contents down his neck. It was a scene! They seemed much pleased, and we ended up with a few songs all round. Lucky the *patron* didn't happen in! So much for the *atelier*! — *Extracts from a private letter.*

HOUSE DRAINAGE.—I.

THE Sanitary Committee of the Society of Arts (London) were able to obtain evidence from Messrs. W. Eassie, Rogers Field, and E. F. Griffith (three engineers having wide experience) on various matters connected with house drainage. The following is the part relating to the examinations of houses and to works:—

MR. WILLIAM EASSIE:

Will you be so good as to describe, as practically as you can, what is the course of your examination in diagnosing, so to speak, the condition of the house?—In the "*Practical Hygiene*" of Drs. Parkes and De Chaumont, I have furnished a description of how this is usually carried out in ordinary cases. I first begin with the drains, which I lay bare, when I can do so, at various places, in order to see of what they are composed. When I find that they run inside the house, and are not concreted around, I pour in at the end of the drain a measured quantity of water, and collect it at the opening made somewhere in the area, not far from the outfall into the sewer. In some cases I find it necessary to fill the drain with water, and notice if this water disappears, because if it does so, it betokens unsound pipes or bad jointing, in which case I take it up and relay the drain. In testing the suitability of a drain for properly conveying away solid matters, I work the closet by pouring into it some suitable substance, and watch at the opening in the area whether it speedily appears. If it does not quickly make its appearance, and especially if the scouring dislodges any excess of paper or solids not introduced by me during the testing, I conclude that the drain is calculated to retain improperly the voidances, and I then recommend the drain to be taken up and relaid. By these means I am able to ascertain the general soundness of the pipes, their freedom from forming deposits, and their velocity of flow. If the house has been rebuilt upon an old site, I also examine for any old cesspools or brick drains. I next ascertain the absence, presence or condition of the main trap between the house and the sewer, which is generally found in one of the area vaults. If it is a dip-trap, I invariably find it acting as a cesspool, and remove it, and I do the same with some patterns of syphon traps. Where I am permitted, I then construct a disconnection chamber, with a fresh-air inlet of some kind suitable for the place; and as the next thing to consider is the ventilating outlet of the drain, I pay particular attention to the absence or presence of the ventilating pipes. If the soil-pipes be adequately ventilated, and if these are at the extremity of the drain, carried up to the roof, and terminating sufficiently far from windows and chimneys, I consider them calculated for the work which they have to perform in the matter of ventilation. But I sometimes introduce special ventilating pipes. When the soil-pipes descend inside the house, I fill them with water in order to ascertain their soundness; and if, as I frequently find, they leak, I recommend them to be taken down and others fixed, if it be at all possible, outside the house. I always assume the soil-pipes to be faulty, owing to improper jointing or decayed solder seams, and subject them to the water or some other test. An examination of the closets follows, and if they are of

the horrible pan pattern I condemn them, and if of the valve pattern, with D-traps, I remove the latter. Of course the woodwork around the closets must be taken down, and if the trays or safes have their wastes conducted into the D-traps I make a note of the removal. I pay particular attention to the servants' closets, and see whether they flush properly and are of a good pattern. The next inquiry is regarding the cisterns which supply the closets, and it frequently takes a considerable time to ascertain whether these cisterns also supply drinking water, and to where the overflows are led. If I find them supplying taps from whence drinking water is likely to be drawn, I proceed to notice where a separate cistern can be fixed for this service, and make a memorandum of recommendation to this effect. An examination of all other cisterns follows, and I carefully notice whether the overflows are properly disconnected, and also the physical appearances of the water and the state of the cistern interiors. I notice whether any of the basement closets are supplied direct from the mains. Very likely next in rotation would come the waste deliveries of the sinks, baths, and lavatories. If, as I too frequently find, they enter the soil-pipe, the closet-trap, or the drain direct, I specify their immediate removal. It is sometimes difficult to disconnect some of the sinks in the interior of the house, but it is always possible to contrive some method of doing so. I always make a note insisting upon the disconnection of the rain-water pipes, and their delivery over a gully. When I find an improper disconnection, as is frequently the case with sink wastes, I indicate the best method. Sometimes a too free method of disconnection has been followed, as, for instance, where an untrapped sink waste is made to deliver close to the trapping water of a gully, and where the effluvium from the latter is led into the room. I find it very often necessary to draw attention to the position occupied by the closets, and to the want of ventilation of the spaces in which they are placed, as also to the general ventilating arrangements of the house, and whether there is a proper air flushing, if possible, to the rooms and staircase.

What forms, sizes, and inclinations do you usually adopt for house-drains?—My chief desire is to make use of the smallest possible pipes, and I use stoneware pipes of four inches diameter when these can perform the work, and if they will not, then pipes of six inches diameter. Sometimes I am obliged to use pipes of nine inches diameter, but this is more rarely, and only as a main when several six-inch pipes junction into it. I rarely find use for twelve-inch pipes. The fall greatly depends upon the depth of the sewer, and I take as much fall as the latter will afford me, providing a little extra fall before the main disconnection chamber. Where there is a good means of flushing, the amount of fall is of less consequence. I find houses where it is impossible to get a fall of more than an inch in ten feet. Mr. Field's self-acting syphon is of immense advantage in such cases, and I have fixed them in connection with the sinks whence the cleaner kinds of wastes are delivered.

What are the modes you find applicable for testing the sufficiency or competence of this description of work?—If the pipes are laid down on proper lines, and surrounded by concrete, with occasional man-holes it is very easy to ascertain whether they act properly. As for the disconnected traps, their efficiency can be seen at a glance. The chief delinquencies are found at the water-closets, and the proper working of these is tested by the rapidity with which introduced paper, etc., can be carried to the disconnection chamber, which I mostly cover for this very purpose with an iron man-hole cover easily lifted up. If any smell arises in a properly laid drain, and from a closet, the soil-pipe of which is ventilated by a pipe of the same diameter, to the outer air, I generally attribute it to some temporary stoppage of the drain, owing to the introduction of some foreign substance, such as a duster down the closet. In any case the fault ought to be easily remedied when the work has been properly executed. In every case where pipes are led down inside the house, they should be cased in with hinged casings, and the seats and risers of water-closets should also be so constructed as readily to afford inspection. It is not in my opinion necessary to employ a workman to test the efficiency of any drain, and as I provide a plan of the house, showing the position of the man-holes and air-chambers, it is only necessary for a servant to raise the covers to see if the drains run clear. Screw caps on the various traps render it easy to remove any temporary stoppage at these places. With a proper plan of the drains in his hand, and with an air-chamber, *i.e.*, a disconnection chamber, easy of access, a man should be able to test the efficiency of all the waste removals, in the course of an hour, even in the largest houses.

MR. ROGERS FIELD:

Will you be so good as to describe, as practically as you can, what is the course of your examination in diagnosing, so to speak, the condition of a house?—The first point is to ascertain whether the drains pass underneath the house or outside it. If they pass underneath the house I test them carefully for soundness (to ascertain whether they are water-tight), as well as testing them for freedom from deposit and velocity of flow. If they pass outside I merely apply the two latter tests. The test for soundness is managed as follows: The drain is opened down to at its lower end generally in the area between the house and the street, and carefully stopped with a plug of clay. Another opening is made in the drain, and the drain is then gradually filled with water. As soon as the drain is full, the water is turned off, and carefully watched at the upper opening. If the water remains in the drain, the drain is sound, but if not, the drain is leaky, and the rapidity with which the water sinks indicates the amount of the leakage of the drain. It is not at all unusual for the water to run

away so rapidly that it is impossible even to fill the drain so as to make the water show at the upper opening at all. The test for deposit is by flushing from the closets, sinks, etc., and pouring down a large quantity of water and watching the drain at the opening at the lower end (of course without any plug in it). If the water comes down thick or with a bad smell, it shows that there is a deposit; if it runs clear and sweet, it shows that the drain is clear. The test for velocity of flow is by noticing the time that water takes to run a given distance. Whether there are any old drains or cesspools, etc., can only be ascertained by opening up and searching for them, and this must be done whenever there is any reason to suspect their existence. The next point is to ascertain whether there is any trap between the house-drains and the sewer. A strong draught up the drain from the sewer is generally unmistakable evidence of the absence of the trap. Should there be a trap, it must be opened down to, as the chances are that it is so constructed—as to be more or less full of deposit. It must, of course, also be ascertained whether the drains are ventilated. There is not much difficulty about this, as it is generally evident they are not. The next proceeding is to examine and test all the details of the sanitary arrangements, water-closets, sinks, baths etc.; and as it would take much too long to describe all these various necessary operations, I must simply refer to a few of the most important points. The soil-pipes must be carefully examined, and if they are inside the house they must be specially tested. If of iron, with putty joints, as is often the case, they may, without much risk of error, be assumed to be unsound; but if it is wished to test them, this could be done by the smoke test. If they are of lead, they should be tested by being plugged and filled with water. A glance at the water-closet apparatus is enough for an experienced man; but it is necessary to take down the seats to see whether the overflow of the "safes" or lead trays underneath are connected with the soil-pipes, as is often improperly the case. The condition of the traps can be tested by lifting the handle of the closet and noticing whether any smell comes up (in a good closet no smell is perceptible). If, however, the apparatus is of a faulty description, the closet is sure to smell sooner or later. It must be carefully ascertained what cisterns supply the closets, and, if there is the least uncertainty, the cisterns must all be tested by drawing off water from them, and in some cases by coloring the water. The waste-pipes of sinks, baths, etc., often give a good deal of trouble. A good way to trace them is by pouring down hot water, and feeling which pipes become heated. If hot water poured down the waste of a bath, for instance, heats a soil-pipe, it shows that the waste of the bath goes into the soil-pipe. It is never safe to trust to appearances, as the following curious instance will show: In a house I recently examined, I saw an open end of a pipe projecting through a wall, and was informed that it was the overflow of the cistern. I tested this overflow by pouring water down it, but no water came out of the projecting pipe. I was then told that it was the waste from the "safe" or tray under the water-closet. I tested this in the same way, but no water came out of the projecting pipe. I was then told it was the waste from the safe of a bath, and on closer examination I found that the pipe evidently did come from the bath. I thought it better, however, to test it by pouring water into the safe of the bath, when to my surprise no water came out of the pipe. I then had the casing of the bath taken down, when it was found that the pipe had surely enough been connected with the safe of the bath, but at its highest point, so that no water would run out of it, and that the real outlet from the safe of the bath was into the soil-pipe. The explanation was, no doubt, as follows:—The outlet of the safe had always gone into the soil-pipe, but some former tenant had insisted on its being altered. To do this properly, the fall of the safe must have been altered, which would have involved some expense, and the projecting pipe had therefore been run through the wall as a sham to deceive him. The bath in question was in a dressing-room opening into a bedroom, so that the connection of the outlet with the soil-pipe was a very serious matter.

How long does the process of examination usually take?—The time varies so much with the size of the house, the complication of the sanitary arrangements, whether there is any plan or not, and the facility of examination, that it is almost impossible to answer this question. In order, however, to give some rough idea, I may say that in an ordinary London house of moderate size the examination would probably take from three to four hours of my personal time. This is on the assumption that the house has been previously prepared for my inspection by having the concealed parts exposed, and that no great amount of testing is required. If the sanitary arrangements are complicated, or if there is delay on account of workmen opening down to the drains, making preparations for testing, etc., the time is largely increased. In very many cases, however, after opening down to the drains, I consider it unnecessary to test them, as I am morally certain that they are leaky, from my experience in testing other similar drains.

What forms, sizes, and inclinations do you usually adopt for house-drains?—I generally use stoneware pipes of 4 or 6 inches diameter. Occasionally 9-inch pipes may be required in very large houses, but this is only under exceptional circumstances. Under ordinary circumstances 9-inch pipes are too large even for considerable sized houses, and it is a mistake to use them. The fall varies immensely according to circumstances, but I always endeavor to obtain a fall of 1 in 30, or 1 in 40, for ordinary house-drains. When, however, self-acting flushing arrangements are employed, the fall may be greatly reduced, and I have 6-inch main drains carrying the sewage from

large mansions, working very satisfactorily with falls of 1 in 100 to 1 in 200, where flushed by my self-acting syphon.

What are the modes you find applicable for testing the sufficiency or competence of this description of work?—In order to render my answer intelligible, I must, in the first place, explain that the different portions of all sanitary work carried out by me are made as accessible as possible. The drains are laid in straight line, with man-holes, or inspection openings, at every change of direction. The traps on the drains are all made easily accessible. The soil and waste-pipes are never built into the wall, and, if cased, the casings are easily removable. The open ends of all waste and overflow pipes are made visible. The water-closet seats are all hinged, so as to lift. The traps of sinks, lavatories, etc., have screw-caps for inspection and cleaning. It is then a comparatively easy matter to examine and test the drainage. The drains are tested to see that they are watertight when they are laid, but this test (by blocking and filling them with water) can be applied at any time. The accuracy of the laying of the drains, and their self-cleansing capacity, can be immediately tested by trying the velocity of flow, as already explained. The traps on the drains can be tested by examining whether any solid matter rests in them, and also by trying whether paper, etc., flushed down the drains, passes through them. The sufficiency of the flush of the water-closets can be tested by seeing whether it drives paper through the traps. The test of smell is also valuable, as in well-laid drains any other smell than that of fresh sewage is an indication that something is wrong. I may add that in the work I carry out, I not only supply my clients with an accurate plan of the drains showing every detail, but also a detailed schedule referring to the plan, giving particulars of every pipe, trap, closet, man-hole, inspection cap, etc., with a written description of the works, and detailed instructions for maintaining them in order. This is extremely useful for future references, and in some cases my clients have duplicate copies made, and deposit one of them with title-deeds.

WATER-SEAL TRAPS IN SUMMER.

ITHACA, July 1st, 1880.

TO THE EDITOR OF THE AMERICAN ARCHITECT:—

Dear Sir,—In a recent issue of your paper a writer recommends the use of oil for preventing the evaporation of water in traps. I have not the article before me, and therefore cannot make the proper reference.

A simpler and cheaper method is to fill the trap with a saturated solution of calcium chloride. This material is a by-product in the alkali trade, for which, in quantity, the manufacturers would doubtless be glad to find a market at five cents a pound. Owing to its hygroscopic character its solution does not evaporate. About five pounds to a gallon is sufficient. To apply it to a water-closet, flush the trap thoroughly, shut off the supply, lift the handle, and drop the calcium chloride into the trap until no more will dissolve. For smaller traps, as in sinks and hand basins, where a slight waste is unimportant, pour in the saturated solution, which, being about twice as heavy as the water, will speedily displace it. The calcium chloride may possibly contain a little free hydrochloric acid, which will corrode the metal. Its presence in the solution can be detected by litmus paper, and a teaspoonful of marble dust will neutralize all that can be found in several gallons.

Very Truly Yours,

CHAS. BARCOCK.

NOTES AND CLIPPINGS.

A NOVEL BATH HEATER.—A French cavalry officer heats the water tank used for the ablutions of his troops by the latent heat of the manure from their own horses.

THE EDDYSTONE LIGHTHOUSE.—The building of the new Eddystone Lighthouse is now making rapid progress, and the work achieved this year already exceeds that done last year. Two-thirds of the solid base of the structure is now brought up to within three feet of high-water mark during the spring tides, and the work will shortly be less dependent on tides and weather.

UNITED STATES LIGHT-HOUSES.—From the report of the Light-House Board for the year ending June 30, 1879, it appears that the Government has erected the following light-houses.

First order.....	47
Second order.....	26
Third order.....	55
Third-and-a-half order.....	10
Fourth order.....	200
Fifth order.....	123
Sixth order.....	165
Total.....	626

HUMORS OF THE OXFORD ENCEALIA.—Among the distinguished men upon whom the University of Oxford conferred the degree of D.C.L. *honoris causâ* at the Commemoration last week, was Mr. John Everett Millais, R.A. When the distinguished painter came forward he was greeted with a storm of cheers, during which a gallery artist tried to rival the great painter's "Black Brunswicker" by displaying a gigantic paste-board representation of a house-painter with a pot labelled "Brunswick Black." The proceedings were interrupted by it for some minutes, during which a Pro-Proctor plunged through the crowd until he reached the "artist." He tried to snatch the "Brunswick Black," but it was passed from hand to hand amidst roars of laughter. The "picture" eventually fell into the hands of another Pro-Proctor, who tore it up, amidst much groaning.

A SUGGESTIVE LEGEND.—There is a terrible legend of Crim-Tartary, concerning a massive and imposing edifice, which is also very ancient. It is so vast and impressive that travelers are profoundly affected, especially those who come from countries where a certain number of persons are annually destroyed by burning theatres and falling buildings. One such traveler was gazing with admiration upon the edifice, in company with his Majesty the King of the country, and he could not restrain himself from saying: "O King, what is the secret of the wonderful strength of this building, that it has neither tumbled down nor been burned up?" But his Majesty the King of the country was coy, and forbore to answer. Being pressed more closely, however, at length he answered, "O stranger, its strength is a secret to the State." The stranger was not dismayed, and after much entreaty, his pertinacity overcame the reluctance of the King, who finally said with solemnity: "O stranger, when my ancestor began to build this temple, it was laid upon insecure foundations. Thereupon he sent for another builder, and said to him: 'The present corner-stone will be raised, and the present builder placed under it alive, and upon the stone laid upon the body, you will proceed to erect the wall. Should it be weak or insufficient, it will be taken down, the corner-stone again raised, you will be placed under it alive, the stone will be again laid, and the building proceed once more.' My ancestor said nothing further; and you now know, O stranger, the secret of these massive walls, and why this building does not tumble down." The stranger, says the Crim-Tartar legend, went his way much meditating the marvelous government which was able to prevent flimsy building.—*Harper's Monthly*.

A NEW SYSTEM OF OIL SKETCHING.—It is stated in the "Art Chronicle" of a late number of the *Portfolio*, that "Mr. Hamerton has hit upon a little device for shortening the process of sketching in oil from nature, which he finds practically useful." Generously wishing to extend the benefit of this "little device" to others, he makes it known to the readers of the *Portfolio*, and we feel sure that he will be equally willing that it should be known to our readers. We therefore quote in full the description of this ingenious process for rapid sketching:—"After dead-coloring the subject with rather thick opaque pigments, as if in preparation for a picture, Mr. Hamerton takes a sheet of the thinnest 'moist' gossamer paper manufactured by Messrs. Field and Tuer for manifold writing, and lays it upon the sketch, flattening it gently with the finger. The gossamer paper is so transparent that the whole of the dead-coloring shows through it perfectly, and the sketch may be proceeded with at once (as if the dead-coloring were already quite dry) and finished in a single sitting. This process is really more rapid than water-color, as there is no occasion to wait even the length of time necessary for the drying of a wash. It is necessary to bathe the gossamer paper in turpentine for a short time before applying it, to prevent subsequent cockling, which would occur otherwise from the absorption of oil from the dead-coloring. When the second painting is dry, a coat of varnish removes the very slight degree of opacity remaining in the paper, which becomes invisible, and would not be detected by any one not aware of the nature of the process. It is necessary to paint in the first instance upon a smooth and stiff surface, such as that of millboard or panel. The process is particularly useful for skies with a few clouds, the sky itself being painted directly on the millboard, and the clouds added at once on the surface of the gossamer paper. In landscape all minute details can be easily added upon the paper. It has been found convenient to glaze at once with transparent color in varnish on the surface of the gossamer paper, and add details and corrections at once upon the glaze in opaque color. This gives practically the effect of three paintings without waiting at all for drying."

THE GREEK AND ROMAN THEATRES OF SYRACUSE.—A letter from Syracuse, Sicily, says: In the side of the plateau sloping to the south still remains the great theatre, which was one of the very largest Greek structures of the kind. It is hewn in the solid rock, is almost semicircular in form, and is 495 feet in diameter. Forty-six tiers of seats, sloping backward and upward from the immense orchestra, still remain, and where the rock has crumbled in the upper section it is believed there were fifteen more, making sixty-one tiers in all. The view from the highest point of the excavation is magnificent, embracing a variegated and inspiring expanse of mountain, plain, valley and sea. How tame and tawdry are the paint and tinsel accompaniments of the modern stage in comparison with the natural scenic effects with which those cunning Greeks contrived to beautify and realize theatrical representation! There is nothing which even faintly resembles it in modern times save only the Passion Play at Oberammergau, a conception of the Tyrolean peasantry. Here, in this great amphitheatre, hewn in the cliff, sat the ancient Syracusans, tier above tier, in vast multitude, an awning screening them from the sun, but not obstructing the majestic view or keeping off the fresh breeze from the sea, and witnessed the classic and beautiful plays which are even yet models of dramatic composition. The construction of the auditorium is a marvel of symmetry, and ought to be carefully studied by the architects of modern theatrical edifices. There is no point in the whole immense space where every object on the stage cannot be seen and every word heard. This is said to be true generally of the Greek theatres yet existing, and it shows perfectly, in all its details, the art of dramatic representation was studied and developed by those so-called heathen masters. Pity that some of our modern theatre builders and managers were not a little more heathenish in the same sense. On some of the passages between the tiers of seats are still seen, though greatly defaced by exposure to the weather, the names, carved in Greek letters, of the celebrities of Syracuse. About five minutes walk from the Greek Theatre is the Roman amphitheatre, also an excavation in the limestone strata, and though not quite so large, so ancient, or so perfect in construction as the theatre, yet a very interesting relic of that remote past. It is one of the few remaining distinct and impressive traces of the ancient city. Near it is to be still seen, also in a tolerable state of preservation, the immense altar, built of stone, on which King Hiero was wont to offer up his hecatombs of oxen, in commemoration of the overthrow of a rival of his family.—*Philadelphia Bulletin*.

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.]

229,515. FURNACE DAMPER. — Edgar W. Anthony, Boston, Mass.
 229,525. POTTERY, TILE AND GLASS FURNACE. — George Duray, New York, N. Y.
 229,540. JAIL. — George H. Matzel, Columbus, O.
 229,552. STEP-LADDER. — Henry E. Phelps, Marshall, Mich.
 229,558. — ELEVATOR. — A. F. Smith and T. Y. Davison, Lynn, Mass.
 229,561. FIRE-ESCAPE. — Louis Teyen, New York, N. Y.
 229,566. BELL-HANGER'S ANGLE. — Ezra W. Vanduzen, Newport, Ky.
 229,591. HYDRAULIC ELEVATOR. — David P. Davis, Jersey City, N. J.
 229,606. AUTOMATIC SAFETY-CLUTCH. — Bernhardt E. Henriksen, San Francisco, Cal.
 229,616. SAW-FILE. — Hiram A. Kimball, Philadelphia, Pa.
 229,619. DIVIDERS. — John D. Little, Petaluma, Cal.
 229,621. WINDOW-OPENER. — Albert K. Mansfield, Steubenville, O.
 229,624. DERRICK. — Enoch J. Marsters, Stockton, Cal.
 229,627. BATH-WASTE AND OVERFLOW. — Samuel G. McFarland, Newton, Mass.
 229,657. HATCHWAY SAFETY-GATE. — Francis M. Baker, South Bend, Ind.
 229,658. ELECTRICAL SAFETY DEVICE FOR ELEVATORS. — William E. Sawyer, New York, N. Y.
 229,673. WRENCH. — Loring Coes, Worcester, Mass.
 229,688. RIVETING TOOL. — Edward P. Farnum, Concord, N. H.
 229,724. METHOD OF LAYING BRICK LININGS. — W. I. Mann and R. R. Singer, Pittsburgh, Pa.
 229,750. PROCESS AND APPARATUS FOR COOLING THE AIR. — R. Forster, Alexandria, Va., and B. E. J. Ellis, Washington, D. C.
 229,756. SUMMER-FURNACE. — George F. Robinson, Toronto, Canada.
 229,768. BRICK. — John S. Smith, Jackson, Mich.
 229,771. PIPE-COUPLING. — William M. Stuart, Quincy, Mich.
 229,772. SAW. — Charolus Suisse, St. Clair, Mich.
 229,777. PROPORTIONAL DIVIDERS. — Jose M. Villa, Medellin, Antioquia, United States of Columbia.
 229,786. SHUTTER. — James G. Wilson, New York, N. Y.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS. — The following building permits have been issued since the last report: —
 Leonhard Rippel, three-sty brick building, Riverside Ave., between Fort Ave. and Clement St.
 F. W. Classen, two-sty brick buildings, on Light St., between Barney and Wells Sts.
 Benj. Smith, two-sty brick buildings, Fort Ave., between Towson and Richardson Sts.
 J. B. Connolly, three-sty brick building on Gay St., between Alsquith St. and Central Ave.
 C. L. Raffell, 2 three-sty and 16 two-sty brick buildings, Chase St., between Washington St. and Castle Sts.
 Anthony Daily, three-sty brick buildings on Baltimore St., between Oregon and Republican.
 Chas. E. Willis, 4 three-sty brick buildings, Mount St., near Lanvale St.
WORKSHOP. — Mr. Wm. F. Weber, architect, is preparing drawings for a two-story brick workshop for the House of Reformation for colored children in Prince George's County, Md., to be 37' x 75', and cost \$4,000.
WAREHOUSES. — Mr. Chas. L. Carson, architect, is preparing drawings for a new warehouse on Sharp St., between Lombard and German Sts., for Mr. Henry S. King, to be four stories high and be built of brick and stone, with terra-cotta trimmings, 30' x 160', and cost \$23,000.
 Mr. John L. Reed is building a new warehouse on Frederick St., near Baltimore, to be three stories high, of brick, 33' 4" x 57', and cost \$4,000; Mr. Geo. Archer is the architect.

Boston.

BUILDING PERMITS. — Since our last report the following permits have been issued:
 Brick. — Vernon St., for Roxbury Carpet Co., a store-house, 70' x 80'; Nelson Curtis, builder.
 Warren Ave., for J. G. Smith, 1 tenement-house, 22' x 42'; Cummings Bros., builders.
 Washington St., 1 tenement house, 26' x 106', for Wm. H. Thorndike; Lord, Bros. builders.
 Dudley St., for Metropolitan R. R., 1 car-house, 95' x 136'; W. F. Collins, builder.
 First St., for Wm. Stark, 3 dwells., 20' x 34'.
 Wellington St., for J. W. Rollins, 1 family hotel, 25' x 60'; J. W. Rollins, builder.
 Hinchman St., for Daniel McLaughlin, dwelling-house and store, 32' x 35'.
 Washington St., for Jos. Dorr, 1 mercantile building and storage, 26' x 80'; Chas. Chipman, builder.
 Harrison Ave., on land of Eliot B. Mayo, 10 build-

ings for mechanical purposes, average 50' x 60'; T. J. Whidden, builder.
 Charter St., for Mrs. Eliza Carter, 1 tenement-house, 35' x 30'; Chas. K. Nichols, builder.
 Newbury St., for A. A. Burrage, dwell., 44' x 46'; T. J. Whidden, builder.
 Newbury St., for Chas. A. Whittier, 1 stable, 22' x 80'; Webster & Dixon, builders.
 Beacham St., for Middlesex Horse R. R. Co., building for storage, 54' x 100'; M. S. & G. M. Miller.
 Wood. — Gilbert St., for Mary F. Nolan, 1 dwell., 22' x 30'; Daniel Drew, builder.
 Market St., for Sawyer, Hollis & Co., 1 ice-house, 75' x 100'; Stephen Holmes, builder.
 Maple St., for J. A. Houston, 1 dwell., 32' x 50'; McNeil Bros., builders.
 Near Union Ave., for B. F. Sturtevant, building for storage, 22' x 88'.
 Beacham St., for Michael McGinness, 1 currying shop, 28' x 50'; Mark Leighton, builder.
 East Engle St., for Glendon Co., 1 dwell., 26' x 47'.
 Cambridge St., for Jos. E. Perkins, building for storage, 40' x 50'; J. C. Dickson, builder.
 Harrison St., for Mary E. Cutter, 1 dwell., 30' x 30'; John Gilbert, builder.
 Beach St., for N. M. Engley, 1 stable, 20' x 60'; Peabody Simmons, builder.
 Bellevue Ave., for Sophia Willis, 1 stable, 14' x 24'; Richard Wills, builder.
 Revere St., for Thomas Sherwin, 1 dwell., 29' x 52'; Benj. B. Brann, builder.
 Erie Ave., for John Harrison, 1 dwell., 14' x 40'; John Harrison, builder.
 Border St., for Mary E. Rice, 1 dwell., 18' x 33'; Angus Campbell, builder.
 Blue Hill Ave., for Highland St. R. R., 1 building for storage, 52' x 18'; C. J. Ilden, builder.
 East Sixth St., for T. E. Hallett, 1 theatre, 75' x 150'; Brown & Thomas, builders.
 Burnham's Wharf, for Choate Burnham & Co., building for storage, 70' x 60'; S. A. Robinson, builder.
 Summer St., Mrs. Annie Campbell, 1 dwell., 20' x 33'; Angus Campbell, builder.
 Beech St., for Wm. S. Mitchell, 1 stable, 25' x 30'; Wm. S. Mitchell, builder.
 Bulwerford Ave., for Reed Bros. & Sawin, 1 carriage house, 40' x 50'; A. B. Perham, builder.
 Prince St., for Eben Bacon, 1 green-house, 22' x 44'; J. P. Shaw, builder.
 Withington St., for Hannah and Mary Tolman, 1 dwelling-house, 20' x 23'; G. E. Lown, builder.
 Wilmont St., for Wm. A. Anthony, 1 dwelling-house, 39' x 39'; S. T. Wafers, builder.
 Longwood Ave., for Michael Kelley, 1 dwelling-house, 24' x 33'; J. Hammerlee, builder.
 Burroughs St., for Melvin D. Ayers, building for storage, 30' x 36'; M. D. Ayers, builder.
 Boylston St., for Gilman Page, 1 store, 20' x 50'; H. R. Jordan, builder.
 Virginia St., for Leonard Covington, 1 stable, 22' by 26'.
 Hathaway St., for S. M. Weld, 1 dwell., 21' x 43'; H. A. Wood, builder.
 Brooks St., for city of Boston, 1 pumping station, 22' x 54'; Herman Drake, builder.

DEPOT. — The New York & New England Railroad have accepted the plans of Messrs. Wilson Bros. & Co., of Philadelphia and New York, for the alteration of their passenger depot. The work has been commenced under the direction of Mr. Cole, their master carpenter.

Brooklyn.

ALTERATIONS. — Manhattan Ave., cor. Green St., front alterations, etc.; cost, \$3,100; owner, John Zimmerman, 142 Green St.; architect, F. Weber; builder, M. Vogel.
 Livingston St., four-sty brick extension, 17' 7" and 25' 11" x 46'; cost, \$10,000; owner, Polytechnic Institute; architects, Wm. Field & Son; builders, John Demott & Son, and Hart & Boyd.
 Bedford Ave., No. 757, one-sty brick extension, 25' x 65', gravel roof; cost, \$2,200; owner, Geo. Boomer, on premises; architect, E. Woodruff; builder, J. Lambert.
 Henry St., No. 445, raised one story; cost, \$3,000; owner, Frederick Grunt; architect, John Mumford; builder, T. K. Jones.
 Dufield St., two-sty brick extension, 11' x 22' 2"; cost, \$3,600; owner, Church Holy Trinity; architect, E. A. Lacey; builders, Jas. Lock and P. D. Norris.
BUILDING PERMITS. — Harrison Ave., one-sty frame ball-room, 50' x 65'; cost, \$4,500; owner, Henry Winter, Harrison Ave. and Bartlett St.; architect, J. Platte; builder, J. Rueger.
 Sanford St., 1 three-sty brick factory, 60' x 130'; cost, \$17,000; owners, White, Potter & Page; architect, M. J. Morrill; builder, T. B. Reuter.
 Vanderbilt Ave., 1 two-sty brick stable, 22' x 52'; cost, \$3,000; owner, William Porter; architect, J. B. Twalts; builder, F. L. Norris.
 Belvidere St., 1 two-sty frame dwell., 25' x 40'; cost, \$4,000; owner, J. J. Hassinger, Grand St.; architect, J. J. Clyde; builder, Geo. Lehrian.
 Vanderbilt Ave., No. 546, 1 three-sty brick store and dwell., 20' x 45'; cost, \$3,500; owner, Mary Gillespie, 1818 Atlantic Ave.; builder, Cormac Gillespie.
 Butler St., 1 three-sty brick wing, 37' x 88'; cost, \$35,000; owner, Industrial School Association, etc.; architects, Parfitt Bros.; builders, Owen Nolan and Martin & Lee.
 North Eleventh St., cor. Third St., 1 one-sty brick foundry; cost, \$4,000; owner, S. J. Hunt, 55 West Thirty-Fourth St., New York; builder, Edward Burke.

Chicago.

BUILDING PERMITS. — C. J. Hull, 3 two-sty brick dwells., 46' x 48'; Nos. 338 and 340 Morgan St.; cost, \$4,000.
 Marks Nathan, three-sty brick store and dwell., 26' x 62 1/2'; No. 167 Fourth Ave.; cost, \$6,000.
 Fred Kollman, two-sty brick dwell., 22' x 58'; No. 519 North Clark St.; cost, \$4,000.
 Ryan & O'Brien, 3 two-sty brick dwells., 60' x 30'; Lincoln St., cor. Van Buren; cost, \$8,500.
 Jerome Beecher, 6 two-sty brick dwells., —, Forest Ave. and Thirty-Third St.; cost, \$2,500.

J. H. Gault, one-sty brick dwell., 21' x 36'; Halsted St., near Centre; cost, \$2,000.
 Joseph A. Isle, two-sty brick store and dwell., 22' x 50'; No. 1322 Wabash Ave.; cost, \$3,000.
 Kurtzman, two-sty brick store and dwell., 21' x 36'; No. 228 Henry St.; cost, \$2,000.
 E. A. Shepherd, two-sty brick dwell., 24' x 58'; No. 392 Adams St.; cost, \$8,000.
 John Strawn, two-sty brick dwell., 21' x 56'; No. 667 Twentieth St.; cost, \$2,500.
 D. G. Schwartz, 2 two-sty brick stores, 40' x 56'; Nos. 40 and 42 South Franklin St.; cost, \$2,300.
 J. Schumacher, three-sty brick dwell., 21' x 63'; Paulina St., near North Ave.; cost, \$4,000.
 D. W. Ryan, two-sty brick addition, 27' x 67'; No. 29 Rawson St.; cost, \$2,000.
 J. Dewey, two-sty brick dwell., 20' x 50'; No. 159 North Union St.; cost, \$3,000.
 O. O. Manland, three-sty brick dwell., 23' x 60'; No. 169 Erie St.; cost, \$3,500.
 W. S. Mellen, two-sty brick dwell., 21' x 73'; No. 424 North La Salle St.; cost, \$4,800.
 A. Olsen, 9 two-sty brick dwells., Franklin St., near Wisconsin; cost, \$57,000.
 A. Olsen, 2 two-sty brick dwells., 22' x 57'; North State St., near Scott; cost, \$11,200.
 Rand, McNally & Co., five-sty brick stores, 90' x 190'; Monroe St., near La Salle; cost, \$75,000.

Cincinnati.

BUILDING PERMITS. — The following building permits have been issued during the month of June:
 A. C. Cordesman, two-story brick; cost, \$4,500.
 H. Heild, three-story brick; cost, \$7,500.
 George Stadler, two-story brick; cost, \$2,500.
 H. Ecor, two-story frame; cost, \$3,500.
 H. Henck, two-story brick; cost, \$15,000.
 H. Drandl, two-story brick; cost, \$1,400.
 E. C. Tower, two-story brick; cost, \$1,500.
 J. B. Harnes, one-story frame; cost, \$2,500.
 Mrs. Driver, two-story brick; cost, \$3,000.
 Mary Bronian, three-story brick; cost, \$4,000.
 John P. Kemper, one-story frame; cost, \$1,800.
 Jas. Casey, 5 three-story brick; cost, \$12,000.
 J. H. Budde, two-story frame; cost, \$1,000.
 J. C. Butler Estate, four-story brick; cost, \$7,000.
 F. Strauss, three-story brick; cost, \$6,000.
 Julius Hoffman, three-story brick; cost, \$1,000.
 Jas. Griffith & Sons, two-story, stone front; cost, \$8,000.
 S. Richards, two-story frame; cost, \$3,000.
 Belle Roberts, three-story brick; cost, \$4,400.
 Lizette Bohmer, one-story frame; cost, \$2,500.
 Dr. E. Freeman, three-story brick; cost, \$3,600.
 Thos. Emery's Sons, five-story brick; cost, \$20,000.
 Otte Suiger, three-story brick; cost, \$3,000.
 Mrs. John Britting, four-story brick; cost, \$10,000.
 Thirty-seven permits for repairs; total cost, \$21,000.
 Total permits for the month, 61; total cost, \$150,300.
 Total permits to date, 346; total cost to date, \$416,380.

NEW BUILDINGS. — The Emerys have forty-four dwellings in course of construction in Eden Park, five on Mt. Adams, ten on Calhoun St., a five-story building arranged in French flats on Seventh St., and a hotel at the corner of Sixth and Luce Sts., and they are about to begin a five-story building, to be arranged in French flats, on the northwest corner of Race and Longworth Sts.

New York.

BUILDING PERMITS. — Second Ave., 1 four-sty brick tenement, 25' 6" x 57'; cost, \$12,500; owner, Wm. Fernschild, 2162 First Ave.
 Grand St., cor. Cannon, 1 four-sty brick store and tenement, 25' x 68'; cost, \$15,000; owners, Steingester & Co.; architect, Wm. Jose.
 Cannon St., No. 5, 1 four-sty brick stable and tenement, 25' x 35'; cost, \$10,000; owners, Steingester & Co.; architect, Wm. Jose.
 One Hundred and Twenty-Eighth St., East Madison Ave., for Mr. David Messeron, 2 brown-stone dwells., 18' 9" x 60', four stories high; cost, \$10,000 each.
 Sixty-Fifth St., east of Third Ave., for Mr. Wm. H. Browning, Mr. A. B. Ogden, architect, 1 brown-stone residence, 25' x 60'; cost, \$6,000; also for same owner, adjoining three residences, 28' x 57', four stories high; to cost \$30,000.
 Fifty-Seventh St., east of Third Ave., for Mr. Jno. McCoil, Mr. Jno. C. Burne, architect, 4 apartment houses, 18' 9" x 64', four stories high, brown-stone fronts; to cost \$80,000.
 Sixty-Sixth St., for Walter G. I. Wheeler, Esq., Mr. Jno. C. Burne, architect, Mr. Jas. A. Frame, builder, a brick factory, 25' x 62', and extension 35 feet, four stories high; to cost \$7,000.
 No. 12 Peck Slip, for Mr. Jno. Simpson, Mr. J. B. Snook, architect, Messrs. A. A. Andrus & Son, builders, a five-sty store, 20 1/2' x 60'; to cost \$7,000. First story iron, above brick and Wyoming stone trimmings.
 One Hundred and Twenty-Fourth St., five-sty brick (brown-stone front) apartment-house, 25' x 77'; cost, \$15,000; owner, Peter Fuchs, 342 East One Hundred and Eighteenth St.; architect, Julius Kastner.
 Fifty-Fifth St., cor. Seventh Ave., 1 five-sty brick apartment-house, 50' x 96'; cost, not estimated; owner, Edward Clark, 34 Union Sq.; architect, H. J. Hardenbergh; mason, John Bauta.
 Lexington Ave., 1 four-sty brick (brown-stone front) apartment-house, 20' x 75' 10"; cost, \$8,000; owner, Wm. H. Browning, 441 East Seventy-Seventh St.; architect, E. Gaudolfo; builder, Wm. H. Browning.
 Henry St., No. 212, 1 three-sty brick stable, 24' 6" x 30'; cost, \$2,500; owner, E. Westfall, 212 Henry St.; architect, Wm. Graul.
 Broadway, Nos. 622 and 624, 1 six-sty brick store, 50' x 196'; cost, not estimated; owner, Jacob Rothschild, 58 West Fourteenth St.; architect, Henry Feuchtmann.
 One Hundred and Twenty-Eighth St., 2 four-sty brick (brown-stone front) apartment-houses, 18' 9" x 60'; cost, each, \$10,000; owner, David Messeron, One Hundred and Twenty-Fifth St. and East River;

architect, Thomas H. McAvoy; builder, Thomas Overington.

ALTERATIONS.—East Fifteenth St., No. 113, third story to be added; cost, \$3,000; owner, T. Cassin; architect, Gage Ingle; mason, James Slevin; carpenter, John Power.

East Twenty-Eighth St., Nos. 15 and 17, two-story brick stable, a third story to be added; cost, \$6,000; owner, Mrs. Baker; architect, G. W. Strong; builder, M. E. Deegan.

Bowery, No. 137, one-story brick extension, 25' x 52'; cost, \$2,500; owner, F. Waldschmidt; architect, Paul F. Schoen.

West Fourteenth St., No. 29, two-story brick extension, 25' x 16'; cost, \$3,000; owner, Dr. J. B. Reynolds; architect, F. S. Copley; mason, Noah Weeks.

Eighth Ave., No. 919, building to be increased 15 ft. in height, two-story brick extension, 50' x 50'; also a three-story addition on southerly side, 25' x 50'; cost, \$21,500; owners, Convent of St. Paul the Apostle; architect, Wm. Jose.

Park Ave., cor. Thirty-Seventh St., three-story brick extension, 20' x 22'; cost, \$15,000; owner, Mrs. Clara Helm; architect, Stephen D. Hatch; mason, R. L. Darragh; carpenters, A. G. Bogert & Bro.

BARNUM'S MUSEUM.—We learn from the directors of Barnum's Museum Co., that the building now known as Madison Square Garden, will be taken down about September 1st. Anticipating this, the Directors propose to call on about six of our leading architects to submit plans for the proposed new building which will embrace the ideas promulgated in the Company's circular. We learn from one of the managers that the competition of architects will be conducted on business principles, and that all those who are invited to compete will be duly recompensed for their trouble and expense.

BUILDING PROSPECTS.—The lower price of building materials will no doubt lead to extended building interests. There can be no doubt that at present rates buildings in advantageous locations will amply pay for cost of investment. At the same time we find that land has been bought in the upper part of Manhattan Island at prices which, with the buildings thereon, will hardly realize a fair profit to the investor. The "heated term" seems to paralyze speculation, and it is hard to prognosticate the amount of "fall" building for the next few weeks.

Philadelphia.

ROUND-HOUSE.—A round-house for eighteen tracks, with a frontage of 270 feet and a depth of 135 feet, is to be built at Thirty-First and Hamilton Sts., by the Pennsylvania Railroad.

DEPOT.—The plans for the new passenger-station of the Pennsylvania Railroad Company, at Merriek, Filbert, and Fifteenth Sts., have been made, and the buildings on the site are now being removed. The station will be about 60 feet high, with a frontage of 170 feet on Merriek St., and 118 feet on Filbert St. It is supposed that the Elevated Road will be finished and the station built by January 1, 1881.

St. Louis.

BUILDING PERMITS.—Thirty-six permits have been issued since our last report, 9 of which are for frame structures of slight importance. Of the remainder, those worth \$2,500 or over are as follows:

Owners Name.	Use.	Stories.	Rooms.	Cost.
Geo. W. Tolhirst,	Dwell.	3	18	\$6,000
" "	Dwell.	3	18	6,000
" "	Dwell.	3	27	9,000
J. Knapp,	Store	2	12	4,000
J. A. Dillon,	Dwell.	2	20	5,500
H. Ziegenheim,	Dwell.	2	10	3,000
J. Stopkulp,	Dwell.	3	12	3,100
Mrs. E. Bickance,	Dwell.	2	14	5,000
H. Garrett,	Dwell.	2	8	2,500
Dr. W. C. Green,	Dwell.	2	10	7,000
Mrs. J. Robertson,	Dwell.	2	10	7,000

General Notes.

CARROL, IOWA.—A new school-house is being built at a cost of \$16,000.

DES MOINES, IOWA.—McCain Brothers are building a three-story brick store on Walnut St.; cost, \$15,000; front of St. Louis press-brick, with stone finish; Wm. Foster, architect.

Mr. Chas. Good is also building a quarter block, corner Fifth and Walnut Sts., three stories high, of brick and stone. Cost when completed, \$35,000; Blake & Lee, architects.

Henry F. Liebbe is building a small cottage for himself on Ninth St. Will cost, complete, \$900.

Builders all busy and times generally good.

H. R. Heath is just completing his elevator; size, 44' x 132' x 45' high; cost, \$5,000.

Mrs. Henry is building a double tenement-house, corner of Ninth and High Sts.; cost, \$3,500; J. H. Dow, builder.

Chas. Atkins is building his Park Row Tenement Block, constructed of brick and stone, three stories high; cost, \$20,000.

Percival & Hutton are contemplating building an addition to their "Gait House." Cost, \$5,000; Wm. Foster, architect.

About 100 men are now at work on the new State Capitol.

DUDLEY, MASS.—The Nichols Academy is building, from plans by E. Boyden & Son, of Worcester, Mass. The building is 88' x 61', of brick, with sandstone trimmings.

FAIR HAVEN, CONN.—A Catholic protectory is to be built on Fair Haven Heights, near New Haven, Conn., to cost \$100,000.

FAIRHAVEN, VT.—Mr. C. C. Knights is building upon the site of the Knights House, burned last winter, three stores, opera-house, and five tenements, all of brick, and from plans of J. H. Bosworth, architect.

W. E. and R. E. Lloyd are building from drawing of J. H. Bosworth, architect, a three-story block of brick, finish of the clouded slate-stone produced by the Fairhaven Marble and Marbleized Slate Co. There will be two stores, besides offices and tenements.

GARDNER, MASS.—Heywood Bros. are building an office, 40' x 60', of brick and sandstone trimmings. Fuller & Delano, of Worcester, architects.

GERMANTOWN, O.—The workmen have commenced to put down the foundation for the new bonded warehouse of Rohrer & Co., at Mudlick, near Germantown. It will be of brick, 40' x 100', three stories high, and fire-proof.

GREENFIELD, MASS.—Plans are now being completed for the Union passenger station for the Troy & Greenfield and Connecticut River Railroads. It is to be a brick building, for which the State appropriation is \$15,000; Mr. H. W. Hartwell, of Boston, is the architect.

HALIFAX, N. S.—On property fronting on Bell's Lane, Argyle, Buckingham and Barrington Sts., a company of Americans intends to build a hotel, stores and market.

JACKSON, MICH.—The Catholics are building a church between Main and Water Sts.

LOUISVILLE, KY.—Ann M. Coleman is to alter a three-story brick store, on Third St., between Main and the river; cost, \$2,200.

R. C. Kerr, is to build two-story brick dwellings on Washington St., between Wenzel and Buchanan Sts.; cost, \$3,000.

W. H. Brickly is to build a two-story brick building on Jefferson St., near Campbell St.; cost, \$1,500.

MARSHALLTOWN, IOWA.—In November Marshall County will vote on the question of investing \$15,000 in a new jail.

MIDDLETOWN, CONN.—On July 7 proposals were received for building the Bank Block, for the Farmers' and Mechanics' Savings Bank.

MILFORD, MASS.—The new Opera House will be built from plans drawn by Fred Swasey, architect, and will cost \$28,000. The building is to be three stories high, with 5 stores underneath. The auditorium will seat 1,000 persons, and the stage is to be 40' x 48'.

The Building Committee of the Milford Music Hall Association has accepted the plans made by Mr. Fred Swasey, of this town. The building is to be of brick, three stories high, with five stores and a hall capable of seating 1,100 persons. Estimated cost, \$28,000.

MILLBURY, MASS.—A savings bank is being built here, 50' x 70', brick and sandstone finish; cost, \$12,000; Fuller & Delano, of Worcester, architects.

NAUGATUCK, CONN.—The citizens have voted to build a town-hall at an expense not exceeding \$30,000.

NEW BRITAIN, CONN.—R. W. Hill, architect, of Waterbury, has completed the drawings for the new opera-house to be built on the old Hanna Hall site. It will be three stories in height. The contract for the erection has not yet been awarded.

NEWTON, IOWA.—Hogert & Co. are building a two-story brick store, to cost \$7,000; Wm. Foster, of Des Moines, is the architect.

NORTHAMPTON, MASS.—David F. Wood & Son are building a double frame residence, costing about \$7,000. E. Boyden & Son, of Worcester, architects.

NORTH MANCHESTER, CONN.—Proposals for building a school-house were received July 15.

ORANGE, MASS.—A bank is building, 34' x 52'; brick, with sandstone trimmings. Fuller & Delano, of Worcester, architects.

OTTAWA, ILL.—Dr. Stout's new house is progressing. Thos. and Hugh Colwell, builders; F. S. Allen, architect, Streator, Ill.

PITTSBURGH, PA.—On July 7, was laid the cornerstone of the Sunday-School building of the First Presbyterian Church, on Wood St. It will measure 65' x 98'. In the basement there will be two furnished apartments for social purposes. On the first floor will be the main auditorium, 42' x 60', and 30 feet high; also an infant class-room, 18' x 41', a Bible class-room, 20' x 21', a library, 10' x 18', a secretary's room, 10 1/2' x 15', 4 class-rooms, each 10' x 12', and a stair hall at each end of the building. The building will have a seating capacity of from 900 to 1,000. The cost, exclusive of furniture and heating apparatus, will be \$20,350. The building will be ready to be occupied by January 1, 1881. Drum & Steen are the architects, and J. B. Chambers & Brother, the builders.

SOMERVILLE, MASS.—A school-house will probably be built at a cost of \$20,000.

ST. PETER, MINN.—A new court-house for Nicollet County is building at a cost of \$30,000.

STREATOR, ILL.—The Catholic Church is to have a new belfry tower and Meneely bell. F. S. Allen, architect.

STURGEON BAY, WIS.—The Board of Supervisors at a recent meeting decided to build a \$4,000 county jail.

THOMASTON, CONN.—Mr. Plume is about to build a frame house, costing \$10,000, from plans by Brown & Stilson, of New Haven, Ct.

TOLEDO, O.—Mr. E. V. Fallis, architect, has the following work on hand:

Wooden house for D. Howell, Esq.; cost \$3,500; two wooden houses for Mrs. H. Opitz; cost \$2,500 each; wooden house for H. A. Thorp, Esq.; cost \$2,500.

Mr. N. B. Bacon, architect, is preparing the drawings for a wooden house for Mr. Lorenze; cost \$5,000.

TOPEKA, KAN.—Messrs. Haskell & Wood are the architects of the church which is to be built for the First M. E. Society.

TRENTON, N. J.—Plans have been completed, and bids are now being taken, for a new depot for Belvidere & Delaware division of the P. R. R.; Wilson Bros. & Co., architects.

TURNER'S FALLS, MASS.—James Powers has begun to build a two-story brick house near the German Methodist church.

Alfred Roscoe has begun a house on Central St.

Gilbert H. Munn, of Zoar, has contracted to build a four-tenement block on K St., for Russell Pease.

Selectman Ripley has plans prepared for a new lock-up.

William Schuler has fitted up a shooting gallery in connection with his bowling-alley.

George H. Brewer will build a brick house on Prospect St.

VINCENNES, IND.—Mr. J. H. Stem, architect, of Indianapolis, is to build a new hotel here, at a cost of \$15,000, and also a house for Rev. George Harris.

WABASH, IND.—The M. E. church is under the charge of B. V. Enos & Son, architects, Indianapolis; cost, \$8,000. The same architects have charge of building the new jail, cost \$18,000, and are to build a house for U. S. Still, Esq., at a cost of \$4,000.

WALLINGFORD, CONN.—Samuel Simpson is to build several new houses on his property near Simpson, Hall, Miller & Co.'s.

WALPOLE, MASS.—The town is much exercised whether to build a wooden town-house, at a cost of \$15,000, or one of brick, which will cost \$20,000.

WALTHAM, MASS.—Mr. H. W. Hartwell, of Boston, and Mr. C. F. Parks have each submitted to the School Committee plans for the new school-house to be built on the corner of Main and Heard Sts., but no design has been accepted yet, as the committee have not yet concluded whether to build of brick or wood.

Messrs. Howe & Dodd, of Boston, are the architects of the new church to be built for the Universalist Society. It will measure 60' x 100', will contain four hundred persons, and will be built of wood, at a cost of \$8,000. Work has already begun.

Mr. H. W. Hartwell is the architect of a building for Music Hall, stores and lodging-rooms, which will cost \$45,000.

Also the architect of a primary school-house; cost, \$12,000.

WASHINGTON, D. C.—Mr. F. C. Withers, of New York, has drawn plans for a building for the Deaf and Dumb Asylum, the first floor will be a swimming bath, above, a gymnasium; the first story will be built of brick, the upper portion will be timber-trussed; probable cost, about \$15,000.

WARE, MASS.—The building committee of the Young Men's Library Association has rejected all bids of contractors for the new library building, and have begun laying the foundation, intending to put it up themselves.

F. N. Hosmer is building a frame residence on Chestnut St., costing \$5,000; E. Boyden & Son, of Worcester, architects.

WESTFIELD, MASS.—Work upon the new Episcopal church on King St. has begun. The building will be of Gothic architecture. It is to be finished by October, and will cost, furnished, \$3,500. It will seat two hundred people. The size will be 45' x 68'.

WEST HAVEN, CONN.—Wilson Waddingham is about building a house in Italian villa style, to be of brick or marble; size, 172' x 192'; cost, between \$100,000 and \$200,000; Brown & Stilson, of New Haven, architects.

A Mr. Colt is about building a frame summer house costing about \$2,500; Brown & Stilson, of New Haven, Ct., architects.

WINCHESTER, MASS.—Several houses are building for the late D. N. Skillings, one costing \$6,000, two others \$4,000 apiece, and a double house, \$7,000. Work is done by the day. Messrs. Ober & Rand, architects, of Boston.

Mr. Geo. D. Rand is also building a brick house for himself on Church St. It measures 36' x 48', and will cost \$6,000. W. S. York, of Woburn, is the builder.

WINDSOR, CONN.—The Methodist society has secured \$4,000 of the \$5,000 needed to build a new church.

WINTHROP, KAN.—Arrangements have been completed for building a \$12,000 hotel here.

WORCESTER, MASS.—On Hanover St., near Belmont, Messrs. Collie & Morton are at work on a three-story, six-tenement block for Mr. J. B. Tougas. Messrs. Barker & Nourse are the architects.

The above architects also drew the plans for the extension of the Almshouse. It is to be three stories high. Mr. B. C. Jacques is the contractor, and the price is \$7,957.

Mr. G. L. Robbins is building a frame residence on Vernon St., from plans by Fuller & Delano.

The Union Congregational Society are building a church on Front St., of brick, with granite finish; size, 117' x 60'; cost, \$35,000; E. Boyden & Son, of this city, architects.

Alterations are being made in the Church of Notre Dame. A new front is being erected and an addition to the rear; Mr. S. C. Earle, of Boston, is the architect; cost about \$20,000.

TUBA CITY, CAL.—A new grain warehouse is being built by the Farmers' Union.

Industrial.

FALL RIVER, MASS.—It is reported that arrangements are being completed for rebuilding the Border City Mill No. 1, which was destroyed by fire a few years ago. Wm. T. Henry is said to have been engaged to superintend its construction, and Lloyd S. Earl to do the mason work.

LEWISTON, ME.—The Androscoggin Mills are building a new brick store-house, 125' x 74'. It is to be three stories high, and fire-proof.

LYNN, MASS.—Nower & Bros. will build a shoe factory on Almont St., 76' x 78', and six stories high.

WATERBURY, CONN.—A factory is being built for the Waterbury Watch Co. It is a brick building 68' x 68', with a wing 150 feet long; cost, \$60,000; Mr. H. W. Hartwell, architect, of Boston.

WOOD'S HOLE, MASS.—Col. Ryder is making arrangements to build an immense guano manufactory for a company of Boston capitalists and others. The main building is to be 150' x 60', built of southern pine, in the interior of which is to be constructed a chemical vat 124' in length by 40' in width, 22' height, lead lined.

YORK, S. C.—The Rock Hill cotton factory is to be 218' x 70'. In addition there will be an engine room 75' x 30'.

Bids and Contracts.

BALTIMORE, MD.—The city authorities have awarded the contract for Grammar School No. 7, corner Eastern Avenue and Bank Street, to Francis T. Gallagher, at \$13,823, which was the lowest bid. It will be two

stories high, and will accommodate fifteen hundred pupils.

Messrs. Wm. T. Markland & Bro. have been awarded the contract for the new dwelling for Mr. Clinton Paine, on St. Paul St.

CHICAGO, ILL. — The Committee on Buildings and Service has reported to the County Board in favor of awarding the contract for elevators for the Court House to W. E. Hale & Co. at their bid of \$15,500.

INDIANAPOLIS, IND. — The Indiana State House Commissioners have awarded the contract for the building marble for the new State House to the Sutherland Falls Marble Co., of Vermont.

NEW YORK, N. Y. — The lowest bid for removing old Pier No. 44, and the building in its place of new Pier No. 36 North River, was that of Ross & Sanford, for \$65,000.

Public Buildings.

TOLEDO, O. — The new government building will be 120 feet on St. Clair St., and 100 ft. on Madison. It is expected that the work will be begun this fall.

Publishers' Department.

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Architects, Builders, and others will confer a favor on the Publishers by mentioning "The American Architect and Building News" when sending for circulars or corresponding with parties advertising in these columns.

THE MASON BUILDING, BOSTON.

One of the most substantial and imposing structures in this country is the new Mason Building, in Liberty Square, Boston. Those who have watched its construction have been impressed with the thoroughness of the work throughout. The edifice is six stories above the basement, of pressed brick trimmed with the stone of the New Brunswick Freestone Company, which adds much to its attractiveness. Scarcely a better selection for this purpose could have been made. This stone is also seen in the Hotel Boylston, where, however, it is mingled so much with other kinds, that it does not make the striking impression gained in the Mason Building.

DISCREET ADVERTISING.

A HISTORY of the foolish and unproductive advertisements that men have wasted money upon, the pointless and costly "N. B.'s" thrust out at the world of which the world has steadily refused to take any notice, would be an addition to one of the lower orders of bibliography at once entertaining and instructive. The money which men of shrewd perceptions in other matters have thrown away in circulars to be trodden under foot, or in sign-boards and fences, to be looked at once and then forgotten would go far to pay the National debt. Nothing is so useful and so truly economical as a well-devised advertisement; nothing is so utterly useless and wasteful as an advertisement that is not well-devised. Wise business men know that there is no time when judicious advertising is so certain to be productive as that when prosperity is reviving, and the market is making an upward turn; and judicious advertising, in the opinion of the shrewdest of them, consists in the use of the best newspapers.

Even those who have learned this lesson, however, are liable to go astray in newspaper advertising itself. A cheap advertisement is never best, and cannot be, for obvious reasons. The preposterous cooperative lists, which are offered by a few of the poorer class of agents, and profess to give great aggregate circulation at an exceedingly low price, will be found for example, enormously deceptive as to quantity of circulation, and still more deceptive as to its quality. — *New York Tribune.*

WHAT A HOUSE-PAINTER SAYS OF THE AMERICAN ARCHITECT.

A book notice in one of these numbers saves me the price of a nearly worthless book. So much for honest journalism, which certainly ought to include truthful criticism. When I began to read the *American Architect*, I was not at all sure that it had any merely utilitarian value to a village house-painter; but I can already justify its expense to my wife, who (bless her temporally and eternally) long ago, for her children's sake, renounced everything that, costing anything, is merely beautiful.

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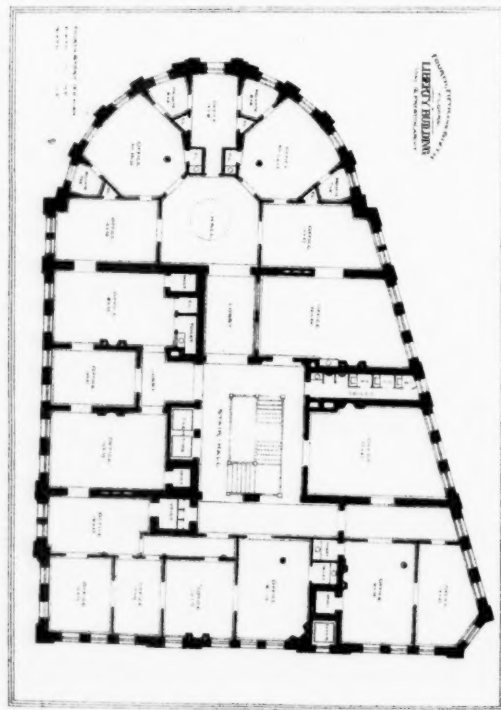
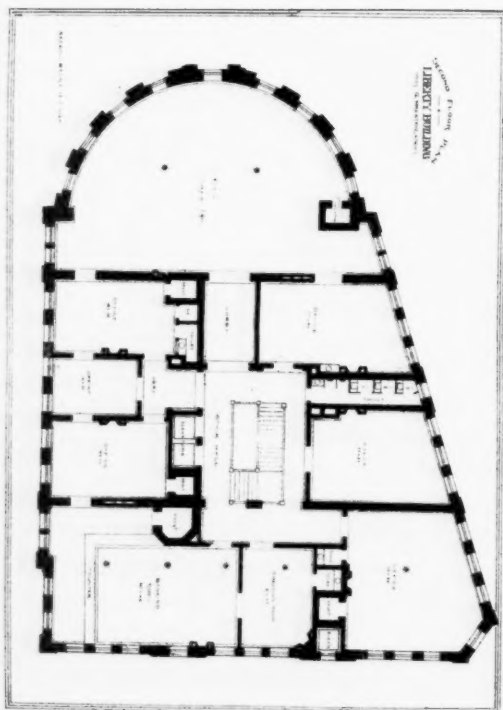
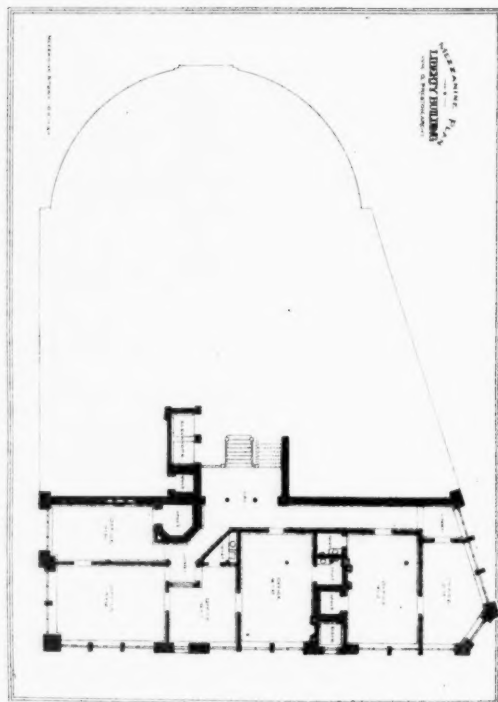
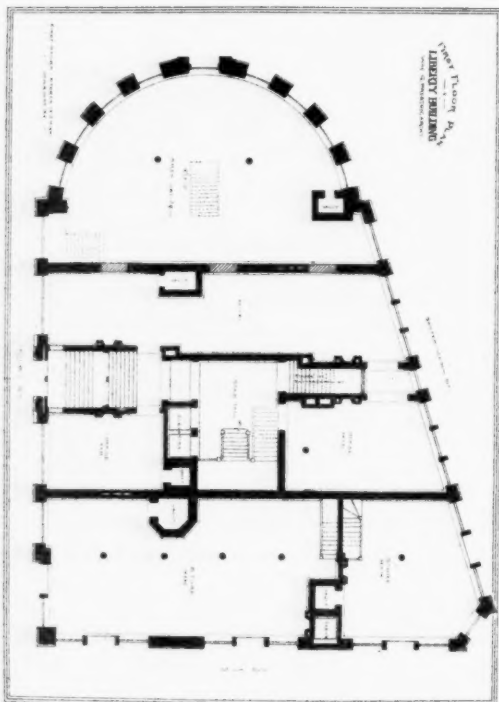
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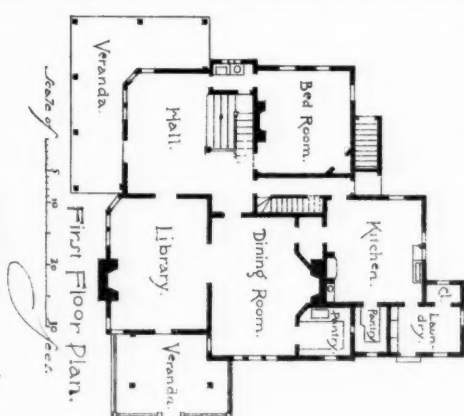
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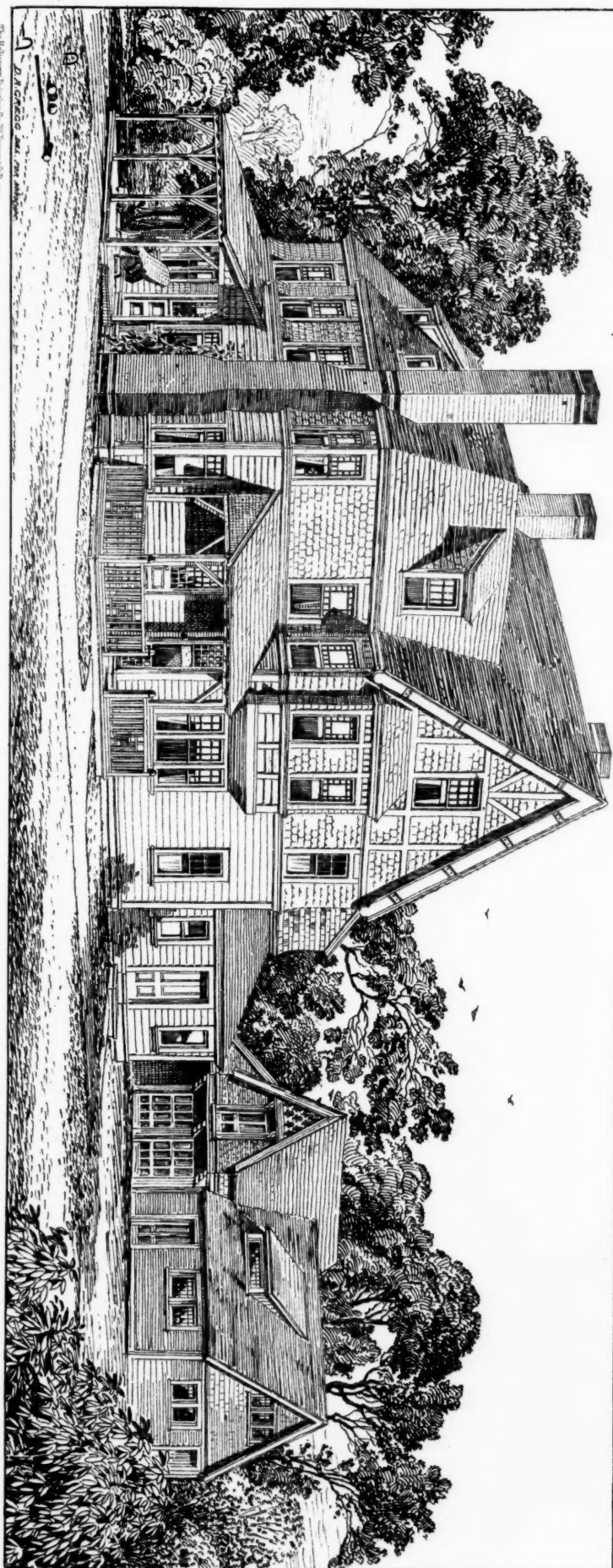
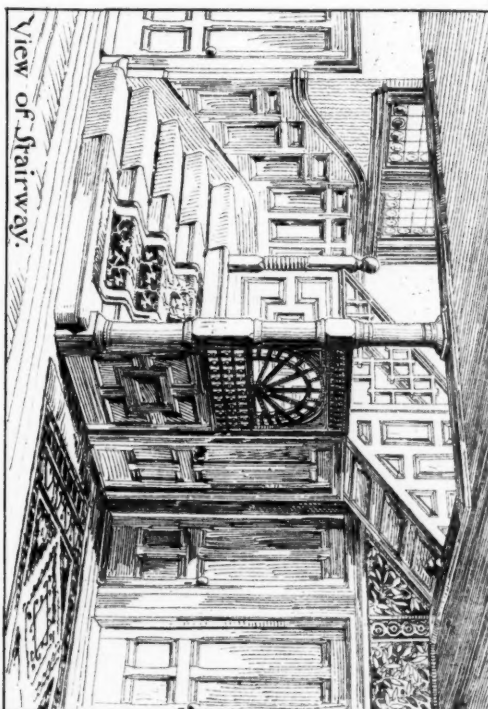
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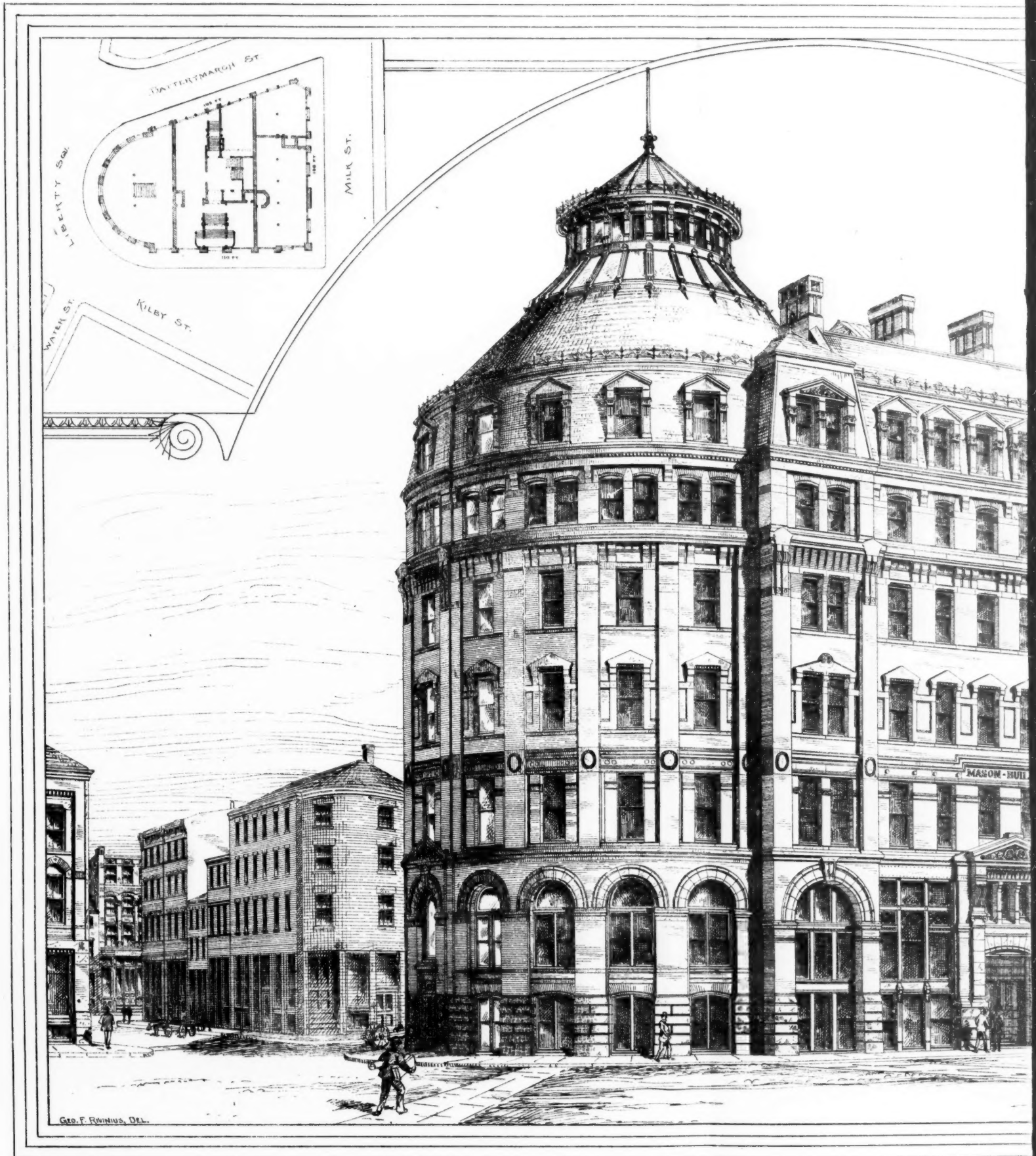
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