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A SPECIAL meeting of the Archæological Institute of America was held in Boston a few days ago, to receive the report of Mr. Joseph T. Clarke, the chief of the Assos Expedition which successfully closed its labors on the field early in the summer. Unfortunately, Mr. Clarke, whose health remained perfect through all the trials of three years' work in Asia, had hardly reached his comfortable home in Boston, when he was prostrated by a severe attack of malarial fever, and at the time of the meeting was unable to leave his bed. In his absence, however, Professor Norton, the President of the Institute, and Professor Ware, of New York, who had himself just visited Assos, gave some account of the work which had been accomplished by the American party of young architects and amateurs. As now laid open, Assos presents the best existing example of an ancient Greek city, and its ruins have given invaluable information as to many points of ancient architecture and modes of life. Being a provincial town of no great importance, besides having been probably robbed by the Persians in revenge for their discomfiture at the hands of the European Greeks, Assos does not seem to have contained many works of art, and most of the sculptures secured by the expedition are from the archaic temple on the Acropolis of the city. A few marble heads of later date were, however, found, together with many terra-cotta figures, and a considerable number of coins not hitherto known. According to the agreement with the Turkish Government, many of the objects were necessarily left in the East, but enough were retained to fill forty or fifty cases, which are now on their way to this country. Among the contents of the boxes are fragments enough of the temple order to permit a complete order to be set up in the Museum of Fine Arts, which will be for the present the custodian of the property, and a complete account of the work of the expedition with careful illustrations, is now in course of preparation by Mr. Clarke, who will soon return to London, to avail himself of the collections of the British Museum in aid of his labors.

THE rather blundering attempt which was made by Congress last year to gain cheap votes by an enormous bounty upon the works of American artists, as distinguished from foreigners, seems likely to react unfavorably upon those who made it. Notwithstanding the manly protest of all respectable American artists living abroad, which gained for them the personal gratitude and approbation of their foreign rivals, the closing of the great American market to artists of other countries has materially reduced the income of many very worthy and talented people, who are quite justified in appealing to their more powerful fellow-citizens for relief from what they consider unjust exactions. Nothing touches a modern government so deeply as the pecuniary loss which its subjects suffer through the acts of foreigners, and the complaints of the French and Italian artists are sure to be heard and answered sooner or later. In France, the retaliation by which the Government of the United States is to be reminded of the injury inflicted by its absurd caprice upon inocent people will, it is said, perhaps take the form of the exclusion of Americans from those great schools of art which the French have, until now, taken so much pride in holding open to the whole world; and this step would certainly seem a moderate and reasonable one. In Italy, where the fine arts are perhaps more a matter of business, and less one of sentiment, than anywhere else, a half-official newspaper article indicates that in response to the appeal of a large number of native artists, an export duty is likely to be laid upon the works of American artists resident in Italy equivalent in amount to that imposed by the United States upon the import of foreign works. As this would saddle American artists in Italy with a load under which they could not compete with their brethren at home, the result would be to drive most of them immediately back to their own country, with their families. This might please the cheap patriots at Washington, but the effect upon the prosperity of the native artists who have stayed at home would be questionable, to say the least, while the returning exiles might experience no little distress in making the change. If this step should fail of producing the desired change in the United States customs laws, the Italian Government is said to have in mind the laying of prohibitory duties upon the importation of American products of another class, holding the same relation to the industry of the United States that artistic work does to that of Italy. Such a reprisal as this would involve many more innocent persons in the same misfortune that has befallen the Italian artists, and it is to be hoped that a happy adjustment of the dispute may be made as soon as possible.

THE subject of establishing a uniform standard of time throughout the United States, which has for some time been under discussion among engineers and others, is now on the point of acquiring a very general interest, through the movement which has been initiated for the adoption by railroads of the scheme prepared by a committee of the American Institute of Civil Engineers, and generally approved by scientific men. Under the arrangement proposed, the trains upon all railways which decide to adopt the new system will run by a schedule of time taken, not from the clocks of the particular town from which they start, but according to the mean solar time of places upon certain agreed meridians, which are taken at fifteen degrees apart, so that the solar time at each meridian will vary by exactly one hour from that of the standard meridians next on either side of it. In this way, the passengers over the long roads extending east and west, instead of finding their watches, from the hour of starting, hopelessly discordant either with local or railway time, and generally with both, will during each stage of seven or eight hundred miles travel, see all movement regulated by the same time as that shown by their watches, and on entering each succeeding stage, the minute hand of the watch will still accord exactly with the local time, variations being confined to the hour hand. Those who travel much, and who have suffered from the vexations incident to the maintenance, in most places, of two standards of time, one local and the other railway time, both being also generally different by an unknown quantity from that shown on the traveller's watch, will appreciate the relief which the new system, although presenting some astronomical anomalies, would afford in practice, and it is not surprising that the officers of railroads aggregating nearly sixty thousand miles in length should have promised their adhesion to the reform. If a considerable portion of the remaining lines should follow this example, the reformed time will be at once adopted, and it is probable that the local public and private clocks will in this case soon come into conformity with the railway system.

A CORRESPONDENT of the *Sanitary Engineer* asks for advice as to the best method of preventing annoyance from the rain of condensed water which falls continually in cold weather from the exhaust outlets of steam engines. In the business portion of many cities, during the winter, it is impossible for a lady to pass through the streets without having her clothes sprinkled, and often spoiled, by the fair-weather showers which she encounters beside every building furnished with an elevator or a high-pressure steam engine of any kind, and other persons besides ladies feel the annoyance in a greater or less degree. The remedy is so simple that it is a pity that its application should not be made compulsory everywhere, as it is in New York, where, notwithstanding a very general use of steam power in the business quarters, the exhaust showers are unknown. In that city no exhaust-pipe is allowed under any

circumstances to open directly into the atmosphere. Where cheapness is the first consideration the law against open exhausts is complied with by placing an inverted cylindrical receiver or "kettle" over the mouth of the exhaust-pipe, which projects just above the roof. The stream of mingled steam and water from the exhaust strikes the inside of the "kettle," and is there separated, the water attaching itself to the inner surface of the kettle, and dripping thence harmlessly upon the roof, while the light vapor, freed from its burden, passes off and is dissolved in the air. The use of these simple kettles, which cost but a few dollars, is open to the objection that the constant trickle of warm condensed water from them over the roof leads in time to the deterioration of the roofing material; and a better, but more expensive device is used in many cases, consisting of a closed kettle, standing on the roof, and having its cover perforated with two holes, one of which receives the exhaust-pipe, bent over and downward into it, while a short piece of straight pipe is inserted in the other. The exhaust-steam is freed from its suspended water in this kettle, in the same way as in the other, and passes out as light vapor through the short pipe in the cover, and a small drip-pipe leading from the bottom of the kettle conveys the condensed water into the nearest waste-pipe or rain-water leader.

ANOTHER question relating to the responsibility of architects is propounded in the last number of *La Semaine des Constructeurs*, and answered by the Secretary of the Committee on Jurisprudence. It appears that a certain proprietor employed an architect to design a storehouse for grain. The structure consisted of three stories, of which the lower was vaulted in stone, while the floor of the upper story was supported by two girders, extending across the whole widths of the building, but partially sustained in the middle of their pan by iron columns standing upon the vaulting below. After the girders were placed in position, and the iron columns set under them, a wooden floor was laid over the top of the vaulting, and fitted around the feet of the columns, and it was then discovered that the columns, as well as the girders which they supported, were out of level. The most obvious remedy for the mistake would have been to cut out one of the girders, and reset it at the proper level, but the proprietor was in a hurry to move into his building, and the architect, instead of ordering the error rectified, contented himself with raising the base of one of the columns an inch above the other, and inserting a plate an inch thick above a cap of the same column, so as to make up the two inches of difference in the distance of the girders from the floor. The proprietor made no objection to this compromise at the time, but when the bills came in, he notified the architect that he should hold him pecuniarily responsible for the consequences of his want of vigilance in failing to notice the difference of level in the girders before the columns were set.

THE referee to whom this claim was submitted, finding no precedent to aid him in rendering his decision, laid the case before the editor of *La Semaine*, and is answered by a recapitulation of the duties and responsibilities of architects, according to the *Code Civil*, followed by an application of the rules of the *Code* to the case under consideration. Both parts of the reply are interesting. According to the *Code Civil*, the errors committed by an architect, like any other person entrusted with work, are divided into three classes; namely, grave faults, slight faults and very slight faults. For the consequences of errors of the first two kinds he is pecuniarily responsible, but not for those of very slight faults. Moreover, if a contractor makes mistakes which, by lack of vigilance on the part of the architect, fail of detection, it is true that the architect is responsible for the consequences of them, but not as a principal; the contractor who committed the fault being first bound to repair it, and the proprietor having no ground for claim against the architect until all means for obtaining satisfaction from the contractor have been exhausted. In applying these principles to the dispute in question, it is clear that as the proprietor has not paid the contractor in full, he is still in a position to cause the misplaced girder to be reset, if he wishes, at the contractor's expense, and has therefore no ground for a claim against the architect, who is only a subsidiary, not a principal; while even if the architect were the only person from whom any indemnity could be obtained, it is by no means certain that his error, resulting partly from his anxiety not to delay the completion of the building, should not be regarded as one of the very slight faults for which no damages can be claimed.

EVERY one has heard of the remarkable assertion of Darwin, that the surface of the ground in all places not absolutely desert is continually in process of being raised by the operation of earthworms in the soil. The observation adduced by him in support of this opinion, that within some thirty years the surface of a field near his house had been raised so high as to cover the pebbles which were once scattered over it, was for a time regarded as incredible, but recent observations have shown that these useful creatures are quite capable of doing all that has been attributed to them. By weighing the "worm-casts" found at the entrance of their little burrows, an accurate measure is obtained of the amount of earth swallowed and digested by them within a given time, and in a single season a quarter of a pound of the casts have been found beside a single hole. The weight varies according to the richness of the soil, those found in poor land being much larger than those in garden soil, showing that a greater quantity was needed to supply the animals with the requisite nourishment. The number of worms to the acre, by actual count, varies in different places from fifty thousand to nearly nine hundred thousand, and supposing that each consumes, and returns to the surface in the form of friable and azotized soil, two ounces of dry earth every year, the accumulation in the course of decades or centuries may obviously amount to a very large quantity.

WITH the maximum number of worms, and a moderate consumption of earth, something like one hundred and fifty thousand pounds of newly made soil would be annually spread over the surface of the ground, forming a stratum, if the soil weighs seventy-five pounds to the cubic foot, nearly one-half an inch in depth everywhere. Evidently, the uninterrupted toil of a century would produce very marked results in this way, and it is by no means unlikely that the so-called subsidence of ancient pavements, and even of whole cities and towns, may be principally due to the exertions of insects. One of Darwin's own experiments furnishes a striking confirmation of his theory. In 1842 a quantity of broken chalk was spread over part of a field near his house, with the express object of seeing at some future period to what depth it would be buried by worms. Twenty-nine years afterward, in 1871, a trench was dug across this part of the field, and the line of white lumps was plainly visible at a depth of seven inches beneath the surface. Before measuring, the coating formed by the matted roots of the grass was carefully removed, so that no part of the accumulation was to be attributed to these. In addition to the constant top-dressing, to call it so, which is thus carried on at such an enormous scale, the continual passage of the worms through the ground must assist very greatly in aerating it, and assisting the beneficial influence of frost and sun in rendering it mellow and wholesome, while the very circumstance of the retreat of the animals to the subsoil during the winter leads to the constant introduction on their return, of a portion of the lower strata into the loam above, which it improves at the same time that it adds to its quantity.

A NOVELTY in sanitary appliances has been introduced in New York by Messrs. Abendroth Brothers, in the shape of cast-iron soil-pipes and fittings protected from corrosion by a coating of magnetic oxide of iron, produced by what is called the Bower-Barff process. The cost of treating the pipes was about one cent per pound, which does not seem extravagantly high, but even this would be diminished if the work could be done on a large scale. Two of the pipes, as we learn from the *Sanitary Engineer*, are now being tested by the chief engineer of the Philadelphia Water Department, who finds that the coating successfully resists the action of aqua-regia, and he is trying the effect of a prolonged exposure to a mixture of wet salt and ashes, as well as to pure water. From what we know of the Bower-Barff process, we should imagine that the severest test that a soil-pipe treated by it would have to undergo in actual use would be the discharge of hot and cold water alternately through it. Even with small articles it has been occasionally found that the coating of magnetic oxide was disposed to scale off, and the contraction and expansion of a piece of metal so long as a joint of soil-pipe under a temperature alternating between the freezing and boiling points of water would soon show the value of the process in regard to a quality much more important than resistance to chemical reagents of a sort never found in pipes in actual service.

WATER-CLOSETS.[1] — XXI.

SLOP or Urinal Safes. — All prominent firms who manufacture plumbers' supplies in this country and England furnish these safes to fit in beneath the seat and over the bowl. These safes are simply a square, dished covering for the bowl, which has either a circular or oval hole about the size of the hole in the seat, with a surface of an impervious character formed so as to conduct water or urine into the closet bowl. They are made from solid

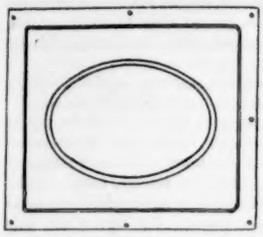


Fig. 218. — Oval Slop Safe.

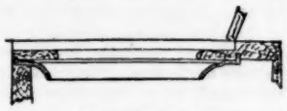


Fig. 219. — Section.

earthenware, glazed, or from iron or copper enamelled. In all cases they are useful and cleanly in fact and in appearance. Thin metal safes are the most convenient for fitting over closets in which the wood-work has already been put in position, but from the liability to chipping, which even the best enamel has, a glazed earthenware safe is to be preferred where a new closet is being fitted up. Where the closet is to be used as the urinal, a slop-safe is very important, as it prevents dripping on the wood-work or into the safe below the closet. In either case the rapid decay of urine would generate dangerous and offensive gases. A poor substitute is sometimes found for a slop-safe, by beating sheet-lead over a wooden piece shaped in a manner similar to the regular slop-safe. Although better than wood, a substitute of this kind is a mere make-shift, and should never be used in place of an enamelled or porcelain one.

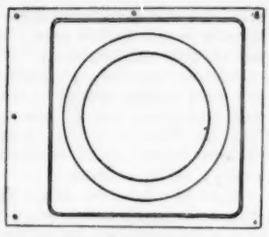


Fig. 220. — Circular Slop Safe.

WATER-CLOSET SEATS.

All are familiar with common boxed water-closet seats, often fine and expensive pieces of cabinet-work, fair without, but foul within. These boxes secrete dust, dirt, and in many instances leakage and drippings from the closet. Seats of this kind, when made in their best form, have both seat and riser to open upon hinges, stout brass ones being the best: iron rusts easily, and the hinges become useless. When the riser and seat open, the housekeeper can easily see that this space is kept clean.

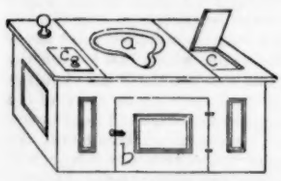


Fig. 221. — French Closet Seat.

a, Seat. *b*, Door in riser. *c*, Paper-box.

A convenient shape for the hole in a seat is egg-shaped, eight inches wide and ten inches long, and commencing about three inches and a half from the edge of the seat. This form of hole was patented in England thirty years ago. The manner of such work must be in keeping with the other wood-work in the bath-room. Heavy rubber duck is sometimes used instead of brass for hinges to the seat. Mr. Leeds's method of making a seat and riser that would be easily moved is illustrated in the *American Architect*, Vol. VII., No. 223.

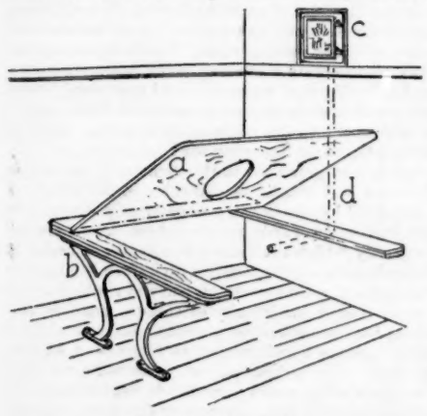


Fig. 222. — Open Seat.

a, Seat. *b*, Legs. *c*, Gas-jet for ventilation. *d*, Ventilating-pipe.

I take an illustration from Liger of a French panelled box water-closet seat. The riser has a panelled, hinged door. The hole in the seat is decidedly pear-shaped, being very much like the ones represented in the closet from Herculaneum (*American Architect*, Vol. XIII, No. 373), which must have been in use more than eighteen hundred years ago.

I give here two illustrations of what I consider the best forms of water-closet seat. The seat is supported by legs, which may be as ornamental as desired, and should be of some impervious material. The seat itself consists of a simple hinged leaf or board with a hole in it. A seat of this kind is furnished with the Brighton closet (Fig. 194). When not in use, the seat is turned back against the wall, exposing the white porcelain closet setting on a white or colored glazed tile floor, producing a neat appearance, and it is in fact very cleanly and easily cared for. A seat of this kind may be used with any form of closet except those which have unsightly or complicated parts that require concealment. The illustration shows a ventilating pipe that is intended to create a current of air from and through the closet bowl, carrying off any local offensive odors that may occur.

In Figure 223 is shown a seat, the front of which is supported by legs, a slop-safe and tank in position. This arrangement as furnished by J. L. Mott & Co. has either brass or nickel-plated legs, which are intended to rest upon a tile floor. Similar seats of this kind, having plain iron legs, are furnished by the different manufacturers. The slop-safe is let into the frame of the seat. The seat proper being thrown back against the wall when it is not in use, leaves the enamelled surface of the slop-safe exposed. This closet is flushed by the weight of the person using the closet. The seat presses down on a short lever, which communicates motion to the valve of the tank, by means of a lock chain. The floor and side of the bath-room are intended to be tiled. It is scarcely necessary to say that this makes a clean, healthy and efficient apparatus for the purpose it is intended to fulfil.

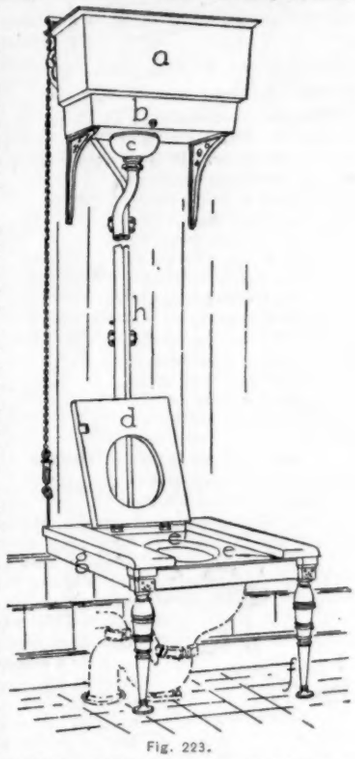


Fig. 223.

a, Tank. *b*, Service-box. *c*, Flushing-pipe. *d*, Seat. *e*, Slop-safe. *g*, Seat-frame. *h*, Supply.

For prison use, or in places where the same abuse is likely to occur, it is best to use a jump-up seat like the one illustrated in Figure 224. The seat is oval, formed of wood, and is just large enough to cover the bowl of the closet. Two iron journals are screwed, by means of an iron plate from which they project, to the wooden seat. One side has a lever and weight attached to the journal. By means of the weight the seat is kept thrown back against the wall, unless it is held down over the bowl by a greater weight.

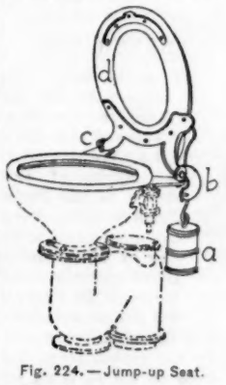


Fig. 224. — Jump-up Seat.

a, Weight. *b*, Lever. *c*, Journals. *d*, Seat.

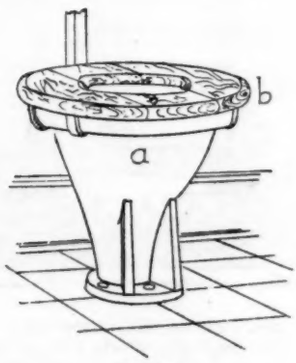


Fig. 225.

a, Closet. *b*, Seat. *c*, Clamp.

Sometimes the long hopper porcelain closet is set on a tile floor and has a wooden seat which is held in position by iron clamps, that are clamped around the earthenware rim.

Fig. 226.
Seat for Standing on.

Liger describes a closet seat or stand which is intended for use in the crouching or Oriental fashion, instead of as a seat. Places are arranged for the feet, being made rough or ridged, so there will be no danger of slipping.

[1] Continued from page 178, No. 407.

Levers. — It seems advisable to describe the two following simple levers for opening the valve in the flushing-tank by pressure on the seat: —

Fig. 227 is a double lever which has its pivots or fulcrums attached to the under side of the seat. Motion is imparted to the first lever by pressure on the seat, while it in turn moves the short arm of the second lever. The long arm of the second lever is connected by a chain with the lever that operates the flushing valve in the tank.

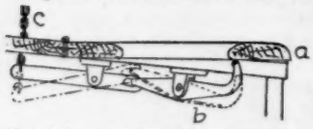


Fig. 227. — Lever for opening Supply-Tank.
a, Seat. *b*, Lever. *c*, Connecting-chain.

The arrangement used by Henry Huber & Co., of New York, in connection with his "Tidal Wave" closet is simple, and not liable to get out of order. It is a simple lever which moves up or down on two journals, the bearings in which they work being screwed to the floor. The lever is pressed down by rods which are attached to it; these run through guides and come in contact with the under side of the seat. The weight of the tank lever keeps the seat slightly raised unless there is sufficient weight on the seat to counteract its effect.

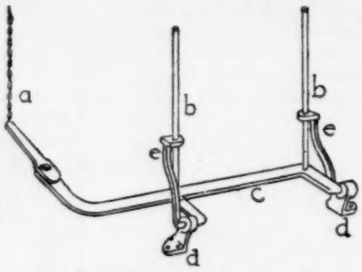


Fig. 228. — Lever for opening Supply-Tank.
a, Lever. *b*, Journal. *c*, Rods.

Bidet Attachment. — Cragie's bidet attachment is a small branch from the supply, that is attached to the inside of the water-closet bowl. When not in use it is turned up under the seat or urinal safe; when in use, it is turned down into the centre of the bowl. From it a small jet or spray of water is thrown up toward the seat. This attachment is important in some diseases.

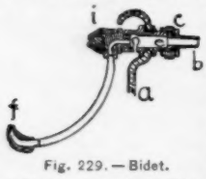


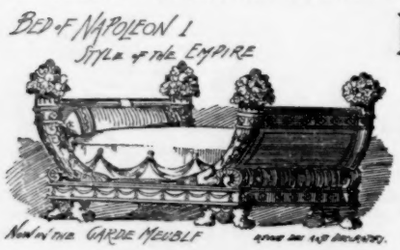
Fig. 229. — Bidet.
a, Bowl. *b*, Supply. *c*, Nut. *e*, Valve. *f*, Nozzle for jet. *i*, Packing.

Quite a number of devices have been invented for the purpose of disinfecting water-closets. These "germicides," as some of them are called, are intended to destroy germs and odors that may be generated in receivers or other concealed compartments that may be connected with badly designed water-closets. Instead of using disinfecting apparatus and a bad or poorly constructed closet, it is far preferable, both on the score of health and comfort, to select a simple, cleanly closet, with its trap properly connected with the soil-pipe and ventilated, and thus have no need of a "germicide."

Glenn Brown.

THE END.

A FRENCH CRITIC ON CURRENT FRENCH ART.



It would be a little late in the day to translate for the readers of this journal a mere review of the works of art shown at the Paris *Salon* of last spring; but a series of articles by M. Charles Bigot recently completed in the *Gazette des Beaux Arts* contains, together with many detailed notices of individual pictures then exhibited, certain conclusions drawn by the author from the collection as a whole — conclusions which seem to me so true, so interesting and so instructive that I have ventured here to reproduce them in a much abridged form.

M. Bigot begins by saying that his chief aim will be to answer certain questions which have been often propounded in recent years: Whence has come and whither is going the French art of to-day? Is it progressing or retrograding, or is it simply holding that note of respectable mediocrity which has been for some time its dominant accent, — equally removed from platitude and from fertile superiority? Is it simply straying right and left upon uncertain paths, or beneath all the varieties of manner, and all the petty schools and sub-divisions which characterize it, can one recognize a preponderant current, a general direction toward which it collectively tends with such force and directness as to enable one to say what will be the French art of the morrow? And if such a current exists, of what sort is it? Is its tendency for good or for evil? Have we reason to rejoice over or to lament its prospects?

The author notes that no time could be more propitious for the making of such an inquiry than the present moment, for never before in our day has French art been so completely free, so delivered from the control of government or authority of any kind, so entirely given over to the conduct of its own professors. The annual exhibitions are arranged and presided over by artists chosen by the whole artistic voice of Paris. The Government buys what works it sees fit, but no longer prescribes into what channel, or according to what aims the painter should direct his activity. The innate tendencies of the time are, therefore, to be traced with the utmost confidence that they are natural tendencies, and are not due to that outside official influence which has so often moulded or tried to mould the art of France.

In art, continues M. Bigot, there are two factors — the subjects treated, and the manner of their treatment — the thought, so to say, and the expression or style. Two points are, therefore, to be noted in the present examination: first, whither tends the inspiration of the artist—towards what description of subjects is he most strongly drawn? and secondly, is it possible to discover to-day, amid all the various methods of practice that are adopted, one style which attracts more and more such men as have not passed the age when it is still possible to learn?

To the first and most important question, which will alone concern us here, the author says he has no hesitation in giving an affirmative reply: "Yes, the course of modern art is marked out to-day. For some years past a movement in a certain direction has been noticeable, and with each *Salon* it has become more evident; but never has it been so patent as this year. Here lies, to my mind, the great interest of this exhibition of 1883. For a quarter of a century a revolution has been preparing in the realm of French art — one of the most important æsthetic revolutions that history has ever seen— and this revolution is now accomplished. A single word will indicate its character. It is in contemporary life, in the ordinary current life about us that our artists are seeking ever more exclusively their inspirations."

Then in a brief but masterly little sketch the author explains the state of things which worked through many generations of French artists, to make such an attitude on their part to-day assume nothing less than a revolutionary character. From its earliest days French art was never national in so far as the choice of its materials went. It was founded on the example of the Italian schools, and never threw off this yoke, as did the painters of Holland when they grew into an indigenous, characteristic school. It became an established belief that outside of religion, mythology, history and allegory there could exist no "high art" worthy of the admiration of respectable men, or of official recognition. Government schools and corporations, like the Institute, in assuming control of the education of the young, in distributing the prizes at competitions and the academic consecrations of talent, aided in fortifying these predilections which earlier influence had created. Even the landscape painter did not dare to look about him and paint his own country, but must needs seek inspiration in the "classic" landscapes which had formed the first great masters of his country. Such was the condition of things at the middle of this century, for even Delacroix, in spite of the epithet of "revolutionary" which clings to his name did not inaugurate a real revolution. He renewed, by his novel treatment, the time-honored subjects of his fellow-countrymen, religious, allegorical, historical or mythologic. He scandalized the conventional academicians of his time by his daring, novel, individual practices in color and design, but his *ideas* were not new. He altered the current practice of the century, but not its current ways of thinking about its art.

The revolution really began with the great landscapists of the generation of 1830—with Rousseau, Dupré, Corot and Daubigny. These broke, indeed, with the traditions of the schools in aim and idea, no less than in technical practice. Instead of painting the traditional classic landscape they opened their eyes and saw contemporary France, and put it as truthfully as they could upon canvas. They had a long and bitter fight before they could obtain a hearing, much less any shadow of official recognition, but finally they triumphed and most completely. It is impossible to believe that even the oldest and most "academic" member of the Institute would to-day recommend a young artist to take Poussin rather than Corot or Rousseau for his teacher.

While this long battle was going on in the domain of landscape, the "high art," which was still taught in the schools, protected by the academies and sustained by the State, was gradually dying. In vain orders were multiplied and rewards were lavished. The more the official voice tried to glorify "high art" the more it languished. It had arrived at a point where it was impossible to infuse life into its veins—at the point of being a mere system of learned rhetoric. At the schools pupils were taught an infinity of things, more or less valuable in themselves, but powerless to produce good art without the inspiration of that essence which cannot be taught — a sincere emotion, an artistic soul. The public passed unmoved and cold before a thousand canvases which every year it felt itself obliged to pretend to admire on account of famous signatures and governmental indorsement. Forty years ago the cry went up "High art is dying, is dead." Its professors sought in every way to renew its life. There began the reign of what is called the picturesque in art, the movement which sought new success in novel themes, which went far afield to search for new impressions, which opened up the East and the South, which ransacked the pages of mediæval history, for the reason that Greece, and Italy, and the stories of classic times seemed to have lost their charm. For a moment the object seemed attained. The new themes were admired for their novelty, and it looked as though art had been reborn; but familiarity soon bred indifference, and it was found that Algiers and Egypt, the court of

Louis XIII and of Marie de Medici were not more likely to inspire a really vital development in modern art than were Italian landscapes, or scenes from classic history and mythology. It is easy, says M. Bigot, to name the painter to whom is owing the regeneration we recognize to-day, the one who first entered upon the new, and we believe, the true path, and whose example has gradually attracted to his side the strongest brushes of the living generation — Jean François Millet. He was the first to do for humanity what his contemporaries already named did for external nature — to show that its contemporary phases, even in their lowest social forms, are equally able with history, mythology or tradition to furnish high inspirations to the artist. Without altering, embellishing, idealizing his humble contemporaries, without making them the vehicle of amusing, pathetic or dramatic anecdotes he yet succeeded in producing works which amply justify their inclusion in the catalogue of high art. He saw their grandeur as well as their roughness; he painted them as they are, but with the recognition of their finer as well as their ruder qualities; he loved them, and understood them, and showed not only their poor clothes, their bent forms, their fatigue and their ugliness, but their courage, their dignity, their energy, their patience, their simplicity, their humble joys and sufferings, the beauties of their souls and characters; in a word, he saw them with the eye of a true artist, which transfigures while it does not alter everything upon which it rests.

From the day of Millet's advent we may reckon the Renaissance of high art in France. He opened the way and there came many to tread in it, to see not only the peasant but all his fellow-citizens in the social body as thankful subjects for the brush, provided that brush be inspired by true artistic sensibility, by good eyes, by sincerity of heart, and by poetical emotion. Such a movement cannot be completed in a day. Millet himself was not recognized till he was already dead, and neither the whole body of French artists nor the whole body of the public has yet gone over to the new school. Still one may say to-day that the revolution is accomplished, and is sweeping away with it even those who most strenuously resisted its influence, and distrusted its direction. For a dozen years back no attentive eye could mistake the tendency of French art; each *Salon* has manifested more clearly than the previous one the direction the young school was taking, and to-day no one can be blind enough to mistake the matter. Never was more clearly seen than in the exhibition of 1883 the end of one art and the advent of another.

In this brief review M. Bigot does not mention Courbet's name, but he surely deserves to be cited as equally influential with Millet in the inauguration of the new art. His protest was as radical, and more violent; the opposition to his work was even more bitter than was that to Millet's; and the victory he has recently won over official conservatism is the most striking example that could be cited of the triumph of the new ideas. At the sale of his pictures held a year ago in Paris the same authority which once denied him admittance year after year to the *Salon* and loaded his work with every condemnatory epithet, saw fit to buy for the galleries of the Louvre and for various provincial museums a number of his pictures, and to pay for them the most extravagant prices. Courbet in the Louvre as a triply-honored guest is indeed a proof that, as M. Bigot says, "the revolution has been accomplished."

Our author then proceeds to make the rounds of the *Salon* of 1883, looking first at what he calls "*l' art qui s'en va.*" In the way of religious art he finds so little that is good — good, that is to say, by truth and force of sentiment and not merely by technical ability — that he concludes we must indeed resign ourselves to seeing no more at present of "religious high art;" neither in the would-be sacred pictures of M. Carolus Duran nor in those of any of his fellow workers does he find any religious feeling worthy of the name. With mythology the case is not very different. No one believes to-day in the phantoms of Greece and Rome as they believed in Renaissance times or even in the days of Delacroix. The nymphs and goddesses of the moment are but undraped Parisians in whom it is evident that even their portraitists saw no classic spirit. Only two men can be excepted from this verdict, only two really seem to feel what they try to make us feel — the actuality of the dreams they paint. These are M. Henner and his pupil, Benner. Even when the former tries to show us a Magdalene he shows us a nymph undistinguishable from her sisters who are so called. Allegorical painting is at the same low ebb — often undertaken with consummate technical skill, but never with the true inspiration which made such works valuable in earlier generations. Historical painting is a little more alive, but M. Bigot seems to think that many of the best essays here shown this year are hardly prophetic of more to come, being the work of young men still feeling their way, still unemancipated from the fetters of academic instruction, many of them still pensioners of the Villa Medici and so obliged to defer to the official traditions of bygone days. Even so there are fewer successes in this direction than might be expected. Only one or two are worthy of much praise, chief among them being the "Andromache" of M. Rochegrosse, who obtained a first-class medal for his canvas. In *genre* too, while many older painters persist in their time-honored ways and produce pictures of more or less exalted merit, no great successes are to be noted as signed by rising hands. The anecdotal painting which has held so large a place in French art during the last twenty years, which has ransacked all history and all nations for its scenery, seems to M. Bigot to be on its last legs. "The great vogue of *genre* is passing away," he says, "and it is not I who will complain."

Then the writer turns his attention to the more satisfactory part of his subject, to the art which is not only living but growing visibly in strength and fertility from year to year. First he acknowledges "the continued fine attitude and success of the landscapists," each of whom according to his individual tastes and aptitudes visits the highways and byways of France, painting the sea, the shore, the field, the forest, the wide plains and horizons or the dusky corners and verdant nooks of his native country. No one remains of the great generation of 1830 but the veteran Dupré, and M. Bigot acknowledges that none of the young men are quite their equals. But there are many excellent artists who follow in their paths, not servilely, but each after his own gifts. At least sixty landscapes in this exhibition, he explains, are worthy of all attention and all praise.

Of portrait painting there is an equally flattering tale to tell; but portraiture, says M. Bigot, has always done well in every age of art, for here the painter has always been obliged to go direct to nature in his work. Even in the deadest age of French art, even amid the banalities of Rococo days and the frigidities of the time of Ingres, portraiture flourished. The coldest classicist, the most frivolous boudoir painter, has left us fine, vital, and interesting likenesses of his contemporaries. But the *Salon* of 1883 need be afraid of none of its predecessors in this department. Many works prove, of course, that the display of his technical ability has been the first or the only consideration in the painter's mind. But dozens of others show, together with technical ability, great power in the perception and rendering of character, and a firm adherence to the plain aspects of contemporary life. M. Bonnat, M. Paul Dubois, M. Delaunay, M. Desboutin, M. Edelfeld, and our own painters, Mr. Julian Story, Mr. Sargent and Mr. Healy, are among those picked out for especial praise. Mr. Whistler's portrait of his mother — so well-known in this country — is praised for its truth, its simplicity and the unity of impression it conveys. M. Bigot takes some exception to the technical method of Mr. Whistler and finds him rather an engraver than a painter. Many other judges would dissent, I think, from such a verdict, but would agree with our author in acknowledging his sincerity, his force of will, his patient observation and his artistic self-respect. It would go ill, he adds, with any one who might try to imitate Mr. Whistler, but he is entirely *himself*, and it is this which above all things counts in art. It is a pity that readers of the *Gazette* should have to make acquaintance with this noble work through a cold, poor, and inexpressive etching by M. Guérard which accompanies this article.

But, the author goes on to say, the most interesting feature in the exhibition is to be found in the pictures of contemporary life, the subjects drawn from reality, in which humanity in all its complexity is displayed before us. It was long a theory in France that contemporary life might only be represented in small *genre* subjects, but we have broken completely with this tradition and no longer fear to present its themes on canvases of the size we accord to so-called historical works. But what we must always ask from their authors is that they should be above and before all *painters* — that they should not seek to interest us by any other means than those which are legitimate to art. As soon as they are seen to be more concerned with an idea than with their painting, to seek for subjects melodramatic, pathetic or sentimental, to strive to enforce a moral or social lesson, we distrust them at once: we resent their attempt to force our attention and to speculate on our sensibilities. Turn to literature, says M. Bigot, if you wish to *prove* anything. Art cannot bend itself to theories, and if it ever demonstrates any such it is when it has thought least about them. So he condemns all such pictures as, with titles like "Drunkenness" or "November," try to preach sermons and not merely to depict scenes. The figures may be from contemporary life, but they are as dead and uninteresting as the most classical allegory of them all. The artist must look at things simply and sanely, with no other preoccupation than for his art, and must show them as he sees them. This has been done this year by many painters, young and old, who have portrayed the men and women of France under a hundred different aspects and engaged in a hundred different scenes. The nature of the subject is not that which tells the most — the chief factor in the result is the soul of the artist. There is in the most humble and apparently vulgar incident a hidden poetry; when the artist is able to see and express this (without "idealizing" his theme) his work is entitled to rank as "high art." Among the best pictures in this respect M. Bigot signalizes those of M. Lhermitte, who concerns himself with peasant life; of M. Gervex who paints a Charitable Bureau; of M. Tattegrain who shows a fishwife and her children wading into the sea to receive the dead body of her husband; and those of M. Israel, M. Bastien-Lepage, and M. Jules Bréton, the work of whom is too well known in America, I hope, for me to need describe its qualities in this place. M. Renouf also comes in for a large share of praise.

M. Bigot then sums up by saying that the coming generation must apparently resign itself to doing without both a great historical and a great religious painter. Perhaps, he says, this is an effect of that democratic spirit which has been steadily growing in France during a century past. The man of to-day is so interested in and so concerned about to-day that he has no thoughts to give to either the history or the ideals of past ages. But that which he *does* understand and love is the present, is contemporary life. It is this which attracts the painter, which touches the public; it is through this that morality, duty, poetry, the whole of life must be expressed. "I am not of those who view such a transformation with inquietude. On the con-

trary I hail it with confidence. The years of crisis and anarchy for the French school are overpast; the rout of the superannuated schools is finishing in confusion; the new path is open and free. I do not care to attempt the rôle of prophet, yet I shall be cruelly disappointed if so many patient, courageous, and earnest efforts are to end in futility. For that it would need that the youth of France should lack heart and energy and should wreck themselves and us. Either I am greatly mistaken or else those who live in 1890 are destined to see fine painting."

In conclusion M. Bigot addresses a word of warning and advice to the young artists of France, saying that they must be wide awake if they do not wish to see their laurels torn away from them. France no longer has the monopoly of art as she had in former years, and as Italy had it in the sixteenth century. "The frontiers of art are abolished; emulation has seized upon every nation; everywhere with equal ardor young men are drawing, painting, looking at nature and at life. If foreigners for long have come humbly to French ateliers for their instruction, it has merely been in order that they might learn to fight us in the hopes of final victory." Then the author mentions the best among the foreign contributors of 1883, and warns his countrymen that they are dangerous competitors. It is interesting for us to find that among the seven names thus cited four are of Americans — Mr. Story, Mr. Whistler, Mr. Sargent, and Mr. Pearce.

May I now add a word on my own account — addressed not to the young painters of France but to those of America? They are bound by none of the traditional fetters, none of the academic formulas, none of the survivals of past ages which long hampered the artists of France. It would seem as though no men had ever entered upon their career more free from outside pressure, more likely to open their eyes to the contemporary life about them and to paint it with originality if not always with genius. But a bond of another kind has been threatening to choke and distort our art. The danger is not yet passed, though I think it is apparently now a little less grave than it was a few years ago. This bond is their adherence to the contemporary example of foreign schools, especially of those of France. When a Frenchman of some twenty years ago first painted French peasants, French street-scenes, French landscapes, he did that which it was right and natural for him to do. But when the American of this moment confines himself to such themes he sins in somewhat the same way as sinned the earlier French painters who clung to the nymphs and warriors and landscapes of Greece and Italy. He is conventional, imitative, non-natural. He is not painting those things which lie nearest to him and in which he must feel the most vital interest, but those which are now conventionally regarded by "the schools" as especially suited for artistic purposes. A few of our men have already shown that our own land, even in its least picturesque aspects, is as thankful a subject for the brush, when properly regarded, as are the fields and coasts of France. Our young school of etchers has done especially good work in setting this example; and such men as Mr. Fuller, Mr. Homer, and Mr. Eakins are acting both in their own interests and in those of American art as a whole when they apply their talent to native themes. The best instruction may be obtained abroad undoubtedly, but after returning home it is neither necessary nor wise to keep reiterating the themes proper to the painters who have been one's masters there. The days have gone by, I think, in this country as in France, when conventionality of any kind can succeed in art. And, I repeat, it is just as conventional for an American to keep on painting his reminiscences of French scenes, as it is for a Frenchman to cling to the classic subjects of his fathers.

M. G. van Rensselaer.

THE ILLUSTRATIONS.

THE LIEBFRAUENKIRCHE, TREVES, GERMANY. MEASURED AND DRAWN BY MR. FRANK ZIMMERMANN.

THE corner-stone of the Liebfrauenkirche was laid in 1227 under the controlling influence of the archbishop Theodoric. In 1247 (twenty years after it had been begun) the church was completed as shown in the drawing. Noted German and foreign archæologists have directed their attention toward this monument and find that, even if the structure was not built in imitation of French buildings, the French churches had exercised considerable influence. Every architect will observe when looking at the drawing that the entrance is built in Romanesque style, while the upper portion and roof are Gothic, and the steeple again Romanesque. This has led to the supposition that after the death of the architect who began the church, a younger architect was entrusted with the work, and that he, full of enthusiasm for the just developing Gothic architecture, continued the building with a purity and perfection which is still imitated and admired.

A third architect seems to have been employed to build the steeple, but either unable or unwilling to grasp the new style of architecture, he finished the church in the predominating Romanesque style and in the spirit of the first architect. The structure is entirely of sandstone. The names of the architects are unknown.

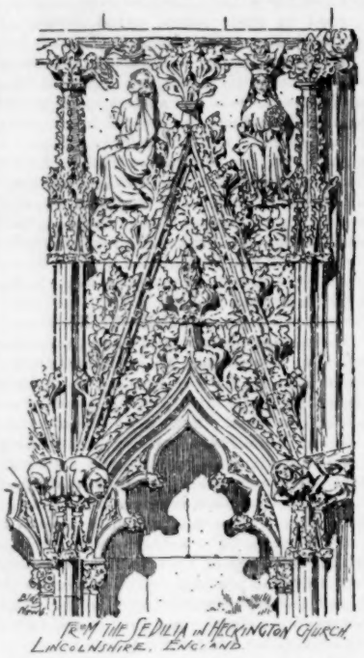
HOUSE ON WAYNE ST., ROXBURY, MASS. MR. GEORGE MOFFETTE, ARCHITECT, BOSTON, MASS.

HOUSE OF COL. J. D. PLATT, DAYTON, O. MR. BRUCE PRICE, ARCHITECT, NEW YORK, N. Y.

"THE EVERETT," BACHELOR APARTMENT-HOUSE, WASHINGTON, D. C. MR. JOSEPH HORNBLOWER, ARCHITECT, WASHINGTON, D. C.

THE VAN SCHAICK FREE READING-ROOM, WESTCHESTER, N. Y. MR. F. C. WITHERS, ARCHITECT, NEW YORK, N. Y.

LECTURES ON ARCHITECTURE.[1] — IV.



IT is a gratifying circumstance that the greatest attention is now being paid to the revival of the Gothic style. In England Mr. Pugin alone has designed no less than twenty-three fine churches, and superintended their erection within the past two years. And in our own country it is evident that a rapid advance has been made in an acquaintance with its true principles. No one can doubt this who has seen the new Trinity Church in New York, rising, in almost all the grandeur of the Old World edifices, on our western shores. We trust that before many years have elapsed, we shall see among us more churches like this, which is indeed truly worthy of the name.

Trinity Church stands in Broadway, opposite the head of Wall Street, on the site of the old building of that name, a flimsy edifice erected in 1788. The former church presented no great beauty of appearance, and upon an examination with a view to extensive repairs, was found to be so much decayed that it was at once decided to take it down, and erect a new structure, more worthy of the increased wealth of the parish. A design having been prepared by the able architect, Mr. Upjohn, it was accepted by the building committee, without any attempts at improvements on their own part as is usually the case in Boston, and the works were commenced soon after. The church is now very rapidly advancing toward completion. In size, in the delicacy and propriety of its decoration, and in the beauty of its general effect, I have no hesitation to declare that it surpasses any church erected in England since the revival of the pointed style. I have seen no account of any one, which will bear a comparison with the complete propriety and finished elegance of this American structure. Governed by simple and consistent principles, Mr. Upjohn has conceived and finished it in the true and delicate spirit of the chastest period of the Gothic style. Instead of presenting an indiscriminate mixture of all ages and styles, from the Crusades down to the Revolution, it rivals the accurate taste of the best works of the fourteenth century, and is carried out upon a scale which it would have been thought impossible to adopt, in a country where architecture is in so chaotic a state as our own. With the single exception of the chapels and private chantries introduced by Mr. Pugin in his engraving of a perfect church, which, though required by the Roman Catholic ritual are very properly omitted in a Protestant church, it very nearly resembles that enthusiastic ideal of an ecclesiastical edifice of the Middle Ages.

The extreme length of this superb structure is 192 feet. The tower and spire, which rise aloft with an airy grandeur resembling that of the celebrated church of Louth in Lincolnshire, are terminated by a richly carved cross at the height of 264 feet from the ground. The width of the nave between the columns is 37 feet, and the width of the whole church, in the clear, including the aisles, is 84 feet. There are nine equilateral arched windows on each side of the nave, corresponding in their position to the interior spaces between the piers. The clerestory is unusually lofty, and from its numerous windows will pour down a flood of checkered light upon the marble pavement below. The great window at the end of the chancel is the largest in the building, being 28 feet wide, and 44 feet high; it has fourteen principal compartments which are to be filled with painted glass. Under this window stands the altar, — the pulpit is designed to be placed against one of the large columns about halfway down the nave. The organ is to be placed on a highly sculptured stone screen, over the entrance from the tower. The pews are designed to be of black walnut with characteristic panelling, and are to occupy the nave only. I have recently been assured that the entire cost of this truly splendid structure will not much exceed $300,-

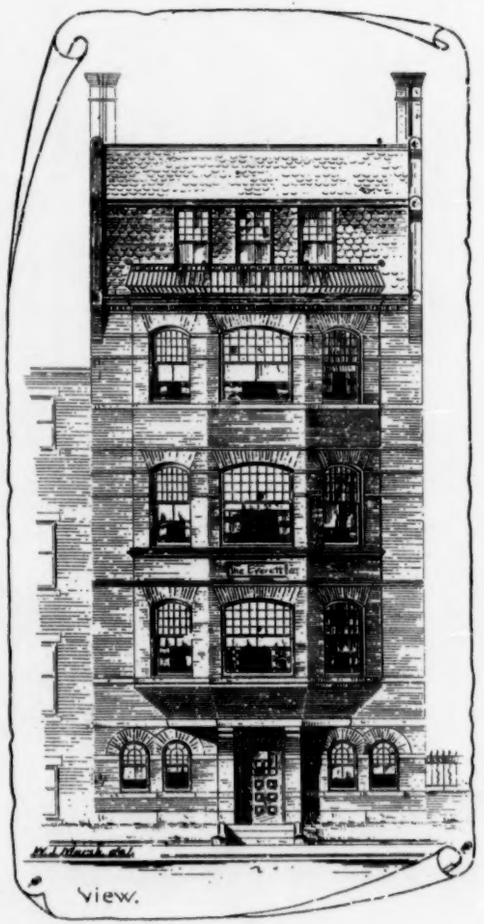
[1] Extracts from a lecture by the late Mr. Arthur Gilman, delivered before the Lowell Institute, Boston, in the winter of 1844-45. Continued from page 177, No. 407.

No. 405 American Architect and Building News, Oct. 20 1883.

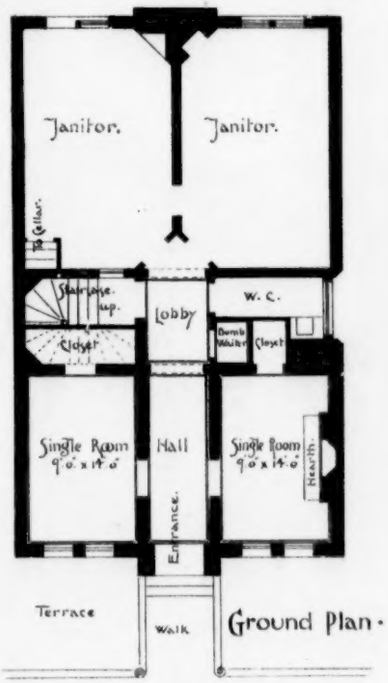
"The Everett"

Bachelor Apartments ··· 1730 "H" Street N.W.

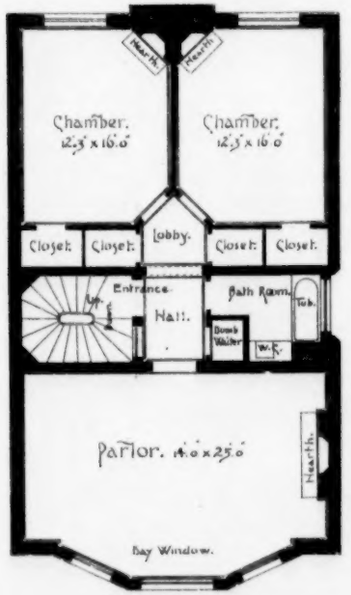
Washington · D·C·



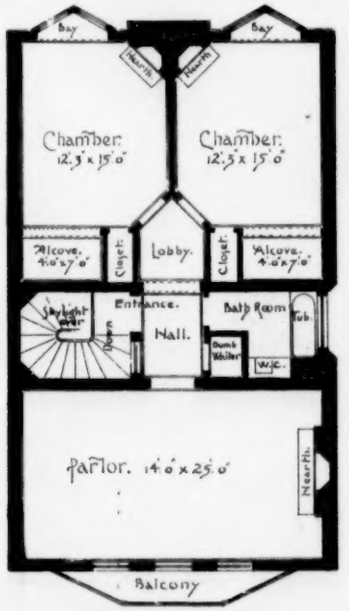
View.



Ground Plan ·



Plan of 1st, 2nd & 3rd Stories ·

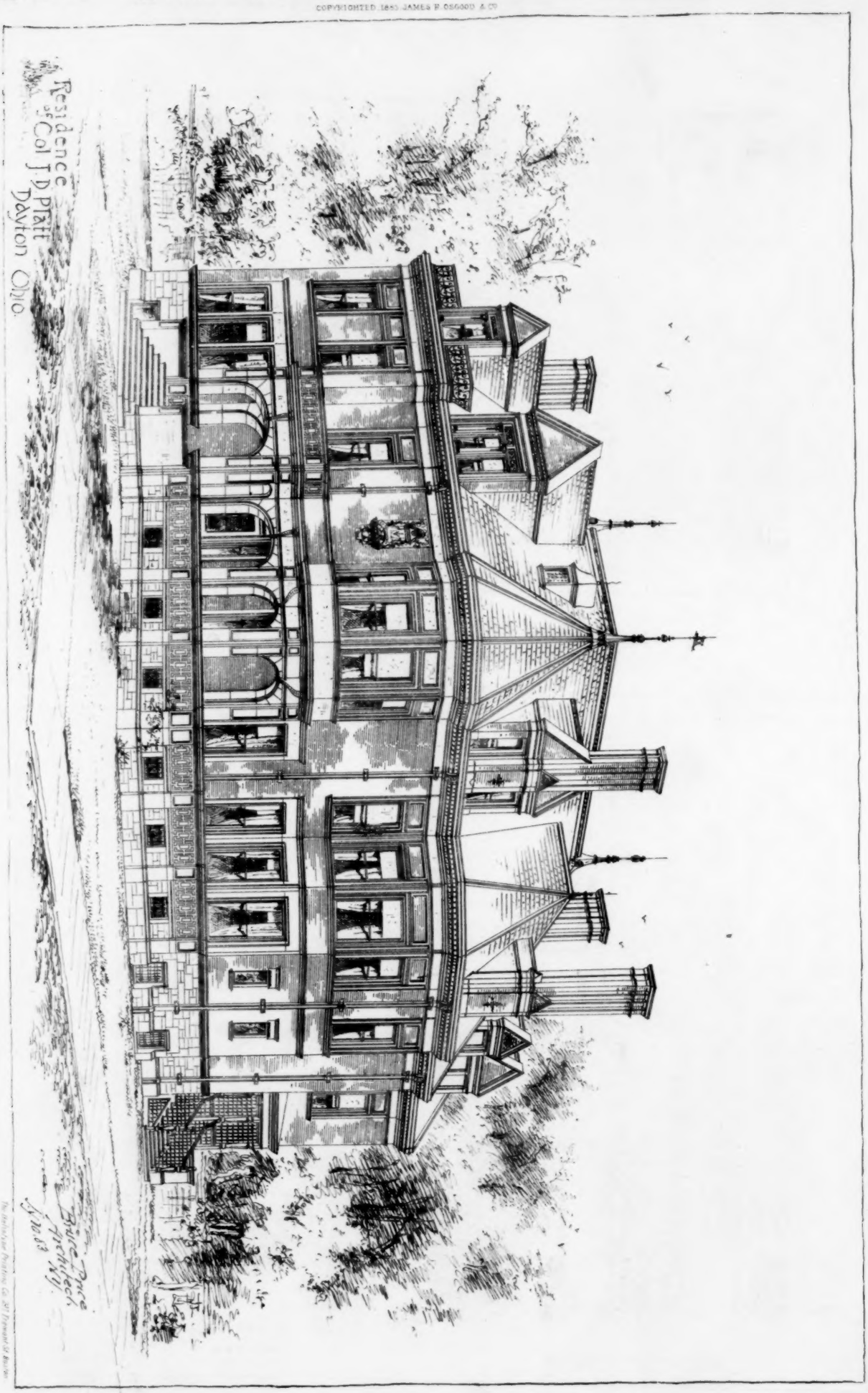


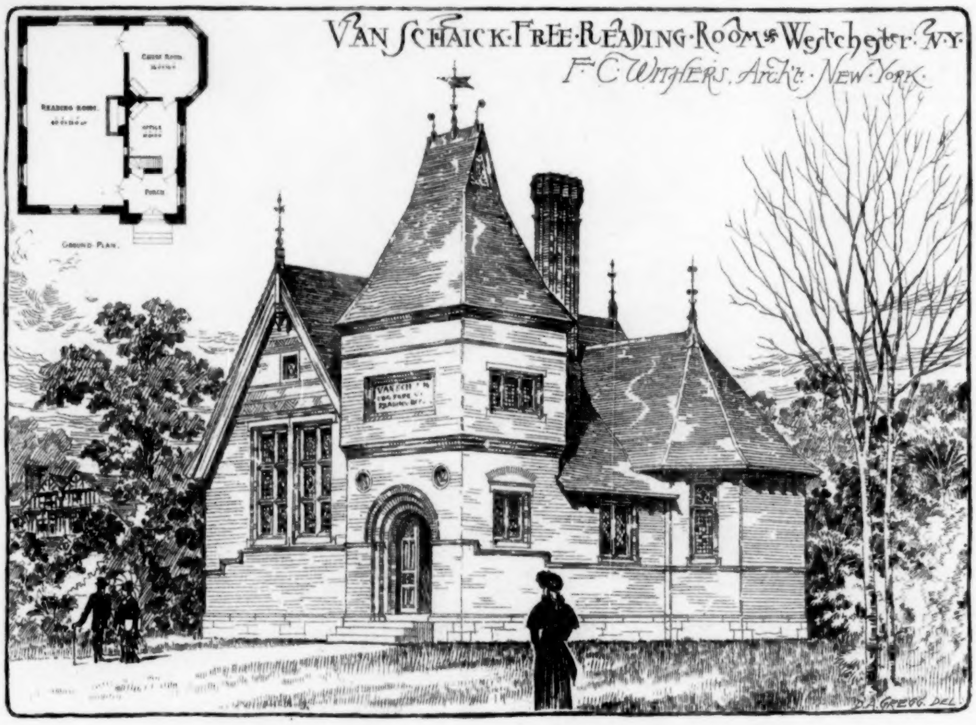
Plan of 4th Story ·

1883.

Jos. C. Hornblower Archt.
Washington D·C·

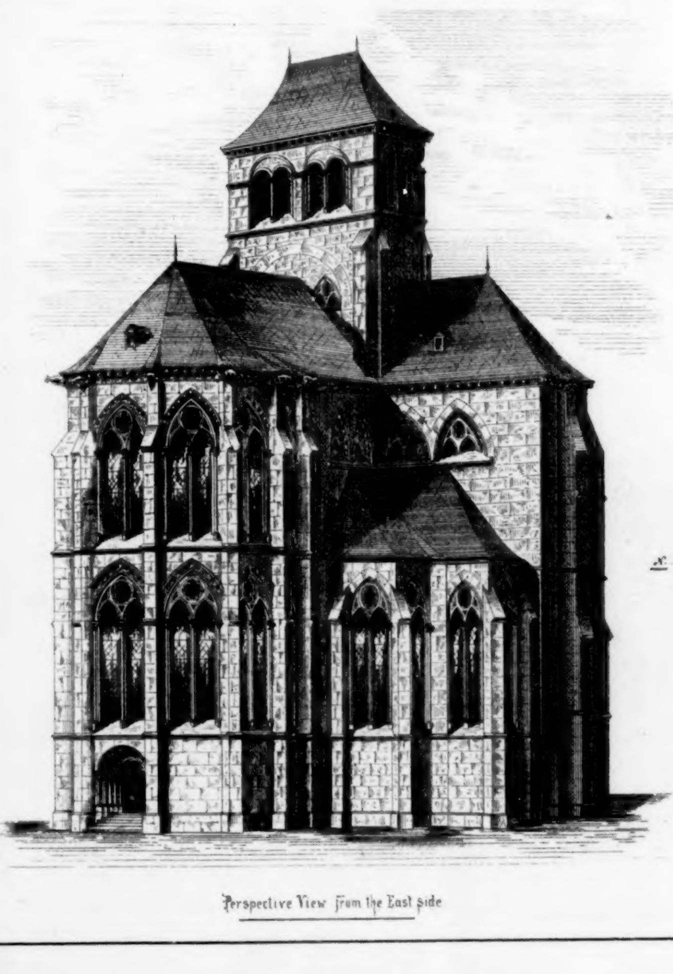
The Heliotype Printing Co. 211 Tremont St. Boston.



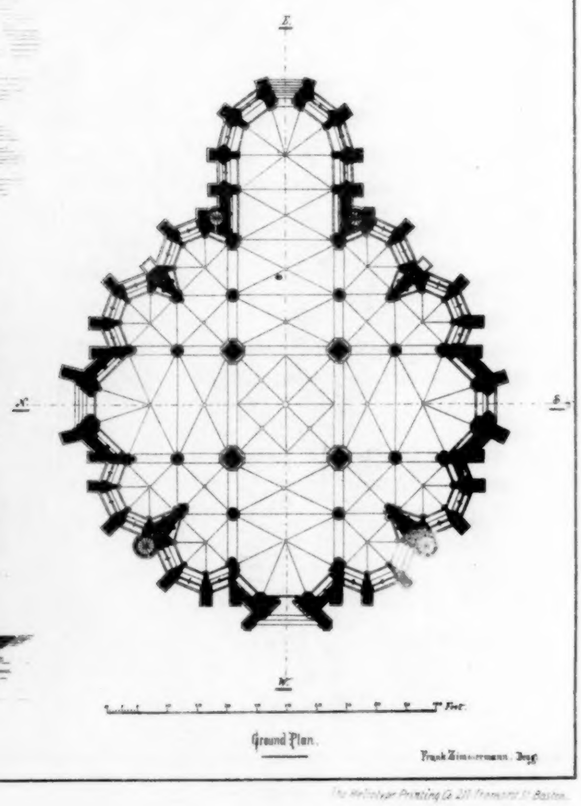


MONUMENT ON THE RHINE.

Liebfrauen Kirche zu TRIER. 1227–1243.



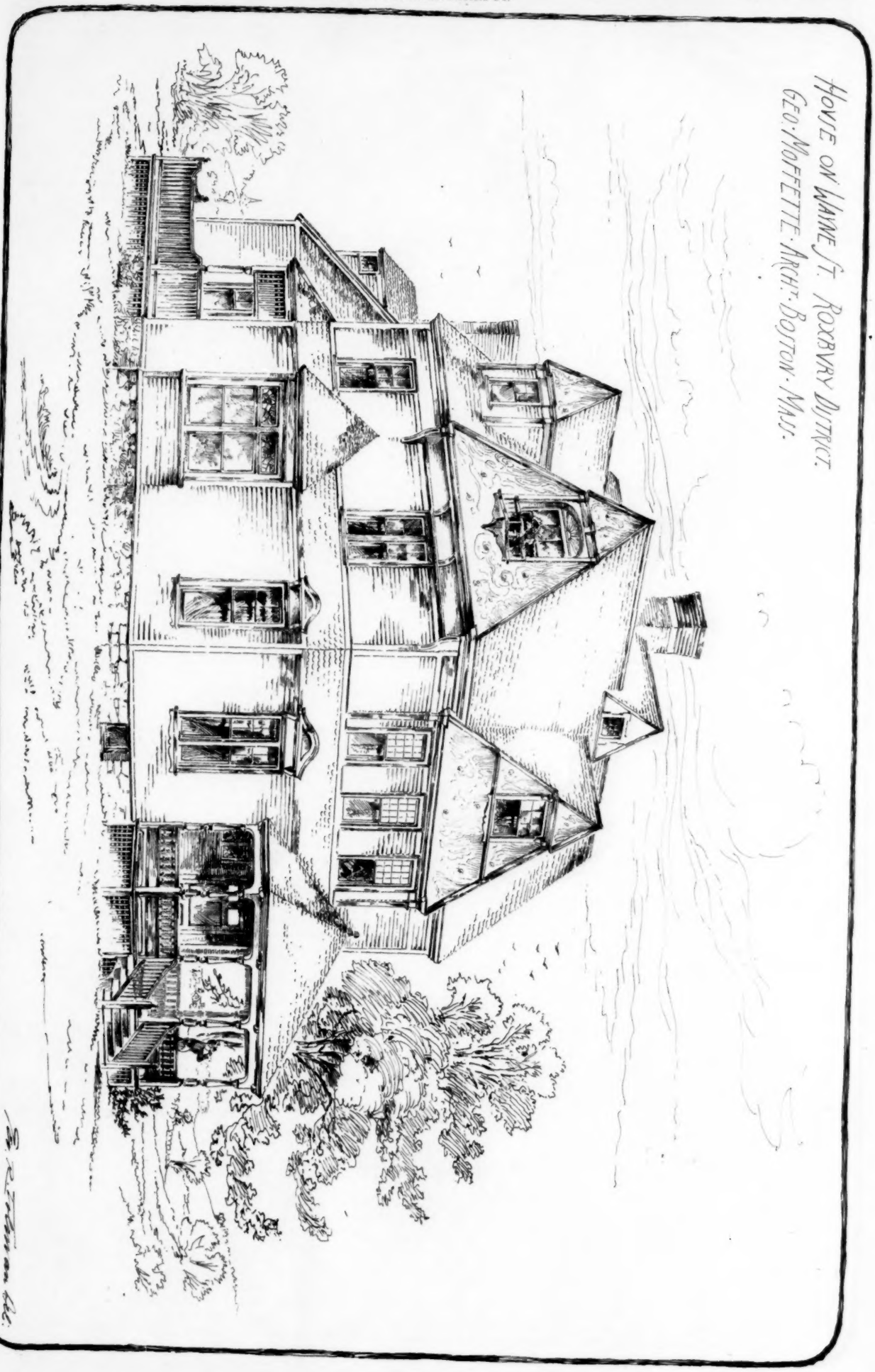
Perspective View from the East side



Ground Plan.

Frank Zimmermann. Delt.

The Heliotype Printing Co. 211 Tremont St. Boston.



HOUSE ON WAINE ST. ROXBURY DISTRICT.
GEO. MOFFETTE ARCHT. BOSTON. MASS.

000. I forbear, however, to make any direct comparison between this building and an unfinished one in our own city, upon which more than $800,000 have already been expended. . . .

A beautiful church is now in process of erection in the neighboring city of Providence, from the designs of Mr. Upjohn, in which the tower is placed on the corner. When completed, I cannot hesitate to think it will be the finest ecclesiastical structure in New England, though the whole cost is estimated to fall under $40,000. There are many churches among us which have cost a much larger sum, it is true — but in an undertaking of this kind, we see the striking significance of Pope's advice, to be

"Profuse of genius — *not* profuse of gold."

It only needs a few such examples in our vicinity to invert the whole taste and character of our present inelegant and unmeaning structures. With regard to our own churches in particular, we may safely ask "What has architecture hitherto done for Boston?" . . .

From what has already been advanced, it will not, I hope, be thought too much to conclude that whenever a church of any considerable dimensions or expense is to be erected, it should be conformed as nearly as possible to the examples of the Gothic style. This class of edifices therefore may be considered as safely provided for; but the question will very naturally arise "If Grecian architecture, from its marked unfitness for our wants and uses is ever to be generally laid aside, where shall we next turn for examples in ordinary use, or what is there that can be proposed as a substitute for it in secular buildings? Our architects have so long been accustomed to rely upon it entirely, and to clothe everything with the same Grecian garb, that they are almost entirely unacquainted with any other style of building. . . ."

Mr. Gwilt in his rapid sketch of architecture during the reign of George III, observes that mischief was for a time induced by the absurd attempt to adapt without discrimination the pure Greek porticos of the temples of Greece to public and private buildings, with which they have no more natural relation than the interior arrangement of a church has with that of a theatre. This, to be sure, is a somewhat unfortunate illustration, when we consider how things are managed in that respect among ourselves. But it is, perhaps, some excuse for him that he does not reside in Boston, nor do I know that he ever visited the place, or he would have found that in our American Athens, churches and theatres change character with but little difficulty, and just according to the taste and fancy or perhaps the interest of the stockholders. We must therefore set down the author of the great Encyclopædia of Architecture as an ignorant and presumptuous foreigner, unacquainted with the peculiar practices of this independent and enlightened people, with the talent evinced by our architects, and the discriminating taste of their employers; but be this as it may, Mr. Gwilt must be my authority for the statement that the English architects of the present day "seem at last, to be aware of the impossibility of applying with success, the forms of Grecian temples to English habitations, and a better system has been returned to, that of applying to *every* object, a character suitable to the purposes of its destination." These are his very words, and they certainly seem very plausible; but after his shocking ignorance in regard to there being any possible distinction between the character of a church and that of a theatre, I fear that many of our architects will look upon him as very suspicious authority.

Mr. Papworth, for a long time the Vice-President of the British Society of Architects, made a right step in advance. Mr. Hope, and Mr. Trotman, Mr. Barry, Mr. Lamb, and Mr. Gilbert Laing Meason, beside many others, have since shaken off the absurd restrictions with which their art was fettered. The consequence is that a beautiful, natural and convenient style of villa architecture has been introduced. General information upon the subject was diffused by Mr. Hope's elegant works and by the numerous publications of Mr. Loudon, and in our own country Mr. A. J. Downing, of Newburgh, has put forth two highly respectable volumes, upon the modifications of domestic architecture which are best suited to North America. In these works, the general principles are well laid down, and the author evinces great good sense in his theories; but I cannot think that he has been so successful as could have been wished in reducing them to practice. There is not a single design in either of the volumes that a man of good taste could desire to see executed. I cannot believe that in any of them the author has satisfied his own true ideas of expression and beauty in domestic architecture.

Nowhere, perhaps, in the whole civilized world is there a finer opportunity for the display of domestic architecture than in the vicinity of Boston. In several instances these natural advantages have been happily turned to account. During the last year a great improvement is visible in the style of our suburban cottages and villas, as no one can fail to remark who compares the frequent Gothic and Italian structures with the Greek ones, which were the only kind erected five years ago. There is one villa, indeed, in this vicinity which taste might in vain attempt to surpass, and which I am free to confess that I view only with increasing pleasure and admiration. This is the pure Italian manner — but most happily adapted to the wants and uses which were to be considered in its erection. With an example of equal importance in the English or Gothic manner, we should have more to boast of in domestic architecture than we are likely to find in our public buildings for many years to come. The forms and character of a house like this are admirably suited to modern purposes. It is not a copy from any one of the works of the Tudor period, but treated in the spirit of that style, and applied, so far as it properly can be, to a modern habitation.

It is obvious that the first point to be observed in the construction of a country residence is, that the outline of the house and its offices should blend agreeably with the surrounding scenery, and harmonize with the character of the situation in which they are placed. Whatever alterations may be made in the grounds about them should be managed, also, upon the same rule, and the whole should be made to accord as nearly as possible in a perfect unity of expression. The ingenious Mr. Hope has ably exposed the contradiction of "launching from the threshold of the symmetric mansion, in the most abrupt manner, into a scene wholly composed of the most unsymmetric and desultory forms of mere nature." It is beyond dispute that certain characters of ground and scenery have a distinct analogy with certain styles of architecture. It does not seem very difficult to understand that an English Gothic residence, with its irregularity of ground-plan, its endless diversity of form and outline, its

"Quaint fantastic chimneys, with their store
Of twisted, carved and lozenge-shaped device,"

belongs of right to a hilly and irregular surface — that the general aspect of its environs should be rather rude and unadorned, and that it would seem ill at ease amid the tame or rich scenery that so charmingly befits the terraces, arcades, piazzas and balconies of the Italian style; but we doubt if, until quite lately, our gentry have often paid the least attention to this obvious rule. In most cases they seem to have proceeded to lay out their villas and cottages without any definite intentions of effect, and with very little knowledge of how the whole affair will turn out in the end. Very little difference is anywhere observable in the process. Precedent, strict precedent has been the evil genius of the art, the trumpet sound of the employer, and the almost invariable trammel of the architect. The Greek-temple house painted a staring white, and ornamented with Venetian blinds of the most intense shade of greenness has everywhere been set down among the rich woods and varying slopes of the country, as if to extend the angularity of the mansion into direct conflict with external nature, and, if possible, to overpower her wild variety with the unmeaning effect of this poor attempt at art. The plan of the town-house, in fact, with all its compact arrangements and concentrated accommodations has been transplanted to the open fields, and the incongruities which are the unavoidable result remain without remedy, at least, if not without detection. A number of composition urns, or wooden statues are, perhaps, placed about among the grass, as at the famous groves of Blarney:

"Statues glowing that noble place in,
All heathen goddesses most rare,
Homer, Plutarch, and Nebuchadnezzar
All standing naked in the open air."

But these, too, are most carefully placed, and most exactly balanced, and the self-satisfied proprietor then retires to his Doric colonnade made of pine wood, glued together in nicely jointed pieces, to read Thomson's "Seasons" and Phillip's pastorals, and imagine himself in complete rural trim. No wonder, in view of these absurdities, that the matter-of-fact business man should often have forsworn the country altogether, perhaps without fully understanding the reason why, and shutting himself up at home, with his Turkey carpets and sea-coal fire, thanked the gods, like Audrey, that had not made him poetical.

Now, the universality of this style of building and planting is by no means an argument in its favor. Were it admitted to have any share of real merit we might still venture to depart from it sometimes in the hope of obtaining that little spice of variety which the proverb so strongly commends. Invention and change are not, I am well aware, synonymous with improvement; but in an instance like the present, where to alter is at once to benefit, and where every departure from immediate precedent is, by so much, an addition to convenience and enjoyment, it would appear that we cannot too soon be emancipated from the uniformity of which we have to complain. Perhaps there are some persons who will be inclined to draw a conclusion favorable to the present system, from the fact that no other has been understood or practised among us. They do not care to oppose the example and opinion of everybody about them, no matter what amount of taste or knowledge of the subject they might be willing, individually, to accord to them. When the Vicar of Wakefield's horse was so gratuitously depreciated by the sharpers at the fair, the worthy man acknowledges himself to have "reflected that the number of witnesses was a strong presumption they were right, and that St. Gregory upon good works professes himself to be of the same opinion;" but little advance, however, will be made toward that degree of cultivation which insures the display of good taste so long as this principle is recognized or acted upon as it has been. Attention must be turned to this subject, as to every other, before excellence in it can be attained, and when we take into view the necessity that exists for a judicious choice of situation, a pleasing and characteristic arrangement of the grounds, and a correspondent excellence in the appearance of the mansion, no one who claims to be blessed with an ordinary share of discernment but will confess the absurdity of taking one standard upon trust for every species of locality, and every kind of aspect. Mr. Loudon holds it to be necessary that the builder of a villa "either possess taste himself, or has

sense enough to call to his assistance the taste and judgment of others who are qualified to practice this branch of the art of design," and it cannot be thought that this excellent author is at all unreasonable in the conclusion at which he has arrived.

If the builder, therefore, would have a handsome and suitable house he has had to depend very much upon his own ideas, assisted only by the information to be obtained from scarce and expensive books; but we may often observe that a diligent perusal of these is productive, in more ways than one, of very essential service to him (this necessity for individual application on the part of the proprietor). It has at least this advantage, that it continually adds to the small number of well-informed amateur architects, and will, doubtless, in time come to have some influence on the public at large. The enlightened builder sees at once that he can seldom rely upon professional aid, and he yields to the necessity of taking up the subject thoroughly for himself. If he wants a religious edifice of the Greeks, with three or four tiers of windows in the height of the columns, he gets a hash of Stuart from many a professional architect, ready cut and dried, in tetrastyle, hexastyle, prostyle or no style, and nothing more to do but to pay for it roundly; but if he will choose anything else he must generally superintend it himself. This practice will lead to a transition state: it is true, and it is not difficult to see, that we have already entered upon it; a state of domestic architecture in which the feeling and sentiment of the whole are quite correct, but which is without a corresponding excellence in the details of the various parts. In this respect it is the very antipodes of style displayed in the various public buildings of the day which have the questionable benefit of professional supervision. It will readily be owned that these errors of technical detail are slight, indeed, when compared with the total failure to appreciate the ideas of fitness and expression, even in their most obvious manifestations. In spite of them we have seen the much-abused country gentleman who had long been groping about in the primitive darkness of Ionic temples and white board fences, all at once blessed with an unmistakable glimmering of the true picturesque, doubting whether an English cottage or an adaptation of an Italian villa were not a more appropriate, as well as a more comfortable residence than his temple, and even taking up decided notions upon the subject of hedges and rustic palings. Ideas come to him rapidly upon a theory which had hitherto been in his mind an unformed void,—and he seldom drops the new discovery until he has sought out the best sources of information, and availed himself of all that he is able to apply. Nothing but individual study in each case would have produced the visible result, and it is, without doubt, to this laborious process on the part of their owners that we owe the various pretty country seats that are beginning to appear in the vicinity of Boston. . . .

Of the materials which are in the most common use, it will scarcely be necessary to speak; yet I am unwilling to forego the opportunity of advancing one or two ideas on the subject of the Quincy stone, which is so great a favorite in all the most ambitious of our public and private buildings. For warehouses, piers, fortifications, wharves, bridges, and for the foundation of other edifices, nothing could be more completely suited. Its eternal rigidity seems to bid defiance to time, and to all the accidents of war, flood and fire to which structures of the class I have enumerated are likely to be exposed. But it is totally unfitted for the graces and amenities of any more delicate forms of building. In the first place, it is of so hard and unyielding a texture that it is worked with great difficulty, and a cost, compared with that of cutting other sorts of stone, which may safely be termed enormous. If possible to bring it all into the pliant forms of decorative detail, even when thus elaborated, it would never produce the intended result. In the Gothic and Italian styles, in particular, the mouldings are often undercut, and present that infinite variety of light and shade which can only arise from the aerial tints being most carefully studied. But the more this stubborn material is hammered and brought to a surface, the stiffer becomes its effect, because the parts cut are rendered lighter, instead of darker, than the natural surface as split from the quarry, and all the intended effect of relief and shadow is thus counteracted and lost. And in the second place, the whole tone of color of this stone is so similar to the atmospheric tint, that it is utterly impossible to avoid a dull and sombre monotony of shade, which is as offensive to the eye of an artist as a continual drumming on one string of a piano would have been to the ear of Mozart. Its invariable use evinces as much knowledge of propriety in material as the stereotyped portico does of ingenuity and originality in design.

The chocolate-colored freestone of Connecticut and New Jersey is a far better and cheaper material. It is softer and darker than granite, and for beauty of color it is scarcely to be brought into comparison with its melancholy-looking rival. It is with great pleasure that I have perceived this stone to be made use of in the construction (or perhaps it would be nearer to truth to say *veneering*) of a new church in Hanover Street, in this city. Whatever the design of that building may be, its material is certainly well chosen. It has an air of shadowy repose which is the very opposite to the sulky uniformity of most of our other public buildings, in which the Quincy stone has been used. These different results are now fairly brought into contrast, and if there is any judgment left in the minds of builders, we certainly have some room to hope for the future adoption of the better and cheaper material.

In this matter, as in every other in the art, the mediæval architects are able to teach us our alphabet of taste. Too wise to waste their time and labor upon an unsuitable stone, and dissatisfied, in many instances, with that which England afforded, they crossed the British channel to the Continent, and brought the rich Caen stone from the shores of Normandy, to their workmen at Canterbury and Westminster. Communication among us is now so rapid, cheap and easy that little excuse can be conceded to us for an oversight in this important particular.

I am anxious that our architects give this point, as well as some others which I have brought forward in these lectures, a careful consideration. It is certainly agreeable to a rational being to think for himself occasionally, on the principles of common-sense. If this principle were more frequently followed, I am convinced that we should have less bad architecture to complain of than at present. The great root of the difficulty is that the professors of the art take things too much upon trust. It may be doubted whether the system of education among them is likely to diminish this easy practice. If a young man designs to enter the profession, he is placed under the care of some architect in active practice, who takes good care to take no more pupils than are necessary to perform the drudgery of the office. His period of pupilage is spent either in copying contracts and specifications, or in designs of the most common-place buildings, and in working out the details of carpentry and bricklaying. "It is not pretended that the pupil is to be instructed in the history or principles of the art, nor to be taught the means of designing buildings according to any fixed or received theory. If, during his apprenticeship, he picks up any artistic notions on the subject, he must have more enthusiasm or better opportunities than fall to the lot of his contemporaries." Pupils are taken to assist the master in carrying out his own designs, and to acquire what little knowledge may stick to them in so doing, but whatever they learn beyond that is their own.

Thus they set up, at last, on their own account, but little more than mere mechanical draughtsmen. Never do they study the spirit of the buildings of antiquity, or seek to trace the motives or feelings which sought expression in those forms, so that by following in the same path they might arrive at the same perfection. The forms and details of the Grecian orders only are at their fingers' ends, to be used over and over again, on every opportunity that occurs, and they are prepared to execute any design their patron may wish, and to do it on the shortest possible notice. And it is some question whether, if a young man on entering the profession should decide to think for himself, and to shake off the trammels of this school, when the struggle of life is just beginning with him, he would not probably starve, without having an opportunity even to try his principles, while those following in the wake of the copyists were rising in their profession and enriching themselves, without the least trouble or exertion.

But if our architects were ever so perfect — if they were all Raphaels, Bramantes, Michael Angelos, and Palladios, there is yet another danger to be encountered; I mean the interference of employers in matters which do not properly fall under their control. The design of an architect should be strictly consistent and relative in all its parts. How often this standard of excellence is really arrived at, even in the portfolio, it would perhaps be difficult to ascertain, but it is certainly incumbent on those who have the ostensible direction of his movements, if they cannot assist him, at least to refrain from tying his hands. It is not to be supposed that they are qualified to take the direction of what they never learned, or of which they have, at best, but a very imperfect idea. General instructions, therefore, in the outset, are all that should ever be issued. A statement of the intended form and extent of the edifice, of the style preferred, and, above all, of the limit of expense, are instructions enough; the architect then goes properly and safely to work, and can easily bring his project within the limit which is prescribed. But when his drawings are completed, he should never submit to have them pared down or altered by an ambitious, a whimsical, or a penurious committee of taste. I have known an instance where, after a Grecian design had been procured from an architect, one of the committee men peremptorily insisted on the introduction of what he called "pinted winders," giving it distinctly to be understood that he had quite made up his mind to that item, at least, and that he had come into the commission with a full determination to use his whole influence in favor of what he esteemed the handsomest form a window could be made to assume. The entablature of the Ionic portico was accordingly divided over the central intercolumn, the pillars were set back and engaged in the wall, and a huge equilateral arched Gothic window filled up the whole centre of the front, rose through the gap which had been formed in the horizontal entablature, and finished in a point under the apex of the pediment above it. The church where this was done is now to be seen within twenty miles of Boston.

This is only one of the absurdities which are introduced by ignorance in authority. The architect who has a real interest in his profession, and who does not follow it only for the income it affords, should prepare himself to encounter these difficulties, and endeavor by persuasion and argument to remove them. It is only by taking this high stand that he can aid in establishing the dignity of the body to which he belongs. But if he fail of success in his attempts to convince, and finds that he is to be overruled in essential points, he is bound, in honor and conscience, to withdraw. . . .

I hope these observations will be received with as much frankness as they are given. "When the fine arts exert a really profitable

influence, they act by increasing those sources of reasonable pleasure by which the mind is neither degraded, enfeebled nor depraved. That a love for them, and for architecture in particular, may be made to produce a most beneficial effect cannot be doubted, for there can be no greater source of good to the community than the multiplication of such refined gratifications. But when the fine arts are allowed in any manner to become the subject of contention, then the honor which they possess is lost. The productions of Phidias or of Raphael, it has been well observed, become despicable if they tend to increase the causes of difference between those who ought to work together for the promotion of the arts. We are already furnished with too many unfortunate causes of opposition arising out of more important matters. Whether this difference might not be easily diminished by a mutual agreement upon the great principles which ought to be universally recognized, it is no part of the present object to inquire; but at all events, to use the words of an eminent critic, "let us avoid imitating children,"— let us not quarrel about our mere playthings and toys.

The influence of the public taste upon architecture is too clear and obvious to admit of doubt, and whenever the means of patronage in the hands of the public shall be accompanied with that true knowledge so necessary to *give value* to patronage, who can deny that the works of our architects will rise to a level which they ought long ago to have attained. Accomplish this object, and we may look forward with confidence to a brighter period in the history of American architecture.

AMERICAN SOCIETY OF CIVIL ENGINEERS.

AT the meeting of the Society, September 19, 1883, a discussion by Mr. CharlesDouglas Fox, of London, Corresponding Member of the Society, "On the Increased Efficiency of Railways," was read by the Secretary.

Mr. Fox referred to the fact that English railway managers and engineers have long realized the great importance and economy of a thoroughly substantial road-bed. The formation widths on their chief railways are now made thirty feet, both in cuttings and on embankments for the double lines, and very great care is taken to thoroughly drain this formation in cuttings by deep ditches on each side, with earthenware drain-pipes in them, and filled in with broken stone or other dry material. The ballast, consisting of broken stone, clean gravel, coarse sand, burnt clay or ashes, is not allowed to be less than one foot in thickness below the bottom of the tie. For lines of constant and heavy traffic, the bull-head grade, double-headed rail, having a large top member for wear, and a very small bottom member, is found to be the best section for steel rails. The weight of these rails is eighty-four pounds per yard. The chairs are from forty to forty-six pounds each and the rails are secured in them by keys of compressed oak. The tendency of the English companies is to expedite traffic, both passenger and goods, not by higher rates of speed, but by reducing the number of stoppages. The traffic lines are gradually quadruplicating their tracks, — in some cases throughout, — in others by sidings several miles in length. There is a very general feeling in favor of identifying the driver with his engine, and holding him responsible for its working. On some lines the name of the driver is conspicuously attached to the engine. Mr. Fox forwarded also the railway regulations of the English Board of Trade, which give very minute directions in reference to the construction and running of railways.

A paper by Mr. Wm. Howard White, M. Am. Soc. C. E., was also read, upon the subject of "Railroad Bridge Floors." Mr. White advocates inside guard-rails for the purpose of preventing, as far as possible, serious results from the derailment of wheels.

His reasons for advocating the inside guard-rails are: that he considers them more efficient for the same height above the tie than the outside guard; that they can be placed so as to hold the wheel nearer the rail, particularly when the use of the snow-plow is considered; that they can be more strongly secured at the ends for the purpose of drawing derailed wheels towards the rail, or to secure the ditching of a car which has gone too far to be safely drawn back; that they are more economical. He considers that the ties should have five inches of clear distance between them.

The papers were discussed by Messrs. Wm. H. Paine, Cooper, Blunden and Bogart.

At the meeting held October 3, 1883, a paper by Mr. James Christie, M. Am. Soc. C. E., on Experiments on the Strength of Wrought-Iron Struts, was read by the Secretary in the absence of the author. These experiments were made at the Pencoyd Iron Works for the purpose of determining the comparative resistances to compression of long and short struts of rolled angles, tees, beams and channel-sections. The specimens were tested by four different methods, viz.: with flat ends between parallel plates to which the specimen was in no way connected; with fixed ends or ends rigidly clamped to parallel plates, the plates substantially forming flanges to the specimen; with hinged ends, or both ends fitted to hemispherical balls and sockets or cylindrical pins; with round ends, or both ends fitted to balls resting on flat plates. The specimens varied in length from six inches up to sixteen feet, and were selected to obtain a uniform character of material. The paper gave tabulated results of two hundred and ninety-nine experiments, and these results were illustrated by a number of diagrams. There were also results given of a number of tests of welded tubes. The general conclusions drawn from these experiments were as follows ($\frac{l}{r}$ being length divided by least radius of gyration): —

When struts are short, say $\frac{l}{r}$ below 20, there will be no practical difference in the strength of the four classes, so long as reasonable care is taken to keep the centre of pressure in the centre of the strut. Hinge-ended struts vary all the way from round-ended up to flat-ended in strength. If the hinges are pins of substantial diameter, well fitted, and exactly coincident with the axis of greatest resistance of the strut, the strength of the strut will be fully equal to that of a flat-ended, but considering the impracticability of maintaining this rigid accuracy, the average hinged struts as compared with flat-ended will fall in strength as the length is increased, until $\frac{l}{r}$ is about 250, when they will average one-third less resistance than flat-ended; from this point they will gain comparatively until $\frac{l}{r}$ becomes about 500, when both classes will be practically equal. Fixed-ended struts gain in comparative resistance from the shortest lengths upwards until $\frac{l}{r}$ becomes about 500, when they are twice as strong as either the flat or hinge ended.

Round-ended struts continually lose in comparative resistance as the length is increased. When $\frac{l}{r}$ is about 340 they will be half as strong as hinge-ended, and when $\frac{l}{r}$ is about 160 they will have only half the strength of flat-ended.

The iron from which the tests were made exhibited the following resistances to direct compression, being the general results of several tests of small section, fifteen inches long, and secured in such a manner as to prevent lateral flexure.

With 30,000 pounds pressure per square inch incipient, permanent reduction of length was observed.

With 35,000 pounds pressure per square inch, failure of elasticity occurred, and marked permanent reduction of length.

With 50,000 pounds per square inch, a permanent reduction of length of three per cent occurred.

With 75,000 pounds a permanent reduction of ten per cent, and with 100,000 pounds pressure per square inch, a permanent reduction of twenty-eight per cent of the length.

The paper was discussed by Messrs. Theodore Cooper and Charles E. Emery, who both expressed the opinion that these experiments were of very great value, being made with material of uniform character, and in such a way that comparisons could be made directly between the different methods adopted in testing.

SANITARY PLUMBING.[1] — VI.

THE PLUNGER-CLOSET.

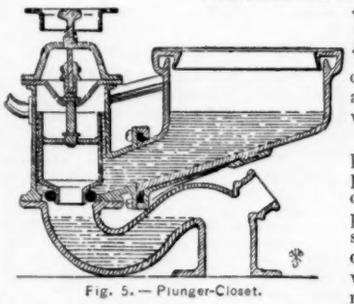


Fig. 5. — Plunger-Closet.

PLUNGER-CLOSETS are those which have the outlet closed by a plunger or plug fitting over or into it, and held in place by its own weight.

Figure 5 represents a plunger-closet having a simple hollow plunger, the overflow being through the plunger itself. This is the simplest form of plunger-closet; but it allows effluvium from matters which may be left floating in the trap to escape into the room through the plunger and around its handle.

Figures 6 and 7 represent a plunger-closet having its overflow trapped with a plunger or valve. This is the only plunger-closet except the Jennings which has a mechanical seal for the overflow, and the only closet in which the overflow-seal cannot be destroyed by siphonage. The complication arising from the mechanical trapping of the overflow and the enormous size of the receiver form serious objections to this form of closet. Were there no better mode of preventing the action of siphoning, however, it would stand high in spite of the inherent defects of its class.

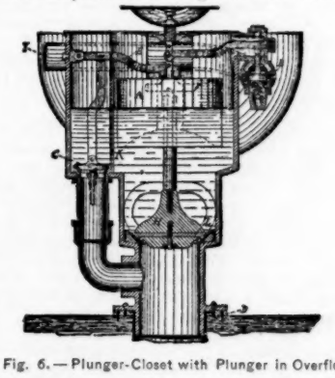


Fig. 6. — Plunger-Closet with Plunger in Overflow.

Figure 8 represents the class of plunger-closets which has a chamber or cistern for the supply-cock and regulating float connected with the plunger-chamber. This form of closet is very objectionable. The float-chamber becomes foul like the plunger-chamber, and the two chambers

[1] Continued from page 174, No. 407.

together then form a species of cesspool nearly as bad as that of the pan-closet. The above may be considered as types of all known plunger-closets. Some plunger-closets are made without water-traps under the plunger, but these, like the trapless valve-closets, are totally unreliable. In regard to the flushing, we find here a much larger extent of surface of receiver which never receives a scouring of water than in the valve-closet. The flushing stream passes *under* the plunger-receiver, and not *through* it as it does through the valve-receiver. The plunger-receiver must also from its nature be larger than that which is sufficient for the valve. These two circumstances render it much more easily fouled.

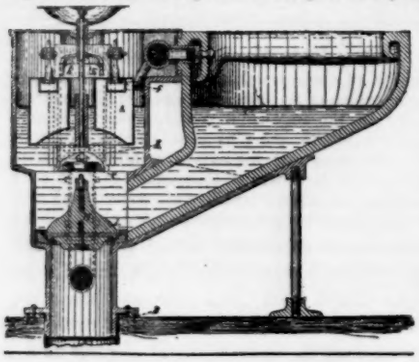


Fig 7. — Plunger-Closet with Plunger in Overflow.

To operate the machinery of a plunger-closet requires still more of an effort than is the case with the valve, because the dead weight of the plunger has to be lifted direct without the aid of the leverage of the crank which is employed with the valve. The weight of the plunger must be sufficient to retain the water in the bowl by its pressure against its seat.

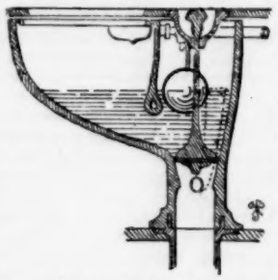


Fig. 8. — Plunger-Closet.

In all other respects the flushing of the plunger-closet is attended with precisely the same defects as that of the valve-closet.

The same criticisms applicable to the valve-closet in relation to its form, material, construction and cost, apply with equal force to the plunger-closet, and the same deductions may be made in its comparison with the common pan-closet; *i. e.*, it is superior to the *ordinary* pan-closet, but greatly inferior to its most improved form, with enamelled, scoured, and ventilated receiver, and improved and solid construction, and, in general, it is inferior to the pan-closet in the principle of its construction and operation.

ROMANESQUE ARCHITECTURE.

Minneapolis, Minn., October 3, 1883.

To the Editors of the American Architect: —

Dear Sirs, — Is there any book (or set of photographs) published on "Romanesque Architecture;" if so, where can it be procured?

Yours respectfully, A. B. C.

[The standard book on Romanesque architecture is Revoil's *Architecture Romane*, which can be obtained through Messrs. J. Sabin & Sons, Nassau St., New York, for about $50. Viollet-le-Duc's *Dictionnaire Raisonnée* contains also an immense amount of information and detail relating to the same subject. Photographs of Romanesque work are not easily procured. A. Lévy, Astor Place, New York, publishes a very good collection, and some interesting examples can be procured of the Soule Photographic Company, Washington St., Boston. — Eds. American Architect.]

NOTES AND CLIPPINGS.

Westminster Roman Catholic Cathedral. — The designs for the proposed Roman Catholic Cathedral at Westminster are those of the Votive Church at Vienna, purchased by Sir Tatton Sykes from Herr Foerstel, the famous Gothic architect of Vienna who has just died. His son, also an architect, was to have come to London to superintend the building of the cathedral, and to give designs for the Archbishop's house and other buildings, but in consequence of the death of his father he has been unable to undertake the work. Sir Tatton will now have to choose another architect. The builder of the Votive Church was an ardent disciple of the famous Pugin, and his son, Peter Paul Pugin, will probably be the architect selected.

Art Education in Germany. — With regard to art education in Germany the kingdom of Wurtemburg may be instanced to show the high regard in which art and science are held, and the great efforts which are made in order that all classes of the people may be benefited. In Stuttgart there is a central establishment with a museum of art and industry and a manufactory of models and copies of works of art, having schools for drawing, modelling and designing carried on under the same roof. Then, too, in provincial towns schools are established having a direct influence upon the trade of the place, as at Reuttingen, where there is a weaving school of European celebrity; Rottenburg, where there is one for wood-carving, and Gmund, where a teacher of chasing and engraving on metal gives instruction in the artistic branches of their trades to the boys engaged in the extensive brass, gold, silver and jewelry manufactories of that place. Here the boys are taught to apply the principles learned in the schools to the particular branch of the trade in which they are engaged. There are 220 pupils attending the art school, 115 of whom are already in trade. — *N. Y. Mail and Express.*

A Salt Pipe-Line. — A number of Philadelphia and Boston capitalists have formed an organization which has in view the laying of a pipe-line from the new salt wells in Western New York to some point in the Lehigh coal region. The consumption of coal in the evaporation of brine at the wells is very considerable, and the projectors of the pipe-line aver that the waste coal, or culm, that has accumulated in the coal regions, and cannot be utilized by any industry there, could be used to advantage in the evaporation of brine. The Lehigh Valley Company have offered ground for the erection of mammoth salt works, accepting the removal of the great piles of culm, which have become detrimental to the workings of the coal business in that region, as a sufficient remuneration. The line, if laid, will be two hundred miles in length. The plan is not deemed practicable by salt men at the wells, but if it should prove successful the parties interested would secure a monopoly of the salt trade, for no works having to buy and transport coal could begin to compete with them in the manufacture. Experienced salt men say that the brine running through the pipes would be thick with iron rust when it reached the works, and, unless some chemical action could be brought to bear on it to purify it, would be worthless. It is also estimated that the two hundred miles of pipe would cost $1,400,000, and that the interest on this investment would more than pay for the coal and the transportation of it from the coal fields to the salt wells. — *Iron Age.*

Zapfle's Fire-Extinguishing Liquid. — Several experiments were carried out yesterday on the Crown lands in Whitehall Place, with a view of showing the efficacy of Zapfle's patent fire preventive and extinguishing liquid. In the first experiment eighteen barrels filled with shavings saturated with tar and petroleum were set alight, and the fire having been allowed to obtain a fair hold, two of Zapfle's hand-pumps charged with the liquid were set at work and speedily extinguished it. It was stated that the quantity of liquid used was exactly twenty-five quarts, the proportion of water mixed with the patent liquid being as four to one. A wooden hut prepared with the fluid, filled with shavings and fagots impregnated with petroleum, formed the subject of the next experiment. The shavings and fagots were set fire to, and after the conflagration had been extinguished the hut was found charred but intact. A quantity of petroleum was subsequently thrown on it and allowed to burn out: and save that the wood-work was a little more charred there was no alteration in its appearance. The contention of the patentee is that, however severely wood prepared with the fluid may be charred in a fire it cannot burst out into a flame. Another hut, not prepared with the liquid, filled with shavings and fagots saturated with tar and petroleum, was afterward set alight. Having been allowed to burn for about a minute, it was extinguished within the same time, one of the pumps doing the principal work, although three were in use for a few seconds. A muslin dress, which had been washed in a mixture of water and the patent fluid, was next experimented on. Several attempts to set it alight failed, though it was charred completely through. The same experiment was afterward performed on a muslin curtain and a piece of canvas, intended to represent theatre scenery, and was attended with similar results. It is said that the invention has been adopted by the French Government for the naval, military, and other departments. — *London Times.*

Tests of the Quality of Soil Water. — The Secretary of the State Board of Health of Michigan reports the following: The question of the fitness or unfitness of soil water for domestic use can be absolutely determined only by a careful chemical analysis. But many persons who would not wish to incur the trouble and expense of a chemical analysis will yet desire some popular means of testing the water they use. The following methods of testing such water are presented, not as the most complete possible, but such as any one can supply without the skill and appliances of the practical chemist. If such tests cast suspicion upon the quality of the water, and especially if the water appears to cause sickness in any one using it, the water should be changed, or else a careful analysis should be made by some competent chemist.

Color. — Fill a bottle made of colorless glass with the water; look through the water at some black object; the water should appear perfectly colorless and free from suspended matter. A muddy or turbid appearance indicates the presence of soluble, organic matter, or of solid matter in suspension. It should be as "clear as crystal."

Odor. — Empty out some of the water, leaving the bottle half full; cork up the bottle and place it for a few hours in a warm place; shake up the water, remove the cork and critically smell the air contained in the bottle. If it has any smell, and especially if the odor is in the least repulsive, the water should be rejected for domestic use. By heating the water to boiling an odor is evolved sometimes that otherwise does not appear.

Taste. — Water fresh from the well is usually tasteless, even though it may contain a large amount of putrescible organic matter. Water for domestic use should be perfectly tasteless, and remain so, even after it has been warmed, since warming often develops a taste in water which is tasteless when cold. If the water, at any time, has a repulsive or even disagreeable taste, it should be rejected.

Heisch's Test for Sewage Contamination. — The delicacy of the sense of smell or taste vary greatly in different individuals; one person may fail to detect the foul contamination of a given water, which would be very evident to a person of a finer organization. But if the cause of a bad smell, or taste, exist in the water, the injurious effect on health will remain the same whether recognized or not. Moreover, some water of very dangerous quality will fail to give any indication by smell or taste. For these reasons I attach especial importance to Heisch's test for sewage contamination or the presence of putrescible organic matter. The test is so simple that any one can use it. Fill a clean pint bottle three-fourths full of the water to be tested, and dissolve in the water a teaspoonful of the purest sugar — loaf or granulated sugar will answer — cork the bottle and place it in a warm place for two days. If in twenty-four to forty-eight hours the water becomes cloudy or muddy it is unfit for domestic use. If it remains perfectly clear it is probably safe to use.

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.]

286,176. FIREPLACE GRATE. — Albert Chase, Boston, Mass.

286,224. FASTENER FOR THE MEETING-RAILS OF SASHES. — George W. Reeve, Millburn, N. J.

286,234. LUMBER-DRIER. — John Owen Smith, Jamison, Ala.

286,250. REVERSIBLE STORE-DOOR LATCH. — August Arens, New Britain, Conn.

286,255. ROOFING-PAINT. — Mead Blake, Compton, Quebec, Can.

286,270. OVERFLOW CONNECTION FOR BATH-TUBS. — Allen P. Creque, New York, N. Y.

286,306. FIRE-ESCAPE. — Andrew J. Johnson, Cuyahoga Falls, Ohio.

286,321. PAVEMENT AND FLOOR. — Elijah B. Martindale, Indianapolis, Ind.

286,330. PROCESS OF CONVERTING CAST-IRON INTO FIBROUS WROUGHT-IRON. — Jacob Resse, Pittsburgh, Pa.

286,345. VISE. — George Thorp, South Bay City, Mich.

286,365. SPRING-COMPRESSION FAUCET. — Joseph Zane, Boston, Mass.

286,376. CLAMP AND VISE. — Charles L. Bellamy, Arlington, N. J.

286,385. ADJUSTABLE DRAWING-KNIFE. — John S. Cantelo, Taunton, Mass.

286,388. RATCHET BIT-BRACE. — Wm. R. Clarkson, Buffalo, N. Y.

286,393. FIRE-ALARM. — Frederick A. Copeland, La Crosse, Wis.

286,401. FIRE-PROOF BUILDING. — William H. Dolman, St. Helen, Oreg.

286,405. PAINT-BRUSH HOLDER. — Albert T. Edwards, South Kingston, R. I.

286,431. IMITATION STAINED-GLASS. — F. Benedict Herzog, New York, N. Y.

286,456. FIRE-ESCAPE. — Thos. Macdonough, Benton, Cheboygan County, Mich.

286,502. FIRE-EXTINGUISHER. — Pierre C. E. Tabouet, Paris, France.

286,519. FIRE-ESCAPE. — John Zerr, Keokuk, Iowa.

286,523. FIRE-ESCAPE. — Charles Bemis, Ludington, Mich.

286,539. DOOR-HANGER. — George W. Hey, Syracuse, N. Y.

286,542. ILLUMINATING VAULT-COVERS OR GRATING-TILES AND SURFACES MADE OF THE SAME. — Thaddeus Hyatt, New York, N. Y.

286,543. WRENCH. — Andrew Hyde, Hatfield, Mass.

287,552. LUMBER-DRIER. — David F. Noyes, Lewiston, Me.

286,555. VENTILATING-SCREEN FOR WINDOWS. — Emmeline W. Philbrook, Boston, Mass.

286,558. SKYLIGHT. — John C. Ryan, Detroit, Mich.

286,559. SASH-HOLDER. — Edson E. Shepard, Watertown, N. Y.

286,561. WRENCH. — Willard N. Smith and Herbert M. Vincent, New Bedford, Mass.

10,391 (*Reissue*). STEAM-HEATER. — William B. Dunning, Geneva, N. Y.

SUMMARY OF THE WEEK.

Atlanta, Ga.

ARMORY. — Gate City Guards, Peachtree St., brick, 50′ x 120′; cost, $15,000; Bruce & Morgan, architects.

BANK. — Gate City National Bank, Alabama St., brick and stone, with terra-cotta finish, in the Queen Anne style; cost, $100,000; Humphries & Norman, architects.

CHURCHES. — Unitarian chapel, Church St., half-timber; cost, $3,500; Humphries & Norman, architects.

Additions to St. Luke's Cathedral, Peachtree St.; cost, $3,400; Humphries & Norman, architects.

Trinity Mission (Methodist), frame, Boulevard; cost, $3,500; Bruce & Morgan, architects.

Zion (M. E.) Church (colored), brick, Clark St.; cost, $12,000: Bruce & Morgan, architects.

FACTORY. — The Swift Specific Co., cor. Hunter and Butler Sts., three-st'y brick factory, 75′ x 150′; cost, $16,000; E. G. Lind, architect.

HOTEL. — Hayden House, Marietta St., three-st'y brick, 42′ x 90′; cost, $11,000; Fay & Eichberg, architects.

OFFICE-BUILDING. — Maj. J. A. Fitten, cor. Marietta and Broad Sts., five-st'y brick and iron office-building, 50′ x 80′; cost, $30,000; Bruce & Morgan, architects.

PAVILION. — Gate City Street Railway, Ponce de Leon Springs, frame; cost, $3,500; Humphries & Norman, architects.

SCHOOL-HOUSES. — City of Atlanta, Calhoun St., two-st'y brick school-house, 60′ x 85′; cost, $10,000; Fay & Eichberg, architects.

"West End Academy," frame; cost, $5,000; Humphries & Norman, architects.

STATE CAPITOL. — Following the action of the Legislature, recently adjourned, Gov. McDaniel has appointed a commission, which met October 4 and 5. It was decided to erect the State capitol on the very eligible site bounded by Washington, McDonough, Hunter and Mitchell Streets, recently donated for that purpose by the City of Atlanta. In order to obtain plans and proceed to the erection of the building as soon as possible, the commission concluded to offer $3,500 for the most acceptable design, with full specifications, for a State capitol, to cost not exceeding $800,000, reserving the right to reject any or all designs, and to advertise in many of the leading journals of the country. Designs to be drawn to one-eighth scale, and to be received not later than December 19.

STORES. — Boynton Bros., Alabama St., two-and-a-half-st'y brick store; cost, $18,000; Gust. E. Leo, architect.

M. C. Keiser, Pryor St., three-st'y brick store; cost, $12,000; Bruce & Morgan, architects.

Lovejoy & Thompson, Broad St., two-st'y brick store, 25′ x 100′; cost, $6,000; Bruce & Morgan, architects.

R. W. Smith, Whitehall St., brick addition, 45′ x 70′; cost, $5,000; E. G. Lind, architect.

J. High, Whitehall St., alteration of front, iron and brick; cost, $4,000: Humphries & Norman, architects.

DWELLINGS. — E. C. Peters, Ponce de Leon Ave., two-st'y brick dwell.; cost, $12,000; Humphries & Norman, architects.

W. R. Hill & A. G. Greer, Church St., brick tenement, 50′ x 80′; cost, $7,000; Bruce & Morgan, architects.

Mrs. Esther Hymes, Forsyth St., three-st'y brick dwell.; cost, $4,500; Gust. E. Leo, architect.

Dickson, Peachtree St., brick and frame dwell.; cost, $7,000; Wm. H. Wood, architect, New York; Humphries & Norman, Superintendents.

Jas. M. Couper, Ponce de Leon Ave., two-st'y frame dwell.; cost, $12,000; Fay & Eichberg, architects.

Gate City Street Railway, Boulevard, 2 two-st'y frame tenements; cost, $8,000; Bruce & Morgan, architects.

W. G. Herndon, Spring St., 3 two-st'y frame tenements; cost, $8,000; Bruce & Morgan, architects.

Hoke Smith, West Peachtree St., two-st'y frame dwell.; cost, $6,000; Fay & Eichberg, architects.

L. B. Nelson, Boulevard, frame dwell.; cost, $8,000; Bruce & Morgan, architects.

W. P. Patillo, cor. Fair and Crew Sts., frame addition; cost, $8,500; E. G. Lind, architect.

Jno. A. Colvin, Washington St., two-st'y frame dwell.; cost, $4,000; Fay & Eichberg, architects.

H. Crankshaw, Nelson St., frame dwell.; cost, $4,000; Humphries & Norman, architects.

R. B. Toy, Forest Ave., two-st'y frame dwell.; cost, $3,500; Fay & Eichberg, architects.

Dr. E. W. Roach, McDonough St., frame dwell.; cost, $3,500; Humphries & Norman, architects.

Prof. H. Bumstead, Atlanta University, frame dwell.; cost, $3,000; Humphries & Norman, architects.

Jno. A. Stevens, Cane St., two-st'y frame dwell.; cost, $2,500; Fay & Eichberg, architects.

Baltimore.

BUILDING PERMITS. — Since our last report twenty-one permits have been granted, the more important of which are the following: —

Franz W. Knoch, two-st'y brick building, w s Towson St., s of Nicholson St.

J. B. N. Berry, three-st'y brick building, (square) e s McColloh St., bet. Wilson and McMechen St.

Wm. H. Fields, two-st'y brick building, s w cor. Paca and St. Peters Sts.

M. I. Davis, four-st'y brick back building, to No. 89 e s North St., bet. Saratoga and Pleasant Sts.

P. J. King, two-st'y brick stable, e s Hair St., s of Hudson St.

C. C. Rumpf & Co., two-st'y brick stable, s s Dover St., bet. Green and Emory Sts.

Jos. Scherer, two-st'y brick stable, rear of 133 w s Broadway, bet. Eastern Ave. and Bank St.

ALTERATION. — E. G. Perine, Esq., is making alterations to the building 56 South Gay St., to cost $2,500; from designs by George Archer, architect; Wm. H. McDonnal, builder.

Boston.

BUILDING PERMITS. — *Brick.* — *Vale St., Nos. 43 and 45*, Ward 21, for Dennison Manufacturing Co., manufactory, 42′ x 80′, three-st'y flat; D. H. Jacobs & Son, builders.

Parker St., cor. Centre St., Ward 22, for Owen Nawn, 2 dwells. and store, 27′ 6″ x 50′ each, three-st'y flat.

Monument St., cor. Medford St., Ward 3, for Howard Bros. & Co., mill, 48′ x 100′; five-st'y flat; ell, 23′ x 109′; L. Greely, builder.

Court St., Nos. 46 and 48, cor. Tremont St., Nos. 2-16, Ward 10, Augustus Hemmenway Estate, mercantile, 49′ and 58′ x 100′, seven-st'y flat; T. J. Whidden & Co., builders.

Camden St., near Huntington Ave., Ward 22, for Metropolitan R. R. Co., stable, car-house and shop, 160′ and 216′ x 237′, one-st'y flat; material, iron; John Quirk, builder.

Commonwealth Ave., Nos. 176 and 178, Ward 11, Wm. P. Wesselhoeft, dwell., 28′ x 47′, three-st'y mansard; Morton & Chesley, builders.

Commonwealth Ave., No. 178, Ward 11, for James B. Bell, dwell., 28′ x 47′, three-st'y mansard; Morton & Chesley, builders.

South St., near Pleasant St., Ward 24, for Boston Gas Light Co., boiler and pump-house, 43′ 6″ x 69′, one-st'y pitch; Wm. M. Rumery, builder.

Bicknall Ave., from Roxbury St., Ward 19, for Andreas Blume, 2 dwells., 32′ x 38′, three-st'y flat; O. Fifield, builder.

Thomas Park, Nos. 41 and 42, Ward 14, for Henry B. Stratton, 2 dwells., 20′ x 33′, three-st'y flat; Henry B. Stratton, builder.

Wood. — Cambridge St., rear, near North Howard St., Ward 25, for N. & G. D. Chamberlain, 2 dwells., 15′ x 20′, two-st'y flat; Otis Wheeler, builder.

Crawford St., near Glen Hill Ave., Ward 21, for Mrs. E. D. Mallory, dwell., 36′ 6″ x 47′, two-st'y pitch; Spinney & Haddock, builders.

Waumbeck St., near Warren St., Ward 21, for Neil McNeil, dwell., 26′ x 41′, two-st'y pitch; McNeil Bros., builders.

Crosby St., near Washington St., Ward 23, for Patrick Crosby, dwell., 21′ x 31′, two-st'y pitch; John Gately, builder.

Sumner St., near Bremen St., Ward 2, for Daniel V. Fotts, store, 18′ x 30′, one-st'y flat; S. Y. Chase, builder.

Dorchester Ave., cor. Hyde St., Ward 15, for John Nolan, dwell. and store, 27′ x 35′, three-st'y flat; Richard Ramsell, builder.

Lewis St., Nos. 62 and 64, cor. Marginal St., Ward 2, for Mrs. Rosanna M. McDevitt, dwell. and store, 25′ x 35′, two-st'y flat; John F. Slattery, builder.

Dorchester Ave., Nos. 814 and 816, Ward 15, for Joel W. Tuttle, 2 dwells., 14′ 6″ x 19′ 6″ and 22′ x 33′, two-st'y mansard; P. P. Nichols, builder.

Centre St., near Orchard St., Ward 23, for Martin Downey, 2 dwells., 12′ 3″ x 16′ 6″ and 19′ 6″ x 28′, two-st'y pitch.

Hyde Park Ave., near Walk Hill St., Ward 23, for Richard E. Cochran, 2 dwells., 20′ and 26′ x 36′, two-st'y pitch; Richard E. Cochran, builder.

Greenwich Pl., near Fenton Pl., Ward 24, for Adomiram Burrell, 2 dwells., 23′ x 36′, two-st'y flat; Wm. J. Jobling, builder.

Call St., cor. Child St., Ward 23, for Mrs. Winifred Smith, dwell., 24′ x 32′, two-st'y mansard; John O'Keefe, builder.

Allan St., near Ashmont St., Ward 24, for Sarah E. W. Smith, dwell., 30′ x 30′, two-st'y pitch; J. F. Haines, builder.

Savin Hill Ave., cor. Sagamore St., Ward 24, for Daniel Cronin, dwell., 26′ x 36′ 6′, two-st'y pitch; Wm. J. Jobling, builder.

Dorchester Ave., near Commercial St., Ward 24, for Michael Cunningham, blacksmith-shop, 20′ x 50′, one-st'y flat; Alfred Ford, builder.

Washington St., near School St., Ward 23, for Joseph Emhoff, dwell. and store, 29′ x 48′, three-st'y flat; Gottlieb Merz, builder.

Dudley St., near Washington St., Ward 23, for Edward D. Jones, dwell., 15′ x 19′ and 21′ x 22′, one-st'y mansard; Edward D. Jones, builder.

Stanwood Ave., rear, near Columbia St., Ward 24, for Alexander H. Clapp, stable, 16′ x 30′, one-st'y pitch; Addington Noble, builder.

Parkman St., No. 37. Ward 24, for Davies Eddy, dwell., 26′ x 29′, two-st'y pitch; Studley Bros., builders.

Unnamed St., near Ashland St., Ward 24, for A. W. Wright, 4 dwells., 25′ x 36′, two-st'y pitch: J. E. Currier, builder.

Baxter Sq., No. 15, for Wm. R. Cavanagh, stable, 20′ x 40′, one-st'y pitch; Wm. R. Cavanagh, builder.

Marginal St., rear, near Orleans St., Ward 2, for Eastern R. R. Co., storage of coal, 16′ x 100′, one-st'y flat; H. Bissell, builder.

Linden St., near Pratt St., Ward 25, for Lebanon Pratt, 2 dwells., 14′ x 23′ and 20′ x 32, two-st'y pitch; Wm. B. Cameron, builder.

Brooklyn.

BUILDING PERMITS. — *Willoughby Ave.*, s s, 138′ w Marcy Ave., 2 three-st'y brownstone dwells., tin roofs; cost, $6,000; owner and carpenter, Samuel Peden, Jr., 399 Marcy Ave.

Thirteenth St., s s, 387′ e Third Ave., three-st'y frame tenement; tin roof; cost, $3,000; owner and builder, S. B. Oulton, 108 Boerum Pl.; architect, Arthur Stever.

North Second St., Nos. 425, 427 and 429, n s, 100′ w Ewen St., 3 two-st'y frame dwells., tin roofs; cost, each, $2,000; owner, William Ward, 243 North Second St.; architect, O. H. Doolittle; builders, Sammis & Bedford.

Elizabeth St., n e cor. Dwight St., three-st'y brick hotel and store, gravel roof; cost, $8,555; owner, C. Cohn; builder, E. W. Detlefsen.

Ninth St., s e cor. Seventh Ave., 6 three-st'y and basement brownstone dwells., tin roofs; cost, each, $8,000; owner, Charles Long, 367 Seventh St.; builder, J. T. Wood.

Third Ave., s e cor. Forty-sixth St., 2 three-st'y frame dwells., tin roof; cost, each, $2,000; owner, James Tibball, Thirty-eighth St., between Fourth and Fifth Aves.; architect, L. B. Bogart; builders, R. Whelan and James Tibball.

Evergreen Ave., No. 144, s w cor. Jefferson St., three-st'y frame store and tenement, tin roof; cost, about $5,000; owner, Edward H. E. Eickson, 88 Jefferson St.; architect, J. S. Wightman.

Seventeenth St., s s, 165′ w Fifth Ave., two-st'y brownstone dwell., tin roof; cost, $5,000; owner, Thomas Word, Eighteenth St., near Fifth Ave.; architect, Thomas Corrigan; builders, Wm. and Thos. Corrigan.

Third Ave. s e cor. Thirty-ninth St., three-st'y frame store and tenement, tin roof; cost, $3,500; owner, Mary Cronin, 1009 Third Ave.; architect, H. J. Skinner.

Pearl St., n e cor. Concord St., four-st'y brick store and tenement, tin roof; cost, $11,000; owners, S. & J. C. Burling; architect, I. D. Reynolds.

Lynch St., s s, 356′ e Harrison Ave., 3 three-st'y frame double tenements, tin roofs; cost, each, $4,500; owner, L. Bossert, 648 Union Ave.; architect, J. Platte; builder, J. Auer.

Jackson Pl., w s, 80′ s Sixteenth St., 6 two-st'y frame dwells., tin roofs; cost, each, $900; owner and architect, B. Banks, 227 Eighteenth St.; builders, T. Reese and T. Crocker.

Elm St., s s, 100′ e Central Ave., 4 three-st'y frame double tenements, tin roofs; cost, each, $3,600; owner, Aug. Marschal, 145 Fulton St., New York City; architect, G. Hillenbrand.

Quincy St., No. 796, s s, 100′ w Patchen Ave., two-st'y brownstone front dwell., tin roof; cost, $4,800; owner, J. W. Robbins, 794 Quincy St.; architect, W. H. Baker; builders, N. Wood and E. T. Baker.

Maujer St., n s, 524′ e Waterbury St., one-st'y brick factory, gravel roof; cost, $8,000; owner, Wm. Brookfield, 516 Madison Ave., New York City; builder, J. Bisson.

Seventh Ave., s w cor. Carroll St., brick dwell., three stories front and two stories on rear; cost, $15,000; owner, W. E. Scovil, 255 Sixth Ave.; architect, H. J. Farquhar; builders, E. T. Rutan and — Sims.

Foot of North Eleventh St., 250′ w First St., two-st'y brick shop, gravel and felt roof; cost, $13,000; owner, Pratt Manufacturing Co., foot of North Twelfth St.; architect, F. L. R. Sweet; builders, J. Rooney and J. Fallon.

Rodney St., No. 156, s s, 95′ from Lee Ave., three-st'y brick dwell., tin roof; cost, $4,000; owner, Jno. E. James, 107 South Fourth St.; architect, W. E. Grassau; builders, T. Winslow and Langer Bros.

Madison St., n s, 351′ w Marcy Ave., 4 three-st'y brownstone front dwells., tin roofs; cost, each, $5,500; owner and builder, Joseph I. Kirby, 73 Gates Ave.; architect, A. Hill.

North Henry St., Nos. 12 *and* 14, e s, about s Herbert St., 2 three-st'y frame double tenements, tin roofs; cost, each, $3,500; owners, F. Lange and Louisa Lither, on premises; architect, E. Schrumpf; builder, Jacob Schoch.

Third Ave., e s, 60′ s Twentieth St., 5 three-st'y frame tenements and stores, gravel roofs; cost, each, about $3,500: owner, John McGrath, 226 — Twentieth St.; architect, W. H. Wirth.

Bainbridge St., n s, 250′ e Reid Ave., 3 two-st'y brick dwells., gravel roofs; cost, each, $3,500; owner, Kate Acor, 372 Tompkins Ave.; architect, V. Fields; builder, L. Acor.

Herkimer St., n s, 309′ 9″ e Bedford Ave., 3 three-st'y brownstone front dwells.; tin roofs; cost, each, $9,000; owner, M. E. Stafford, 835 Dean St.; architect and builder, J. Stafford, same address.

Alterations. — *Monroe St., No.* 42, two-st'y brick extension; cost, $2,000; owner, Mrs. Ada Stocker, on premises; architect, G. P. Chappell.

Lefferts Pl., No. 154, two-st'y brick extension; cost, $4,000; owner, Edward Ostram, on premises; architect and builder, F. D. Norris.

Siegel St., s s, 275′ e Bushwick Ave., three-st'y brick extension, gravel roof; cost, $9,000; owners, Wm. Wall's Sons, on premises; architect, C. L. Johnson; builders, Mauer & Lebwerer.

Chicago.

Factory. — Furst & Rudolph are architects for the four-st'y factory on Wells St., for Theo. A. Kochs, to cost $20,000.

Flats. — A. Smith is architect for the flats with stores below, to be built on West Polk St., for Jno. Hoffmann, to cost $20,000.

Wm. Longhurst, architect, planned the three-st'y flats and stores on State St., for D. Harry Hammer, to cost $15,000.

John Otter, architect, has completed plans for three-st'y flats, to be built on Garfield Ave., for Andrew Almert.

Three-st'y flats and stores are to be built on Butterfield St., for J. C. Trapp, to cost $9,000; T. Karls, architect.

Houses. — Frommann & Jebsen, architects, have completed plans for 3 two-st'y dwells., for C. P. Buckingham on Larrabee St., to cost $15,000.

Enos Hasson will build a three-st'y dwell. and store on Twenty-first St., to cost $13,000.

Wm. Longhurst, architect, planned the 3 two-st'y dwells. on West Jackson St., to cost $9,000; owner, R. R. Williams.

Dixon & Townsend, architects, made plans for the two-st'y dwell. on Michigan Ave., for W. J. Knights, to cost $8,000.

L. J. Halberg, architect, has completed plans for Mrs. Hale's three-st'y dwell. on West Jackson St.

Cudell & Blumenthal, architects, have completed plans for 4 two-st'y dwells., to be erected on State St., to cost $15,000.

Edbrooke & Burnham, architects, have plans ready for two-st'y dwell., to be erected on West Jackson St., for J. G. Keith, to cost $9,000.

J. P. Huber, architect, made plans for three-st'y dwell., to be built for J. Kadic; cost, $10,000.

Warehouse. — G. Sugg will build three-st'y warehouse on Ewing St., to cost $12,000; P. W. Ruehl is the architect.

Building Permits. — John Wilkowski, two-st'y dwell., 225 Cleaver St.; cost, $4,000; architect, Joe Wilkowski; builder, John Wilkowski.

Rev. A. Damon, three-st'y dwell., 232-234 West Eighteenth St.; cost, $8,000; architect, John Dillinburgh; builders, Tobin & Turner.

Andrew Almert, three-st'y flats, 394 Garfield Ave.; cost, $6,500; architect, John Otter; builder, A. Almert.

J. D. Hall, two-st'y dwell., 3132 Groveland Park Ave.; cost, $3,500; architect, Jno. D. Clifford; builder, H. D. Safford.

D. Harry Hammer, three-st'y and basement store and flats, 3148-50 State St.; cost, $15,000; architect, Wm. Longhurst; builder, A. Bemont.

O. P. Buckingham, 3 two-st'y dwells., 823-827 Larrabee St.; cost, $15,000; architects, Frommann & Jebsen; builder, Chas. Thiele.

Jno. Hoffman, 5 three-st'y store and flats, 873-877 Polk St.; cost, $20,000; architect, A. Smith; builder, L. Daezling.

L. A. Babcock, two-st'y dwell., 761-763 Lake St.; cost, $4,500.

Enos Hasson, three-st'y store and dwell., 206-208 Twenty-first St.; cost, $13,000.

Patrick O'Malley, two-st'y dwell., 79 Hammond St.; cost, $4,000; architect, John Otter; builder, Chris. Luehring.

M. Haefer, three-st'y store and dwell., 646 Wells St.; cost, $10,000; architects, Cudell & Blumenthal; builders, Aug. Kenker & Co.

M. Farrant, 2 two-st'y dwells., 199-201 Mather St.; cost, $3,500.

Fries Bros., three-st'y factory, 300 North Carpenter St.; cost, $6,000; architect, H. Sierks; builder, F. Hansen.

Mrs. Hale, three-st'y dwell., 528 West Jackson St.; cost, $6,000; architect, L. J. Halberg; builder, Geo. Lehman.

W. J. Knight, two-st'y dwell., 1508 Michigan Ave.; cost, $8,000; architects, Dixon & Townsend; builder, Geo. Lehman.

R. R. Williams, 3 two-st'y dwells., 1034-1038 West Jackson St.; cost, $9,000; architect, Wm. Longhurst.

G. Sugg, three-st'y warehouse, 48-50 Ewing St.; cost, 12,000; architect, P. W. Ruehl; builders, Schwartz & Kies.

Thos. Morrissey, two-st'y dwell., 3617 Wentworth Ave.; cost, $3,000; architect, Gottig; builder, R. E. McKay.

A. B. McCourtie, three-st'y dwell., 241 Park Ave.; cost, $7,000; architects, J. M. Van Osdel & Co.; builder, Wm. Scott.

E. H. Gould, two-st'y dwell., 730 Washtenau Ave.; cost, $4,000.

J. Kadic, three-st'y dwell., 138-140 De Koven St.; cost, $10,000; architect, J. P. Huber; builders, Benes & Sayer.

C. Otradovec, three-st'y dwell., 212 De Koven St.; cost, $4,200; architects and builders, Benes & Sayer.

M. Krestufek, two-st'y dwell., 587 Nineteenth St.; cost, $2,500; architects and builders, Benes & Sayer.

P. Bartholmae, 4 two-st'y dwell., 502 State St.; cost, $15,000; architects, Cudell & Blumenthal; builder, Chas. Thiele.

J. G. Keith, two-st'y cellar and attic dwell., 522 West Jackson St.; cost, $9,000; architects, Edbrooke & Burnham.

J. F. Lawrence, 4 cottages, 85-87-93-95 Emerson St.; cost, $4,000.

A. Varvinck, two-st'y dwell., 82 Johnson St.; cost, $3,000.

J. C. Trapp, three-st'y store and flats, 3802 Butterfield St.; cost, $9,000; architect, T. Karls; builder, D. G. Robinson.

D. E. Sibley, elevator building, Thirty-first St. and Stewart Ave.; cost, $3,500.

C. V. Waite, three-st'y dwell. and store, 2624-2626 State St.; cost, $7,000.

S. M. Drake, 4 two-s'ty dwells., 5-11 Armour St.; cost, $5,000.

Helen Keeney, 4 cottages, 267-171 Hirsch St.; cost, $5,000.

Theo. A. Kochs, four-st'y and basement factory, 158-160 Wells St.; cost, $20,000; architects, Furst & Rudolph; builders, Ebertshauser Bros.

H. Schlotke, cottage, 754 West Fourteenth St.; cost, $3,000; architect and builder, A. Soula.

M. Cronin, two-st'y dwell., 879 Blue Island Ave.; cost, $3,500; architect and builder, A. Soula.

J. McNulty, cottage, 62 Henry St.; cost, $3,500.

A. J. Kasper, three-st'y dwell., 482 North Franklin St.; cost, $6,000; architect, S. M. Randolph.

H. Mueller, three-st'y dwell., 778 Sedgwick St.; cost, $8,000; architect and builder, H. Mueller.

John Murphy, two-st'y dwell., 514 Taylor St.; cost, $3,000.

Cincinnati.

Building Permits. — Mrs. Gamble, two-st'y brick dwell., Falls St. near John St.; cost, $4,500.

Thos. Brye, two-st'y brick dwell., s w cor. Willow and Chappel Sts.; cost, $20,000.

Dr. Judkins, two-st'y brick dwell., cor. Race and Longworth Sts.; cost, $2,500.

6 permits for repairs; cost, $7,500.

Total permits to date, 678.

Total cost to date, $2,515,250.

Cleveland.

Blocks. — For Morgan, Root & Co., brick block on Bank St.; cost, $130,000; Cudell & Richardson, architects.

For L. E. Holden, brick block on Bond St.; cost, $40,000; Thos. Simmons, contractor; Coburn & Barnum, architects.

Church. — Fairmount Presbyterian church on Fairmount St.; cost, $12,000; J. T. Watterson, contractor; W. H. Phillips, architect.

Houses. — For O. F. Brush, stone house on Euclid Ave.; cost, $75,000; Thos. Linas, contractor; Geo. H. Smith, architect.

For S. T. Everett, stone house on Euclid Ave., cor. Case Ave.; cost, $90,000; Andrew Dall and A. McAllistar, contractors.

For S. T. Wellman, brick house on cor. Cedar and Case Aves.; cost, $20,000; Coburn & Barnum, architects.

Three dwellings for Chas. French, on Cedar Ave.; cost, $2,800 each; J. W. Flova, builder. F. O. Bate, architect.

City forge on the Lake Shore Railway; cost, $4,500; J. T. Waterson, contractor; F. C. Bate, architect.

Reservoir. — High service reservoir for the Cleveland Water-Works, on Woodland Hills, capacity, about 35,000,000 gallons; estimated cost, $125,000; John Whitelaw, Supt. and Engineer.

Detroit.

Building Permits. — John Brinke, frame house, 660 Russell St; cost, $3,600.

F. Wittlesberger, double brick house, Ontario St.; cost, $6,400.

Petrequin Bros., 3 frame houses, National Ave.; cost, $4,100.

Board of Metropolitan Police, brick and stone headquarters, East Park; cost, $30,000; George Lloyd, architect.

Jos. Maples, brick house, Lincoln Ave.; cost, $3,200.

C. W. Shippey, brick house, 959 Cass Ave.; cost, $3,200.

Mortimer L. Smith, brick house, Woodward Ave.; cost, $9,000.

A. C. Varney, frame house, Hancock Ave.; cost, $3,000.

Milwaukee, Wis.

Building Permits. — J. Fepertinger, brick building, for H. Beastrin, in Seventh Ward; cost, $3,000.

John Kraatz & Son, brick dwell. for N. Peters, on Third St., Sixth Ward; cost, $6,700.

J. A. McCann & Co., warehouse, for Davis Bros., on National Ave., Fifth Ward; cost, $16,000.

Edward Schmidt, 3 cottages, for B. F. Pereles, on Seventh Ave., Eleventh Ward; cost, $5,000.

New York.

Apartment-Houses. — The project proposed last spring, to build an apartment-house on the Fifth Avenue Plaza, has been revived, the ground having been purchased by Messrs. Phyfe & Campbell, for whom Mr. Geo. W. DaCunha is drawing plans.

Mr. John Harvey will build two apartment-houses with stores below, 25′ front on the north side of One Hundred and Twenty-fifth St., 300′ e of Seventh Ave.

Dwellings. — Seven first-class houses, brick and brownstone, 21′ 6″ x 60′ each, are to be built on the west side of Lexington Ave., between Forty-fifth and Forty-sixth Sts., for Mr. Thos. Gilford, from designs of Mr. Charles Graham & Sons, who will also be the builders.

There will also be erected, adjoining, a five-st'y apartment-house, 48′ x 95′; cost, about $52,000; same owner and architects.

Houses. — On the north side of Fifty-seventh St., 125′ w of Seventh Ave., 5 first-class houses are to be built on the lot, 100′ x 100′, recently purchased by Messrs. R. Sidenberg; D. & J. Jardine, architects; Wm. Gedney and Sinclair & Wills, builders.

Building Permits. — *Beaver St., Nos.* 60 *and* 62, *William St., Nos.* 2, 2½, 4, *and* 6, *and Pearl St., Nos.* 107, 109, 109½, *and* 111, eight-st'y brick office-building, and slate roof; cost, $530,000; owner, N. Y. Cotton Exchange, M. B. Fielding, Pres't, Hanover Sq.; architect, Geo. B. Post; builders, A. A. Andruss & Son, and McGuire & Sloan.

Fifty-seventh St., n s, 100′ e Eleventh Ave., five-st'y brick tenement, tin roof; cost, $13,000; owner, Jas. Higgins, 1132 Second Ave.; architect, A. B. Ogden; builder, Jno. Keating.

Eighty-seventh St., n s, 175′ w Ninth Ave., 3 three-st'y brick dwells., (brownstone fronts), tin roof; cost, each, $9,000; owner, architect, and builder, J. M. Grenell, 1764 Broadway.

Avenue A, n w cor. Seventy-ninth St., 3 five-st'y brick tenements and stores, tin roof; cost, each, $15,000; owner, Michael Duffy, 146′ e One Hundred and Second St.; architect, A. Spence.

Avenue A, s w cor. Eightieth St., 4 five-st'y brick tenements and stores, tin roof; cost, each, $15,000; owner and architect, same as last.

One Hundred and Thirty-second St., n s, 325′ w Sixth Ave., three-st'y brick dwell., brownstone front, tin roof; cost, $15,000; owner and architect, James Barrett, 4 and 6 New Chambers St.

One Hundred and Thirty-fifth St., n s, 70′ w Third Ave., four-st'y brick tenement, gravel roof; cost, $9,000; owner, Martin Norz, One Hundred and Forty-first St. and Third Ave.; architect, John Rogers.

Lexington Ave., s w cor. One Hundred and Eleventh St., five-st'y brick flat and store, tin roof; cost, $20,000; owner, Patrick Skelly, 137 West Fifteenth St.; architect, Jno. B. Snook; builder, not selected.

One Hundred and Thirty-third St., s s, 500′ w Sixth Ave., 3 three-st'y brownstone front dwells., tin roofs; cost, each, $9,500; owner, George W. Dunn, 254 Eleventh St.; architect, John Brandt.

West One Hundred and Twenty-sixth St., No. 230, 2 five-st'y brick and stone tenements, tin roofs; cost, each, $12,000; owner, John Fullam, 2145 Second Ave.; architect, M. J. Merritt; builders, John Fullam, and R. A. Hollister.

Ninety-first St., s s, 94′ e First Ave., three-st'y brick stable and office, one-st'y brick foundry, gravel roofs; cost, $10,000; owner and builder, George H. Toop, 421 East Eighty-eighth St.

Greene St., No. 8, four-st'y brick store, tin roof; cost, $25,000; owners, Trustees of Louis L. Lorillard, No. 3 Mercer St.; architect, Jno. B. Snook; builder, John Demarest.

Beaver St., No. 18, four-st'y brick restaurant and dwell., tin roof; cost, $30,000; owners, Wiehl & Widman, 32 Pearl St.; architects, H. J. Schwarzmann & Co.; builders, J. & L. Weber, and P. J. Duffy.

West Fifty-seventh St., Nos. 546 *and* 548, four-st'y brick factory, gravel roof; cost, $25,000; owner, G. W. Hollis, Boston, Mass.; architect, Geo. F. Fuller.

East Seventy-ninth St., Nos. 156-166, 5 four-st'y brownstone front flats, tin roofs; cost, each, $15,000; owner, John J. McDonald, 1532 Fourth Ave.; architect, A. Hatfield.

Ninety-eighth St., n s, 59′ w First Ave., one-st'y brick store-house, tin roof; cost, $9,000; owner, Knickerbocker Gas Light Co., 74 West Eleventh St.; builders, Moran & Armstrong.

Ninety-ninth St., s s, 89′ e Second Ave., two-st'y brick workshop and office, tin roof; cost, $8,000; owners and builders, same as last.

West Twentieth St., Nos. 515 *and* 517, 2 four-st'y brick tenements, tin roof; cost, each, $12,000; owner, Clinton Sutphen, 20 Nassau St.; architect, Geo. B. Pelham.

First Ave., e s, 75′ s One Hundred and Eighteenth St., 2 five-st'y brick tenements and stores, tin roofs; cost, $30,000; owner, Matthew Coogan, 422 East One Hundred and Fifteenth St.; architects, Cleverdon & Putzel.

One Hundred and Forty-fourth St., s s, 425′ e Willis Ave., 2 four-st'y brick tenements, tin roofs; cost, each, $7,000; owner, Fannie T. Cole, 592 East One Hundred and Forty-first St.; architect, J. F. Burrows.

One Hundred and Forty-fifth St., s s, 100′ w Willis Ave., 2 two-st'y brick and frame dwells., tin roofs; cost, each, $2,300; owner, Martha J. Dinant, 724 One Hundred and Thirty-ninth St.; architect, H. S. Baker; builder, John Knox.

Alterations. — *Railroad Ave.*, w s, on southerly line of One Hundred and Seventy-second St., present wooden walls to be replaced by brick walls, and internal alterations; cost, $5,000; owner, N. Y. & H. R. R. Co., Grand Central Depot; builder, Jos. Richardson.

Bowery, Nos. 190, 192 *and* 194, attic raised to full st'y, internal alterations; also a one-st'y brick extension, alterations to front; lessee, Marks Arnheim, 253 West Forty-fourth St.; architect, John B. Franklin.

Ninety-first St., n s, 169′ e First Ave., raise three-st'y, and a five-st'y extension on easterly side, gravel roof; cost, $12,000; owner, John J. Schillinger, 20 East Ninety-second St.; architect, A. B. Ogden.

Broadway, No. 541, repair damage by fire; cost, $13,500; owner, Estate of Peter Gilsey, office, 1193 Broadway; architect, S. D. Hatch; builder, Henry Wallace.

East Broadway, No. 195, raise roof, and internal alterations; cost, $3,500; owner, Solomon Jacobs, 149 East Broadway; architect, E. B. Hays.

First Ave., Nos. 2317 *and* 2319, raise attic to full st'y, and a one-st'y brick extension; cost, $3,000; owner, Jacob Loeb, 209 East Houston St.; architect, Wm. Grant.

Forty-fifth St., Nos. 320-324, internal alterations; cost, $4,500; lessee, Benj. Lichtenstein, 208 East Seventy-ninth St.; architects, H. J. Schwarzmann & Co.; builders, Fessler & Wolfart.