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CONTENTS.

THE Chicago *Tribune* has been indulging in some descriptions of tenement-house life which must have been drawn principally from imagination, and are, we are glad to say, as erroneous as they are unjust to the class of persons which they profess to describe. The inspiration of one article is derived from a fancy sketch in *Puck*, representing a dilapidated structure swarming with frantic vixens and half-naked children, standing in a street piled with tin cans, dead cats, and old bones, among which other citizens wend their way to and from the rum-shop in the basement. This sad picture is placed in contrast with an alluring representation of a village of cottages situated in the midst of wooded hills, and intersected by an elevated railway; and the *Tribune* calls upon capitalists to build some of these delightful villages, to which "the wretched inmates" of these "breeding-places of disease and crime" may be induced by the influence of philanthropic societies to emigrate, leaving the filth in which they "prefer to wallow," and securing pure air and health in the suburbs. This sentimental view of the subject is very common, and very pernicious, since it serves only to close the eyes of the charitable both to the real needs of their poorer brethren, and to the proper means of supplying them. That a residence in the country is under favorable circumstances beneficial to health is obvious enough, but while a clerk who arrives at his office about nine, to leave it at five, can live ten miles away without inconvenience, the case is very different with a man who must be ready every morning with his tools to begin work when the clock strikes seven, and is only free at six to change his clothes, pack his kit and start for the train which shall take him home. For such, the inconvenience of living at a distance is very great, and none but the most energetic can or will endure it, even for the advantages to be gained, while these advantages are by no means all that *Puck* paints them. Bad as city tenements are, the cheap habitations of a crowded and undrained country village are little better, as the statistics of diphtheria and typhoid fever amply show; while the loneliness, the lack of recreation, instruction, or of opportunity to exercise a choice of associates which country life often involves, add still more to the dislike with which even the better class of tenement-house people regard it. The cheap philanthropy which finds it easy to make the poor healthy and happy if they would not obstinately refuse to follow the path laid down for them has had its day, and is beginning to be succeeded by a disposition to ameliorate their condition as far as possible where they are. To do this requires much study, experience, sympathy and intelligence, but it is the only method which is sure to be successful.

A VERY comprehensive scheme is proposed for a system of sewerage which shall serve all the towns within ten miles of Boston, and at the same time prevent the pollution of Charles River by the drainage from the large and growing towns upon its banks, by means of two great intercepting sewers, running parallel with the river-banks, on the north and south sides respectively. These intercepting sewers are to discharge into Boston Harbor, at what is hoped to be a safe distance from the shore, and will form the general receptacle with which all the local systems will be connected. The cost of the main drains alone is estimated at eight million dollars, but by means of a device for erecting the whole territory into a "Metropolitan District," this can be divided among a number of populous communities. At first sight, the plan seems to have an air of far-seeing and liberal economy, but considering how small a part of the necessary drainage systems would be furnished by these trunk sewers, the burden which their construction would impose upon the smaller towns is very great. Newton, for instance, which is seriously considering the matter of sewerage, and has already obtained authority for discharging its waste into the river, would hardly consent to be taxed a quarter of a million for its share of a conduit intended principally to prevent the inconvenience which the fouling of the stream would cause to the people dwelling by its banks lower down, and the same argument would apply with still more force to the towns nearer the source.

ANOTHER question is, moreover, suggested by the discussion; that is, whether it is advisable, in the present state of knowledge, to expend such enormous sums upon conduits for conveying into navigable waters the fertilizing wastes of densely populated districts. In the case of Boston, this question was somewhat peremptorily decided in the affirmative, but such sewers as are designed for the Metropolitan District would be almost wholly for the benefit of the next generation, and there is, to say the least, a probability that before they are paid for some means will be discovered of accomplishing the safe and economical return to the soil of the nitrogenous products of which it has been exhausted; and that the silting up of harbors with the most valuable elements of vegetable life will be looked upon as a preposterous folly. Less than one-fourth of the towns comprehended in the scheme now possess any sewer system whatever, and the intercepting conduits would be entirely useless to them until their drains were built, years hence, and compound interest would meanwhile have to be added to the original outlay to determine the actual cost before they could be made serviceable. Taking again the city of Newton as an example, it is safe to say that the interest on such an expenditure, with cost of maintenance, would, by the time its drains are constructed, form an annual burden far greater than that necessary for treating its wastes by any method of precipitation or irrigation now practised, and as these processes, at present in an almost rudimentary stage, are improved, the cost would be still less, and the result permanent and satisfactory in every way, while the maintenance of a huge conduit would grow more costly every year, and unless additional works were from time to time undertaken, its effect would only be the inevitable accumulation of inconveniences for future generations to deal with.

THE advance in the prices of building work and materials shows signs of having been hardly justified by the condition of the market, and some further adjustment will probably be necessary before the end of the season. In Chicago, where the advance was considerable, the result has been to check building operations very materially, and the capital which was intended for investment in this way has been diverted to other enterprises. This is a double misfortune for the workmen, who profit far more by steady employment at moderate wages than by occasional jobs at a high price; and if the advance of the season should show an important falling-off in the number of contracts, the unions, which showed so much good sense in their efforts to increase rates, will, we hope, be equally ready to make such concessions as prove to be necessary. Sentimentalism is entirely out of place in such matters, and the cheap talk about "sharing the prosperity of the rich," "asserting the dignity of Labor," and so on, which workmen are too fond of indulging in, might with advantage be replaced by an intelligent collation of facts concerning the probable demand for men, upon which terms could be based to the satisfaction of all parties.

THE New York Board of Aldermen has passed resolutions permitting the United States Illuminating Company, as well as the Brush Electric-Light Company, to lay tubes and wires in the streets of the city for conveying electrical currents for illuminating purposes. As usual in New York, a tax of one cent per lineal foot is extorted for the privilege of occupying the streets with the lines. It is gratifying to find that these companies, whose success in their field of enterprise is now well

assured, are disposed to take proper precautions for guarding the public from danger, as well as for insuring the permanency of their own lines. Although the effect of the electric lamps which now illuminate a mile of Broadway is rather disappointing to the stranger, they are certainly better than gas-jets, and it is well for the citizens and sojourners in New York that the result of the experiment has been so satisfactory to the companies as to encourage them to extend their operations. Meanwhile, the Edison company, which was reported to have perfected a plan for street-lighting by incandescent lamps, appears to be not quite ready for active operations, and the rival corporations are likely to gain control of the field.

A successful trial has been made in Akron, Ohio, of the electric light for street illumination. It will be remembered that the Brush Electric-Light Company lately entered into a contract with the city for the construction of a number of high towers, each to be furnished with lamps of very great power, so as to diffuse a uniform radiance, instead of the alternation of dazzling glare and deep shadow which constitutes so serious an objection to the use of carbon electrodes in the same way as the ordinary gas-jets. One of the towers has already been built, two hundred and twenty feet high, three feet in diameter at the base, and eight inches at the summit. The material is boiler iron, and a firm support is obtained by setting it twelve feet into the ground. On the top of the tower are placed four double lamps, arranged to succeed each other automatically, so as to insure a continuous light for sixteen hours. A similar set of lamps is attached to a wooden mast supported on a high building in the city, and according to the Cincinnati *Commercial* the preliminary trial of the apparatus gave results even more satisfactory than was expected. The great elevation of the lamps diffused their light so well that the time could be read from a watch-dial half a mile from the tower. Each station afforded by means of its four lamps an illumination equal to that of sixteen thousand candles, and the two stations are supplied with electricity from a single Brush machine, driven by a steam engine of sixty horse-power. The same engine would, it is said, serve to operate four more stations, so that the light is certainly an economical one, while the whole cost of the engine, dynamo-electric machine and stations was but about eight thousand dollars. A similar system is to be tried in the city of Washington, whose plan and topography will assist very greatly in heightening the effect of the illumination, and an equal or greater success is to be hoped for there.

Another case of the destruction of a telephone instrument by the accidental contact of its wire with that conveying the current of an electric light is reported from New York. A gentleman on approaching his telephone was astonished to see smoke and sparks issuing from the box, and to find the handles too hot to touch. On investigation, it was found that a wire of the United States Electric-Light Company crossed the telephone line, and the current from it, seeking the shortest passage to the ground, followed the telephone wire to the instrument, heating the wire so as to burn off the silk covering, scorching the wood and destroying the electro-magnet. With singular carelessness, the electric-light company has hitherto used bare copper wire for its lines, but since the danger of so doing has been demonstrated, insulated wire has been substituted, while the telephone company has placed lightning arresters upon all its instruments in New York. This precaution will be indispensable for all telephones as soon as long circuits are established, which must be before many months. It is reported that the pulsations of an ordinary telegraph were lately read by a telephone connected with the wire at a distance of more than seven hundred miles, and lines are now in daily use between stations a hundred and fifty miles apart. It is obvious that the familiar direction "not to use the telephone during thunder-storms" is inapplicable in such cases, and more efficient protection will be essential.

M Louis Blanc has been endeavoring to procure legislation in France, shortening the hours of labor for the working classes. At present, twelve hours constitute a day's work, not only for men, but for women and children, and in the case of the latter he had no difficulty in obtaining a modification of the existing rules. The male laborers, however, were not regarded as entitled to the same consideration, and for the present their working day will be unchanged. Perhaps M. Blanc adopted in their case an unfortunate line of argument, by representing that a loss of energy was to be observed in the workmen on Tuesday and Wednesday, which he attributed to their excessive labor on Monday. No doubt the phenomenon of Tuesday listlessness is often apparent, but it has hitherto been generally regarded rather as a result of the Sunday's intoxication than of any exhaustion of the vital powers caused by too great professional activity during the previous day; more especially as it is very frequently accompanied by total absence from duty on Monday. Statistics in regard to the régime under which workmen are maintained in the highest possible state of efficiency are scanty, and generally untrustworthy; but it ought not to be difficult to collect information which would serve for rational deductions. The laying of bricks in interior walls, for instance, is a simple process, and might seem as a standard for rough measurement; but while a good workman in our energetic Western States is said to lay three thousand of them in a day, his English brother can manage only about five hundred, if we credit the representations of Mr. John P. Seddon and other experienced employers. These say that in England one thousand was formerly considered to be the average number which each man could be depended upon to lay in a day, but that since the bricklayers' unions ordained that their members should keep one hand always in their pocket, lest they should so far forget their dignity as to spread the mortar with one hand and place the bricks with the other, the number has fallen off one-half. In this country a thousand bricks a day for each man was, we believe, formerly considered a low standard; whether the development of "social science" has reduced it materially as yet we do not know.

The Panama Canal Company seems to be on the point of commencing active operations. New surveys have been made in the interest of Messrs. Couvreux and Hersent, with very favorable result; the necessary amount of rock-cutting being less than was expected. Changes have been thought advisable in the route, and the mouth of the Mindi River will be the terminus on the Atlantic side, while a small bay near the Panama Railroad Wharf has been selected for the entrance to the canal on the Pacific side. These changes diminish materially the amount of submarine excavation required, at the same time shortening the line, while a softer formation is said to be found on the new route. The mouth of the Chagres River is to be deepened, so as to allow the entrance of vessels conveying supplies, and already buildings have been shipped from New Orleans and New York for the use of the employees. A messenger has been sent to the provinces along the Spanish Main in search of laborers, the project for importing negroes from Jamaica and Porto Rico having apparently been abandoned. The very name of the Chagres River has an ominous sound, and it is hardly possible that white labor can be employed without involving an amount of suffering and mortality from malarial poisoning which is appalling to think of.

It is perhaps hazardous to suggest that a line might be drawn beyond which newspaper eloquence degenerates into license, but if there could be such a boundary, it ought to be established very near the point which the "journalistic" friends of Messrs. Feuardent and di Cesnola have now reached. The *Evening Post*, in a characteristic article, calls the letter of Mr. Clarence Cook in defence of Cox against what he thinks to be the injustice and duplicity of the investigating committee, "another convulsive kick;" considers that Mr. Cook "breaks the laws of reason and evidence," and likens Mr. Feuardent to a "beast" known "among the learned as the *Mephitis Americana*." To this the "falsetto chorus" of Mr. Feuardent's defenders replies that although Mr. Cook's "kick" might have been "convulsive," it was vigorously administered and effective, and that the animal referred to by the "old gal," that is, the *Post*, is a harmless and pleasant one in comparison with the creature which the *Post* itself resembles; while the "silent contempt" with which General di Cesnola's friends are said to receive the more recent attacks upon him is thought by one gentleman to resemble that "disgust with the whole proceeding" which a certain criminal once expressed after he had been sentenced to be hung. It is sad to think that all this strife should have been aroused by the simple inquiry whether one or two tiny statuettes were furnished with their own limbs or not. A few days hence, when vituperation is exhausted, and swords are drawn to take the place of the peaceful pen and ink, we shall be surprised if the little Elpis, or Venus, or whatever she may be, is not discovered to have added a veil to her other attributes, with which to shut out the roar of the fray which she has herself unwittingly excited.

TRAVELLING NOTES. — I.

We are sailing down the middle of the Adriatic, on the good steamer *Diana*, and I promised to write you a letter. The sun is out warm and bright, and I sha'n't have any better time than now.

My intention was to go to Asia Minor as quickly as possible, stopping over on the way for a few little commissions, so I had but little time for sight-seeing, and almost none for sketching.

Let me go back over my tracks to Venice, through Milan and over the Alps to Paris (Blessed be the boys in the Rue Jacob), back by Rouen and Dieppe to London, still back through Chester and Liverpool to Queenstown, where, after ten windy, watery days out from New York, the *Germanic* hove to and sent the mails ashore. Our party consisted of four, and two of the happy family suddenly took it into their heads to go ashore at Queenstown, spree it up through Cork and Dublin and over to London, leaving M. and me to keep on with the steamer to Liverpool, all agreeing to meet together in London.

Of course it was just too late to get over the bar at Liverpool, so we had a forlorn hour's ride up to the docks in a little open steamboat through fog and sleet, and stood huddled in the dreary waiting-rooms while our trunks were being overhauled by the customs officials.

About dusk that operation was through with, and our luggage being safely booked for London, we were casting about for a hotel when the brilliant idea struck us to go on to Chester and stop there instead of in Liverpool, so we got into the cars and were whirled away into the darkness.

Reading up in our guide-book about Chester we found among the inns mentioned an old caravansary called the "Yacht Inn:" one of the oldest in town, somewhat degenerated, the guide-book said, but still occasionally visited by travellers who wished to see what an old-style English inn was like, and who preferred to be dirty amidst picturesqueness rather than clean surrounded by new plaster. So, on arriving in Chester at about ten P. M., true to the instinct of "ye noble bird," we demanded to be driven to the Yacht Inn, and were deposited by the cabby in front of a rickety old corner house from which sounds of revelry and strains from a cracked piano floated out through the corridor. A sign posted up in the window said, "Free and Easy this evening," and we began to think we had struck the picturesque, with a vengeance. However, we pushed in, and were met by the landlord, who seemed quite overwhelmed at the advent of people with so much style as to have luggage. He recovered sufficiently to show us into a large chamber with two immense canopied beds. The ceiling was a criss-cross of heavy timber, and the floor like the waves of the sea. The place was not over-clean, and I don't advise anybody else to go to the Yacht Inn. We afterwards went down and joined the crowd around the tap-room fire. It was your real old English interior, just according to Pickwick, somewhat dilapidated, but there were the funny samplers on the wall, — "any ornaments for your mantel," — the high bagatelle board, straight-backed settees, and a kettle singing over the fire. As we came in the piano was jingling in the corner, and a fellow melodiously announced that "'twas all a dream." Either this information or our entrance seemed to dampen the enthusiasm of the party, for they soon dispersed. The landlord mixed us a steaming "'alf and 'alf" from the kettle on the fire, and we made friends with the man at the piano. He proved to be a very musical German in reduced circumstances who played there evenings for his lodging. He was glad to get an appreciative audience, the poor piano groaned under the weight of the Sonata Pathetique, impromptus, etc., and we talked Mozart until far into the night.

The next day we spent in wandering about the streets and enjoying the old architecture of the city. Chester is certainly unique among English towns, and ought to be visited by every student. The houses have a quaint, straightforward way about them that is very taking, and where new buildings have been erected the architects seem to have been filled with emulation, and tried to come as near the old work in excellence as possible. The modern work in Chester I thought superior to work of the same class in London and elsewhere. Of course, as in duty bound, we made the circuit of the town by walking on the walls, threw rocks into the Dee, and made a name for ourselves by *not* sketching the "God's Providence House," but then that was because we didn't have time.

We reached London the next day, and went to some snug lodgings in Bedford Place, where we were shortly joined by our friends who had left at Queenstown. They arrived covered with mud and fleas, and wearing "Tam O'Shanters" with that "Billy-be-dam" sort of air that can only come of a sojourn amongst real Irishmen. They were loud in their protestations of "such a fine time!" "nothing in London like the pantomime in Dublin!" pretty girls everywhere, and as for Blarney Castle, the Greeks were nowhere. It finally leaked out, as they became calmer, that in Cork and Dublin they had seen little but rum and misery, and excepting the undoubted picturesqueness of the site and scenery of Blarney Castle, and the pretty girls, there was absolutely nothing of architectural interest.

For me a stay in London in February is only made bearable by the fact that there are a few kind friends, and the existence of two such places as the British and South Kensington Museums. The library of the British Museum is a glorious place to study in, and I advise every student about to travel on the Continent to go there and make out his itinerary. It is the ideal library; nearly every book in the world that is of any real value will be found there, and the accommodations for readers are of the most comfortable.

The greater part of London architecture, both ancient and modern, to me is stupid; so I sha'n't tell you much about it. On the site of the old Temple Bar, right in the centre of the street, with the accustomed English ingenuity, has been erected a monument with effigies of the royal family about it and the griffinest kind of a griffin on top. The whole thing is decidedly unsuccessful as a work of art; *all* unite in condemning it, and the papers are elaborately funny over it, much of the wit being of the same architectural character as the monument. If the griffin should suddenly take it into his head to mean business, and fly off with the thing, nobody would weep, and cabmen would give thanks. The plain, massive wall of one of the large towers of the Law Courts stands exactly opposite; it seems to invite decoration, and I could not help thinking how much more appropriate a rich slab or monument built on that wall would have been. However, *Quien sabe?* Perhaps it is I who does not know. You would as soon take away from a sailor his privilege of grumbling as from an architectural student his prerogative of criticising his betters.

Art in England has always seemed to me more or less exotic. It is generally either stupidly good and monotonous or else vulgar in its affectation. The amount of knowledge displayed is sometimes overwhelming, and always compels a certain respect, but that is not art, and doesn't make one want to throw up his hat and cry Hurrah! the way that some of the monuments of France and Italy do. I hate people who are always talking about art, and I've got enough of England; let's go over to France.

I rolled down to Newhaven on the evening train, went aboard the boat, and slept the sleep of the just. When I awoke and went on deck the next morning, the little steamer was slapping her way through the perfectly still water, and the "French blue" cliffs of Normandy were visible through the haze.

The castle and white houses of Dieppe came in sight, and we soon tied up at the Quai. Having an hour before the train started for Rouen, I strolled about the town. The fogs and rains of England were far behind, the sun shone warm and bright, the *sabots* clattered through the streets, everything was delightfully foreign, and it was *la belle France!*

As Macaulay's signs of civilization were plug hats and suspenders, so it seems to be true that wherever the vine grows there art is more at home. Anacreon sung, and Ictinus built, and although Normandy is only a country of hard cider, it is still an improvement on England, so let us inscribe "*Vivat Bacchus!*" on our sketch-books, and keep on toward the land where the citron blooms.

Being in a hurry to get to Paris I could only devote to Rouen a few hours between the trains. I was able, however, to get an impression of the quaint old capital of Normandy that will never fade.

When I have but a short time in which to see a European city, I have found it the best way never to trammel myself with a guide-book, but proceed to lose myself directly, wander about at my own sweet will, and never a care as to the crack sights that *must* be seen. One is then content to enjoy thoroughly the present. If I rush around with my red-covered book, bound to see everything, the result is generally a headache and a mental indigestion.

I went through the streets, down lanes and by-ways, and catching sight of a quaint gable or doorway would follow the direction of my fancy, taking a note here and there, until finally, just before sunset, I came into the little square in front of the cathedral, and the big bell clanged out five o'clock over the city. I ascended the tall iron *flèche* of the cathedral, and took a parting look at the town beneath. I wound up the staircase, passed along the corridors of the towers, and when up among the flying buttresses, or peeping out between the arches, I recognized many bits of detail that Viollet-le-Duc has so well drawn in his "*Dictionnaire.*"

Reluctantly leaving the cathedral, I went to the station, took the train for Paris, where I was soon in the arms of our old Institute comrades who form such a flourishing colony in the Rue Jacob.

B.

RECENT BUILDING IN NEW YORK. — III.

DWELLINGS. — I.

Ten, even five years ago, it was complained that no man's house in New York was built for him. Of course you cannot have a real domestic architecture when this is the case, when every house is built for the abstract or the average man, with regard to nothing but his income, as if income were the sole difference between the individuals of our species. The bed of Procrustes, to which the recumbents were fitted by elongating or abbreviating them, could scarcely have been an artistic piece of furniture, even if it had not been designed in the ante-classical period of Greek art; much less could a whole ward of Procrustean beds be an agreeable object. Within the past five years, however, Procrustes has fallen into disrepute as a house-designer for people who have enough income and enough assurance of permanency to build their own houses. Each man, in a certain circle at least, tries now to get a house built for himself — with the inevitable result that sometimes you wish he wouldn't. But even crude vivacity is better than death, and of course the city is a great gainer by the process upon the whole, though single examples may for a moment cause us to regret Procrustes.

Ten years ago, and even later, a few houses in and about Park Avenue were the only individual houses in New York below the Park. They included two showy designs, with much ingenious detail, by Mr. Hunt, and two sober and respectable houses by Mr. Richardson. A large Gothic house, by Renwick & Sands, is more ambitious, however, than either of these, as being much more evidently the architectural expression of a somewhat complicated interior, and as attempting more in the way of color also. The more expressively one undertakes to treat a complicated design, the more difficult it becomes, of course, to maintain repose. Repose is maintained here, although repose is not the most prominent characteristic of the building, and the application of color is effective. The "features" are in most cases well designed and well combined, and some of them, as for instance a low arcade which apparently lights a staircase landing, are strikingly pretty. The carved decoration is very unequal, both in design and in carving, some of it rude and commonplace and some rich and carefully studied. The attempt, however, to make a house tell its story was so new ten years ago that the building, in spite of its merits, was received mainly with the discriminating hoots with which our enlightened public welcomes what it does not understand, and the work has exercised no appreciable influence on domestic architecture. A smaller and newer Gothic house in one of the side streets, by Ware & Van Brunt, is too much cut up to be fully effective, although it contains interesting features. The use of material throughout is characteristic, and something is made in treatment of the blank wall at the side which is commonly left by architects to take care of itself.

The most interesting, however, of these earlier attempts to individualize New York houses was made in Ninety-seventh Street, by Mr. Edward T. Potter, in a gabled front in red and black brick over a basement of Ohio sandstone. The black bricks are in fact bricks sawn from dark blue-stone and are much more effective than blackened bricks, besides being permanent in color. The detail of the basement is commonplace, but there is great spirit and picturesqueness in the design of the gable and in the decoration of the wall. There is nothing in the newer work of which one can say that it is better than this, — making allowance for the limitations under which Mr. Potter worked.

A lodge for a college secret society, by Mr. Renwick, in Twenty-eighth Street, although not a dwelling, comes in for allusion most naturally under the head of dwellings. It has the frontage of an ordinary city house, which is crowned by a steep hipped roof, and the wall is simply divided and vigorously treated. The chief feature of the front is a bay-window. This front is treated in red and yellow brick, and it is curious and noteworthy that the same remark I made upon Mr. Renwick's brick warehouse, in Cliff Street, is exactly applicable here. The frame of the construction, so to speak, is in the weaker color, the parts framed in the stronger; so that the effect here also is that of a negative of the building meant. The suggestion that the wrongness in the other case proceeded from economy does not cover this, for the yellow brick in quantity here exceeds the red, and the building would have been cheaper had the color been properly applied.

Except these things, and the house designed by Mr. Harney some five or six years ago for Mrs. Stevens, the "architecturesque" houses of the present generation are results of the Queen Anne movement, and thus an ascension from bric-à-brac and decoration to building. The reverse of this process, the application of the principles of an architectural style, and even of the forms in which those principles have resulted, to objects of furniture and decoration, we all know historically, and what excellent results it has had upon art. But the re-translation of sideboards and mantelpieces into the architectural features in which they had their origin is a ticklish process liable to result in curious distortions. The first of the distinctively Queen Anne houses was one in Thirty-fourth Street, designed by Mr. McKim for Mr. Dickerson, which clearly recalls furniture, and in its treatment of architectural members is not unlike a monumental sideboard. It is a tall and narrow gabled front of red brick over a basement of the fine-grained and soft-colored Wyoming blue-stone, which is also used in the wrought work above. This basement contains a small mullioned window and a large entrance-arch, the curve of which, at the crown, is interrupted by the strange irrational jog (⌒⌒) which is becoming so common, and of which the designer is so much enamored as to introduce it over the lintel of a little window in the same basement. For the rest the noteworthy thing about the basement, except the agreeable color and texture of the stone of which it is built, is the evidence it bears to the designer's belief in the efficacy of small mouldings. The modelling of the door-arch would not be excessive on a piano, and is all but invisible from the street. Above this is a bay-window carried on long stone consoles which are faced with large flabby leaves, designed without reference to their function of support. The arrises of the bay itself are marked by a brick moulding of possibly an inch in diameter, which will have the effect of instantly exposing and emphasizing the least inequality in settlement. Fortunately, none has taken place. Above this the vertical division is not clearly marked, and the only points one carries away are some decorations in carved and moulded brick, and a little niche of the same material which is an evident reminiscence of furniture. The lack of emphasis in the divisions of the front gives it an appearance of weakness which is enhanced by the irrelevancy of the decoration to the structure, and the triviality of the decoration taken by itself. Upon the whole, if some works to which I referred the other day exhibit a belief that vigor consists in the absence of refinement, this house may be said to betray the correlative error that refinement consists in the absence of vigor.

Far better in composition is a newer basement-house, — one, indeed, not yet quite finished, — in Fifth Avenue near Thirty-fifth Street, which is building for Mr. Astor, and of which McKim, Mead & White are the architects. The front is not niggled, but is a broadly and quietly treated wall of deep red brick and Potsdam sandstone, the latter material used quoin-wise at the ends of the wall and enclosing the windows. The basement is built of it entirely, and here it is rock-faced. Of course any treatment is preferable to the smooth inanity of rubbed sandstone, but there is a limit, and the projection of actual boulders in so free-cutting a stone, and in a costly mansion, seems rather a rude and slovenly substitute for the vigor which can be expressed without rudeness by modelling. It is gratifying to observe in the round-arched openings of this basement a moulding which is not microscopic, but less gratifying to note in the cornice of the basement three rows of minute egg-and-dart mouldings. However much one may respect that ornament, he cannot feel that he really needs three rows of it at a time, even were it here less incongruous with the rude baldness of the wall which it crowns. There are other and more afflicting incongruities in this basement. The rock-face of the boulders projects considerably — to the eye at least — beyond the projection of the carved keystones, although these are advanced beyond the assumed plane of the wall, and the spandrels of the doorway, which are apparently meant to be covered with carving, are projected beyond the face of the boulders, — beyond their own framing, that is, — so that the keystones are doubly recessed. The effect of this withdrawal upon the expression of the wall is out of all proportion to what, in this description, must seem its unimportance, being akin to that produced by a noseless face. The nose is not a large member, but its absence is conspicuous. The wall above this basement is, as I have said, simple and quiet, the floor lines marked by sufficiently emphatic belts, and the openings simply framed, although we are arrested here again by the treatment of a bay-window in its second story. The window is three-sided and its outer sides are carried upon, or more properly carry, consoles, which are immediately under them and so project from the wall at an acute angle, thus seeming mere appendages to the bay, which is not only left without visible support, but is in appearance weakened by its ostensible supports. Above the upper story, but under the cornice, is a low attic treated as a frieze, with openings of the stone trellises of which Mr. McKim is so fond.

A better building still, the best, indeed, to your correspondent, of Mr. McKim's city houses in New York, is a wide house of brick and brown-stone in Madison Avenue. The width of the front makes it comparatively easy to maintain repose, and the architect has taken full advantage of his opportunity. The basement is here also of very rough sandstone, but as this is a high-stoop house the basement

counts for much less than in the Astor dwelling. There is a broad red brick wall above it, with an ample and rationally treated bay-window in the first story, and a comfortable entrance-arch really domestic in character, although the pilasters on each side weaken the apparent abutments. The detail, if not especially vigorous or expressive, is refined, and assists the effect of a good disposition of parts. The hipped roof rising behind the gable which completes the wall makes a somewhat forced combination, and the carrying through the frieze of the lines of the pilasters underneath has the effect of uselessly fretting a needful horizontal line.

Next to this house is a swell-front dwelling by Mr. Harney, in red brick with white joints and dark brown-stone. Swell fronts were never so characteristic of New York as they were and are of Boston, but still a goodly number of them used to be built. Mr. Harney's work is, in except some few and unimportant details, an exact reproduction of the type he has chosen. The most characteristic doorway of old New York, rusticated quoins alternating with and interrupting a sheaf of vertical mouldings, is a literal transcript. The effect of the copy like that of the original is at best simply void of offence. If it be a success for an educated architect in the year 1881 to equal, by copying it, the work of a mechanic of 1840 when educated architects were unknown in New York, Mr. Harney is to be congratulated upon attaining that success.

After the decorum of this Madison Avenue house of Mr. McKim's, of which, indeed, decorum is the leading characteristic, one is startled to come upon a still newer work of his, or of his firm's, in Fifty-fifth Street, near Fifth Avenue, which to the unanointed eye is simply a piece of insanity, and recalls the wildest freaks of Mr. Godwin and the other mad wags in the "artistic quarter" of Chelsea. The present aberration is a street front of two houses, of which one occupies perhaps two-thirds of the space. The basement is of rock-faced pink granite, which in the rough has very little color, but the rude treatment of which is evidently justified by the intractableness of the material. So far, so good; but above this cliff is a very flat, very thin brick wall, which is covered with a trellis of brick weather-strips, so to speak, of which the angles are not moulded nor chamfered, but channelled at an inch or so from the edge. The effect of these channels, like that of the little mouldings on the Thirty-fourth Street house we were discussing just now, is of course to aggravate any unequal settlement that may take place, or any inequality in the brick-laying. The brick here has not been laid evenly, and there results a wavering of the vertical lines, which enhances the look of instability given to the wall by its design; for these pleasing frames enclose panels of brick, laid diagonally and in patterns. It is scarcely credible that over this wall appears a heavy granite cornice, and over this again a solid granite parapet, behind which the pediments of two tin dormers of great, but unequal size, assert themselves. It may be remarked, also, that the keystone of the larger doorway is smoothly dressed into the similitude of a metal flap, with the graven images in granite of three boltheads apparently securing it to the rough stone behind. One feels at once that this is not a work of reason, but of inspiration, and therefore must not be analyzed from a rational point of view. But then the theory of plenary inspiration in architecture, as in theology, gives rise to difficulties. It is hard, to adopt the old theological distinction, to be sure what is above reason, and what is only contrary to reason. One would say without hesitation that the erection of this thin and liny brick screen over this rocky wall, and the crowning of the screen with a granite fortification, was irrational, but he cannot be sure that it is not supra-rational. In like manner, how can one say decisively that the tin dormer and the granite flap and the brick weather-strips are only meaningless and silly? Surely the designer must be aware that they will seem so to the unpurged spectator, and yet he has designed them. Nay, who knows but that the wavering lines may not waver with intention, and that although, from the point of view of reason, a vertical line in a wall ought to be rigid, from the point of view of inspiration a vertical line in a wall ought to wobble?

The impious rationalist, who is incapable either of comprehending inspiration or of accepting it humbly without comprehending it, will be apt to resent these houses as in a manner affronting his intelligence. He can, however, derive a real, although rational and grovelling pleasure, from a very simply and clearly designed house, in brick and Potsdam stone, which adjoins the revelation. This is a gabled front, which, besides its general air of good-breeding and a repose quite marked in contrast with the contortions of the sibyl next door, has some interesting detail. The treatment of the stone basement, with its arched doorway, and its square-headed, mullioned window, and of the oriel which overhangs it and rises from a corbelled pilaster attached to the wall, is unusually well studied. The architect is unknown to me, but his work is one of the best of the "free classic" things in itself, besides being uncommonly fortunate in its neighbor. M. S.

THE DEVELOPMENT OF STYLES OF ARCHITECTURE.[1] — I.

The modes in which styles are developed one out of the other are numerous. There is, first, the gradual progress towards perfection. There is the change caused by transplanting a style invented in one country to another whose religious, political, and, more than all, whose climatic conditions are different. There is, again, the influence of new processes or new modes of construction, of new materials, or the absence of the materials by the use of which advance has hitherto been secured. There is the potent influence of religion; the influence, again, of individuals, either of great sovereigns or of skilful architects; and — greatest of all — that of military conquests, and the intercourse of traders with foreign countries. All these and many minor causes have contributed to the changes which have from time to time occurred in the history of our art, and to understand them all thoroughly some acquaintance is required with the history of various countries, with the growth and consolidation of states, and the connection which has existed between them at various periods. But, even without this knowledge, it is possible to derive great gain from a merely general and summary study of the question, and it is in this that I wish to guide you to some extent to-night.

For our purpose it will be sufficient to go back so far only as the most perfect period of Greek art. With few and minor modifications, all existing European art may be traced back directly to Greece. The more ancient civilizations acted upon Greece, and through Greece, upon Europe. Almost all Greek forms are derived from Assyria and Egypt; and, great as is the antiquity of Greek art, it is almost to be regarded as modern by the side of that of the East. We begin, therefore, with Grecian art after it had formed itself into a well-defined style, some six or seven centuries before the Christian era. At this date we find the Doric order in so well-defined and perfected a state in, *e.g.*, the Temple of Corinth, that for many centuries the variations from the type then established are only slight alterations from time to time in the proportions of the various parts, with a determined adherence to the general form and design as it was first seen. Some examples, as, for instance, the Lycian tomb in the British Museum, are beyond all question imitations of a wooden construction; but the question whether the design of the Doric order is or is not so also, has always been open to much discussion. The evidence of the entablature with the triglyphs above it is strongly in favor of a wooden origin; but, on the other hand, it is in the earliest examples that the columns are most clumsy, and as unlike as possible to wooden posts. On the whole, however, this seems a not unlikely fault to have been committed in using a new material, whilst it is at least possible that the original wooden construction was confined to the roof resting upon stone or brick piers. And if the development of wooden construction into stone resulted in some of the grandest buildings for ages, showing the same adherence to the primitive type from first to last, it would be impossible to conceive a more singular survival of features, some of which had nothing whatever to do with the construction of the building. The Temple of Corinth, and probably the Temple at Assos in Asia Minor, date from the seventh century B.C. The Theatre at Girgenti was begun *circa* 480 B.C., the Temple of Theseus in 469, whilst the Parthenon was finished in 438. In a comparatively short period all the best examples of Doric were erected, but for 200 years before the Parthenon was built, if not for more, architects had been building in the same way; whilst for centuries later the style was still persevered in, until we see one of its latest examples in the Forum at Pompeii — probably a work executed under Greek influence — within a few years of the birth of our Lord.

At the same time, we have the interesting fact that other styles co-existed with the Doric during the greater part of the period referred to. The Ionic Erechtheium on the Acropolis was built in about 420 B.C., and is, therefore, as nearly as possible of the same date as the Parthenon. The Corinthian is a later order, and generally under Roman influence, but even this co-existed with Doric and Ionic. We have here, therefore, the remarkable fact that in Greece at the same time three styles of architecture were deliberately practised, and that the only alterations were modifications of proportion. There was absolutely no development of a new style, no combination of the features of the three styles, and the Doric never, as time went on, underwent any modification or improvement from contact with the Ionic, or the Ionic from the Doric. Indeed, it is probable that architects confined themselves each to one style, even if the adoption of the style did not depend — as it did later, in the times of Guelph and Ghibelline in Italy, and of the Moors and Christians in Spain — upon the politics or the blood and the race of those who built

The Greek mode of construction was so dependent upon the use of single blocks of stone that it was all but impossible to attempt the erection of buildings of vast size. A remarkable evidence of this is afforded by the Temple of Jupiter at Girgenti. Here the dimensions are vastly in excess of anything ordinarily built by them, the height being absolutely more than twice that of the Parthenon, and the architect ventured on the device of building up his columns with small stones and attaching them to the wall in a way which shows how limited the application of the style of architecture was, and with a result which must have been as unpleasing as it was, happily, unusual. But even such an example as this has its interest, showing as it does that among the Greeks there was no such thing as impatience and fretfulness because new things were not perpetually being invented. A beautiful thing once done could not be too often repeated. Men never tired of seeing it.

The handmaid of Architecture — Sculpture — in the same way was just as deliberate, and when a really beautiful work had been done there was no hesitation as to repeating it over and over again. The Venus of Praxiteles is said to have been repeated at least a hundred times; and the same thing may be said of many of the finest works of the greatest Greek sculptors.

[1] Third lecture, delivered on Monday, February 21, by G. E. Street, R. A., to the students of the Royal Academy

The great virtue of the Greek artist was his appreciation of the refinement of line, and his intense admiration for the noblest possible representations of man and beast. Compare Greek sculpture with Assyrian or Egyptian, and you see the gap which separates a perhaps dignified but always conventional figure from one in which the fire of the living soul is made to light up the well-wrought stone; and it was this temper which made him — possessor as he was of almost unmatched skill — content to labor on from one century to another in the reproduction of what he had once for all found to be very good.

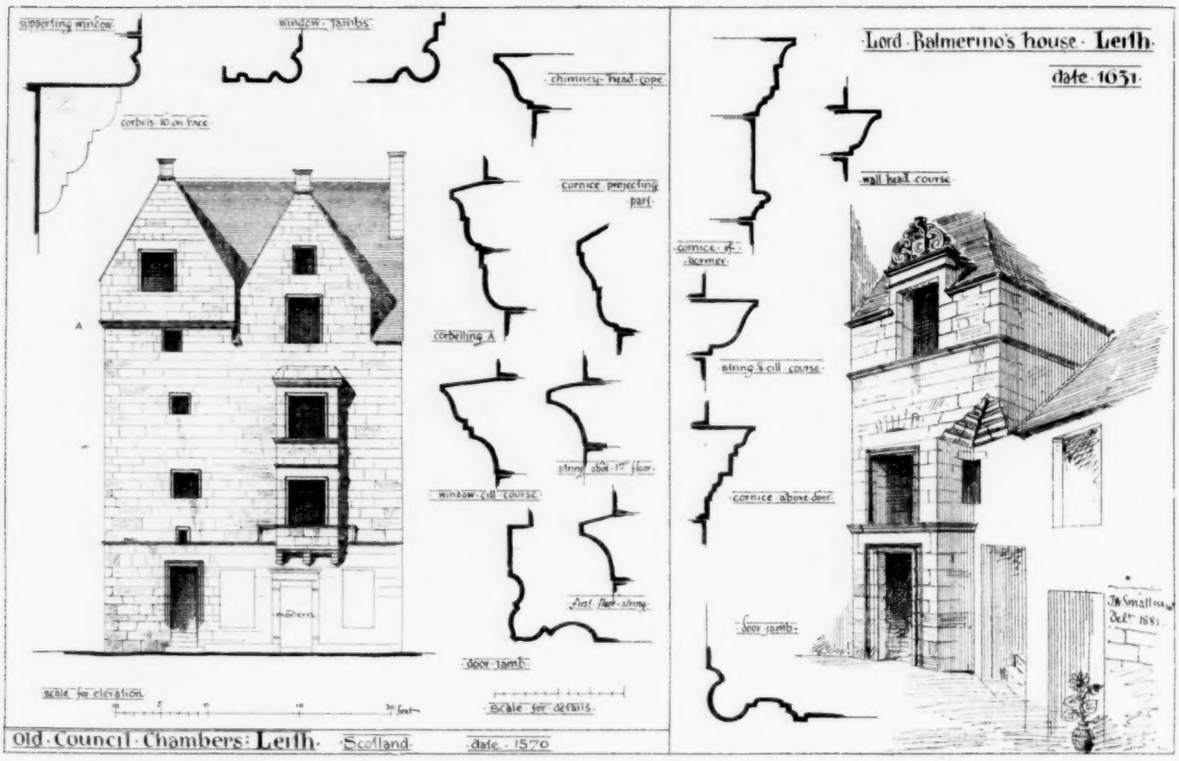
From the Greek we turn naturally to the Roman, who was influenced by the magnificent remains of the Greek buildings in Southern Italy and in Sicily on the one hand, and by the even older work of the Etruscans on the other. He never realized the necessity of development in architecture, but the introduction of the arch, which he used freely in all his constructions, soon modified, and rapidly changed, the whole character of his art. He must be said, I fear, to have spoilt what he borrowed from the Greek, having little of his acute sense of beauty. He never observed that all Greek art was a reasonable adornment of a reasonable construction, and proceeded to treat the orders as mere ornaments to be added to the face of a wall, without any serious consideration of the purposes of the wall itself. He put the three orders one above another, three or four in height, pierced arches between them — having discovered the value of the arch without discovering how it ought to be used — and retained to each order and each stage of his building the heavy cornice which had its *raison d'être* only in being the finish of a wall. In its larger works it is the brute force of the work, the vast thickness of the walls, the immense span of the arches and vaults, the trusting to size and solidity rather than to refinement or grace for the result to be achieved, that strike us, and not the beauty, imagination, or architectural fitness of the work. The architecture and the building were, to a great extent, wholly independent the one of the other. In some of the vastest Roman works — as, *e. g.*, the Basilica of Constantine and the Baths of Caracalla — the architecture has disappeared, and yet the walls remain. The architecture was *appliqué*, like a garment which had little to do with the body it covered, save to follow, in a general way, its outlines. The development (if it may be so called) which is seen in great orders piled one on another in the Flavian Amphitheatre may well be compared with the Greek mode of treating a two-storied erection, as we see it in the *cella* of the Temple of Neptune at Pæstum, where the upper range of columns is simply a prolongation of those below, without entasis (for that would have been fatal to the continuity which was the essence of the design), and divided not by a cornice aping the top of a wall, but by blocks of stone forming a string-course and binding the whole together — a construction strictly analogous to that of Gothic buildings, and wholly opposed to the Roman succession of orders.

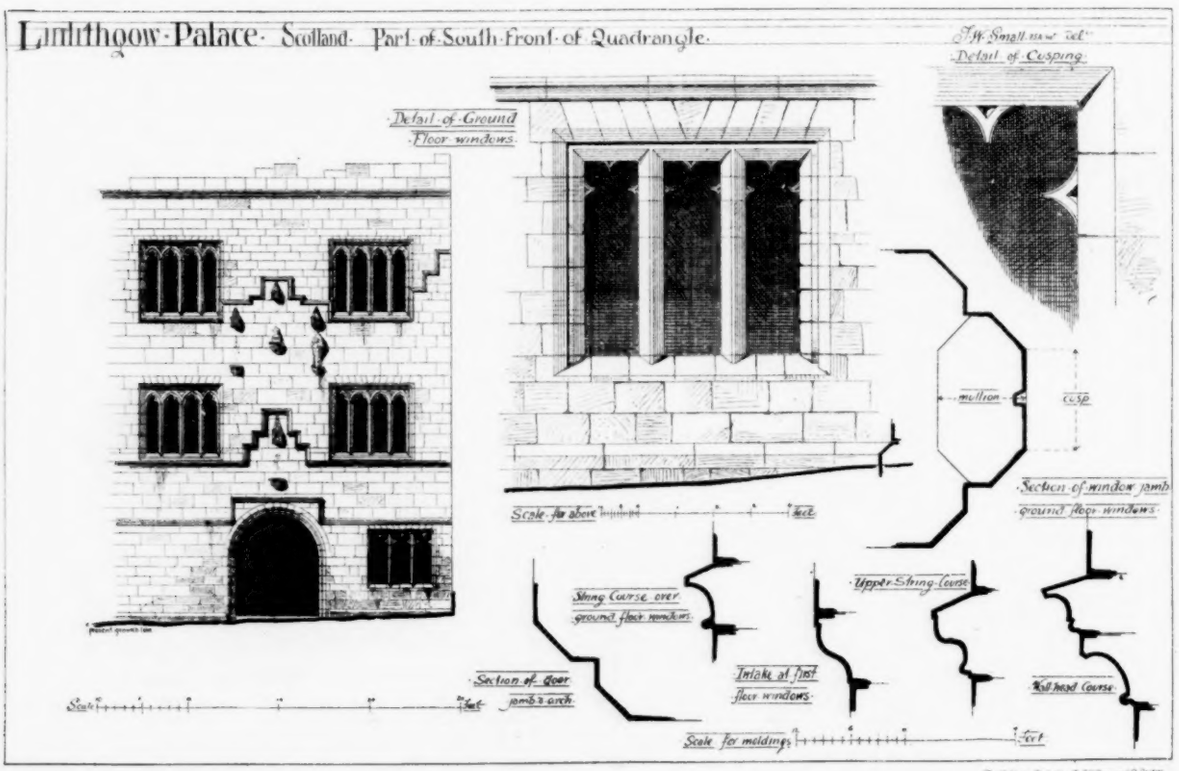
I have said that the Roman used the arch without showing that he knew at all how it ought to be used. But it is in his capacity as artist, not as constructor, that I mean to make this statement. As a constructor he certainly had advanced far beyond the Greek, but his constructions are remarkable mainly for their vastness, and for the impression they convey of being the work of men who regarded the labor of hordes of untutored workmen with as much satisfaction as the work which could only be wrought by skilful hands. Or rather, I should perhaps say, they regarded the two things as entirely distinct — built their walls, their arches, and their vaults first, and then brought their columns, their mouldings, and their statuary to adorn them. So that — to take a good example — the Villa of Hadrian, near Tivoli, is in its ruin a mass of rough brickwork, with hardly one single evidence of art in its design, whilst the museums of Rome have been richly endowed with statues and sculptures which existed in it without being architecturally part of it. The arch was used as a servant to do good work, and no more, for the Roman never perceived that if it were to be a feature in the building it must, almost of necessity, be the chief feature. His one development was to construct his arch in a wall which was divided into panels by imitations, more or less exact, of columns, with their entablatures and cornices. His endeavor was evidently to make it seem still as if the column and the entablature had something to do with the construction, though, in point of fact, they were absolutely independent of it, and were decorations of the face of the wall, regulated in their position, and in no other way, by the size of the arch required. Then the column, with all its belongings, being found to be an ornament and no more, it was natural to see it at last placed away from the wall, connected with it by a returned plinth and cornice, and at last carrying on its summit a statue or group which, by an afterthought, gave a kind of excuse — and a very lame one it is — for a piece of architectural feebleness which is almost unique. The development of the Roman upon what the Greek had given him was, therefore, nothing less than the destruction of the whole virtue of the original. That had been accurately constructed and well designed, whilst this was constructed with reference to design, and treated as no good architecture can possibly be — as though the wall and its decoration were two wholly distinct and separable entities.

For the first three centuries of the Christian era I see no evidence of anything that can properly be called an architectural development, or that even seemed to pave the way for one — with one notable exception. This is the fondness of the Roman builders for circular arrangements either of rooms or of alcoves in angles of rooms, and of alcoves placed *dos-à-dos*. Of all these, good specimens are seen in the Palace of the Cæsars on the Palatine Hill, and in the double temple of Venus and Rome hard by, where the two temples are identical in plan, each finishing in an apse placed back to back. In the Pantheon, the enormously thick wall is planned with recesses, some coved and some square on plan, and with detached columns carrying the entablature above them — an arrangement which we shall see somewhat later, distinctly suggesting the design of the circular recesses under the dome of SS. Sergius and Bacchus at Constantinople, and San Vitale at Ravenna; whilst in the so-called Temple of Minerva Medica, a circular domed central space is surrounded by a series of ten recesses, nine of which are circular. The Greeks had shown their sense of the beauty of circular buildings, and the Romans followed in their steps, as we see in this example in the Pantheon at Rome, the Little Temple at Tivoli, and in the Temple of Vesta at Rome. But the necessity for enormous supports to their skilfully constructed domical roofs led the Roman architects to make these recesses in the walls where they could safely be introduced, and thus to pave the way for the introduction of buttresses, and of the apsidal terminations and circular chapels around them, which played so large a part in much later developments.

It was in about A.D. 289 that the great step in advance was made in the building of Diocletian's Palace at Spalato, on the eastern shore of the Adriatic. Here a range of arches was carried — probably for the first time — on the capitals of columns, without the interposition of any sort of entablature. The same sort of construction had, it is true, been suggested long before in such erections as the portico of the Pantheon, where semicircular arches are turned over the lintels above the columns in order to take the whole weight to the capitals instead of on to the entablature. This apparently simple change was one which at once revolutionized all existing architectural laws. The column was no longer a mere ornament. It became at once the most useful, the most conspicuous, and in every way the most important, as it had always been the most beautiful, feature in a building. And from that time forward it was impossible ever again to construct a building as before with the post and lintel only, without deliberately ignoring the most useful and convenient discovery which has ever been made in the art of building. From that time the arch became master of the position, just as before the beam had been. The old system had lasted one can hardly say how many centuries, and it is needless to declare that nothing can ever make the use of the arch, round or pointed, obsolete in the same real sense as the use of the lintel or beam has become.

The Greeks, who, if they did not invent, at least perfected the orders, never in later times seem to have sympathized at all with the Roman modifications of them, most of which were consequent on the use of the arch. Their Byzantine art owes but little to Rome. It was, in truth, a genuine invention of a style developed out of Greek, but in which the arch was an essential feature, and in which the cornices and mouldings, the columns and their capitals, were all modified to suit it. Their decoration was almost entirely Eastern, both in its *motif* and in its mode of execution. Their development was a radical one; for in place of the old Roman and old Greek construction of plain walls and columns carrying only a dead weight, Byzantine art is remarkable for the extent to which it treated construction in a new fashion as an affair of weight and counterpoise. This was provided for in the arch and pier, in the dome and its supports. The Roman basilica required no great scientific skill for its erection, whilst the Byzantine buildings dealt with some of the most difficult problems of construction, and really foreshadowed the triumphs achieved in the scientific and delicate constructions of the middle ages. During this period, *i.e.*, between the time of Constantine and that of Charles the Great, the Roman buildings were not undergoing any development. The long series of Popes, from the beginning down to 774, the time of Charles's conquest, had done more in the way of conversion of existing buildings, or re-using old materials, than in attempting to erect new buildings. The basilica, with its long ranges of columns, ended with a throne or apse, afforded just the accommodation that was needed for Christian worship, and the multitude of old fragments available led for ages to the construction of buildings in which the whole of the details are antique, and in which the general form is founded also on an ancient one. The long ranges of columns of all sizes and sorts are often very imposing, but the interest of the churches is rather archæological than architectural. The interest of the fragments of which they are constructed is great. They afford evidence of the slovenly execution of much Roman work, but at the same time of the freedom from all rule as to the exact dimensions, proportions and decorations of the various orders. It is hardly too much to say that no two capitals in one of these buildings are alike, whilst the remains are, with few exceptions, of Ionic, Corinthian and composite, and not of Doric. Not the less were these buildings important links in the chain of development. The long lines of columns; the simple wall pierced with a clerestory above; the apse at the east end projected from a cross nave or transept, out of which other and smaller apses were formed on either side of the central one, — formed a model which, as we shall see, was one of the principal foundations for the complete Romanesque buildings of the eleventh and twelfth centuries. And the buildings (which still remain substantially on the old lines, as St. Paul without the walls of Rome, San Lorenzo, and St. John Lateran) were repeated with more or less closeness at Ravenna, in the two churches dedicated to St. Apollinare at Aquileia, in San Miniato, Florence, San Zenone, Verona, and, last of all, in the ground plan of Pisa.





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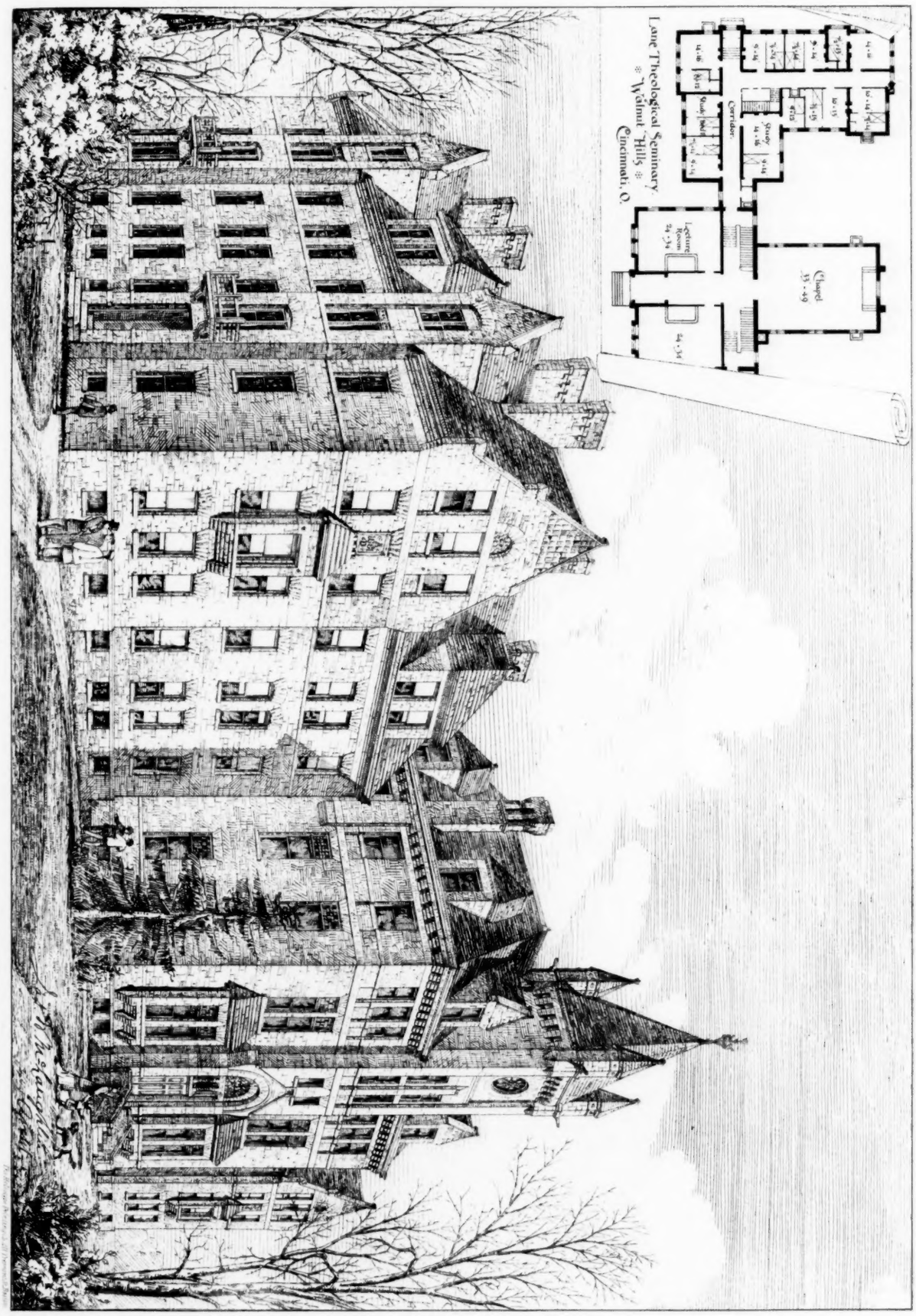
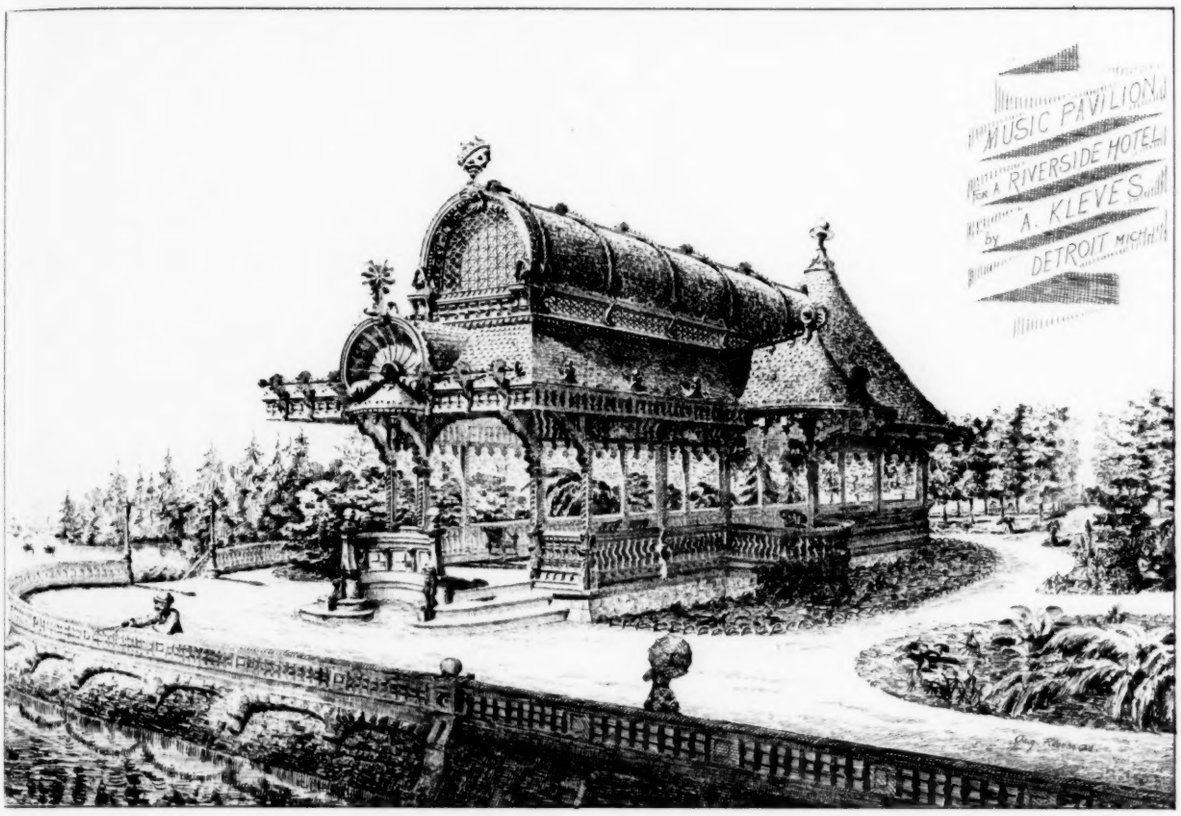
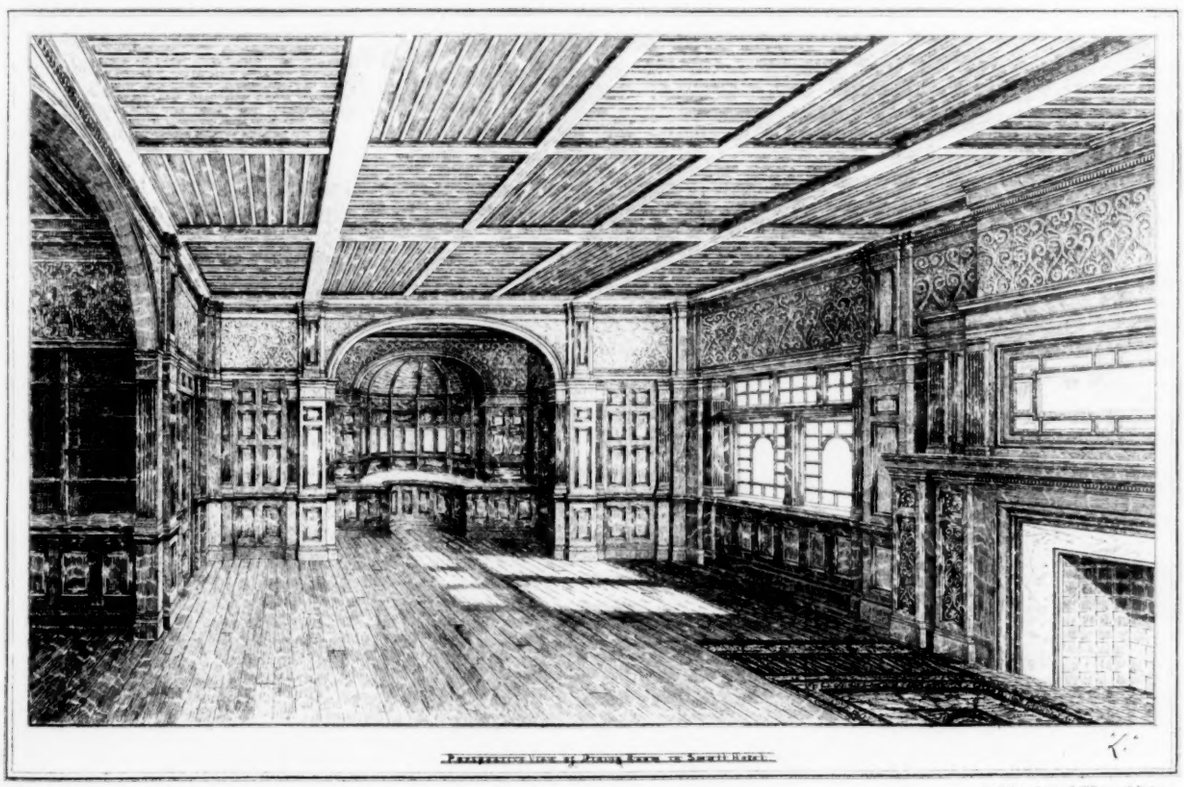
PEABODY & STEARNS Archts New York & Boston







PERSPECTIVE VIEW OF DINING ROOM, AS SHOWN HERE.

THE ILLUSTRATIONS.

LANE THEOLOGICAL SEMINARY, WALNUT HILLS, CINCINNATI, O. MR. JAMES W. McLAUGHLIN, ARCHITECT, CINCINNATI, O.

THESE buildings are of blue limestone laid in random courses, relieved with Ohio freestone. The central building, 65 feet by 100, completed one year ago, contains the chapel, recitation rooms, gymnasium, and museum. The north wing, 70 feet by 88, is now building, the walls being ready to receive the roof. It will be used as a dormitory building, the study-rooms having bed-rooms attached, separated from the former by screens seven feet in height. The cost of the buildings already finished, and the new wing, will be about $40,000.

DESIGN FOR A HOTEL DINING-ROOM. BY MR. EDWARD A. LACEY, NEW YORK, N. Y.

"L nas made fair use of the easy conventionalities of his chosen style, and has presented a room which might have been designed and executed in the last century, if his pilasters had been a little more slender and his ceiling in its decoration more in conformity with constructive necessities. The joists of it (or what stand for joists), alternating in direction in adjacent panels as they do, are not in accordance with usual or practical processes of flooring, and the device has no value as a feature of decoration. It would have been better to have omitted them altogether. The plan needs further explanation, and does not agree with the perspective in the width of the archway leading to the hall. The programme requires the chairs and tables to appear in the perspective, which in effect would have been greatly improved by such furnishing. They are not well bestowed in the plan. The author has presented but a meagre sheet of details, and has not sufficiently committed himself for criticism in this regard. As is the case with most of his competitors, he has not given us the elevated station for the head-waiter. This condition he might have readily met by a step in the sideboard recess, which, by the by, should have contained shelving and cupboards. To line the passage to the hall with shelving is not a happy device."

SCOTTISH SKETCHES: LINLITHGOW PALACE; OLD COUNCIL CHAMBER, LEITH; LORD BALMERINO'S HOUSE. SKETCHED BY MR. J. W. SMALL, F. S. A. SCOT.

UNITED BANK BUILDING, NEW YORK, N. Y. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

LEGAL NOTES AND CASES.

Right of Architect to Compensation after a Refusal to allow him to complete his Contract.

THE Supreme Court of the United States, a month since, in the case of *The City of Chicago* v. *Tilley*, decided upon the right of an architect to compensation for his services, upon a refusal to allow him to complete his contract. The city of Chicago and Cook County agreed to join in building a court-house and city-hall, each to build a certain part of the structure. The county appointed James J. Egan the architect for that portion to be constructed by it, and he entered upon his duties. The City Council, subsequently, August 9, 1875, passed an ordinance which repealed all former ordinances, orders and resolutions of the Council pertaining to the erection and construction of the city's portion of the new city-hall and court-house, and rescinded all former action in relation to the appointment of architects, and expressly provided that "nothing in this ordinance shall be construed as to in any manner affect, or in any wise rescind, impair, or amend any contract or other agreement now subsisting between the city of Chicago and the county of Cook." On the same day the Council passed an order, the material portion of which was as follows: —

"*Ordered:* That one architect shall be appointed, whose duty it shall be to prepare the necessary plans and specifications for the erection of the city's portion of a new city-hall and court-house, upon block 39, in the original town of Chicago, commonly know as the Court-House Square, and the general exterior design of the same to be of a uniform character and appearance, as shall be agreed upon by said architect and Board of Public Works and said County Commissioners; said architect, when the plans and specifications shall have been prepared by him, and agreed upon by said Board, to take charge of and superintend the construction of said building to its completion under the direction and control of said Board of Public Works, and said architect shall also do and perform every other service or thing necessary to be done, in and about the construction and erection of the city's portion of said building to completion, which shall be required to be done and performed by him as such architect, by said Board of Public Works, and said architect shall receive from the city of Chicago as his full compensation for his entire services as such architect the sum of $37,500, said sum being 3 per cent of the sum of $1,250,000, which shall be the entire cost of the city's portion of said building; and such compensation shall be in full for all services of such architect, and no other or further compensation whatever shall be paid to him by said city."

The order further provided that, whenever the plans and specifications should be agreed upon in manner aforesaid, the Board of Public Works shall proceed with the city's portion of said building.

After the passage of this order the City Council proceeded to elect an architect to act under its provisions, and plaintiff was chosen. On August 24, he was officially notified of his election, and on the same day made known to the officers of the city his acceptance of the office, and offered to enter into a written contract and give bonds, but they were not deemed necessary by the city authorities and were dispensed with. Soon after the acceptance of employment by him as architect, under the order of August 9, he proceeded to prepare plans for the city's portion of the building. He made plans for the several floors or stories of the buildings, consulted with the heads of the various departments of the city government as to the accommodations their departments would respectively need, and from the information thus obtained, made interior plans for the proposed building, and he also prepared designs and plans for the exterior of the building; these plans or designs were exhibited to the members of the Board of Public Works and to the city officers, from time to time, during the months of September, October, and a part of November, 1875. The Board of Public Works proceeded to advertise for bids for excavations for the foundations, and plaintiff prepared the plans and specifications for such excavations, and also prepared plans and specifications for the foundations and sub-basement of the proposed building.

Early in November it was ascertained that the plans of plaintiff and those of Egan for the exterior of the building did not harmonize; and under a resolution of the Common Council, passed November 15, there was a joint meeting of the city and county authorities, at which the architects were present, to consult as to some compromise upon the plans. The architects were directed to prepare a joint compromise plan for the exterior of the building. At an adjourned meeting Egan presented sketches of a compromise plan, embodying the substantial features of the building which is now being constructed, but the plaintiff neither presented a plan, nor concurred in or indorsed that of Egan, which was adopted, and the county authorities proceeded to act upon that plan, as agreed upon. After this action, the plaintiff prepared compromise plans which were considered at a special meeting of the Common Council called to meet on the 13th of January, 1876, for the purpose of considering matters pertaining to the city-hall and court-house, and a resolution was passed, which, in effect, directed the Board of Public Works to adopt the compromise plans of the plaintiff.

After this meeting of the Common Council the plaintiff proceeded to complete his compromise plan, including floor plans for each story, specifications for foundations and sub-basements, and plans for exterior elevation, so that early in the spring of 1876 his plans were so far advanced that he could have proceeded with the construction of the building, and could have had the tracings and working-drawings ready as soon as needed for the progress of the work. He was ready at all times to proceed with the construction of the building, but was not allowed to do so. In the fall of 1876 and spring of 1877, when the City Council determined to proceed with the construction of the building, he offered his services as architect, but they were refused; that is to say, he offered to proceed and perform his part of the contract by supervising the erection of the building when the city was ready to proceed with its construction. On August 27, 1878, plaintiff brought this suit. He declared on the special contract contained in the order passed by the City Council on August 9, 1875, and claimed the contract price for his services, namely, $37,500. His declaration also contained the common counts for work and labor, goods sold, money lent, etc. The following is a copy of the account appended to the declaration: —

The City of Chicago to Thomas Tilley, Dr.

For services as architect in preparing plans for the new City Hall	$25,000.00
For services as architect in preparing a second set of plans with specifications and diagrams for the new City Hall	42,500.00
For services as architect in superintending the building of the new City Hall	42,500.00
	$110,000.00

The city of Chicago pleaded the general issue. The evidence introduced on the trial of the cause tended to establish the facts above recited. Thereupon the court, among other things, charged the jury as follows: "There is no provision in the contract, or in any subsequent dealings or relations between the parties, that shows how this sum of $37,500, the compensation that Tilley was to receive for his services, was to be paid, but I think the fair presumption is, inasmuch as it was expected that the erection of this work would extend to a long term of years, perhaps, that the plaintiff was not to wait until the entire completion of the work before he received some compensation, and that he was to be paid from time to time upon some basis to be established, so that when the work was done he should not have received more than the aggregate amount of his compensation. Tilley was employed, like any other employee of the city, to do a certain thing. It was, as far as practicable, to contribute his professional skill, and the suggestion of plans which might or might not be adopted. It may then be considered as undisputed that Tilley was employed to prepare plans and specifications, and did some work in the line of his employment, and for this he is entitled to compensation, as far as possible, at the rate for which he was to do the whole work under the contract; that is to say, he had agreed to prepare plans and specifications and superintend the entire construction of the building for $37,500. He did a part of that work. He did something in the line of his duty, and if it is possible to ascertain from the proof and contract how much his compensation should be for the work, in the ratio of the entire compensation, the jury should arrive at that."

The city of Chicago excepted to these charges. There were other charges excepted to, but these present all the questions which are raised by the assignments of error. The jury returned a verdict for the plaintiff in the court below for $13,000, on which the court rendered judgment, and a writ of error was brought to reverse that judgment.

Judge Woods, who delivered the opinion of the court, said: "If the construction of the contract by the court below was correct, then the city has no ground of complaint against the charge to the jury. The refusal of the city to accept the services of the plaintiff in 1876 and 1877 closed the relations between them, and he became entitled to all the compensation due to him. The city says that he is not entitled to anything, because the contract was an entire contract, upon which nothing could be claimed by the plaintiff until he had fully performed it; but he is not in default, since he offered to go on, but was denied the right to continue. The question is thus raised whether, up to that time, he had done what the contract required him to do. It is clear from the record that the plaintiff never did procure the concurrence of the Board of County Commissioners in his designs for the exterior of the building. The city claimed that his contract was not only to prepare the necessary plans and specifications for the erection of the city's portion of the new city-hall, but to obtain the approval and adoption of his plans by the Board of County Commissioners. In our opinion this was not the meaning of the contract. The preparation of a design for the exterior of the building was but a small part of the work which the plaintiff contracted to do. He was required to prepare plans and specifications for excavations for the foundations, and for the foundations themselves, and for the subbasement; to prepare plans and specifications for the interior of the building, to divide it into the apartments necessary to accommodate the business of the city, to lay off the corridors, halls, staircases, to devise all the interior conveniences and decorations of a large and costly building, to select and specify the materials of every description that were to be used, to decide upon and make drawings for the structure of the inside walls, the floor, the roof, to make designs for the wood-work, and to provide for plastering, plumbing, and painting. All these matters were to be settled by him, and minute and detailed specifications were to be prepared for the entire work, so that contractors might be able to bid intelligently. The work which the plaintiff undertook to do, in preparing the necessary plans and specifications for the building, was a vast one, requiring much time and great labor and skill on his part, and the aid of draughtsmen, clerks, and other assistants. To construe his contract to mean that he was to do all this work and receive no compensation for it unless he could induce the Board of County Commissioners to agree to his plan for the exterior design, and reject that of their own architect, is to give it a meaning which in our judgment neither of the parties to it ever contemplated. It is no reply to this to say that he might have prepared his designs for the exterior of the building and secured the concurrence of the County Board therein before proceeding with the residue of the work. There is nothing in the contract which indicates that the plaintiff was expected to do this. If such had been the purpose of the parties it would have been easy to express it. On the contrary, by the very terms of the contract, it was as much the duty of the city Board of Public Works as of the plaintiff to procure the approval by the County Board of the exterior design prepared by him.

"The fact is apparent that the contingency of a disagreement between the city and county authorities in regard to the exterior plan of the building was not anticipated and no provision was made for it. The thing to be done by the plaintiff was 'to prepare the necessary plans and specifications for the erection of the new city-hall and court-house,' and to superintend the erection of the building when the exterior design had been agreed upon by himself, the Board of Public Works of the city, and the County Commissioners. The proceedings of the City Council show that this was the construction which it put on its contract with the plaintiff.

"If the construction we have put upon the contract is a correct one, then the plaintiff having performed a part of it according to its terms, and having been prevented from performing the residue by the failure of the other party to do its part, may receive compensation for the work actually performed." *Planché* v. *Colburn*, 8 Bing., 14; *Goodman* v. *Pocock*, 15 Q. B., 576; *Hall* v. *Rupley*, 10 Barr, 231; *Moulton* v. *Trask*, 9 Met., 577; *Hoagland* v. *Moore*, 2 Blackf., 167; *Dirley* v. *Johnson*, 21 Vt., 17. H. E.

MUTUAL FIRE INSURANCE AND FIRE-PROOF BUILDING. — APPENDIX.

A full consideration of the subject treated in the foregoing address[1] must convince every thinking man that no half-measures or petty treatment will meet the case.

Adequate insurance lies at the foundation of all credit; and a great conflagration works commercial disturbance, and may bring on a commercial crisis that might not otherwise happen, if it occurs at a time when transactions are much extended.

Such a conflagration is as liable to happen now in any of the great commercial cities as it was in Chicago or Boston; because, although the methods of construction are a little better than before these fires, the greater height of buildings, and their dangerous occupancy for manufacturing purposes, have increased the hazard.

Complaint is made by merchants of the rate of premium charged by underwriters. The only answer that can be made to this complaint is, that the rates now charged are *altogether too low* for the present conditions of hazard and of expense; and any movement for a reduction of rate, that is not preceded by a complete system of safeguards against the hazard of fire on the part of the assured themselves, will only hasten the day when well-managed stock-insurance companies will cease to insure the large commercial districts in which the great dangers now exist.

The root of the present evil is what is called *cheap* insurance. No insurance is cheap when half the companies t at issue the p licies may become bankrupt at the time of greatest need; and no ins rance is dear that enforces a remedy by which the danger of loss is reduced to a minimum.

What could be more ludicrously absurd than the following combination for *mutual* protection, keeping in mind the fundamental principle that all insurance, whether in a stock or in a strictly mutual company, is only a system of co-operation for mutual indemnity, the stock merely constituting a guaranty fund?

From among the insurance companies of the State of New York, fifty-two may be selected, insuring property mainly in New York City and vicinity, having a capital of $150,000 to $300,000 each, averaging a little more than $200,000; the aggregate being $11,200,000. They constitute no exception to the common rule elsewhere: a relative number of small companies exist in every State, and are subject to substantially the same conditions.

The business of these companies in 1879 — a year counted as rather a disastrous one, because it included the great fire in Worth Street and very serious fires in Broadway and Grand Street — was as follows: —

Risks taken		$873,462,251
Average rate of premium (practically a half of one per cent).		.4945
Premiums received		$4,315,964
Losses paid (56 3-4 per cent of the premium)		$2,450,569
EXPENSES.		
Salaries (19 2-10 per cent)	$827,240	
Rent, and office expenses (14 1-10 per cent)	607,704	
Commissions (14 7-10 per cent)	634,540	
Total expense (48 per cent).		2,069,484
Losses and expenses combined (104 3-4 per cent)		$4,520,053

A little more than $200,000 in excess of the premium.

The addition of the taxes would bring the expenses substantially up to fifty per cent of the premium paid in. This is ten per cent more than the estimate made by the Insurance Commissioner of Massachusetts as the average of all the fire-insurance companies doing business in Massachusetts three years since.

It therefore appears, that, if this amount of business is divided among fifty-two insurance companies ranging from $150,000 to $300,000 capital, averaging $200,000 each, am unting in the aggregate to $11,200,000 capital, the cost of contributing each dollar of premium that passes into the fund for the payment of loss is another dollar of expense.

As t e business must be given up if the losses impair the capital during a term of years, and as one-half the premium paid in by the assured must, in the long run, cover the losses under this method, it follows, of necessity, that each dollar of loss by fire, on which there is insurance, costs the public not only that dollar, but a second one expended in an unprofitable attempt to distribute the loss among the parties who contribute the premiums.

It therefore follows, that, although the rates of premium are too low to meet the present rates of losses and expenses even in a year of ordinary loss, they are yet ample to meet all ordinary losses, and also for the accumulation of a reserve, to meet extraordinary losses, if due regard be given to economy and methods of prevention that may be adopted without any recourse to mutual liability.

Let us suppose that a single company should be organized to do this business with a capital of $10,000,000: what might be the saving?

The adequate corps of officers, clerks, inspectors, etc., would be about as follows, assuming a liberal scale of expenditure and reasonable compensation to employees: —

President, vice-president, and treasurer	3	$50,000
Clerks	20	50,000
Messengers, copyists, etc.	30	25,000
Surveyors	10	25,000
Inspectors	10	25,000
Adjusters	10	25,000
	83	$200,000
Add for contingencies	17	50,000
Total salaries	100	$250,000
Rent, and office expenses		40,000
Commissions (5 per cent)		225,000
Printing and miscellaneous		15,000
Travelling expenses of surveyors, inspectors, and adjusters		30,000
		$560,000
Fraction thrown in		9,484
Expense of one company		$569,484
Expense of 52 companies		2,069,484
Difference saved		$1,500,000

This difference in expenses only would be *fifteen per cent upon the capital.*

How much difference in the ratio of loss a rigid system of inspection and supervision of risks might work, time only could tell; but it would show very little ability on the part of the management if the loss ratio were not reduced from two and a half to one and a half millions, making a saving of $1,000,000 more, or ten per cent upon the capital.

[1] See *American Architect* for April 9, 1881.

	Per cent.
Assuming a net income upon the capital invested of	5
A saving in expense of	15
A saving in loss of	10
Total	30

And we have a net result of the business, to be divided between the company and the assured, of $3,000,000, based on the actual experience of fifty-two small companies.

It will be obvious, that, if some method were adopted for accumulating a portion of this sum, say one-third, or $1,000,000, year by year, to remain at the risk of business, the indemnity fund thus created, coupled with the measures of preventing conflagrations that such a company could *enforce*, would soon serve as an adequate guaranty against the disaster that may at any time occur under present conditions.

It is therefore respectfully submitted, that while no prudent man could enter into a mutual insurance company whose business was largely that of insuring warehouses and merchandise in the commercial sections of great cities, and subject himself to an indefinite liability to assessment or even to an adequate but definite liability, yet, unless there is some system discovered and applied for the mutual prevention of fire, and for adopting adequate measures for controlling and extinguishing the inevitable fires that must occur, the present system of co-operation for the payment of indemnity for loss by fire will utterly fail at the time of utmost need.

The undersigned has studied this question from the standpoint of one whose daily work has forced him to give attention to it, without having any direct interest in it.

The difficulties that will occur in remedying the evil are almost appalling, yet it is only a question of time when they must be met.

Although the business of conducting an insurance company makes a consideration of the law of chances of some value, and although statistics and averages of experience are an aid to the underwriter, there is but one certain rule, and that rule is: —

Wheresoever men sow the seeds of fire in a closely occupied district, a great conflagration shall be as surely reaped.

On the other hand, it is as certain that, if merchants could provide for the same skill, care, and judgment in this business as they give to their regular work, and if they would give to this matter that lies at the foundation of all credit the same supervision that they give to the business credits that they grant, a great conflagration could be made as impossible as human foresight is capable of making it.

It therefore follows, that, although the factory mutual system cannot be advised in all its details, the mutual co-operation for the prevention of fire, which lies at the foundation of that system and is the key to its success, is feasible, and is absolutely essential to the purpose aimed at by the merchants who asked the undersigned to address them.

While the foregoing statement was passing through the press, the annual tables compiled by the editors of *The Chronicle*, of New York, have been published, from which the following statements have been taken: —

Estimated Loss by Fire in the United States.

1876	$64,630,600
1877	68,265,800
1878	64,315,900
1879	77,703,700
1880	74,643,400
Five years' total	$349,559,400
Losses paid by insurance companies	$195,339,000
Assuming that this amount of losses constituted fifty per cent of the aggregate premium paid by the assured (a low estimate), we reach the sum of $349,559,400 of premiums of insurance paid in five years, on which an average of forty per cent expenses and taxes would be	156,271,200
Add the minimum estimate of the cost of sustaining fire departments for five years at $15,000,000 a year	75,000,000
Cost (direct and indirect) of fires that can be absolutely proved	$426,610,200
The difference between the estimate of the total loss ($349,559,400) by *The Chronicle* and the sum paid by insurance companies ($195,339,000) is	154,220,400
Total	$580,830,600

The uninsured loss is not ascertained with such absolute certainty as the loss that is insured, but great care is used by the editors of *The Chronicle* in compiling the facts; and the writer has used some other methods which satisfy him that their table is very nearly, if not absolutely, correct.

It will be observed, that, taking the basis of the average expense of conducting insurance companies at forty per cent of the premium (the estimate of the Massachusetts Insurance Commissioner some time ago, since which date the ratio of expense has increased), the collection of $195,000,000 of indemnity cost $156,000,000 of expenses.

The probable, or rather the almost certain, cost of fires to the people of the United States during five years, in which there has been no single great conflagration, has therefore been in each year	$116,000,000
The absolute cost of fires, fire departments, and insurance that can be absolutely proved, has been in each year	85,000,000

If the Chicago and Boston fires be averaged over the last twenty years, each of these sums will be increased by $10,000,000.

It may therefore be affirmed with absolute certainty, that the annual cost of fires to the people of the United States, direct and indirect, is over *one hundred million dollars a year.*

Not less than one-half of either sum could be saved if right methods of construction were adopted, such methods being in most cases less costly than those now practised, and provided reasonable care was applied to the methods of preventing loss by fire.

Who is responsible for this useless waste?

Some answer may perhaps be given to this question by a consideration of the subjects of loss.

Churches, school-houses, court-houses, almshouses, college buildings, custom-houses, asylums, and hospitals are usually planned by professional architects, and the method of construction is measurably under their control; eight hundred and eighty-one, burned in the last five years, are witnesses of their neglect to consider the simplest measures of safety.

Hotels are apt to come under the supervision of professional architects, and also constitute a class that should come within the scope of the building acts of cities. The frequent destruction of what are called "first-class" hotels in large cities marks the failure both of the constructors and of the statutes. Eighteen hundred and thirty-one have been destroyed in the last five years.

The increasing loss of buildings used for commercial purposes marks the hap-hazard methods of owners and builders alike.

A clew has lately been given to a remedy that may be applied to some of the worst dangers in cities. The owners and tenants of some badly constructed and dangerously occupied premises in Boston have lately been put "on trial by newspaper."

The attention of the editors of the Boston *Herald* was called to the danger of life in some of our city factories, and to the want of adequate fire-escapes in other places. With an independence worthy of all praise they caused these buildings to be surveyed by a thoroughly competent man, and then published a series of descriptive articles, giving the names of owners and tenants alike. This publicity worked a quicker remedy, in most cases, than the official inspection had compassed, and perhaps stimulated the officials to a little more zeal in their work.

If a careful and judicious public criticism and exposure of the dangers of combustible architecture as now commonly practised were made a department in some of the leading newspapers, — the names of owners, architects and builders being given in each case, supplemented by an inquest in respect to the cause and course of each fire, with a suggestion of a suit for damages against owners and tenants where accidents had happened in consequence of negligence, — a great improvement would probably be secured in a very short time.

Having given the reasons why a mutual *liability* insurance company may not be prudently established to cover the miscellaneous and concentrated risks of the commercial districts of cities, we may now submit our views as to the cases in which this system may be applied.

It will be observed, that the risks covered by the Factory Mutuals consist mainly of textile factories, print-works, bleacheries, machine-shops, belt-factories, and other affiliated risks. Fine paper-mills, and some classes of metal-work, and a few other kinds of property, have been admitted, but all are of like kind; that is to say, the same measures of precaution and prevention apply to all, and the same rules of order, cleanliness and discipline may be maintained. Application for the insurance of risks of a different class, although often of a kind that ought to have the benefit of the mutual system, are absolutely declined. Neither are any risks taken beyond a radius of about four hundred miles from the office of the company, because of the time and cost of inspection that would ensue.

It is therefore suggested that combinations might be made in such lines as flour-mills and elevators with their affiliated risks. It is hardly to be doubted for a moment, that, had flour-mills been subject to the supervision of a competent mutual company whose executive officers understood their business, the whole subject of explosions would have been comprehended, and the adequate remedy applied, long since.

Tanneries and currying establishments offer another field. They have a bad name as fire risks; but the danger in them is one that it would be perfectly easy to guard against.

Wood-working is not in its nature one-half as hazardous as cotton-spinning, and could be covered by a mutual system of prevention of fire and of loss, with indemnity as the second purpose, at less cost than textile factories can be, if the owners of the property were willing to make the first outlay.

Agricultural implement factories and the like offer an excellent field for a mutual combination, such as is beginning in some of the Western States.

In the work of the distribution of merchandise, risks of a like kind are subject to a like hazard, and mutual combinations could be made for mutual protection; for instance, hardware, crockery and glassware, paints, oils and drugs could be severally combined in mutual associations: the more hazardous the class, the more need of the mutual prevention of fire, and reduction of the price of indemnity to the cost of supervision and the minimum of loss.

Finally, I name another class of hazardous risks, that might be combined in a grand mutual company, — a class that is never concentrated, but each example stands detached, and is rarely exposed to another risk of the same kind. I name this class with hesitation, fully aware, that, in proposing such a combination, I shall be charged

with Utopian ideas, and that a doubt will be thrown upon every proposition yet made; to wit, —

CHURCHES.

From January 1, 1876, to December 31, 1880, there were burned in the United States three hundred and sixty-six churches, an average of more than one for every Sunday service in that period; and when a church ignites, the loss is usually almost total.

If it were possible for religious societies to adopt a mutual system of preventing loss by fire in the material structures that they build, the work of the combustible architect would be much restricted.

If this class should be combined, it would be essential that the premium should be high enough to make the risk of an assessment very remote, in order to provide against the difficulty of collecting, which might perhaps occur.

If the mutual underwriter could be delegated to take charge of this department of the prudential work of a parish; an element of order and method would be brought in, that is usually conspicuous for its absence in the work of a congregation.

School-houses, libraries, college buildings, court-houses, custom-houses, asylums, hospitals, and almshouses offer another field for the mutual underwriter, by whose work not only might property but life be saved from loss. Five hundred and fifteen of these structures, burned in the five years previously named, are witnesses of success in the practice of combustible architecture.

We also burn one hotel for every week-day in the year, one thousand eight hundred and thirty-one in five years; but it may take more talent to prevent fires in this class than it does to "keep a hotel," and this class may, perhaps, not be safely counted as within the scope of mutual prevention of loss.

I have been aided in the compilation of the facts contained in this appendix by several friends who are engaged in the business of stock-underwriting, who take a pride in their profession, and desire to see it established upon a firmer foundation than it now is.

EDWARD ATKINSON.

BOSTON, February 28, 1881.

GRAMMARS OF ARCHITECTURE.

ST. LOUIS, April 8, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Sirs, — In your valuable and interesting comments on the designs submitted in the second competition for interior decoration certain features are pronounced "*ungrammatical and incorrect*," "*illiterate*," "*wanting in a sense of proportion.*" The "*absence of proper proportions between horizontal divisions of wall surface*" is remarked, also a "*fatal concession to vernacular vulgarity*," and you say that "*the style demands great beams for the ceiling.*"

If a person is in doubt about a question of syntax or prosody, he can easily find a text-book which will set him right. I think it would be a valuable service to your architectural readers if you would kindly state where they may find one or more recognized and authoritative compendiums of the canons of grammar, proportion and style in architecture: something to which they can refer in all cases of doubt, precisely as they would use their English grammars in respect to the laws of language. So far as my own observation goes, the architect who will avoid illiteracy, and escape lapses, at times, into vernacular commonplace, must collect, collate and digest for himself as best he may, from the multitude of architectural criticisms in books and professional papers, the principles which are to guide him.

Very respectfully, C. E. ILLSLEY.

If it were possible to formulate canons of architectural grammar, proportion and style for ready reference, as our correspondent suggests, architecture would not be a fine art, but a positive science. Architecture is like civil engineering in so far as it recognizes the limitations of convenient, practicable and economical construction. It is unlike civil engineering in the fact that its especial function is to give a significant characteristic of grace and fitness to the forms developed within such limitations. When this characteristic exists in a building, it becomes a work of architecture. Our fathers would have said that a body of rules and formulas sufficient to enable any intelligent mind to confer such a character upon a design might be found in any good book on the four orders of architecture. Indeed, the carpenters of the early part of the century managed to keep their work reasonably grammatical by the mere observance of the rules of the orders; and the architect of to-day cannot have a better or safer basis of action than a thorough familiarity with and respect for these neglected formulas. In the late competitions the absence of such familiarity and respect was only too evident in half of the designs submitted. A feverish desire to do new and surprising things, without the necessary knowledge of the primary conditions of architectural form, betrayed many of the competitors into those expressions of illiteracy and vulgarity of which the judges in the late competition had reason to complain. "We should do as the Greeks did," says M. Viollet-le-Duc, in his admirable sixth chapter of the Discourses on Architecture; "they invented nothing, but they transformed everything." We do not, of course, mean to assert that all architectural compositions must rest upon the proportions and dispositions of the classic orders. The uneducated mechanics who built our old colonial mansions accepted these orders literally and exactly, and were kept in a safe path by them. The architect of to-day, with a far wider field of design before him and with a far more extended scope of duty, observes and respects the Greek traditions in a different spirit. After he has used them to train and exercise his mind and eye, he becomes capable, by virtue of such training, of entering more freely into the rich treasury of architectural forms in other styles, and of using them with intelligence and discretion, like a gentleman and a scholar. His aim is not to invent new words and new forms of expression, like an uneducated enthusiast, but to say what he has to say with an evident reserve of force and knowledge, and to adorn what he has to say with the elegance and refinement of a man of cultivation and taste. A lapse of such reserve and refinement betrays a point of weakness in his professional education. Attempts have been made to formulate mediæval architecture in the same manner that Palladio and Vignola and the rest of the masters of the fifteenth century formulated the Greek orders; but these attempts have failed, because the style could not submit its essential characteristics to be so epitomized. The more or less arbitrary classifications of the Norman, Early English, Decorated and Perpendicular Gothic of England, only succeeded in creating a spirit of archæological correctness in the practitioners of twenty or thirty years ago — a spirit containing little if any impulse of true art.

In a word, there is no royal road to architectural knowledge, or to any other knowledge. There is nothing to take the place of training, observation, and experience. No man can be a good blacksmith, lawyer, doctor, writer, or artist, without long, patient, and modest service. There is no encyclopædia or compendium at hand capable of making a man an architect. Let him study good buildings and try to learn why they are good. Let him not be ashamed to imitate them, and let him be content if he only succeeds in improving, however slightly, upon his models. This is the way to develop style.

These remarks may perhaps be accepted as a response also to the correspondent "X" from Cleveland, O., whose note, printed in the number of April 16, implies that the criticisms on the last competition seemed to be based on a misconception of the proper use of the classic orders in interior decorations. The aim of the criticisms has been to show that the Greek orders furnish, not the only school perhaps, but the best and most convenient school for the training of the eye into a due respect for the significance and value of architectural form proportion, and detail. Without some such training all efforts at design must result in vulgarity and illiteracy. The highest aim of the designer is neither imitation nor invention but transformation, development, — respect for traditions, not servitude to them. — THE JUDGES.]

FENESTRATION OF SCHOOL-HOUSES.

PITTSBURGH, April 8, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT: —

Sirs, — Will you please let me know through your paper the title of the best book, and latest, on Fenestration of School-Houses; and whether anything on it has appeared in your columns, and if so the date of the same. An answer to the above will greatly oblige

ONE OF YOUR SUBSCRIBERS.

[ONE of the "Circulars of Information," issued by the Bureau of Education at Washington is devoted to the subject "Rural School Architecture." The section of this report, devoted to the lighting of school-houses, was published in the *American Architect* for January 3, 1880. In the same year, in the issue for December 4 will be found the ministerial decree of the French Government, relating to the construction of school-houses. The *Building News* published an article on "Scientific Fenestration" some time ago which was republished in the *American Architect* for January 29, 1881. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS.

THE STRIKES IN CINCINNATI. — The strikes still continue to be the absorbing topic in the building world. The strike of the carpenters has assumed larger proportions than was first expected. There are very few men at work in any of the shops, and it seems as though the men will gain their point. They demand a raise from $1.75 and $2.00 to $2.00 and $2.50, and the bosses offer to compromise at $2.25; this, however, the men have so far refused, and the war is still raging. Building operations have practically stopped. The freestone masons still hold out, and it seems as if there were no immediate prospect of any accommodation between the parties. The limestone masons demand an advance, but are at present still at work. The strike on Thursday night extended to the street-car conductors and drivers, and to-day 800 of these are out of employment, and no cars are running, except on two lines that are not in the "consolidation" and pay better prices. Street-car men have to work 16 hours a day, the conductors receiving $1.75 and the drivers $1.50 per day, and no time for dinner or supper. The strike is for 50 cents advance to all hands. The sympathy of the community seems to be with the street-car employees.

THE ABSORPTIVE POWER OF CHARCOAL. — Among the numerous and varied properties possessed by charcoal there is one — one, too, of the most wonderful — which does not seem to be adequately recognized, probably from its being imperfectly known except to physicists. It is that of being able to condense and store away in its pores many times its own bulk of certain gaseous bodies, which it retains, thus compressed, in an otherwise unaltered condition, and from which they can be withdrawn, as required, as from a reservoir. That eminent scientist, M. Saussure, undertook the task of a systematic examination of this subject, with a result which will prove surprising to the general reader. Operating with blocks of fine boxwood charcoal, freshly burnt, he found that by simply placing such blocks in contact with certain gases they absorbed them in the following proportion: —

	Volumes.		*Volumes.*
Ammonia	90.00	Carbonic oxide	9.42
Hydrochloric acid gas	85.00	Oxygen	9.25
Sulphurous acid	65.00	Nitrogen	6.50
Sulphuretted hydrogen	55.00	Carburetted hydrogen	5.00
Nitrous oxide (laughing-gas)	40.00	Hydrogen	1.75
Carbonic acid	35.00		

It is this enormous absorptive power that renders of so much value a comparatively slight sprinkling of charcoal over dead animal matter as a preventive of the escape of the odors arising from decomposition. A dead dog having been placed in a box in a warm laboratory of an eminent chemist, and covered with charcoal to the depth of between two and three inches, could not be discovered to have emitted any smell during several months, after which time an examination showed that nothing of the animal remained but the bones and a small portion of the skin. To the large excess of oxygen over the nitrogen in the atmosphere, which, according to the above table, was absorbed by the charcoal, and which thus rendered harmless the noxious vapors given off by the carcass as they were being absorbed, is doubtless owing to the fact above stated, and the further fact of the charcoal never becoming saturated. — *The Scientific American.*

BUILDING INTELLIGENCE.

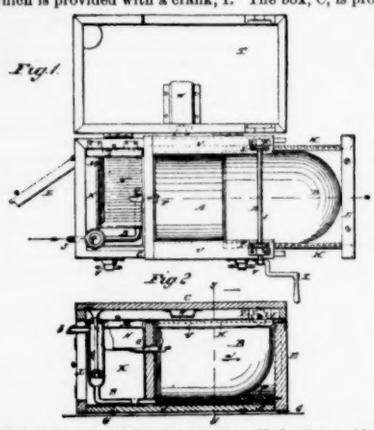
[Reported for The American Architect and Building News].

[*Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.*]

BUILDING PATENTS.

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

237,196. EXTENSION BATH-TUB. — Rafael Martinez and John Petry, New York, N. Y. The invention consists of a bath-tub, with an extensible part, which can be drawn out to lengthen the tub, and pushed back when the tub is not in use, and with a pump for pumping the water from a tub into a bucket for removing it. The bath-tub consists of two sections, — A, rigidly attached to the inside of a box, C, provided with a lid, T, and B, attached to the movable end, E, of the same box, and fitted exactly into the section, A, so that it can slide forward and backward in it. The box, C, is supported by rollers, and the moving end, E, of the same is likewise supported by such rollers. The upper end of the movable section, B, is provided with a rack and two pinions, mounted on a transverse shaft, J, which is provided with a crank, I. The box, C, is pro-



vided with a special compartment, K, having a side-door, L, and a lid, M, and contains a shelf, N, for soap, brushes, and similar articles, the drip-water from which being conducted into the tub through the tube, O. The compartment, K, also contains a pump, Q, connected with the rigid section of the tub by means of a tube, R, for the purpose of pumping the water from the section, A, into a bucket. The buckets for conveying the water to and from the tub may be stored in the compartment, K. When not in use the bath-tub is in the position shown in Fig. 2. When water is poured into the tub, the packing, F, will effectually prevent any leakage.

239,917. BRICK-MACHINE. — Henry C. Barker, Sedalia, Mo.

239,921. FIRE-ESCAPE LADDER. — Henry C. Bender, Montgomeryville, Pa.

239,940. MEANS OF DISPOSING OF SEWER-GAS IN BUILDINGS. — Wm. M. Dee, Chicago, Ill.

239,951. PLASTIC COMPOSITION FROM PAPER PULP FOR FLOORS, BRAKE-SHOES, JOURNALS, ETC. — Wm. M. Graze, Logansport, Ind.

240,024. BURGLAR-ALARM. — Henry Holcroft, Media, Pa.

240,048. MACHINE FOR SAWING SHINGLES. — Henry F. Snyder, Williamsport, Pa.

240,067. PIPE-TONGS. — Deloss Worden, Oil City, Pa.

240,076. SPOKESHAVE. — Louis Bauer, San Francisco, Cal.

240,105. PAINT-BURNER. — William Easterbrook, Philadelphia, Pa.

240,140. PLATE FOR SIDEWALKS, ROOFS, ETC. — Jacob Jacobs, New York, N. Y.

240,146. SINK. — James Kilbourne, Columbus, Ohio.

240,162. FIRE-ESCAPE. — Jno. A. Moore and Jas. W. Brown, Woodville, Tenn.

240,167. WINDOW-GUARD. — George New, Cincinnati, Ohio.

240,171. SPRING SHADE-ROLLER. — Waterman L. Ormsby, Brooklyn, N. Y.

240,191. SPRING CURTAIN-ROLLER. — Chas. T. Segar, Utica, N. Y.

240,193. SAFETY DEVICE FOR ELEVATORS. — Sumner Shaw, Boston, Mass.

240,203. COMBINED DOOR-BELL AND ALARM. — Michael Truley, Elkhart, Ind.

9,649. (Reissue.) MACHINE FOR MANUFACTURING LEAD TRAPS. — Frederick N. Du Bois, New York, N. Y.

9,657. (Reissue.) SAW. — C. W. Hubbard, Pittsburgh, Pa.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS. — Since my last report 73 building permits have been issued, of which the following are worthy of note: —

John Fox, 9 three-st'y brick buildings, n w cor. Druid Hill Ave. and Presstman St.

First Presbyterian Church, three-st'y brick building, n w cor. Park Ave. and Madison St.

H. Rieman & Son, four-st'y brick warehouse, Howard St., bet. German and Lombard Sts.

Jos. H. Rieman, three-st'y brick warehouse, Clay St., bet. Park and Howard Sts.

W. A. Stork, three-st'y brick building, s w cor. Wilson St. and Morris Alley.

Jos. Turner, 7 three-st'y brick buildings, s e cor. Druid Hill Ave. and Laurens St.

Catherine Murray, 2 three-st'y brick buildings, Howard St., bet. Richmond and Park Ave.

B. F. Smith, 11 two-st'y brick buildings, commencing s w cor. of Hall and Clement Sts.

Seevers & Anderson, four-st'y brick building, President St., bet. Stile and Fawn Sts.

Thos. Blades, 2 three-st'y brick buildings, Caroline St., bet. Pratt and Lombard Sts.

George W. Hopper, 6 three-st'y brick buildings, commencing s w cor. Poppleton and Pierce Sts.

Theodore Limbach, three-st'y brick building, Sharp St., bet. Cross and Hamburg Sts.

Rudolph Henchen, three-st'y brick building, Sharp St., bet. Cross and Hamburg Sts.

Wm. Burkhardt, three-st'y brick building, s e cor. Fayette and Caroline Sts.

Valentine Kohlipp, three-st'y brick building, Central Ave., bet. Hoffman and Oliver Sts.

Adam Arnold, 2 three-st'y brick buildings, s w cor. Eutaw and Montgomery Sts.

Dr. W. P. Morgan, three-st'y brick building, Monument St., near Eutaw.

A. Gottschalk, four-st'y brick warehouse, Balderston St., near Light.

Samuel G. Wyman, 2 three-st'y brick buildings, Eager St., bet. Cathedral St. and Park Ave.

Samuel G. Wyman, 8 four-st'y brick buildings, Park Ave., bet. Eager and Tyson Sts.

Samuel G. Wyman, three-st'y brick building, Park Ave., bet. Eager and Tyson Sts.

Samuel G. Wyman, 3 three-st'y brick buildings, Park Ave., near Tyson St.

J. S. McGrath, three-st'y brick packing-house Alice Ann St., near Boston.

Alonzo L. Thomson, three-st'y brick building, Winder St., bet. Rice and Leadenhall Sts.

WAREHOUSES. — Mr. Chas. L. Carson is preparing drawings for a new warehouse to be built on s w cor. of Light and Baltimore Sts., for Messrs. Steinfield, Kerngood & Co., to be of brick with stone and terra-cotta finish; cost about $60,000.

Messrs. Robert Garrett & Sons, bankers, have purchased the property on the n w cor. of North and Baltimore Sts., the property has a front of 41 feet on Baltimore St., 209′ 6″ on North St., and 40 feet on Fayette St., on which they propose to erect a large building.

Mr. Chas. L. Carson is preparing drawings for a new warehouse to be erected on Baltimore St., for Mr. F. A. Lutz, to be 17′ x 116′, four-st'y high, of brick with stone and terra-cotta finish; cost, $12,000.

DWELLINGS. — Gen. J. L. Donaldson is building a dwelling on the s e cor. St. Paul and John Sts., 25′ x 69′, two-st'y, both fronts of the building will be faced with Baltimore County marble; cost about $20,000; Messrs. Henry Smith & Son, contractors.

Mr. Saml. G. Wyman is about to build three dwellings on Park Ave., between Tyson and Howard Sts., having a frontage of 97 feet, to be three-st'y high, of pressed brick with stone and terra-cotta finish. Just opposite these, on Park Ave., 10 four-st'y dwellings, similar in style and finish will be erected.

Boston.

BUILDING PERMITS. — *Wood.* — *Farnham St.*, near Gerard St., for G. W. & F. Smith, storage, 24′ x 40′; N. S. Wilbur & Son, builders.

Everett St., near Elm St., for Rufus Gibbs, dwell., 22′ 6″ x 32′, two stories; Henry P. Oakman, builder.

Monument St., near Bunker Hill St., for Michael Kelley, stable, 30′ x 46′, two stories.

Alden Place, off Green St., for Samuel Jackson, dwell., 23′ x 30′, two stories; Jos. P. Shaw, builder.

Willow St., near Centre St., for Henry Frieze, dwell., 20′ x 28′, two stories, pitch; Geo. A. Spear, builder.

Gaston St., near Warren St., for Osgood Fifield, 2 dwells., 29′ x 32′, two stories, L 18′ 6″ x 21′; Osgood Fifield, builder.

Collins St., near Blue Hill Ave., for Emilie D. Blaisdell, dwell., 30′ x 34′; John W. Blaisdell, builder.

White St., cor. Woodman Ave., for James Mahon, dwell., 24′ x 34′, two stories.

No. 43 *Sullivan St.*, for Walter S. Redding, dwell., 18′ 6″ x 33′, three stories; Geo. M. Starbird, builder.

Wesley St., for Walter S. Redding, dwell., 20′ x 26′, three stories; Geo. M. Starbird, builder.

Brick. — *No.* 279 *Beacon St.*, for Chas. W. Freeland, dwell., 29′ x 51′ 6″, three stories; I. & H. M. Harmon, builders.

No. 281 *Beacon St.*, for Chas. W. Freeland, dwell., 24′ x 61′, three stories; I. & H. M. Harmon, builders.

Adams St., near Dochester Ave., for Henry L. Pierce, warehouse, 41′ x 100′, three stories; Frederick L. Pierce, builder.

Nos. 151 *and* 153 *Broad St.*, for E. B. Badger, restaurant, 21′ x 40′; David H. Jacobs & Son, builders.

Farnham St. for Globe Chemical Co., office, 20′ x 30′; Thomas Kyle, builder.

Columbus Ave., near Berkeley St., for Estate of John Simmons, factory, 44′ x 60′, four stories, L 40′ x 44′; David Connery & Co., builders.

Columbus Ave., for Henry Whatewell, dwell., 26′ 58′, three stories; Kerning & Fellows, builders.

HOTEL. — Three stories are to be added to the Tremont House, and it is to be otherwise enlarged.

Brooklyn.

BUILDING PERMITS. — *Carlton Ave.*, e s, 100′ n Greene Ave., three-st'y brownstone dwell.; cost, $6,000; owner, Edmond McLoughlin, Bedford Ave., cor. Ross St.; architect, etc., P. Concannon; builder, Chas. Collins.

Atlantic St., s w cor. Emmett St., 3 four-st'y brick tenements; owner, Henrietta Martin, No. 5 East Thirty-Fifth St., New York; architect, A. Hill.

Eighth Ave., w s, 22′ s Lincoln Place, 2 three-st'y brownstone dwells.; cost, each $15,000; owner, J. Doherty, 280 Flatbush Ave.

Eighth Ave., s w cor. Lincoln Place, three-st'y brownstone dwell.; cost, $16,000; owner and architect, J. Doherty, 280 Flatbush Ave.

Carrol St., s s, 125′ w Court St., 6 three-st'y brownstone dwells.; cost, each $5,000; owner, Jas. B. Ogden, 204 Carroll St.; architect, Geo. Lowden; builder, J. D. Anderson.

St. James Place, w s, 95′ 11″ n Atlantic Ave., 4 three-st'y brownstone dwells.; cost, each $6,000; owner, Thos. Fisher, Myrtle Ave., n e cor. Spencer St.; architect, R. Dixon; builder, W. Stafford.

Monroe St., *Nos.* 209 *and* 301, being 420′ from n w cor. Tompkins Ave., 2 two-st'y brownstone dwells.; cost, each $4,500; owner, architect and builder, David Weild, 358 Gates Ave.

Chicago.

BUILDING PERMITS. — Charles Schwartz, three-st'y brick store and dwell., 25′ x 55′, 153 Halsted St.; cost, $4,900.

Mrs. Clark, two-st'y brick dwell., 24′ x 45′, 127 Lytle St.; cost, $3,000.

Glennon & Bee, one-st'y brick shop, 50′ x 134′, 62 and 64 Fulton St.; cost, $7,000.

M. Parmalee, three-st'y brick store and dwell., 22′ x 70′, 14 North Clark St.; cost, $4,000.

Emily Fabian, 3 two-st'y brick dwells., 45′ x 50′, 343 North Wells St.; cost, $10,000.

J. & W. Mulviel, two-st'y brick store and dwell., 25′ x 50′, State and Thirtieth Sts.; cost, $3,000.

Eliza Potter, four-st'y brick stores and dwells., 49′ x 70′, 718 and 720 West Madison St.; cost, $16,000.

H. Grey, three-st'y brick tannery, 41′ x 116′, Halsted St., near north branch; cost, $11,000.

E. B. Sheldon, 5 three-st'y dwells., 20′ x 36′, 22 to 26 Lincoln Ave.; cost, $19,000.

Cincinnati.

BUILDING PERMITS. — Since our last report the following permits have been issued: —

Daniel Stickney, two-st'y frame, Wheeler St., near McMillan St.; cost, $2,500.

Cincinnati Coffin Co., six-st'y brick factory, n w cor. Fillmore and Richmond Sts.; cost, $15,000.

Louis Ballauf, two-st'y brick, Ingleside Place; cost, $6,000.

Brush Electric Light Co., three-st'y brick, 317 Plum St.; cost, $3,000.

F. J. Jacobs, three-st'y brick, Bremen St., between Elder and Findlay Sts.; cost, $3,000.

Geo. L. Rouse, two-st'y brick, n w cor. May and Crown Sts.; cost, $5,000.

BUILDERS' EXCHANGE. — At the recent annual meeting of the Builders' Exchange of Cincinnati, the following officers were elected for the ensuing year: President, J. Milton Blair; First Vice-President, T. E. Levezey; Second Vice-President, S. L. Snodgrass; Secretary, M. B. Farrin; Treasurer, W. Schuberth. Board of Directors: H. E. Holtzinger, Geo. B. Hawley, M. B. Farrin, Thos. H. Curry, E. P. Ranson, W. H. Stewart, Jr., Chas. Crapsey, E. Zimmerman, J. C. Harwood, W. Schuberth.

New York.

BUILDING PERMITS. — *One Hundred and Twenty-Eighth St.*, s s, 410′ w Fifth Ave., four-st'y brick and brownstone tenement; cost, $17,000; owner, Cowan Keyes, 116 East One Hundred and Twenty-Sixth St.; architect, T. S. Goodwin.

Jane St., s s, 50′ e West St., two-st'y brick factory; cost, $6,000; owner, John Gray, 37 Dey St.; architect, M. Thomas; builder, S. J. Acken.

Forty-Third St., *No.* 347 w, five-st'y brick tenement; cost, $10,000; owner, Wm. Rankin, on premises; architect, C. W. Romeyn.

Seventy-Third St., n s, 100′ e Tenth Ave., 6 four-st'y brownstone dwells.; cost, each $18,000; owner and builder, G. W. Hamilton, 309 West Fourteenth St.; architect, J. H. Valentine.

One Hundred and Thirty-Second St., n s, One Hundred and Thirty-Third St., s s, 100′ e Eighth Ave., 6 three-st'y brownstone dwells.; cost, each $10,000; owner, Robert Lindsy, 2325 First Ave.; architect, J. H. Valentine; builder, J. Hutcheson.

Sixtieth St., *Nos.* 278 *and* 280, 2 four-st'y brick tenements; cost, $9,000; owner and builder, Robert Stone, 124 West Fifty-Fourth St.; architect, J. H. Valentine.

Division St., *No.* 197, five-st'y brick stores and tenements; cost, each $8,000; owner, Edward Smith, 154 Greenwich St.; architect, Julius Boekell.

South Washington Square, *No.* 44, five-st'y brick flat; cost, $10,000; owner, Jas. Donaldson, 235 Bowery; architect, Wm. Graul.

Sixty-Eighth St., s s, 210′ e Third Ave., three st'y brownstone dwell.; cost, $7,000; owner, John D. Crimmins, 1037 Third Ave.; architects, D. & J. Jardine.

Fifty-Ninth St., *No.* 71 w, two-st'y brick stable; cost, $15,000; lessee, W. P. Anderson, 75 East Fifty-Fourth St.; builders, A. A. Andruss & Son.

Henry St., *No.* 99, five-st'y brick bakery and tenement; cost, $6,000; owner, Joseph Huber, 111 East Broadway; architect, F. Jeuth.

Wall St., *No.* 67, seven-st'y marble office and dwell. building; cost, $75,000; owner, Henry Parish, trustee, 52 Wall St.; architect, D. Lienau; builders, B. Blackledge and Dixon & Riker.

Seventy-Seventh St., s s, between Lexington and Fourth Aves., two-st'y brick hospital; cost, $60,000; owner, German Hospital, on premises; architect, William Schickel; builders, M. Eidlitz and Grissler & Fausel.

Sixty-Third St., n s, 325′ e Second Ave., three-st'y brick convent; cost, $60,000; owners, The Dominican Sisters, 304 East Seventy-Eighth St.; architect, W. Schickel; builders, T. Kiernan and Grissler & Fausel.

Fifth Ave., s e cor. Ninety-Third St., three-st'y brick and stone dwell.; cost, $9,000; owner, Jacob Ruppert, 1639 Third Ave.; architect, Wm. Schickel; builder, J. Weber.

Fifth Ave., n e cor. Sixty-Eighth St., three-st'y brownstone dwell.; cost, $350,000; owner, Robert L. Stuart, 154 Fifth Ave.; architect, W. Schickel; builder, M. Eidlitz.

One Hundred and Twenty-Second St., n s, 330′ e Third Ave., 2 four-st'y brownstone tenements; cost,

(*Continued on next page.*)

Publishers' Department.

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RENDLE'S SYSTEM OF GLAZING.

We have often wondered that more English manufacturers of building appliances did not establish agencies in this country. We have even gone the length of writing to some who dealt in articles or materials which had no parallels in this country, and for the sake of our own architects and builders have suggested to them that they should make an endeavor to introduce their goods into this country. We do not know that we ever wrote to the patentees of the Rendle System of Glazing, but we are as pleased to find that they have established agencies in New York, Chicago, and Toronto, as if they had done so in compliance with a suggestion of ours. This system of glazing has been mentioned more than once in this journal, and we took advantage of an American patent issuing to the inventor to give a full description of the system in our column of Building Patents. The New York agency is under the personal supervision of Mr. A. E. Rendle, at 7 Warren St.

BUILDING INTELLIGENCE.

each $10,000; owner, C. L. M. K. Yost, 2394 Second Ave.; builder, A. Yost.

Eleventh Ave., n e cor. Eighteenth St., 2 buildings, one being three-st'y brick dwell., and one two-st'y brick stable, 28' x 75', gravel roofs; cost, each $6,000; owner, Horace Howser, 69 Horatio St.; builder, R. L. Darragh.

Tenth St., No. 469 e, three-st'y brick saw-mill; cost, $9,000; owner, Wm. E. Uptegrove, on premises; architect, W. Jose; builder, R. Shapter.

Wall St., No. 89, *and Nos.* 89 *and* 91 *Beaver St.*, seven-st'y marble offices and dwell.; cost, $125,000; owner, John T. Johnston, 8 Fifth Ave.; architect, Jas. Renwick; builders, S. Lowden and A. Gibbins.

Twenty-Eighth St., Nos. 351, 353, 355 *and* 357 w, 4 four-st'y brownstone dwells.; cost, each $9,500; owner, S. Hamilton, Jr., 2 East Fifteenth St.; masons, W. A. & F. E. Conover.

Twenty-Ninth St., Nos. 362, 364, *and* 366, 3 four-st'y brownstone dwells.; cost, each $9,500; owner, R. R. Hamilton, Racquet Club, Sixth Ave. and Twenty-Sixth St.; architect, S. Hamilton, Jr.; masons, W. A. & F. E. Conover.

Forty-Eighth St., n w, cor. Lexington Ave., three-st'y brick stable: cost, $100,000; owners, American Express Co., 65 Broadway; architect, P. B. Wight; builders, W. C. Hanna and W. H. & C. Gedney; iron by Wallis Iron Works.

Forty-Ninth St., No. 142 e, four-st'y brownstone tenement; cost, $18,000; owner and mason, Geo. D. Hilyard, 144 East Forty-Ninth St.; architect, B. W. Berger.

Seventy-First St., n s, 45' e Lexington Ave., 2 four-st'y brownstone dwells.; cost, each $15,000; owners and builders, Breen & Nason, 341 West Fifty-Ninth St.

Seventieth St., s s, 160' w First Ave., 3 four-st'y brownstone apartment-houses; cost, each $16,500; owner, Thos. H. Walker, 117 East One Hundred and Fourth St.; architect, J. C. Burne.

First Ave., e s, from Sixty-Third to Sixty-Fourth Sts., 8 five-st'y brick tenements; cost, each $8,000; owner, Mrs. Minnie Braender, Ave. B, Eighty-Fourth to Eighty-Fifth St.; architect, W. Graul; builder, P. Braender.

Fifth Ave., No. 589, four-st'y brownstone dwell.; cost, $45,000; owner, John Noble; architect, J. G. Prague.

New Chambers St., n w cor. Batavia St., four-st'y brick store and tenement: cost, $23,000; owners, Trustees Roosevelt Hospital; architect, J. G. Prague.

Seventh Ave., s w cor. Fifty-Seventh St., seven-st'y freestone and brick apartment-house; cost, $200,000; owner, Wm. T. Croft, No. 5 East One Hundred and Twenty-Fifth St.; architect, J. G. Prague.

One Hundred and Twentieth St., n s, 165' w Fourth Ave., 4 four-st'y brick tenements; cost, each $12,000; owner, E. R. Gilbert, Coxsackie, N. Y.; architect, C. Baxter.

Lawrence St., n s, 31'10" w Tenth Ave., three-st'y engine-house; cost, $15,000; owner, City New York; architects, N. Le Brun & Son.

One Hundred and Sixty-Sixth St., n s, 100' e Washington Ave., three-st'y house for fire-truck; cost, $20,000; owner, City New York; architects, N. Le Brun & Son.

Leonard St., No. 33, and West Broadway, seven-st'y brick store; cost, about $18,000; owner, R. P. Messiter, 53 Leonard St.; architect, J. M. Slade; builders, W. G. Slade and J. C. Hoe & Co.

Eighty-Sixth St., s s, 228' e Ave. A, 3 four-st'y brick apartment-houses; cost, $15,500; owner, Emma J. Johnson, Grand St., Long Island City; architect, J. C. Burne; builder, J. Askey.

Eighty-Sixth St., s s, 312' e Ave. A, four-st'y brick apartment-house; cost, $11,000; owner, Emma J. Johnson, Grand St., Long Island City; architect, J. C. Burne; builder, J. Askey.

Fifty-Eighth St., s s, 125' e Seventh Ave., 5 four-st'y brownstone dwells.; cost, each $15,000; owners, Deane, Cauldwell & Jardine, 1262 Broadway; architects, D. & J. Jardine; builders, J. W. Hogencamp & Son.

Alterations. — *Fourth Ave., No.* 432, front rebuilt, interior altered, etc.; cost, $6,500; owner, Francis O'Neill, 1172 Broadway; architect, J. M. Dunn; builder, John Casey.

Second Ave., No. 9, *and* 293 *Bowery*, 3 one-st'y brick extensions; cost, $6,000; owner, John Stimmel, 1429 Second Ave.; architect, J. Kastner.

Thirty-Second St., No. 33 e, four-st'y brick extension; cost, $5,000; lessee and builder, Geo. Mulligan, on premises.

Thirty-Third St., No. 350 w, three-st'y brick extension, 15' x 35', tin roof; cost, $5,000; owner, Chas. Rohe, on premises; architects, Thom & Wilson; builders, J. Vix & Son.

Ninth Ave., n w cor. Thirty-First St., raise rear building one story, one-st'y brick extension, interior alterations, etc.; cost, $15,000; owner, Rev. A. J. Donnelly, 383 Ninth Ave.; architect, L. J. O'Conner.

Ave. A., No. 23, basement and first-story store fronts altered, new floors, stairs, etc.; cost, $4,800; owner, E. H. Schwartz, 23 Ave. A; architect, E. W. Greis; builders, P. Schaeffler and J. Schuhraft & Son.

Pine St., No. 56, interior and windows altered; cost, $4,000; owner, Augusta E. Breese, 35 East Twenty-Second St.; architect, J. L. Breese; builder, P. E. Reid.

Broadway, Nos. 44 *and* 46, *and* 45 *and* 47 *New St.*, raised three stories, iron fronts, etc.; cost, $60,000; owner, V. K. Stevenson, 115 Broadway; architects, D. & J. Jardine.

Warehouse. — Mr. John Correja is the architect of a nine-st'y brick building, 92' x 104', to be built on Rose St., for Geo. Munroe.

Library. — Union Theological Seminary is about to build a library and other buildings on its site at Park and Madison Aves., and Sixty-ninth and Seventieth Sts.

Convent. — A Convent of Our Lady of the Rosary is to be built on East Sixty-third St., between First and Second Aves. It will be of brick, three stories high, 40' x 100', and will cost $60,000; Mr. Wm. Schickel, architect.

Hospital. — The Trustees of the German Hospital have filed plans for a new hospital, to cost $60,000, which is to be built on the north side of East Seventy-seventh St., between Lexington and Fourth Aves. It will be of brick and stone, two stories high; Mr. Wm. Schickel, architect.

Houses. — Six dwells., to cost in the aggregate a million and a half, will be erected this year on Fifth Ave., to be occupied by N. O. G. Armour, Robert L. Stuart, J. R. Morgan, and others.

Stores. — A first-class store is to be built on the n w cor. of Spring and Greene Sts., by John B. Snook, architect; cost, $30,000.

On East Fourteenth St., a store, about 25' x 80', of brick and stone, is to be built from designs of Mr. Jas. Renwick.

Office-Buildings. — For Wm. H. Vanderbilt an office-building is to be built on the cor. of Ann and Nassau Sts., from designs of Mr. J. B. Snook.

For Mr. Marquand, on the site of Rudolph's restaurant, a building is to be erected. Mr. R. M. Hunt is the architect.

Work in Hand. — The amount of building already contracted for is unprecedented. On all the up-town streets work is actively progressing. There is perhaps, not such a large excess in speculative building, but it is more in handsome residences, and high-class stores and office-buildings.

Philadelphia.

Building Permits. — *Hope St.*, between Norris and Diamond Sts., 4 two-st'y dwells., 14' x 26'; E. Schmidt.

Haverford St., three-st'y dwell., 16' x 64'; Wm. Bunch, Jr., contractor.

Tenth St., s, *No.* 1171, three-st'y dwell., 15' x 50; Samuel Elliott, contractor.

Tiernan St., between Federal and Wharton Sts., 2 two-st'y dwells., 16' x 45'; Jas. Sneden, owner.

Richmond St., No. 1366, two-st'y store and dwell., 16' x 30'; A. McClay, contractor.

Twenty-Second St., s Walnut St., 2 three-st'y hospitals, 22' x 64'; O. Bradin & Son, contractors.

Meadow St., e Lesher St., 2 two-st'y dwells., 14' x 48'; E. K. Welsh, contractor.

Wakefield St., between Bringhurst and Penn. Sts., three-st'y dwell., 18' x 46; J. D. Caldwell.

Duval St., w Main St., two-st'y dwell., 17' x 45'; Geo. Hearst, contractor.

Cumberland St., between Trenton Ave. and Sepviva St., 2 three-st'y dwells., 18' x 57'; E. V. McCauley.

Broad St., n Cumberland St., 5 three-st'y dwells., 16' x 40'; Jas. M. Pattison, owner.

Hamilton St., No. 2503, three-st'y dwell., 18' x 42'; Jas. M. Pattison, contractor.

Allen St., w Marlboro St., 6 three-st'y dwells., 15' x 34'; W. Bartholomew.

Cor. Hope and Diamond Sts., 3 three-st'y dwells., 18' x 48'; W. Bartholomew.

Somerset St., between Helen and Emerald Sts., 11 two-st'y dwells., 14' x 36'; Jno. Cairns, contractor.

Kirkbride and Salmon Sts., three-st'y store and dwell., 20' x 46'; A. W. Linn, contractor.

Alder St., s Diamond St., three-st'y factory and store-house, 42' x 47'; W. T. B. Roberts.

Green St., e Twenty-Fourth St., two-st'y schoolhouse, 60' x 112'; E. F. Durang, architect.

Mill St., near Cedar St., five-st'y hospital, 88' x 92'; E. F. Durang, architect.

Ellsworth St., e Twenty-Fifth St., one-st'y foundry, 50' x 72'; W. Wharton, Jr., owner.

Front St., s Oxford St., three-st'y dye-house and store-house, 40' x 144'; Benj. Ketcham & Son, contractors.

Shackamaxon St., No. 1112, three-st'y dwell., 20' x 58'; Geo. Mander, contractor.

(*Continued on next page.*)