THE AMERICAN ARCHITECT AND BUILDING NEWS

VOL. LXXVII SATURDAY, AUGUST 2, 1902 No. 1388

CONTENTS

MR. J. C. PUMPELLY writes earnestly in the New York *Evening Post* in favor of trade schools. We have in this country a certain number of manual training schools, where children are taught, in general, to use their hands and eyes, but of trade schools, pure and simple, where boys and girls may learn a profession by which they can later earn an honest living, we have very few. The Auchmuty schools, in New York, were exactly what is needed; and the New York Hebrews maintain, with the help of the Hirsch Fund, something of the same kind; but that is almost all; and the vast majority of children who must work with their hands to support themselves and those dependent upon them are obliged to pick up a rudimentary knowledge of some trade as apprentices, or helpers, struggling all the while against the influence of the unions, which oppose, by every means in their power, the training of future rivals to the selfish union members, and against the churlishness of the workmen themselves, who, as a rule, instead of being willing to impart to others the knowledge that they possess, guard with ridiculous jealousy any improved method or recipe that they may have become acquainted with. The result of this discrimination against the young and friendless, which is almost universal among workingmen, is that vast numbers of children of more than average natural capacity, unable to gain even the precarious foothold of apprenticeship in any trade, are forced to seek a living by their wits, taking up whatever presents itself. In many cases, they work up, through successive stages as errand-boys, wagon-drivers or clerks, to responsible positions, but a large portion of them, without regular employment or good example, drift into a condition of dishonest shiftlessness; and the interference of the public authority is needed, not only to keep the children of poor families from idleness and degradation, and put them in the way of becoming useful citizens, but to keep in a prosperous and progressive condition the trades on which so large a part of the community depends for existence, and which it is the policy of the unions to sacrifice to the selfish interests of their own members. In the industrial competition from which England now suffers so much, and is likely to suffer much more, and from which we shall, in our turn, suffer if we are not wise in time, an immense advantage has been derived by Continental manufacturers from the trade and technical schools which have been everywhere established. It is not many years, for example, since German manufactured articles were hardly known, outside of Germany, except as cheap, rough and clumsy things, which could not be sold to anybody but Germans. The first application of German science to business was, perhaps, in the manufacture of chemical products, and it was not long before the Germans led the world in this industry. The lesson was not lost, and in metallurgy, optical work, and the designing and weaving of textile fabrics, not only the managers of manufacturing establishments, but the operatives, began to be taught, not only the theory of their business, but the best and most improved manipulation; with the result that German silks are sold, it is said, even in Lyons; German brocades are sold in India, side by side with the native fabrics; German optical instruments are regarded, all over the world, as superior to any others; German ship-building, an industry of very recent creation, rivals that of any other country, and German hardware is rapidly supplanting that of Sheffield and Birmingham in the markets of the world. All this has been the result of a few years of education of young workingmen to understand and respond to the ideas of those more highly trained in the theory of the business in which both work together. In Prussia alone there are more than three hundred of these technical schools for workingmen, and in Belgium and Luxemburg, which closely follow German lead, they are, proportionally to the population, even more numerous. It would not have taken many years of this system to put Germany at the head of the industrial world, if it had not been for the fact that rival European nations were quick to see its advantages, and to take measures for profiting by German example. In France, a great number of trade schools, teaching nearly everything, from cabinet-making to weaving, were soon established, and have begun to produce good results; while little Switzerland already swarms with "*ateliers d'apprentissage*," or small trade schools, where children are practically taught weaving in silk, wool and linen, cotton-printing, embroidery, lace-making, carpentry and cabinet-work, wood-carving, ivory-carving, watch-making, jewellers' work, and the machinist's and electrician's trades. In the bright little city of Zurich alone there are between eighty and ninety such schools, and Geneva is said to be, in proportion to the population, still more amply provided; while even in the villages, wherever, as is very much the case throughout Switzerland, small manufacturing is done at home, technical instruction is within easy reach of all. It is not many years since this movement began on a comprehensive scale in Switzerland, yet the silk scarfs and handkerchiefs of Zurich, the so-called "Hamburg" embroideries and laces of Appenzell and St. Gallen, the watches, music-boxes and jewelry of Geneva and Neuchâtel, the wood-carvings of Brienz, Meiringen and the Haslithal, and the electrical and other machinery of Winterthur, go all over the world, carrying with them the best possible evidence of the intelligence, industry and trained skill and taste of the Swiss. Notwithstanding the high intellectual capacity of the Americans, they cannot expect to maintain their place in the industrial world unless they soon follow the example of their rivals. No doubt, industrial organization on a great scale has reached a higher point in this country than in any other, but the education of the individual workman has lagged behind, and the great and increasing demand of the markets of the world for what may be called intelligent perfection of execution is not easily satisfied here. Notwithstanding the ingenuity, for example, of our machinery for carving, architects do not find it easy, outside of the great cities, where workmen trained in the foreign schools are available, to get even tolerable wood carving executed from drawings; and the system of training of American youth must be profoundly modified before there would be any possibility of getting from American farm-houses anything resembling the clever, and often beautiful, original wood-carvings which are turned out by the cord from Swiss cottages. Although all schools involve expense, and trade schools, on account of the cost of their equipment, are more expensive than others, they are, perhaps, the best of all investments, for not only do they make citizens capable of supporting themselves and their families, and a part of the public burden besides, in place of paupers, but they develop, by the superiority of workmanship which they foster, the market which is the necessary complement of industry.

PROFESSOR JAMES C. BAYLES is doing a good work in urging the construction of pipe-conduits by which gas and water pipes can be carried through New York where they can be inspected and kept in repair. It is not long since some startling figures were published, showing the leakage of water from the mains in New York; and Professor Bayles

shows that the leakage of gas is as wasteful of money, and at least as injurious to health, as that of water. During the year 1900, the leakage of gas from the mains of the Consolidated Gas Company amounted, as nearly as it could be estimated, to eleven per cent of twenty-four thousand million cubic feet, or in round numbers, three thousand million cubic feet. At fifty cents per thousand feet, the value of the gas so wasted in one year was a million and a half dollars, while the damage caused by explosions in sewers and cellars, to say nothing of illness and discomfort directly caused by the leakage, would amount to a large additional sum. With pipes running in conduits, the leakage, of both gas and water, ought to be easily stopped, to the immense advantage of taxpayers and householders. The expense of a proper conduit would not be very large, and, in connection with the Rapid Transit tunnel one could be very easily and cheaply constructed. New York, owing to the rocky subsoil of a large portion of the island, is a less favorable place for underground workings than Boston; but the interests involved are so important that something will undoubtedly be done in this direction before long.

THE electrical experts of the National Board of Fire Underwriters have issued an interesting report on the fire hazards due to electrical installations, giving many illustrations, from actual occurrences, of the ways in which electrical currents under high pressure may set fires or do harm at a considerable distance. In one case of the kind a piece of wire tied at one end to a tree in the yard of a house had fallen over an electric-light wire carrying three thousand volts. To the same tree was attached a rope, used for a swing. The owner of the house happened to grasp the swing-rope and was instantly killed by the current transmitted to it by the loose wire. In another case, where transformers were used to convert a high-tension primary current into low-tension secondary currents for distribution, a branch of a tree was burned off by a primary wire, and fell across both the primary and secondary wires, thus establishing a direct connection between the two. In consequence of this, the high-tension current, at twenty-three hundred volts, was sent directly into three houses, setting them all on fire. In these instances, of course, the owners of the houses could not have prevented the damage; but there are many cases where those who use electrical devices are grossly ignorant or careless in their handling of them. A clerk in a store had occasion to use an incandescent lamp attached to an extension cord. A thunderstorm was passing, and the service was temporarily interrupted. The clerk, finding that there was no current in the lamp, dropped it on a pile of dry-goods without turning the key. A little later the current was turned on, and the lamp set fire to the goods, causing a loss of thirty-five thousand dollars. The popular notion that there is no heat in an incandescent lamp seems to lead to many fires. In another case, a lamp attached to a flexible cord was left lying on a wooden seat, which was set on fire in consequence. As there is a strong tendency among electrical engineers to increase the pressure of primary currents, seven or eight thousand volts being now used with nearly as much freedom as a twelve-hundred-volt current was a few years ago, it is more necessary than ever for the public to use intelligence as well as caution.

THE Technical Commission, appointed to investigate the condition of the public buildings of the city of Venice, and take the necessary steps for meeting any dangerous conditions, has ordered the immediate demolition of the tower of San Stefano, which appeared likely to fall. The tower, which is a tall and slender one, was built about five hundred and fifty years ago, and the decay of the masonry, inevitable in a slender shaft exposed on four sides to the weather, probably accounts for its condition; and the same may perhaps be said of some of the lofty and ill-cared-for houses in the Ghetto, which have also been condemned as unsafe. The Cathedral of St. Mark, the oldest, next to the Campanile, of all the great public buildings of Venice, is pronounced to be in good order; and the Ducal Palace does not show any defects beyond those noticed two or three years ago, and attributed to the weight of the books in the great library, most of which were, in consequence, removed. Of the buildings around the Piazza, only the Procuratie Vecchie, on the north side, adjoining the clock-tower, was found to be in any danger. It does not appear that any movement had actually taken place, but calculation showed that the slender shafts of the arcade which occupies the lower story were overloaded by the weight of the mosaics, marble statuary and other heavy goods stored in the upper stories by the merchants who occupy the building, and all such articles have been ordered to be removed.

THE newspapers seem to view the announcement of the formation of a great real-estate and building corporation, with a capital of sixty million dollars, with mingled feelings. In New York, corporations formed to hold and manage real-estate are comparatively new, and it is not many years since New York brokers found amusement in the quotations of Boston stocks of real-estate companies. It is true that the history of some of the early real-estate corporations of Boston has not been financially brilliant; but a few have been very successful, and there is no reason why good judgment and careful and economical management should not be as effective in securing income from money invested in buildings and land as from railroad property. Whether stocks based on real-estate security will bear expansion like railroad stocks is doubtful. It is quite possible, in times of prosperity, for the managers of a railway to use all the profits of the road in paying dividends, and then, by issuing new stock or bonds, representing nothing but "earning power," to enrich themselves at the expense of the public; but with securities based on real estate this is not so easy. A story used to be current among brokers about the Coney Island Railroad, which paid its entire cost from the profits of one day's operation, but which, having gone through the process of "capitalization in proportion to earning power," went through bankruptcy not long afterwards. With real-estate such a catastrophe would hardly be possible. City property very well situated may, perhaps, bring in seven or eight per cent on the valuation, but rarely more, and usually much less, than this; so that "earning power" is not likely to serve as a basis for inflation; and, as the assessors' books are open to the public, any one can compare the total amount of stock and bonds with the valuation. With this precaution, people who have money to invest might do much worse than select good trust stocks in city real-estate. Except in times of wild inflation, the value of such real-estate tends slowly, but constantly, to advance. It may take a hundred years for it to double in value, but, even if it should, the increase is equivalent to an annual dividend, deferred, it is true, but none the less sure, of one per cent on the investment.

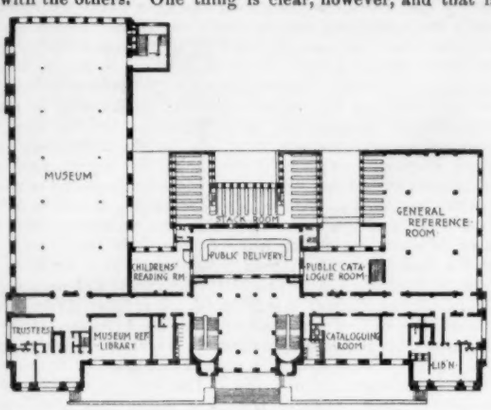
THE New York Rapid Transit Commission, which recently invited proposals for the construction of a submarine tunnel from the Battery, in Manhattan, to Atlantic Avenue, in Brooklyn, has received two offers. It was estimated by the Commission's engineers that the cost of such a tunnel would be about eight million dollars, and one of the bids received was exactly this sum. The other bid was from the Subway Construction Company, of which Mr. August Belmont is President, and proposed to do the same work for four million dollars. At the same time, Mr. Belmont made an informal offer to build a tunnel under Broadway, from Fourteenth Street to Forty-second Street, for one hundred thousand dollars. As the cost of a tunnel over this route, which is about a mile and a half long, would be about four million dollars, it is obvious that the corporation represented by Mr. Belmont is ready to invest a large sum of money in the two tunnels proposed, without return except such as can be derived from whatever control the Rapid Transit Commission may permit the builders to exercise over the tunnels after completion. It is generally believed that the Pennsylvania Railroad is interested in Mr. Belmont's company, and the fact that the proposed Forty-Second Street tunnel would carry passengers directly to the new station of the railroad gives some ground for the belief, although it is not very evident how the Pennsylvania road could profit much from a slight advantage in conveniences for bringing passengers to its station.

THE Cercle Littéraire Franco-Américain invites sculptors of all nations to submit models for a monument to be erected at Newport, R. I., in memory of Admiral de Ternay and the five thousand Frenchmen whom he brought with him to assist the Americans in their war of independence. The designs must be submitted on or before October 1 next. Details of the competition may be obtained by addressing the De Ternay Monument Committee, 138 West Thirty-fourth Street, New York.

LIBRARIES IN THE UNITED STATES.[1]—III.

TOWN LIBRARIES. — DIVISION I.

THE four buildings chosen to illustrate the planning of large town libraries are very unlike each other. In each case the motive of the design has been a different one. The first built, the one at Boston, is much larger than either of the others, and so is difficult to compare with the others. One thing is clear, however, and that is the



First Floor: Public Library, Milwaukee, Wis. Messrs. Ferry & Clas, Architects.

growth of the free-access policy and its great effect upon the plan. Not only is it necessary for the general reading-room to have, as in the Bates Hall at Boston, the walls shelved for books of reference, but the borrower must also be allowed shelves to select from; and the plan adopted at Newark of placing open-shelf rooms of ample area either side of the delivery-hall, where thousands of books may be stacked, is an excellent one. At Providence a different method is adopted. The shelves are placed between the entrance-hall and the delivery-space. This is not so good, the control being inadequate. The positions of the stack-rooms in three out of the four plans are in the rear of the main building. In Newark they are nearly isolated — a great advantage should fire occur in the main building.

The public-libraries at Chicago, Milwaukee [see plan above] and Jersey City are all particularly worthy of study if space permitted.

BOSTON LIBRARY.

The Boston Library [2] is, perhaps, the best known of all the American libraries. It was really the first great monumental one of the present library movement, and, architecturally, it is of very high merit, and its influence is much in evidence in many of the very recent ones. Its plan is not good from the librarian's point-of-view, but the librarians know now pretty well what is wanted, whereas, 15 years ago they were doubtful and uncertain, and library science has moved very rapidly, indeed, since, so that to-day obviously recent planning should be infinitely better than that done early in the movement. It was in 1887 that the trustees of the library decided upon the architects, and the building was started in November, 1888, but it was not until 1895 that it was opened to the public. The site is nearly square, and faces streets on three of the four sides. Its frontage is 225 feet and the depth 227 feet. The great central courtyard is a magnificent feature with its colonnade on the three sides, especially as seen from the half-landing of the great stairway leading to the main floor of the library.

In many ways the present plan varies from that originally settled upon and even built, rooms having been reallotted, and the delivery-hall quite rearranged. The building is placed on a raised platform, and the main entrance-hall is approached from three large arched openings in the centre of the principal façade. This first floor is occupied by the newspaper-room, 45′ x 81′, and two rooms for periodicals, each 34′ x 40′, all to the right of the entrance-hall. The newspaper-room has a row of five columns down its centre, and on the square bases of these, to a height of 4 feet 7 inches from the floor, are placed sloping newspaper-racks 2 feet 8 inches wide, four to each column; and also between them are placed upright stands 7 feet long, each capable of holding 28 newspapers, 14 on each side. Along the walls below the window-sills are the newspaper-desks. Altogether provision is made for 325 newspapers. Seven large tables are provided, each 12′ x 36′, seating 4 on each side. Chairs are also provided in rows of 6, placed back to back, thus largely increasing the seating accommodation. The room is lighted on two sides, the sills being 8 feet above the floor. The first periodical room is used as a reference-room, and in it are stored the recent numbers in cases along the walls and in a gallery around three sides of the room. It is seated for 32 readers at 4 tables. The other periodical room is used for the readers of current numbers, and in it more than 600 are displayed on cases placed against the walls, as well as in rests down the centres of the 6 tables. It is seated for 48 readers.

Nearly the whole of the other rooms on this floor are used for administrative purposes. The catalogue and shelf department is 45′ x 81′, and adjoining is the receiving and ordering department. In the left-hand far corner of the building is placed the stack, returning half round two sides of the courtyard. It is the second floor of the stack at this level. In the opposite corner is placed the bindery, and adjacent to it the printing-department. There are besides rooms for newspaper-files, 32′ x 36′, and the branch department, 17′ x 68′ — both adjacent to the stack; also a reception-room, cloak-room, public telephone-room and public lavatories. In a mazzanine floor (level with the third floor of stack) are galleries around the periodical, reference, and newspaper rooms, connecting with periodical stack-room, 23′ x 34′, and in these galleries are cases with drawers in which are placed the current numbers of the periodicals before being bound. Ample luncheon and locker rooms are provided for the staff on this floor between the stack and the catalogue department. The newspaper-files room is also provided with galleries at this level. The stack at its third-floor level is of a greater area than either of the other floors. It is 36′ x 116′ one way and 40′ x 63′ the other; unfortunately at this floor-level it is inadequately lighted.

The great feature of the library is the reference reading-room, called the Bates Hall, which occupies the whole of the front on the second floor. Its two ends are apsidal and separated from the main central portion by screens, partially open, used as bookshelves. In the right-hand, or northern, apse are shelved the maps, dictionaries, encyclopædias, etc., and the southern one is used as the public card-catalogue room, which is also approached from the lending delivery-hall. The total length of the Bates Hall from end to end is 217′ x 40′ wide, and the crown of the barrel ceiling is 50 feet from the floor. It is lighted by 13 large semicircular-headed windows on the front and 2 at each of the ends, the sills being kept well above the bookshelves below them. It accommodates 264 readers at 33 tables. There are 2 rows of tables, each 10′ x 3′ 6″ and 30 inches high, provided with 8 chairs each.

Between each of the pilasters are fixed oak bookshelves 11 feet 9 inches wide, standing on a marble plinth 1 foot 3½ inches high; the height of the space for books is 5 feet, and the total height of case to top of cornice is 7 feet 9½ inches; horizontally they are divided into 3 divisions. In these cases around the room are placed about 8,000 books of reference. The attendant's desk is placed in the centre of the room opposite the main entrance; here books are changed and returned for use in the hall only. The books are brought from the stack on trucks with rubber-covered wheels.

The lending delivery-hall is to the right as one approaches from the main stairs. It is 33′ x 64′, and is fitted amply with chairs, tables, bulletin-boards, and shelves with recent books. Between this delivery-hall and the stack is the issue-department. The most noticeable feature here is the circle of pneumatic tubes to the left, through which the application slips are sent to all parts of the book-stack. An apparatus has been installed in the issue-department novel to library use. This is a "pick-up carrier." Its purpose is to transport the various slips between 4 points in the issue-department doing business with one another — the issue and return desks, the record-trays, and the pneumatic terminals.

At the stack-end of the issue-department are the book-elevators, and the book-carrier to these is a cable railway operated by electricity. Each story of the stack is equipped with an 8-inch track running its entire length. Each track has 3 stations, placed at convenient intervals, and each station has its own carriage — a low wire basket capable of containing all but the largest books. Girls are employed as "runners" on each floor to carry the books called for to the baskets. When the basket is loaded it is pushed from the station to the main track, where it grips the cable and is carried towards the issue department at the rate of 500 feet a minute. As the stack is in 6 stories, only one of which is on a level with the opening to the issue departments, 5 miniature elevators are provided — one for each of the stack stories above or below the level of the window. When the basket approaches it automatically slips the cable, and its speed having been gradually slackened it slides upon the elevator. If the elevator is "busy" the basket is held until its turn arrives. If it is not "busy" the shock releases a pin, and the motor below hoists or lowers it, as the case may be, to the window. The librarian's room with its private office is placed adjacent to the issue-department. The children's-rooms balance the issue-department on the north side; the larger is 34′ x 65′ and the other 37′ x 40′. The large room is fitted with 7 elliptical tables 7′ x 5′ and 2 feet 3 inches high, with 8 chairs around each. The shelving accommodation in the 2 rooms is for 8,000 volumes. In the small room are 6 tables 3 feet 6 inches wide by 12 feet long, with 12 chairs to each. From this room the lecture-hall, 40′ x 86′, can be reached. The patent-room, 36′ x 42′, adjoins the stack-room. The top, or third, floor is wholly arranged for special libraries. Alcoves — about 12 feet 6 inch centres — are placed around the whole of the outer walls. They have galleries around them with shelving. In each alcove is placed a table seating 8 readers, arranged next the windows which look into the courtyards, and altogether there are 29 alcoves. There is also a specially fitted room, 27′ x 51′, for music, and 2 rooms, each 35′ x 66′, one used for a special collection and the other as a fine-arts room.

It is a little unfair, perhaps, to criticise this plan, because of the rapid developments of library planning since its creation. Still, there are many points in it that are not good, particularly the position of the fine reference reading-room in relation to the stack-room

[1] A paper by Sidney K. Greenslade [*A.*], Pugin student, Grissell Medallist, Godwin Bursar, read before the Royal Institute of British Architects, Monday, March 17, 1902, and printed in the *Journal* of the Society. Continued from No. 1387, page 30.

[2] See plan, *Journal* R. I. B. A. Vol. VI, page 218.

the cramped position of the delivery-hall, and the unfortunate shape and position of the stack-room, necessitating the use of elaborate mechanical arrangements for carrying the books.

The cost of the building was £473,000, and the shelving capacity at present is for 750,000 volumes. The architects were Messrs. McKim, Mead & White.

NEWARK PUBLIC LIBRARY.

The Public Library at Newark, N. J., was only completed and opened on March 14, 1901. It is evident that a deal of thought has been spent in its arrangement and planning. A great point has been made of "free access" to the books, both outside and inside the stack. The site is an open one with no curtailments. The main building has a frontage of 103 feet and a depth of 157 feet. Connecting this building to the 2 stacks in the rear is a small block about 30′ x 30′. Each stack-room is 60′ x 39′. At present only one is complete — the left one being only built at the basement level — and contains the engines, boilers, and the electric-plant. The general arrangement of the rooms on each floor is as follows: —

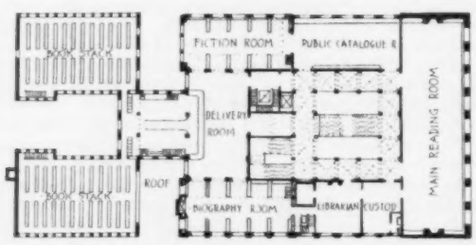
On the first floor are placed the newspaper reading-room, children's room, public bicycle check-room, public toilets, administrative rooms (including stock-room, binding, packing-room), delivery-station room, repair-room, and, to the rear, the stack-room and boiler-rooms.

On the main floor is the general reading-room, occupying the whole of the front of the building, as at Boston. The delivery-room is in the rear, opposite the landing of main stairs, and on either side of it are the 2 open-shelf rooms for fiction and biography. The delivery-room, with its counter and working space, occupies the connecting-block between the main building and the stack-rooms. The public catalogue-room and the librarian's public room are placed at the sides, between the general reading and the open-shelf rooms.

On the third floor are the reference-room, patents-room, art-book room, cataloguing-room, various staff-rooms, and 2 special study-rooms near the stack rooms.

The fourth floor consists of a lecture-room, the museum, and art-gallery.

The children's room, 29′ x 32′ and 23′ x 30′, is L-shaped in plan, and occupies the front corner of main building — easily accessible



Main Floor: Public Library, Newark, N. J. Messrs. Rankin & Kellogg, Architects.

from the street. Directly opposite the entrance is placed the attendants' enclosure, 16′ x 10′, with counter all around, 2 feet 1 inch wide and 2 feet 6 inches high, fitted inside with shelves and with a gate at the back. In the space between the entrance and counter, divisions are placed to direct the ingoing and outgoing readers. The ways are 1 foot 3½ inches clear. It does not answer well, as the division is not carried to the floor, and children slip out. There are 6 tables, 3′ x 5′ x 2′ 4″ high, seating 10 readers each — decidedly too many to a table. In the portion of room directly to the left of the entrance 2 steel stacks are placed, 1 foot 4½ inches wide and 9 feet long, and of the same height (5 feet 2 inches) as the steel shelving placed all around the walls of the room. These isolated stacks form small alcoves, which are used as the reference portions of the room. The shelving capacity of the room is for 8,000 volumes.

The newspaper reading-room occupies an exactly similar position as the children's room to the right. It can be approached either from the main entrance or the side. Adjoining it is the men's lavatory. The binding and repair rooms are placed adjoining in the left-hand far corner next stack-room, one being 24′ x 38′ and the other 19′ x 20′. The delivery-station room, 28′ x 30′, is placed between the stack-rooms and the main building. From this room small lifts run to all the floors of stack. The floor of this room is some feet above the level of the road outside, so that when the delivery-wagon backs up the cases of books for the stations can easily be shifted onto it. The sizes of the boxes for the books are 1′ x 1′ x 3′ 3″. In the centre of the room is a long table, 2 feet wide and 3 feet high, with cork-linoleum top, for taking these boxes; and, adjoining, a table, 12′ x 3′, with 3 tapered divisions 15 inches high, with table-top 2 feet 9 inches from floor, in which the books for the separate boxes are checked and dispatched. The first floor of stack-rooms is level with this floor of main building.

Ascending the main staircase to the second floor, one enters through a short corridor directly into the delivery-room, which is 28 feet 6 inches deep by 48 feet wide. The open-shelf rooms on either side, each 24′ x 51′, are fitted with steel stacks for books of fiction and biography. To get to these rooms the reader has to pass through one of the turnstiles in the delivery-counter, which is divided into 3 — the central portion is 18 feet 6 inches wide, and the other counters for changing and registration on either side are each 7 feet 6 inches, and between are the turnstiles for entering and leaving. There are 2 turnstiles to each opening, each 15 inches wide. This counter necessitates 3 attendants at least — sometimes 4. The openings between the columns to these rooms have large fixed seats between them, so preventing access from the delivery-room to the books without passing the turnstiles. The steel stacks in them are somewhat differently arranged from that shown on the plan. There is only 1 row to each room: they are 12 feet long and 8 feet 6 inches apart, and are placed 18 inches from the wall, so there is ample room for the circulation of readers choosing books. A gallery with a glass floor is fixed over, so that another floor of stacks may be erected when necessary. Between the delivery-counter and the stack-room is the delivery working space, 28′ x 36′. In the 2 enclosed spaces either side of gangway leading to the stack-rooms a great deal of the work of the library is done. Rather inconveniently placed in relation to the delivery-room is the public catalogue-room. It is 23′ x 51′, and in it the card-catalogue is arranged in desks around the room and down its centre, instead of in the usual upright stands with small drawers: it therefore necessitates a great deal of space for its display.

The main reading-room is placed to the front and occupies the whole width of the building; it is 29′ x 95′. It is entered from the gallery around the well of the entrance-hall at 2 points. Like the Bates reading-room at the Boston Library, it is lighted from the front by a series of large windows. The room is oak-panelled to the height of the window-sills, which is 8 feet. The dado-moulding is 3 feet 10½ inches high, and between the bays above this moulding are placed vertical cases for the periodicals, 1 foot 6 inches high. There is no book-shelving. It is fitted with 15 tables, each 3′ 4″ x 9′ 9″, placed in 2 rows, and with 9 armchairs to each, and 1 round table 6 feet diameter, accommodating 140 readers altogether. The attendant's desk is placed next the public check-room. The height of the rooms of this second floor is 20 feet.

The reference-rooms on the third floor are particularly well arranged. The assistant's desk is placed just opposite the entrance, and all readers have to pass it, the doors which originally opened from the patents-room and art-book room to the gallery surrounding the staircase-well having been closed. The top floor of the stack is level with this floor, and is quite open to it and reserved for reference-books. A locked gate is placed at the stairs, so that the lower portions of the stack-rooms cannot be reached. Three special study-rooms, 10′ x 13′, are placed adjacent over the working-space on the floor below.

The reference-room consists of 2 rooms 24′ x 56′ and 28′ 6″ x 50′. They are both divided into alcoves by steel stacks, which are 7 feet high and 9 feet long, placed at 10 feet centres; in each alcove is a table 2′ 3″ x 3′, with seats for 4 readers.

In the patents-room (23′ x 51′)the stacks, which are 21 inches wide by 6 feet long, are arranged in a similar manner, but against the inner wall, and the 4 tables, each 5′ x 3′ 3″, accommodating 16 readers altogether, are placed at the piers between the windows. Through the patents-room, the art-room, 29′ x 42′, is reached. Here 2 large leather-covered and padded rests for large books are placed in the centre of the room, 3′ 4½″ x 5′ 3″ wide and 7 feet 6 inches long, divided into 3 divisions on each side. The front portion of the room is divided into 4 alcoves by wider stacks than used in the other rooms, the lower portion of each being 4 feet wide by 3 feet high, and the upper portion 2 feet wide by 4 feet high.

The stack-room is shelved to take 33,600 volumes on each floor, and there are six floors, the first being level with the first floor, the third with main floor, and the sixth with reference-floor, providing a total shelving-capacity for over 200,000 volumes. The stacks are 12 feet long, divided by a centre passage-way 4 feet wide, with side passage-ways 3 feet wide. The uprights are of steel, the shaped ends and rests for shelves are of copper, the shelves are of wood, and the floors of glass. A lavatory-basin is placed at the end of each central gangway, and at each corner of the stack-room on each floor dust-flues are provided. They are 12″ x 12″, with galvanized-iron shutters; the flue is covered with wire-netting to prevent books from falling, and the particles of dust are sucked down out of the building by fans.

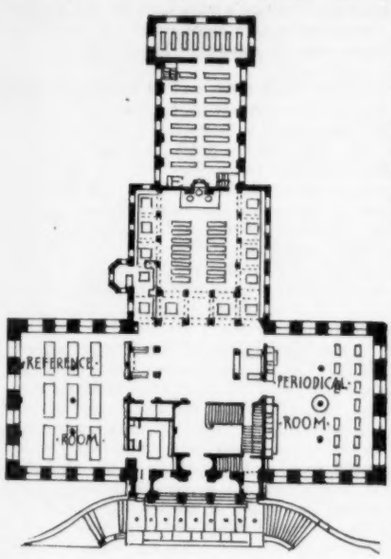
All the windows of the stack-room are fixed, to prevent dust getting in, and on the outside for cleaning purposes 2 iron galleries are placed at the third and fifth stories; the windows placed between each row of stacks have their sills only 12 inches from the floor, so well lighting the bottom shelves of books. On each floor of the stack-room is a telephone, and automatic-electric book-lifts are placed just outside, in a gallery overlooking and open to the working delivery-space. Its position here is necessary, for when the second stack-room is built the lifts will be common to both stacks.

The upper floor does not call for comment. There are some excellent points in the planning of this building. The arrangements for the open-shelf rooms, delivery-hall, work delivery-space and stack-rooms are very good indeed, and the approach to these rooms from the main entrance is very direct. The cost of the building was £60,000, and it was designed by Messrs. Rankin & Kellogg, of Philadelphia.

PROVIDENCE PUBLIC LIBRARY BUILDING.

The Public Library Building, Providence, R. I., was completed and occupied in March, 1900. A competition limited to the architects of Providence resulted in Professor W. R. Ware selecting the plans of

Messrs. Stone, Carpenter & Willson. Owing to successive liberal gifts these were much modified and enlarged, and it was not until 1896 that building-operations were commenced. The site is quite isolated and nearly 200 feet square. The building itself, consisting of the main block, 139′ x 58′, and the stack-building at the back, 108 feet long and of varying widths, covers an area of more than 11,600 square feet. The boiler-house is placed outside the building in the rear to the right. In the planning of the Providence Library it is evident that the librarian's point-of-view was well considered, and his advice invited in the attempt to solve a problem which had not been altogether successfully coped with. The Providence plan is, therefore, an interesting one, coming, as it does, between the Boston and Newark libraries in date.



First Floor: Public Library, Providence, R. I. Messrs. Stone, Carpenter & Willson, Architects.

The basement, which, owing to the fall of the ground from front to rear, is particularly well lighted, contains more stack-room accommodation than any of the floors above, the whole of the space below the delivery-room being occupied. The men's staff-room, fitted with steel lockers and with lavatories adjoining, men's and women's public lavatories, packing-room, supply-room, bindery, are all arranged in the front block. In the rear to the right is a bicycle-yard 25′ x 34′, fitted up on each side with holders, with an entrance to the building and to the back streets.

The first floor includes the 3 rooms which every visitor needs to find directly accessible to him, the delivery-room (80′ x 50′), in immediate contact with the stack and the 2 main reading-rooms; the periodical-room (41′ x 50′); and the reference-room (41′ x 50′), with small map-room (16′ x 12′). These 3 rooms together comprise an area of more than 7,800 square feet.

On the second floor are placed the lecture-hall, 37′ 4″ x 40′ 10″ (seating capacity 110 persons), the children's department occupying 2 interconnecting rooms, one 24′ 6″ x 40′ 10″ and the other 18′ 3″ x 18′ 10″. The standard library is a feature of this library; it has 2 interconnecting rooms (one 12′ x 39′, and the other 19′ 6″ x 20′). There are also 4 interconnecting administrative-rooms for the librarian, the auditor, records and trustees. All these are in the main building. Behind, over the delivery-room, is a large educational study-room, 27′ 6″ x 36′, and beyond is the fourth stack story, 27′ 6″ x 43′ 10″, with the women's staff-room, 12′ x 20′, and their toilet-room adjoining.

The third story is preëminently "the special-library floor," providing laboratory facilities in connection with works on art, industrial literature and other departments which are necessary for a manufacturing centre. There are 2 reading-rooms, the industrial 16′ x 18′, and the medical 16′ x 27′ 6″, with their stack-rooms for patent literature and medical literature, each 21′ 4″ x 39′, adjoining. There is also a room 58′ x 43′ 6″ divided into alcoves for special libraries on art, music (including a collection of musical scores for circulation), historical collections, etc. The whole of these rooms are top-lighted, which is unfortunate, the heat in the summer months being very great indeed. This third floor is connected with the sixth floor of stack, which is also top-lighted here, and beyond the stack are placed 2 study-rooms over the 2 below on the fifth floor of stack. Two of these study-rooms are 12′ 6″ x 15′, and 2 12′ 6″ x 18′ 10″. The stack building (the central one of 3 to be erected at some time in the future) contains besides the stack and the 4 study-rooms at the back, etc., already described, the greater portion of the delivery-room, 48′ x 48′, which projects into this part of the building, so that an important point is thereby secured — the delivery-counter is placed in an ideally favorable position, with stack above and stack below as well as stack beyond. In what is really the inner main hall are the registration-desk and information-office, and between this hall and the delivery-room beyond are placed, between the piers, the cases containing the new books and books of interest on special subjects engaging the public attention at the time. The delivery-space proper is 27 feet 6 inches wide by 36 feet long, and is fitted with seating on each side similar to that shown on plan. Beyond is the delivery-counter, about 14 feet wide and projecting 5 feet from the wall; there is room for 3 attendants behind it, 2 at the counter and one behind in the recess at the opening connecting with stack-rooms. Here is placed a shelf, and books are delivered direct from second and third floors. From the first, fourth, fifth, and sixth floors, small elevators are used. The level of the second floor of stack above delivery-room floor is 3 feet 7 inches.

The ceiling to the two wings and to the two side approaches to the delivery-room being much lower than those over the other portions, light is obtained over them, so ranges of lunette-openings are possible by this means on three sides. Besides small windows, the wings also have skylights in each bay (see plan). In the right wing are placed the shelf-lists, which are type-written and bound, and in the left wing the card-catalogue, where a large table is provided as well as a shelf-ledge all around the walls for standing to.

The cataloguing-room is really cut out of the delivery-room, and no doubt when an enlargement of the library takes place more room will be provided for it; its bay for small reference library for official use is a pleasing feature.

The reference-room (41′ x 50′ and 16 feet 4 inches high) is well lighted on its three sides, the sills of the windows being above shelves round the room: these are 5 feet 3 inches high. Those to wall in which entrance occurs are 7 feet high. It is fitted with 6 tables, 12 feet long and 3 feet 6 inches wide, seating 5 readers either side, a total of 90 readers. The attendant's desk is placed in the right-hand corner next cataloguing-room. The small map-room off this room is conveniently situated.

The periodical-room, of the same dimensions as the reference-room, differs in arrangement from it. The far portion of the room is fitted with 2 rows of 6 small tables, 2′ x 4′, with 4 chairs to each; one large table is reserved for women. The room is shelved in a similar way to the reference-room. The inner wall is fitted with cases containing drawers for the current numbers of periodicals, where they are kept previous to binding. In the centre of the room, arranged around a column, is placed a periodical-stand containing spaces for just 200. The lower portion to a height of 4 feet is circular, the remainder being octagonal. At a height of 3 feet 2½ inches it has a 12-inch sloping rest. The lower portion has 12 divisions in its height, the first being 7½ inches off floor, and the upper portion 15 divisions and is 2 feet 7½ inches high.

The stack-room at this level consists of a front portion 27 feet 6 inches wide by 43 feet 10 inches long, and the end building placed longwise to it 12′ 6″ x 34′ 6″. Each floor of the stack is 7 feet 1 inch from floor to floor. The whole of the fittings of the stack are of steel, including the shelving. The gangways are of glass, 2 feet wide, with a 3-inch air-space each side between glass and shelf-line, making space between shelves 2 feet 6 inches. The width of each stack is 1 foot 10 inches and the ends are solid. The shelves are of steel, rounded front and back, enamelled, and are 10 inches wide. The walls are lined with 1-inch polished white marble, in slabs of one height, 6 feet 7 inches and 2 feet 10 inches wide. The 6-inch skirting is of polished black marble. The stacks are very well arranged, well-lighted, and not over-crowded, the only ill-lighted portion being the central space of the room below the delivery-hall.

A special provision has been made for dusting books. On every stack-floor a small closet is arranged for this purpose at one end, and all dust shaken from them into a hopper is drawn by a 1½-horse-power fan, placed just below the roof and discharging the dust-laden air by a 6-inch pipe passing through it. There are 2 staircases between the floors of stacks, one at each end.

The room set apart for the standard library is a well-proportioned room with a barrel ceiling. It has fixed seating on two sides, and book-shelves to a height of 5 feet 3 inches on the other sides. The assistant-librarian's desk is placed in this room and several small tables 1 foot 8 inches high and 18 inches diameter are arranged near the seating. The special reading-room adjoining is 18′ 6″ x 20′, also fitted with shelving.

The children's room (24′ 6″ x 40′ 10″) is fitted with tables to accommodate 48 readers, 3 each 3′ 6″ x 9′ 9″ for 8 readers, and 2 each 3′ x 12′ long for 12 readers; these long tables are only 2 feet high. The attendant's desk is at the entrance, and a small work-table is placed in the centre of the room. The central column has framed around it panels for exhibiting pictures. Shelving is placed around the walls, 4 feet high to window-sills, and one shelf higher between them. The card-catalogue is placed in the far corner of the room, with table for reference. The adjoining room is used as a class-room for the study of special subjects. Cupboards to a height of 3 feet with a 12-inch ledge are arranged around the walls, and above to a total height of 7 feet the walls are covered with colored linen, having brass rods to which photographs and drawings may be hung. The first rod is 1 foot 5 inches high, then 12 inches, then 6 inches and 6 inches, 4 rods altogether. The room has one large table, 4′ x 9′, with 8 stools to it. Off this room is a small lavatory with basin only; other toilet accommodation is provided in the basement.

The cost was about £53,000, and the shelving capacity is for 225,000 volumes. Generally this is a very interesting building. A serious attempt has been made to meet the new requirements of the "free access" policy, and to a large extent it has been successful.

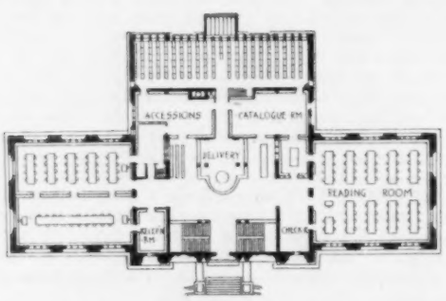
WASHINGTON PUBLIC LIBRARY, WASHINGTON, D. C.

The design for the Washington Public Library Building, Washington, D. C., was the result of practically an open competition. Ten well-known library architects were invited to compete, each receiving a honorarium of £50. Other architects were also allowed to send in schemes, and the result was that the plans of Messrs. Ackerman & Ross, of New York (not an invited firm), were selected. The programme of the competition was issued in May, 1899, and in August, 1900, building-operations commenced, after the plans had

been very much revised. The conditions of the competition were very carefully drawn up, and the cost was limited to £50,000, but this was overstepped considerably, the total estimated cost being £70,000. Altogether the building covers over 17,000 square feet. Its frontage is 220 feet, with 60 feet return ends, and the greatest depth through centre is 111 feet 6 inches where the stack-room occurs. The building consists of basement and 2 floors above. The basement (12 feet floor to floor) is but partly below the ground-level and is well lighted. The entrance to it is placed under the approach of the main-entrance above, the vestibule being 20′ x 15′, from which the stairs on either side lead to the main vestibule above. Entered from half-landings, placed 6 steps up, is arranged the lavatory accommodation for men and women, the latter to the right and the former to the left. Beyond the vestibule is a large space for bicycles. One room only — that occupying the west wing — is intended for real library use; it is 58′ 6″ x 50′, and will ultimately become the children's reading-room when the demand for juvenile accommodation outgrows the space provided on the first floor for this purpose, or when the children's room on the first floor is needed for the open-shelf accommodation. The east wing, of the same dimensions, is devoted to the staff lunch-room (20′ x 24′), fitted with lockers, with a kitchen and pantry adjacent, store-rooms, and rooms for the caretaker, house-cleaners, and scrub-women. The boiler-room (52′ 6″ x 32′) extends down to a sub-basement (21 feet 6 inches) below the first-floor level, therefore 9 feet 6 inches below the basement floor, and is placed right in the centre of the building. Behind it are placed the packing and delivery room (34′ x 22′) and the station-delivery (15′ x 25′), into which delivery-wagons can back, having a staircase and lift to the stack-room. The room for binding and repairs (34′ x 22′) occupies the other corner. Near it is the attendants' entrance.

The first-floor entrance is approached by a wide flight of 16 steps. From the vestibule the delivery-hall is entered, and directly opposite the entrance is placed the delivery-counter. Not including the staircases either side of the vestibule, the space devoted to the public and the officials for delivery-work is about 50′ x 40′.

The delivery-counter has a frontage of 60 feet to the delivery-hall and the card-catalogue is placed to the right, and seats for the waiting borrowers to the left. At the back of the counter (beyond the



First Floor: Public Library, Washington, D. C. Messrs. Ackerman & Ross, Architects.

corridor) is the stack-room, which is 22′ 6″ x 83′, occupying the whole north end of the central block and extending up through both first and second stories, containing altogether 5 floors of 7 feet each in height, and having a shelving capacity of about 264 500 volumes. There are altogether 21 rows of stacks, 18 feet long on each floor, with light between each row, and the upper story is top-lighted. The floors are to be of white marble or glass.

On the west side of the corridor leading to the stack-room the accession-room and librarian's room are placed, while on the east side the catalogue-room and small reference-room occupy similar positions.

In the east wing is the general reading-room (58′ 6″ x 50′), arranged with 9 tables seating 8 readers each, and one seating 4, also an attendant's desk. Around the whole of the walls of the room shelves are provided to a height of 5 feet, which will contain 7,770 books. This room is exceptionally well lighted on three sides by 8 fine windows.

At present the west wing, of similar dimensions, is divided into two by a temporary partition, half arranged as the children's room, with 5 tables seating 8 each, with shelving around for 5,500 books, and the other half arranged as an open-shelf room, also shelved for 5,500, with one long central table seating 20 readers. In time, as before stated, the whole of this wing will be devoted to the open-shelf room, and the children will occupy the large room below it. The other rooms to be noted on this floor are the check-room and reception-room, on either side of the staircases and adjacent to the entrance.

On the second floor is the memorial hall (50′ x 25′) placed centrally to the front. To the right, over the reading-room below, is the newspaper and periodical room, of the same dimensions, and fitted similarly; to the left the lecture-hall occupies a similar position. Four special study-rooms, each 20′ x 14′, are placed conveniently near the stack-room.

[To be continued.]

NOTES ON THE LATE PARIS SALONS.

IT is sad to think of our loss in the death of M. Benjamin-Constant. Without doubt the best portraits in the *Salons* are his work; and now, as regards this our world, he has gone down into silence. But as a lady *en passant* remarked, "he has not been fortunate in his models"; nevertheless he has turned out a grand portrait in his "Lord ——," and if M. Blowitz's is not that of an Apollo or of a fine gentleman it is not the painter's fault. It is instinct with life. It is curious to note the departure in Constant's work from the old manner of a thick *impasto*, and the adoption of a more broken up handling. His coloring too has altered since the days of "Theodora," and for the better.

It will save trouble in writing these notes and in reading them if I put the initials S. for the old *Salon* and B. A. for the new.

So many artists at the latter seem to have fallen off, but a few keep up their reputations. Mr. Harrison (B. A.) has exquisite moonlight and sunset effects of water and sky — iridiscent shimmering, purple-green sea flowing in over a flat sandy shore. M. Lerolle's "Bergère" is charming, though he has left that beautiful gray, silvery tone of his "S. Geneviève." Noteworthy too are M. Dagnan's (B. A.) "Bretonne" and portrait of an elderly lady — they are refreshing simplicities perfectly rendered and of a far higher standard and purer style than the large pictures we have seen of late with accessories of red curtains and electricity. M. Detaille (S.) has achieved a great success in his two large decorations for the Paris Hôtel de Ville, especially the "Reception by the Municipality of the Troops returned from Poland" in 1807. It is full of curious uniforms and costumes, singing-ladies and harpists, which, with the obsequious Minister stepping forward to decorate an "eagle," form a spirited picture of that time of enthusiasm for all things military. Both pictures are instinct with life and beautiful in color; may their fate not be that of M. Clairin's in the Halles au Blé or of poor Baudry's at the Opéra — practical destruction. It is a satire upon conscientiousness that Baudry, thinking it honest and just to put of his best into the Opéra pictures, would not ease the work by having help; not only was his health ruined, but his other work was but little, for want of time. And now? His devotion is rewarded by blackened pictures which may justly make people ask why he had so great a reputation? But that his contemporaries were right is proved by the few masterpieces of portraiture which remain. Does it not seem a folly to commission great artists to decorate buildings and then let gas and smoke destroy their work? The Beaux Arts is best in its decorative-art department, jewelry (by such a master as M. Boutet de Monvel!), glass and faïence, and we may see as a fact that it is not moonshine to assert that, given the public to buy expressive artistic nothings, there is no fear of the production of such work failing — labor is expensive in these days, and artistic work is slow, but genuine artists exist. M. Maignan's Eve called "Seduction" (S.), is a new, or rather a revived, reading of the old subject, for I remember once seeing a thirteenth-century MS. with a similar serpent standing up on his long, coiled-up tail. That such painters as MM. Olive, Montenard, Allan Hitchcock and Matignon and Damoye should be interesting need scarcely be stated, but we miss so many whom we look for with great expectation, for instance, M. Jean Béraud is absent, and M. de Richemont is only represented by a small "Matérnite "(S.), charming as far as it goes, and M. Carrière, by some studies in monochrome. They are therefore disappointing shows. M. Aimé Moreau has hit upon a new subject: some blacks carrying a dead lioness (or lion) through the jungle to a canoe, called "Au Tableau" (B. A.). It is a powerful work and excellent in tone.

Another decorative panel (for the new Sorbonne) "Un Cours de theologie: — les étudiants au XIV^e^ Siècle," is very strong in color; and like the same artist's work at the Opéra Comique, exceedingly picturesque. Remembering that Dante sang his "*Divine Comedy*" to the students in the precincts of the old University over against the ancient church of S. Julien-le-pauvre, one imagines from the likeness to the poet at Florence, that he was the reciter — but if so, why *theologie*?

Taking the two exhibitions *en masse*, we must admit that they are dull and vastly inferior to those of former years; and it is a question whether the London R. A. show is not in many ways superior.

S. BEALE.

ELECTRICITY A MATERIAL SUBSTANCE.

THE generation of "electricity" consists in splitting off an electron from the atom. The electron then produces a stress in the ether similar to that due to a "negatively" charged body. The remainder of the atom acts as a "positively" charged body, though we do not know as yet whether the positive charge is due to a special positive electron or not. If it is, we have not yet succeeded in isolating the positive electron, but it is supposed to be about ten times heavier than the negative electron. In any case we have here an elementary negative charge of about one ten-billionth of the absolute unit and an elementary positive charge of the same amount. These elementary charges attract each other and repel similar charges. They can associate with clusters of neutral particles. A negative electron thus associated with ordinary matters becomes a "negative ion," and a positive electron becomes a "positive ion." Conduction consists in the wandering of positive ions down the potential gradient, and of negative ions up the potential gradient.

This wandering can take place in metals. It then produces heat by collision with the molecules of the metal, and a magnetic field by the motion of the charges. In a liquid, the energy of motion is consumed in the splitting up, or "ionization," of neutral molecules. Every current of heat is associated with a transportation of ions, and here the whole field of thermo-electricity is entered. In the vacuum-tube, ions move with less restraint. Negative electrons are shot off from the cathode with the velocity of light, or something very nearly approaching it, and where they strike upon a solid they produce explosive ether-waves of remarkable penetrating power which are known as Roentgen rays. Where they hit gaseous particles they ionize them, and in doing so develop great heat and light, thus giving rise to the whole fascinating vista of vacuum discharges.

Nor is their wonderful activity confined to the fields enumerated, for the whole phenomena of magnetism are based upon the electron. Whenever an atom has a high valency, such as iron, cobalt, or nickel, it appears that the free electrons which constitute these valencies revolve around the rest of the atom. These revolutions produce whirls in the ether which are known as magnetic displacements or stresses, or "lines of force," and whenever a "conductor," *i. e.*, a body containing freely movable ions (say one for every five thousand neutral atoms) is moved through these whirls, the ions are set moving in opposite directions with a velocity of about one centimetre per second, and we have the whole phenomena of induced currents.

The enormous rapidity of the magnetic revolutions may be judged from their probable period, which is about one-trillionth of a second. In the electric arc we have not only a great exchange of opposite ions, but this ionizing action of ultra-violet light — and Elster and Geitel have shown how this ionization action of ultra-violet light may lead to the elucidation of all the problems of atmospheric electricity. The latest information, as recently supplied by us, goes to show that ionization is constantly going on wherever there is matter, and that some bodies have the faculty of projecting either negative electrons or positive ions with some force. These bodies, like radium, actinium and polonium, are then said to be radioactive. Hurmuzescu has gone farther, and proved that the electrons revolving in magnets often shoot off at a tangent and "electrify" a liquid in which they are placed.

All these manifold applications of the electron idea show that we have here one of the most fruitful conceptions of the human mind. We have at last discovered, and even isolated, what we may call the "electric substance." We can weigh it and measure it and produce it in any quantity. It may yet prove to be the "protyle" of the philosophers; the fundamental and primordial substance of the universe. Whether it is that or not we have now some definite and almost tangible nucleus around which to crystallize our thoughts. The "electric charge" is now no longer a mere phantasm of the mathematician. It is a solid reality; as solid, at least, as a deal table. It remains . . . to remodel our text-books in accordance with the new truths, and to build up our whole electrical science upon the properties of the substance whose conquest has been so long and arduous a task. — *London Electrician.*

ILLUSTRATIONS

[*Contributors of drawings are requested to send also plans and a full and adequate description of the buildings, including a statement of cost.*]

A COMPETITIVE DESIGN FOR THE BOSTON ATHENÆUM, ARLINGTON AND NEWBURY STS., BOSTON, MASS. MR. C. HOWARD WALKER, ARCHITECT, BOSTON, MASS.

SECTIONS AND PLANS OF THE SAME.

A COMPETITIVE DESIGN FOR THE BOSTON ATHENÆUM, ARLINGTON AND NEWBURY STS., BOSTON, MASS. MESSRS. PARKER & THOMAS, ARCHITECTS, BOSTON, MASS.

[The following named illustration may be found by reference to our advertising pages.]

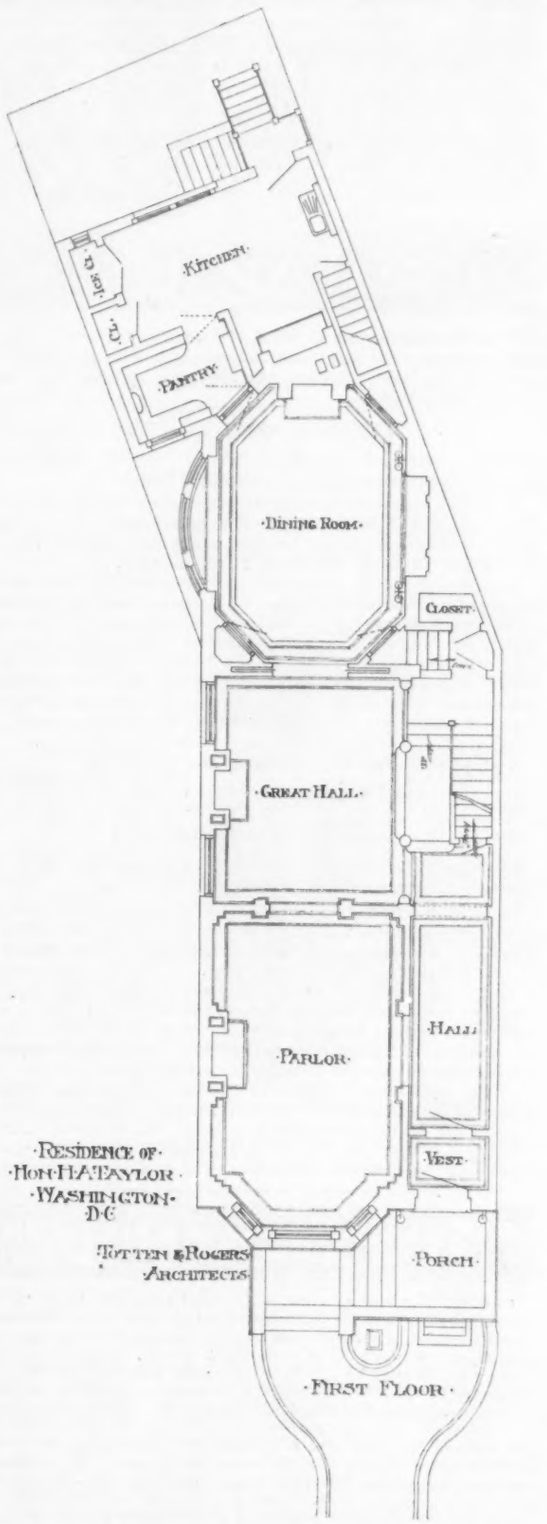
PAN-AMERICAN EXPOSITION, BUFFALO, N. Y.: — PERGOLA AND COLONNADE. MESSRS. CARRÈRE & HASTINGS, ARCHITECTS, NEW YORK, N. Y.

[Additional illustrations in the International Edition.]

A HOUSE AT BAR HARBOR, ME. MR. A. W. LONGFELLOW, ARCHITECT, BOSTON, MASS.

HOUSE OF HON. H. A. TAYLOR, WASHINGTON, D. C. MESSRS. TOTTEN & ROGERS, ARCHITECTS, WASHINGTON, D. C.

THIS house was built for the Hon. H. A. Taylor, Assistant Secretary of the Treasury. It is located on the north side of Massachusetts Ave., west of 20th St., and was designed by Totten & Rogers, architects. It is somewhat in the style of the early Italian Renaissance. The façade is of Indiana limestone, with the upper



panels of red Vermont marble, the cornice of copper and the roof, tile.

The lot upon which the house stands is quite irregular, but this is overcome in the plan, so that one does not notice any irregularity in the interior. The first story consists of a reception-room, central hall, dining-room, butler's pantry and kitchen. The reception-room is treated with pilasters and a richly-decorated cornice, all white,

while the body of the walls is pink; the effect is very rich. This room is unique, inasmuch as the side-walls do not extend to the ceiling, thus giving vistas into the adjacent rooms. The staircase ascends from the central hall, which is partly screened by three arches; the treatment of this room is mahogany.

The dining-room is an irregular octagon in shape. This room, too, is largely of wood — oak, of rich dark antique finish. As the Secretary has a rare collection of Indian vases, heavy shelves, supported by pilasters, are placed over each door, forming a sort of plate-rail. The elaborately carved fireplace at the end of the room forms the terminating vista of this floor. The side-walls are lined with burlap, hand-stencilled.

MANTELS, ETC., IN THE SAME HOUSE.

DOORS AND GATEWAYS, HALLE ON THE SAALE, SAXONY: TWO PLATES.

These illustrations are copied from *Architektonische Rundschau.*

COMMUNICATIONS

[*The editors cannot pay attention to demands of correspondents who forget to give their names and addresses as guaranty of good faith; nor do they hold themselves responsible for opinions expressed by their correspondents.*]

LIBRARY ARCHITECTURE.

MADISON, WIS.

To the Editors of the American Architect:—

Dear Sirs, — A meeting of librarians, trustees and all others of the West and Middle West interested in library work will be held at the State Historical Library Building, at Madison, Wis., on Thursday, Friday and Saturday, August 28, 29 and 30, next.

Saturday afternoon, August 30, will be exclusively devoted to the subject of "Library Architecture." Architects are cordially invited to make exhibits and to attend this meeting, that a full discussion may be had between librarians and architects on the principles which should govern library architecture. This is the first time in the history of the library movement of the West that a full session at a meeting has been devoted to this subject, and it is earnestly hoped that many architects will avail themselves of the opportunity to meet librarians for interchange of opinion on the date mentioned.

Further particulars may be obtained by addressing

[Miss] L. E. Stearns.

A CORRECTION DENIED.

BOSTON, MASS., July 24, 1902.

To the Editors of the American Architect:—

Dear Sirs, — In the July number of *The Ladies' Home Journal* — as the third prize for $5,000 country houses — was published a photograph of a house designed and superintended by me, stating that the house was from plans by the owner.

I courteously called the attention of the *Journal* to the facts in the case, and after some correspondence, offered to send them a sworn statement from the builder and from persons in my office who saw the sketches and plans prepared there, to all of which they return answer that they decline to make any correction.

If you would care to express an opinion on what to me seems such a piece of high-handed injustice, it would give me great satisfaction.

Very truly yours, G. Walter Capen.

[There is nothing more curious in life than the discovering just what other people consider decent behavior. — Eds. American Architect.]

NOTES & CLIPPINGS

German Artificial Clay. — Artificial clay, according to recent German reports, is receiving increased attention abroad. This ceramic novelty, which is used for the manufacture of artificial stone, tiles, gutters, etc., is composed of sand, chalk, cement, liquid-glue, and petroleum. The substances are mixed in certain quantities, and a clay-like mass results, which can be formed at pleasure, and acquires an excellent degree of hardness by being subjected to heat. The artificial clay can be employed in a variety of structures; tiles of different form and sizes are made of it. They have a perfectly even surface and sharp edges, are fireproof, and resist the influence of the weather; they furthermore absorb no moisture. The clay is also used for the manufacture of artificial stone in all colors. Tests with this clay have been made at the Technical Experimental Station at Charlottenburg, and the results have been pronounced very favorable. As the substances are easily mixed without the aid of machinery, the United States Consul at Frankfort says that the smallest builders can use the process, and so obtain structural decorations at a low price. — *Journal of the Society of Arts.*

Roman Villas. — There was no limit in the size and no regularity in the construction of a Roman villa. The opulent patrician indulged in many, spread over the fairest districts of Italy, in situations either adapted to the changes of the season and to the taste of the owner, or dictated by his caprice and the fashion of the times. The arcaded substruction of numerous ancient villas still remains, while the buildings above are in ruins, either by the depredations of those who in after ages demolished to erect other buildings, or by the silent waste of time on such as were erected of the soft tufa. On many of the Roman villas convents and monasteries were erected, as materials were at hand, and the arcades of the substructions formed conveniently storehouses and cellars. How long the Roman villas remained habitable after the many invasions of Italy is not easy to ascertain. One of the celebrated villas of Lucullus, formerly belonging to Marius, and afterwards an imperial residence of Tiberius, situated on the promontory of Misenum (Capo Miseno), existed in the year 480. To this retreat was sent, by the clemency of Odoacer, King of the Heruli Goths, the last feeble representative of the Roman Emperors of the West, called in derision Augustulus. The villa had gradually been changed into a strong castle to protect it against the sea attacks of the Vandals. These invasions by sea of the Vandals, and subsequently of the Normans and Saracens, ruined probably the crowd of Roman villas on the Neapolitan shores. The villas on the fertile plains of Italy would suffer by the invasions by land; but many villa castles, or fortified residences, remained after the tenth century in the hilly districts of the Vicentine and Veronese territories, as their rural nobility descended into the cities of Padua, Verona, Vicenza and Trevisa, and took part with the Guelph faction. In the thirteenth century 150 castles were computed to be in the Milanese. It was probably to a Roman villa that Avitus, lieutenant of the Emperor Maximus, and afterwards himself a short-lived emperor, retired in the year 460. It was situated near Clermont, in Auvergne, on the margin of a lake, into which rushed a mountain torrent of cascades. The villa contained baths, summer and winter apartments and porticos. Sidonius, the son-in-law of Avitus, has, in imitation of Pliny, given a prolix but obscure description of it. — *The Architect.*

Why the Pyramids were built. — The interest of the Delhi and Benares observatories lies for us in the fact that they recall a time far in the past when astronomers sought for exactness by the erection of huge structures of stone. Of these the Great Pyramid is by far the greatest and most perfect example. Britain has its own monument — Stonehenge — which has been claimed as, if not indeed an astronomical observatory, at least an astronomical temple, and many attempts have been made to determine the date at which it was erected. The difficulty, not to say the impossibility, of solving this problem in the present state of the monument may be inferred from the fact that the dates which different careful observers have deduced for its erection extend over a period of more than two thousand years. The real work of astronomy was never done in edifices like these. Nor, indeed, does it require much knowledge of human nature, essentially the same five thousand years ago as to-day, to see that the true secret of the Pyramid, the amply sufficient cause for its building, was the vanity of the ruling Pharaoh. Alike at Delhi, at Ghizeh, and on Salisbury Plain, as by the Euphrates, to "make a name" was the exciting motive. Astronomers may have been employed to superintend the work, astronomy, or the cult of the celestial bodies, may have been the excuse, but the real object was advertisement. — *E. Walter Maunder, in Knowledge.*

Cooling a Roof. — Some readers of the *Metal Worker* probably will be interested in the method I adopted for satisfying a customer who desired to have the part of a building immediately under the tin roof made cooler, owing to the illness of the occupant of one of the rooms. Between the ceiling of the room and the roof was a small air-space, which is quite generally provided in the construction of buildings, but it was insufficient to prevent the heat of the roof making itself very perceptible in the chamber beneath. As the work had to be done quickly and without any damage to the roof already in place, a makeshift was resorted to. I purchased some thick, soft, open-texture wrapping-paper, covering the roof with six thicknesses of this material. Above this I laid 1-inch boards about a foot or so apart, and on the top of these two more thicknesses of the soft paper. On top of this again I laid 1-inch boards close together and weighted them so as to prevent any danger of their being blown off. I then arranged for connecting a hose with the house water-supply at the highest point in the building so that the entire roof could be wet down to further counteract the heat of the sun. The effect not only reduced the temperature of the room several degrees, but also produced a benefit that satisfied my customer and had a substantial influence upon the convalescence of the patient. — *D. S. in the Metal Worker.*

To prevent the Freezing of Gas-pipes. — A simple but effective device for preventing the freezing of gas-pipes is described in the *Illustrirte Zeitung für Blechindustrie,* consisting merely in the insertion of a wider piece of pipe just where the conduit issues from the ground or wall. For a conduit of a diameter from $\frac{3}{8}$ inch to $\frac{1}{2}$ inch, a length of from 20 centimetres to 30 centimetres of a pipe 1 inch in diameter suffices. The deposition of the water-particles contained in the gas, which on leaving the works have a temperature of about 10° C., naturally takes place just where the gas is subjected to the most abrupt change of temperature — *i. e.*, on its issue from the ground. If the external temperature is sufficiently low, the deposited water immediately congeals, and clogs the conduit. As soon as the gas has acquired the temperature of the conduit, the deposition of water and congealing cease; and this is said to be the case a short distance beyond the first cooling-point. Therefore there should be no congealing beyond the inserted wider piece, and this piece is wide enough to accommodate a thick ice-crust and to still leave a free passage for the gas. — *Building News.*

S. J. Parkhill & Co., Printers, Boston, U. S. A.

The American Architect and Building News

ADVERTISERS' TRADE SUPPLEMENT

No. 243 SATURDAY, AUGUST 2, 1902 VOLUME LXXVII No. 1388

SMITH'S SHUTTERLESS AUTOMATIC CLOSING FIRE-PROOF METAL WINDOWS.

THE art of fireproof building-construction has been perfected and cheapened until no one would think of constructing a building in the fire-limits of the larger cities of any other than fireproof material such as brick, stone, steel, terra-cotta, concrete on expanded metal, etc. But, strange to say, until the present, wooden window frames and sashes glazed with ordinary window or plate glass have been used, with the result that fires in adjoining buildings have entered through the windows and found sufficient fuel in the combustible finish, furnishings and paper to create enough smoke to suffocate the inmates and cause other loss and damage.

In ordinary brick buildings, of mill-construction, or when the building is of fireproof construction with wood interior finish, fire from adjacent buildings enters through the windows and destroys the building entirely.

It is true that such buildings are usually provided with fire-shutters on their exposed sides, which if closed in time would render the window-openings comparatively fireproof, but, unfortunately, the shutters are seldom closed in case of fire from the outside, and, if they are closed, access to an interior fire is made difficult for the firemen, much valuable time being consumed by them in forcing the shutters open in order to get water into the building.

Under the shuttered wood-window-system the front is left entirely unprotected — it not being practicable to use shutters there — thus leaving the fire free to burst out of the windows of the lower stories and be communicated through the windows above into the upper stories.

It naturally follows that a building is only as fireproof as its windows, and if the windows are not fireproof it matters little as to the interior construction of steel, brick or stone, as, in case of fire from an adjoining building, it will enter through them, and, in case of an interior fire, the building will be consumed much more surely and quickly, because of the draught created by the early bursting open of the windows and the communication of the fire from floor to floor through them.

If the windows are closed and are as fireproof as the walls that contain them, it is obvious that fire cannot pass through them either from without or within, and a fire can be easily confined to the building in which it originates, and, furthermore, can be more easily checked therein because of the lack of air-draughts, owing to closed windows.

In recognition of these facts various attempts have been made during the last few years to construct window frames and sashes of metal, glazed with wire-glass, but the windows produced were very crude and imperfect and only fit for use in the roughest class of buildings until the Smith-Warren Company, of No. 93 Federal Street, Boston, and No. 253 Broadway, New York City, through its President, H. Collier Smith, began a special study of the fireproof-window question, by investigating fireproof building construction as practised to-day, consulting leading architects and engineers and then constructing numerous models, samples, etc., and devices for their manufacture, with the result that, after expending many thousands of dollars and devoting several years' time exclusively to the development of fireproof windows, they now offer to the building-public a complete line of automatic-closing fireproof metal windows that are adapted to be used in any part of any kind of building, from warehouse to mansion.

Recognizing the fact that, no matter how fireproof a window may be, it is useless unless *closed in time of fire*, they have been careful to provide means for the automatic closing by a mild degree of heat of all their movable-sashes, whether sliding, horizontally pivoted, vertically pivoted, or hinged at side, top or bottom, thus making sure that the windows will be closed when they should be.

Fortunately, this automatic-closing feature does not complicate the construction of any of their windows and adds nothing to their cost.

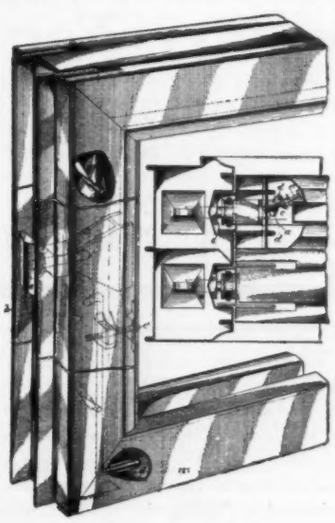
As above intimated, they have not stopped at the production of a complete line of perfect fireproof windows, that appear equal and even superior to the best woodwork, but have perfected means for their manufacture that reduces the cost to a minimum, permitting their general use in all brick buildings, whether of fireproof or mill construction.

No wood or combustible material of any kind is used in these windows and there are no visible joints or connections of any kind. The frames and sashes can be moulded to any design and the sashes work as easily and noiselessly as the best wood windows and are glazed with either transparent or translucent wire-glass or polished plate-glass.

The connections between the sashes and frames are more weather-tight than in wood windows, as metal does not swell and shrink as wood does; but, in addition to the ordinary neat fit between their sashes and frames, there is a telescopic piece contained in and extending the full length of the sides of each sash that is forced out against the running-face of the frame when the sashes are closed which, together with an interlocking connection between the meeting rails, makes the windows absolutely weather-tight.

The cut shows a typical section through the jamb of the sliding-sash windows and through the swinging-sash types.

It will be seen that the guide-piece works telescopically in and out of the sides of the



Smith's Fire-proof Metal Window.

sashes, so that when the sashes are closed it is in close contact with the face of the frame, thus making a perfectly tight connection in either wet or dry weather.

The automatic closing of the sliding-sashes is accomplished by over and under balancing the sashes and providing a compensating fusibly secured yielding-friction between the sashes and frames that holds the sashes open in any position. One hundred and fifty-five degrees of heat releases this friction, allowing the sashes to close automatically owing to the fact that the lower-sash weights are made lighter than the sash and those for the upper sash heavier than the sash; thus, when the yielding-friction between the sash and frame is released by heat the lower sash falls and the upper sash is raised by its heavier weights to a closed position.

The closing of the swinging-sashes is accomplished in an equally simple manner.

The windows are made in nine large factories located in different parts of the country and the Company is prepared to execute orders of any size upon short notice.

Address all communications to Smith-Warren Company, No. 253 Broadway, New York City, who will take pleasure in sending catalogues and full information, or call with models upon request.

QUILT.

There are some men who have a genius for advertising in such a way that they compel success, but the manifestation of this genius is as various as the natures of the several men to whom it belongs. Some are simply blatant and noisy — almost noisome — in their methods: they shock you, but, unfortunately, they compel you to remember that you have been shocked and who it was that shocked you.

Others are insidious and graceful in their approach, and you feel pleasure therefrom, are grateful, and remember that you have had cause for gratitude. To this latter class belongs Samuel Cabot, of Boston, whose fertile mind has not been so absorbed with the Baconian cipher and with experimentation in aërial navigation that he has not been able to build up a large manufacturing industry which rests on the science of chemistry.

We have never seen one of his many advertising devices without feeling a genuine pleasure in it and a real gratitude that he was carrying the civilizing influences of the higher education into trade. The last one that has reached us is of the same class as its predecessors, and is devoted to showing the architectural qualities of the many school-buildings in which the Cabot "Quilt" has been used for deafening.

NOTE.

We beg to state that among the orders received by us within the last week is one from the American Bank Note Co. for a large number of our Patent Automatic Closing Metal Windows for a building they are erecting on Sansom Street, Philadelphia. Our windows were selected in preference to all others.

SMITH-WARREN CO.,
Boston, Mass.

A SENSIBLE CONTRACTOR.

A vault 8′ x 4′ x 8′ high is now in course of construction by Merritt & Co., Philadelphia, for D. J. McNichol & Co., the contractors for the Torresdale Filter Plant, near Philadelphia. If the drawings and records in their frame office, at the site of the work, were to be destroyed by fire the contractors would be put to a great deal of trouble and to considerable expense, and they are, therefore, having this vault built to eliminate the risk. It is constructed of 3 inches of concrete, furred on the inside with 2-inch steel channels, lathed with expanded metal, which is then plastered with elastic-pulp plaster. The cost is trifling compared to the matters at stake, and the course of McNichol & Co. is one which could profitably be followed by other firms who have large contracts in hand.

A SKETCH OF THE PIONEER AMERICAN VARNISH BUSINESS.

Prior to 1827 all the varnish that had been offered for sale in this country had been imported, although it had been the custom for carriage painters and repairers to make small quantities in their shops for their own use. Pascal B. Smith, who had learned the needs of the carriage-painter and also acquired some experience in varnish-making while working in a carriage paint-shop, conceived the idea, in that year, that a business could be built up by manufacturing varnish for the use of carriage-makers, cabinet-makers, and other manufacturing-concerns using varnish in their business. Putting his ideas to a practical test, he erected a shed in an old apple-orchard near what is now the corner of Second Avenue and Sixth Street, in New York City, and this small shed was the first varnish-factory in America. At first he manufactured in a very crude way, and only in small quantities. After making a few gallons of what he called "Carriage Varnish," and a small quantity of "Furniture Varnish," and allowing it to settle for a few days, he would fill as large a can as he could conveniently carry and taking a small measure with him would set out to peddle his product to the different carriage-painters and other varnish users.

From the very beginning this venture of Mr. Smith proved a success, and his business increased so rapidly that in 1829 he called to his assistance Mr. James L. Stratton, a practical house-painter, and his brother, Samuel P. Smith, who gave up his business of master-mason, in Albany, to become a partner in the new firm of P. B. Smith & Co., Varnish Makers. In due time, the venture was reported to the National Government, which then, as now, took a keen interest in the industries of the country. At the present time, all candidates for the Civil Service are taught that varnish, as an American product, was first made and sold in 1828.

Very soon after its organization, the new firm erected a factory at Astoria, on land belonging to Mr. Stratton, establishing their office at 127 Maiden Lane. The business increased so rapidly that some jealousy was created over its management, which resulted in 1832 in the withdrawal of Mr. Samuel P. Smith, who went to Newark, N. J., and there established a varnish-factory of his own. At this time, Mr. P. B. Smith's half-brother, Nathan Smith, was admitted to the firm in place of Samuel.

About the year 1842, Mr. Edward Smith, another half-brother of the founder of the business, was the travelling-clerk of the house, making yearly trips to the South and West. He started from New York by way of Philadelphia, going from there by stage over the Alleghany Mountains, down the Ohio and Mississippi rivers as far as New Orleans, stopping at the principal towns on his way, and then back again as far as St. Louis by boat. From this point he would cross the country by stage to Chicago, Detroit, Cleveland and Buffalo, returning home through New York State, a long and arduous journey, with many hardships that the traveller of the present day cannot even imagine. At that time, all goods for Cincinnati, Louisville, Pittsburgh and St. Louis were shipped by sailing-vessel to New Orleans, and were then forwarded by river-steamboats to their destination. Goods for Buffalo, Cleveland, Detroit, Chicago, and the other lake towns were shipped by way of the Erie Canal to Buffalo, and thence by sailing-vessel across the lakes. Interior towns were either reached by canal or, where this means of communication was unavailable, were transported by team over the ordinary roads. The large sales were made in the spring and fall, and the firm's customers usually paid occasional visits to their office. Shortly after this, Mr. Edward Smith was taken into the firm.

In 1844 the prosperity of the business had grown to such an extent that Mr. Pascal B. Smith retired from the firm, having accumulated what, in those days, was considered an immense fortune. Edward Smith was admitted as an equal partner, and the firm-names became Edward Smith & Co. This title continued until 1850, when, on the death of Nathan Smith, it was changed to Smith & Stratton. At this time the office was moved to 141 Maiden Lane, where it continued until the death of Mr. Stratton in 1859.

In 1856, the factory was moved from Astoria, the firm having purchased from Union College, six lots on Fourth and Fifth Streets, Hunter's Point, where they erected the first building used for manufacturing-purposes in that neighborhood. The deed of the property contained a protective clause against molestation on account of harmless odors, etc. Upon completion of the factory-buildings at Hunter's Point, several two and three story

apartment-houses were erected on Fifth Street for the employés. In one of these, Mr. Richard Armstrong, for many years chief varnish-maker, was born.

The year 1856 was also marked by the entrance of Mr. J. S. Elmendorf into the employ of Smith & Stratton. He continued his connection with this firm and its successors until his death in 1900, at which time he was Vice-President of the present corporation.

In 1867, Mr. Elmendorf was made a partner by Mr. Smith and the firm-name was again changed to Edward Smith & Co., which still continues as the style of the business. In November, 1878, Mr. Edward Smith died, and his son-in-law, Mr. Chester Huntington, took his place in the firm, the partners being Mr. Elmendorf and Mr. Huntington. In 1880, Mr. Alexander Maitland became a member of the firm, and in 1889, the business was incorporated under the same name, the officers being: President, Alexander Maitland; Vice-President, John A. Elmendorf; Treasurer, Chester Huntington; Secretary, A. M. Bates, and Superintendent, S. V. V. Huntington.

In 1892, Mr. Chester Huntington retired as an officer of the corporation, and S. V. V. Huntington was elected in his stead, since which time he has filled the position of Treasurer and Manager.

In the earlier days of varnish-making Zanzibar, Benguela, Angola and pebble gums were used almost exclusively. Afterward, Manila gum came into the market for the cheaper varnishes until the extensive importation of Kauri gum, which was first used in varnish-making by Smith & Stratton. The first lot came to this country direct from New Zealand about 1846. A ship had gone to New Zealand on a trading venture and after the captain had disposed of his cargo he found the vessel without ballast to sail back. On looking for something to load his ship with he found a great quantity of this Kauri gum piled up in one of the towns and made up his mind that it could be used for some purpose and at once bargained for it. He loaded his ship with it and sailed for home. On his arrival he could find no purchaser. He therefore hired a barn near New Bedford, Mass., and filled it with the gum. Some two or three years after, an Irish-Englishman by the name of John Boyd took hold of the lot and came to Smith & Stratton with samples. After testing the gum they purchased the first 100,000 pounds for 2½ cents per pound. The gum became in immediate demand and the whole was disposed of at continually advancing prices. Smith & Stratton purchased the last 10,000 pounds of the cargo at 35 cents per pound. In 1853, after Kauri gum became a regular article of importation into this country the price began to fall again until it reached 5½ cents in 1860.

The original kettle which Mr. Pascal B. Smith used for boiling his varnish when he first began business in the shed under the apple-trees is still preserved in the office of Edward Smith & Co.

A NEW OVERHEAD WINDOW-PULLEY.

A NEW overhead window pulley is now being put on the market by the Grant Pulley and Hardware Company, of 23 Warren St., New York.

This Pulley is made with three styles of bearings — *i. e.*, ball-bearings, roller-bearings and the plain pinion — which are sold at different prices, according to the requirements of the customer. The housing is made in one piece of iron, which will resist any possible load without fracture. The housing connects with the soffit, so that mortar will not clog the wheels. The sash chain or cord is easily inserted with a mouse, which is furnished with each order. The manufacturers say that with this Pulley, even for the heaviest plate-glass windows, iron weights may be used instead of lead, thus greatly reducing cost. The Pulleys can be cut in the frames with the regular pulley-machine. Some of the advantages of using this Pulley are referred to by the makers as follows: They can be used in segment-head window-frames. They hang the weight in the centre of the boxes in circle window-frames. They are concealed from view when the window is closed. Only lacquered-face pulleys are necessary, as this is the only part of the Pulley that shows. They can be easily removed, if required, after the trim is placed. They require 8 inches less of socket-room than the side-pulleys, and thus an iron weight may be used in many places instead of lead. This, it is said, will save from 100 to 200 pounds of lead to each sash, with a corresponding reduction in the cost of material. They are made in four sizes, with pulleys 2, 2¼, 2½ and 3 inches in diameter, with lacquered, bronzed, Bower-Barff and bronze-metal faces. These Pulleys can also be used in triplet and quadruplet window-frames. Another form of this Pulley is made embodying the same principles but adapted for metal fireproof windows. See their advertisement on this page with illustration of frame and section of Pulley.

RED-CEDAR SHINGLES.

THE scarcity of white-pine has forced the consumer to look about for a substitute, and the Pacific Coast is now the source of much of the wide good-lumber, bevelled siding and shingles. Practically all the masts, and timbers exceeding 50 feet long and 180-inch area, used on the globe are produced in Oregon, Washington, or British Columbia. About 1890, we began to hear about red-cedar shingles. This product of the Pacific Coast had at that time driven out all kinds of wood for shingle-purposes west of the Mississippi River, and was even then securing a foothold on the Atlantic seaboard. The fact that they lie flat at all times, do not curl, cup, or check made them very desirable for roofing-purposes, but architects found it impracticable to secure them except in random widths. The millman, when appealed to to produce dimension-shingles, replied, "Life is too short; I can sell all that my mill can turn out; am working day and night; I don't want orders for specialties." Thousands of carloads of shingles are shipped annually, some to every State in the Union, 90 per cent of the output being made up of 16-inch, 6 butts to make 2 inches in thickness, which is the standard shingle throughout the West. The other 10 per cent is made up of 16-inch thick butts and 18-inch random widths, used east of the Ohio River. The Hastings Shingle Manufacturing Co. Ltd., of Vancouver, B. C., Sales Agent for New York and the East, F. R. Stevens, 18 Broadway, with an eye to the future, have built a new mill, exclusively to manufacture dimension-shingles for the Eastern market. Some idea of the size of this mill may be obtained when we say that it has taken 320 carloads of lumber, 30,000 lineal feet of piling, 2 carloads of shingle-machines, and over 7 miles of 1½-inch steam-pipe, and an investment of over $100,000, and that the mill will produce 1,200,000 shingles in 24 hours.

AMERICAN ART.

How strange that little, if any, thought has been given to the improvement of floor-deadening in country-houses, schools, etc., except the use of sheathing-papers and felts, all of which are inflammable and add to the destructibility of a wood building as well as increasing the cost of insurance. It is possible with some improved material to more readily kill sound between floors and partitions of wood as well as making same slow-burning than the crude method of lathing and one coat of plaster on walls, and a couple of inches of concrete between floor-beams, with a layer of double-thick paper between floors. Of course the concrete acts as a fire-retardent until the under-support is burned away, when the chances are nine out of ten that the entire building will be consumed. A very noticeable improvement in this particular case is the Lith Wall and Floor Insulator made in thickness from ½ inch to 2 inches, inclusive. Lith ½ inch for floor-deadening is a composition of rock-wool with a flax-fibre binder in the form of blocks or boards 18″ x 48″, in sizes particularly adaptable to building-construction, for wall and ceiling linings, which ensures protection against heat or cold as well as incorporating the qualities of a sound-deadener. Lith is free from sulphur, and being tightly compressed will not shrink; its efficiency as an insulator is higher than any other material, whether compressed or packed in between beams, such as mineral-wool, hair, felt, or cork, and its comparative value is superior to any of the above.

A treatise on the above may be had by request from

R. A. KEASBEY,
83 Warren St., New York, N. Y.

MOTT IRON WORKS TO MOVE.

It was announced definitely here to-day that the Jordan L. Mott Iron Works will desert the plant at Mott Haven, New York City, and move to Trenton within the next twelve months. President O. W. Bowman, of the Broad Street National Bank, this city, with whom the Mott people are associated closely in a business way through the Trenton Fire Clay and Porcelain Works, said to-day that the entire plant of the Mott Co. is to be transferred to Trenton as fast as the necessary buildings can be erected.

There are to be seven buildings in all, Mr. Bowman said, one of which, the foundry, a one-story building, is to be about 500 feet in length. It is to be the first building to be erected, with the exception of the power-house, the plans for which are nearly ready. The building of the power-house is to be commenced by August 1, and the other buildings are to be put up as rapidly as circumstances will permit. The power-house is to be constructed for the purpose of providing the electric-power and light necessary for the running of the plant. Besides the power-house and the foundry there is to be an enamelling-shop about 300 feet in length. That is to be a one-story building also. The machine-shop and the brass-shop are to be in a large structure four stories and a basement in height. The other two buildings are to be smaller.

For some time agents of the Motts have been buying property here, and it was said to-night that $1,000,000 will be expended on the erection of the seven buildings of the Company. — *N. Y. Times.*

THE "STANDARD" FILE FOR ARCHITECTURAL PLATES.

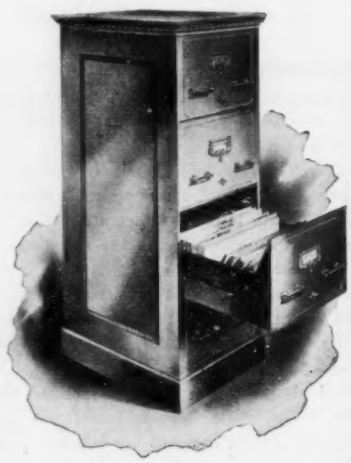
The need of a convenient, compact and secure file for the storage of architectural plates has been generally admitted. Publishers of architectural journals have been frequently importuned to recommend some convenient device for this purpose.

Our new Steel "Standard" File is offered as fully meeting this want. It is a special form of Vertical File designed to particularly meet the following requirements: Ready and accurate reference. Maximum capacity in a minimum space. Freedom from repairs. Security against fire, dust and vermin.

Vertical Files *double* the capacity over any method of horizontal filing.

Booklet on "*Vertical Filing*" sent on application.

Samples of our Steel Vertical Files may be seen at any of the following Branch Offices: New York, New York Life Building; Chicago,



Steel "Standard" File.

Mercantile Loan & Trust Building; Philadelphia, 723 Chestnut St.; Pittsburgh, Fidelity Building; Washington, Washington Loan & Trust Building; Baltimore, Equitable Building; Cincinnati, Union Trust Building; Indianapolis, Law Building; St. Louis, 2225 DeKalb St.; Boston, 406 Tremont Building.

Method of Filing: — Architectural plates may be numbered and a record of them kept in a card-index drawer, between alphabetical guide-cards denoting subjects. The plates are then filed in the vertical drawer between numbered guide-cards dividing them into groups of twenties. This is the best plan when the collections are large.

Small collections can be filed directly between Vertical File guide-cards with the name of subject written directly on the blank tab: as "Trim," "Gates," "Doorways," etc.

We supply guide-cards, folders, card-index drawers and cards. We recommend ordering the alphabetical guide-cards with blank tabs to be filled in by each office to best cover individual needs.

Where requirements are stated, the number of plates to be filed given, and the method of filing desired indicated (numerical or alphabetical), we will furnish special plan and estimate covering any want.

Styles of Vertical File Cabinets: — Cabinets are made with any number of drawers, but regular sizes are as follows: —

Four and eight drawer cases with bases and sloping wood desk-tops.

Three and six drawer cases with stands and metal flat tops.

Sloping desk-tops are of quartered oak well finished.

Cabinets made in three styles: —

"A" with plain ends and smoothly rounded front corners.

"B" with ends panelled with laid-on moulds, front corners moulded. Mouldings steel.

"C" with ends with sunk panels, front corners moulded. Mouldings brass.

Regular styles finished in dark olive enamel. Special styles in any color. Built of fine pickled and cold-rolled steel, and thoroughly well made. Specification furnished when desired.

Metallic Cabinet Work: — The immense growth in fine metallic cabinet-work is well known. Many architects however, are not fully acquainted with its real merits. That it is incombustible is only one of them. It is in its everyday use its advantages are most clearly shown. No one using heavily loaded metal drawers will ever return to wooden ones. Not only are they easier in operation but they *stay so*. There is no sticking in summer, no checking in winter, and no opening of joints at any time. Metallic cabinet-work is as attractively finished as that of wood and it is made for all time.

Our Steel Vertical Files are offered at prices as low as the best wooden ones, with all their merits and none of their defects. The demand for them indicates their superiority.

Our booklet "*Types of Metallic Fixtures*" illustrates other lines. We shall be pleased to send it on application.

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406 Tremont Building, Boston, Mass.

A NEW TRADE-PUBLICATION.

Some years ago the Winslows, of Chicago, issued a private trade-periodical which showed in a very satisfactory way the character of the ornamental iron and bronze work which was manufactured in their shops, but after a career of two or three years' duration this advertising publication was discontinued.

The same idea has just been taken up by John Williams, 544 West 27th Street, New York, and we have received the first copy of their "*American Art in Bronze and Iron*," which is printed in a very limited edition for gratuitous distribution to architects and sculptors.

The present issue is devoted to "memorial tablets" and is useful as showing how the judicious letterer — if there be such a word — can make or mar a design which in the first case has not, while in the second case it has, merits of its own.

Later issues are to be devoted to other classified groups of artistic metalwork.

The American Architect and Building News

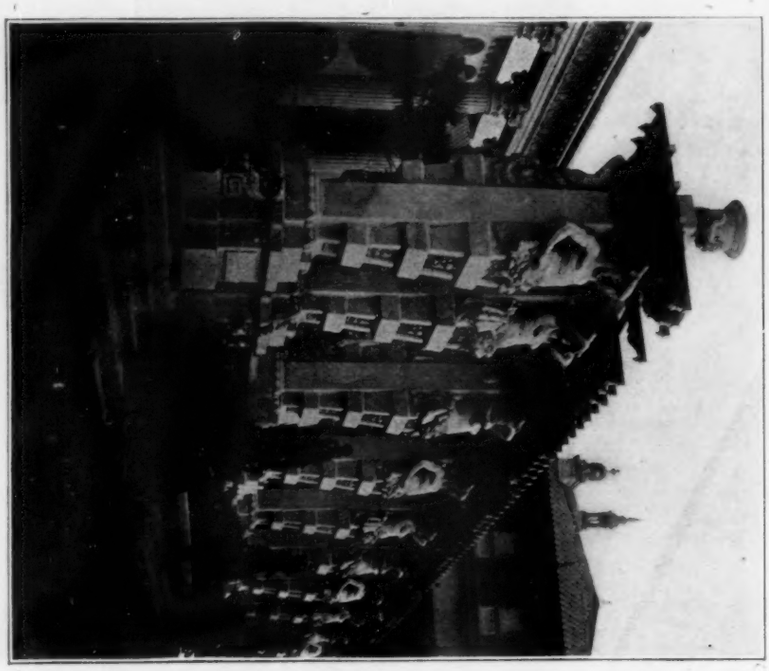
A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART

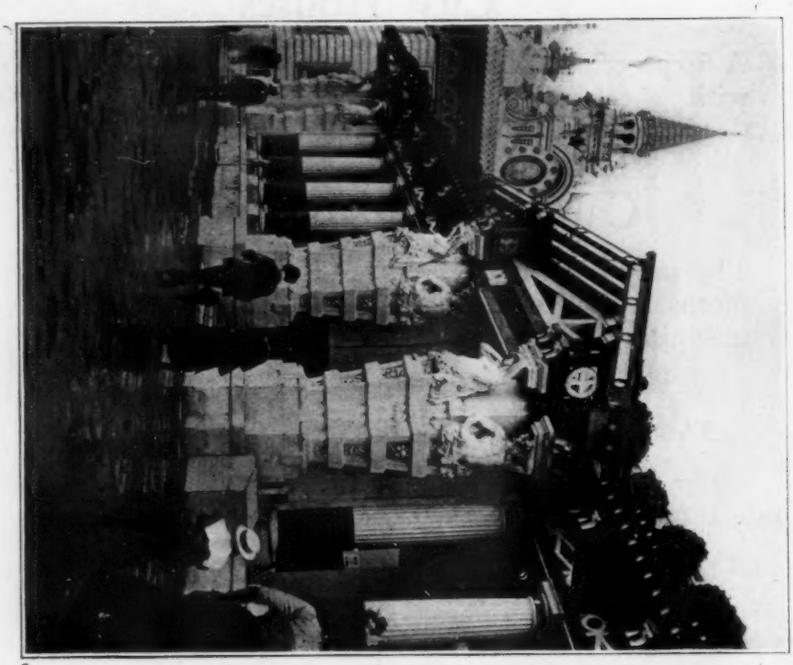
VOL. LXXVII. — No. 1388.] SATURDAY, AUGUST 2, 1902. PRICE, { INTERNATIONAL ISSUE, 50 CTS / REGULAR " , 15 "

Topographical Index of Advertisers.

[*For pagination, see Alphabetical Index on Cover* 2.]

WROUGHT IRON ENTRANCE GATES.





PERGOLAS AND COLONNADES.

Carrère & Hastings, Architects.

Pan-American Exposition, Buffalo, N. Y.

The American Architect and Building News

IS PUBLISHED EVERY SATURDAY BY

The American Architect and Building News Co.,

211 Tremont St., Boston, Mass.

Advance Subscription Rates:

Regular Edition, $6.00 per year; six months, $ 3.50

[Foreign Postage, $2.00 Extra.]

International Edition, per year in advance, 16.00
" quarterly " 18.00

☞ Payment should be made to American Architect and Building News Co. direct, either by draft or post-office order.

Address all business correspondence to the publishers direct.

Advertising Agents:

New York City:—
H. M. Carleton, Temple Court, 5 Beekman St.

Agents at Large:—
F. P. Spokesfield, 211 Tremont St., Boston, Mass.
Burrell & Fowler, 310 New England Bldg., Cleveland, O.

Advertising Rates: For "wants" and "proposals," 15 cents per line [8 words to the line], each insertion. 50 cents the least charge. Other rates on application.

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.*]

ADVANCE RUMORS.

Adrian, Mich.—The School Board has prepared plans for a $50,000 school.

Albany, N. Y.—The Albany Hospital for Incurables is to erect a new two-story building at Kenwood Heights from plans by William L. Woollett; cost, $200,000.

Ames, Ia.—The Board of Directors of the Iowa Agricultural College has authorized Proudfoot & Bird, architects, Des Moines, to prepare plans for the main building to replace the one burned last fall. The building will be stone, 150′ x 300′, four stories high. Will have tile roof, steam heat, electric lights, and will be finished in oak; cost, $300,000.

Anderson, Ind.—The plans drawn by Richards, McCarthy & Bulford, The Ruggery, Columbus, O., have been accepted for the $50,000 Carnegie Library building to be erected here.

Atlanta, Ga.—Plans drawn by W. F. Denny, 1017 Prudential Building, have been selected by the Building Committee of the First Methodist Church, for the new edifice to be erected at Porter Pl. and Peachtree St., at a cost of $60,000. Rev. C. W. Byrd, D. D., pastor.

Aurora, N. Y.—It is reported that Edwin H. Gaggin, Syracuse, has prepared plans for a $40,000 dwelling which A. M. Zabriske intends erecting near the shore of Cayuga Lake.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Baltimore, Md.—A nine-story addition, 75′ x 100′, costing $250,000, will be built to the Hotel Mullin, at Baltimore and Liberty Sts., by the Hotel Mullin Co., recently organized with a capital of $1,000,000. Address E. K. Legg, Baltimore Savings Bank Building.

Baraboo, Wis.—Plans for the $12,000 pressed brick and stone Carnegie Library building at this place are being drawn by Claude Starck, Badger Block, Madison.

Bridgeport, Conn.—A one-story and basement brick church edifice will be erected for the E. Washington Ave. Baptist Society, from plans furnished by J. W. Northrup, architect; cost, about $25,000.

The Board of Education has authorized the purchase of a site upon which a $25,000 school is to be erected.

Bridgeton, N. J.—Seymour Davis and Paul A. Davis, 907 Walnut St., Philadelphia, Pa., have won the architectural competition for the new schoolhouse at this place. It will be a two-story brick and stone structure, 75′ x 120′.

Brooklyn, N. Y.—The block containing 10 acres, bounded by Fulton St., Elm and Vandeveer Pl. and Woodhaven Ave., has been purchased by the Brooklyn Catholic Sisters of the Poor of St. Francis. A home will be erected thereon at a cost of about $200,000. No architect has been selected as yet.

Chicago, Ill.—Architect Thomas H. Mullay, 1601 Monadnock Block, has drawn plans for a two-story hall building to be built for the Keeley Brewing Co. at Kedzie and North Aves. at a cost of $50,000. It will be 100′ x 202′, of pressed brick and stone. Work will soon be started.

It is reported that William F. Gubbins, 1685 Ogden Ave., is the architect for a three-story school-building to be erected in connection with St. Charles Borromeo's Roman Catholic Church at the corner of Cypress St. and Ashland Ave. It will be built of stone at a cost of $35,000. Bids are being taken.

The Brunswick-Balke-Collender Co. has purchased the property at 93 107 Huron St., 100′ x 172′. Plans have been prepared by A. K. Adler, 1611 Monadnock Block, for a large addition to the company's present plant. The new building will be eight stories high, and will cost, with equipment, $200,000.

H. P. Harned, 218 La Salle St., has completed plans for a three-story and basement store, office and apartment building which L. C. Merrick will erect at the southeast corner of 63d St. and Lexington Ave., 86′ x 123′, constructed of pressed brick and terra-cotta. It will contain seven stores, fifteen offices and seventeen apartments of three, four and five rooms; steam heat; cost, $50,000.

Fritz Foltz, 69 Dearborn St., is preparing plans for a six-story building, which Thomas Chalmers will erect on the west side of Wabash Ave., between Van Buren and Congress Sts., in place of the one recently destroyed by fire. The new structure will be of mill construction, 40′ x 150′, and will cost $175,000. Construction will commence as soon as the ground is cleared.

L. G. Hallberg and Meyer J. Sturm, 86 and 88 La Salle St., are completing plans for an eight-story building, 100′ x 161′, to be erected on the west side of Indiana Ave., near 14th St., to be occupied when completed as an annex to the furniture exposition. There will be a six-story entrance from Michigan Ave., 25′ x 161′. The buildings will be constructed of pressed brick and stone, and will cost $135,000.

Cincinnati, O.—Joseph G. Steinkamp & Brother, 24 E. Court St., have prepared plans for the twelve-story Mercantile Library building, 100′ x 147′, to be erected by the Young Men's Mercantile Library Association.

Cleveland, O.—Plans for a new club-house, to be erected at Euclid Ave. and Muirson St., by the Union Club, at a cost of $500,000, are being prepared by Charles F. Schweinfurth, New England Building.

Cumberland, Wis.—The Board of Education has appropriated $22 500 for the erection of a brick school-house at Marshall and 2d Sts.

Denver, Col.—Gove & Walsh, 505 McPhee Building, have prepared plans for a three-story brick apartment-house to be erected at 20th and Sherman Ave. Owner, Mrs. L. L. Gross. Cost, $50,000.

Des Moines, Ia.—Hallett & Rawson, 615 Walnut St., are preparing plans for a pressed brick and stone trimmed edifice to be erected on 8th St., between Crocker and School Sts. by the Christian Scientists at a cost of $25,000.

Duluth, Minn.—I. V. Hill, architect, has plans in preparation for a handsome school-building for the Cathedral parish of the Catholics. It will be 124′ x 140′, of brick and cut stone, three stories; cost, $75,000.

Easton, Pa.—A seven-story stone and brick hotel building, 34′ x 220′, will be erected at Northampton and 4th Sts. by Mrs. Henry F. Steckel, 48 Center Sq. It will cost $80,000.

Elgin, Ill.—Patton & Miller, 153 La Salle St., Chicago, are preparing plans for an addition to the plant of the Elgin National Watch Co. It will be five stories, 40′ x 250′, and of fireproof construction. The cost is estimated at $250,000.

El Paso, Tex.—The Guarantee Trust Co. are to erect a steel frame, brick and stone office-building from plans by Isaac F. Taylor & Co., of St. Louis, Mo. Cost will be $100,000.

Escanaba, Mich.—Plans have been prepared by Theo. F. Lohff for the $20,000 Carnegie Library building to be erected in this city.

Freedom, Pa.—Plans have been prepared by J. A. Snyder, Beaver Falls, for a two-story brick and stone school-house to be erected at a cost of $16,000.

Geneva, Neb.—The Methodist Episcopal congregation will build a stone and pressed brick church after plans by Roberts & Woods, Lincoln; cost, $10,000.

Grand Rapids, Minn.—Fremont D. Orff, 615 Lumber Exchange, Minneapolis, is drawing plans for a two-story brick and stone high-school building, 78′ x 180′, to be erected at a cost of $35,000. It will have steam heat, gymnasium outfit, etc.

Hallowell, Me.—The city has purchased property on Middle St. for a site for the new Maria Clark grammar school. The plans for the structure have been prepared by Architects Thomas & Crowell, of Bangor, and call for a brick building with granite trimmings, 40′ x 77′, to contain 5 large class-rooms with wardrobes, etc. Cost, $11,000.

Hammond, Ind.—Plans for a pressed brick and stone school-house to be erected by the Board of Education at a cost of $25,000 have been prepared by J. T. Hutton.

Jackson, Miss.—It has been decided to expend $65,000 in new buildings and improvements at the University of Mississippi.

Jersey City, N. J.—Plans for an extensive addition to the Insane Asylum at Snake Hill are to be drawn by Hugh Roberts, 1 Exchange Pl. The building is to be of brick and stone, four stories high, and cost about $50,000. M. B. Holmes, Chairman Hudson County Board of Freeholders, has the matter in charge.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Joplin, Mo. — L. A. Hunter has prepared plans for a brick auditorium, 96′ x 146′, to be built at a probable cost of $25,000. J. W. Baker, President of the Joplin Choral Club, is said to be interested.

Laconia, N. H. — The contract for a new building for the State School for feeble-minded children has been awarded to J. H. Mendel, of Manchester, for $12,600; not including plumbing, heating and ventilating apparatus. W. J. Ahern, of Concord, is agent for the Board of Trustees.

La Crosse, Wis. — Architects Schick & Roth have prepared plans for a $135,000 court-house for La Crosse County. W. H. Gaspard, chairman of building committee.

Lakeside, N. J. — Plans and specifications have been completed by Architect Henry G. Dagit, 435 Chestnut St, Philadelphia, for the convent of St. Mary's in the Pines at this place, for the Sisters of Charity under the patronage of the Rt. Rev. James A. McFaul. It will be located near the Lakewood Hotel. A Catholic University will be established there for the education of young women. The new building will be the main administration building, the other a college and dormitory. It will be semi-fireproof, 58′ x 180′, with a centre wing, 44′ x 80′, four stories high, of brick and stone.

Lock Haven, Pa. — The congregation of St. John's Reformed Church are to erect an edifice from plans by Robert Cole, of Bellefonte.

Manchester, Ia. — Plans for a $10,000 Carnegie Library building are being prepared by Hallett & Rawson, 615 Walnut St., Des Moines.

Medfield, Mass. — A brick hospital building will be erected here in addition to present insane hospital for the State of Massachusetts, in accordance with appropriation recently granted. Cost will be about $80,000. W. G. Blaney, Boston, is Chairman of Board of Trustees.

Mitchell, S. D. — W. A. Dow, of Sioux Falls, has submitted to the City Council plans for a city-hall, estimated to cost $20,000.

Newark, N. J. — It is reported that the contract for the erection of the new building for the American Insurance Co. has been awarded to V. Hedden & Sons. Estimated cost of building, $250,000.

New York, N. Y. — Definite action has been taken by the Armory Board in reference to the new armory of the 69th Regiment, which is to be built on Lexington Ave., running back over 300 feet on both 25th and 26th Sts., toward 4th Ave. Upon the reading of general plans of competition from Post & Hardenbergh, the architects who were selected to do this work, the Board selected five firms to compete for the architect's plans for the armory, and also inserted in the provisional plans the sum of $550,000 for the cost, thus increasing the original amount $100,000, this extra amount to be secured from the Board of Estimate. The architects who drew the plan of competition submitted 15 names, from which 5 were selected to compete for the contract to build the armory. R. W. Gibson, 76 William St.; Hunt & Hunt, 28 E. 21st St.; Grosvenor Atterbury, 18 W. 34th St.; Howells & Stokes, 100 William St.; and Stoughton & Stoughton, 96 Fifth Ave., were the names selected and designs must be submitted on or before September 15 h.

The George A. Fuller Co., 135 Broadway, bidders on the Butterick Publishing Co.'s six een-story fireproof factory, have received the general contract. The site is the northwest corner of Spring and McDougal Sts., extending to Vandam St. Cost to be $1,000,000. Horgan & Slattery, 1 Madison Ave., are the architects. The Butterick Publishing Co., 17 E. 13th St., are the owners.

Emmanuel Evangelical Lutheran Society will build a new church on the corner of Brown Pl. and 137th St., Borough of Bronx, on plot 50′ x 95′, to be constructed of marble with steel truss roof and spire framing, and cost $70,000. Plans by Harry T. Howell, 138th St. and 3d Ave. Rev. A. Arthur King, pastor, 143d St. and St. Ann's Ave.

Clinton & Russell, 32 Nassau St., are preparing the plans for reconstructing the 71st Regiment Armory, on the east side of 4th Ave., between 33d and 34th Sts. No material plans have been decided upon, but the old building will probably be entirely demolished and a new one erected in its place.

Wm. Crawford, 7 E. 42d St., has received from R. W. Gibson, 78 William St., the general contract for the erection of an addition to the Eye and Ear Infirmary, to be known as the Schermerhorn Pavilion, on the northeast corner of 13th St. and 2 t Ave. The building will be of brick and stone, six stories high, and will cost about $75,000.

Plans are being prepared by Wm. Martin Aiken, consulting architect in the office of the President of the Borough of Manhattan, for renovating and installing sanitary and ventilating equipment in the New York City hall Building.

H. J. Hardenburgh and Edwin J. Kaufman, 10 W. 23d St., have completed drawings for a fifteen-story basement and cellar hotel building, to be erected at 5th Ave. and 60th St. by the Fifth Ave. Estates, 751 Broadway, at a cost of $1,500,000.

Omaha, Neb. — The Charles W. Gindele Co., of Chicago, has been awarded the contract for the west wing of the Federal building in this city, at $118,-000.

Oneida, N. Y. — The legality of the contract recently awarded to Geo. F. Avery for the High School, to cost $27,800, has been questioned, and it is stated that the Board of Education will receive new bids.

Paris, Ill. — Plans are being prepared by Charles Henry & Son, Akron, O., for a $20,000 stone library building, 61′ x 66′, to be erected at this place.

Philadelphia, Pa. — It is stated that new estimates will be taken from revised plans for the new Nurses' Home building to be constructed at Tabor and York Roads for the Jewish Hospital, on premises. Designs are by Furness, Evans & Co., architects, of the Provident Building, and they will supervise the work.

Pittsburgh, Pa. — A row of six apartment buildings to be erected on Lang Ave. and Kelley St., has been designed by J. E. Obitz, Vilsack Building, for F. W. Bithell, 7516 Hamilton Ave.; cost, $96,000.

Kaufmann Brothers have let the contract to the Geo. A. Fuller Co., Carnegie Building, for the erection of a three-story addition to their store building at 5th Ave. and Smithfield St., at about $200 000.

The First Unitarian congregation will build a church at a cost of $35,000 after plans by Neal & Rowland, 215 Fourth Ave.

The Beth Zedek congregation will build a church at a cost of $20,000. Naman Jason, Benj. Cohen and Jacob Colker, Building Committee.

S. C. Richards, Braddock, has completed drawings for a brick and stone church, to be erected by the United Brethren congregation at a cost of $80,-000.

Portchester, N. Y. — The general contract for erecting a three-story brick and stone fireproof residence, a two-story stable and two-story gardener's house for W. G. Nicholls has been awarded to Thomas J. Reilly, 142 Fifth Ave. The cost is to be about $100,000. Lord & Hewlett, 16 E. 23d St., are the architects.

Racine, Wis. — Plans of A. C. Eschweiler, of Milwaukee, are stated to have been selected for the $25,000 church edifice to be built by St. Rose Church congregation.

Richmond, Va. — An appropriation of $100,000 has been made to improve the capitol building.

San Francisco, Cal. — To establish a cantonment for a depot of recruit instruction here with the understanding that most of the construction work will be done by the troops, Congress appropriated $75,000.

Saugatuck, Conn. — The American Steel & Wire Co., of New York, are to erect an immense hotel here. The plans have been drawn by F. H. Plumley, president of company, 71 Broadway, New York, and call for a structure six stories high, the first story to be of stone and the remainder of wood, to be 250 feet long and to contain 600 rooms. The company will also erect a great many cottages.

Scarsdale, N. Y. — Plans are being prepared by Hill & Stout, 1123 Broadway, for a two and one-half story Colonial residence, of frame and shingle roofing, also a stable, to be erected for Thos. Simpson, of this place. The buildings will be equipped with modern appliances and cost about $50,000.

Sherrard, W. Va. — A $25,000 telephone company has been established here.

Somerville, Mass. — An appropriation of $32,000 has been made for the erection of a two-story brick school-house in Ward 7. Plans will probably be drawn at the rooms of the Commissioner of Buildings, Fred'k C. Fuller.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Springfield, Mass.—George C. Gardner, 33 Lyman St., has drawn plans for the three-story Mechanic Arts high school building, 60′ x 500′, to be erected at a cost of $250,000.

St. Joseph, La.—A $25,000 building and improvement company has been started here.

St. Louis, Mo.—John P. Herrman, Jr., will erect a four-story hotel building, 73′ x 80′, at Market and 19th Sts. It will cost $50,000.

Sublette, Ill.—A brick and stone church, 46′ x 115′, with seating capacity of 400, is to be built for the Roman Catholic Society from plans of Fisher & Gaul, 172 Washington St., Chicago, and will cost $20,000.

Sunbury, Pa.—The Directors of the Odd Fellows' Orphans Home, of Central Pennsylvania, have decided to erect a new fireproof structure to cost $30,000. Royal H. Bussler, of Newberry, is District Deputy Grand Marshal.

Terre Haute, Ind.—Floyd & Stone, Opera-house Block, have completed drawings for a new Y. M. C. A. Building to be erected at a cost of $35,000.

The County Commissioners have adopted plans prepared by Richards, McCarty & Bulford, of Columbus, O., for a county jail, estimated to cost $75,000 to $100,000.

Trenton, N. J.—Brouse & Arend, First National Bank Building, have completed drawings for a two-story brick and stone school-house, 80′ x 158′, to be erected at a cost of $30,000.

Uniontown, Pa.—The contract for erecting a brick and terra-cotta hotel building for H. B. Gilmore, has been awarded by Architect A. P. Cooper to J. D. Frankenbury at $60,000.

Vancouver Barracks, Wash.—For necessary buildings and accommodations for one regiment of infantry and two batteries of field artillery here, $142,000 has been voted by Congress.

Warwick, N. Y.—Plans are being prepared by E. G. W. Dietrich, 320 Broadway, for a stone and shingle hotel building, four stories, 72′ x 223′. The building will contain a power plant, steam heating, electric lighting, an hydraulic elevator, etc. The Warwick Inn Co., Warwick, Orange County, N. Y., of which C. M. Wisner is president, is the owner.

Washington, D. C.—A new municipal building will be erected at 14th St. and Pennsylvania Ave. for which $550,000 has been appropriated for the site.

Whipple Barracks, Ariz.—To carry on the work of rehabilitating this post $120,000 has been appropriated by Congress.

Worcester, Mass.—Andrew Carnegie has promised to give Clark University $100,000 toward $250,000, needed to secure a bequest of $500,000, under the will of the late Jonas G. Clark.

PROPOSALS.

SCHOOL. [At Hallowell, Me.]
The city will soon receive bids through its Building Committee for building the "Maria Clark" School, which is to be of brick and two stories high. L. D. MERCHANT may be addressed. 1388

ENGINE-HOUSE. [At Bridgeport, Conn.]
Bids will be received by the Board of Fire Commissioners for furnishing material and erecting a fire-engine house on Bostwick Ave. and Pine St. Henry A. Lambert, architect. 1388

COURT-HOUSE. [At Springfield, O.]
Bids will be received until August 15 for the construction of a $65,000 brick and terra-cotta court-house for Clark County. R. C. Gotwald, Springfield, architect. 1388

CEMENT SIDEWALKS. [At Washington, D. C.]
Sealed proposals will be received at this office until 12 o'clock, noon, Friday, August 8, 1902, for laying cement sidewalks in the District of Columbia. Blank forms of proposal, specifications and all necessary information may be obtained at the office of the Engineer Commissioner, D. C. H. B. F. MACFARLAND, JOHN W. ROSS, JOHN BIDDLE, Commissioners, D. C. 1388

SHOP. [At Fort Slocum, N. Y.]
Bids are wanted August 15 for erecting a brick shop at Fort Slocum. Address 1ST LIEUT. EDW. T. DONNELLY, Artillery Corps, Q. M. 1389

ADDITION. [At Columbus, O.]
Bids are wanted August 13 for erecting an addition to the Chemical Building of the Ohio State University. ALEXIS COPE, Sec'y Bd. of Trus. 1389

STOREHOUSE. [At Fort Howard, Md.]
Bids are wanted August 18 for furnishing material and constructing a brick quartermaster and subsistence storehouse at Fort Howard. SAM'L V. HAM, Capt. and Q. M. Baltimore. 1389

IRONWORK. [At Wheeling, W. Va.]
Bids are wanted August 19 for furnishing ironwork for lock gates for lock No. 6, Kanawha River. CAPT. W. E. CRAIGHILL, Corps of Engrs., U. S. A. 1389

PROPOSALS.

HIGH SCHOOL. [At Charleston, W. Va.]
Local press reports state that bids for erecting a high school have been rejected, the lowest received being $42,162, and that new plans will be procured and bids again asked, the cost not to exceed the appropriation, $30,000. 1389

LIBRARY. [At New Brunswick, N. J.]
Bids are wanted August 18 for the erection of a $50,000 Carnegie Library. G. K. Parsell, of New Brunswick, architect. 1389

ARMORY. [At Buffalo, N. Y.]
Sealed proposals for the masonwork, cut stone, structural metal work, carpenter work, sheet metal and roofing, glazing and general painting and heating system in connection with the erection of an armory for the 65th Regiment, N. G, N. Y., Buffalo, N. Y., will be received until August 12 at the headquarters of the national guard, room 161, 280 Broadway, New York City. JAMES McLEER, brigadier general commanding, *et al.*, armory commissioners. 1389

Treasury Department, Office of the Supervising Architect, Washington, D. C., July 25, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 25th day of August, 1902, and then opened, for the construction (including heating apparatus, electric wiring and conduits) of an extension of the U. S. Post-office and Custom-house at Frenchman's Bay (Ellsworth), Maine, in accordance with drawings and specification, copies of which may be had at this office, or the office of the Custodian, Ellsworth, Maine, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1389

Treasury Department, Office of the Supervising Architect, Washington, D. C., July 26, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 4th day of September, 1902, and then opened, for the construction (except heating apparatus, electric wiring and conduits), of the U. S. Post-office at Lockport, New York, in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at Lockport, New York, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1389

Treasury Department, Office of the Supervising Architect, Washington, D. C., July 29, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 28th day of August, 1902, and then opened, for safety vaults and work incidental thereto, in the

PROPOSALS.

Bureau of Engraving and Printing, U. S. Treasury Department, Washington, D. C., in accordance with drawings and specifications, copies of which may be had on application to this office, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1389

BUILDING.

[At Philadelphia, Pa.]

Sealed proposals, in triplicate, will be received **until 11 A. M., August 28, 1902**, for constructing a two and one-half story brick and steel building for boxing and packing shop, and a one-story connecting passageway to cartridge factory; also a one-story brick building for power plant. Information upon application. FRANK HEATH, Major, Ord. Dept., Commanding. 1390

ROAD WORK.

[At Chicago, Ill.]

Bids will be received by Col. E. B. Atwood, Ch. Q. M., at the office of the Q. M., Chicago, **until August 12** for constructing a macadam road on Ft. Sheridan Military Reservation. 1388

Treasury Department, Office Supervising Architect, Washington, D. C., July 18th, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 21st day of August, 1902, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Court-house, Post-office and Custom-house at Newport, Vt., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at Newport, Vt., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1388

SEWER SYSTEM.

[At Monterey, Nuevo Leon, Mex.]

Bids will be received by the governor of Nuevo Leon **until August 15** for the construction of waterworks and a sewer system for Monterey. The cost is estimated at $3,000,000 Mexican money. P. BENITEZ LEAL, governor. 1388

WIRE AND STAPLES.

[At Washington, D. C.]

Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received at this office **until August 11, 1902**, for furnishing and delivering at Chicago, Ill.; St. Louis and Kansas City, Mo.; Sioux City, Ia.; Omaha, Neb., or St. Paul, Minn., 414,000 pounds of cattle fence wire, two point barbed main wire not larger than 12½ gauge, barbs not larger than 13½ gauge, space between barbs not to exceed 5 inches, sample in one-rod lengths required; 5,860 pounds of wire fence staples, 1½ inch steel, galvanized; 17,350 pounds of wire fence staples, 1½ inch steel, galvanized. For further information apply to W. A. JONES, commissioner. 1388

PIPE, VALVES, ETC.

[At Washington, D. C.]

Office Washington Aqueduct, 2728 Pennsylvania Ave., Washington, D. C. Sealed proposals for 1,168,000 cubic yards excavation, 122,300 cubic yards concrete masonry, 2,200 tons cast-iron pipe and specials, 120 sluice gates, 31 water-valves, 27 venturi meters, 141,000 cubic yards filter sand, 47,600 cubic yards gravel, 165,000 barrels American Portland cement, 6 pressure controller valves, 150,000 feet glazed vitrified pipe (all more or less), and 120,000,000-gallon centrifugal pumping plant will be received here **until August 12, 1902.** Information on application. A. M. MILLER, lieut.-col engrs. 1388

SEWERS.

[At New Orleans, La.]

Sealed proposals will be received **until August 12, 1902**, for the construction of approximately 98 miles of sewers and appurtenances, of which 8 miles will be brick sewers from 72 inches to 27 inches in diameter, laid from 10 feet to 24 feet in depth, and 90 miles will be pipe sewers from 30 inches to 8 inches in diameter, laid from 5 feet to 20 feet in depth. There will be approximately 1,150 manholes and 520 flush tanks. Specifications, general plans and blank forms of proposals may be obtained at the office of the Board, also

PROPOSALS.

may be seen at the office of Hering & Fuller, consulting engineers, 170 Broadway, New York. F. S. SHIELDS, secretary. Geo. G. Earl, general superintendent. 1388

SEWERAGE CONSTRUCTION.

[At New Britain, Conn.]

Sealed proposals will be received **until August 18, 1902**, for the construction of Section 1 of the New Britain proposed disposal system, and includes building 31 filter beds complete, requiring the removal

PROPOSALS.

or handling of approximately 130,000 cubic yards of materials, the laying of about 7 miles of underdrains, one mile of 24" main trunk feed sewer, 95 cubic yards of Rubble mason work, 2 screen chambers complete, ½ mile of effluent ditches, 1,000 cubic yards of screened gravel for driveways, 4,500 square yards of turfing, 19 manholes, together with many other parts and details as set forth in the specifications for this work. The above will be let in one contract. The City has bought or will furnish the materials entering into the construction of the work as set forth in the specifications. Plans, specifications and blank form of proposals may be obtained at the office of William H. Cadwell, engineer, 213 Main St., New Britain, Conn., after July 25, 1902. Address communications to W. H. CADWELL, 213 Main St., New Britain, Conn. 1389

Professional Ethics.

The following . . .
. . . CODE OF ETHICS . . .
Prepared in Conformity with the Best Standards of Practice, and Recommended to its Members by the Boston Society of Architects, was . . . . . .

ADOPTED BY THE SOCIETY, FEBRUARY 1, . . 1895. . .

SECTION 1. No Member should enter into partnership, in any form or degree, with any builder, contractor, or manufacturer.

SECTION 2. A Member having any ownership in any building material, device or invention, proposed to be used on work for which he is architect, should inform his employer of the fact of such ownership.

SECTION 3. No Member should be a party to a building contract except as "owner."

SECTION 4. No Member should guarantee an estimate or contract by personal bond.

SECTION 5. It is unprofessional to offer drawings or other services "on approval" and without adequate pecuniary compensation.

SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

SECTION 7. It is unprofessional to make alterations of a building designed by another architect, within ten years of its completion, without ascertaining that the owner refuses to employ the original designer, or, in event of the property having changed hands, without due notice to the said designer.

SECTION 8. It is unprofessional to attempt to supplant an architect after definite steps have been taken toward his employment.

SECTION 9. It is unprofessional for a Member to criticise in the public prints the professional conduct or work of another architect except over his own name or under the authority of a professional journal.

SECTION 10. It is unprofessional to furnish designs in competition for private work or for public work, unless for proper compensation, and unless a competent professional adviser is employed to draw up the "conditions" and assist in the award.

SECTION 11. No Member should submit drawings except as an original contributor in any duly instituted competition, or attempt to secure any work for which such a competition remains undecided.

SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot give proper personal attention.

SECTION 13. No Member shall compete in amount of commission, or offer to work for less than another, in order to secure the work.

SECTION 14. It is unprofessional to enter into competition with or to consult with an architect who has been dishonorably expelled from the "Institute" or "Society."

SECTION 15. The assumption of the title of "Architect" should be held to mean that the bearer has the professional knowledge and natural ability needed for the proper invention, illustration and supervision of all building operations which he may undertake.

SECTION 16. A Member should so conduct his practice as to forward the cause of professional education and render all possible help to juniors, draughtsmen and students.

[*See Alphabetical Index on Cover 2 for Pagination.*]

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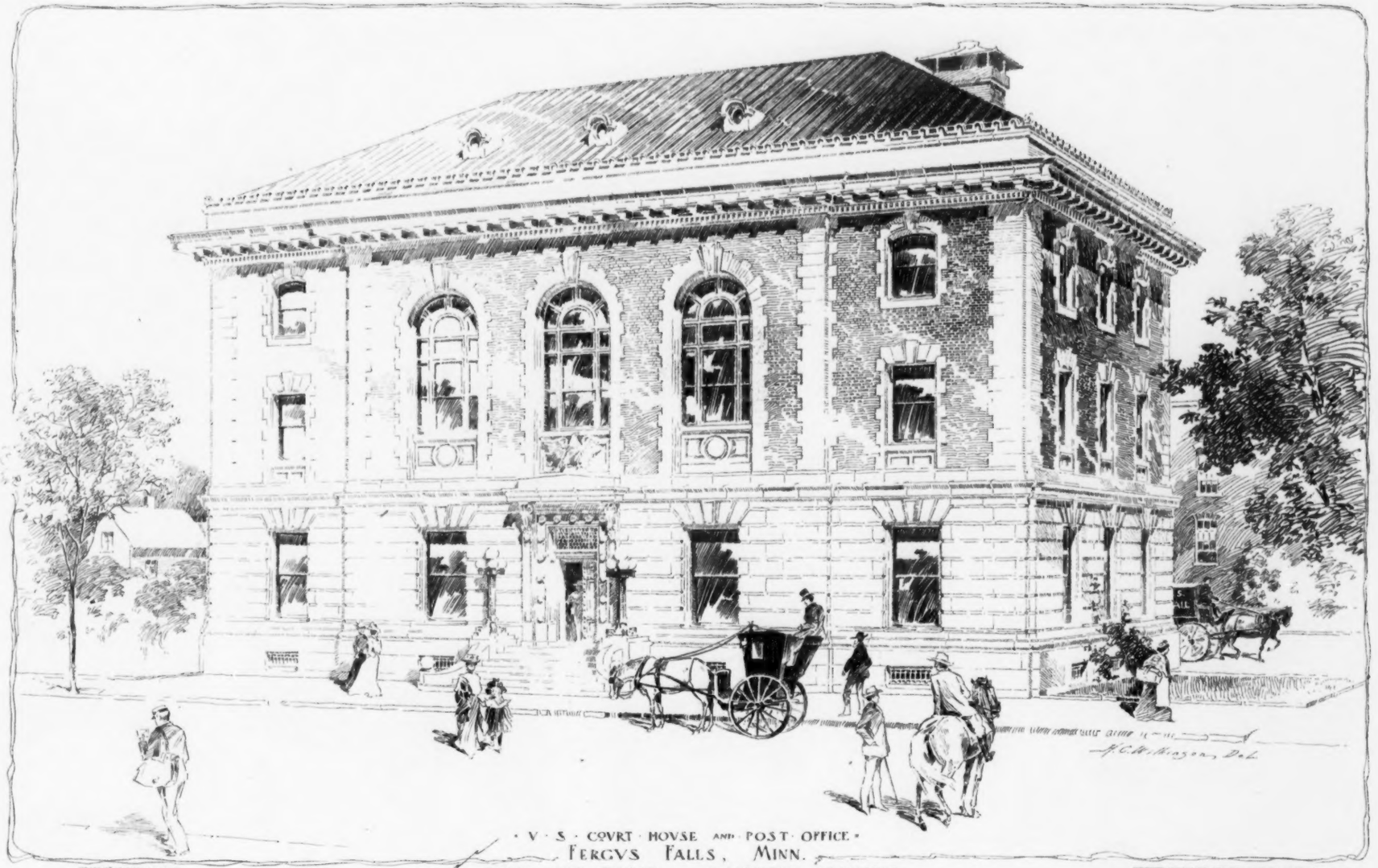
[Advertisers can be indexed only under a single head free of charge.]



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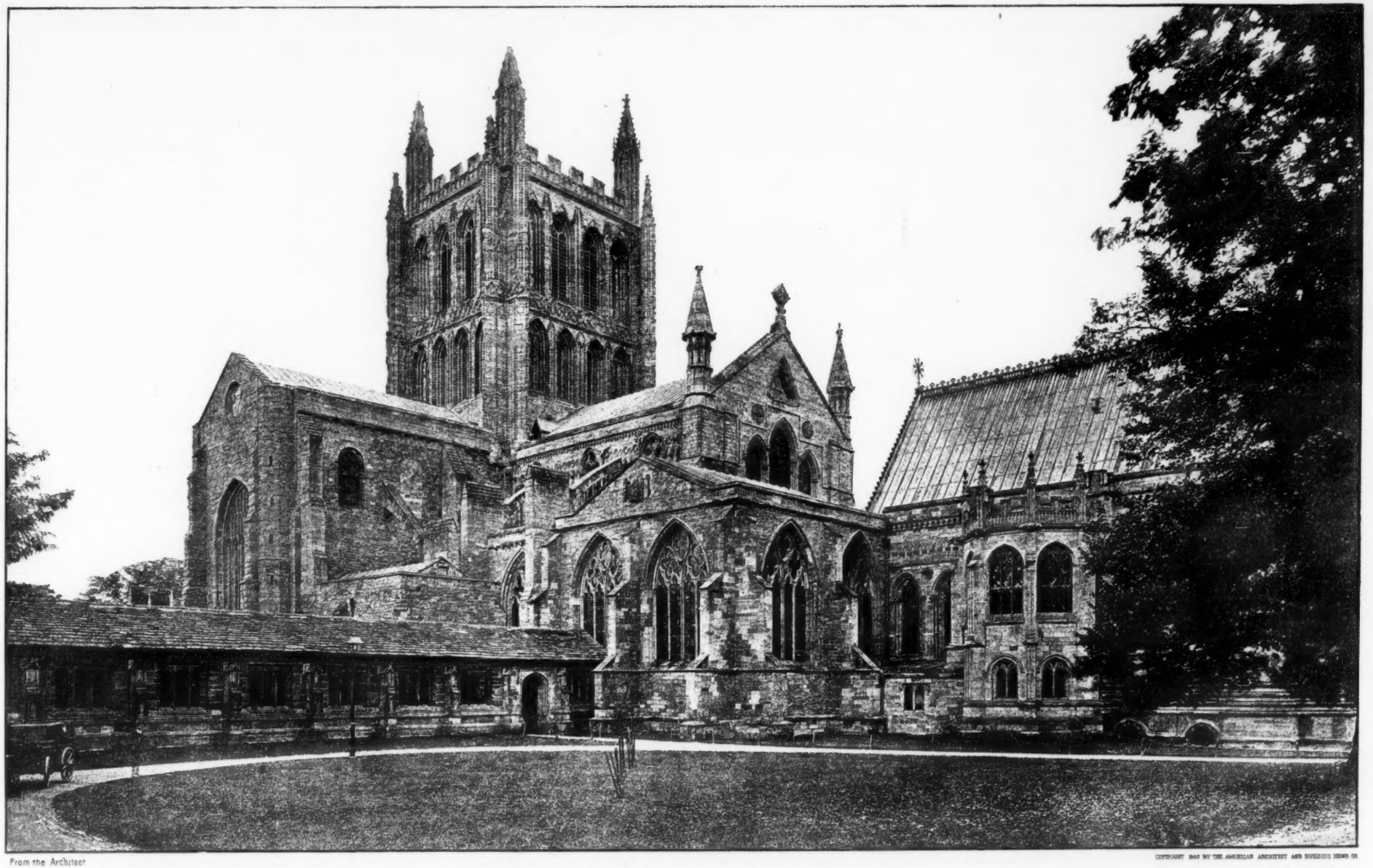
The American Architect
Aug. 9, 1902.
No. 1389.



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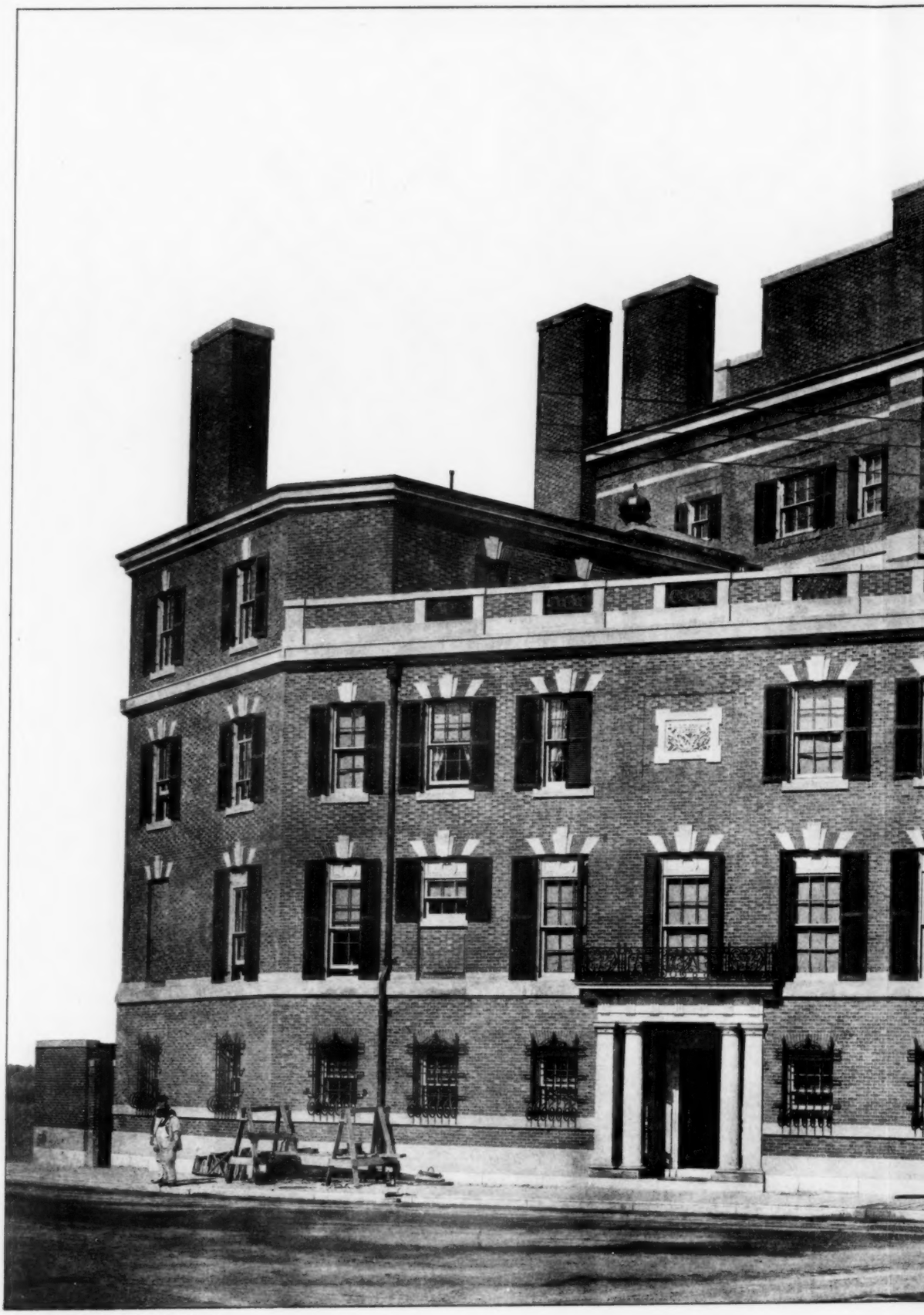

HOUSE ON THE BAY STATE ROA

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ATE ROAD, BOSTON, MASS.
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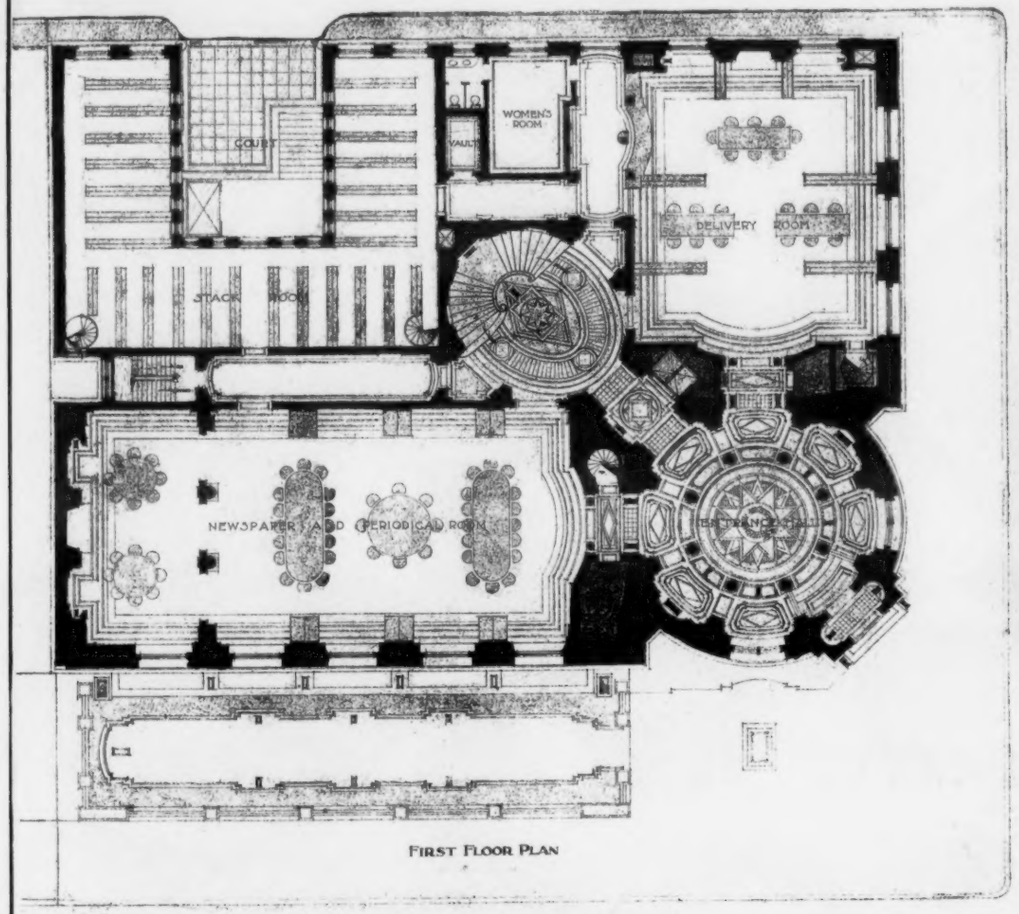
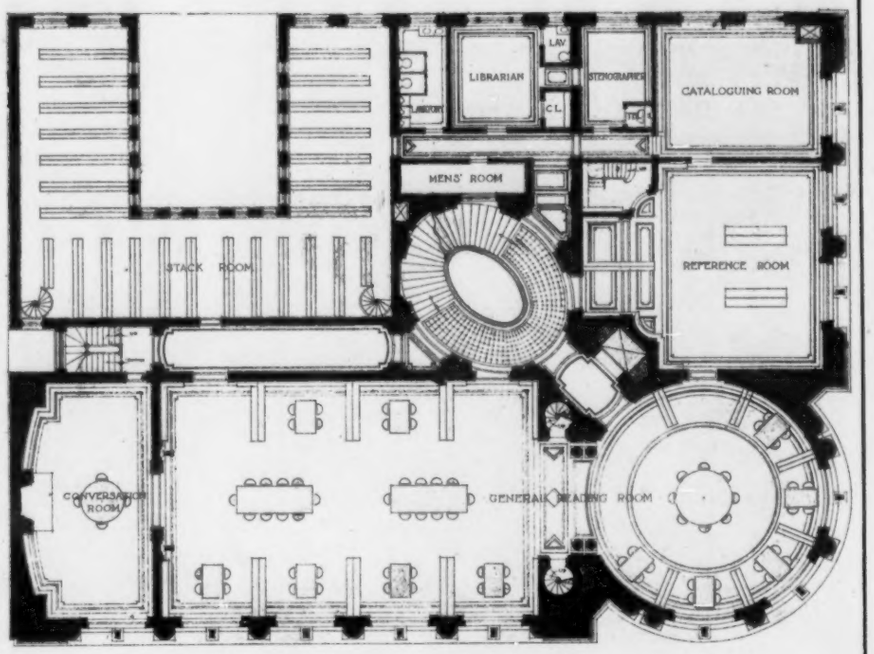
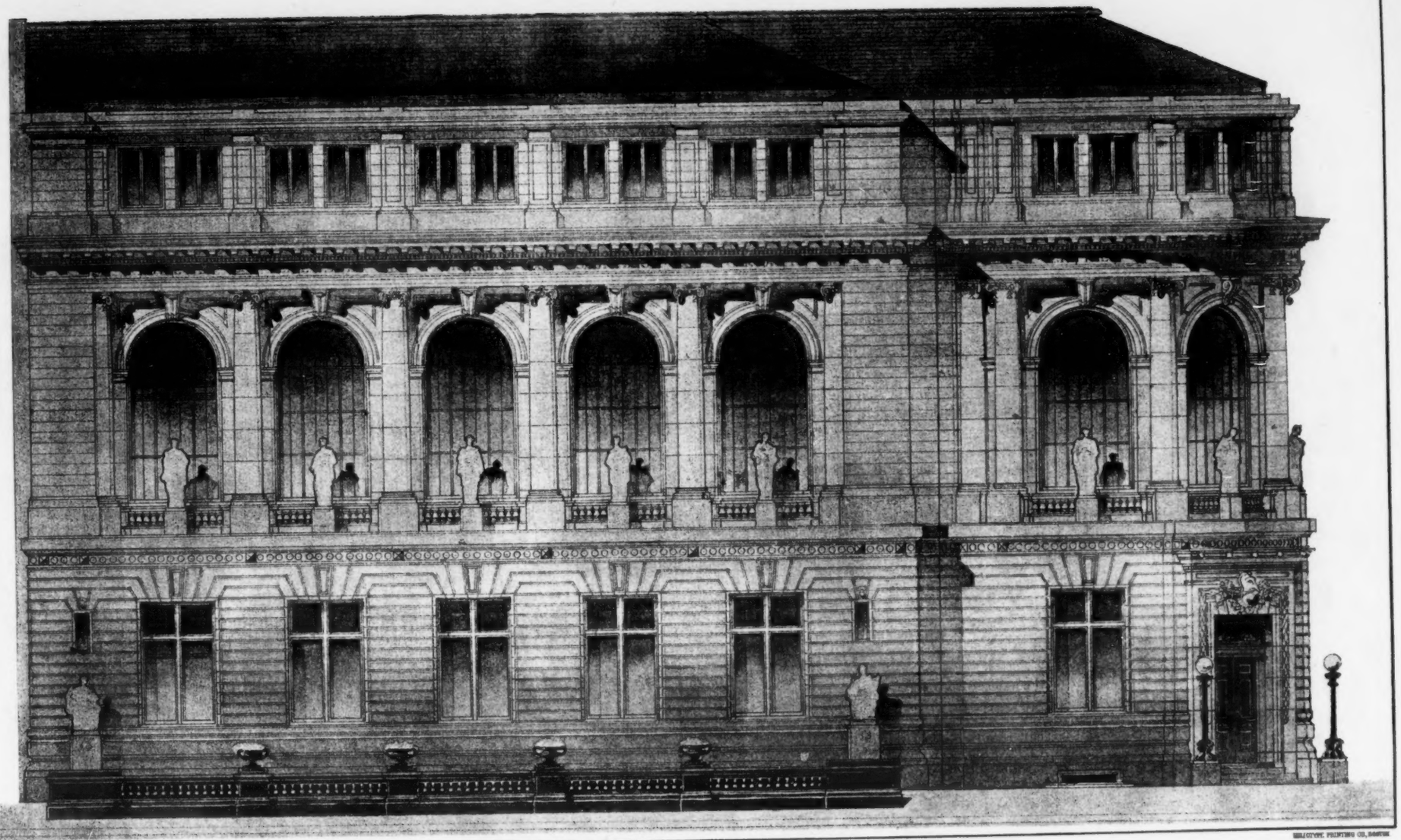


FIRST FLOOR PLAN



SECOND FLOOR PLAN

NEWBURY STREET.



A COMPETITIVE DESIGN FOR THE BOSTON ATHENÆUM.

H. D. HALE AND G. B. DE GERSDORFF, ASSOCIATED ARCHITECTS.

The American Architect
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