

FEBRUARY 12, 1881.

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

CONTENTS.

SUMMARY:—

Architectural Societies.—Artistic Reform in India.—A New Park for Boston.—Subterranean Telegraph Wires.—The Boston Memorial Association.—Sawing of Steel.—Liability of Employers.—Fall of the Buffalo Railroad Station.—Elevated Railroads in Boston.—Burning of a Church at Cambridge, Mass.	73
IMPROVED TENEMENT-HOUSES IN NEW YORK.—I.	75
SANITARY PROTECTION ASSOCIATION FOR LONDON.	76
BOOK NOTICES:—	
A Book on Apartment-Houses.—An Easy Book on Sanitation, 78	
THE ILLUSTRATIONS:—	
Exhibition Building, Boston, Mass.—House at Chicago, Ill.—Porte du Croux, Nevers, France.—Castle at Caen.—Design for a Hotel Entrance-Hall.	78
CORRESPONDENCE:—	
Letter from New York.	79
COMPETITIONS OF THE NEW YORK SOCIETY OF DECORATIVE ART. 80	
GERMAN DISCOVERIES AT THE FOOT OF OLYMPUS.	81
COMMUNICATIONS:—	
How to Form a Chapter of the American Institute of Architects.—Architects' Price Books.	81
NOTES AND CLIPPINGS.	82

WE notice the formation or renewed activity of several architectural societies, a sure sign of professional prosperity. A number of gentlemen in San Francisco have associated themselves with a view to the formation of a Chapter of the American Institute of Architects, and from the names included in the list, with the interest manifested by the members, it seems probable that the new society will have a full measure of the usefulness and success which we hope for it. In New York the beginning of an Architectural Association has been formed by some of the younger men, who propose to use it as a means of artistic training. At each meeting of the club problems for competition are to be given out, and a collection of casts, photographs and books will be formed as rapidly as possible. A new but valuable feature in the competitions which form the amusement, as well as the most serious business of the club is the criticism of the designs by some architect of reputation at every meeting. Such a programme can hardly be too highly commended. New York is the most difficult of all places for the formation of professional societies. The number of other distractions is so great, and the size of the city scatters so widely the members of a club, that business is apt to languish for want of a reasonably full attendance at meetings. The young gentlemen in question should be warned of this, and reminded that if faithful attendance is peculiarly irksome, it is for that reason still more a duty, and that if New York offers more distractions than other places, it also offers greater rewards to those who have strength of mind enough to resist their allurements. In Philadelphia, the large and active Chapter of the Institute has secured permanent rooms, which have been handsomely furnished, and will serve as a place of resort for members at all times. If special exhibitions or entertainments could be provided now and then, as is done by the Berlin architects, so as to keep up the interest in the place, this new movement might be signally successful.

A SINGULAR movement in regard to certain matters of art is now, as we learn from the *Builder*, going on in India. All connoisseurs have observed with regret the gradual deterioration of taste and skill which has shown itself in the carpets, embroideries, jewelry, shawls, porcelain and other products of Hindoo industry since the peninsula became, so to speak, Europeanized. By the introduction of English manufactures, to which novelty gave an undeserved value, the native canons of excellence, formed by long study of a limited range of subjects, were rudely shaken, while the necessity under which their own industries were soon placed, of endeavoring to meet the vicious taste of Europeans, contributed still more to corrupt the pristine excellence of the Eastern workmanship. This deterioration, which seems to have progressed of late with increased rapidity, has attracted the attention of the natives themselves, so that if we may believe the authority which the *Builder* quotes, a systematic agitation has begun for the purpose of recalling the Indian workers in gold, brass, silk, and wool to a consciousness of the inferiority of their present products, and

discouraging the use and imitation of European goods. Minstrels, it is said, frequent the great fairs of Western Hindostan, and sing songs on these rather unpoetical themes. Nothing is more to be desired than that such exhortations should bear fruit.

A NEW and very valuable suggestion has been made by the Boston Park Commissioners, based upon a report of Mr. F. L. Olmsted, who, after examining the upper valley of the water-courses which are to form the principal attraction of the new Back Bay Park, believes it practicable to include the shores of one of them, to its source, in an extension of this park, comprising only a narrow strip, just wide enough to contain the stream and its banks, with a driveway, foot-path and riding "pad" on one or both sides, continuing the avenues of the park itself a distance of about six miles to Jamaica Pond, a picturesque lake of considerable size, lying in a beautiful suburban region. At present, Muddy River, as the stream is called, flows for some distance between banks steep and wooded on one side, and marshy on the other, but unoccupied, and of little value. By filling on the side toward the marsh, an artificial bank could be formed, which would be planted to correspond with the other, and the current of the stream, thus narrowed, would become swift and wholesome. Three small ponds interrupt its course at intervals, which would be extended by dams so as to form pleasant sheets of water, diversifying the landscape, and affording storage basins for storm-waters during rains. The whole scheme is not only feasible at a very small expense, but will, it is thought, prove ultimately the more economical mode of dealing with what would otherwise soon become, by the rapid growth of population near it, a foul and dangerous water-course, which, after it had reached a certain stage of pollution, would have to be walled in and covered over, at great expense, while the adjoining territory would inevitably depreciate in value, and be left for the poorest class of occupation, instead of the best, which would seek the vicinity of a pure stream, with dry, verdure-clad banks, such as the proposed improvement would give.

ANOTHER ingenious device for removing city telegraph and telephone wires from their present inconvenient position upon the roofs of buildings has been brought forward. The plans for conveying the wires in hollow earthenware tubes laid through the streets are open to the objection that traffic in the streets is necessarily obstructed whenever new wires are to be laid, or old ones repaired; but the latest invention overcomes this difficulty by substituting for the subterranean tubes a hollow block so formed as to constitute a curbstone and gutter in one piece. Rows of these laid end to end and properly clamped take the place of the ordinary curbs, and through perforations left in them the telegraph wires can be run with great facility. The blocks are made of cast-iron, very heavy and strong, so as not to be injured by the contact of trucks and drays, while they can be taken up and replaced without serious interference with the use either of the street or sidewalk. The metal of which they are composed may, it would seem, have some influence upon the electric condition of the wires passing through them, but this can probably be provided for. If not, there would be no difficulty in substituting the harder modern concretes for the iron. Some of those made with granite aggregates, and saturated after setting with silicate of soda, possess a tenacity and resistance quite sufficient for the purpose, besides being much less liable to inconvenience from induced currents than any metallic enclosure.

THE Boston Memorial Association, a body which appears to have been for some time in a state of suspended animation, has recently shown signs of renewed life on becoming the recipient of a bequest from the late Nathaniel Cushing Nash, giving five thousand dollars toward the erection of a statue of the famous Unitarian preacher, Theodore Parker. Twelve thousand dollars will be, it is estimated, the cost of a suitable monument, and the association has issued an appeal to the public to contribute funds sufficient to make up the required sum. We hope subscriptions will be forthcoming, not alone in order that the city may be adorned with a worthy memorial of one of her most cherished sons, but also, in some measure, from curiosity to see how the association will manage the affair. If we are not mistaken, this is the first business of the kind which it has seriously taken in hand, and if the result should prove, as we hope and believe it

will, the efficacy of such organizations in selecting public works of art with intelligent discrimination, and disposing them with due regard to their effect and permanent value as a means of civic adornment, the example will not be lost on the many American towns which are richer in statues and monuments, or in citizens disposed to give them, than in the taste and experience necessary to decide judiciously what to do with them.

A NOVEL application of friction, the first description of which was looked upon as incredible, has actually come into practical use in some of our large machine shops. A disk of steel, some four feet in diameter, is driven at a speed of three or four revolutions per second, after the manner of a circular saw, and lathe chucks are set on a sliding carriage so that a bar of steel can be inserted between them, and brought, while rapidly rotating, against the edge of the disk. The bar is turned in the same direction as the disk, so that their peripheries move in opposite directions at the point of contact, and by the enormous friction so developed the bar is cut through in a few seconds. The kerf is wider than the disk, and the cut ends of the bar show indications of having been melted, but one of the strangest circumstances of the operation is that the steel gives no indication of heat, and apparently the two pieces of metal at no time come into actual contact. Whether the energy of the friction is so great as to volatilize the particles affected, before they have time to communicate their heat to the adjoining mass; or whether, as some think, the effort is not due to friction, but to the impact of the molecules of air which accompany the course of the revolving disk, is uncertain; but whatever the explanation, the phenomenon offers some new and interesting problems to scientific investigation.

ANOTHER case involving the liability of employers to their men for accidents occurring to them while engaged in their duties has been decided in Pennsylvania. The *Iron Age* gives a careful résumé of the facts and the decision, from which we learn that the injured individual was a carpenter, employed by the National Tube Works, at McKeesport, to assist one of its mill-wrights in setting a fly-wheel in a pit prepared for it. One of the preliminary operations was the placing of a heavy timber on the wall of the pit, and while Bedell, the plaintiff, was tilting the beam with his hand, as it hung suspended from the derrick, the hook of the chain broke, and the timber falling, his hand was crushed. No satisfactory evidence was offered to show any negligence on the part of the company, in furnishing defective chains or tackle, and the Supreme Court, reversing the decision of the court below, ruled that mismanagement on the part of the mill-wright whom it employed would not make the company liable in such cases. In the words of the judge: "The master does not warrant the competency of any of his servants to the other. It matters not that they are of unequal grade, if the services of each in his particular labor is directed to the same general end. And although the inferior in grade is subject to the control and direction of the superior, whose act caused the injury, the rule is the same." If the company had knowingly sent an incompetent man to take charge of the work, it would have been guilty of negligence in so doing, and would have been liable for the consequences of such negligence, but not otherwise.

By the weight of snow accumulated upon it, the roof of the New York Central Railroad Station at Buffalo, one of the most important structures on the line, was crushed in on Tuesday last, and fell, killing several persons. Almost by a miracle, a train standing ready in the station was spanned in such a way that the passengers were not injured, but the building was completely ruined, and several days must elapse before the *débris* can be cleared away. The New York Central and Hudson River Railway Company seems to be unfortunate in the engineers that it employs. For the inexcusable carelessness or ignorance which led to the catastrophe at the Madison Square Garden, one of the engineers of the road was, as the evidence showed, principally responsible; and this second fatality can hardly be attributed to anything but a similar neglect of duty. It is certainly no new thing to have winter storms at Buffalo, and that allowance should be made for the possible weight of snow upon roofs is one of the rudimentary rules of construction. The maximum weight to be provided for, and the means of resisting it, with the proper factor of safety, are all the

subjects of plain and definite rules in the common text-books; and that excessive snows should cause the fall of a building no more palliates the carelessness of the engineer who designed it, than the rising of the tide would excuse the folly of a person who left valuable property by the seaside, at low-water mark.

ELEVATED railroads are again occupying the attention of the people of Boston. A new petition has been presented to the Legislature for the incorporation of a rapid transit company, whose object is stated to be the construction of lines of communication between the different portions of the city and suburbs, without specifying whether the lines are to be above or below the surface of the ground. The petitioners make a very fair offer to pay all damage to private property at once, and after the road is fairly in operation to submit to arbitrators the assessment of damages for whatever obstruction or annoyance may be caused to the public or abutters on any streets, and to pay whatever sums the arbitrators shall award. Nothing could seem more reasonable than this proposition, and the names of the petitioners, with the large subscriptions already made to their capital stock, give an assurance of responsibility and good faith which has been lacking to some of the associations which have previously sought similar privileges. It is understood that this company intend to adopt the Meigs single-rail elevated tramway which was first shown in operation at Philadelphia in 1876; but they do not announce their plans, and so long as they guarantee to indemnify all who may be aggrieved by their constructions, whatever may be their nature, it seems reasonable to suppose that they will seek all possible means of reducing the annoyance caused by them to the lowest point. If an underground road would serve this purpose better, they will be at liberty, and will have every inducement to adopt it; and the practicability of such subterranean lines is seriously discussed in private circles, although the newspapers, with few exceptions, persist in keeping their eyes fast closed to the whole subject, only reiterating, with a curiously provincial obstinacy, that Boston has no need of rapid transit; that the lack of any call for better facilities of transportation is sufficient reason for refusing to grant any; that the present facilities are sufficient, and so on; quietly ignoring the facts before them, that the richest, most populous and rapidly growing portions of the city are even in summer virtually farther from the business centre than Fordham from Wall Street, or Windsor from the Bank of England, while in winter this distance is trebled; that the slow, infrequent, and uncomfortable transportation which the horse-railways furnish is every day becoming slower and more uncomfortable; that the steam-railways also neglect more and more the convenience of their travelling patrons, and moreover that so far from there being no call for a change, indignation meetings have recently been held in two or three suburban places to demand better service. What further demonstration would be necessary to attract their attention we cannot imagine; perhaps the lynching of a few railroad presidents would have the desired effect.

A LARGE and handsome church in Cambridge, near Boston, was destroyed recently for the second time by fire originating from the basement furnaces. The building was of brick, and thus, though not so inflammable as the ordinary stone church, presented every needful facility for concealing and protecting the flames which spread at will through the interior until they had gained an irresistible force. Thirty minutes after the alarm was sounded the roof fell in, followed by the two towers, and a few moments afterwards nothing remained but a heap of ruins. The insurance was comparatively light, so that the loss to the congregation will be severe. We are not informed of the precise defect in the furnace to which the fire is to be attributed, but presume that it originated in the wooden boxes through which, in the majority of such cases, cold air is supplied to the furnace. As so often happens, it is probable that in one of these, opening on the lee side of the building, the current was temporarily reversed by a strong gust of wind, and the hot air was drawn back from the registers, through the furnace, and out through the box, raising it to a temperature high enough to kindle it. This is the history of scores of similar occurrences, and will be that of many more, until we learn to enclose the fiery servants which our climate requires us to keep, within a structure which is not likely to burst into a blaze when the wind happens to take an unfavorable direction.

SUGGESTIONS FOR A BETTER METHOD OF BUILDING TENEMENT-HOUSES IN NEW YORK.¹—I.

It is not much more than half a century ago since the most poorly paid workman in the city of New York, if industrious and thrifty, might live in his own little independent house; and thanks, partly, to the geographical conditions of the Quaker City, but still more to its eight hundred or more building societies, the same thing is to a great extent still true of Philadelphia. But for some time previous to this a custom had prevailed in New York among more "genteel" people (often, however, having no larger income than those of the proletarian class) by which a house of the better sort, in a good neighborhood, was divided for economical reasons among two or three families. This custom gradually extended to poorer and yet poorer quarters, till, about forty years ago, real estate owners found it greatly to their profit to build what has long been known as the tenement-house, a single one being sometimes, of late years, rented to twenty families or more. The importance of the subject to the health, morals, and future condition of New York may be apprehended when it is considered that not less than three-quarters of the residents of New York live in tenement-houses, — worse than the low-class *insulae* of ancient Rome, inasmuch as they, with all their swarming *canaculæ*, were at least, as their name implies, isolated from any other building, thus securing on all sides light, ventilation, and comparative exemption from fire, — while medical and police statistics demonstrate that most of our periodical epidemics originate, and most of the violent crimes of the community are committed, in tenement-houses; and when, moreover, it is known that nearly ninety millions of dollars have been invested in tenement-house property in New York City within the last twelve years, and that in nearly every case the traditional plan of the self-contained house for a single family has in all its main features been followed, instead of the thoroughly new departure the problem calls for.

But nevertheless, the ordinary up-town tenement-house of New York of the present day, though bad enough, with its four suites to a floor of an area of perhaps not over 1,500 square feet, and its one dark room out of a suite of two, or its two dark rooms out of a suite of three, is a great improvement on and yields a home that costs no more rent by the month than the corner of a reeking cellar or stifling garret, by the day, in down-town haunts; thus suggesting the possibility of giving something still better to the poor for the same money, and that with no increase of cost to the capitalist, taking comparative expenditures for insurance and wear and tear into consideration. For, aristocrats as the monthly lessees of the tenement-houses may be in comparison with the rag-pickers or beggars, who can make no provision beyond the next night's lodging, one may well ask, even of the former, as Dr. Potter of Grace Church in New York recently did, "How can they keep the Ten Commandments in such a place?"

There is the more occasion to inquire into the question, inasmuch as the recent tenement-house competition, so much exploited in the current newspapers, resulted in the prizes being awarded for designs, each of which included the dark middle room, which is the horror of physicians and visitors among the poor, which has been so strenuously inveighed against by the Board of Health, and which, in practice, would have necessarily involved the official condemnation of the plans by the Building Department.

Premising, then, that no tenement-house ought to be built on a lot so ridiculously incongruous for the purpose as one with only one-fifth of its boundaries open to light and air; but assuming — no matter what rapid transit may accomplish towards providing independent homes for many of the better sort who now live in tenement-houses, which in the recently-annexed district of the city might well be in the shape of disconnected cottages, — that there always must remain in the heart of New York City a very large body of the proletarian class, and that it will take many years to wean its citizens from the real estate habits of several generations, and to convince them that a lot four times as long as it is wide, and having light only at each end, is a grave mistake under almost any building conditions to which it may be subjected, an attempt toward meeting the problem will be made in the accompanying plan and description of a tenement-house, to be built on a 25 by 100 feet lot, with special reference to the following points, the relative importance naturally attached to each of which is indicated by the sequence shown.

- I. Security against conflagration.
- II. Distribution of light.
- III. Ventilation.
- IV. Drainage and other sanitary appointments.
- V. Seclusion of each suite of rooms and publicity of access to them.
- VI. Convenience of arrangement.
- VII. Inexpensiveness.

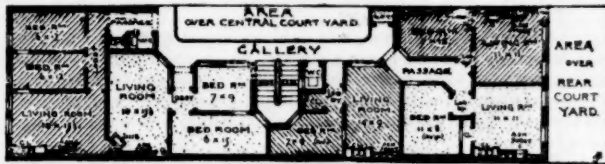
The following details of points III and IV will also receive special attention:

- a. The feasibility or non-feasibility of automatic arrangements for ventilation.
- b. Adequate measures to prevent improper and clogging substances from entering the water-closets, etc., and their pipes, or for their removal.
- c. Arrangements for cleansing of yards, areas, passages, and entries, and for keeping the passages into the sewers open and unobstructed.

¹ A paper read at the Fourteenth Annual Convention of the American Institute of Architects, by A. J. Floor, F. A. I. A., being a report, ordered at the previous convention, on the best method of solving the tenement-house problem.

d. Lifts for raising coal and other supplies, and chutes for ashes.

The plan of the structure all the way up covers the whole area, with the exception of the rear courtyard ten feet wide, required by law, and a sidewise central courtyard and staircase opening, embracing an area nearly double that of the rear yard, free to the outer air.



The story level with the street would comprise two main divisions: the portion in the rear of the staircase being allotted to two tenements; while the division in front would be occupied by a store communicating with one of these, and by a passage from the street, giving access to both the tenements, and to the staircase, leading to all the suites of rooms on the upper floors. By dispensing with the door between the store and the passage of the frontward tenement the latter might be completely detached from the store if the occupants of the latter should require no house-room; but if, on the contrary, they should wish for more, the two tenements may be readily thrown into one, without interfering with any advantages of arrangement as to light, etc.

The plan for the upper stories indicates accommodation for five families to each; the front division showing suites of three rooms each for two families and the rear showing suites of two rooms each for three families. If however an arrangement of four or six families to a floor should be preferred to one of five, the scheme provides for the change. For four families it would only be necessary to consider the portion of the plan rearward of the staircase a blank and to duplicate on it the arrangement shown in front of the stairs, the only changes required being the removal of the short partition A about a foot further back, on a line with the centre of the staircase. For six families the process has only to be reversed.

The front is designed to be built almost altogether in brickwork; which, with other forms of terra-cotta or baked earth, most experts now agree in considering the best fire-resisting material known. The heads of the doors and windows would be arched with brick; the cornice would be altogether of the same material, and terra-cotta, in the specific sense of the term would be used for the window-sills, while the lintel over the show-window of the store would be of iron, protected by plaster.

It will be most convenient to consider under one head the first two points, viz.:

I and II. *Security against Conflagration and Distribution of Light.* The outside walls throughout, including those which enclose central courtyard and staircase, to be of suitable quality of hard brick, those towards the street and central courtyard — so as to present a tolerably fair surface to the eye — being a face brick, though not of the expensive Philadelphia or Baltimore variety. The passages leading frontward and rearward from central yard to be vaulted with brick. The partitions to be of hollow lime blocks, of the kind produced by the Fire-Proof Building Co., of New York; these are lighter and very little more expensive than wooden stud partitions, and hold the plaster at least as well as lathing. If objection is made to iron beams and shallow brick arches for floors on account of expensiveness, an approximately fire-proof arrangement may be obtained by framing the floors with timber in the usual way, but protected above and below by fire-resisting material as practised by the same company, and by P. B. Wight & Co., of Chicago.

In studying what has been accomplished for the model tenement system in London by Prince Albert, Alderman Waterlow, Mr. Allen, Lady Burdett-Coutts, the Peabody trustees, and others, since the formation, in 1843, of the Association for the Improvement of the Dwellings of the Industrial Classes, and particularly since the great impetus given to the movement in 1862, as also the less successful efforts made in a similar direction in Berlin under the royal family, in Italy under the Marquis Torrigiani and Count Cavour, in Stockholm under the then Crown Prince of Sweden, and in France under Napoleon III, as well as the remarkable work of French manufacturers in lodging their workmen and their workmen's families in Mulhaus and Guise, — not forgetting similar movements in Boston and New York some twenty-five or more years ago, and the recent work of Mr. Alfred White in Brooklyn, — one lesson in construction is emphasized by concurrent experiment and experience above all others; and, indeed, so various are the building materials and methods of different localities, and so unlike are the household arrangements called for by the diverse social habits of different countries, that it may be said to be almost the only lesson in lay-out that applies equally to all places. It is this: that the staircase or staircases common to all the suites of a tenement-house, and the passages leading from it or them to each suite, should be everywhere open to the light, and should be of fire-resisting material, even if the other portions of the house are not. The dark staircases and passages of the low-class tenement-house, often used nearly as much as receptacles

in which to throw filth as for their legitimate purpose of gangway, and filled with stagnant air and noisome odors, are even more perhaps than the middle dark rooms the despair of the sanitarian. The occasional windings of the stairs, with their accumulations of filth, are positively dangerous to the tread; and even if the decent housewife of one suite were willing to add her dirty, shiftless neighbor's share of what ought to be common work to her own, her labors would be in vain, and the beginning of a fresh accretion of filth would follow her soap-suds and scrubbing-brush within five minutes. Our common passages, then, will be simply open galleries supported and fenced by iron; and our staircase, set in the central yard, and giving access to each successive floor, will be of the same material, except as to the treads, which will be of thick slabs of slate. The floor of the galleries will also be of slate, which wears much longer than freestone.

If the house throughout were built with as much regard to fire-resisting quality as we have already called for, and if it were well policed, there would be slight danger of a fire spreading beyond a single point. Indeed, official records, so far as there has been opportunity for examination, seem to show that the densely populated tenement-house, with its resident army of observers, is, notwithstanding the intemperate and careless habits that almost necessarily prevail among the very poor, really less exposed to the spread of fire than are the houses of the wealthy, where whole floors of empty bedrooms are likely to be left for hours to the defective furnace flue or the unguarded grate fire, while the entire family are assembled on the principal floor, and all the servants are in the basement. But to guard against a panic and a rush to the common means of ascent and descent (the danger of which is, however, decreased in exact proportion as the residents have confidence in the fire-resisting qualities of the building and the trustworthiness of the means of escape) the staircase would be so constructed as to be practically independent of its enclosures; and it would be carried all the way up to the roof, to afford additional opportunity for the escape of the occupants of the upper floors in case of an alarm, by passing to the roofs of the adjoining houses; as also for convenience of access to the roof for drying clothes, and as a place of resort after sunset during the summer heats.

The roof, instead of being tinned as usual, to be finished on top with a coating of Portland or Keene's cement. The spread of fire from one house to another (as proved by all the great historical conflagrations, as well as by current observation) is generally by the roof, and the cementing proposed is a great safeguard; while, to walk upon, its advantages over any of the usual roofing finishes are obvious. An iron parapet railing to be carried all around the roof, excepting at party-walks.

It is presumed that the demands of the law for fire-escapes would be fully answered by the iron staircase from roof to street level, the iron gallery or balcony around the central yard, and the fire-proof vaulted passage from the latter to street. If not, the usual fire-escape, in the shape of iron balconies and ladder, should be provided in front of the building.

The further distribution of light is as follows:—

Every room is lighted by windows opening directly to the outer air, each of the living-rooms having two, or a double window. Every water-closet, also, has direct light, and the lifts are in close proximity to it. The cellar to be entered through areas in the street and both court-yards.

It is to be noted that if the house were to be duplicated in such a way that the central yard of each would come against the other, the capacity of the present central yard, so far as light is concerned, would be doubled.

III. *Ventilation* is a subject on which equally distinguished authorities differ materially, and presents peculiar difficulties in its application to the dwellings of uneducated people, to whom—as physicians and official visitors among the poor abundantly testify—it seems as much of a sinful waste to lose a cubic inch of the hot air generated by the stoves, which cost them so much for fuel, as it would be to throw away the bread needed for their children's mouths. As a rule, the proletarian class despises as effeminate, and resents as officious, anything looking toward the ventilation of their squalid dwellings.

As regards what may, for distinction's sake, be called natural ventilation, the design shows provision for it in the fact that every window in the house communicates directly with one of the three permanent reservoirs of outer air, viz., the street and the two court-yards, while every room door communicates with a passage opening on the same. The always open passages from the street to the yards establish a permanent connection between these reservoirs, and of the whole of them with "all out-of-doors" above. Thus a large amount of fresh moving air is secured, which, in combination with the voluntary opening of doors and windows in summer, will yield very considerable ventilation, beyond the control of the inmates. In winter the necessary occasional opening of outer doors, combined with the upward suction produced by fire in the stoves, will also secure ventilation to a large extent. For those who are alive to the advantages of extra ventilation, and who may occasionally need privacy, which would be lost by leaving open the doors, further opportunity is afforded by the use of swing transom-lights, placed over the doors of passages and rooms.

The writer has learned from much observation that shaft ventilation or the use of registers, particularly when basilar ventilation, either

alone or in combination with top ventilation, is employed is very rarely tolerated by the inmates of such a house. If the shaft is large they turn it into a closet, and almost invariably stuff its aperture with rags or paper. If, however, the attempt is made under a strict agreement and constant policing, or under peculiarly favorable conditions of personal influence, he would recommend a foul-air exit-flue to the roof in each room. In the living-room this should be separated from the stove flue only by a thin iron or slate partition, so as to produce by the hot contact continual rarefaction and the consequent upward passage of the foul air. One evil of the tenement-house—the cooking stove in the dog-days—would thus be turned to the advantage of the occupants.

If an effort should be made to introduce automatic ventilation, without the knowledge of the occupants (which, however, the writer believes would be futile, as no orifice could be made that would not be nosed out by the indignant tenant, and be promptly stuffed up), he would suggest that fresh air might be introduced above the windows (the use of black brick in the circular segmental window-heads of the front affording an opportunity for practically invisible outside orifices), and the foul air carried off by a flue opening from the other side of the room, and rising to the roof; the openings in the room for both ingress and egress being concealed in the cove moulding of a very plain cornice, though even such an unimportant decoration would otherwise be out of keeping for this grade of buildings.¹ Another mode of introducing fresh air would be from a few feet above the roof, by means of an inlet pipe capped with a down-current cowl.

The ventilation for sewerage will be glanced at under the next head—that of drainage.

A SANITARY PROTECTION ASSOCIATION FOR LONDON.²

IN the winter of 1877-8, the writer was asked to deliver two lectures on sanitation before the Philosophical Institution in Edinburgh, and he gladly accepted the duty, believing that there would be no great difficulty in giving simple explanations on the subject, and in laying down rules so simple that each householder might easily apply those rules to his own case, and so render himself secure against the chief dangers arising from bad drainage, bad water-supply, and bad ventilation. The writer holds the opinion that, while niceties of construction cannot be too warmly debated among manufacturers and engineers, they are, nevertheless, of small importance in comparison with a few very simple conditions, the observance of which will practically ensure that a house is in good sanitary order. Very briefly, these main conditions may be stated as follows:—

1. The liquid refuse from the house must have a free passage to the town sewer.
2. The air from the town sewer must not have a free passage into the house-drains.
3. No air or gas from the drainage channels of the house must enter the house.
4. No water or liquids must leak from those channels into the ground under the house.
5. The drinking-water must be supplied and stored in such a manner as to run no risk of contamination.
6. The air of the dwelling-rooms must be supplied from without, uncontaminated.

By the time that the preparations for the lecture were complete, the writer had arrived at the discouraging conclusion that its delivery would be practically useless—that it would add little or nothing to the knowledge of experts, and that the ordinary householder could not be expected so completely to master the subject as might warrant him in trusting to his own judgment when applying the principles. What conclusion, then, was to be drawn? Apparently, only the very lame one, that each occupier ought to call in professional advice, to see, in the first instance, that proper arrangements had been made, and from time to time to inspect whether they continued in working order. But what advice could the public obtain? The plumber and builder were interested parties, and in many cases were insufficiently educated to give sound advice. The engineer, if consulted, must be a man of standing, and would charge a fee such as would be prohibitory in the case of houses belonging to persons of moderate means. The lecturer, then, was in the position of having to tell his hearers that the water-carriage system, as it is called, had introduced into their houses a very serious danger; that the complexity of pipes and traps was such that this danger could not be guarded against without professional advice and continual inspection, and yet that no practical means existed by which men of moderate means could obtain trustworthy professional advice. This conclusion was so unsatisfactory, that he was led to consider whether no plan could be devised for giving sound professional advice and inspection in return for small fees. The idea then occurred to him that the principle first applied by the late Sir William Fairbairn to the inspection of steam-boilers was also applicable to the inspection of houses. An association might be formed, which should employ an engineer or engineers of their own. Each engineer so employed could inspect and report on a large number of houses annually, and if employed exclusively on this work, he would rapidly acquire great

¹ Two years after the above was written I find that a patent has been secured by Mr. W. S. Sayers for introducing fresh air from the outside by means of double louver slats inserted in a frame above the windows and carrying it into the room through the top of the inside architrave, which of course must be of available width.

² Part of a paper read before the Society of Arts, Jan. 12, by Prof. Fleming Jenkin, F. R. S.

skill and experience. The writer knew that large numbers of well-educated young men, who passed through his class in the University, and through their practical apprenticeship, would be glad to give their time for about £150 per annum. If these men were to inspect houses, and report upon them under the eye of a consulting engineer of standing, the householder would have a guaranty that the principles on which the reports were drawn up, and the inspections made, were such as commanded the assent of the heads of the profession; and, nevertheless, the fee of the consulting engineer who gave this guaranty need not be more for, say, one hundred houses, than he would have to charge for a single house if he were called in for that one special case.

An estimate showed that, including the payment of a secretary, rent for offices, and sundry minor expenses, the proposed benefits could be given in Edinburgh for a subscription of £1 1s. per annum, an estimate which has since been justified by an experience of three years.

The idea was explained privately to a few friends, and met with so much favor that draft rules were passed, and a circular issued.

The rules of the association were revised by the provisional committee, consisting of leading citizens in Edinburgh, and the writer was able, at his lecture before the Philosophical Institution, just three years ago, to announce that the association for Edinburgh was constituted; since that time, and under those rules, the association has worked with perfect smoothness and success. It has given satisfaction to its members; it has paid its way; it has spread widely through Scotland, and its action has in no instance given rise to any challenge or ill-feeling. Under these circumstances, the Council of the Society of Arts accepted the present paper, by which the announcement is made that a similar association is now founded in London.

The rules of the London Association are appended. They differ little from those of the Edinburgh Association, and such differences as exist have been adjusted by the London Council. The following abstract will probably be sufficient to explain what the association undertakes to do. The objects are defined as follows:—

1. To provide members, at moderate cost, with such advice and supervision as shall insure the proper sanitary condition of their own dwellings.
2. To enable members to procure practical advice, on moderate terms, as to the best means of remedying defects in houses of the poorer class in which they are interested.

The entrance fee, which entitles to all privileges of membership for twelve months, is £2 2s. for houses situated within five miles of Charing-Cross, and rated below £400 per annum. The subsequent annual subscription for the same houses will be £1 1s. Special rates for larger houses can be ascertained from the secretary.

The following are the privileges of the members:—

1. A report by the engineer of the association on the sanitary condition of one dwelling, with a sketch diagram of pipes, and specific recommendations, if necessary, as to the improvement of drainage, water-supply, and ventilation.
2. The inspection of any alterations in the sanitary fittings which may be carried out by the advice, or with the approval, of the officers of the association.
3. An annual inspection of premises by the engineer, with a report as to their sanitary condition.
4. Occasional supplementary inspection and advice concerning the dwelling or property in respect of which he is a subscriber, whenever this advice may be desired. The fee for such occasional advice will be fixed from time to time by the Council.
5. Reports by the officers of the association as to the sanitary condition of any dwellings or properties designated by any member, or on any plans for proposed buildings, on payment of a fee to be fixed by the Council from time to time, with special relation to the rent, or estimated rent, of the premises.
6. A vote in the election of the Council, who manage the affairs of the association.

Any member is free to leave the association at any time; non-payment of the annual subscription will suffice to cause the removal of his name from the roll. The association has no share capital and no profits. The Board of Trade has signified their willingness to license the Edinburgh Association as one of public utility under the act of 1867, Victoria 30-31, c. 151, and the Board will, no doubt, be prepared to grant an equal privilege to the London Association.

The Council of the association will, by its articles, be unpaid; the officers have no interest in any outlay or patent.

The first Council will be constituted as follows:—President, Prof. T. H. Huxley, LL.D., F.R.S., etc. Ordinary Councillors, J. S. Bristowe, M.D., President of the Society of Medical Officers of Health; Sir Wm. Gull, Bart., M.D., D.C.L.; Rev. Harry Jones, rector of St. George's-in-the-East; Hugh Leonard, late Engineer-in-Chief, Bengal Presidency; F. Clifford de Lousada, retired commander R.N.; Sir W. Tyrone Power, K.C.B.; E. C. Robins, F.R.I.B.A.; J. S. Burdon Sanderson, M.D., LL.D., F.R.S.; Sir Henry Tyler, M.P.; Prof. Alex. W. Williamson, F.R.S., etc. Honorary Standing Council, Alfred Wills, Q.C. Honorary Treasurer, T. Holmes, M.A., Cantab., Surgeon, and Lecturer on Surgery at St. George's Hospital.

The following will be the first paid officers of this association, holding office at the will and pleasure of the Council:—Consulting Engineers, Fleeming Jenkin, F.R.S., M.I.C.E., Professor of Engineering in the University of Edinburgh, and Consulting Engineer to the Edinburgh Sanitary Protection Association; and H. C. Forde, M.I.C.E., Resident Engineer, W. K. Burton, Secretary, Cosmo Innes, M.I.C.E., 6 John Street, Adelphi.

A short account will now be given of the manner in which the system is practically worked. A householder or tenant who thinks of joining the association will write to the secretary, Mr. Cosmo Innes, at 6 John Street, Adelphi. In his letter he will state the nature of the premises in respect of which he wishes to subscribe. He will mention the ratable value or actual rent, and the situation of the house. If the situation be within five miles of Charing-Cross, and the ratable value of the house under £400, he will know that the terms of the subscription are £2 2s. for the first year, and £1 1s. for

each subsequent year. He may either ask the secretary for further information, or he may at once signify his intention of joining the association as a member, and inclose a check for £2 2s. He may, if he pleases, call and obtain verbal information from the secretary. When a member joins he incurs no liability, except for the first two guineas. He may or may not pay any subsequent annual subscription; but it is hoped that most of the members who join will remain members of the association, since otherwise they will not receive the full benefit of the scheme. As soon after the member has joined as circumstances allow, the secretary will write to the member, and inquire when it will be most convenient to him to have his house inspected. When the inspection is arranged, the member will be asked to let his plumber meet the inspecting engineer, and also to have the ground opened up in such a manner as to expose the main drain of the house at some point between the house and the town sewer. If the extra expense which this entails is objected to, the inspection cannot be thorough, but may still be useful. The sums paid for opening up the ground do not pass through the hands of the association. Unless some grave defect is discovered in the drain under the house, the opening up of the drain, being done outside the house, need cause no inconvenience to the inmates. The engineer inspects the condition of the main drain, and, assisted by the plumber, takes notes of every pipe, trap, and sanitary convenience in the house; he makes inquiries as to smells and ventilation; he examines all cisterns and arrangements for water-supply. When this is practicable, he tests the condition of the pipes by pouring paraffin, or some other volatile strong-smelling substance, into the drainage system from the roof. If the smell can anywhere be detected inside the house, a flaw is thereby indicated; this is then laid bare. As soon after the inspection as may be, the member receives a detailed report, describing the condition of his house, accompanied by a sketch diagram showing every pipe and trap; recommendations for improvements are made when necessary, as is usually the case, and some rough estimate can be given of the probable cost of those improvements when this is desired. The improvements recommended are those only which are shown by every-day experience to be necessary. The wishes of the occupier are taken into account, and the more important are distinguished from the less important alterations. The recommendations made are sufficiently specific to enable the member to obtain an estimate from his plumber or builder of the cost of carrying them out. The cost is often considerable, but the member may feel assured that the association has no interest whatever in recommending any expenditure.

The interest of its officers is in the other direction. The less that is done to a house the less trouble they will have. The less that is done the more popular the association will be. It is, however, only fair to state that, in the great majority of cases, subscription to the association leads to an outlay in the first year largely in excess of the two guineas. This outlay does not pass through the hands of the association. If the member decides to carry out the recommendations made, or any of them, and gives the secretary notice of his intention, arrangements will be made to inspect the work when completed, or nearly completed. This inspection of the plumbing and other work is one of the most valuable privileges which the member obtains by joining the association. When the alterations have been satisfactorily completed, the member can, on application, obtain a certificate as to the sanitary condition of his premises. This certificate will be of great value to hotels, lodging-houses, and schools. The recommendations made to members invariably include such arrangements as will preclude the necessity for ever again incurring expense in opening up the drain for inspection.

At this point the writer feels that probably all present believe more has been promised than can possibly be performed for the money. This feeling will not be least strong among those best qualified to give an opinion. The writer can, however, speak with the authority of complete experience. It has been shown that these services can be rendered in a thorough and efficient manner, by one resident engineer, for 450 houses, or even 500, in one year. The reports, sketch diagrams, and letters in Edinburgh are open to the inspection of all whom it may concern. During three years there has not been one case of complaint that the houses were not thoroughly examined, or that the reports were not sufficiently detailed. At the annual meeting, member after member has risen to express his sense of the thoroughness of the work, and Scotsmen are not easily deluded or even satisfied on this point. At the outset the writer could only plead his own conviction that the work could be done. He is now able to say that, in 1,200 cases, it has been done.

The second inspection is a much simpler matter; when the guinea for the second year has been paid, the resident engineer visits the premises, assures himself, by ocular inspection, that there is a free outfall of sewage; paraffin or its equivalent is again poured into the drainage system, and a thorough search made for dry traps, broken joints, or worn-out lead. If the pipe under the house has been laid afresh, in accordance with the association's specification, it is tested, to ascertain whether it remains water-tight. Inquiries are made as to any alterations which may have been made since the last visit. The condition of the cisterns is examined. The member then receives a second report, in accordance with the facts of the case. This practical and experimental inspection is repeated year after year; it entails no cost beyond the guinea, and no inconvenience. It renders the member practically secure that no imperfection in the drainage system can remain long undetected. More frequent in-

spections could be arranged for at cheap rates, in special cases, such as schools, where injuries are more likely to occur. The association, therefore, does not appeal only, or even mainly, to those who have reason to believe that there are grave defects in their houses. Its chief business begins when the house is in good order. The householder is then in a position analogous to that of a manufacturer who has bought a good steam-boiler; he knows that the apparatus is good, but liable to decay and derangement; he employs the principle of co-operation to obtain skilled supervision to protect him from the consequences of that decay or derangement. A less measure of inspection than is offered will not protect a house from the dangers inseparable from the system of water-carriage for sewage.

There are other minor functions which the association will fulfil.

It will examine plans of projected buildings for architects and builders. This provision is taken advantage of to a considerable extent in Edinburgh.

The association will also examine houses for persons who propose to take them on lease, or for landlords who propose to let houses.

If a member desires a report on the condition of some other premises than his own, such as lodgings occupied by the poor, a report will be made at moderate rates, as a matter of special arrangement. All these reports are strictly private and confidential.

All the objections raised in Edinburgh experience has shown to be of no value, but there remains one objection which will always be serious. Persons shrink from becoming members because they fear that by enrolling they will be led to expend a considerable sum of money in sanitary improvements. "I do not mind the two guineas," they say, "but I shrink naturally from the fifty guineas which this may entail." The objection is valid, but yet it sounds strange when it is urged by a person who says, "I know my house is in very bad order; it was built long ago; rats abound; smells pervade, and we are much troubled by sore throats." What expenditure of money is justifiable if not that which tends to secure good health? No doubt the hesitation is partly due to a doubt whether the sanitary engineer really knows anything at all about the matter. The association does its best to remove that doubt; the reports explain what is wrong, why it is wrong, and what will put it right. The member is left to his own common-sense as a guide whether he will follow the recommendations made. It is a matter of no pecuniary interest to his adviser whether the job is done or not, and that adviser is selected and watched by a council consisting of men as well qualified for this purpose as can be found in London.

A BOOK ON APARTMENT-HOUSES.

If our patriotic and professional pride is somewhat moved to criticism, our respect for feminine attainments in a new field is increased by the perusal of a little book by Mrs. Sarah Gilman Young on the construction of apartment-houses, as observed by her in France, Switzerland, Germany, and Italy.¹ Without exception, the author's remarks on what she has observed are most sensible and useful, and although she is evidently quite unacquainted with what has been accomplished in this country of late years in the way of apartment-house construction, the book will, we hope, meet with a wide circulation among those who have no other opportunity for learning the advantages which the "flat" system, with good planning, presents over the method of separate dwelling-houses which has hitherto been the rule among us. It is perhaps a little to be regretted that Mrs. Young's knowledge of the New York and Boston apartment-houses should have been so limited; and her naive assumption that only architects who have "completed their studies in Europe" can possibly know anything about the subject is rather amusing. Probably there are few respectable architects in this country who could not have selected for her from their libraries plans of French "*maisons à louer*" better than those which her publishers have rudely reproduced from the pages of the "*Architecture Privée*" and other sources, while in every many points the American establishments far surpass any European examples in convenience, comfort and healthfulness.

Unfortunately, no scale is given with the plates, so that it is impossible to criticise them minutely, but in the plan of the apartment which the author presents as a model, the dimensions of the dining-room are figured 5 feet 8 inches by 14 feet 11 inches, while the kitchen is of about the same width, but considerably greater length. There is, of course, no bath-room, and neither the kitchen nor any of the bedrooms have the slightest pretence at a closet. The "*salon*" has, indeed, two, the door of one of which is so contrived as to block up that of the adjoining bedroom whenever it is opened. From the dining-room there is no exit except through the *salon* or the kitchen, while one of the bedrooms enjoys not only a main entrance from the hall, but also a door from the hall into the bed-alcove, which might, it would seem, be dispensed with, since no one could get in or out of it without crawling either over or under the bed, unless perhaps it is placed there for the benefit of the bed-maker, as is sometimes done. With these exceptions, and a few others, the plan is excellent: there are, however, American housekeepers who would find it decidedly unsatisfactory, and it must be confessed that we have seen examples where the unrivalled skill in planning of the French architects appeared more conspicuously.

But this does not affect the main fact which is made apparent by the drawing, that a small family can be housed in privacy and com-

fort on one floor of a building thirty-five feet square, and if Mrs. Young succeeds as she ought in impressing this upon the attention of housekeepers of limited means, the minor details of arrangement may safely be left to future study.

EASY LESSONS IN SANITARY SCIENCE.²

We believe it was Sheridan who made the remark that easy writing was generally very hard reading, and we rarely take up what purport to be elementary treatises on scientific subjects without being reminded of this saying. Dr. Wilson's book is by no means a signal illustration of it, but it must be acknowledged that less discursiveness and more science, better acquaintance with some portions of the subject, and greater caution in accepting untrustworthy facts and theories from others, would have made the work much more useful to those for whom it is designed. On certain matters Dr. Wilson writes earnestly and well; particularly in regard to land drainage for the cure of malaria; a subject on which he seems qualified both by theoretical and practical knowledge to give instruction.

We do not know how reliable the author's statistics may be, but it is probable that many will learn with surprise that during the first two years of our civil war, out of 71,192 deaths in the army from all causes more than two-sevenths were from malarial fevers; and it is his opinion that, excluding the diseases of infancy and old age, one-third of all the deaths in the world are caused by malaria. Some graphic descriptions are given of the chilly districts of our Atlantic coast, as compared with the fertile and salubrious farms of well-drained regions; followed by an interesting account of drainage works undertaken on the author's own land.

The rest of the book we can hardly commend so highly. Incidents and illustrations are abundant and well chosen, but the theoretical portion is not always of the greatest value.

It is, for instance, hardly justifiable at this day to dispose of the energetic and able engineers who advocate separation of sewage from surface drainage with the remark that "of course, those who write thus have not thought much about the matter;" and the author's reason for disapproving of small, tight drains, that "the very most important function of the sewer is to drain the soil," does not add to the authority of his opinion on the subject. The chapter on plumbing, also, which is treated of with, as it were, a modestly averted head, contains a number of the strangest errors. An illustration is given of what appears to be intended for a pan water-closet, but both the illustration and the accompanying description evince a complete misapprehension of the construction or use of the apparatus. Some equally extraordinary diagrams of hopper-closets are given, accompanied with descriptions of little greater value; while the subject of trapping is disposed of in two lines, which inform the student that "the principal use of the traps is to catch rags and broken bottles before they get too far from the persons causing the nuisance."

Some unpleasant details of entozoa and the diseases which they produce, with an anecdote about certain plumbers, complete a book which contains much matter which is altogether too valuable to be discredited, as it is, by the carelessness of the rest.

THE ILLUSTRATIONS.

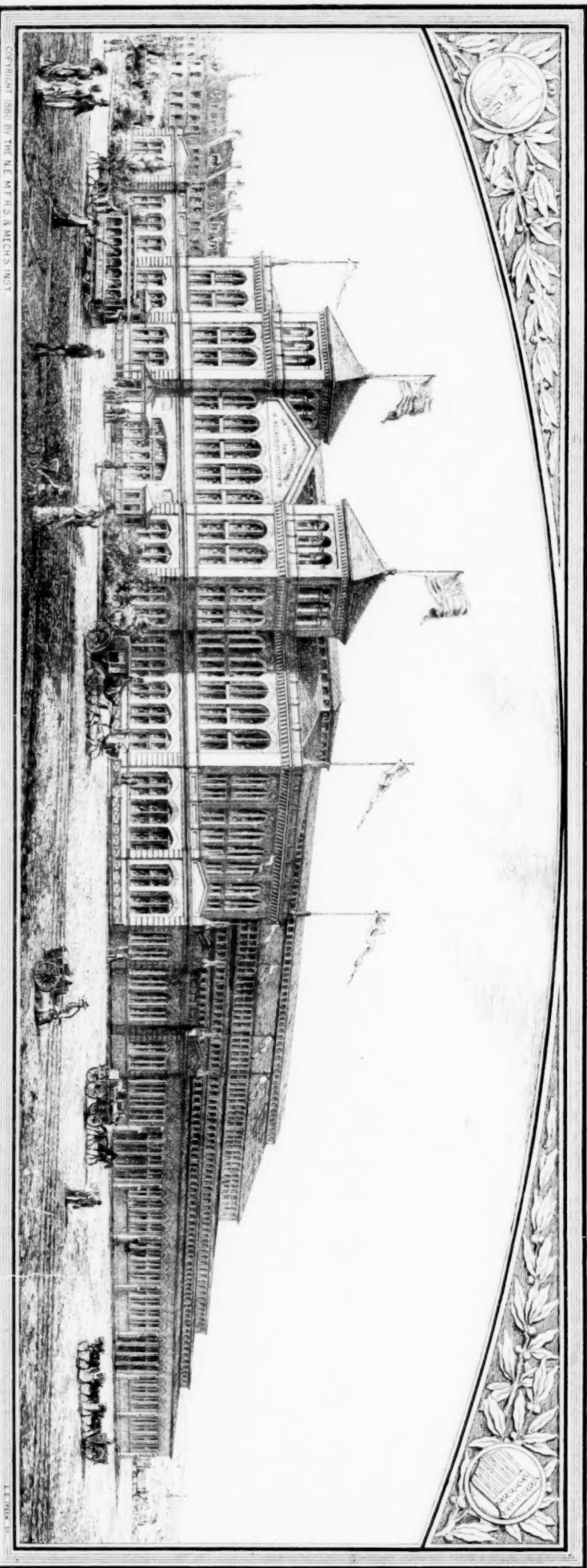
THE PERMANENT EXHIBITION BUILDING OF THE NEW ENGLAND MANUFACTURERS' AND MECHANICS' INSTITUTE, BOSTON, MASS. — MR. ALDEN FRINK, ARCHITECT, BOSTON, MASS.

THE new building now in process of erection on Huntington Avenue, at the corner of Rogers Avenue, is designed to afford a permanent home for the New England Manufacturers' and Mechanics' Institute, a corporation organized under the laws of Massachusetts, its charter bearing date April 11th, 1879. The association is composed of leading manufacturers and business men of New England, about one thousand having already enlisted in the enterprise. Its capital stock is two hundred thousand dollars, in shares of twenty-five dollars each. Its object is to organize the manufacturers of New England so that they can have the benefits arising from association, as merchants have in boards of trade and chambers of commerce, as stated in its publications, "the general improvement of the manufacturing and mechanical interests of New England; to provide a permanent exhibition building, in which the manufacturing and mechanical interests of New England can be fitly represented, and worthy exhibitions of its products be made." An exhibition will be held annually, commencing the first Wednesday in September, a provision in the by-laws of the Institute enjoining this. A library is to be founded, "in which books of general and special interest to the mechanic" are to be collected. A part of the building is intended for a "mechanical museum," to which "a gentleman of this city has offered to furnish full and complete models of all the elements of machinery — the elementary mechanical motions — at a cost to himself of twenty thousand dollars." The building stands on the ground in the form of a parallelogram, 403 feet 4 inches in front by 551 feet 6 inches laterally. Through the centre runs a nave, 126 feet wide and 80 feet high to the apex of the roof. On each side of this an aisle extends the same length, 63 feet wide and 45 feet high on the side adjoining the nave, and 40 on the other. Beyond these an additional aisle extends on each side, of the same length and width, but only 35 feet in height on the side adjoining the last-named, and 25 on the other, the outer walls of the

¹ *European Modes of Living; or, The Question of Apartment-Houses (French Flats)*, by S. G. Young. New York: G. F. Putnam's Sons, 1881.

² *Easy Lessons in Sanitary Science* by Joseph Wilson, M. D., Medical Director, U. S. Navy. Philadelphia: Pressley Blakiston, 1881.

COPYRIGHT 1880 BY THE N. E. M. R. S. & MECH. INST.



NEW ENGLAND MANUFACTURERS' AND MECHANICS' INSTITUTE

MECHANICS' INSTITUTE

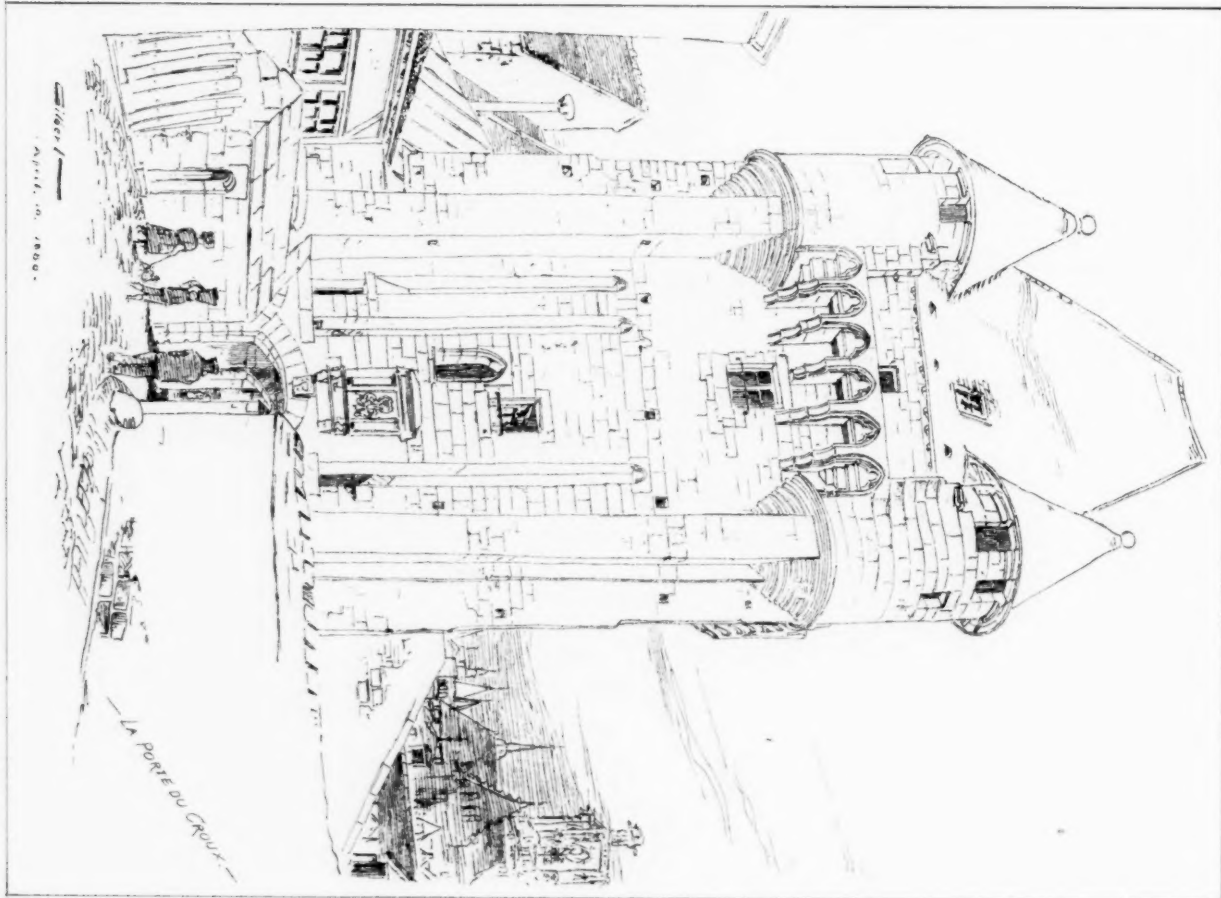
AREA OF GROUND PLANT 207,654 SQ. FT.
TOTAL AREA OF PLANT, STABLE, 531,654 SQ. FT. STABLE PLANT 84,000

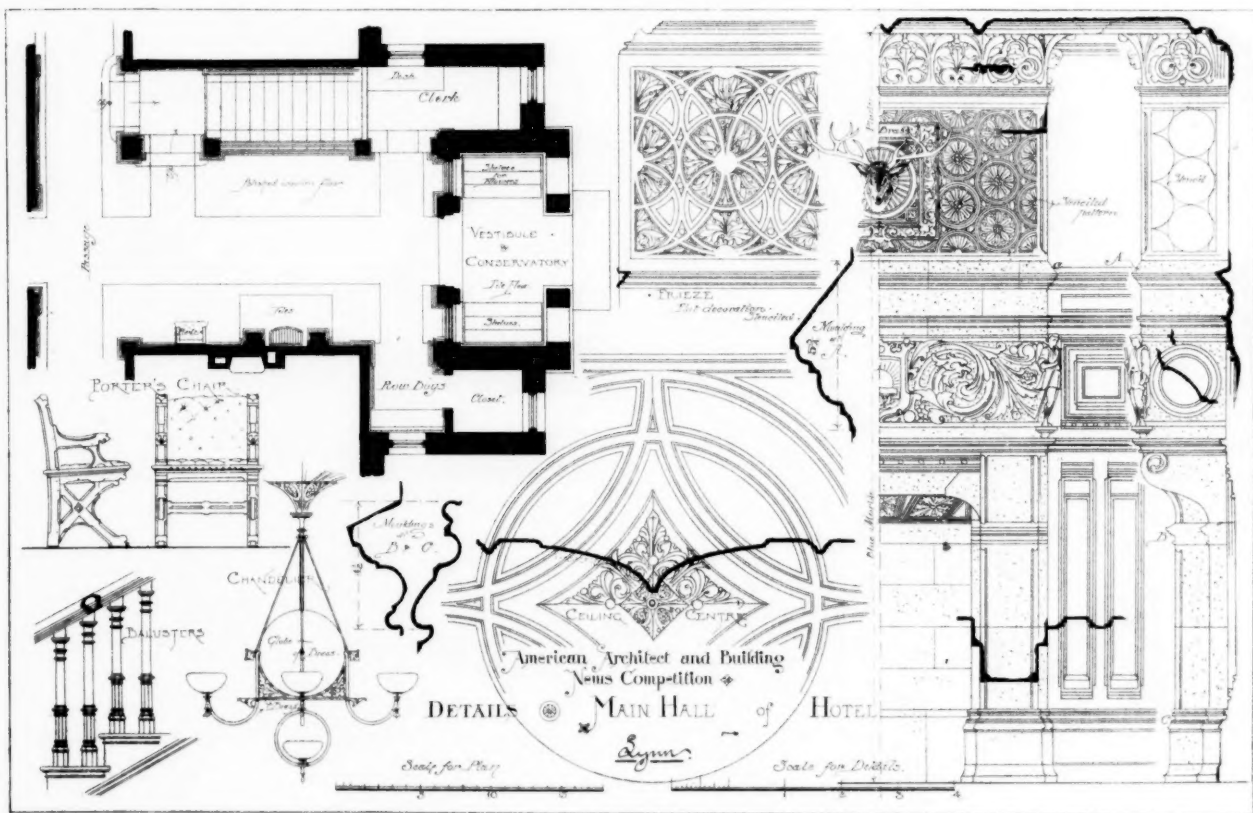
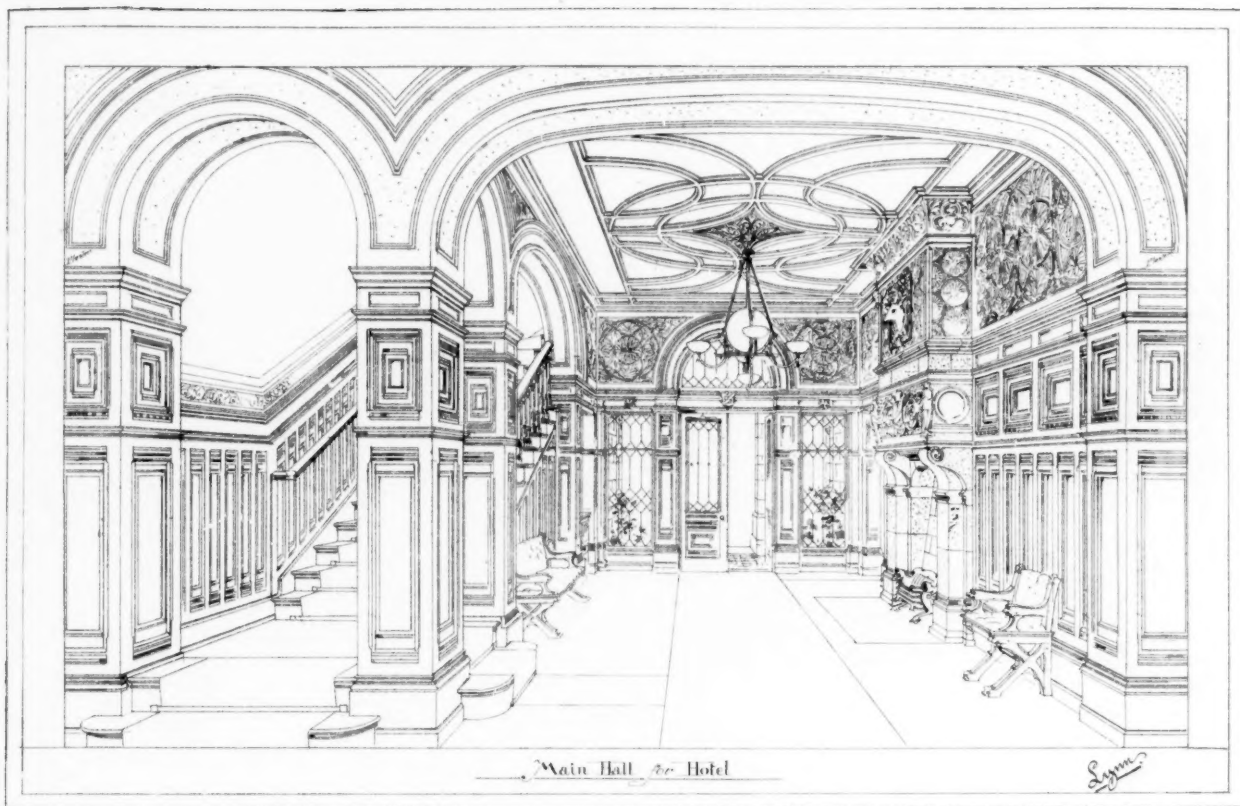
THE EXHIBITION BUILDING BOSTON

HUNTINGTON & ROGERS ARCHTDS.

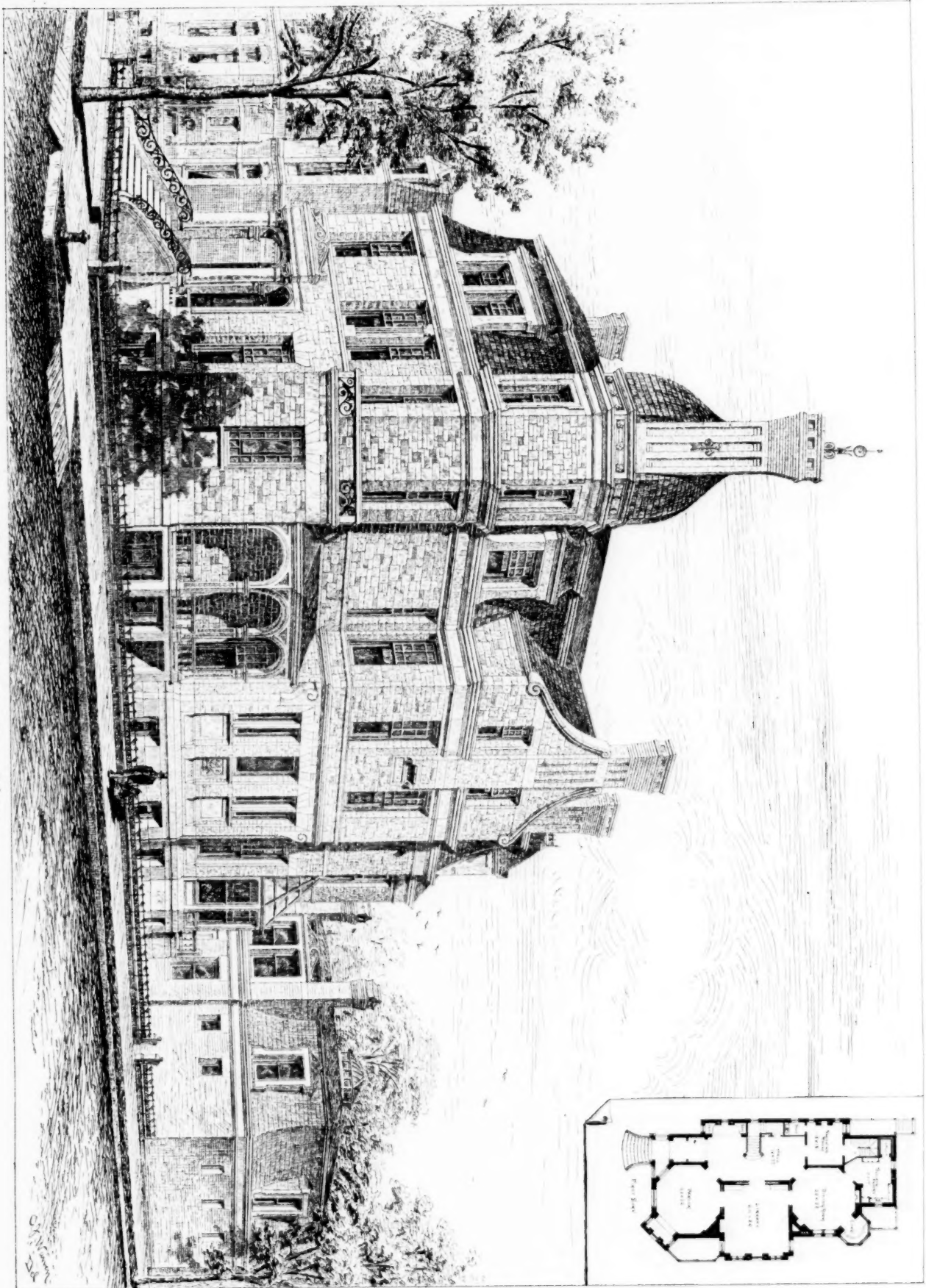
ALDEN FRANK, ARCHTCT.

SEVEN GARAGES OF STABLE PLANT IN SECOND STORY 10,000 PERSONS
A SPAN BRIDGE FROM BOSTON & PROVIDENCE R.R. LAMPERS THE BUILDING.





Copyrighted 1881 JAMES R. USHER & CO.



Residence of W. T. Baker, Esq., Chicago.
— Building & Roof Architects —

building. The first of these aisles is cut in two by galleries, which the nave is nearly clear from, there being a gallery at its rear connecting these two. It will be seen that the building is substantially of the one-story plan adopted for the Paris Exposition edifice, in 1867, and also for the National Museum at Washington, D. C. The front elevation is broken by two towers, 30 feet square and 86 feet in height. Back from this façade, 104 feet deep and 252 feet wide, on a level with the galleries and composed in part by them, extends, in the centre of the building, a hall with galleries, which will seat 10,000 persons. When the building is used for an exhibition, this space will be occupied for that purpose; at other times it will be rented for occasions requiring such extensive accommodations. The whole area of flooring inclosed within the walls of the building is 351,834 square feet, or more than 8 acres. Ample provision is made for committee-rooms, dressing-rooms and water-closets. The roof is of iron, of monitor-shaped pattern, and covered with 2,100 squares of fire-proof material. It is constructed to resist a combined pressure of wind, rain, and snow of 50 pounds to the square foot. The amount of iron used in the building, comprising roof, exclusive of covering material, and including columns, purlins, and gallery trusses, is about 800 tons. The lighting of the building is carefully provided for by the use of the monitor roof, and by windows, 7 by 15 feet, every four feet around the entire building. In addition, the two ends contain windows above these, wherever space admits of their insertion. There are five main entrances, three in front and one on each side. In the rear are doors for taking in freight, but not for public use. A track from the Providence Railroad will run across the centre of the building. The walls of the building are of brick, laid in black mortar. To break the monotony and commonplace character unavoidable in red brick fronts of such extent, colored brickwork in panels and pilasters has been introduced, and also a trifle of it in the ornamental cornices of the main building. Freestone will also be used to some extent on the front and rear for ornamentation, and possibly the portrait busts of an Arkwright, a Stephenson, a Whitney, a Howe, and others of like quality, may grace, in appropriate places, a building which but for the genius of these and such as these could have had no existence. It will be the largest building ever built in Boston, and probably in New England—larger even than the famous Coliseum of Jubilee memories. In its construction, about 2,000,000 feet of lumber will be used, and about the same number of brick; in the foundation, 3,000 perch of stone, and in lighting about 40,000 feet of glass, and in conducting away the rain-water over one mile of gutters.

HOUSE FOR W. T. BAKER, ESQ., CHICAGO, ILL. — MESSRS. BURNHAM & ROOT, ARCHITECTS, CHICAGO, ILL.

This house is situated on the corner of Michigan Avenue and 23d Street. The walls are faced with Marquette brownstone, obtained from the top of the quarries, and presenting the utmost variety of colors. Such stones as are even in color are used for finish, and mottled stones are selected for the quoins, jamb-stones, and wall faces. The surfaces are coarsely tooled, and laid with irregular joints.

LA PORTE DU CROUX, NEVERS, FRANCE, SKETCHED BY MR. CASS GILBERT, NEW YORK, N. Y.

This is one of the most perfectly preserved city gates in France. It stands on comparatively low ground, and was of course protected by a moat, the traces of which have almost entirely disappeared; there are, however, still remaining, portions of the outworks which were of unusual richness. It was evidently the principal entrance to the city, and these outworks were accordingly strong. A road between walls about ten feet high led up to the drawbridge. An outer gate defended the entrance to this passage, which, with the frequent turns in the walls, exposed an attacking party to heavy cross fires. The outer gate is almost entirely destroyed, but enough remains to show that it was of considerable richness of design. Besides the Porte du Croux, Nevers contains much beautiful old work, and the cathedral, though small, is of great richness. The chateau, a number of old houses and quaint streets, make it one of the most interesting cities of Central France.

THE CASTLE AT CAEN, FRANCE, SKETCHED BY MR. CASS GILBERT, NEW YORK, N. Y.

COMPETITIVE DESIGN FOR A HOTEL ENTRANCE-HALL, BY MR. ARTHUR TRUSCOTT, PHILADELPHIA, PA.

The report of the jury in the late competition contains the following remarks upon this design:—

"Lynn" would have been worthy of an honorable mention for dignity and breadth if his design had been received within the prescribed time. The design is large, and suggests reserve power well under control. The decoration centres in an ornamental mantel-piece of excellent proportions neatly rendered on the sheet of details. The defects lie in its general character, which suggests a handsome private residence, rather than a country hotel; and the massive square piers belong to a still more monumental structure, a Roman palace or a museum."

RECENT PICTURE SALES AND EXHIBITIONS.

NEW YORK, February, 1881.

THE New York exhibition season of 1880-81 was opened, somewhat earlier than usual, by the third annual collection of Works in Black and White, under the auspices of the "Salmagundi Sketch Club." Year by year our exhibitions tend, as is desirable, to be-

come more definite and less comprehensive in their aims. The Academy exhibitions no longer receive water-color drawings, which are thus relegated entirely to their own walls. And this year, the Water-Color Society having refused to admit works in black and white, the Salmagundi collection was all the richer in consequence. Not to this cause only was due, however, the great advance in both the quantity and quality of work there shown. In no direction has our art made quite such noteworthy progress during the last few years as along the allied roads which we unite under the general term of "black and white" work. Here, at least, public appreciation lingers in the rear of true artistic achievement. A style of art with so little about it to charm the uncultivated sense,—so little that makes a gallery bright and showy, or that appears "decorative" on a parlor wall,—is not yet very attractive to the eyes and purses of our general public. Each year there is, indeed, more interest manifested outside of artistic and critical circles, but there is still very much to be wished and hoped for in this way.

Last season a single large room sufficed to hold the exhibition. This year the Academy's rooms were necessary, all except the long south gallery being well filled by no less than 642 numbers. The west room was devoted to etchings, the small northeast room principally to engravings, and the others to drawings and reproductions of every sort. There were also exhibits of the *modus operandi* of several different processes. Etching plates and tools and prints in various states were shown, wood-engravers' blocks and implements and overlays, lithographic stones, and the materials used in the "Ben Day" process. It was my misfortune that I could not devote enough time to the exhibition to enable me to write a detailed estimate of all that it contained of worth and interest, of achievement and of promise. It was open but a short time, just at the busiest season of the year, and during the worst weather that this worst of winters has produced. The few words that I can say about the exhibition, therefore, must be accepted merely as an outline of its attractions, a summary of its more salient points.

One was apt, I think, to turn first to the etchings, of which about one hundred and fifty frames were shown, a few only being signed by other than American names. Many of the best were the property of the *American Art Review*, and had already appeared in its pages. One was ready to confess, of course, that there was no work which could rank with the best that the etchers of France and Germany and England can accomplish; but the average was so fair, and the chief examples so good, that it was hard to remember how recently the art had taken root among us,—easy to believe that it is on the way to the best results. There was displayed no talent of the first order, but much capable, earnest and artistic work.

Passing to the wood-engravings we ceased to feel any need of humility. Most of our good names were represented, and it would be difficult to find foreign ones to set against them. If we saw few cuts that seemed fresh to our eyes, it was because an illustrator cannot save up his work until exhibition time, but must give it out from month to month, so that it has already a familiar aspect when we see it on the wall. The same was to a certain extent the case when we turned to the drawings which formed the bulk of the exhibition, many of them, of course, having been originally produced for illustrative purposes. It was interesting to see how some men gain and some lose in the translation on wood and into smaller compass. Mr. Blum, I think, is a decided loser. The dashing carelessness of his artistic speech is distinct enough when spoken by himself. There sometimes appears to be a confused want of attention about it when it has passed through the medium of an interpreter. Mr. Lungren, as has been said, "follows Mr. Blum like his shadow." Their signatures are almost undistinguishable; they often work in collaboration on the same themes, and one doubts, almost, whether they themselves can always tell their works apart. This applies, however, merely to their illustrative drawings. I do not know that Mr. Lungren has ever produced anything to vie with Mr. Blum's more important efforts, with the pen-and-ink drawings he gave us last year, for example, not to speak of his water-colors. Mr. Shirlaw showed a number of capable drawings, among them, in black and red chalk, a series of figure-studies for a frieze. Especially powerful was his Hill-side, a broad study in pen-and-ink. Mr. Dewing's figures are always individual and attractive. In this exhibition they struck, perhaps, a more personal note than any others. A little careless in execution sometimes, and not always in accordance with the title given,—as in the one here shown under the name of Ceres—they have always a touch of the quality we call poetry—a quality of which there was none too much in this as in our other exhibitions.

Mr. Chase showed work of various kinds, each kind interesting in itself, and more interesting by contrast with the others. A large, carefully worked and balanced drawing like that of the negro Ganymede must have gone far to convince people that this artist can work with other than what are sometimes called "slap-dash" methods, an ability that has more than once been questioned. There are those, however, who prefer "slap-dash" of the right kind to methods that are more deliberate, and therefore less spontaneous and individual in effect. Such observers must have been gratified by the pen-and-ink drawings from the same hand; large study-heads exhibited side by side with their wonderfully accurate phototype reproductions. The most peculiar things shown by Mr. Chase, however, were some "Prints from Copper-plates." The ink had been applied to the plate with the brush or knife, in masses, not in lines, and in the broadest manner. From these plates the prints had been taken, each, of course, being a

unique impression, the plate destroying itself at the first printing. The best of these prints showed the smiling head of an old woman in a ruff. The soft brown tones were very agreeable and the broad masses most effective. It was curious to hear visitors to the exhibition speculating about the methods that had probably been employed to produce these prints.

Mr. Abbey's inventions were as clever as usual, and Mr. Miller, Mr. Muhrmann, Mr. Murphy and Mr. Inness, Jr., were but a few out of many artists who deserved much more than a passing word of praise.

There has thus far been no lack of minor sources of interest during the winter. The dealers' importations have been large, varied, and of excellent quality, and certain private exhibitions have been well worth seeing. Mr. Gifford's pictures are still on view at the Metropolitan Museum. Mr. Tilton attracted much attention by his large landscapes in oil and a number of water-color sketches of Italy and the East. The drawings were not of interest, but the paintings were good and valuable in their way, though it was not a way that the rising generation will find very sympathetic. Mr. Tilton belongs to the typographic school of landscape painters, though well-directed study and true love of his art have helped him to produce better results than we are used to getting from the disciples of that school. I do not think there was any trace of the genius and the resultant poetry that some had discovered in his work. To me it seemed to show patient study of nature and patient effort, not to interpret her by personal lights, but to paint her as nearly as possible as the average eye might see her. Mr. Tilton was at his best where he depended most upon the lines of his composition, as in the Temple of Minerva at Aegina, and least upon his power over effects of atmosphere and color. His technique was hard and over-elaborate, but we felt that he had meant something by every touch; a feeling we do not always have before the canvases of those contemporaries of Mr. Tilton who constitute the typographic school on this side of the water. Mr. F. A. Bridgman has now on exhibition a collection of pictures and studies in oil, about three hundred in number, to which I hope to refer in detail at another time. From the few large canvases previously seen in this country, one had hardly expected such breadth of artistic sympathy and flexibility of artistic speech as Mr. Bridgman here displays.

Picture sales have been frequent throughout the winter, but there have been none of first importance either from a strictly artistic, or from a "fashionable" point of view. Mr. Hazeltine, the Philadelphia art-dealer, sold a collection that contained a few good pictures, many that were tolerable, and some that were by no means even that. The Maynard collection showed some really good things: a lovely Daubigny with the pink sky-tints that master loves, a Diaz with a group of dogs in a wood, and a Troyon—somewhat unlike the usual robust and forcibly colored work of this artist—that showed oxen on a beach in an atmosphere of sunlit mist.

Mr. Louis Durr, who died not long ago, bequeathed to the public a large collection of old paintings gathered during many years of residence abroad. Two hundred were to be chosen as the best by the executors and given to any institution that would promise to keep them always by themselves under the name of the "Durr Collection." The remaining pictures were to be sold at auction, and the proceeds devoted to the furtherance of the above project. The chosen pictures have, I understand, been offered to the Metropolitan Museum, which has not room just now to accommodate them in the desired manner, but hopes to make arrangements by which it may come into possession of the pictures. It is to be wished that they may find a home in the Museum, if they are really of value. Else they may, being hung in some less well-known place, be almost lost to the needs and even to the memory of the public. Our people are very busy, and the enjoyment of art is far, as yet, from being a matter of necessity with them, especially if it be art of a rather recondite kind. They like to have the path to such enjoyment made plain before them, and to be conscious of a very important magnet at the end. They are not yet impelled to hunt out good pictures in holes and corners, and to enjoy them in spite of impediments. Therefore, the more massing of our treasures we can accomplish, the better chance there will be that the public will see them. It will doubtless study Mr. Durr's pictures very attentively if they are included in and vouched for by the Metropolitan Museum. It might not think very much about them if they had to be approached as must now be, for example, the pictures of the Historical Society. The two hundred and fifty least considered pictures left by Mr. Durr have recently been sold for very small prices indeed. It is true that there were worthless pictures among them, and many that were uninteresting, although having some claims to critical attention. But there were also some canvases of a better quality; authentic in their value, if not in the names that were tacked to them. There were two or three washed drawings about 14 by 10 inches attributed here with apparent justice to Lancret. All were nice, and one of them especially pretty; but none brought more than \$40. Another picture worthy of attention was the head and shoulders of a woman, attributed to Greuze; at the worst it was a very good copy, and a remarkably nice picture. It also went for a song. Perhaps the best thing in the room, however, was a large group given in the catalogue as "The Burgomaster of Leyden and his Family, by Paul Moreelze." It could not have seemed very attractive to a purchaser caring only for the decorative effect that a canvas would make upon his walls, being large as a *comb*, with no beauty

in the subjects, and much of the charm that might once have lain in color and tone invisible in the now injured state of the canvas. But it was an interesting picture to any one who cared for painting as such; not a Moreelze very likely, but a careful and capable piece of average Dutch workmanship. That average was such a high one that even an injured, doubtful example like this should have been worth more to some one than a single hundred of dollars. The principal figures were very well done, with a solidity of modelling and a firm grasp of life that were good to see. The group would have composed better without the figures of two or three of the smaller children which, indeed, were badly drawn and may possibly have been added by another hand at a later date. One also noticed some large flower-pieces, characteristic Dutch work of about 1700, and an admirable still-life—kitchen pots and a cabbage—attributed to Kalf, a pupil of Brouwer's. I do not know whether the unshrinking ascriptions of the catalogue—the most high-sounding labels usually denoting the poorest pictures—were the work of Mr. Durr or his posthumous agents. In either case, we shall be curious to discover whether titles and excellences will more nearly correspond in the reserved pictures yet to be shown.

"Wide Range in Merit and Prices" is the way in which one of our daily papers announced the sale of a collection of American pictures not many days ago, most of them pictures that had already been seen at Mr. Moore's American Art Gallery. The heading was true enough, but it neglected to point out the fact that the two things varied in inverse ratio to one another, the prices showing a tendency to rise as the pictures became poorer. Between sixty and seventy pictures, most of them small, sold for over \$17,000. This certainly shows a liberal disposition to patronize home art. An examination of the items will prove, however, that the public does not yet see the difference between the work it learned to love many years ago,—and which still survives, partly on its reputation and partly on its over-estimated merits—and the newer work of men far more gifted and far better trained, upon whom we must rely if our art is ever to be anything vital and important. There are many who appreciate the work of these men at its full value, who are even inclined to over-rate its intrinsic worth, comparing it gratefully to the things that were all we had in former years. But these are, unfortunately, not as a general thing the people who have wealth enough to make their taste a commercial standard of effort. If I speak with some insistence upon the prices obtained at this sale, it is because I feel very strongly what must be the sensations of young men who are pursuing their art with true affection, striving against the temptations to cater to a lower taste than their own and to care for money in the first and for good art in the second place. There are many such among us, and their lot is not always so easy as one might fancy from the brave front they make, difficulty coming not only in the shape of public inappreciativeness but in the want of an inspiring environment. No one who knows what good painting is will deny that Mr. Shirlaw is not only one of the cleverest, but one of the most artistically conscientious artists in the country, excellently trained and with an individual impulse. There was a small figure-piece of his in this sale, than which nothing could have been better in its way. It was good in color and drawing, full of life and character, and painted with the sure, broad touch of accomplishment. It sold for \$55. Near it hung a picture *éclat* in color and, to say the least, inartistic and unrefined in sentiment—five girls sitting in a row, each with her mouth wide open biting an apple. With graceful pleasantry the painting was called *The Cider Mill*. It was valued by its purchaser as the equivalent of \$870. A medium-sized picture by the late Mr. Gifford, false and glaring in color, and weak in handling, brought no less than \$2,575. Perhaps the most interesting picture in the whole collection was a Boy and Bird, by Mr. Fuller, a life-sized half-length of a Cupid-like child. It was not a faultless picture, but it was a very beautiful one. It was easy to say, for instance, that there was not modelling enough in the flesh where it was in shadow. And it is always easy and safe to object that Mr. Fuller is mannered. But then, to be mannered with a manner that is delightful, and is entirely one's own and not the reflection of some other man dead or alive, is not such a common thing in our art that we need cry out against it. It is the fashion to complain of want of originality and of poetry in our painters. Mr. Fuller has an abundance of both and some good things beside. There is not an artist on this side of the water, perhaps, who could quite match this picture for color. I hope there are few who would not gladly unhook one of their own pictures to hang it on their studio wall. Yet there seemed to be no place for it on the wide walls of New York picture buyers. It sold for \$50.

M. G. VAN RENSSLAER.

THE NEW YORK SOCIETY OF DECORATIVE ART.

THE Society of Decorative Art of New York offers as prizes:—
 \$500 for the best design for a *portière* or window-hanging.
 \$100 for the second-best.
 \$200 for the best design for screens, of not less than three panels.
 \$50 for the second-best.
 \$125 for the best design for frieze or band, applicable to table-cover, lambrequin, or other decorative purposes.
 \$25 for the second-best.

SPECIAL PRIZES.

A special prize of \$100 for the best table-cover is offered by a member of the executive committee, subject to the same conditions and rules.

A special prize of \$50 for the best and most artistic example of needlework not included in the above competition, the example to remain the property of the competitor, is offered by the president of the society.

A special prize of \$50, for the best design in outline work on silk, is offered by the vice-president of the society, subject to the same conditions and rules.

A special prize of \$25, for the best design in outline work on linen, is offered by a member of the society, subject to the same conditions and rules.

A special prize of \$25, for the best example of drawn work, is offered by a member of the society, subject to the same conditions and rules.

A special prize of \$25, for the best figure design suitable for a panel, is offered by a member of the society, subject to the same conditions and rules.

A special prize of \$25, for the best color treatment of any design entered in the competition, is offered by the *Art Interchange*.

The competition is subject to the following conditions and rules:—

CONDITIONS.

All designs taking prizes to become the exclusive property of the Society of Decorative Art.

On all sales of designs or finished work made during the exhibition, or through the agency of the society, their usual commission of ten per cent to be charged.

The prizes will be awarded by a committee of experts, acting as judges, before the opening of the exhibition, whose decision shall be final.

The society reserves the right to reject any design or piece of work which, in the opinion of the judges, may not be worthy of admission to this competition.

RULES.

1st. All designs must be in color and have details worked out. Description of stuffs and treatment, written on one side of the paper only, must accompany each set of drawings. Full-size working drawings of details should be given, if needed. All drawings must be mounted ready for exhibition.

2d. Work or designs should be clearly marked with the price, if for sale, or, as "Not for sale," if reserved. Marks should be firmly attached.

3d. Not more than two designs shall be submitted by one competitor for any prize, nor shall the same competitor be awarded more than one money prize.

4th. No design shall bear the real name of the artist. Each competitor must mark his work with an assumed name or motto, and must accompany his entry with a sealed envelope containing an address to which the entry may be returned, or letters addressed.

5th. The entire expense of delivery must be prepaid, and the return charge must be enclosed in the sealed envelope if the article is to be returned. To add to the attractiveness of the exhibition, competitors, when convenient, are urged to send finished work illustrating their designs. Articles will be fully insured.

The society desires in this exhibition to call out the best talent in the country, and to offer to art-workers the opportunity for practical study and improvement in these branches of work.

There will be also in connection with this competition an exhibition of antique and modern stuffs and embroideries.

The embroideries executed in the work-rooms and exhibited by the Society of Decorative Art will not be entered for competition.

The exhibition will be held during the first two weeks in May, at Mr. Moore's American Art Gallery, No. 6 East Twenty-third Street.

Goods will be received only from Monday, the 25th, to Wednesday, the 27th April, inclusive, and must be sent addressed, Society of Decorative Art Prize Design Competition, care Mr. R. E. Moore, 6 East Twenty-third Street, New York.

Full particulars as to the final disposal of entries, if unsold, should be sent to the society, i. e., if goods are desired to be exposed for sale in their rooms, or are to be returned immediately on the close of the exhibition. Other special prizes may yet be offered, of which notice will be sent those desiring information.

All correspondence must be addressed, Prize Design Competition, Society of Decorative Art, 34 East Nineteenth Street, New York.

It is hoped that this effort may be so successful as to encourage the society to raise a fund and continue annually the educational work thus inaugurated, and that another year they may be able to include a competitive exhibition of pottery.

THE GERMAN DISCOVERIES AT THE FOOT OF OLYMPUS.

THE Berlin correspondent of the *Morning Post* says: "Private advices from Athens state that the statue of Minerva Victrix recently discovered is not the original, but a copy of the masterpiece of Phidias."

The moment is not inopportune to record some of the results which have lately been accomplished in recovering the monuments of Greek national history. The German discoveries at the foot of Olympus mark an epoch in our knowledge of Hellenic antiquity. Five years ago Olympia was known only as a beautiful valley of the Peloponnesus, a plain watered by the Alpheios and the Peneios, where they issue from the mountains of Arcadia. It was also known that there stood the great national sanctuary of the Greeks, containing within a small space the choicest treasures of Greek art, trophies of all the States of Greece belonging to all periods of its history, temples, monuments, altars, theatres. The elder Pliny had recorded that in his time there still were standing above three thousand statues, *ex-votos* of bronze and marble. We knew that somewhere

there was its Olympeum of Zeus, with the colossus of the god, the work of Phidias. There, too, was the Heraeum, the temple of the Queen of Heaven, itself the work of one whole century—the sixth B. C. Somewhere there also lay buried the ten Thesauri for the offerings of the Greek cities. We knew, above all, that there was the site of the great nation's festival, the place of the Olympic games, of an origin stretching into prehistoric ages, yet forming a chronological era that was the real dawn of the historical period of Greece's history. But we knew also that the ploughshare was then passing, as for ages it had passed, over all these glories. So was it just five years back. To-day Olympia lies before us like an open book. We may know now more about it than about any other spot of ancient Greece, thanks to the scientific German Government exploration, carried on for five years of six months' work in each year, at a cost of 150,000 marks per annum. The history of the site is very short. It has been its great advantage that it is one of the few famous sites with no new settlement to interfere with thorough exploration, a reason which Winckelmann long since assigned for his passionate desire to open it up. The Olympic games survived almost to the fifth century; in 395 A. D. the Emperor Theodosius decreed their dissolution. The next year saw the invasion of the Goths under Alaric, who destroyed here a very forest of bronze statues.

The Temple of Zeus was then inclosed as a fortress against the northern hordes, and the other buildings were used as materials for doing so. The great earthquakes of the fifth century destroyed this fortress and its surroundings, and Olympia was then left to be buried beneath mud and debris, the overflow of the rivers and the washing down of the hillsides. The plain became vineyard and cornfield, but uninhabited, and the monuments of Olympia were thus "potted down for posterity," till in 1825, after Navarino, the French troops occupied the peninsula, and then were found those remains of statuary now in the Louvre. In 1875 began the explorations of the imperial German Government. The great Temple of Zeus was brought to light; it was never, indeed, wholly covered, but even its ground plan could not be known. It now stands revealed, a building like the Parthenon in character, though more impressive from the more massive architrave blocks and the fewer columns on the narrower façades. The mosaic pavement of the vestibule is laid bare—tritons and cupids, wrought in colored pebbles from the Alpheios. The cella is verified, and the exact place where stood the colossal statue, the Phidian masterpiece. The sculpture of the temple is, however, its special interest. Hitherto known to us only by the description of Pausanias, it is now actually before us, in a state more or less of comparatively perfect preservation. In itself it presents a series of historic developments. The exact place to be assigned to those developments is a problem of high interest, though its solution can be reached only by degrees. The entire row of "Treasures" is also fully exposed, edifices built after the manner of temples, in a style older than that of the *Eginetae*, adding much to our knowledge of temple architecture and its historic evolution. With them is the Philippeion, the rotunda of marble built by Philip of Macedon, after the battle of Charonea, and filled with the statues of his family. Then, again, before our eyes is the first Greek palestra, of which hitherto we possessed only an obscure description by Vitruvius, the race-course identified, the tracks for practice and the Olympic Stadium itself, with the very stones that marked the starting-point and the goal. There are four hundred inscriptions in bronze, stone, and terra-cotta, on pedestals, architraves, columns, on helmets, shields, lances—a rich mine of information, not only touching the Hellenic dialects, but as to treaties and arbitrations, and the like, giving data for the history of the period from the seventh century B. C. down to the Byzantine times. The polychromy of ancient architecture and plastic art will also find full illustration. Well may Prof. Curtius say: "It is a mighty labor that has been imposed upon science" by these five years of research in Olympia, "for many a year will science be occupied in gathering this harvest." The scholars and lovers of art in every land where Grecian culture is prized will have part in accomplishing the task.

HOW TO FORM A CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

A MEETING of the architects of San Francisco and Oakland was held Thursday, the 20th ult., to take measures for forming a Chapter, and a meeting will be called again as soon as information in regard to the requirements of the American Institute of Architects can be obtained from the East. A resolution to that effect was offered and was the only business transacted. A wrong impression prevailed that one and all could become active Fellows of the Institute, and it struck me if you could afford space in an early number it would be well to state explicitly what the necessary steps would be to form a Chapter. The only member of the Institute here does not seem to be posted. Respectfully yours,

WM. F. SMITH.

[THE amended By-Laws of the American Institute of Architects read:—"Any association of architects in which there are three Fellows (of the Institute) residing in the city in which such association has been formed, or its suburbs, may organize themselves into a Chapter of the American Institute of Architects, which shall be effected by the election of a President, who shall be a Fellow of the Institute, one or more Vice-Presidents, a Treasurer, and a Secretary; and upon written application of the three Fellows, stating the circumstances of the organization, and enclosing a copy of its proposed rules and regulations and a list of its members, the Board of Trustees shall, if in their judgment it is advisable, recognize the association as a

Chapter of the Institute." Under the old By-Laws, all members of Chapters, in full standing, were *ipso facto* Associates of the Institute, but this was changed by the last convention, and under the present regulation Associates of the Institute must be elected by the Board of Trustees upon nomination of two Fellows. This step was rendered advisable by the admission of Associates to the privilege of voting upon and discussing all measures brought before the Institute, which practically put its management into their hands, the grade of Fellow now conferring rather honorable distinction than special privileges, except that all officers of the Institute must be chosen from among the Fellows. Under the new By-Laws, the burden laid upon those connected with the Institute is made as light as possible. Associates pay no entrance fees, and annual dues of five dollars only; the nomination by two Fellows may be had without difficulty upon sending the name of the applicant with the endorsement of one or more architects in good repute, and known, if possible, in the Institute, to the Secretary, and election by the Trustees soon follows, the meetings of this body taking place monthly. Fellows of the Institute are nominated in a similar manner by two of the present Fellows, and the candidate must file photographs or drawings of some work of his; and the names of candidates, with those of their proposers, are mailed to every Fellow of the Institute and the Secretary of every Chapter. Not less than thirty days after this circular is sent, the election is held by the Trustees, and a three-fifths vote is necessary for election. Fellows pay an entrance fee of ten dollars, and the same amount as annual dues. Any further information may be had of Mr. A. J. Eloor, Secretary of the American Institute of Architects, 335 Broadway, New York. — EDS. AMERICAN ARCHITECT.]

ARCHITECTS' PRICE BOOK.

CLEVELAND, O., Jan. 31st, 1881.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Can you refer me to any good American publication, through the *Architect*, or per postal, that would enlighten me to make a bill of labor and materials on any kind of building. You would greatly oblige me with an answer. L. W.

P. S.—I have Nicholson's Dictionary of Architecture, etc., but it is too English for Americans.

[THERE is no American publication relating to the subject of recent date, so far as we are aware. Clough's "Builders' Price Book," published some twenty-five years ago by John Wiley, Astor Place, New York, is the only one we are acquainted with, and is in its way a useful little work. If not out of print, it can probably still be had of the same house. — EDS. AMERICAN ARCHITECT.]

NOTES AND CLIPPINGS.

A LIGHT-AND-AIR CASE. — The building at No. 85 Forsyth Street was occupied, under a lease for five years, by Doyle & Adolphi, who claimed the right to use the yard in the rear. The owner of the premises leased them entirely to Lord & Taylor, subject to the lease of Doyle & Adolphi. Lord & Taylor began to erect a building on the land in the yard, the effect of which would be to exclude light and air from the other building. Doyle & Adolphi brought a suit in the Superior Court for an injunction to prevent the erection of the building and also for damages. The action was finally decided yesterday by Chief Justice Sedgwick, in the Superior Court, special term, in favor of the plaintiffs. As the lease of Doyle & Adolphi had expired, and they had vacated the building, the chief justice simply passed upon the question of damages, which he fixed at \$2,000.

SAFETY ARRANGEMENT FOR WATER-PIPES. — In order to obviate the very common evils connected with the bursting of water-pipes in winter, Herr Weissbarth has contrived an arrangement, says the *Deutsche Industrie Zeitung*, by which any water that may escape thus is carried off into the street drain or a cesspool; and, at the same time, a cheap mode of heating the whole pipe system with a single gas or petroleum flame is rendered possible. The entire system of water-pipes, which, as in every right arrangement, must have, in all its branches, falls toward the ascending pipe, is, inclusive of the ascending pipe, inclosed in sheet zinc pipes of 5 to 8 cm. internal diameter; so that water finding exit at any part of the system gets into the inclosing pipe, and is carried away. The inclosing zinc pipes, about 1 meter long, are not soldered at the joints, but stuck into each other like gutter or waste pipes; and the water-pipes, of lead or iron, are fixed in the others by means of rings with small projecting pieces bent at a right angle, which catch in metallic tholes soldered on the interior of the zinc pipe. The lowest inclosing pipe has a bottom through which the water-pipe passes tightly, and close above this is the tube by which the escaping water is carried off to the drain. In order to get at the water-pipe without having to take the zinc pipes out of each other, some of these are furnished with doors 70 to 75 cm. long, and 5 to 6 cm. wide, which are easily slid within the tube, as they are led above through a soldered metal ring, and below through packing; the latter at the same time prevents the water flowing out between the doors and the pipe; moreover, the longitudinal borders of the doors are packed interiorly, so that the water follows the packing and does not issue by the door. The fixing of the zinc tubes to the walls is effected with rings on which they are supported with noses. Branch pipes are soldered into the main pipe. When in a branch pipe stop-cocks occur, the inclosing pipe is there perforated for the spindle and stuffing-box. In the longer branch pipes, as in the vertical ascending pipes, doors must also of course be introduced in the inclosing pipes, the openings being naturally on the upper side. At places where the ascending pipe is exposed to cold, as e. g., in water-closets or entrance-halls, the arrangement permits readily of a warm-air current being produced in the inclosing pipe, by means of a gas flame (which may also serve in illumination). To this end the pipe is furnished with an oblique branch directed upwards, and bent round to terminate in an iron or brass funnel, under which the gas or petroleum flame burns. The heat then passes into the inclosing tube. In the air-box above holes are provided to let the air escape, and good ventilation may thus be secured. In order to facilitate repairs, the water-pipe, at the middle of the doors of the inclosing pipe, is formed with brass connecting screws. But the use of the ordinary soldered junction does not present any hindrance by reason of the zinc tube. Nor are any other serious difficulties, it is said, encountered in the working of the system.

ASBESTOS FABRIC: AN ANECDOTE. — An Italian writer relates an amusing incident which is worth repeating here. In 1834 a man working in his vineyard near Naples, while digging a trench in which to set out some vines, came across an old Paruscan tomb, in which he found a garment somewhat like a large shirt, apparently made of coarse linen. He took it home to his wife, who washed it again and again, but finding it impossible to get it clean, at last used it for wiping dirty floors and similar kitchen work. When it had become too much soiled for this purpose, she threw it out on the dust heap. Here it was picked up by some boys, one of whom carried it home to his father, the village baker. He, after due examination, decided that it was good for nothing but cleaning out his oven. To this use he put it, until it became so black with coal-dust that he threw it into the oven with the fagots to heat it. But what was his astonishment on opening the oven to clean it out before putting in his bread, to find the old linen shirt unconsumed, but white and clean, though the fagots were burnt to ashes! Frightened out of his wits, he ran into the street, crying, "O, San Giuseppe, have mercy on me! the devil has got into my oven!" He then went to the priest for confession, and told him what had happened. The good man would not believe the tale, but on going with the baker to inspect the oven was more frightened than his parishioner had been. Joining the villagers and old women who had collected around the baker's house, he told them, crossing himself, that the devil indeed had got into the oven, for he had seen him with his own eyes. What was to be done? He must be expelled somehow or other. Mass must be said, the priests of the neighboring villages collected, a procession formed, ceremonies gone through, and the evil one cast out of the oven by exorcising him. So all this was done, and after sprinkling the oven with consecrated water, the piece of bedeviled linen was dragged forth with a pair of tongs and thrown, with execrations, upon a dung heap outside the village. The oven was thus purified and the village freed from an unwelcome visitor. An apothecary of the next village, hearing of this miraculous piece of linen, dared to go and look at it and carry it away. Seeing that it was something curious, he took it into the city and presented it to an antiquarian friend. After passing through various hands it reached the great national museum of Naples, where, enshrined in a glass case and reposing on a velvet cushion, it found a final resting-place as one of the most perfect known specimens of ancient asbestos cloth. In our day some experiments have been made with fabrics of asbestos, especially as a material for firemen's dresses, but we are not aware that these have led to its permanent use for that purpose. Some years ago it was tested in Paris, where firemen wearing hoods or helmets of the incombustible cloth, and garments of it put on over other clothing rendered fire-proof by chemical preparations, remained for some minutes without injury in the midst of blazing piles of wood and straw. Asbestos has also been used for lining safes, for making incombustible wicks for lamps, and for chemical filters; but its industrial application is still very limited. The mineral is found in many localities, but the chief deposits of it are in Savoy and Corsica, and on Staten Island, in New York Harbor. — *Boston Journal of Chemistry*.

BIG TREES. — Referring to big trees, the *American Register* tells us that a grove of trees in California, consisting of 1,630, contains not one which measures less than six feet in diameter. A rare and magnificent white oak is to be seen in the Quaker burying-ground in Salem, N. Y. It is more than 200 years old, and is remarkable for its enormous branches, which have a spread of 112 feet. A remarkable chestnut-tree is growing on a farm in Berks, Pa. It is nearly forty feet in circumference at the base, and the top of the tree can be reached by steps fastened between the limbs. Most remarkable of trees with a history is a russet apple-tree in Skowhegan, Me., which was planted in 1762. In its branches a play-room for children has been built for half a century. The tree is seven feet from the ground to the branches, five in number, all of which are very large and average thirty feet in length, covering a space of ground sixty-three feet in diameter. It is more than four and a half feet in diameter, and has yielded an average of thirty bushels of apples each year. A sprout from this apple-tree stands thirty-two feet from the parent stem, but is forty-eight years younger.

THE STATUE OF ATHENA VICTORIOUS. — Further news about the copy of the Athenè statue discovered in the Greek capital gives additional proof that the Romans, like the Greeks, were in the habit of painting their statues, a fact well known to archaeologists. Over the helmet of the little Athenè statue some red lines are still discernible. The hair, which falls from the helmet over the forehead and toward the breast, bears traces of a yellowish color; the eyebrows are of a reddish-brown; the eyes blue. This coloring corresponds to that of some miniature statuettes found a few years ago at Tanagra, and which are, if we mistake not, now in the Berlin Museum. There are many more instances of this same light color of the hair and the eyes being attributed to Greek deities and heroes. The municipality of Athens have now offered a prize of 500 *f.* for the discovery of the lost head of the Goddess of Victory. — *London Examiner*.

COST OF THE TEMPLE BAR MEMORIAL. — A corporation report just issued states the expense of the Temple Bar Memorial to be £10,096 6s. 7d. Of this, £5,266 is payable to Messrs. Mowlem & Co., for the foundations, scaffolding, granite-work, masonry, carving, and modelling; £2,152 to Mr. Boehm, R. A., for the statues in marble of the Queen and the Prince of Wales; £1,031 to Mr. Birch, A. R. A., for the "griffin" in bronze; and £1,603 15s. for the basso relievos.

A HEROIC ACT. — An engineer heroically met his death at the recent burning of the St. Louis Smelting and Refining Works; his name was John Williams. A softening furnace burst, the molten lead and silver poured out upon the wooden floor, and in a moment the entire structure was a prey to the flames. With a bravery and forethought seldom belonging to men of this generation, Williams went to his death in the endeavor to turn off the steam in the boiler, so that no one would suffer from the explosion momentarily imminent. He turned it off, but was caught by the melted metal and burned to a crisp. — *Exchange*.

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.]

236,505. VENTILATOR FOR THEATRE FOOT-LIGHTS. — Marshall H. Mallory, New York, N. Y. This invention consists in applying a forced ventilation to the foot-lights in such a way as to withdraw the products of combustion and heated air from the house and deliver them outside of the building through an independent pipe. This is accomplished by causing a forced circulation of air inward from the stage past the lights, and out into the open air, through suitable conduits. A represents the floor of the stage; B, the gas-lights, which are usually placed in reflectors, D, and protected by wire screens, E. Surrounding these foot-lights is the ventilating-box, C, G, in which C represents an open passage beneath the lights, forming a ventilating screen, G. The passage, C, is connected at F F with a ventilating pipe, through which the air is exhausted by means of the blower, H. It will therefore be readily seen that the air from the stage is

Figure 1.

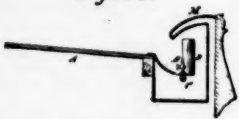
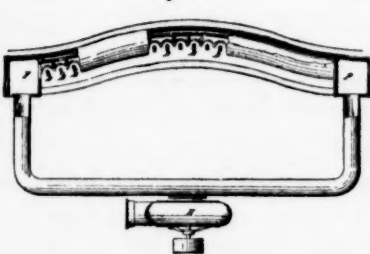


Figure 2.



drawn into the burner, B, beneath the ventilating-screen, G, then passes, charged with heat and the products of combustion, laterally through the pipe, C, to F, and is discharged by the blower, H. Instead of the blower, H, any other forced circulation might be employed, as for instance, an elevated chimney causing a similar draft. By this means all the products of combustion of the foot-lights are carried from the building, and no heated air is allowed to escape and rise vertically from them. A double hood, M, extends over the foot-lights, B. By providing this protector with an intermediate air-space it does not become so hot, and by reason of its construction the upper roof is kept sufficiently cool not to burn the hand. The side draught through openings, C, would have a tendency to blow the flames aside. Therefore around each is placed a reflector semi-cylindrical in shape, so that the air is drawn into each reflector independently, and over its top, and not sideways along the row.

237,063. METHOD OF CARRYING STEAM INTO AND THROUGH HOUSES. — John Ashcroft, Brooklyn, N. Y.

237,091. ELEVATOR. — Robert L. Carr, Fall River, Mass.

237,123. HANDLE FOR SOLDERING-IRONS. — Alden A. Park, Greenfield, Mass.

237,131. FILTERING APPARATUS. — Charles H. Senf, New York, N. Y., and Paul Casamajor, Brooklyn, N. Y.

237,158. MACHINE FOR MAKING THREE-PLY ROOFING FELT. — Robert A. Kendall, Cohoes, N. Y.

237,164. SASH-FASTENER. — Hiram C. Bruner, Lonsdale, Penn.

237,187. AUTOMATIC FLUSHING CISTERN FOR WATER-CLOSES. — James P. Hyde, New York, N. Y.

237,193. WRENCH. — George W. Kaufman, London, Ohio.

237,196. EXTENSION BATH-TUB. — Rafael Martinez and John Petry, New York, N. Y.

237,201. ELECTRO-MAGNETIC HOTEL ANNUNCIATOR. — John W. Norton, Plainfield, N. J.

237,210. WINDOW-SHADE. — Robert K. Slaughter, New York, N. Y.

237,211. DROP-LIGHT FIXTURE. — Charles F. Spencer, Rochester, N. Y.

237,233. VENTILATING HATCHWAY. — George W. Baird, Engineer Corps, U. S. Navy.

237,244. TILE-ROOFING. — Joseph Bushey and Richard Woodcock, Detroit, Mich.

237,283. MACHINERY FOR DOVE-TAILING WOOD, STONE, ETC. — Nicholas Jenkens, New Haven, Conn.

237,284. MACHINE FOR DRESSING OR PANNELLING STONE, WOOD, OR OTHER MATERIAL. — Nicholas Jenkens, New Haven, Conn.

237,285. The Same.

237,290. CHIMNEY-TOP PROTECTOR. — Henry J. Kampman, Peoria, Ill.

237,312. METHOD OF AND APPARATUS FOR COOLING AIR IN BUILDINGS. — George E. Noyes, Washington, D. C.

237,316. FIRE-ESCAPE. — Stephen R. Pinckney, New York, N. Y.

237,331. VISE. — William E. Snediker, Trenton, N. J.

237,335. SPRING KEY-BOLT. — Clinton Stevenson, Oswego, N. Y.

237,336. FILTER. — James C. Stock, Newark, N. J.

SUMMARY OF THE WEEK.

Baltimore.

BUILDING PERMITS. — Eleven building permits have been issued since the last report, the following only being of sufficient importance to be mentioned: — John T. Carter, 7 three-sty brick buildings on Montrose St., near Gilmore St.

Chas. Bein, three-sty brick building on Lexington St., between Charles and Liberty Sts.

F. M. Colston, three-sty brick building on St. Paul St., between Chase and Lager Sts.

BANK BUILDING. — The directors of the Western National Bank have decided to build a new edifice in place of the one now occupied on Eutaw St., and have sent a committee to New York to examine the buildings and vaults there.

ADDITION. — Mr. Charles J. Bonaparte is building an addition to his residence in Baltimore county, to be used as a library. Messrs. Wyatt & Sperry are the architects, and Mr. W. H. Anderson, builder.

POST-OFFICE. — The tenants occupying the buildings on the site of the new post-office have been notified to vacate within the next sixty days, and the owners have been requested to tear down the buildings and remove the materials at the earliest possible date. This action on the part of the government would seem to indicate that the plans prepared by Supervising Architect Hili have been accepted, and an early beginning of the work may be anticipated.

Boston.

BUILDING PERMITS. — Wood. — Monadnock St., near Dudley St., for Wm. H. Dyer, stable, 22' x 28'. Creek St., near Dorchester Ave., for Amasa S. Glover, dwell., 25' x 38', two stories, mansard, L 17' x 20'.

Walnut Ave., No. 197, near Elm St., for Jas. D. Driscoll, dwell., 34' x 36', two stories, pitch roof; Jas. D. Driscoll, builder.

Summer St., near Spring St., for Elizabeth Coughlan, stable, 30' x 24'.

Parker Hill Ave., near Parker St., for Charles U. Cotting, 2 dwells., 39' x 47', two stories, pitch roof; Lorain J. Drew, builder.

Brooklyn.

BUILDING PERMITS. — Flushing Ave., Nos. 919 to 922, two-sty frame factory, 50' x 140', gravel roof; builder, D. Davis.

Monroe St., n. s. 275' e Nostrand Ave., two-sty and 2 three-sty brownstone dwells., 16' 8" x 40' and 16' 8" x 42'; cost, \$5,000 each; owner, architect and builder, A. A. Reeve, 253 Lewis Ave.

Nassau Ave., s. s. 125' e Oakland St., three-sty frame tenement, 22' x 37', gravel roof; cost, \$3,300; owner, Stephen F. Silcox, 549 Leonard St., builders, Israel Reed and S. F. Silcox.

ALTERATIONS. — Fulton St., No. 488, two-sty brick extension, 19' x 36'; cost, \$3,000; owner, A. S. Robbins, Sixth Ave., cor. Park Place; architect and carpenter, Joseph Platt; mason, John Demott.

Warren St., s. s. 100' e Fourth Ave., one-sty brick extension, and four-sty brick extension, one 16' 8" x 37', the other 25' x 35'; cost, \$1,000; owners, Brooklyn Watch Case Co.; builder, James Lock.

OFFICE BUILDING. — An immense office building has been designed by J. Cleveland Cady for A. A. Low, and recently put under contract. It will cover a ground area of nearly 150' x 150' at Court and Remsen Streets, will rise eight stories above the sidewalk, and will contain 179 offices and rooms. The first story will be of brownstone; above this the walls will be of Philadelphia brick, with finish of terra-cotta and brownstone. On the corner of the two streets will be a clock tower over 200' high. The whole is to be completed on or before May 1, 1882. On the upper floor there will be a law library. The interior of the building will be arranged around a large court, which will be inclosed with a glazed roof, and have balconies on the level of each floor, giving communication to the various parts of the building.

SCHOOL-HOUSE. — A new building for Grammar School No. 3 is to be built at Bedford Ave. and Jefferson Street.

Chicago.

BUILDING PERMITS. — Emanuel Silverman, two-sty brick dwell., 23' x 55', La Salle and Schiller Sts.; cost, \$6,800.

Mrs. Goldstein, two-story brick dwell., 24' x 52', 691 Milwaukee Ave.; cost, \$1,500.

Thomas C. Evans, one-sty brick dwell., 22' x 36', Ladin and Loomis Sts.; cost, \$1,800.

Wm. A. Johnson, two-sty brick stores and dwells., 33' x 60', 51 N. State St.; cost, \$8,000.

Peter Labbe, two-sty brick dwell., 22' 6" x 40', 75 Frank St.; cost, \$1,800.

Chicago and Pacific Elevator Co., to enlarge elevator to 100' x 200', North Branch and Halles Sts.; cost, \$150,000.

Conrad Seipp, 4 two-sty brick dwells., 18' x 72', Calumet Ave. and Twenty-Sixth St.; cost, \$18,000.

D. H. Hammer, 2 three-sty brick dwells., 48' x 60', 3419 and 3412 State St.; cost, \$12,000.

A. Newhaus, two-sty brick dwell., 23' x 68', 3000 Cottage-Grove Ave.; cost, \$6,000.

Theresa Mallers, five-sty brick stores, 60' x 114', 185 to 189 Lake St.; cost, \$20,000.

Cleveland.

TABERNACLE. — Mr. W. H. Doan has purchased a lot of land on Superior St., for about \$43,000, on which to build an immense tabernacle.

STORES. — Mr. Perkins is erecting a large four-sty

brick building on Seneca St.; Coburn & Barnum, architects.

CHURCH. — The Plymouth church, on the corner of Prospect and Perry Sts., is receiving its inside finish; Jos. Ireland, architect.

Louisville, Ky.

BUILDING PERMITS. — Since last report no permits have been granted for any buildings of importance. This is partly owing to the high price of brick and lumber, as several projects have for this reason been delayed, which would otherwise have gone on.

TANNERY. — Mr. C. A. Curtin, architect, has just completed drawings for a brick tannery, to cost about \$10,500; Jno. Mitchell, builder.

TENEMENT-HOUSES. — Messrs. J. B. McElfratrik & Son have made drawings for a block of five tenement houses, to be built of brick and stone; Messrs. Fitchner & Hoertz, builders.

WOOLEN MILLS. — Mr. D. J. Williams, architect, will make alterations and additions to the Eclipse Woolen Mills, at a cost of \$9,000.

HOUSES. — Mr. C. J. Clarke has prepared drawings for several first-class houses, to be commenced as soon as practicable.

PROSPECTS. — As each succeeding week grows "brighter still, and brighter," there is little doubt but that the largest building season known here for years is close at hand.

New York.

BUILDING PERMITS. — Seventy-Second St., n. s. 100' e Madison Ave., 9 four-sty brownstone dwells., 20' x 25' and 27' x 65', irregular in depth; cost, \$23,000, \$25,000, \$33,000 and \$35,000; owner and builder, Robert B. Lynd, 41 East Eighty-Fourth St.

South St., Nos. 878, 376 and 377, two-sty brick storage building, 75' x 140'; cost, \$16,000; owners, W. H. Nichols & Co., 41 Cedar St.; architect, E. Gandolfo; builders, J. B. Woodruff and Samuel L. Bergstrasser.

Mulberry St., Nos. 142 and 141, six-sty brick factory, 50' x 30'; cost, \$30,000; owners, Harduan & Patten, 416 Broome St.; architect, J. Hoffmann.

One Hundred and Tenth St., s. s. 155' e Fourth Ave., 3 three-sty brownstone flats, 16' 8" x 50', and extension, 10' x 11'; cost, each \$9,000; owner, A. M. Jenny, 220 East One Hundred and Fourth St.; architect, J. H. Valentine; builder, Jacob Jenny.

One Hundred and Twenty-Second St., n. s. 70' e First Ave., 3 four-sty brick flats, 20' x 52'; cost, each \$9,000; owner, Joseph Murray, 315 East One Hundred and Sixteenth St.; architect, J. H. Valentine; builder, Joseph Murray.

Greenwich St., s. w. cor. Charles St., five-sty brick store and tenement, 40' and 41' 10" x 61' and 67'; cost, \$18,500; owner, Frederick Steinle; architect, Wm. Jose.

Baxter St., Nos. 120 and 122, six-sty brick factory and warehouse, 50' x 85' and 100'; cost, \$29,000; owner, I. Hamburger, Hester St., cor. Elizabeth St.; architect, Wm. Jose.

Sixty-First St., s. s. 200' e Tenth Ave., 9 four-sty brownstone tenements, 22' 2" and 12' 8" x 62'; cost, each \$12,000; owner and builder, John Livingston, 304 East Fifty-Eighth St.; architect, W. F. Burroughs.

Fifty-Sixth St., n. s. 50' w Fourth Ave., four-sty brick dwell., 15' x 55'; cost, \$10,000; owner, Elizabeth Greer, 87 East Fifty-Sixth St.; architect, Fr. Barus; builder, M. Greer.

Fifteenth St., Nos. 407 and 409 w. two-sty brick stable, 30' x 36'; cost, \$2,000; owners, H. Vehlslage Bros.; builders, John Hankesson and James F. Longan.

Suffolk St., No. 95, five-sty brick tenement, 25' x 60'; cost, \$10,000; owner, Henry Gottlieb, 12 Second Ave.; architect, A. H. Blankenstein.

Fifty-Fourth St., No. 427 e. five-sty brick tenement, 25' x 55'; cost, \$10,000; owner, M. Lochr, 425 East Fifty-Fourth St.; architect, A. H. Blankenstein.

Seventieth St., s. s. 100' e Third Ave., 2 four-sty brownstone tenements, 25' x 65'; cost, \$12,000; owners and builders, Frame & McGirr, 217 Third Ave.; architect, J. C. Burne.

ALTERATIONS. — Madison Ave., n. e. cor. Thirty-Sixth St., one and two-sty stone and brick extensions, 30' x 53', first-story walls removed and iron girders inserted, bay windows, conservatory, etc.; cost, about \$52,000; owner, J. P. Morgan; architects, Hester Bros.; builder, Marc Eidlitz.

Ninety-Ninth St., s. s. 100' e Tenth Ave., raised one story, interior alterations; owner, G. Didier, on premises; architect, A. L. Fauchere.

Tenth St., No. 616 e. four-sty brick extension, 22' x 27' 3", reconstructed internally; owner, Robert Stuyvesant; architect, S. D. Hatch.

Ninth Ave., No. 492, one-sty brick extension, 20' x 20', front and interior alterations; cost, \$12,000; owner, John Steets, on premises; architect, J. M. Forster.

Chambers St., No. 159, raised one story, etc.; cost, \$2,500; owner, David S. Paige, 33 Spring St.; architect, O. P. Hatfield.

OFFICE BUILDING. — No. 196 Wall St., corner Front St., is to be built on. An office building, to be occupied by Matthiessen & Wiechers will be erected from designs of Messrs. D. & J. Jardine. It will be four stories high, 60' x 60', of brick with stone finish, and will cost about \$40,000. Mr. N. P. Rogers is the owner.

HOUSES. — On Fifty-Fourth St. a very handsome fire-proof dwelling, four stories and basement, of brick and stone, is now being estimated on. The designs are from the office of Messrs. D. & J. Jardine, who are owners of the building in conjunction with Mr. Jno. H. Deane.

Mr. E. H. Kendall is building for himself a house No. 32 East Seventy-Fifth St., 25' x 61', of brick and Belleville stone, to cost about \$3,000.

STORE. — On the corner of Hester St. and Bowery, the store owned by Mr. Myers, 50' x 100', is to be rebuilt from designs of the former architects, Messrs. H. J. Schwarzmann & Co., at an expense of about \$30,000.

ALTERATION. — The building on Front St., near Wall St., belonging to Clarence Scrymger, is to be altered

(Continued on next page.)

Publishers' Department.

The American Architect
and Building News.

PUBLISHED EVERY SATURDAY BY

JAMES R. OSGOOD & COMPANY

211 Tremont St., Boston, Mass.

NEW YORK OFFICE, 21 ASTOR PLACE.

An Illustrated Journal of Constructive and Decorative
Art, devoted to the Interests of Architects,
Builders, Decorators, etc.15 cents per copy; \$7.50 per year; \$6.00 in advance;
12 Monthly Numbers, with Detail Sheet, \$1.75.Payments should be made directly to the pub-
lishers, either by draft or post-office order.

JAMES R. OSGOOD & CO., Publishers,

211 TREMONT ST., BOSTON, MASS.

New Advertisements.

ANGLO-AMERICAN ROOFING CO. (New York),
Metallic Shingles. Page vii.
JAMES DOUGLAS, Architect, Milwaukee, Wis. As-
sistant Wanted. Page 81.

TO SUBSCRIBERS.

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

Competition in Interior Decoration.

INTENDING competitors are reminded that the drawings for the second competition in interior decoration are due at this office on or before Saturday, February 26, 1881.

SANITARY WATER-CLOSETS.

A VERY desirable improvement in water-closets is said to be Moore's Sanitary Water-Closet, which is considered perfectly odorless, even while in use. Water-closets generally are terribly loathsome and disagreeable, and emit dangerous gases which permeate the clothes and fill the room, and not infrequently the whole house, with the most vile odors, endangering the life and happiness of the occupants. This closet is at once simple and durable, shaped with scientific regard to its use, has no needless air-space to be filled with odors and the collection of filth, and the system of ventilation is such that perfect purity of the atmosphere of the room is preserved. The inventor claims that no other closet in the world will produce such good results with so little outlay, and states that there has never been a failure of this closet to do all that is claimed for it. It can be seen at 27 Main Street, Boston, C. D., and we refer to their advertisement.

ARCHITECTS! ATTENTION!

TWO LET.—A suite of rooms, fitted up for architects' purposes, and formerly used as such, in the heart of the rapidly growing city of Buffalo, N. Y. The best of light, with every other convenience, and an enterprising man would be certain of a large and good paying business from the start. Address JAMES MOONEY, Arcade Building, Buffalo, N. Y. 268

WANTED.

DRAUGHTSMAN.—Wanted, a competent draughtsman, skilled in dwelling-house work in all its details; can offer a permanent situation to the right man. Address, stating terms, JAMES DOUGLAS, Architect, 677 Jackson St., Milwaukee, Wis. 269

WANTED.

COMMUNICATIONS from parties in towns of the South and West, having a population of 10,000 and over, who keep themselves posted on building operations in their respective towns. Address stating present occupation, "Opportunity," in care of the Editors of THE AMERICAN ARCHITECT, 211 Tremont St., Boston, Mass.

PATENT MINERAL WOOL.

Entirely Fire-Proof and Undecaying.

THE BEST INSULATOR OF HEAT, COLD
AND SOUND.For Lining Roofs, Walls, Ice Houses, Refrigerators,
Furnaces, Heater-Pipes, Boilers, etc.

ALEXANDER D. ELBERS,

P. O. Box 4461. 261 Broadway, New York

THE CLARK

Colored Brick and Terra-Cotta Co.,
(Limited.)

OF GLENS FALLS, N. Y.

We are now prepared to fill orders for the building
wares in White, Buff, and Red.The undersigned have been successfully engaged in
Canada for the past five years, and can now fill orders
at considerably reduced prices.

They consist of

Building Pressed Bricks,

In Different Colors, Plain and Moulded.

Also **ARCHITECTURAL BLOCKS**, highly or-
namented, and in different colors.We produce a beautiful material, durable and un-
changeable in color, as lasting as pottery, and suitable
for the interior or exterior of buildings, ornamental
or plain work.Adopted by the chief architect of the Dominion of
Canada, and also by Walter Dickson, Esq., Govern-
ment Architect of the new Post-Office and Custom-
House at Albany.Always in Stock or got up to architects' own
designs.

T. M. CLARK, Glens Falls, N. Y. (Box 176.)

AGENTS.

J. S. HOBBS & CO, 92 State St., Boston.

ROWE & DENMAN, 360 West St., New York.

ART FOLIAGE,

BY

J. K. COLLING.

A capital book for

WOOD CARVERS,

STONE CARVERS,

GLASS STAINERS,

TILE LAYERS,

STUCCO WORKERS,

DECORATORS,

DRAUGHTSMEN,

and ARCHITECTS.

This book is illustrated by eighty small quarto plates, which are explained by the same amount of descriptive text.

Price \$10.00.

JAMES R. OSGOOD & CO., Publishers,

211 TREMONT STREET, BOSTON.

IMPROVED SEATING.

Send
for
Cata-
logue.

Schools, Opera Houses, Halls, Churches.

BAKIR, PRATT & CO.,

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

Colorless Waterproofing for Buildings.

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

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

BUILDING INTELLIGENCE.

into a first-class office building. It will have a new front, be raised one story, have an addition in rear, and interior improvements, to cost \$7,000, from designs of Mr. Geo. A. Freeman, Jr.

GREEK CHURCH.—Two lots of ground on Lexington Ave., between Fifty-First and Fifty-Second Sts., have been purchased by the Russian Government, and it is expected that within a year or two there will be erected thereon a splendid edifice for the Greek Church in this city. About \$50,000 will be expended for the building.

CO-OPERATIVE APARTMENT HOUSE.—The Hubert Home Club Association, No. 7, has bought the plot of land and building at the north-west corner of Madison Avenue and Twenty-Eighth Street, 75' x 95', formerly occupied as the Episcopal Church of the Atonement. The church building will be torn down at once, and a seven-story brick and stone co-operative apartment-house will be erected, at a cost of \$125,000, according to plans drawn by Messrs. Hubert & Pierson. The first story on Twenty Eighth St. will be the permanent offices of the association; above will be 14 suites, and the top floor will be devoted to studios.

PRODUCE EXCHANGE.—The four plans considered most favorably have been altered and re-submitted to the committee. A decision will probably be made at once.

Philadelphia.

BUILDING PERMITS.—Charlotte St., No. 836, three-story dwell., 24' x 40'; L. H. Eickard, contractor.

ADDITIONS.—Nineteenth St., above Brown St., one-story addition to factory, 15' x 35'; also one-story addition to engine-house; Hagstog & Thorp, owners.

Nineteenth and Sanson Sts., three-story brick building, 15' x 42'; H. Wendall, owner.

STORE.—Plans have been completed for a store building, 20' x 119', four stories high, to be of brick with stone finish, to be erected corner Fayette and Arch Sts.; Wm. Kelnath, owner; Wilson Bros., architects.

OFFICE BUILDING.—Peter Wright & Sons, at 305 Walnut St., will build a six-story fire-proof building,

BUILDING INTELLIGENCE.

20' x 116', soon; plans by Addison Hutton, architect, being completed.

St. Louis.

BUILDING PERMITS.—Thirty-five permits have been issued since our last report, of which 11 are for frame structures of slight importance. Of the rest, those worth \$2,500 or over are as follows:

OWNERS' NAME.	USE.	SV'.	FIN'.	Cost.
Betsey Ann Gray,	Dwell.,	2	16	\$6,000
St. Louis Mutual House				
Building Co.,	Dwell.,	2	6	4,500
St. Louis Mutual House				
Building Co., No. 3,	Dwell.,	2	8	4,500
J. B. M. Kehlor,	Flouring Mill,	5	6	15,000
St. Louis Stamping Co.,	Warehouse,	3	3	4,000

Springfield, O.

THE PAST YEAR.—In the year 1880 the number of permits issued was 199 for buildings, the value of which was \$260,570. This is not more than one-half of the number of buildings that were erected, and the value here stated is probably about two-thirds of the whole amount.

FACTORY.—The new shop and warehouse of Whitely, Fassler & Kelly, manufacturers of Champion reapers and mowers, the latter of which is very nearly complete, are among the most important buildings being erected here. It is 60' x 450', three stories high. The foundation for the main shop is but just begun. When complete it will present a frontage of about 620', besides four wings running back 400' for foundry, blacksmith's shop, etc. The entire area of all floors is estimated at 15 acres; Lon Krider, architect.

OPERA HOUSE.—The new Grand Opera House is nominally at a standstill on account of the weather, although the stage and auditorium have been enclosed, so that they are in a well advanced state of completion. The cost will be about \$40,000; Jas. Johnson, contractor; Lon Krider, architect.

BUILDING INTELLIGENCE.

CHURCH.—St. Paul's M. E. church, on Yellow Spring St., is also waiting for a thaw. It is built in the Gothic style, of brick with limestone finish; cost, \$25,000; F. H. Penfield, architect.

WATER-WORKS.—The trustees of water-works who were elected last month have advertised for bids on pipes, hydrants, etc., for the new water works to be built in this place; also for the erection of a metallic stand-pipe, the height to be 110', inner diameter, 35'; J. D. Cook, of Toledo, O., consulting engineer.

Washington.

BUILDING PERMITS.—The noteworthy permits for new buildings issued during January are as follows: Jos. S. Boss, 3 dwells., N. J. Ave., between K and L Sts., n w; cost, \$1,800.

Wm. J. Dyer, store, cor. Fayette and Bridge Sts.; cost, \$1,000.

C. A. Recside, dwell., L St., between Twelfth and Thirteenth Sts., n w; cost, \$1,000.

J. Bradley Adams, store, F St., between Eighth and Ninth Sts., n w; cost, \$4,000.

D. B. Groff, dwell., cor. Eleventh and T Sts., n w; cost, \$2,000.

General Notes.

CAMBRIDGE, MASS.—It is reported that \$100,000 have been given to Harvard University to build a new building for the Law School.

DANVILLE, PENN.—The Baldy Estate is to remodel the old family mansion, and there will also be a stone addition; C. S. Wetzel, architect.

The Protestant Episcopal Society are to build an expensive stone church this coming season, corner of Market and Pine Sts. The church will be the finest one in this section of the State.

DAYTON, O.—The probabilities now are that we will soon have an extension to our market on the grade plan, extending from the centre of the city buildings south to Fourth St.

The Dayton Dwelling-House Company has projected an extensive block of tenement-houses in West Dayton, and will begin the work upon the enterprise as early as day as possible.

(Continued on next page.)