

MARCH 19, 1881.

Entered at the Post Office at Boston as second-class matter.

CONTENTS.

SUMMARY:—

Proposed Amendments to the Boston Building-Law. — Caro vs. Metropolitan Elevated Railway Company. — Rapid Transit in Boston. — Proposed Underground Railway for Brooklyn. — Value of Real Estate on Wall Street, New York. — Burning of a Dry-Goods House in Paris. — An Instance of the Responsibility of French Architects. — Domestic vs. Foreign Insurance Companies. — The Instability of Ultramarine Wall-Paper.	133
THE WATER-COLOR EXHIBITION IN NEW YORK.	135
BOOK NOTICES:—	
The Open Fireplace. — An Estimate Book for Contractors.	136
THE STUDY AND PRACTICE OF ARCHITECTURE	136
THE ILLUSTRATIONS:—	
Scottish Sketches. — House at Morrisania, N. Y. — Gate-Lodge. — Tenement-Houses.	139
NEVERS.	139
CAUSES OF FIRE IN NEW YORK.	140
WHAT IS A LEGAL FENCE?	140
JERBER'S TOWER OF SKULLS.	140
COMMUNICATIONS:—	
Mortar Black. — A Question of Plagiarism. — Maple Floors.	141
NOTES AND CLIPPINGS.	142

IMPORTANT amendments to the building regulations for the city of Boston are now pending before the Massachusetts Legislature, which if adopted and enforced will have a most excellent effect upon the method of construction now in use there. Without requiring, as a rule, such thick and costly walls as are at present demanded in New York, for instance, the judicious modifications proposed will make Boston buildings quite as safe as those of any American city. One of the simplest provisions, although not the least important, is that requiring a "fire-stop" to be made at each floor of every building with furred walls, consisting of a belt of plaster or masonry, at least six inches wide, and filling up the space between the furring studs or strips, the wall, and the inside plastering or sheathing. This will prevent the upward spread of fire behind the plastering which has caused the destruction of so many buildings, and will tend to confine it to the room in which it originates. In stores, manufactories and public buildings, further precautions are made obligatory: a deafening of mortar not less than seven-eighths of an inch thick must be carried over the whole surface of each floor, and staircases must be enclosed on all sides by brick walls, besides being wire-lathed and plastered underneath. It is even provided that wooden stairs in all buildings except dwelling-houses shall have the interior completely filled with "incombustible materials," occupying the space between the string timbers, the wire lathing of the soffit, and the treads and risers of the steps; a requirement with which it seems rather difficult to comply in some cases. The great weight of concrete so added, amounting in the staircase of an ordinary store to seven or eight tons, will necessitate some essential variations from the modes of framing now adopted, and there are many situations in the low and damp quarters of the town where such a treatment would involve serious risk to the timbers of basement flights; but if the result should be to encourage the use of stone or iron for such purposes, the gain will be very great.

THE long-continued suit of Dr. Caro against the Metropolitan Elevated Railway Company of New York, to restrain the corporation from running trains in front of his dwelling on Fifty-third Street, has reached another stage. To expedite proceedings, it was arranged between the counsel for the parties that pleadings should be so drawn as to raise simply the question of law on which the matter turned, without regard to the facts of the particular case, and that formal verdicts should be taken in the lower courts, so as to reach the final judgment of the Court of Appeal as quickly as possible. The principle which Dr. Caro's counsel endeavored to establish was that the foreign substances, as smoke, cinders, coal-dust and noxious gases, thrown upon the plaintiff's land from the company's locomotives, injured the estate. It was admitted that the plaintiff could not recover compensation for the depreciation in the value of his property caused by the construction and operation of the

road, but it was claimed that the company had no authority to cause noxious substances to be thrown upon the estate, under the principle of law that a corporation must exercise its chartered rights without causing damage through physical agencies to other parties; or else must make them compensation for the injury suffered. By mutual understanding a judgment was taken in the lowest court against Dr. Caro, who appealed to the General Term, and obtained a decision reversing the judgment of the court below. The company in its turn demurred to this, and the case goes next to the highest court in the State. As a decree affirming the decision of the General Term would establish the right of property-owners along the whole line to similar damages, the greatest interest is felt in the result. If the case should go against the company, steps will probably be taken for employing compressed air or electricity for propulsion, so that complaints of coal-dust and smoke at least will be groundless.

THE committee of the Massachusetts Legislature has presented a report unfavorable to all the rapid-transit schemes which have been referred to it, on the general ground that there is no need of any such contrivances in Boston. The committee argue that the present surface steam lines maintain ninety-one stations within six miles of the City Hall, and that the streets are traversed in all directions by horse-car tracks, and assume that these advantages ought to content the inhabitants of the town and suburbs; quite forgetting that between a steam railroad on which twelve or thirteen trains each way in the twenty-four hours are considered to be sufficient for suburban stations, or a line of infrequent horse-cars conveying their loads of weary and staggering passengers at an average speed of five miles per hour, and the swift trains of the New York or London service, following each other in quick succession, there is a difference which to the over-worked business-man of our age means the gain or loss of many hours and days of precious time in the course of every year. The average New York merchant or professional man now saves, as between the elevated roads and the horse-cars of a decade ago, not less than an hour a day, — thirty hours a month of the time which he most needs for his work; a full month in every year; while the quickness of communication with the points he wishes to reach enables him to control affairs at a greater distance, and therefore do much more business in the same time than was possible before. The effect of this in attracting population and trade to New York is now strikingly apparent, and is increasing rapidly; and whether its rival cities like the means by which the effect is brought about or not, they must soon adopt some equivalent measures or be left hopelessly behind.

BROOKLYN, N. Y., one of the least promising of our large cities for rapid-transit schemes, is to have an underground railroad, in addition to the elevated line now approaching completion. Under the general law of the State of New York, the consent of one-half of the property-owners along the route must be obtained before excavation can be begun, and a commission must be appointed by the General Term of the Supreme Court to appraise the damages resulting from the construction of the road; but these preliminaries will probably be arranged without difficulty. The route of the railway is to be from the Brooklyn terminus of the suspension bridge along Washington Street to a point near the Court-House, thence through Fulton Street to Malbone Street in the village of Flatbush, connecting there with the surface track of the Brooklyn, Flatbush and Coney Island Railroad. Branches are also contemplated through Court Street, and through Fulton Street and Flatbush Avenue to East New York. Except the traffic coming to it over the suspension bridge, which must, however, be shared with the elevated road, the new line will have little but local business to depend upon. The connection with one of the many Coney Island railways may bring it some passengers, but it is hardly likely that the frequenters of that breezy resort will desire to travel underground in midsummer so long as half a dozen surface lines are open to them, while the immense area over which the population of Brooklyn is scattered, to a great extent in detached houses, renders the expense of railroad building very great in proportion to the local traffic to be accommodated. The cost of the line is estimated at about a million of dollars a mile,

and property-owners in Fulton Street, the principal business thoroughfare of the city, form the majority of the corporators. Like the proprietors of Broadway estates, they have been successful in preventing the elevated railroads from running in front of their buildings, but feel the necessity for providing some substitute, to bring customers to their tenants and rent to themselves.

A LARGE real estate enterprise has been undertaken in New York by Mr. D. O. Mills, a rich Californian who has recently removed to the city, and has made a purchase of some seventeen or eighteen thousand feet of land, extending along Broad Street from the Drexel Building to Exchange Place, with a small frontage on Wall Street, at a price of about eighty dollars per square foot. On this land he will immediately build a nine-story office-building, to cost about two million dollars more. The ground is now covered with substantial, though rather old-fashioned structures, but it nearly faces the United States Sub-Treasury at one end and the Stock Exchange at the other, occupying, together with the Drexel Building, the very financial centre of the city. Similarly situated land in London has brought fifty pounds per square foot, and there can be no question that the new owner will find his investment a profitable one. The rents of Wall Street offices are so large that the construction of new buildings in that vicinity must be carried on with great expedition in order that the property may begin earning income as soon as possible, and many ingenious devices are used by the architects and contractors to save time without lessening the solidity of the work.

A SURPRISING occurrence is reported from Paris. For the first time since the days of the Commune a large building has been totally destroyed by fire, causing a property loss of nearly two million dollars, and bodily injury to twenty-six persons. The structure was one of those vast dry-goods establishments which line the Boulevards and the Rue de Rivoli, consisting of many stories, each rather low, but of great extent, and filled with combustible fabrics. The cause of the fire is said to have been the carelessness of a man who was cleaning the floors; an explanation which is, to say the least, somewhat obscure. The loss is thought to have been covered by insurance. If this is true, the companies will suffer severely, the destruction of such large amounts of property being very rare in Continental cities. Another remarkable circumstance about the fire was the rapidity with which it spread, the occupants barely escaping with their lives. Such buildings in Paris are usually provided with a great number of outside doors, which, although intended primarily to facilitate the entrance of customers, are useful in emergency for the escape of those inside. If the only means of exit had been a single narrow door, or a two-and-a-half-foot staircase, such as many of our pretentious structures are provided with, it is frightful to think of the loss of life that might have ensued.

THE care with which French architects are held to responsibility for what they undertake is well illustrated by a correspondence lately printed in *La Semaine des Constructeurs*. A certain architect was employed to draw plans for a house, to be constructed on the edge of a canal, using as foundation the old retaining wall of the canal. When the plans were ready, the architect examined the canal wall, and decided that it was not sound enough to support safely the new construction. The owner thought otherwise, and persisted in carrying out his original intention; and the architect was obliged not only to decline any further connection with the undertaking, but to take steps for freeing himself of the responsibility which would still in case of accident attach to him as the author of the drawings. He therefore drew up a declaration for the owner to sign, in these words: "I, the undersigned, declare completely discharged from all responsibility and guaranty, especially those intended by Articles 1792 and 2270 of the Code Civil, Mr. X, architect, who has at my request furnished me the plans of a house which I propose to construct, reserving to myself the right of executing or having executed under my direction, by a contractor of my appointment, all the works, including those of the foundations." M. Ravon, the secretary of the Committee on Jurisprudence, answers for the journal that this discharge from responsibility would in his opinion be insufficient. Its terms being quite general, a tribunal might take it to be equivalent to a discharge from all accountability for the proper

character of the drawings as well as the nature of the foundation, and it would be held in law that a proprietor could not be considered capable of judging with respect to plans, and the release was therefore void.

THIS is a point which may well be noted. It seems so important to the expert of *La Semaine* that he proposes an amended form of discharge, as follows: "I, the undersigned, D, proprietor, after having heard the explanations of Mr. X, architect, from which it results that Mr. X thinks he ought not to assume the responsibility of executing the plan prepared by him, using for foundation the old canal wall and the subsoil of the canal, unless special operations of underpinning are carried out, declare Mr. X to be exonerated from all responsibility, so far as regards the foundations or the imperfection of the subsoil, reserving to myself to execute or have executed under my direction, by a contractor of my appointment, all the projected works, whatever they may be, including such foundations or underpinning as the excavations and soundings may show to be necessary." This clear and explicit account of the case would, he thinks, serve to throw on the proprietor the responsibility for the sufficiency of the foundation, which he was willing to assume, without making the architect any less answerable for the character of the drawings.

THE New York *Times*, in speaking of the present condition of insurance business, calls attention to the fact that within ten years a considerable number of foreign companies have established branches in this country, and are now absorbing so large a portion of the business as to threaten the existence of many native corporations. This success in the competition for patronage is attributed by the *Times* to three causes; the principal one being the great reputation which was gained at the time of the Chicago and Boston fires by the four or five foreign companies represented on this side of the Atlantic, all of which paid their losses in full. Although the French, English and German companies which have since then established branches here are, as a rule, much weaker than the pioneers, they profit by the favorable impression previously made, and are able to obtain higher rates than their native rivals. The second cause is the exceptional ability with which the American business of foreign underwriters is managed. Attracted by high salaries and extensive responsibility, the best men are glad to accept posts of this kind, and the result is shown in the conspicuous economy and success with which the branch offices are carried on. The third cause is the comparatively small tax paid by the foreign companies, who are required by law to deposit only a certain sum as a guaranty fund in charge of a State officer, without regard to the amount of their capital, and pay a tax only upon this fund, while the native companies are taxed upon the whole of their capital, usually a much larger sum in proportion to the business done by the corporation than is represented by the guaranty fund of the foreign companies.

A NEW and unexpected danger has been discovered to exist in certain kinds of wall-papers. We have become familiarized with the risk involved in the use of many green, gray, red and brown pigments which contain arsenic, but it now appears that one of the most beautiful, the cheapest and most universally useful of blue coloring substances, — ultramarine, — is under certain circumstances liable to decompose and give off sulphuretted hydrogen. The composition of ultramarine is chemically very interesting; the elements from which it is formed, — sulphur, soda and clay, — differing totally in almost all their attributes from the precious pigment resulting from their union. Under ordinary conditions it is one of the most stable of all the substances used in painting, and is consequently very widely employed with all sorts of mediums, oil, distemper, wax and lime-water leaving it equally unaffected. A strong acid is, however, capable of separating the soda and setting free the sulphur in combination with hydrogen or oxygen, and such an acid may be derived from the alum often mixed with the paste used for hanging wall-papers. The amount of gas liberated must be small, but a very little sulphuretted hydrogen will taint the air of a large room, and cause annoyance, if not danger. The most practicable remedy would seem to be the avoidance of acid salts in paste, for without ultramarine the list of pigments for wall-papers, already diminished by the exclusion of arsenical preparations, would be sadly circumscribed.

THE WATER-COLOR EXHIBITION, NEW YORK.

ONE's first thought on entering the rooms of the Water-Color Society a few years ago, when clever drawings began to be prominent, was apt to be that the collection was strikingly unequal. Side by side with some admirable things hung multitudes of the most inefficient and mistaken kind. For a year or two past, however, the divergence between the best work and the average has been less strongly marked. And this season one would have been justified in calling the exhibition a very even one. Let us hasten to acknowledge, moreover, that the greater degree of unity had been arrived at by a process of "levelling up," and not by a decline in the quality of the best work shown. There were scores and scores of drawings on the walls that ten years ago would have been shining spots. Now, though recognized with approval, they excited neither surprise nor much enthusiasm. The strikingly bad and inartistic work was in a minority though, of course, not wholly extinct. And the simple weakness was of a less rapid and hopeless sort than in former days. Under such circumstances, even the faults of the greatest sinners no longer call imperatively for notice and for condemnation. When the general tendency seemed wrong, when the disposition was to adopt bad styles of work and to deny the superiority of the better styles, then it was necessary, I think, to criticise inefficient drawings, especially when signed by popular names, endeavoring to show how and why they were inefficient—why they should not be admired by the novice, and how he might possibly attain to something better. But now that the main current seems to set in the right direction; now that even those who do not do very good work yet try to work in a good way; now that the most mistaken pictures look isolated and anomalous, we may surely confine ourselves to the consideration of that which pleases us. We need consider in detail only those drawings which seem peculiarly good, peculiarly worthy of study by young artists, peculiarly characteristic of the progress which this branch of our art has made within the last few years.

When I said that, generally considered, the exhibition was a very even one, I did not mean to deny that certain names stood out from the walls with much emphasis and distinction. The three which most forcibly impressed themselves upon our notice were those of Messrs. Blum, Currier, and Winslow Homer. Mr. Blum has only been before the public for a year or two, but he has easily taken a place among the very first of our water-color painters. His facility is admirable, his method artistic in the extreme, and his sense of color noteworthy. Last year his critics complained of a want of originality and cried "Fortuny" in front of his pen-and-ink work and his *aquarelles*. This year there was a similar complaint from some, only it was now said that Mr. Whistler's Venetian views had inspired those of Mr. Blum. It may be so; I have not seen just that portion of Mr. Whistler's work, and have no personal impression to convey. But I cannot think that the accent of genuine feeling and direct expression which spoke to me from Mr. Blum's paper was entirely mendacious. One might say of a man so young as Mr. Blum that he suggested now Fortuny and now Whistler, and yet be held to praise him. For to suggest such men as these, not in the way of direct copying but of imbibed sentiment, is to display great artistic sensitiveness and no small technical ability. But to me there was nothing on the walls more genuine in effect than these delicate studies of Mr. Blum's. Perhaps they had been inspired by the work of other men, but they had, all the same, been sincerely felt by this one. They are hard to characterize in print, for they were so slight and evanescent that in looking at them one feared, almost, that their charm and character would vanish beneath criticism and leave nothing but faintly blotted paper on the wall. But such was by no means the result. The color was very quiet, chiefly pale blues and grays. The water of Venice had evidently been its chief attraction for Mr. Blum. The scale was different, however, in one of the drawings, the largest, representing an interior with a group of Venetian girls strung beads. The brightly-colored group was delightful, and if we passed to the consideration of the separate small figures, we found them cleverly individualized—well drawn and entirely real in effect, though there had been no so-called "finish" applied in their making. We saw nationality of type and individual portraiture in these tiny faces, done with half a dozen delicate little blots of color. I think there was nothing of home-production on these walls quite so good as this picture of Mr. Blum's.

Mr. Currier sent from Europe ten or more of his well-known "impressionist" drawings, and the committee was greatly blamed for having "skied" them in the most unmitigated way. On this occasion, however, no committee was to blame, for the pictures were only received at the very last moment after all the others were in place. Mr. Currier is as deeply-dyed an impressionist as ever, but instead of the delicate studies of trees and foliage he sent us two years ago, we had now wide stretches of moorland, with stormy gray or fiery sunset skies above. One or two were especially fine,—where all were good—in the matter of glowing color. The public in general still finds Mr. Currier a stone of stumbling, but the artists are in raptures over this year's budget, and most if not all of the drawings were sold at once, and not for small sums.

It is hard to confess that one can take no pleasure in work that one yet knows—and, indeed, sees—to be powerful and original, especially when the best of judges seem to find it attractive. In spite of the fact that I gave intellectual assent, so to speak, to the statement that Mr. Winslow Homer's drawings were this year perhaps the strongest

things in the collection, they remained, as ever, repellant to my eye, though not for want of much study and good-will. No effort could put me in sympathy with the artist's outlook upon nature, though it was evident at a glance that it was genuine and most decided. It was artistic, too, in its own way, else it could never have found expression in so consistent a form of artistic speech. But the longer I looked the more it seemed to me that Mr. Homer had travestied reality while neglecting all ideal charm. I could not see with the artist; I could not even see how the artist himself had seen. Yet each picture clamored for attention, and each left the same impression of intense conviction on Mr. Homer's part. All were tremendously strong—so strong, indeed, as I heard some one say, as to be "artistic brutality." Perhaps the most striking thing in the whole building was a large sunset sea-view, with a black sail against a black sky streaked with heavy crimson bars that was repeated in the black and crimson water below. It was powerful, diabolical, almost, in its effect; I could imagine how Mr. Homer might have seen something that to him looked thus. But of some of the other drawings, notably of one with a full moon shining over a black sea, I could not say so much. One must regret to miss the pleasure which Mr. Homer affords to very many, especially as one cannot but see his force. There are some to whom he speaks most acceptably, while they find Mr. Currier "clever but hideous." To me Mr. Currier's work was delightful. I could find pleasure and excitement in the windy sweep of his skies and the splendor of his sunsets; but the glowering, inky tints of Mr. Homer and his inexplicable way of seeing things were, first as last, repellant.

Passing to the other men who made this exhibition interesting, one must speak of Mr. G. H. McCord, who showed a large number of drawings, all excellent and with much diversity of theme. He is certainly one of the most promising of our water-color artists. Mr. Kappes's figure-subjects were clever as usual, but the most ambitious, the Pastor's Visit, was by much the least successful. Mr. Eakins had a little figure of a girl spinning, and Mr. Chase a study-head, clever as far as the life and modelling went and the use of blacks in the costume, but curious for the blackish tint he had carried all over the face. Mr. Hovenden showed several good figure-pieces, one of them being a *replica* of his painting of the Poacher's Story, which was reproduced in these columns not long ago. Mr. Satterlee is a young and ambitious artist who has made great progress in the last year. His drawing is better than it was, and his color also, though the latter is still showy rather than good. He gives, I think, distinct evidence of dramatic ability in the conception and in the rendering of the expression of his figures, as, for example, in the picture called After the Foray, which showed a marauder at full length on a bench, smoking a cigarette, with a pile of ill-gotten game on the floor beside him. There seems no reason why Mr. Satterlee should not become a capable painter if he perseveres in hard work and learns to use his brush more cleverly. There is a want of definite intention about its strokes which is displeasing to any one who cares for good handiwork. Mr. C. F. Reinhardt showed only two numbers, but they were both excellent,—one an interior with two figures in sixteenth-century dress, called Good Advice, and the other a view on the Seine. Miss Eleanor Greatorex sent several studies of French peasant women, good in handling, but with a rather disagreeable orange tone in the color. Mr. Lyell Carr, a new name, I think, signed a clever study of a street in the Latin Quarter, Paris, with the gypsy-like figure of a girl holding a raven. Mr. Muhrmann had some strong figures and some studio-interiors, but what pleased me best of all this year were a couple of little street-views, especially one of Washington Square on a rainy day. One may also mention with praise Mr. De Thulstrup's Letter of Introduction, except in the matter of color, Mr. Millet's Embroidery, Mr. Howard Pyle's Suspicious Strangers, and some of Mr. F. S. Church's curious conceits. Mr. Charles Miller showed a large number of drawings, very washily done, but not exactly broad in effect; nor were they very clear in their evidence as to the time of day and year, or the state of the atmosphere intended. His work in oil is, I think, much more satisfactory than such water-color work as this. His color was applied in a curious oblique way, as though a strong wind had blown it on the paper, and nature looked, therefore, as I heard a flippant bystander remark, "as though she had been cut on the bias." Mr. Freer's tree-studies in the broadest style were very striking. Mr. Volkmar's decorative panels with designs of ducks and foliage were clever and effective. Mr. Harry Chase sent a few beautiful things, small coast-views, admirable in their color. Mr. Hitchcock is a new-comer, a pupil, I believe, of Mesdag in Holland. His Dutch sea-coast studies were very quiet in color, after the manner of his master, and very nicely handled and attractive. He will doubtless send us in future things still better and more original. Mr. Murphy's peculiar manner of seeing and working is, unfortunately, growing into a settled mannerism. There is ever less of motive of any kind in his drawings and this year they had not the delicate hazy sunlight effects that pleased last season. Mr. Bellows's picture of boys flying a kite was weak, perhaps, but interesting as showing the artist's efforts to adopt a broader style of work, and as a contrast, therefore, to his Windsor Castle which was in his time-honored manner. Mr. William T. Richards exhibited several large and most careful pictures of the English coast, very careful and minute in workmanship, yet not without breadth of effect. Their general tone was a peculiar green which is doubtless very true to nature, but is not very pleasing on paper. Mr. Farrer's work was as con-

scientious as ever, but, I could not but think, very uninteresting, especially in his large picture called *Sunset, New York Harbor*. Every one who has crossed the Jersey ferries, even, knows that New York Harbor at that hour is neither dull nor prosaic, and one can only hope for an artist who shall be more vivid and inspiring than is Mr. Farrer when he treats the subject. For it seems to me that neither he nor the others who have essayed its rendering, as, for example, Mr. Quartley and Mr. Miller, have quite given us the real thing. Mr. Thomas Worth's *Under Fire* should be mentioned as good in character and Mr. Hyde's out-door studies as fresh and artistic. Mr. Dewey, Mr. Frank Fowler, Mr. Foxcroft Cole, Mr. Bruce Crane, Mr. Bolton Jones and Mr. McCutcheon all did themselves credit, but there was nothing especially new to be noted in their work. The same may be said of the elder men who are so well-known at these exhibitions and whose work is immediately suggested to every reader when he sees the names of Smillie, Gifford, Colman, Linton and Quartley. One regretted the entire absence this year of Messrs. La Farge, Shirlaw, Alden Weir and one or two others. The flower painting was, I think, better than usual. Miss Abbott's chrysanthemums, Miss Hegg's tea-roses, Miss Lampert's carnations, Mrs. House's hollyhocks, and, especially, Mrs. Dillon's tulips, were all delightful.

There was not very much shown in the way of foreign work, but there were a few things of very good quality. Perhaps the cleverest bit on the walls was a sketch of two figures by Kaemmerer, and Simon's half-nude figure called *The Brunette* was surely the best essay in flesh-coloring. Vibert was represented by two tiny figure-subjects, treated in the most minute manner and as solid as oil without being disagreeably labored. A still-life study by Jeannin was capital and a portrait-head by Tofano was an example of what *aquarelle* portraiture should be. The red bonnet was beautifully painted and the picture would not have had a fault, perhaps, had the flesh-color been a little less pallid.

The exhibition, I may say in conclusion, was wonderfully successful from every point of view, from the financial and the popular as well as from the artistic. There were sales made to the amount of \$32,000 which was \$11,000 more than last year's receipts. About 10,000 visitors were reported and the catalogue sales amounted to some \$1,500. At least, thus run the newspaper records.

M. G. VAN RENSSELAER.

THE OPEN FIREPLACE.¹

THE various forms of heating apparatus which go by the general name of fireplace are thought, with good reason, to possess a peculiar value. Whatever their faults may be, they extract a great deal of air from a house. In certain cases, this object is so desirable as to throw into the shade the bad results. It is, for example, undesirable as a rule that water should freeze in a part of the room occupied for daily life; but if such discomforts be a necessary associate of the free admission of fresh air, they will be tolerated as insignificant, compared with the evils of stagnation, in hospitals, sick-rooms, and even in children's play-rooms (with due regard to prudence).

And when we remember how large a part of the population spends all its time, except a few minutes in the day, inside of rooms, it will seem a justified extravagance to allow certain torrents of waste air to escape constantly from our houses through certain apertures, ill-planned, ill-placed, and wasteful as the latter may be. It is beneficial to the general atmosphere of a house to have one or two such outlets on each story, working for the general good by day and for the special good of sleepers in closed rooms by night.

Considered as a means of heating a room, however, the open fireplace is a ludicrous failure. It carries off nineteen-twentieths of its own warmth by the chimney at once; it causes uncomfortable draughts; it chills the floor; it empties the room of its air at the lower part only, leaving the upper regions stagnant, unventilated.

Such is the result of centuries of house-building, in a matter of such universal requirement. It was most desirable that a study of the methods of warming should be made for the benefit, not only of the architectural profession, but also of the public, intelligent or semi-intelligent. For the profession, and for the intelligent, Mr. Putnam has made an excellent book, which will answer a hundred questions which have been put by every inquiring mind, relating to the mode of action of various apparatus (not confined to "fireplaces,") the values of fuel, the general laws of warming a house, the principles of ventilation, the nature of the materials of which walls and furnaces are made, the characteristic behavior of chimneys. In fact, the book is instructive in relation, not only to primary principles, but to a great many details which are strictly technical in their nature. In most points the materials of the book are drawn from extant authorities: it is, however, independent in tone, and contains a sufficient number of new facts and observations to justify its recommendation to experts.

The book is intended, in a word, to show the superiority of open fireplaces of improved construction to most other modes of warming, not for special cases alone, but for general domestic purposes.

The improvement in construction consists in the use of iron pipe to carry the smoke from the fire: the pipe is passed through a chamber in the breasting above the mantel, and there makes several turns,

exposing a large heating-surface to the air of the chamber. A duct brings fresh air to the latter from out of doors, and a register discharges the warmed air into the room. The result is the establishment of a "hot-air furnace" over the mantel, which supplies air that has not been injured by over-heating; in fact, a supply of warm air, which supersedes the old-fashioned draughts, which used to come in through cracks and bring winter with them.

The improved fireplace is applied by Mr. Putnam to the heating of several rooms in combination, by causing the flue to pass through air-chambers in several successive stories before finally discharging into the chimney. As much heat is thus utilized as is the case with good domestic furnaces. A second economical point is the fact that houses of the better class usually maintain open fires in addition to the furnace; which fires, under the new plan, either become the equivalent of the furnace, or are made, at least, to render three times their former heat. The kitchen-range flue is also utilized. As regards the cost of setting up, it is estimated at \$187 for completely warming and ventilating a city house of four stories, while that of an iron furnace (McGregor, No. 5) is \$412, and that of a soapstone furnace \$537.

The detailed experiments upon the amounts of heat realized by the different apparatus form a truly valuable contribution to the literature of the subject. In the common fireplace 94 per cent of the heat is wasted. In the author's series of experiments this statement (which is not new) is confirmed; and it is also shown that, of several heaters constructed in accordance with his leading views, the "Fireplace Heater" saves from 13 to 20 or 30 per cent of the total heat; the "Dimmick Heater" from 18 to 35 per cent; the "Jackson Fireplace," 32 per cent.

The public will owe Mr. Putnam its warmest thanks if his efforts succeed in popularizing the principle that he advocates. It is an old invention, but in none of many forms which it has taken has it succeeded in appealing to the artistic sense, or in proving that it can enter good society without producing a sense of incongruity. Among the original merits of the book, not the least is the beauty of the designs he offers for cheap as well as sumptuous constructions. We must mention also the exquisite series of mediæval and Renaissance fireplaces with which he has favored his readers.

The latest results in regard to the passage of gas through cast-iron are correctly given. The author relates experiments in regard to the porosity of tubes of this material, which he demonstrates by showing that mercury passes through it freely in jets or sprays by means of very minute pores. His account of the testing of an iron furnace, "warranted gas-tight," by inverting it and pouring in water (the water leaking out at all the seams) is fitted to strike amazement into the mind of many a stove-maker. He seems to prove by the use of a manometer that atmospheric pressure is exerted from within furnaces of the ordinary domestic sort, of wrought-iron. This is to us a new fact, and if proved to be generally true, will be sufficient to put cast-iron furnaces (with their necessarily imperfect seams) under a heavy disadvantage. As regards the durability of the wrought-iron furnace, however, we wish more had been said by Mr. Putnam.

AN ESTIMATE BOOK FOR CONTRACTORS.²

THE painstaking and careful author of this little book has been induced by a conviction that, as he says, "there is but one true method by which to calculate the cost of building," and that this method consists simply in the "careful estimate of each and every article that is connected with the building or job to be done," to prepare a number of tables, giving the total number of feet of lumber required for buildings of various dimensions. Schedules of material are given for no less than two hundred and seventeen different buildings, varying from 8 by 10 feet on plan to 50 by 100 feet. Of course, the buildings are of the simplest construction, but their value as examples is not, for that reason, any less, and the intelligent reader can easily note the modifications required for any particular case. The last twenty or thirty pages are filled with useful miscellaneous information, such as memoranda of the number of nails necessary for fixing in place a given number of shingles, laths, clapboards, and so on; the waste to be allowed in using material of different kinds, and many other matters.

The young architect, and still more the intelligent but inexperienced builder, will find this book, we think, of much service for occasional reference, and the careful manner in which it has been prepared affords a guaranty of its accuracy.

THE STUDY AND PRACTICE OF ARCHITECTURE.³

THE first test of an artist is that he should feel a real and absolute, if not an almost equal, interest in all the arts, and the painter who does not care to know something about architecture is sure, at least, never to be so good a painter as he might have been, whilst to you students of sculpture, I would say that my art and yours are so intimately allied, neither in their highest developments being ever perfect without the aid of the other, that it is incumbent upon you, if you would excel, to know much more than merely a little about architecture. The three arts are, indeed, all dependent on each other. The most perfect building is that in which not only the ar-

¹ *The Open Fire-Place in All Ages*. By J. Pickering Putnam, architect. Written for the *American Architect and Building News*. Illustrated by 289 cuts, including 36 full-page plates. Boston: James K. Osgood & Co. Price, \$2.00.

² *The Contractors', Builders', and Carpenters' Building Table and Estimate Book*. By L. E. Brown, builder. New York: Bicknell & Comstock, 194 Broadway.

³ *Royal Academy Lectures on Architecture, 1881*. By Professor G. E. Street, R.A. First lecture, delivered Monday, Feb. 14.

chitectural lines, proportions, and features are all good and beautiful in themselves, but one in which provision is thoughtfully and wisely made by the architect for the best display in harmony of the arts of painting and sculpture. The architect deals with outlines and masses, with light and shade, but for that deeper interest which touches one most after these general effects have been produced, he depends, except in the vastest buildings, upon the other arts, and he must know and feel enough about them to make him competent to provide for their worthy and dignified treatment. And surely it is not less needful that the painter and the sculptor should be so well trained in architectural detail as to make it impossible for them to do or admire work in which ignorance of that art is exhibited,—such ignorance being fatal in its effects wherever it exists or is conspicuous. Nor should it ever be forgotten that the study of the most permanent of all the arts has a real value if it leads all artists to consider in their work not only what is good for to-day, and for the fashion of the time, but for ages to come, so that it may be looked at with love and respect by their descendants for many generations. So much only do I think it necessary to say by way of introduction to my subject for to-night, which I have selected as being one on which we ought first of all to understand each other, and on which one who is growing old may well speak decided words of counsel to you who are only on the threshold of your career. With what conception of art are you bound, then, to begin your work? The work of the architect is evidently complicated by conditions peculiar to itself. It must be useful first of all,—beautiful afterwards. Unless it is useful, it is not really artistic. Usefulness may be exhibited in trifles as much as in the greatest affairs. You must realize that it is not only necessary to learn how to plan a building so as to make it most thoroughly fit for its purpose, but you must learn also how to design every detail so that it shall be the fittest for the place, and for the work it has to do. You must therefore begin by studying how to plan well, and how to build well. Good construction is the basis of good art; though even here a word of caution is required, for new modes of construction may be popular, but not good; and the only test that I know of good construction is the certainty of its being permanent. Unfortunately, you will find that this is the greatest temptation which will assail you from the first in your architectural career. You will be tempted to sacrifice solidity to some fancied necessity for ornament; but it is, nevertheless, the fact that many very noble buildings, of all ages, are almost absolutely devoid of mere ornament, and that no work which is not solid and well constructed and proportioned, however richly it may be adorned, is ever in the end lastingly ornamental. Consider for an instant in what way this rule affects you when in practice. The Egyptian and Greek remains,—quite apart from any intrinsic beauty which they possess,—affect every one by the evidence of their admirably solid mode of construction. The somewhat unsightly masses of brickwork which are all that are first of all seen of some great Roman works, such as the Baths of Caracalla, affect the senses in the same way. In mediæval times, it is when you are traversing some passage formed in the thickness of a wall that the same feeling is excited, and in all these cases it is the respect for his work which the builder shows that reacts upon us. Nothing is ever entirely unworthy of notice that is done with this feeling, and as it would be wholly impossible to obtain, as it would also be absurd to demand, the same goodness of design in a mere temporary erection as in a permanent one, so the merit of an architectural work will almost always have some distinct relation to the solidity of its construction. The reason for putting this fact before all others which bear on the study and practice of an art is that if you have but a firm grip of it, all your studies will bear more fruit, because it will give you in one vital point an infallible critical test for the examination of all architectural work. And if I do not attempt to teach you in my lecture much about the merely practical side of your work, you must never forget that this is in no degree whatever because I wish you to ignore what is absolutely essential, but only because it seems to me that this Academy of the Fine Arts requires of its professors and of its students that their main devotion shall be to the artistic side of our art, with such incidental references to its practical side as grow naturally out of or tend to illustrate and explain the other. Such references, even if only incidental, cannot be infrequent. At every turn we are met with the question whether what we have designed is the best thing possible under the circumstances, not whether it is the most beautiful,—the best thing in architecture being always that which combines the most sagacious use of the materials available, the soundest construction, and the most convenient adaptation to the requirements, with thoroughly good artistic character and proportion in the mass and in all the details, and some evidence of imagination in the design. The architect has to work under limitations wholly unknown to the painter, sculptor and musician, and yet his art requires for its perfection no less invention and imagination and loftiness of character. If we look carefully at painters' work, we are struck with the extraordinary extent to which the artist reveals himself in his work. On the canvas of a great painter you see not only the man who sat for his portrait, but almost equally the man who painted it. In a more subtle way the architect is revealed in his work. His refinement or his coarseness, his love of truth or indifference to it, are always evident. In the highest art it is the man rather than the society or the system that is seen; and as in ages when insecurity of life, tyranny of rulers, ruthlessness, or religious intolerance were rife, their very existence involved that of men of

the strongest and most heroic character, so in the same times the greatest buildings were erected. The individual man lived often a higher life, and had a higher conception of his work, than is usual in more easy and perhaps more polished and virtuous times. At the same time, though, the highest art is a reflex of the spirit of the man. The man is dominated to a great extent by the age, so that the spirit of the age is seen more or less in the architectural work of all times. Our own history will be read in ours possibly long after all other records of its work are lost; and it lies with us to secure that the record shall be that of the best features, not the worst, of our times. The lesson for you is obvious: you must cultivate in yourselves a high sense of the requirements of your art, and a persistent self-reliance and individuality. Without these you cannot be great architects. And it is more necessary to insist on this with you than with your brethren of the brush and the chisel, because your daily life may be, and too often I know is, spent in working under influences wholly hostile to this higher view. It is well to speak thus to you who are still young, and who, being so, are also generous, and I hope enthusiastic. You will soon cease to be young; but unless you maintain to the end the other qualities you will not be great artists. . . .

When you have resolved to look at your work in this spirit, you must be reminded that there are some minor conditions of success which I do not think beneath notice here. Your first business is to become an accomplished draughtsman. As you will hear presently, good architects have existed, and may always exist, who do not draw well; but no one can safely say to himself that he will elect to be numbered among them. Architectural draughtsmanship is a good training for every one, because its first essentials are clearness and accuracy; and the man who has to depend very much for his knowledge of the effect his work will produce, must learn so to represent it on paper as to insure that his drawing is a fair representation of its effect. The habit of tinting and shading architectural elevations is a bad one and not to be encouraged. It is a simple waste of time. In outlining geometrical drawings, as well as in sketching, never use a very hard pencil, and make up your mind in the latter to dispense almost, if not altogether, with India-rubber. The essence of good architectural drawing is not only that it should be clear and accurate, but that it should be done positively and once for all. Nothing is more fatal than a slovenly and tentative habit in architectural draughtsmanship, and if you indulge in it you will find it stand much in your way when you attempt to make original designs. When you draw these, the first thing you must endeavor to accomplish is to acquire the habit of seeing in your mind what you want to draw before you draw it. To see some men draw, one might almost suppose that the pencil was gifted with the miraculous power of making a design, so little does it seem to be certainly guided by the hand that holds it. The habit of picturing your design to yourself before you draw it would save a great deal of this confused sort of work. Knowing what your intention is, you have then only to put it on paper; but, if you have not taken this preliminary trouble, you will never work with half the accuracy or speed which would otherwise be possible. Good draughtsmanship is a necessity in these days for a really accomplished architect. It is impossible in this respect to put ourselves exactly in the position of men who had not our facilities and our system of education. It is true we are not better artists than they were; but in one sense we can draw better, and are, therefore, bound to do so. I am not aware that any one knows how a Greek architect set out his design. And as to the mediæval draughtsman, we know, by such books as that of Wilars de Honecourt, a thirteenth-century French architect, that an architect's drawings then were something like children's drawings now. And even at a later date, the still extant original drawings for such works as the front of the church at Louvain, the steeple of Ulm, and the cathedral at Köln, were strangely unlike the exact geometrical drawings which we are able to make. These drawings, published in Moller's "Denkmaler" and Hollar's drawing of the steeple at Mechlin, engraved, no doubt, from an original drawing, afford interesting illustrations of this kind of elevation. You will find that though they are in elevation, they are frequently so far put into perspective as to exhibit at all points the plan or horizontal section of the work. Both the drawing of elevation and plan are, however, so slight that it must have been impossible for any architect to have satisfied himself without further details, and these, there is some evidence to show, were set out by the architect himself at large on a floor specially provided for the purpose. Such a floor exists in the work-room over the passage to the Chapter-house at York, and at Limoges the original setting-out of the groining was found by M. Verneille in a similar position. Possibly also models were more used than they are now. At Louvain is still preserved a most exquisite model, cut in stone, of the complete design for the west front of a church, which itself has never been completed. When compared with the design, which is also preserved, it is seen that the model represents mouldings and traceries with an exact accuracy which is not attempted in the drawing. But the making of a model by an old architect, in place of a careful geometrical drawing, is no excuse to any one for making careless drawings in the first place now. They are sure to lead to careless details afterwards. Too many of you come here wholly ignorant of all works on your art. Many of them, to which it is always easy to gain access, will give you more evidence of the best kind of architectural drawing than any verbal hints can. But you will find that in these there are united clearness, accuracy, feeling for detail, deli-

eacy, and conformity of line, and you will find no back-lining to mark the supposed shaded side of projections, and none of those provoking splotches of black which are unhappily so much in favor with some young draughtsmen. A power of drawing in perspective is of the first importance on two grounds: first, that without this knowledge your enjoyment and success in sketching will be very small; and, secondly, because it will render it more easy to you to realize the effects of your building in perspective, without having the trouble of making a careful drawing or a model, to convince yourself of its real appearance. Without this power you will hardly be able to realize the real light and shade of a design; and without this ability it were better never to attempt to make a design at all! The delicacy of draughtsmanship on which I have insisted will lead to refinement in other ways. An essentially vulgar drawing may be made of a refined building; it should be your aim to let the drawing itself have that air of refinement also. You are, all of you, armed with mathematical instruments the like of which no age before our own has ever seen. Remember that these are useful servants and no more, and that whenever you can do so, you had far better use your hand in place of your instrument. You cannot practise this too much or too steadily. Draw accurately, firmly, and, as far as may be, with a single stroke, the outline of a Greek or Etruscan vase, the volute of a good Ionic capital, the sections of Greek mouldings, and equally of our own English mouldings of the thirteenth and fourteenth centuries. The hand trained in this way is, believe me, a much better servant than the bow-pencil. The curves which can be drawn by a trained hand, under the guidance of a trained eye, are far more beautiful, because more subtle in their variations and prolongations, than those of any instrument; and I insist on this point, because, unhappily, the bow-pencil, and not the hand, is at the root of almost all the so-called ornament of the nineteenth century. Another habit which it is desirable to encourage is that of representing with a few lines the effect of several. In drawings to a very small scale, the attempt to represent every line of moulding and detail is sure to be a failure as well as a waste of time, and the selection of those lines which are essential is always evidence of good draughtsmanship. This cannot be done without a real knowledge of the character of the details. And as no one can draw a building accurately without this knowledge, I need hardly say that it is very far from a waste of time for a painter to give some attention to architectural detail. Some of Turner's pencil-drawings are capital examples of his power of indicating so accurately the details of a building that no one need be in doubt as to the style in which it is built. He could not have done this unless he had educated himself by the study of architectural detail, and his example ought to be followed by every painter-student who wishes to be able to introduce any architectural features into his pictures—as who does not? One word of caution is necessary here. The power of making good and attractive drawings is of immense value, and may make a vast difference in your prosperity and success in life. But it is a means only, and not the end. It has its dangerous side. It is possible to make a design look well on paper which will never pass muster in execution. Nothing is more suicidal than this; but unfortunately there is nothing against which it is more necessary to warn you. If you devote yourselves to making attractive architectural drawings, do them always, I beg you, with a conscientious determination to represent your work absolutely as it will appear; the real object of working out architectural designs in perspective being the discovery of weak points in the design, so that they may be corrected in execution. . . .

There is much more to be said as to the direction your studies should take; but before I touch on this I must get you, if I can, to realize that you must devote some at least of your time to the sister arts of painting and sculpture, and this not with any idea of excelling in the practice of all the arts,—that is a happiness reserved for a few heaven-born and greatly-gifted mortals,—but rather with the thought that unless you know enough about other arts to be convinced of their highest developments in connection with architecture, you will be like so many of your predecessors, unable or unwilling to recognize that in the harmonious combination of all the arts is the greatest future for each of them separately; and it is from among the ranks of you who are now growing up that we hope the men will come who will have the happiness of seeing what will really be a resurrection of art in this land. The practical divorce of the arts has ended in the gravest loss to all. The architect has become too much of a mere builder; the painter lives to make pictures, to be lived with and loved by a few, instead of the many; and the sculptor's life is too often spent on work for which he cannot care much, because it is of no general interest, men having too often forgotten that his work is beyond all other that which completes and beautifies and ennobles the work of the architect. On some other occasion I shall hope to be able to speak to some of you at length on this point, for I am persuaded that there is nothing by which both arts will gain so much as by the more frequent combination of the two. For your own share in such a consummation in the future, you will not find so much opportunity for study in England as elsewhere, but you should lose no opportunity of familiarizing yourselves with examples of mural decoration, whether by sculpture or painting, in books, of which, as you know, we have access to a goodly store in the library of this Academy; and for acquainting yourselves with sculpture, there is nothing more to be desired than that you should give up some of your time to drawing and modelling from ancient examples, a very large proportion of the finest works of all times being the sculptured decorations of

buildings of the classical, mediæval, and the early Renaissance schools.

No small advantage will those gain who devote some of their time to learning to model. In my opinion, all the decorative sculpture or carving in a building ought to be modelled in the first instance by the architect. This is the only way in which that harmony throughout the work can be secured which is essential to good effect. It is impossible to direct another man properly merely by giving drawings for such work, and you must learn to give your instructions in the round. The day, I hope, may not be far distant when all sculptors will agree with me,—if, indeed, they do not so already,—in thinking that the best of their work would be even better than before if it showed a thorough appreciation of, and fitness for, the requirements of the building in which it is placed. I know nothing more fascinating than the evidence in most ancient work of the same feeling as to detail being common to the architect and the sculptor. You do not see where the work of one ends and of the other begins. The sculptor seems to know all about architecture and the architect to be quite conversant with sculpture; and I much wish that in the architectural school here we may occasionally, or even, I may say, regularly, find some students of sculpture laying aside their modelling tools and their chisels, and coming to us for some instruction in the art, a good knowledge of which is essential to their own complete success. In future lectures in this course I shall have repeatedly to refer to the works of sculptors and architects, in which it is difficult to say which of the two arts can most rightly claim the artist. But if this is again to be the case, the young sculptor must understand that he has to master something more than the rudiments of architectural styles, and that, when he condescends to think of work which is half-architectural and half-sculptural, it must be with a complete sense of the equality of the two arts, if his work is to live with that of the great masters of all old and true schools.

If the sculptor ought to learn so much of architecture, how far ought the architect to go in the study of the human figure? It is a question surrounded with difficulty. A great building may be built which shall not include any representation of the human figure. Either by accident or by robbery of their sculpture, some buildings which once had figure sculpture have none now, and yet are hardly less evidently beautiful in their effect. The practical difficulty about drawing from the life is that if it is carried a very little way it is of no service, whilst if it is persevered in very far it is almost certain to be at the expense of other accomplishments which are even more essential, and there is a risk that the student may end by being both a bad figure-painter and a worse architect than he would otherwise have been. It is only, therefore, in those very rare cases in which an architectural student feels a complete conviction that he has the unusual and rarely-given power of combining the two arts that he should venture to avail himself, to any great extent, of the privilege which is conceded to him in this Academy, though he should never lose any opportunity of studying the history of the combination of painting with architecture, and of making himself fairly learned in the theory of such work. This he may do, whether he can draw the human figure or not, and unless he has done it he will never be able to associate himself with a painter in counsels as to the completion of his own work. . . .

I have told you that you must study convenience of plan. This you may do, not to the exclusion of architectural effect and character, but always with a strict eye to it. In designing the plan of a house, for instance, it does not do to make the external design first and then to make the interior fit it somehow or other. It is necessary to keep both in your mind, but it is the interior that ought to be supreme. The best exterior in the world would not atone for a faulty internal plan. And observe that a good interior is not simply one planned upon some every-day scheme, and one in which life does not simply go on smoothly and without hindrance, but one which has so much suggestiveness and special adaptation as to make it in every way an interesting one to live in or to use. To accomplish this you must realize how every part is to be used, and so contrive as to give every one pleasure in using it. It is this harmonious and reasonable variation of plan that gives the greatest value and charm not only to the interior, but, as a natural consequence, to the exterior also.

The same rule applies to all other buildings. If they are well contrived for their special use, depend upon it you will be just as well able to make their elevations good as if they are carelessly contrived. A church requires by custom, by law, or by sentiment, a generally similar arrangement of the plan. At least, it requires the same component parts,—a nave, a chancel, a porch, a steeple, a vestry. How differently may not these be grouped and designed! The variations in the provision for the given wants in this case are, as you know, innumerable. And how much more various may not the plans for a house be?

If you realize that the real value of architecture, as of all the arts, is its human and personal interest, you will see how impossible it is that any art can be worth anything in which this is wholly ignored. The only justification of endless rows and groups of houses, all arranged on the same lines down to the pattern of the scraper and the design of the area-railings or of the balconies, is that the people who are to inhabit them are so identical in all their wants, wishes, and modes of life, that one pattern of house will do for all. Fortunately this is no more true of this age than of past ages. And now, as then, the best-planned buildings will be those which take account of the existence of a diversity of men, with endless varieties of tastes,

e
t
e
s
g
a
t
e
l
r
l
a
n
o
y
e
t
r
a
t
e.
s
y
y
t
n
g
n
s
at
i
d
r
y
e
ll
e
u
r,
e,
n
p
e.
al
d
ly
h
n
st
y
n-
ne
ll
ll
d.
ly
n-
w
ns
w,
a
ts,
is
d.
ar-
he
ole
es,
tu-
w,
nt
es,

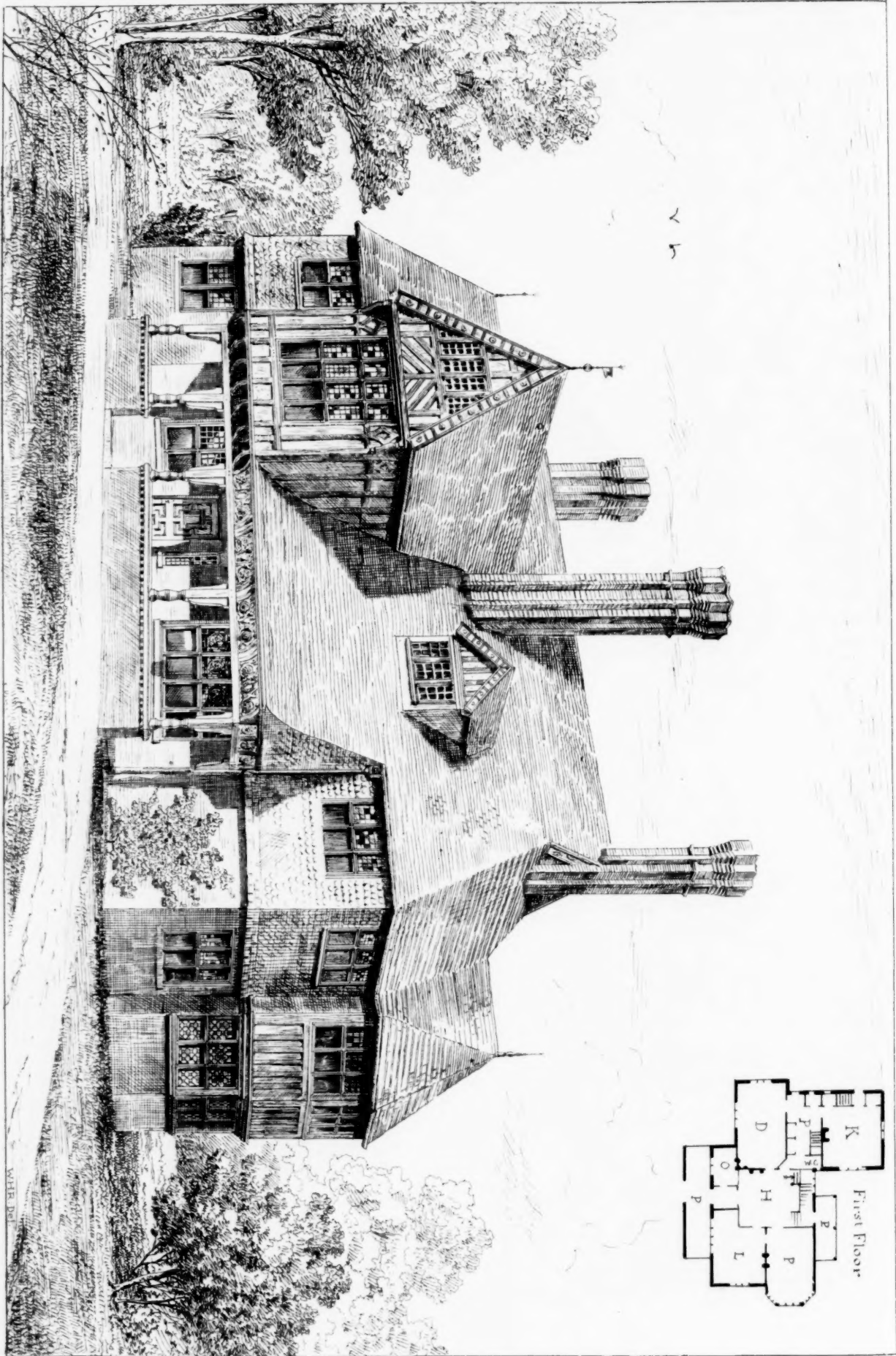
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

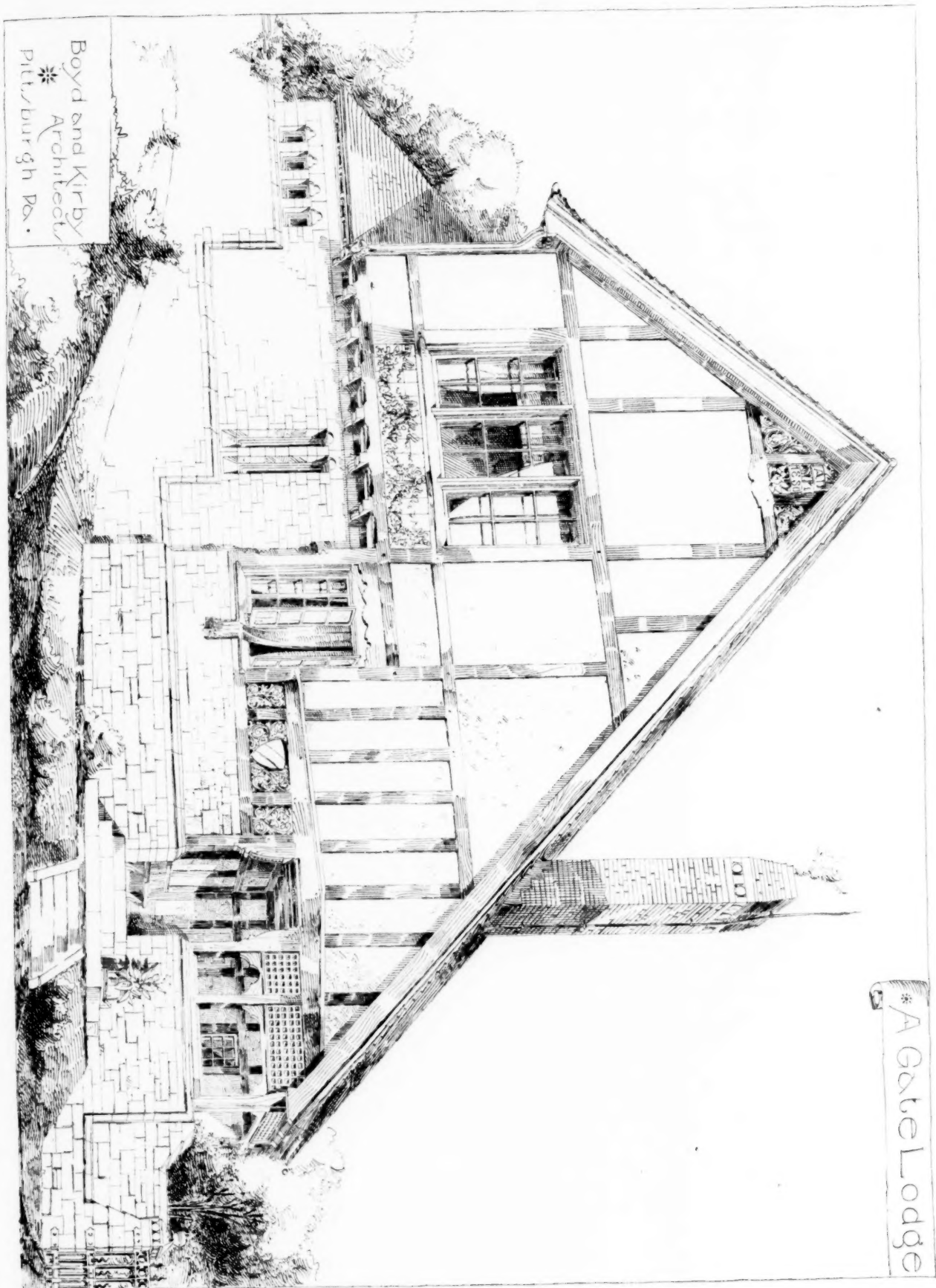
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

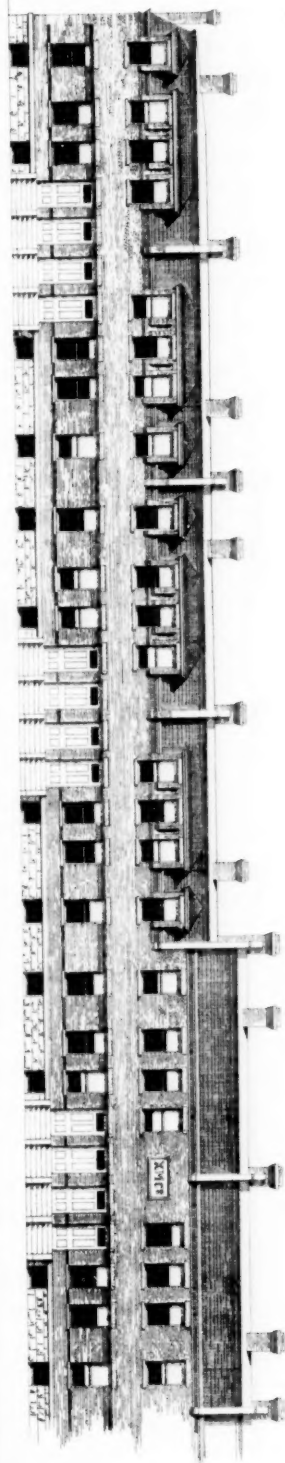
mb

Copyrighted by J. H. Russell & Co.

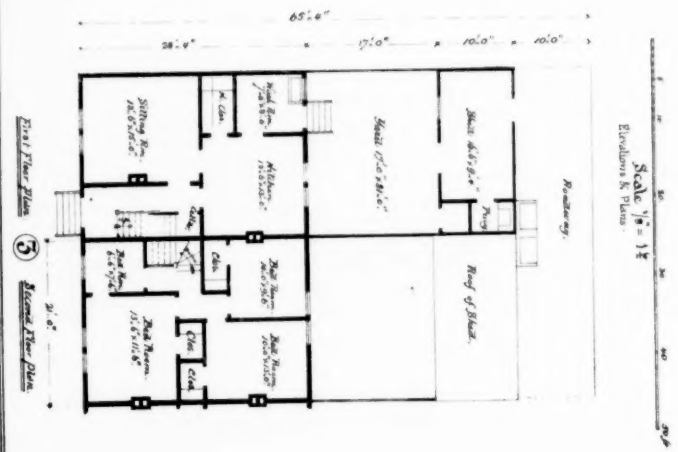
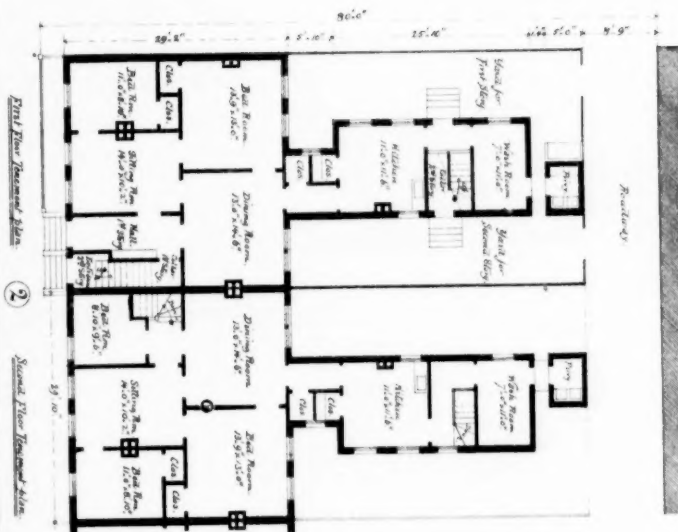
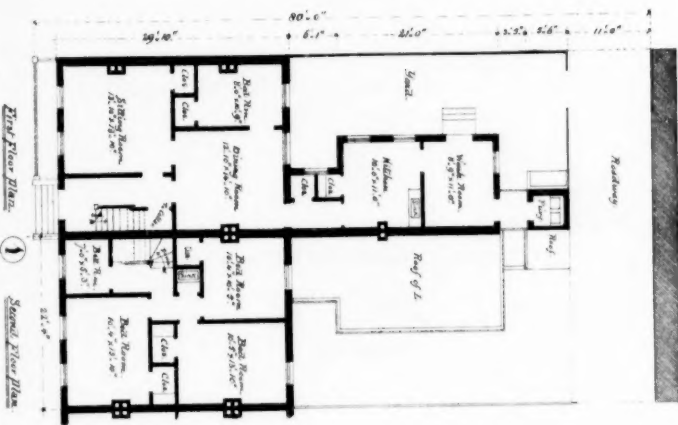
HOUSE AT MORRISANIA NEW YORK
J. H. RUSSELL & CO. ARCHITECTS







FRONT ELEVATION OF ONE HALF BLACK-ROUBLE TENEMENTS
 PLANS OF TENEMENT HOUSES for the X... PLAN'S CISE
 EDWARD C. CUTTS ARCHT
 60 DEVEREUX ST BOSTON, MASS



Scale 1/8" = 1'-0"
 Elevations N. P. View

and wants, and circumstances. It is here that the study of ancient art is so invaluable. In former days, with much less facility for intercourse and movement, we see how many are the adaptations which architects had to make when they went from one part of Europe to another. In our own times this is of every-day occurrence. An English architect may be called on at any time, at the very outset of his career, to go to some foreign dependency where every condition of life and climate is wholly different from what they are in England. The plans as well as the architectural forms which are suitable in England are wholly out of place in a tropical country. In one, just as much as in the other, the same first principles will have to be observed, but the resulting forms will be wholly dissimilar; and the man who begins life with some knowledge of how such differences have been successfully dealt with before, has an untold advantage over the man who treats all countries and all climates alike, as if the satisfaction of local requirements were not, in truth, the very first condition of a good piece of architecture.

Before I conclude, there are two points only on which I must say a few words. One is the necessity for study of much which we cannot teach you here, and which you will never learn in the workshop of an architect. Such, for instance, is the study of language and the study of books. I cannot too strongly insist on the former. Without a knowledge of modern languages you cannot travel with complete pleasure, and you cannot know anything of the largest half of the literature of your art; and unless you have travelled, and unless you have read a good deal of what architects and critics in other countries teach and think, you have deliberately shut yourselves out from a large portion of the education which is indispensable to an accomplished architect. . . .

But, to make any good use of such opportunities, it is not enough to come here occasionally, and only and so often as is absolutely necessary, but with regularity, punctuality, and preparedness. The one regret that I feel in connection with our architectural school is that the students do not, as a rule, appear to wish to attend once more than is absolutely necessary, and when one sees anything short of the highest zeal, one is led to anticipate something very far short of the highest success. It is this absence of enthusiasm for his work which is fatal to an artist. If you have it you will think no hours too long for work, and labor, instead of being toilsome, will be your greatest pleasure. Unless you have enthusiasm for your art yourselves, how can you expect that others will have any to spare for you and your work? It is a contagious quality. The artist who really has it does his work in such a way as to make others feel for him what he feels for his own work. This is seldom, if ever, worthy of love and admiration, unless it is the outcome of a zeal and a fire which are real and intense. If we have such a zeal, how will it show itself on our works? This is a question which affects what is called the practice of our art as distinguished from the study. I have left myself scant time to speak on this part of my subject, but fortunately there is not much to be said. In art a man who has zeal must almost of necessity have more zeal for some of its forms than for others. The forms which our art has taken are styles in which it is almost impossible for any artist to take an equal interest. And a man who is really an artist will find it natural to practise in one style, impossible to do so in another. Modern practice has tried to convert the world to an opposite view; it has assumed that an architect can design equally well in any style. Of course, if this were true, there would be no art in the work, for an artist must show himself in his work, and it would be impossible to do this in antagonistic things. It is not, in my judgment, necessary or desirable that I should pronounce positively to you as to which is the best form for the architecture of the present day. That, when you have studied and thought, and worked for a few more years, each of you will have to decide for himself. But this I can tell you, that if you have zeal enough and enthusiasm enough to care for your art for Art's sake, you are far more sure of success by adhering strictly to what you believe to be good, true, honest, and artistic work, than if you attempt to please everybody by doing whatever you are asked to do in whatever style or fashion may be dictated. The man who knows how to do one thing well is more certain of success than he who tries to know a little of everything, and in study and in practice common-sense and good art both claim from you that you should at any rate know the style of your own choice well. Beyond all doubt it is a sort of inspiration that is required in the artist who is ever to do any really great work, and this will never come to one who never dreams of perfection, who thinks first of all of gain and worldly interest, who treats his art as a mere matter of business and routine, not as an imperious mistress who must have all his devotion and all his heart. To secure this enthusiasm you must be dreamers in one way only, — you may give reins to your imagination, you may dream of beauty, of majesty, of perfection; you may picture to yourself what you would and will accomplish; but you must be no dreamers about your proper work. That must be constant, steady in purpose, thoughtful, and always in some way bearing on your art either directly or indirectly. The more time you devote to study the more will you become engrossed in your art, and the more you will find that it is delightful and interesting in all its changes and developments of old, and in the practical application of what you learn from these to the art of your own time. Industry alone will not make a great artist; but if there is one thing more certain than another in art, it is that all great artists have been industrious, and that if you wish to be numbered in their ranks, you must follow their example.

THE ILLUSTRATIONS.

SCOTTISH SKETCHES: A FRONT IN THE LAWNMARKET, EDINBURGH. — DOOR AND WINDOW JAMBS. — BY MR. J. W. SMALL, F. S. A. SCOT.

HOUSE AT MORRISANIA, N. Y. — MESSRS. RENWICK & RUSSELL, ARCHITECTS, NEW YORK, N. Y.

A GATE-LODGE. — MESSRS. BOYD & KIRBY, ARCHITECTS.

TENEMENT-HOUSE PLANS FOR THE — MANUFACTURING COMPANIES. — MR. EDGAR C. CURTIS, ARCHITECT, BOSTON, MASS.

PLANS I and II are of brick, plan III being of wood.

Numbers I and III are single tenements for one family with bedrooms in second story.

Plan No. II (of which an elevation is given) is a tenement below and tenement above, and is arranged for two families. Each family has its own entrance; the first-floor tenants go down to cellar under the front stairs and out to yard on left of L. The second-floor tenants go to cellar under stairs in L, and to yard on right of L. Each tenement has its own privy separated from house.

The roofs are slated on pitch and dormers, and are tarred and gravelled on flat.

NEVERS.

THE city of Nevers cannot in any age count among the great cities of Europe; it cannot even count among the great cities of Gaul. It fills no prominent place in history at any time. It appears in the ecclesiastical map as the head of a diocese, it appears in the civil map as the head of a county which grew into a duchy. But neither on the ecclesiastical nor on the temporal side does Nevers claim the same historical importance as some of its neighbor cities. Its bishopric is younger than many of its neighbors, and neither its counts nor its bishops play the same leading part in the affairs of Gaul or of Europe as the counts and bishops of some other cities. Nor is the general aspect of the city so striking as that of some of its neighbors. It stands well above the Loire, at the point where the great boundary river is fed by the small stream of the Nievre, which gives its name to the modern department. But in the general view from the bridge — the best place to take in the general look of a city — the cathedral church seems too completely dominant; it needs some balancing object, whether of its own class or of any other.

But if from the bridge we climb up the low yet steep hill on which Nevers stands, if we walk diligently through her streets and carefully note her buildings, we find that we are walking through a city which can quite hold its place among neighbors which seem far more striking at first sight. — We have said that the remains of the Church of St. Saviour face us as we cross the bridge. The tall Romanesque doorway which is still left might easily be taken for a gateway. Go in, and we find the remnants of the minster, columns and arches to match the doorway, and those capitals which are not in their places, a wonderful store, are carefully stowed away in the museum formed in the grand gateway tower of the city known as the *Porte du Croux*. We may, without climbing the hill, make our way to it, and take on our road almost the only remaining tower of the city wall, known as *La Tour Goguin*, and also a small building of singular interest, the desecrated monastic Church of St. Genest. Here we feel that at Nevers, as becomes a city on the Loire, we have reached the borders of another artistic world, a world quite distinct from that of England, Normandy, and proper France. Save that the capitals are not classical, but rich with figures and all the usual Romanesque ornaments, we might think ourselves at Palermo. The plan is that of the Greek cross; the arches are pointed; but, as for Palermo, as at Perigueux, the pointed arch is here no sign of coming Gothic. Or again, still without reaching the upper city, the inquirer might take the turn to the right; he might track out the walls of the city and the course of the Nievre, and make his way through the lower streets to the Abbey Church of St. Stephen. Here he will find one of the most perfect Romanesque churches in Europe, but one of yet a third type. The church, built between 1063 and 1096, and consecrated by the famous Bishop Ivo of Chartres, is as far as may be from being either classical or Norman; the ruder types of the earlier Romanesque here linger on, even in the great western doorway. Few interiors of the same scale are more stately; unusually lofty, covered with a barrel vault, its four acres crowned by a cupola, it carries out the idea of its own type in the fullest perfection. And while it kept its three towers, few exteriors could have been more picturesque.

Here then is a store of treasures, ecclesiastical and military, of which none except the least important, the *Tour Goguin*, take any part at all in the general view. We reach, by whatever path, the upper city, and here we find the two great central objects, Church and State, sitting becomingly side by side in the form of the cathedral church and the ducal palace. The latter supplanted the more ancient castle of the counts in the later years of the fifteenth century. Traces of the elder building remain behind; but the present building stands out as a very perfect example of a large house of the time. Its enrichments are a treasure-house of legendary sculpture; the tale of the Knight of the Swan and other tales too may be studied by those whose tastes run in that direction. Lovers of earlier forms will turn to the great church hard by, and, above all, to its western end. West front it has none; transepts, strictly so called,

it has none; but it has what might almost make us fancy ourselves carried away among the two-headed churches of Germany, an apse at each end. The western one is the elder, most likely not the apse itself, but the crypt beneath it; and two tall columns to the east one belong to the same early style at St. Stephen's, and bear the date of 1024. Seemingly, the original church was, like Genest, a Greek cross, only with its apse to the west. The architects of the thirteenth and fourteenth centuries enlarged the church to the east, and built a new apse at the east end without destroying the elder one at the west. The church, in short, like some others in Italy and elsewhere, has been turned round. The later part forms an interior of great beauty, perhaps not the less satisfactory to an English eye because its proportions are rather English than French. At Nevers we are not overwhelmed with the soaring majesty of some of the greater French minsters; the building comes more nearly down to the level of our own faculties. We are able to study as well as to admire.

But Nevers has also attractions of more recent times. The city, proud of its palace, of its counts, dukes and duchesses, is proud also of its park and of its poet. Is it a very shameful confession that an English traveller may reach Nevers and hear the name of Adam Billaud, the cabinet-making poet of Nevers in the seventeenth century, for the first time in his own city? His house is to be seen; his story may be read in local books, how, after enjoying most princely patronage, he at last died in want. Tastes differ, and, while some may give their time at Nevers to musing on Adam Billaud, others may be, as we have shown elsewhere, more curious to find out why St. Cyrus appears in the singular guise in which local art delights to carve him. Nevers too has its old art of china work, which has not yet left it, and which ought to make the city dear to the votaries of culture. Let us hope that the present inhabitants of Nevers endeavor to "live up to" the pretty works in this line which they still continue to turn out. — *Pall Mall Gazette*.

CAUSES OF FIRE IN NEW YORK.

JAMES HARRISON, Superintendent of the Bureau of Surveys of the New York Board of Fire Underwriters, recently furnished to the press the following relative to the causes of fires in New York:—

"In several of the daily papers I have noticed that allusion has been made recently to the causes of the many fires occurring in this city. It seems to be generally supposed that fires have their commencement in collections of inflammable material, or in places where there has been great exposure; but the statistics of the past six years, carefully gathered from the New York Fire Marshal's report made to the New York Board of Underwriters, show conclusively that the greatest number of fires have arisen from the most trivial causes. That all these incipient fires have not proven to be disastrous conflagrations, is mainly owing to the efficiency of our fire department and fire patrol.

"When one considers the general carelessness on the part of house-keepers, the stupidity of servants, the indifference of landlords, and the want of judgment often displayed on the part of workmen employed, as well as the evident effort (too often successful) to evade the requirements of the law intended to govern the construction of buildings and the interior arrangement of heaters, stoves, furnaces and boilers, and the careless storage of ashes and inflammable materials, the surprise is that the number of fires is not greater by far than it is. It certainly demonstrates how closely the 'watch and ward' is kept by the excellent departments already mentioned. It is undoubtedly the fact that there are districts of our city where greater peril exists than in others, but it must not be supposed that any part of the city is exempt from peril to a certain extent. Every building, whether warehouse or dwelling, from the immense salesroom of the merchant-prince to the humble home of poverty, every one, great or small, contains within it some one of the numerous elements to begin the conflagration. Of course, accidents will occur, the incendiary will carry out his designs—these are misfortunes or evils that cannot be foreseen; but certainly carelessness or stupidity, either on the part of servants or mechanics, can be controlled.

"So long as servants are permitted to dump hot ashes into wooden barrels and use kerosene without restriction, or the tenants of a building will use the chimney flues winter after winter without being cleansed, or indulge in the use of the pernicious swinging gas bracket, or the contractor continue to wink at the builder who desires to evade the law in every possible (and often in the most flagrant) manner, or the shopman continues to make his tempting display of delicate laces and costly ribbons in his show-windows, in close proximity to gas-lights—so long will these fiery casualties occur, and life and property be recklessly perilled.

"Stringent laws have been enacted, officers detailed and offenders reported and fined; yet, notwithstanding the lessons of the past, the records tell about the same story from year to year. The New York Board of Fire Underwriters have offered every inducement to correct many of the errors in construction of buildings, such as open elevators, hatches, stairways, communications, etc.; they have kept a close watch on churches and public buildings, as to placing of boilers and construction of heaters. Storage stores are kept under close surveillance to prevent the storage of dangerous merchandise, and warehouses are surveyed and recommendations made with a view to safety. Yet the real cause of all the trouble remains, namely, carelessness.

"I append the table or statement taken from the report of our Fire Marshal from January 1, 1874, to January 1, 1880:—

No. of Fires.	No. of Fires.
Hot ashes, pipes, cigars, matches and candles.....	2,579
Foul chimneys.....	938
Show-windows and window-curtains.....	352
Fireworks.....	288
Kerosene lamps.....	588
Defective flues and pipes.....	477
Overheated stoves and furnaces.....	317
Spontaneous combustion.....	161
Lime.....	3
Malevolent mischief.....	53
Alcohol vapor.....	2
Escaped gas.....	58
Clothing ignited from gas or stoves.....	7
Friction.....	11
Sparks.....	342
Smoke-houses.....	5
Rats gnawing matches.....	2
Stoves upset.....	5
Total.....	6,188

JAMES HARRISON."

WHAT IS THE LEGAL FENCE?

THE Indianapolis *Journal* has taken pains to gather information as to the laws regarding the fencing of railroads in sister States. In Massachusetts the legal fence is four feet high. A "sufficient barrier" only is demanded, whether the equivalents be furnished by streams, ditches, live growths, or constructions in wood, stone, or other material. Vermont and Connecticut legal fence is five and a half feet high, with provisions essentially as above. In Maine and New Hampshire the legal fence is four feet high; Rhode Island, stone or wood fences must be four and a half feet high; hedges and ditches are elaborately described.

New York.—The town meetings prescribe what shall be deemed a legal fence in each town. Assessors and commissioners of highways perform the duties of fence-viewers. Four and a half feet is the usual height prescribed.

Pennsylvania.—Towns and counties secure special legislation for fencing railway lines, and to prevent running of the stock at large.

New Jersey.—Fences are to be four feet two inches high, of wood, brick, or stone, and four and a half feet if of other materials.

Delaware.—Four feet, with a ditch within two feet, is a lawful fence. Wood or stone fences, or hedge, four and a half feet high.

Maryland, Virginia, North Carolina, Georgia, Florida, Alabama, Arkansas, Tennessee.—Legal fences five feet high.

West Virginia.—Legal fences four and a half feet high.

South Carolina.—Fences must be six feet high, of wood or hedge, or ditches equivalent as barriers.

Missouri.—Hedge five feet, fence four and one-half feet.

Kentucky.—"All sound or strong fences five feet high, so close that stock cannot creep through," is the definition of the legal fence.

Ohio.—"A fence, of whatever material, constructed in all respects such as good husbandmen ought to keep." Statute of 1865.

Illinois.—"Fences four and one-half feet high, of whatever material the fence-viewers shall deem sufficient."

Michigan.—"Fences four and one-half feet high of rails, timber, boards, stone or other things deemed equivalent thereto in the judgment of fence-viewers."

Wisconsin.—"Fences four and one-half feet high," etc. By act of April, 1878, barbed wire fence is defined as a legal fence.

Minnesota.—"Fences four and one-half feet high," etc. Barb fence defined by the act of 1877.

Iowa.—"Four and one-half feet high, or fifty-four inches." Barbed wire fence prescribed as legal fence, 1876.

Texas.—"Five feet high." Barbed wire defined as legal fence.

Kansas.—"Worm fences four and one-half feet; turf, four feet with ditches; wire fence, posts twelve feet apart."

Nebraska.—The legal fence is described as "such a fence as good husbandmen generally keep."

California.—The legal fence is described with great particularity. Wire, post and rail, brush, picket; ditch and pole and hedge wire fences, not less than three separate strands, the first eighteen inches from the ground, the others two and one foot apart.

Colorado, Arizona, Montana and Utah.—Four and one-half feet high.

New Mexico, Idaho and Washington.—Four feet high.

In Washington Territory barbed wire fence must carry a top rail of wood.

Indiana.—Any structure in the nature of a fence, such as good husbandmen generally keep.

JERBEH'S TOWER OF SKULLS.

HEADING southward along the Tunisian seaboard in one of the little coasters with which these waters abound, you find in the angle formed by the intersection of the Tunis coast-line and that of Tripoli a large, low, nearly circular island, which at first sight appears fully as barren and desolate as the gray unending sands of the African shore along the southern horizon. Your map will tell you that this uninviting sand-bank is called the Isle of Jerbeh, a name which, unless you happen to be unusually well-read in the chivalric chronicles of the sixteenth century, will probably leave you just as wise as you were before. Apparently, however, your Arab fellow-passengers are better informed, for the first glimpse of the island seems to produce an extraordinary commotion among them. Hands are eagerly pointed at the long grayish-yellow band which lies almost level with the smooth, bright water, and the slumberous black eyes flash fire under the shadow of the huge white turban, while the name of "Burj-er-Roos" flies from mouth to mouth. E'en should you happen to have learned Arabic enough to know that this mysterious word means "tower of skulls," you are hardly likely to be very much en-

lightened thereby. The captain of the vessel, should he be an Englishman, will give you but little help in your embarrassment, answering your appeal for information only by a knowing grin and an admonition to "keep your eyes open and you'll see a pretty queer sight before very long." Little by little a huge, grayish-white mass begins to define itself upon the flat, sandy shore of the island, standing up gaunt and grim against the warm, dreamy blue of the lustrous sky. As we approach, this formless heap gradually shapes itself into frowning ramparts and turreted battlements and massive towers and all the barbaric grandeur of a genuine Eastern fortress. At its feet the bright blue sea breaks in glittering wavelets, while behind it—an oasis of rich foliage amid the hot, brassy yellow of the sandy shore—the vast banner-like leaves of the date-palms droop voluptuously upon the breezeless air. No painter could wish a finer study, but the most striking feature of the panorama is still to come. A sudden turn of the coast reveals a projecting headland, surmounted by a tall white tower, at sight of which the shouts of "Burjer-Roos! Burjer-Roos!" burst forth again with redoubled energy. The strange building is cone-shaped, and altogether not unlike the giant ants' nests of Africa or South America, but many yards in height and resting upon a base as broad as that of a cathedral tower. Moment by moment, as the ship nears the land, this mysterious structure stands out more and more plainly. It is not long before you begin to notice that the seaward face of the tower has crumbled beneath the action of wind and weather, revealing through a wide gap the dark hollow of the interior. As you gaze, there breaks suddenly out of its gloomy shadow, just where the light enters it, a yellowish, ghostly glimmer, like dim lantern-light seen in a vault. You have recourse to your glass, and perceive with a momentary thrill of horror that this strange glimmering proceeds from the teeth of thousands of human skulls, which fill up the whole interior of the building.

This is the famous "Burjer-Roos," or Tower of Skulls, which, for three centuries past, has given to this remote nook a strange and terrible renown. The vengeance of Timour has left upon the banks of the Oxus more than one Golgotha of this kind, which I had an unexpected chance of examining during the Khiva expedition of 1873. In Europe, however, there is but one similar monument, which, as might be expected, belongs to Turkey, the only European country in which such a relic of utter barbarism would not be out of place in the nineteenth century. The traveller who rides along the great southern highroad from Belgrade to the Sofia Pass over the Balkan, sees by the wayside a pyramidal building in which are imbedded thirty thousand human skulls. Nor does this ghoul-like memento date back to any remote age of half-human ferocity. It is no older than the year 1806, when Serbia's declaration of independence was answered by Turkey with the massacres which have left these thirty thousand Christian heads a lasting memorial of what the "unspeakable Turk" has always been and always will be. But among all these trophies of death there is not one which can claim to be either as well-preserved or as hideously artistic as the fatal tower of Jerbeh. It seems as if those who planted it here for an eternal monument of their vengeance had taken a grim pleasure in making it as imperishable as the hatred by which that vengeance was devised. The skulls are ranged in symmetrical layers, like shells in the cases of a museum, each layer being supported upon a kind of trestle-work formed from the larger bones of the skeletons which have served as the materials of this ghastly architecture. The care with which every bone has been placed, and the gradual tapering-off of the higher tiers toward the point of the cone so as to lessen the strain imposed upon the base, render the whole structure as solid as a pyramid of stone. So strong, indeed, is its stability throughout, and so carefully has the outer coating of sun-baked clay, which binds the whole together, been laid on, that the storms of more than three centuries have been powerless to work it any farther harm than the gap in its seaward face. What a study for Gustave Doré, who would doubtless throw out its gaunt whiteness in stern relief against the gloom of a stormy sky, and let a flash of lightning half reveal the skeleton figure of Death himself, standing shadow-like beside the tower, and scanning with a ghastly grin this hideous trophy of his might. Accounts vary as to the total number of skulls which it contains, but by comparing the statements of the old Christian chroniclers with those of local tradition, one may safely assume that this gloomy old mausoleum has absorbed into itself the lives of at least twenty-five thousand men.

From the natives themselves there is but little to be gleaned respecting this famous catastrophe, save the vague and confused tradition of a great victory achieved by their forefathers upon this spot, and the extermination of a vast number of "unbelieving dogs." But when you turn to the Christian historians of the period, you find the story complete in every detail, told with a graphic minuteness and childlike simplicity worthy of Herodotus or of Froissart. And a grim story it is—one of the most colossal tragedies of that strange era when everything, whether for good or for evil, was done upon a gigantic scale. The drama opens, as if to heighten the tragic effect, with the joyous departure from Malta, in 1561, of Count La Cerdà and his splendid armament to conquer the city and principality of Tripoli in the name of Philip II. Gallantly do the doomed men sail forth in the glory of the summer morning upon the fatal venture from which they are never to return. The smooth, bright sea echoes with their jests and laughter, and the rising sun lights up their glittering arms and fantastic bravery, while above floats the banner of that cross whose spirit, alas! is so widely different from their own. But even during the short southward voyage we hear of many things

which bode no good to the adventure. "Little prayer or chanting of God's praise was to be heard among them, but many foul oaths, much drinking and dicing, unseemly jests, and godless revelry; for they wist not of the evil to come, God having blinded their eyes, to the intent that He might make His judgment upon them the heavier." Meanwhile La Cerdà himself drinks deep and boasts loudly, in a fashion that may well make augur ill for the success of an expedition commanded by such a leader. But at the first glimpse of the strong walls and bristling cannon of Tripoli, the braggart's courage cools at once. He dispatches a swift galley back to Malta for heavy artillery, and meanwhile, altering his course suddenly, swoops down upon the undefended island of Jerbeh. At first he is only too successful. The island is swept with fire and sword, the unprepared enemy slaughtered without mercy, and the only daughter of their principal chief, Yokdah, cruelly outraged by Juan de la Saera, bravest and worst of the profligate cavaliers of Spain. Watching a moment when her captor's attention is diverted from her, the forlorn girl snatches up a dagger and stabs herself to the heart, invoking with her last breath the vengeance of God upon those who profaned the service of heaven with the deeds of hell. From this point onward the shadows of coming destruction gather ever darker and darker around the doomed host. "When word was brought to Yokdah of what had chanced, he answered nought, but gripped the hilt of his cimeter till the blood started from his fingers. Then his lips moved, but no man wist what he spake; howbeit, they might well guess by his look that it boded no good to them of Spain." The bereaved father has not long to wait for his vengeance. As if heaven itself had doomed them, the Spanish veterans, flushed with their easy victory, relax their wonted vigilance, and give themselves up to the wildest excess of debauchery. Like lightning from a clear sky, destruction falls upon them in the midst of their fancied security. Two smaller detachments, scattered through the outlying villages, are cut off to a man, and Yokdah's fierce swordsmen, with their thirst for vengeance still unslaked, sweep onward to attack the main body, which lies in the town of Gerba itself. At dead of night, the Spaniards are startled from their drunken sleep by the yell of "Allah Ackbar!" (God is victorious) and instantly the whole town is one whirl of struggling figures and tossing arms and blazing torches and flashing weapons and hellish uproar and merciless butchery. But such a combat is unequal to last. Outnumbered and unprepared and basely abandoned by their pusillanimous leader, the invaders are soon driven pell-mell down to the shore, where the battle culminates in a scene of horror worthy of Dante: "The Christians, being put to the worse, flung themselves into the sea, thinking to fly unto their ships; but even thither did the Infidels pursue them, raging like savage wolves. Thus was the fight waged in darkness amid the waves of the sea—a thing unthought of heretofore. And with such rage did they grapple one another that many sank and were drowned thus locked together, refusing to quit their hold. Many also were slain with the sword, and many more, being borne down by the weight of their armor, perished miserably. Of all that had been in the town, none escaped; and last of all died Juan de la Saera himself, whom God's vengeance suffered not to live. For when he had well-nigh gained the ships, a Saracen grappled him and would have slain him, but Yokdah, the chief, cried aloud, 'Harm him not; I keep him for my own prize!' And by the force of many he was taken alive, and was dragged back to the shore. Then the Infidels, the battle being ended, gathered the heads of them that were slain and built them into a tower; and Saera, when he had endured many and grievous torments, such as none but Saracen wit could devise, was beheaded, and his head laid on the summit of the pile by Yokdah, their prince, as being a fitting crown for such a monument."—*Correspondence of the New York Times.*

MORTAR BLACK.

NEW YORK, March 12, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I am a subscriber to your *American Architect*, and would be pleased if you would let me know what in your opinion is the best material for laying brick up in black; I mean the most durable. I notice some fine buildings in New York that are laid up in black, and the joints become almost white in a year or two. Can cement be used to any better advantage? Yours, very truly,

J. O. CARPENTER.

[INFERIOR lamp-black will soon wash out of black mortar; nothing but the very best quality can be used successfully. Moulding sand from iron foundries is used in government buildings for mixing with the lime, and is of course permanent; and several varieties of "mortar black" are sold by manufacturing chemists, which are well spoken of. The use of cement, as helping to hold the color, would not be advisable; the blue efflorescence from the cement is peculiarly obtrusive and disagreeable on a black joint. Black mortar is going rather out of date, joints colored with Venetian red being more agreeable in appearance, especially with the moulded and cut brick-work now in vogue, and more permanent. — EDS. AMERICAN ARCHITECT.]

A QUESTION OF PLAGIARISM.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I take the *American Architect* and think it a very valuable paper, also a profitable one for almost every business. I have noticed that you answered questions proposed by subscribers and others; should be pleased if you would answer through the *American Architect* the following question, and in so doing greatly befriend me and probably others. I drew a short time since a plan in competition with other architects. The instructions to us were that we

should make the building as cheap as possible, and at the same time be convenient, substantial, and accommodate a certain number of persons. When the day came to examine our plans the committee chose a plan costing six to eight thousand dollars more than mine, and not accommodating so many by about fifty, being twenty-five under the number they limited us to. There was a difference in the styles of our roofs—the plan selected being flat, and mine a pitch roof—also, it had a tower on that I did not have. Inside there was also quite a difference. Now the committee propose to change the roof of the plan selected to a pitch, also taking the tower away, and making several other features as near like mine as possible, thereby using essentially my plan, and the very things that they change I had to fight against almost every one of the committee in the competition. Now what I would like to know, is there any redress for this? Hoping that you will favor this with a reply, I remain very respectfully yours,

PHOENIX.

[Most architects can sympathize with "Phoenix's" troubles. but it is useless for him to try legal measures. It does not necessarily appear from his account that his plan was the most convenient, although it might have offered greater accommodation, and the question of cost would be subordinate to that; nor can he claim an exclusive right to the use of pitch roofs and towerless façades. If the committee have really adopted valuable features from his plan that would not have occurred to them unless they had been suggested by it, his best course is to ask them frankly for compensation for the ideas so appropriated. We do not believe that they intend to steal another person's property without his consent, and if he makes out a good case he will have the sympathy of the fair-minded ones, if not substantial consolation; while we are sure that his successful rival will be the very first to urge that justice be done to his professional brother. — EDS. AMERICAN ARCHITECT.]

MAPLE FLOORS.

PHILADELPHIA, March 11, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Gentlemen, — Can you tell me whether there is any advantage in using maple over yellow pine for laundry or kitchen floors? I have a client who has noticed, or thinks he has noticed, that in Boston this is done generally.

An early answer will oblige, Yours faithfully,

T. RONEY WILLIAMSON.

[MAPLE is unquestionably better than the average yellow pine for flooring. It is very fine-grained and tough, though perhaps no harder than yellow pine, and is completely free from the liability to splinter which injures much of the latter. Some years ago a number of Boston mill-owners made thorough tests of various kinds of material for flooring their factories, where the wear is very severe, and concluded that maple was superior to any other. Very possibly this experience may have led to the favor with which maple floor-boards are regarded in that region. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS.

WANTED: BACK NUMBERS OF THE AMERICAN ARCHITECT. — We do not know whether we ought to feel flattered or discouraged by the non-success that has attended our attempts to procure copies of some of the back numbers of the *American Architect*. If, on the one hand, we have received no response to our advertisement, which we have inserted for the last three or four weeks, because subscribers value the copies so highly that they are unwilling to part with them, we are quite ready to feel grateful for their appreciation of our endeavors. While if, on the other hand, the reason that our needs have not been supplied is that no one cares enough for the *American Architect* to preserve it, we are ready on presentation of satisfactory proof to be duly downcast. If, however, there is a third class of subscribers who have kept their copies temporarily, and are now willing to supply us with Numbers 44 and 50 of the volume for 1876 and Numbers 120 and 121 of the volume for 1878, we shall be pleased to have them do so as stated in our advertising columns.

THE LATE PARIS EXHIBITION BUILDINGS. — It is stated that the buildings of the Paris Exhibition of 1878 will rise again in various parts of Europe. The pavilion of the Ville de Paris will be rebuilt behind the Palais de l'Industrie; one of the corner domes has been bought by the town of Hamburg for an exhibition which will open there shortly; the machinery gallery is being re-erected at St. Denis to serve as a manufactory; the great dome facing the Trocadero is to be transported to a seaside station; and the lateral galleries are likely to be bought by the town of Amsterdam for a projected exhibition.

THE house of Perugino at Perugia is now ornamented with a slab bearing in choice and stately Italian the following inscription:—

IN THIS DWELLING,
WHERE PERSISTENT TRADITION AVERS
THAT ONCE LIVED
PIETRO VANNUCCI,
PERUGIAN
BY RESIDENCE, BY AFFECTION, BY NAME,
IN THE THREE HUNDRED AND FORTY-FIRST YEAR
AFTER THE GREAT PAINTER'S DEATH,
IN NOVEMBER, AT THE CHARGE OF THE COMMUNE,
A STONE WAS PLACED
SO THAT IT ALSO SHOULD TESTIFY TO THE WORLD
THE VENERATION OF PERUGIA
FOR THE FOUNDER OF HER SCHOOL,
FOR THE MASTER OF RAFFAELLO.

ENCOURAGING SANITARY SCIENCE. — The London Society of Arts has decided to award three silver medals for as many London houses as may be found, on examination, to be furnished with the best known sanitary appliances. The conditions include proper provisions against frost, infection, damp, and other cognate evils. The comment of an English contemporary on this is that if the judges have to visit the metropolitan houses until they discover three worthy of the prizes, the peripatetic labors of Diogenes will be trivial compared with their task.

CHINESE FIRE-BRIGADES. — To save their cities from destructive fires, the Chinese observe many necessary precautions. In the streets of many of their cities wells are sunk, which are called Taiping-tsieng, or great peace wells. They are large and contain abundant supplies of water, and over the mouth of each a stone slab is placed, which is only removed when any of the neighboring houses are on fire. It is provided by law that there shall be placed in various parts of a Chinese city large tubs, to be kept at all times full of water. On the sides of these vessels are written, in large Chinese letters, the words, "peace tubs," or cisterns. On the tops of the houses also it is not unusual for the Chinese to place earthenware jars containing water, so that they may always have at hand sufficient water to enable them to suppress incipient fires. In each large city there are several fire-brigades, maintained entirely by contribution on the part of the citizens. The fire-engines, water-buckets and lanterns which belong to them are kept, as a rule, in the different temples of the city; and each brigade is distinguished by a peculiar name. To each guild a fire-brigade is attached, and the expenses of the brigade are defrayed by the members of the guild. The officers and men of the brigade are provided with a distinctive uniform, or dress, and on their hats are recorded, in large Chinese characters, the name or number of their brigade, and the words, "Kow-fo," or fire-extinguisher. Besides these provisions of the citizens themselves for the purpose of checking or putting out fires, the members of the local government of each city are called upon to render their assistance. By way of illustration, let me take Canton. Each magistrate of this city has in his service several men, whose duty it is, on the occasion of a fire, to prevent robberies. Thus the Kwong-hip, or commandant of the Chinese garrison in Canton, has under him, besides others, eighty men, of whom twenty are to assist in preventing robberies when a fire takes place, and sixty to assist in putting out the fire. Of these men, forty are stationed at the Fire Genii gate of the city, and forty in the western suburb. Under the immediate command of the Governor there are two hundred men, whose duty, in a great measure, consists in helping firemen to subdue conflagrations. Throughout the city of Canton there are forty-eight guard-houses, and from each of these, in the event of a fire, two men are told off to hasten to the scene. At the close, or commencement, of each succeeding month throughout the year, the provincial judge and the provincial treasurer, both of whom are very high officials, are supposed to inspect all the Government servants whose duty it is to assist in putting out fires. Once more, with the view of making all Chinese officials active in the discharge of these duties, it is enacted that, in the case of eighty houses being destroyed by fire, all the officers of the city in which the conflagration occurred shall be degraded in rank one step; and that in the case of ten houses being destroyed, the matter shall be reported to the Central Government at Peking. A few days after a conflagration the members of each respective fire-brigade which was present on the occasion receive, as an acknowledgment of their good services, roast pigs, jars of wine, and small sums of money. The men to whom is assigned the dangerous duty of holding the hoses attached to the engines receive, on such occasions, extra rewards. Wounded firemen are remunerated according to the nature of their wounds. The Chinese are, in my opinion, most excellent firemen. They very quickly arrive at the scene of action, and, as a rule, they are most prompt in extinguishing the flames. They are also very daring. During the late war between Great Britain and China, when Canton was set on fire by bombshells from Sir M. Seymour's guns, I observed from the top of the British factory the various fire-brigades steadily persevering in their attempts to subdue the flames, in the face of a constant fire of shot and shell. — *Fireman's Journal*.

MARIETTE BEY. — Mariette Bey, the celebrated Egyptologist, who died this winter at Cairo, was born at Boulogne-sur-Mer in 1821. In the year 1847 he began to undertake in his native town the study of Egyptian hieroglyphics; and, although he possessed very few books to guide him in his researches, made himself master of the principal difficulties to be encountered in the science which Champollion was chiefly instrumental in creating. In 1850, upon the recommendation of the Institute of France, Mariette Bey, who was attached to the Egyptian Museum of the Louvre, where his knowledge was much valued, was charged with a scientific mission to Egypt with the object of searching out and examining the Coptic manuscripts preserved in the convents; but scarcely had he arrived at Cairo than his attention was drawn to ancient Memphis, whose monuments lie covered by the sand near to the pyramids. Assisted by the guidance obtained from the authors of antiquity, he began excavations and discovered the Serapeum, the sanctuary of the god Serapis, the tombs of the Bull Gods, as well as other archaeological remains of the greatest interest. Spending four years in the midst of the desert he continued his excavations at Memphis, at Abydos, and at different places in Upper Egypt and Nubia. He unearthed the famous colossus of the Sphinx which is cut, as is known, in a natural rock at the foot of the pyramids of Gisch, and brought to light a number of bas-reliefs, inscriptions, and gold and silver ornaments. On his return to France, Mariette Bey was made conservator of the Egyptian Museum at Paris. In 1858 he undertook the direction of the excavations in the valley of the Nile, and made fresh discoveries. We owe to him the unearthing of the Temples of Edfou, Karnak, Medinet Abou, and also the foundation of the Museum of Boulogne, at Cairo, where he has been engaged during the last few years in arranging all the valuable objects which have been brought together by his energy and skill. In 1873 the Institute of France awarded him its biennial prize of 20,000 francs. For some years the health of Mariette Bey has been much affected, and it may be said that he died in harness — a victim of his devotion to archaeology. — *The Architect*.

SALT AS A PRESERVATIVE OF TIMBER. — Fourteen years ago a Mr. Sterling, of Monroe, Michigan, placed two gate-posts of white-oak in front of his residence. When they were set he bored into the top of each with an inch and a half auger a hole three inches deep, filled it with common salt, tightly plugged it, and coppered the posts. Having occasion recently to change the location of the posts, he found them as sound from top to bottom as the day they were planted.

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.]

- 238,505. PAINT-CAN. — Charles E. Hore, Brooklyn, N. Y.
 238,521. SAW. — Enoch Osgood, Brooklyn, N. Y.
 238,529. STEAM-RADIATOR. — Louis C. Rodier, Westfield, Mass.
 238,542. HINGED GATE-WHEEL. — Wm. H. Wright, Rochester, N. Y.
 238,551. FIRE-ESCAPE. — Charles Barlow, Cookshire, Quebec, Canada.
 238,552. FIRE-ESCAPE. — The same.
 238,553. SASH-PULLEY. — C. H. Bayley, Boston, Mass.
 238,563. ROTARY-MEASURE. — Lewis W. Brown, Osaage City, Kan.
 238,582. DEVICE FOR BENDING METAL TUBES. — Wm. H. Grubb, Hannibal, Mo.
 238,604. SHUTTER-WORKER. — Joseph S. O'Brien, North Wilbraham, Mass.
 238,623. ARTIFICIAL STONE OR MARBLE. — David G. Weema, Baltimore, Md.
 238,627. SASH-FASTENER. — Wm. H. Wolfrath, New York, N. Y.
 238,653. OVERFLOW-INDICATOR. — John P. Conlon, Boston, Mass.
 238,664. SHUTTER-WORKER. — Russel G. Dudley, Jersey City, N. J.
 238,680. WHITE-ZINC PIGMENT. — Thomas Griffiths, Liverpool, County of Lancaster, England.
 238,684. WOOD-PLANING MACHINE. — Samuel S. Hazeland, St. Sampson's, County of Cornwall, England.
 238,687. PLUMB-LEVEL. — Henry Hobson, San Francisco, Cal.
 238,690. BRICK-MACHINE. — Geo. Logan, St. Louis, Mo.
 238,716. SHUTTER-WORKER. — Peter S. Robinson, Cedar Falls, Iowa.
 238,727. SASH-FASTENER. — Edward J. Stearns, Boston, Mass.
 238,729. LOCKING-LATCH. — George W. Tallman, New York, N. Y.
 238,739. SHEET-METAL CUTTER. — Elijah M. Wilbor, Taunton, Mass.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS.—Thirty-two building permits have been issued since the last report, the following only being of sufficient importance to be mentioned:

- Chesapeake Guano Co., three-sty brick building, e cor. Gould and Jackson Sts.
 S. S. Clayton, 2 four-sty brick buildings, on Gay St., between Exeter and High Sts.
 E. Cunningham, 2 three-sty brick buildings, on Fayette St., near East St.
 W. S. Boyle, three-sty brick building, on Lexington St., between Liberty and Park Sts., 82' x 100'.
 Martin Kenny, 5 two-sty brick buildings, Halbert St., near Nicholson St.
 Gilbert Leimbach, addition and improvement to dwell., on Broadway, between Pratt and Gough Sts.
 Henry Westphal, 8 two-sty brick buildings, Clark-ston St., near Randall St.
 M. Creighton & Co., five-sty brick warehouse, on Holliday St., between Bath and Centre Sts., 50' x 70'.
 August Berkmeier, three-sty brick building, Fremont St., between Prentissman St. and Patterson Ave.
HOUSE.—Messrs. Wyatt & Sperry are preparing drawings for a country residence for Mr. Charles Mayer, to be built near the Relay House on the B. & O. R. R., to be 33' x 40', two stories and attic, and to cost \$4,500, including stable.
OFFICE-BUILDING.—The old building, No. 6 South St., owned and occupied by the American Fire Insurance Co., is being torn down to give place to a new structure to be built by the Insurance Co. The building will measure 25' x 100', three stories and basement, of pressed brick, with finish of Cheat River stone and terra-cotta. Mr. Charles L. Carson is the architect.
REBUILDING.—The residence of Mr. Chas. Fisher, on Charles St., lately seriously damaged by fire, is in course of reconstruction, under the superintendence of Messrs. Wyatt & Sperry, architects. H. Smith & Son has the carpenter-work.
CHURCH.—Plans are now being prepared for a new Presbyterian church, which will be located on the north side of Mt. Vernon Place, between Cathedral and Charles Sts., to be built by Mrs. Abigail Hupfield, in memory of her husband; seating capacity of 500. Mr. John Elliott is the architect.
ALTERATION.—Messrs. Wyatt & Sperry are preparing drawings for an addition to the country residence of Mr. Chas. D. Fisher, to be built at Lake Station, W. C. R. R.; cost, \$2,000.

Boston.

- BUILDING PERMITS.**—*Brick and Stone.*—East Fourth St., between H and I Sts., for Wm. Sheafe, 3 dwells., 16' x 53', three stories; J. Smith, builder.
Marlboro St., near Hereford St., for Charles J. Sprague, dwell., 41' x 46', two stories and mansard; J. Smith, builder.
Boston & Providence R. R. Repair-Shop Yard, for

B. & P. R. R. Co., varnish shop, 37' x 180'; Chas. A. Fox, builder.

No. 339 and 341 Beacon St., for Samuel T. Ames, 2 dwells., 23' x 48', three stories; Frank Jones, builder.

Dartmouth St., cor. Harwich St., for Albert D. Kilham, tenement-house, 40' x 88', five stories.

Nos. 30 and 32 Kilby St., and 6 and 8 Central St., for Moses Williams, office-building, 24' x 60', and 23' x 56', five stories; J. W. Leighton, builder.

Wood. — Elm St., near Greenough Ave., for Jabez S. Holmes, dwell., 33' x 41', two stories; John D. Wester, builder.

C St., near West Seventh St., for Mrs. Ellen Crowe, dwell., 21' x 35', two stories; Jas. Currie, builder.

Ashford St., near Chester St., for Isaac P. Pratt, Jr., dwell., 22' x 32', two stories, pitch; Wesley B. Cameron, builder.

Putnam St., near White St., for Cyrus H. Taggard, 2 dwells., 19' x 36', one-sty, mansard; Davis Damon, builder.

No. 538 Dudley St., for Uriel H. Crocker, store, 20' x 50'; Ira A. Medbury, builder.

Cambridge St., near Everett St., for John W. Hollis, machine-shop, 24' x 40', two stories; Jacob W. Berry, builder.

HOUSE.—A residence is now being erected for Mrs. M. E. Knowlton. It is a stone-front, 22' x 75'; Messrs. Vinal & Dodge, masons; L. Greely, carpenter; Messrs. Allen & Kenway, architects.

REPORT OF THE INSPECTOR OF BUILDINGS.—The following shows the operations of the department in detail: The number of brick, stone and iron buildings for which permits have been issued during the year, 309; number of wooden buildings, 494; number of sheds situated upon wharves within the building limits of the city, 9; of buildings for which permits have been issued to have additions built to them, or to have alterations and repairs made upon them, 2,294; of steam boilers, engines, etc., for which permits have been issued to set, 203; of ovens, ranges, etc., for which permits have been issued to build, 34; of kilns, kettles, etc., 40; of furnaces, etc., 82; of notices received of intentions to put in heating apparatus, 470; of lanterns, street signs and transparencies examined, 21; of public halls examined with reference to granting a license to occupy the same, 1; of buildings upon which reports have been made with reference to fire-escapes and means of egress, 551; of buildings examined that were damaged by fire, 302; of elevators and hoist-ways examined, 36; permits issued to occupy streets for building purposes, 1,284; of buildings, walls, etc., reported to be in an unsafe condition, 153; of chimneys reported unsafe, 249; of defective flues, 25; of unsafe heating apparatus, 88; of buildings reported as being deficient in means of egress and fire-escapes, 115; of violations reported, 507; of cases referred to the city solicitor, 9; of brick buildings completed during the year, 159; of wooden and frame buildings completed, 273; of buildings upon which additions, alterations and repairs have been completed, 2,198; of steam boilers, engines, etc., built, 310; of heating apparatus set, 472; of examinations made, 17,251; of notices issued, 861. Estimated cost of completed brick buildings, \$1,490,100; of completed wooden and frame buildings, \$474,752; of completed additions, alterations and repairs, \$1,327,230; of setting steam boilers, engines, etc., building furnaces, ovens, ranges, etc., \$202,188; of setting heating apparatus, \$85,674; of securing unsafe buildings, walls, etc., \$10,997; of protecting elevator and hoist-way openings, \$290; of securing dangerous chimneys, \$4,020; of providing fire-escapes and additional means of egress, \$4,182. Estimated amount of damage to buildings by fire, \$157,907.

Brooklyn.

- BUILDING PERMITS.**—*Gates Ave.,* n s, 25' e Lewis Ave., 4 three-sty brick and stone stores and dwells., 18' 9" x 45'; owner, Chas. G. Hall, 68 Patchen Ave.; architect, W. H. Doughty.
Fulton St., s s, 50' w Schenectady Ave., 2 two-sty frame stores and dwells., 25' x 45'; cost, each \$2,000; owner and builder, Robert Given, 55 Canton St.
ALTERATIONS.—*Broadway,* No. 25, one-sty brick extension, 13' 6" x 14' 6" and 18' 1" in roof; cost, \$2,800; owner, Philipp Knatz, 163 Broadway; architect, A. Herbert; builders, J. Benson and J. Crawford.
Fulton St., n w cor. Fort Green Place, three-sty brick extension, 41' 9" x 58' 6" and 26' 6"; owner, Mentrup, Fulton St., n w cor. Carlton Ave.; architect, Wm. Field & Son.
Spencer St., No. 81, new roof; cost, \$2,450; owner, Michael Duffy, on premises; builder, M. Shortley.
Degraw St., No. 314, three-sty brick extensions, 13' 4" x 14', gravel roof and front altered; cost, \$4,000; owner, E. Packard, executor, 102 Montague St. architect, G. L. Morse; builders, J. J. Bensen and Morris & Selover.

Chicago.

- BUILDING PERMITS.**—*E. J. Lehman,* two-sty brick dwell., 23' x 70' 6", 6 Michigan Ave.; cost, \$7,500.
William Waller, two-sty brick store and dwell., 55' x 120', lots 25 to 29, block 15, Bickerdike Ave.; cost, \$15,000.
Rosa Stein, two-sty brick dwell., 23' x 28', Maxwell St., near Halstead St.; cost, \$2,600.
Jno. Winer, two-sty brick dwell., 28' x 20', 325 East Chicago Ave.; cost, \$5,000.
L. Woelfer, four-sty brick dwell., 22' 6" x 60', Chicago Ave., near Franklin St.; cost, \$7,500.
Frank Serbant, two-sty brick dwell., 20' x 56', Eighteenth St., near Throop St.; cost, \$3,000.
Frank Molits, same, 20' x 82', Loomis St., near Nineteenth St.; cost, \$4,600.
J. H. & J. R. Winterbotham, three-sty brick store, 33' x 150', 335 and 337 Fifth Ave.; cost, \$12,000.
H. Kolba, three-sty brick store and dwell., 25' x 75', 2217 Archer Ave.; cost, \$10,000.
Edward Koch, four-sty brick store and dwell., 20' x 90', Lake St., near Franklin St.; cost, \$7,500.
Ulrich Busch, three-sty brick dwell., 22' x 66', Grant St., near Clark St.; cost, \$7,000.

LIBRARY.—At a meeting of citizens held at the Palmer House, March 11, to take some steps commemorative of the tenth anniversary of the great fire, it was decided to drop all other plans and adopt one

which proposes the erection of a building for the public library, to cost half a million dollars.

Cincinnati.

- BUILDING PERMITS.**—The following permits have been issued during the month of February:—
 Thos. Emery Sons, 6 two-sty brick..... \$ 6,000
 Thos. Nottingham, four-sty brick factory..... 12,000
 W. G. Fischer, three-sty brick..... 10,000
 Jas. Lowman, 2 three-sty dwells..... 16,000
 John Guns, three-sty brick..... 5,000
 J. B. Campbell, 4 three-sty brick..... 3,000
 Peter Broek, four-sty brick factory..... 4,500
 Catherine Anderson, French flat hotel..... 60,000
 Mr. L. Schmitt, three-sty brick..... 2,700
 Thos. Emery Sons, five-sty stone front..... 12,000
 Wm. Budd, three-sty brick..... 4,000
 H. J. Reedy, two-sty brick..... 3,000
 Richard Malley, three-sty stone front..... 6,000
 H. L. Lovell, six-sty stone-front store..... 20,000
 Mrs. Fachler, three-sty brick..... 7,000
 Adler & Co., two-sty brick..... 5,000
 McLaren Estate, 4 three-sty dwells..... 17,000
 H. Hardinghaus, two-sty brick factory..... 3,000
 Peter Broek, three-sty brick..... 5,500
 Lewis Fischer, seven-sty stone-front store..... 21,000
 C. Kettel, three-sty brick..... 5,600
 P. Bechey, three-sty brick..... 5,000
 Mrs. Greive, two-sty brick..... 4,500
 17 permits for repairs..... 15,000
 Total cost for the month..... \$262,900
 Total permits for the month..... 47
 Total permits to date..... 60
 Total cost to date..... \$301,850

Cleveland.

- PLANING-MILL.**—Brooks & Co., contractors, are building a three-sty brick planing-mill and factory on Centre St.; cost, about \$3,000.
HOTEL.—Mr. B. S. De Forest has completed the plans for the hotel at the corner of Hamilton and Ontario Sts. The building will be 80' x 180', six stories high, built of brick and Ohio sandstone. It will contain forty-five complete apartments. The owners are Colgate Hoyt, H. C. Rouse, and C. P. Leland, of this city, and J. Trevor, of New York.
APARTMENT-HOUSES.—On Worthington St., near Clift St., Mr. W. B. Hall will build a brick apartment-house, 30' x 36', three stories high.
 Rettburg's Hall, on St. Clair St., will be converted into an apartment-house.
 Plans are completed for a large apartment-house for Mr. W. B. Hall, on Payne Ave., near Belden St. It will be 60' x 150', four stories high, built of brick.
 Plans are being made for a large apartment-house on Sterling Ave., near Prospect St., 100' x 150', of brick and sandstone. The house will be, if built, four stories with high basement. It will contain forty apartments of four rooms each.
DEPOT.—The plans and specifications of the new N. Y., P. & O. passenger depot, to be built south of the viaduct, on the site formerly occupied by the stone-yard, are all drawn up and work will be begun at once. It will be about 75' x 160'. In front of this will be the train-shed, 320' long, and wide enough for two tracks and roomy platforms.

New York.

- BUILDING PERMITS.**—*Elizabeth St.,* Nos. 191 and 193, four-sty brick stable and warehouse, 50' x 88'; cost, \$17,000; owner, Jonas Stols, 227 Bowers; architect, W. José; builders, M. Eidlitz and Grissler & Fausel.
Sixth St., No. 615, five-sty shop and dwell, 25' x 62'; cost, \$12,000; owner, Jeremiah Hayes, 649 Fifth St.; architect, J. Hoekell.
Fifty-Ninth St., s s, 125' w Ave. A, two-sty brick storage and stable, 25' x 60'; cost, \$3,500; owner, Albert Zoller; architect, A. Pfund.
Fortieth St., s s, 25' e Second Ave., five-sty brick tenement, 25' x 70'; cost, \$12,000; owner, R. J. Kyle, 150 East Fortieth St.; architect, Jas. Lyle.
White St., No. 8, five-sty brick warehouse, 25' x 90'; cost, \$20,000; owner, S. T. Hopkins, trustee, 240 Pearl St. or 104 East Forty-Fifth St.; architect, C. C. Haight; builder, D. H. King, Jr.
One Hundred and Twenty-Third St., n s, 150' w Seventh Ave., 8 three-sty Connecticut brownstone dwells., 15' 7" x 50', cost, each \$9,500; owner, W. Broas, Haverstraw, N. Y.; architect, Chas. Baxter; mason, W. Harloe.
One Hundred and Thirtieth St., s s, 75' w Sixth Ave., 2 three-sty Connecticut brownstone dwells., 14' and 18' x 60'; cost, each \$7,500 and \$10,000; owner, Thomas Keenan, 50 East One Hundred and Twenty-Fifth St.; architect, Chas. Baxter; builders, W. W. Adams and S. Weir.
One Hundred and Twenty-Second St., s s, 100' e Second Ave., 3 four-sty brick apartment-houses, 18' 4" x 57', and extension 12'; cost, each \$12,000; owner, W. W. Adams, One Hundred and Twenty-Fourth St. and Fourth Ave.; architect, Chas. Baxter.
Park Row, Nos. 31 and 32, five-sty brick-and-iron store and offices, 48' 6" and 52' x 85'; cost, \$30,000; owner, Jay Gould, 80 Broadway.
Fifth St., Nos. 227 and 229, 2 five-sty brownstone tenements, 25' x 69', extensions 7' x 11' 9"; cost, \$10,000; owners, Mrs. Marie and Mr. Henry Gucker, 183 Second Ave.; architect, F. W. Klemm; builder, J. P. Schweckert.
Second Ave., n e cor. Seventy-Second St., four-sty brownstone store and tenement, 25' x 66' 2"; cost, \$16,000; owner, Samuel Simons, 236 Delancey St.; architect, H. J. Dudley.
Seventy-Second St., n s, 25' e Second Ave., 2 four-sty brownstone flats, 30' front, 25' rear, x 66' 2"; cost, \$20,000 and \$40,000; owner, Samuel Simons, 236 Delancey St.; architect, H. J. Dudley.
Third Ave., w s, from Ninety-Ninth to One Hundredth St., 8 four-sty Connecticut brownstone stores and apartment-houses, 25' x 65'; cost, each \$13,500; owner, Samuel Simons, 206 Broadway; architect, Chas. Baxter; builder, C. A. Buddensiek.
Third Ave., n e cor. Ninety-Ninth St., 3 four-sty

(Continued on next page.)

Publishers' Department.

The American Architect and Building News.

PUBLISHED EVERY SATURDAY BY

JAMES R. OSGOOD & COMPANY
211 Tremont St., Boston, Mass.

NEW YORK OFFICE, 21 ASTOR PLACE.

*An Illustrated Journal of Constructive and Decorative Art, devoted to the Interests of Architects, Builders, Decorators, etc.*15 cents per copy; \$7.50 per year; \$6.00 in advance;
12 Monthly Numbers, with Detail Sheet, \$1.75.

Payments should be made directly to the publishers, either by draft or post-office order.

JAMES R. OSGOOD & CO., Publishers,
211 TREMONT ST., BOSTON, MASS.

New Advertisements.

MOORE & WYMAN (Boston), Elevators. Page 1.

FERNANDO MIRANDA (New York), Tiles. 1.

A. KNISELY & CO. (Chicago), Fire-Proof Construction. Page x.

JOSEPH W. GRIGG (Boston), Slate Mantels. iii.

WANTED. (Baltimore, Md.) Draughtsman. Page 144.

NEW YORK MASTIC WORKS (New York), Rock Asphalt Mastic. Page ix.

TO SUBSCRIBERS.

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

WOOD FILLER.

The Wheeler wood filler patents, after a long controversy, have been fully sustained at final hearing, and injunction is ordered to issue. This filler is manufactured by the Bridgeport Wood Finishing Company, of Bridgeport, Conn., and is acknowledged to be the best article in the market for the purpose.

WANTED.

DRAUGHTSMAN.—Draughtsman well versed in general office work and perspective. Address: A. W. F., care of the *American Architect*, 211 Tremont Street, Boston, Mass. 273

WANTED.

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

WANTED.

Back Numbers of the American Architect.

Any one who can supply us with clean and perfect copies of the *American Architect*, Nos. 44 and 50, volume for 1876, and Nos. 120 and 121, volume for 1878, can receive Twenty-five Cents for Each Copy.

JAMES R. OSGOOD & CO., 211 Tremont Street,
BOSTON, MASS.

BUILDING INTELLIGENCE.

brownstone stores and apartment-houses, 25' x 65'; cost, each \$12,000; owner, I. Caspar, 206 Broadway; architect, Chas. Baxter.

Ninety-Ninth St., w. s. 100' e Third Ave., four-st'y Connecticut brownstone apartment-house, 25' x 60'; cost, \$11,000; owner, Israel Caspar, 206 Broadway; architect, Chas. Baxter.

East Washington Square, No. 80, seven-st'y brick-and-iron extension to Benedict Lodging-House, 25' x 60' 6"; cost, \$0,000; owner, Lucius Tuckerman, 18 Wall St.; architects, McKim, Mead & White; builders, F. Lyon and P. B. Reed.

Thirty-Seventh St., n. s. 100' e Lexington Ave., 6 four-st'y brownstone dwells, 14', 16' and 20' x 53' and 57'; cost, 16,000, \$19,000 and \$20,000 each; owners and builders, C. Graham & Sons, 305 and 307 East Forty-Third St.; architect, Charles Buck.

Seventy-Ninth St., s. s. 100' e Fourth Ave., 3 four-st'y brownstone dwells, 19' x 55', extension 12' x 16'; cost, each \$18,000; owner and builder, G. J. Hamilton; architect, J. H. Valentine.

Seventy-Ninth St., s. s. 157' e Fourth Ave., four-st'y brownstone dwell.; cost, \$18,000; owner and builder, G. J. Hamilton; architect, J. H. Valentine.

Eighty-First St., n. s. 80' e Fourth Ave., three-st'y brownstone dwell., tin roof, iron cornice; cost, \$12,000; owner, Margaret Crawford, 956 Third Ave.; architect, J. H. Valentine; builders, Edgar & Sons.

Second Ave., n. e. cor. One Hundred and Nineteenth St., 4 four-st'y brick tenements, 25' 3" x 55'; cost, each \$10,000; owner, Patrick Dempsey, 2293 Fourth Ave.; architect, J. H. Valentine; mason, C. Johnson.

One Hundred and Twenty-First St., n. s. 175' e First Ave., 4 four-st'y tenements, 25' x 50'; cost, each \$10,000; owner and builder, Chas. L. Weibler, 1963 Third Ave.; architect, J. H. Valentine.

Lexington Ave., Nos. 297, 299, 301 and 303, and 125 East Thirty-Seventh St., 5 four-st'y brownstone dwells, 23' 1" and 24' and 25' and 26' x 97'; cost, from \$22,000 to \$28,000 each; owner, architect and builder, Charles Buck, Sixty-Third St., Forty-Fourth St.

First Ave., n. e. cor. Fifty-Fourth St., five-st'y brick store and tenement, 25' 5" x 66'; cost, \$10,000; owner, Mrs. Stevenson Towle, 421 East Sixty-First St.; architects, D. & J. Jardine.

SCIENTIFIC BOOKS.

A Descriptive Catalogue of Practical Books for Architects, Engineers, and Contractors, sent free on application.
E. & F. N. SPON, 446 Broome Street, New York.

SKYLIGHTS, ETC.

All persons are hereby cautioned against the Purchasing, Using, Vending or Selling or having in their possession for Sale or Use any Metallic Skylights, whether wholly or in part embraced within certain Letters Patents of which I am the sole and exclusive owner, without my permission and license, as such will be prosecuted to the fullest extent of the Law. Copies of said Letters Patent may be inspected at my office or that of my counsel, and all duly authorized Skylights will bear my label.

All so-called Patents of other persons are contingent to, and infringements upon mine, and calculated to deceive.

By his Attorney and Counsel, GEORGE HAYES.
JAS. H. WHITELEGGE, 71 Eighth Ave., N. Y.
136 Chambers St., N. Y., January 1, 1880.

THE OPEN FIREPLACE IN ALL AGES.

By J. P. PUTNAM. 1 vol. 12mo. Price \$2.00.

With 269 Illustrations of famous fireplaces of historical and artistic interest, together with original designs and suggestions for modern use.

For sale by all booksellers, or will be sent, post-paid, on receipt of price, by the publishers,

JAMES R. OSGOOD & CO., Boston.

WALPOLE MORTAR BLACK.

The best in use and the only one that has stood the test of time. It improves the mortar, and is cheaper and better than Lampblack.

Beware of imitations and use only the "Walpole." Apply for circulars and prices to

HENRY D. DUPEE, Proprietor,
79 Kilby Street, Boston.
Branch, 58 Maiden Lane, New York.

MORTAR BLACK.

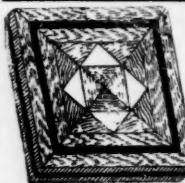
Will not Rot or Lose Color.—Guaranteed the Best.

PRICES THE LOWEST.

No charge for samples.

S. OBERMAYER & CO.

CINCINNATI, OHIO.



PARQUET FLOOR.

WM. HANNAM & CO.

31 E. 17th St. (Union Sq.)

NEW YORK.

4 & 5 in. tongued and grooved European styles, solid and substantial. Also, 1 in. Parquet Wood Carpet Floors.

C. H. FELLOWS, HOFFMAN & CO.,

MANUFACTURERS OF

FINE GAS FIXTURES,

206 and 208 Canal Street, New York.

PATENT MINERAL WOOL.

Entirely Fire-Proof and Undecaying.

THE BEST INSULATOR OF HEAT, COLD AND SOUND.

For Lining Roofs, Walls, Ice Houses, Refrigerators, Furnaces, Heater-Pipes, Boilers, etc.

ALEXANDER D. ELBERS,

P. O. Box 4461. 26 1/2 Broadway, New York

SLATE MANTELS

Of the latest and most beautiful designs, and all other Slate and Soapstone work on hand or made to order No. 1210 Kidge Avenue. JOSEPH S. MILLER, successor to Wilson & Miller, Philadelphia, Pa. Send for Illustrated Price-List.



J. & R. LAMB, 59 CARMINE ST., N. Y.

CHURCH FURNISHERS.

Practical Workers in Sterling Silver, Brass and Bronze, Carved Wood, Decorations, etc.

Illustrated Catalogues.

Furniture 10c.; Metalwork 10c.; Decorations 10c.

IMPROVED SEATING.



Send

for

Catalogue.



Schools, Opera Houses, Halls, Churches.

BAKER, PRATT & CO.,

No. 19 Bond St., N. Y. 518 Arch St., Phila.

Colorless Waterproofing for Buildings.

Attention is called to our Invisible or Colorless Process for preserving the walls of Brick, Stone, or other Buildings, giving them a firm, hard surface, thus effectually preventing the entrance of rain or damp; the absorption of the impurities contained in the rain-water of towns; the adhesion of soot, dirt, or moss, etc., and the stains caused by the washing down of stone trimmings. It causes no efflorescence; nor does it in any way discolor, glaze, nor alter the appearance of the part treated, more than would be occasioned by sprinkling water upon it. On the contrary, it improves the appearance, renders it permanently clean, and is the only effectual method of waterproofing and preserving brick, stone, stucco, and other porous materials, and preventing mortar joints from crumbling; being a permanent process, it requires no renewal.

Specimens of brick or stone treated with the process forwarded free of charge, upon application to The St. Louis Waterproofing Co., No. 421 North Twelfth St., St. Louis, Mo.

BUILDING INTELLIGENCE.

Fourth St., No. 274 e, rear, three-st'y brick shop, 25' x 30'; cost, \$2,000; owners, Simon Solomon and A. Cohen, 244 East Houston St.; architect, J. Boeckell; builders, Wolf & Lochmann.

ALTERATIONS.—Front St., No. 126, rebuild walls; cost, \$8,100; owner, Sarah A. Spicer, 52 East Fifty-Seventh St.; architect, G. A. Freeman; builder, F. A. Seighardt.

Twenty-First St., No. 147 e, raised one story; cost, 2,000; owner, Chas. H. Nelson, on premises; architect, Chas. Fink; builders, W. C. Hanna and C. Fink.

Second Ave., No. 1559, s. w. cor. Eighty-First St., two-st'y brick extension, 20' x 28'; cost, \$2,000; owner, Wm. Lawson, on premises; architect, J. McIntyre.

Second Ave., Nos. 665 and 667, raised 2', also extension 24' 8" x 32', front alterations; cost, \$5,000; owner, H. Buchtenkirch, 657 Second Ave.; architect, Wm. Jose.

St. Mark's Place, No. 28, flat roof and front alterations; cost, \$7,500; owner, F. Ehrhart, 139 East Houston St.; architect, Wm. Jose.

Hudson St., No. 167, raised one story, also one-st'y brick extension; cost, about \$2,000; owner, A. V. Chequedder, One Hundred and Fortieth St., between Alexander and Willis Aves.; architect, J. Rogers.

Wooster St., No. 99, one-st'y brick extension, 25' x 46' 6"; interior alterations; cost, \$10,500; owner, City New York; architects, N. Le Brun & Son.

Line of One Hundred and Ninety-Sixth St., 1,600' w Kingsbridge Road, three-st'y stone extension; owner, Wm. Libby; builders, J. & W. C. Spears.

Tenth Ave., w. s. between One Hundred and Sixty-Third and One Hundred and Sixty-Fourth Sts., one-st'y frame extension, interior and front alterations; cost, \$2,500; owner, C. N. Brainerd, Kingsbridge Road, One Hundred and Sixty-Third and One Hundred and Sixty-Fourth Sts.; architect, Jas. Russell; builders, C. R. Terwilliger and Jas. Russell.

Elm St., Nos. 66 and 68, three-st'y brick extension, etc.; owners, Mayor, etc., New York; architect, D. J. Stagg.

Thirty-Ninth St., No. 27 w, one-st'y brick extension, 18' 5" x 33'; cost, \$3,000; owner, Wm. L. Pom-

BUILDING INTELLIGENCE.

eroy, on premises; architect, G. B. Pelham; builders, Van Dolsen & Arnott and Jeans & Taylor.

Worth St., No. 3, one-st'y brick extension, 25' x 29', interior and front alterations, etc.; cost, \$5,000; owner, W. F. Loew; architects, Parfitt Bros.; builders, M. Baker and Morris & Selover.

Forty-Seventh St., No. 253 w, front and first story altered; cost, \$2,000; owner, Geo. F. Gilman, Bridgeport, Conn.; architect, John Sexton.

Washington St., No. 661, raised one story, interior alterations; cost, \$2,000; owner, Levi A. Lockwood, 99 Nassau St.; architect, J. B. Snook; builder, not selected.

State St., between Bridge and Pearl Sts., altered for stores and offices; cost, \$9,500; owner, R. A. Chesebrough, 17 East Forty-Fifth St.; builders, J. W. Crawford and J. M. Kelley.

Tenth St., No. 67 e, No. 76 Fourth Ave., altered for offices, studios and dwellings; cost, \$2,500; lessee, Mrs. S. C. Brown, on premises.

OFFICE-BUILDING.—Plans have been filed at the Bureau of Buildings by Mr. Jay Gould for a new five-st'y brick building, at Nos. 31 and 32 Park Row, to cost \$60,000 or more, for stores and the upper stories as offices.

RIDING-SCHOOL, ETC.—Residence and stables, with riding-school, for Judge Freedman, to be of brick and stone, to cost about \$55,000, are to be erected on One Hundred and Twenty-Fifth St., from designs of Mr. Wm. Kuhles.

FLATS.—On East Fifty-Eighth St., four flats, 20' x 76', brownstone fronts, for Mr. F. Krutina, are to be built at a cost of about \$50,000; Mr. Wm. Kuhles, architect.

STORES.—A store is to be built on Mercer St., from designs of Mr. Samuel A. Warner.

At 243 Broadway, a store, about 25' x 80', is to be built for the Roosevelt Hospital, of brick and terra-cotta, from designs of Mr. Jno. G. Prague.

FACTORY.—On Rose St., a large factory building is to be built, from designs of Mr. Jno. Correja. It is to be built to conform with the regulations of the London Fire Board, as the building is to be insured entirely by English companies.

(Continued on next page.)