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THE Boston *Herald* has taken up the cue given by the English newspapers, and, in a long editorial, informs its readers that "it is becoming a common thing in England for engineers who are employed to lay out and supervise work, and for architects who plan and superintend the construction of buildings, to demand and to receive commissions from those who contract to do work or furnish supplies"; and it thinks that "in all probability methods of this kind obtain to quite an extent in this country." In view of these considerations, it wishes to know whether "something cannot be done, through the instrumentality of an aroused public opinion, in putting a stop to those forms of fraud which consist in the payment and collection of commissions in the carrying on of contract work." We can answer this question at once, so far as architects are concerned, by saying that something can easily be done, without waiting for "an aroused public opinion," which will be perfectly effectual, and that is to find a single authentic instance of the demand or acceptance by an architect of any commission, bribe, gratuity or favor whatever from any contractor, and call the attention of the owner to the matter, specifying the evidence, so that he can recover the amount out of which he has been defrauded, or lay the case before the grand jury, as may seem to him most judicious. Within the last three months this country has seen enough, and more than enough, of the dissemination of wholesale slanders, based simply on assertion, without a shadow of evidence to support it, and the *Herald* seems to have caught the fever. It is hardly necessary to say that the circulation of such reports is extremely injurious to the professions which are entrusted with greater discretion, in regard to the expenditure of larger sums of money, than any other, and is indirectly injurious to the public, by attacking the confidence which should exist between professional advisers and their clients.

THE truth of the matter of illicit commissions to architects is that while a few predatory individuals, political "heelers" and the like, who are architects only in name, together with a still smaller number of persons who have some professional knowledge, but have been "unclassed," as a Frenchman would say, by drink or vice, undoubtedly take advantage of the great opportunity for fraud which the charge of building operations offers, and fill their pockets at the expense of those who trust them, the great mass of the profession would as soon think of robbing their employers on the highway as of taking their money indirectly by means of percentages from the contractor. That percentages, bribes, commissions, or whatever they may be called, are often offered, is true enough, but we imagine that they are offered still more commonly to other people who are supposed to control the expenditure of money. Some years ago, after being asked by a contractor, who was making up an estimate, how much was to be our share, we had the curiosity to inquire what sort of people he found willing to accept percentages of the sort. He acknowledged that very few architects were open to such proposals, but said that a good many other people had to get a share out of the amount of contracts over which they had some control; and he mentioned a lawyer, the trustee for a large estate, who, as he said, "had to get something" out of every purchase or contract made on behalf of the estate. Of course, it is no answer to a charge against one profession to throw mud at another, and we can truly say that we believe such breaches of trust to be as rare among lawyers as they are among architects, but the court reports show that they occasionally occur. Such cases as are discovered are usually confined, however, to lawyers of a class corresponding to the sort of architects who are guilty of similar acts, and the injustice is in attributing to a whole profession the acts of a few.

SO far as our experience goes, the tendency to unfaithfulness among architects, instead of increasing, as the *Herald* fears, is in this country diminishing. Twenty-five or thirty years ago, a certain amount of architectural work was done by men with neither mental nor moral equipment for their duties, and their idea of honorable conduct was the same as that of the grooms and butlers and janitors with whom they were naturally associated. Now, however, nearly all those who practise architecture are men of education and social position, who, even if their nicer sense of honor would permit a breach of trust, have too much to lose to expose themselves to detection, while the rules of all the great professional societies pledge their members in the most solemn manner to avoid, under pain of immediate and disgraceful expulsion, all acceptance of bribes or favors, direct or indirect, from contractors.

A DISCUSSION is going on between the "Greater New York" Commission and the officials of the Building Departments of New York and Brooklyn, as to the best way of administering the affairs belonging to such a department for the united municipality created by the new statute. Mr. Constable has already made it quite evident that he considers his present duties sufficient to occupy all his time, and Mr. Bush, the Building Commissioner of Brooklyn, says, to the same effect, that it would be impossible to have the work now done at his office in Brooklyn carried on at an office in New York. He suggests, very sensibly, that it might be best to divide the metropolitan city into boroughs, putting into the hands of a commissioner for each borough the duties now devolving on the various Superintendents of Buildings, and to make the central office, in New York, a place for the decision of appeals from their ruling, and the exercise in other ways of that superior discretionary authority now vested, in New York, in the Board of Examiners. There is no doubt of the wisdom of this opinion, but it seems as if advantage might be taken of the changes which will soon be necessary, to modify the existing system by the appointment of District Surveyors, charged with the duty of examining plans for buildings in their districts, after the method which has been found so successful and convenient in London. The weak point in the official supervision of building work in our cities has always been the criticism of plans. The more thoroughly and conscientiously the official in charge of this duty does his work, the louder are the complaints of delay; and unless the examining force is large, such complaints at certain seasons must be well founded. Under the London system, the District Surveyor, who is always an architect or engineer, has to do only with a limited territory, which he soon comes to know thoroughly, and is therefore well fitted to advise and criticise in regard to foundations, or similar points. His territory being small, he has not many plans to examine, and can study them promptly and efficiently, and, after the drawings have been stamped with his approval, he can, if desirable, safely leave the supervision of their execution to the regular inspectors of building work. In London, many of the District Surveyors are practising architects, who give only a small portion of their time to their official duties; and, as they are paid by fees, fixed by law, the cost of maintaining them does not fall on the public purse. Whether this system would be altogether applicable to New York and Brooklyn it is, of course, impossible to say, but there can be no doubt of the importance and economy of putting the examination of plans for buildings in the different portions of the two cities in the hands of men familiar with the conditions of each portion, and sufficiently at leisure to make their examination and report within a few hours, rather than after months of delay.

IF the Boston Art Commission have made themselves a consenting party to the temporary placing of the "Bacchante" in the court-yard of the Public Library, with a view to the reconsideration of their vote of declination after seeing the statue itself *in situ*, we feel they have made a grievous mistake, and have established a precedent which will rise up to plague them through long years. During the term of their existence, the Boston Art Commission have declined a greater number of offerings than is suspected by the public, and in almost every case their decision has been reached through the aid of such data as were laid before them in this latest case. If a precedent shall be now established that a would-be Mæcenas can demand that his offering shall not be declined until it has been set in place and submitted to the popular verdict, away goes all the power of the Art Commission and they may as well resign their offices. Every possible site in the city will be preëmpted by schemers and their claims will be protected from jumpers by all the devices known to law. The Cogswell Fountain and the "General Cass" afford bitter proof of how difficult it is to displace a piece of work that is unfit and inartistic. As we anticipated, the newspapers outside of Boston, and many correspondents writing from Boston, have assumed that the decision turns on a question of nakedness, whereas that is an altogether minor consideration. Architects, who assume to be artists, in these days maintain that the sculpture associated with their buildings should not only be in character with the architecture, but especially designed for the particular site it is to occupy. It is impossible to believe that any man with a sense of the fitness of things could give a commission for a naked tipsy girl, thinking to provide a piece of sculpture suitable for a building that of all buildings, the church excepted, is most sedate and quiet in character. The whole affair irresistibly suggests the "job lot" and the "misfit parlor."

IN the loss of Mr. William Henry White, the Secretary of the Royal Institute of British Architects, the profession all over the world, as well as in England, has suffered an appreciable loss. For eighteen years Mr. White, as the official representative of the Institute, has maintained the most friendly relations between it and other professional bodies, remembering always the dignity of the principal architectural society in Great Britain, perhaps in the world, at the same time that he won the regard of the profession everywhere by the warm interest which he took in all matters of professional concern, and the courtesy and tact with which this interest was shown. Mr. White, before giving up active practice to undertake the duties of the Secretaryship, had had an unusually varied professional experience. Although born and brought up in England, circumstances led to his settling in France in the earlier part of his career, and he executed there some important works of construction or restoration. At the outbreak of the Franco-Prussian War, he went to Calcutta, in the service of the Public Works Department of the Indian Government, and remained there three years. Returning then to London, he was employed as Examiner in Architecture in the Indian Engineering College, and wrote for the professional journals, besides practising as opportunity offered. Not long afterwards, on the appointment of Sir Charles Eastlake to the office of Keeper of the National Gallery, Mr. White was chosen to succeed him as Secretary of the Institute, and had since then devoted all his time to the work of this important position.

WE feel ourselves impelled to call attention again to the desirability of adopting in this country the German system, by which subscriptions are received at all post-offices for any periodical published in the Empire. Publishers have not been particularly prosperous in this country of late years, and an arrangement which would cost them nothing, and would, as it seems to us, immensely increase their income, ought to be worth advocating, in their interest, as well as in that of the public. Most people begin their subscription to a periodical in consequence of having been attracted by a chance number, or by some article in a number, which excites in them the impulse to subscribe at once. In at least nine cases out of ten, however, the would-be subscriber forgets to take note of the name or address of the publisher, or of the price of subscription, or waits until a more convenient time for going through the tedious ceremony of getting a postal order, or a registered letter; the impulse dies away, and he forgets all about the matter. If here, as in Germany, a printed list were hung up in every post-office, with the names and subscription price of all newspapers and periodicals, or, at least, of all of general interest, and every postmaster could be authorized to receive the subscription price, with as little delay and formality as possible, and see to the delivery of the publication until the subscription expired, we believe that the greater part of our periodicals of real value would double their subscription list at once, and hundreds of others, such as scientific publications, which have only a limited circulation, would benefit still more, for the simple reason that their existence would be made known to a large number of persons, more or less interested in the subject, who are now entirely unaware of their existence. To take a single example, there is, or was, we believe, a little periodical called *Papilio*, or something of the kind, devoted to natural history of the entomological sort. It may safely be presumed that the circulation of this magazine has never reached one hundredth part of the number of people, boys and girls, as well as older people, who take an intelligent interest in butterflies, and know a good deal about them, and would like to know more, mainly for the reason that very few of these persons ever heard, or are ever likely to hear, of its existence. As for the parents of the boys and girls who take so much pleasure in their little collections of North American insects, it is safe to say that thousands would like nothing better than to make their dear children a Christmas present of a subscription to just such a journal, and would do so if it were put into their heads. If the fact of its existence, and its price, were noted at the post-office, the young naturalists, at least, would soon call the attention of their parents to the circumstance, and three people, including the butterfly-hunter, his papa and the publisher, would be made happy, where now all lack something to perfect contentment. We do not say that the Post-office Department ought at once to make itself agent for all the publishers of periodicals in the country, but there could be no great difficulty or expense in permitting, perhaps, an informal publishers' association to keep a list of the kind in all post-offices, and in authorizing postmasters to take subscriptions, possibly in return for a small commission, to be divided between the postmaster and the Treasury.

THE election of Mr. E. J. Poynter to the Presidency of the English Royal Academy, to succeed Sir John Millais, does not seem to please all the critics. Harold Frederic, who is not always diplomatic in his accounts of people, writes that "considered as an artist, Poynter is not quite the worst in the Academy," but he thinks that Rivière ought to have been chosen. Another correspondent of the American newspapers accuses Mr. Poynter of belonging to the "South Kensington gang," and says that his election was due to the efforts of the Princess Louise, who was one of his pupils, and that the artistic world would have been much better pleased with the choice of Alma Tadema, or Val Prinsep. While all these strictures may have some foundation, it is probable that the members of the Royal Academy may have been quite aware of what they were about in casting their ballots for Mr. Poynter, and if they wanted him for their President, it is not clear why the public should feel called upon to interfere. While it is for the interest of the Royal Academy, as well as of art, to have an artist of high reputation at its head, it must be remembered that the President of the Academy has serious duties to perform, and tact and discretion may be more necessary, in dealing with a body of artists, than newspaper repute.

STABLES. — II.[1]

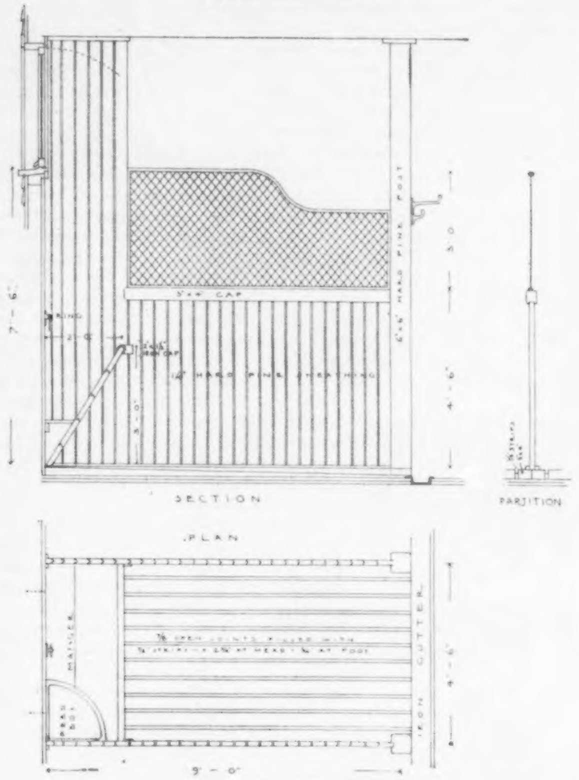


Fig. 3. Stall Construction.

STALL-ROOM. — Usually in planning a stable the stall-room is the first portion to arrange for, as the number of stalls is a measure of one dimension of the stable. The stall-room should be entered from the carriage-room as close by the trough as possible, being separated from the carriage-room by a sliding-door which will fit tight when closed. If there is a cellar under the stable, the entire floor throughout should be of waterproof construction following one of the methods hereafter described. If the stable is small, however, and there is no cellar underneath, it is not customary to make any special attempt at waterproofing any farther than is incidental to

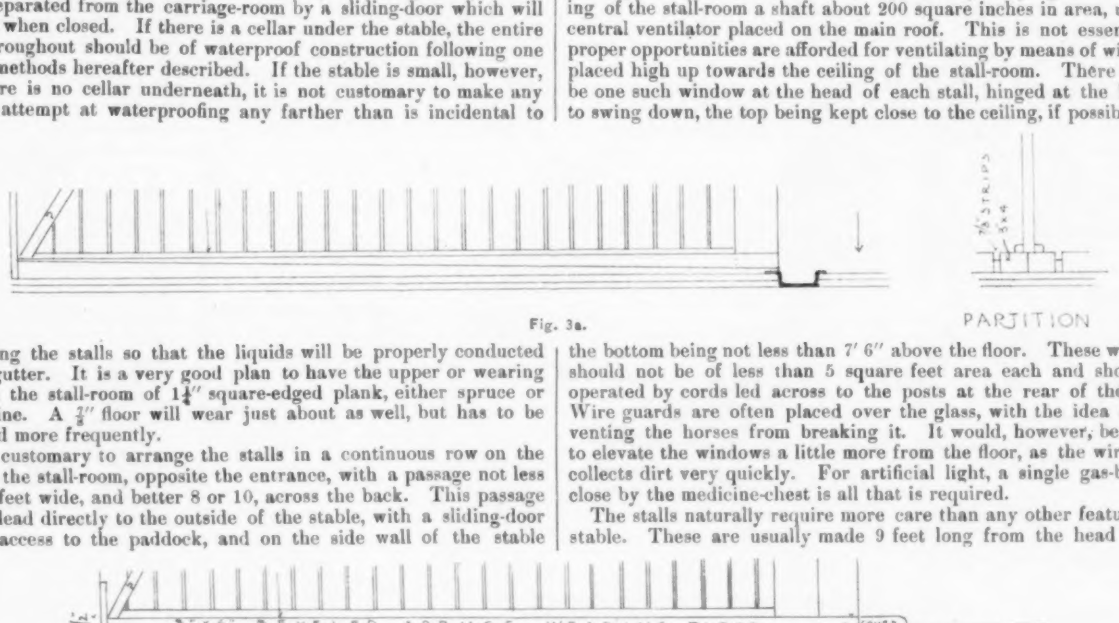


Fig. 3a.

arranging the stalls so that the liquids will be properly conducted to the gutter. It is a very good plan to have the upper or wearing floor in the stall-room of $1\frac{1}{4}''$ square-edged plank, either spruce or hard pine. A $\frac{7}{8}''$ floor will wear just about as well, but has to be renewed more frequently.

It is customary to arrange the stalls in a continuous row on the side of the stall-room, opposite the entrance, with a passage not less than 6 feet wide, and better 8 or 10, across the back. This passage should lead directly to the outside of the stable, with a sliding-door giving access to the paddock, and on the side wall of the stable

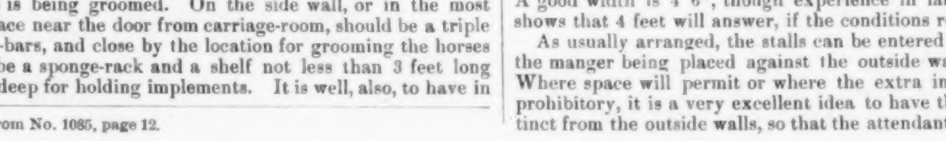


Fig. 4a.

away from the stalls should be arranged the chutes connecting with the grain-bins in loft. These chutes are best made of galvanized-iron in the same form that is customary for use as conductors, and provided with a valve at the bottom by which the flow of grain can be regulated. In the centre of the length of the passage, hooks and hitching-straps should be arranged on each side to hold the horse's head while he is being groomed. On the side wall, or in the most convenient place near the door from carriage-room, should be a triple set of blanket-bars, and close by the location for grooming the horses there should be a sponge-rack and a shelf not less than 3 feet long and 9 inches deep for holding implements. It is well, also, to have in this part of the stable a medicine-chest, arranged with a drawer at the bottom about 3 inches deep and two or three shelves from 6 inches to 15 inches apart to allow for different sizes of bottles, the cupboard being enclosed by a panelled door and not less than 4 inches deep inside.

It is not considered advisable to introduce any artificial heat into

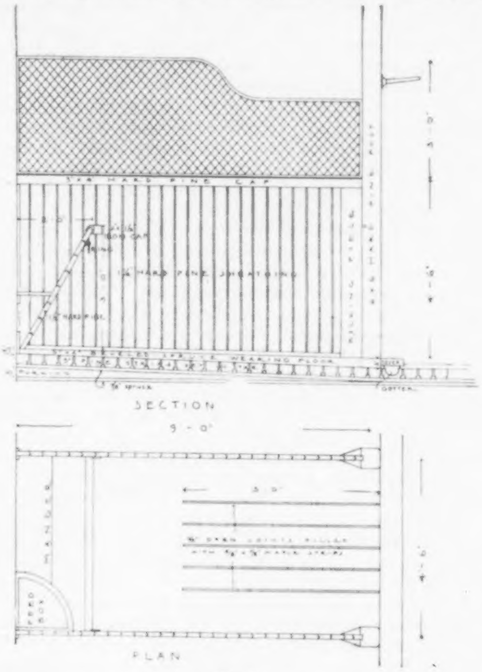


Fig. 4.

the stall-room, upon the theory that the natural heat from the horses is sufficient for their well-being and that any artificial heat would tend to make them susceptible to cold when taken out of doors. Arrangement for ventilation is usually made by carrying from the ceiling of the stall-room a shaft about 200 square inches in area, up to a central ventilator placed on the main roof. This is not essential if proper opportunities are afforded for ventilating by means of windows placed high up towards the ceiling of the stall-room. There should be one such window at the head of each stall, hinged at the bottom to swing down, the top being kept close to the ceiling, if possible, and the bottom being not less than 7' 6" above the floor. These windows should not be of less than 5 square feet area each and should be operated by cords led across to the posts at the rear of the stalls. Wire guards are often placed over the glass, with the idea of preventing the horses from breaking it. It would, however, be better to elevate the windows a little more from the floor, as the wire-work collects dirt very quickly. For artificial light, a single gas-bracket close by the medicine-chest is all that is required.

The stalls naturally require more care than any other feature of a stable. These are usually made 9 feet long from the head of the manger to the post at the rear, and in width they vary from as narrow as a little over 3 feet in some of the crowded city stables where horses are kept for sale, to a width of 5 feet, box-stalls being made generally the square of the length of the other stalls.

A single stall more than 5 feet wide is not advisable, as a horse is very apt to become stalled therein and rendered perfectly helpless. A good width is 4' 6", though experience in large boarding-stables shows that 4 feet will answer, if the conditions require it.

As usually arranged, the stalls can be entered only from the back, the manger being placed against the outside wall of the stall-room. Where space will permit or where the extra incidental cost is not prohibitory, it is a very excellent idea to have the stalls entirely distinct from the outside walls, so that the attendant can get at the head

[1] Continued from No. 1085, page 12.

of the stalls without going into them beside the horse. A passage 3 feet wide, separating the head of the stall from the outside wall is ample for this purpose. Stables are, however, seldom built in this manner, as it increases the size of the building very materially and is a matter of luxury rather than necessity.

Stall-fittings are manufactured in stock by several different concerns, all of them being studied out in detail in a very satisfactory manner. The difference between various manufactures is in detail or in nicety of fittings, such as brass caps to posts, fancy guards, elaborate patented mangers, etc. Only the general arrangement need be considered in this connection.

Figure 3 shows one of the simplest arrangements of stall. The posts are of 6″ x 6″ hard pine, rounded on the corners, carried from floor to ceiling and securely fastened at each end. The entire stall-room floor is boarded with an upper and under floor, the upper floor being matched. Over this, in the space to be occupied by the stalls, is a floor of planed 3″ x 4″ spruce, cut square and in continuous lengths from end to end of the stall. A shallow iron gutter is set with its top on a level with the bottom of this 3″ x 4″ flooring with the lip carried under the woodwork. The gutter is given as slight a pitch as necessary to throw the water off. The gutter is 2 inches deep and rests directly on the timbers or is cut slightly into them to secure the necessary pitch. The 3″ x 4″ pieces are laid $\frac{7}{8}$″ apart and the joint is filled with a $\frac{7}{8}$″ strip of maple, so as to be 3 inches high at the head of the stall and, at the most, $\frac{1}{2}$″ high at the back over the gutter. All of this top flooring is laid in, and the joints filled with hot tar. The stall partitions are laid on top of the 3″ x 4″ floorings and consist of $1\frac{1}{4}$″ matched hard-pine vertical sheathing, secured at the bottom by a small cleat on each side and grooved into a 3″ x 4″ hard-pine cap on top. For a space 2 feet wide by the head of each stall, this sheathing is carried to the ceiling and the space over the partition cap, between the head and the stall-post, is filled-in with a grating of $\frac{1}{4}$″ wire, with 2″ mesh, carried to a height of 3 feet above the cap. This grating is set in a light angle-iron frame which is screwed directly to the woodwork. The manger is straight, built of $1\frac{1}{4}$″ hard-pine sheathing with a false bottom a short distance above the floor. In one corner of the manger is set a feed-box of cast-iron which is preferably divided into compartments and fitted with a rim lipped down on the inside, so as to prevent the grain being thrown out by the horse and, also, to prevent his eating too fast. The wooden edge of the manger is covered with cast or wrought iron to prevent its being gnawed by a cribbing horse.

Figure 4 illustrates another stall construction, differing in the construction of the floor. This is much preferable, also much more expensive. A water-tight flooring is carried over the whole stall-room and up under the stalls, being composed of 3″ x 4″ pine strips laid on the Dolbeare system, which will be described hereafter in detail. The gutter is of wood with wooden covers at intervals. The reason for using wood is that it can be more easily connected with the water-tight flooring and is not liable to be broken by horses stepping on it. The waterproofing is carried up to the wall and made tight by a base set in mastic. In order to obtain a proper pitch the floor is furred up 3 inches at the head of the stall, as shown by the figure. Over the Dolbeare flooring is laid a wearing floor of 3″ spruce plank, bevelled in the length to a thickness of $1\frac{1}{2}$ inches at the head of the stall, so that the upper surface, when set, pitches only $1\frac{1}{2}$ inches. Part of this wearing floor towards the rear is laid open, and the joints filled with $\frac{5}{8}$″ x $\frac{7}{8}$″ strips of maple. All of the joints in the 3″ planking are run in hot mastic or composition and if properly constructed, the floor ought to be absolutely tight. Where several such stalls are arranged in a row, the floor timbers are pitched sidewise $\frac{3}{8}$″ to the foot and the flooring and gutters are laid following this pitch, to ensure proper draining.

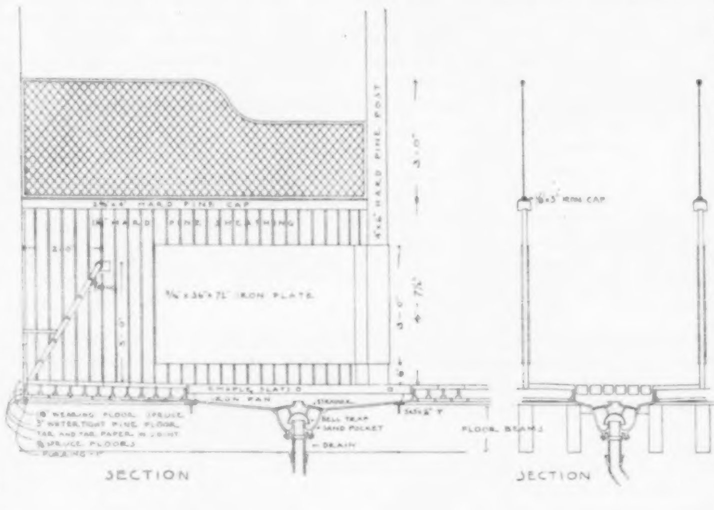


Fig 5.

Figure 5 shows yet another stall construction which has some special features. The floor is one of the most satisfactory that is on the market. It is easily cleaned, does not smell badly, and has the advantage of allowing the horse to stand on a level surface and can, furthermore, be set flush with the floor of the passage at the rear of the stalls. In this construction the floor-beams are spaced so as to permit of a cast-iron pan being placed under the centre of each stall. The water-tight wood flooring is pitched one inch towards the head of the stall and sprung over a thin furring under the lines of the partitions, so that the stall slopes on all sides towards the centre. Over this is laid the wearing floor of $1\frac{1}{8}$″ square-edged spruce, which laps onto the iron pan. The pan is lipped all around and provided with a rim which fits under the water-tight flooring and is set in hot tar or mastic, an inner lip being carried to the top of the wearing floor. The pan is dished towards the centre and the outlet is fitted with a trap and cover which collects the loose droppings of straw, etc., allowing the liquid to run off, so that the urine does not accumulate to any extent and fermentation and consequent bad smell are thereby avoided. The iron pan rests directly upon the timbers, and two cross supports of T-iron. In the pan is a wearing slat floor of $2\frac{3}{4}$″ x 3″ maple strips set 1″ apart and rodded through the centre thrice, being strongly bolted so that a quadruple wear can be got out of it, the frame being reversible in each sense, and raised entirely clear of the bottom of the pan by means of wide lugs on each end.

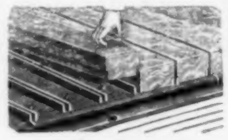


Fig. 6. Iron Stall Floor.

This type of stall floor is manufactured specially by the Lynn Stall Co. Somewhat similar stalls, varying in detail though not in principle, are made by several manufacturers of stable goods.

The stall represented by Figure 5 is intended to provide for the hardest wear. The angle where the stall partition joins the post on each side is filled-in with a bevelled piece of wood, so as to afford less opportunity for the horse to catch his hoof should he be disposed to kick, and the partition is sheathed on each side with wrought-iron $\frac{3}{16}$″ thick carried entirely around the post. Furthermore the stall-cap is protected by a plate of iron.

In place of the iron pan the entire bottom of each stall is sometimes formed of concrete or asphalt dished towards the centre and provided with a bell-trap and cover, essentially on the principle of the iron pan, with a raised slat floor. There seems to be difficulty in making a construction of asphalt or concrete perfectly tight, and where the stalls are raised on the second story, as is often the case in large boarding-stables, or where there is a cellar under the stable which it is desirable to keep thoroughly clean, the concrete or asphalt will very often leak, owing to unequal settlements or shrinkage of lumber or walls. If asphalt could be made perfectly tight all around and would stay so, it would be far preferable to any other material, as it is non-absorbent and non-corrosive; but thus far experience and observation seem to point to an iron stall-pan as, on the whole, the most satisfactory arrangement.

Wood and iron are used in a variety of combinations. Sometimes an iron pan is laid over the whole stall area and separate maple slats or blocks are fitted into corresponding flanges in the iron, as shown by Figure 6, the iron pan connecting directly with the gutter at the rear. If this form is bedded thoroughly upon something which will not shrink or move in time, it makes a very serviceable stall and the wooden blocks can be replaced with very little difficulty. The incline of the slats is about 1 inch. Again, stalls have been built of brick, the passageway at the rear of the stalls also being of brick, and the stall itself dished equally all around, so that the drainage will run into a branch of the gutter which is carried up to near the head of the stall. This form, however, is not very common.

Figure 7 shows an arrangement of the cast-iron pan either laid upon wooden floor-beams or on concrete resting directly upon the earth.

The box-stalls do not differ from single stalls, except that they are square, and a square pan used under the centre, or the whole stall is made to pitch towards the rear. Access to a box-stall is had through a heavy gate, hung by brass strap-hinges, kept up a foot from the floor and carried as high as the stall partitions.

It is sometimes customary to put on one end of the manger a hay-rack consisting of a grating of iron bars, leading to which is a chute from the story above. This is not always considered advisable, and more often the hay is pitched down to the stall-room floor through a trap in the ceiling, and is then either thrown by hand into the fore part of the stall or into the manger.

At the head of each stall, facing the horse, should be firmly attached a heavy ring for hitching, held by not less than four stout screws. An arrangement has been devised, by means of which the unhitching of the horses, in case of necessity, can be simultaneous and can be effected without entering the stall. This is shown by Figure 8. The halter is fitted with a length of chain at the end and the terminal link is caught in a hasp, to which it is very easily attached, but which the horse cannot disengage. A single halter can be detached, or a whole row of halters can be released at once by pulling the lever at the end of the line of stalls. A contrivance of this kind is very desirable in large stables.

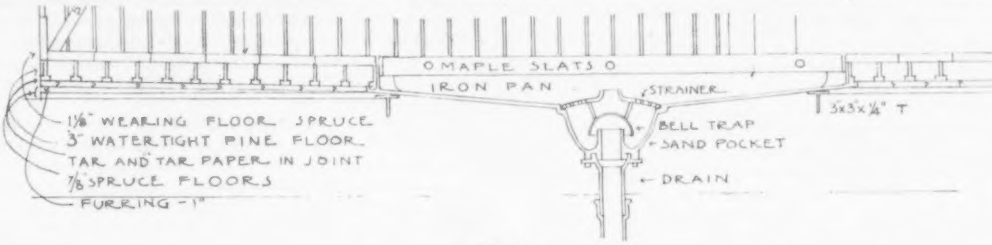


Fig. 5a.

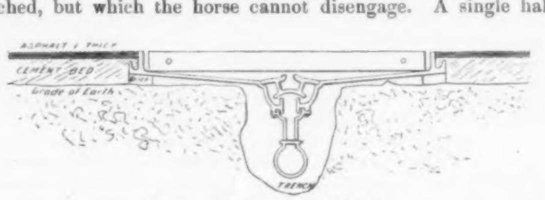


Fig. 7. Lynn Iron Pan and Asphalt.

If it is thought desirable to have water constantly within reach of the horse, but in small quantities, so he shall not consume too much, this is effected by a patented device consisting of small watering-troughs, which are placed at the corner of each manger, connected by water-pipe, the supply to which is throttled down so that a very small amount of water only can be used at once, and the overflow so arranged that only a small quantity of water can collect in the trough at one time.

All of the wooden finish about the stall-room and stalls should receive three coats of the very best spar varnish, and all of the hardware, except as a matter of expense, ought to be of solid bronze or brass.

Adjoining the stall-room on the sunny side of the stable, it is well to provide for a paddock. Local circumstances will generally fix the size of this, but it ought not to be less than 20′ x 35′, and the larger the better. Against the stable-wall in some portion of the paddock is built a platform, 7′ x 9′, consisting of a wooden grating set up somewhat from the ground, upon which the horse-bedding is thrown to air and dry, and in another corner of the paddock, as close to the stall-room door as possible, a large box can be placed to receive manure. The arrangements for disposal of manure constitute the most unsatisfactory feature of many stables. The manure is very commonly thrown directly from the stall-room into a vault excavated immediately beneath, this vault most frequently having no ventilation whatever, though sometimes it has a small outside window. This is by no means the best arrangement, as even with the utmost care the manure is liable to ferment and the fumes do a great deal of damage to everything around the stable, and above all, it is not in any sense tidy or clean. A better plan is to throw the manure into a box in the paddock, and see to it that this box is emptied at frequent intervals. This box should be about 5′ x 7′, with top arranged to entirely take off, but with a small trap in the top for pitching in the manure. This box need not be over 3 feet deep. If considerations of cost will permit, a still better plan is to build a brick pit outside of the stable, extending 2 feet below the surface of the ground and 2 feet above, the pit being lined with enamelled brick, floored with asphalt and fitted with a hinged wooden cover.

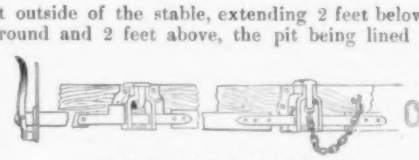


Fig. 8. Walters's Stable Fastener.

Figure 9 shows a plan for a small stable, incorporating the various features previously described.

C. H. BLACKALL.

[To be continued.]

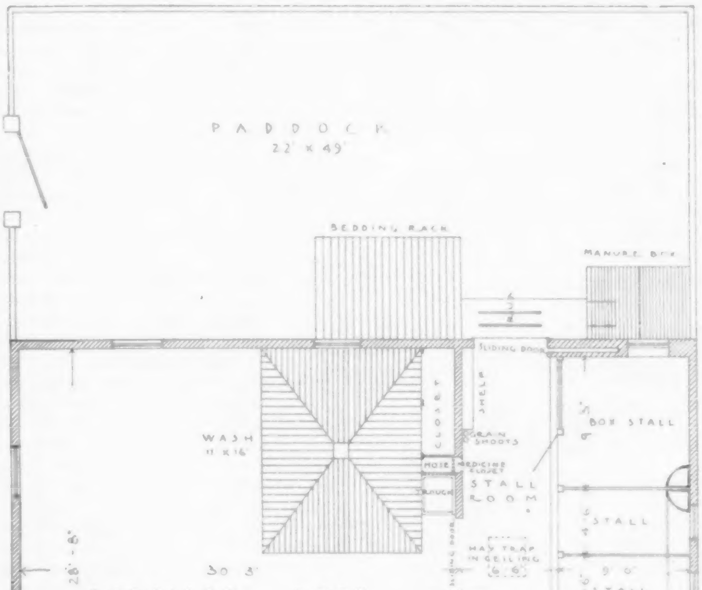


Fig. 9. Plan of small Stable.

THE TEST OF THE ROEBLING SYSTEM OF FIREPROOF CONSTRUCTION.

THE protest made the Department of Buildings of New York City that the test, made September 3d, of the structure submitted by John Roebling's Sons, was not thorough, as the fire had not been maintained a sufficient length of time, has led to a second trial, in which a new building was subjected to fire for a period of five hours.

In the first test, a comparative one, two fireproof floors were built eight feet above the ground, one according to the Roebling system, the other an ordinary hollow-brick flat arch.

After being loaded to 9,000 pounds, distributed over fifteen square feet, it was subjected to fire for an hour and a quarter. After extinguishing, it was found on examination the fire had not materially injured either arch. It was maintained, hence the protest, that the experiment was of no value, as the fire should have been continued until one or the other arch failed. Accordingly, on October 27 the same two arches, after having been replastered — the first coats being destroyed by fire and the water used in extinguishing the fire — were loaded with pig-iron to the extent of 1,400 pounds per square foot and a fire started. In a few moments the white coat of plaster peeled off; after two hours, the copper plug for indicating the temperature fused; at three hours, cracks formed around the hollow-brick arch and after a few minutes opened parallel to the wall along both arches, the loaded portion of the hollow tile section settling; in ten minutes more, the flat arch failed, carrying the pig-iron loading it suddenly to the ground, the portion not loaded remaining. The Roebling arch remained intact, its plaster ceiling being badly cracked but still adhering. The data for this test are as follows:

Ironwork erected August 10th.
Roebling arch concreted August 11th.
Flat arch erected August 10th to 11th.
First fire and water test September 3d.
Ceilings replastered October 1st.
Thickness of crown, Roebling arch, 3 inches.
Depth of hollow-brick arch, 10 inches.
Size of beams, 10 inches, 25 pounds.
Spacing of beams, 5 feet, centre to centre.

Proportions of cement mortar used in setting flat arch........................ { 1 part Aalborg Portland cement. 1 part sand.

Proportions of concrete used in Roebling arch........................ { 1 part Aalborg Portland cement. 2 parts sand. 5 parts steam ashes.

NOTE.—This test was an unofficial test, but was witnessed by several members of the Department of Buildings as well as a number of others interested in the subject of fireproofing.

Although fulfilling every requirement it was decided to convince the more exacting, and a second test structure was erected and subjected to a continuous fire for five hours. The dimensions were as follows:

Size of test structure, 12' x 16'.
Spacing of iron beams, 4 feet.
Distance between supports of iron beams, 15 feet, 6 inches.
Size of iron beams, 10 feet, 25 pounds.

Proportions of concrete in floor arches... { 1 part Aalborg Portland cement. 2 parts sand. 3 parts steam ashes.

Thickness of crown at middle of arch, 3 inches.

Proportions of concrete for filling between nailing sleepers........................ { 1 part Aalborg Portland cement. 2 parts sand. 10 parts steam ashes.

Thickness of filling over floor arches, 2 inches.
Floor arches were concreted on September 26th.
The concrete used in this test was identical in proportions and manipulation with that used in all the regular work executed by this company.

The floor was loaded with an evenly distributed load and the fire started, a regular grate having been built for the purpose of obtaining a maximum temperature. In an hour the temperature was 1,700°, increasing at two hours to 2,300°, the highest point reached: from that time to the end the temperature varied from 2,000° to 2,100°. About half-past one the ceiling fell, it is supposed, as it was intact at the last observation made, but on opening at two o'clock to extinguish the fire it was found to have fallen.

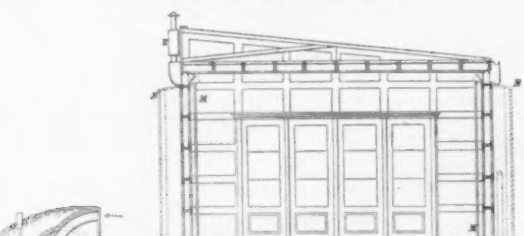
The examination made proved the arches were intact, though the beams deflected two and one-quarter inches, which diminished on the cooling of the beams to one and a half inches. A stream of water was then directed on the roof, which soon leaked at the central arch where the deflection was greatest.

The wires supporting the ceiling were, for the greater part, carried down with the plaster, which left the bottom flanges of the beams exposed.

At this writing there is in progress a further test as to the ultimate strength of the arches as they stand.

The Department of Buildings conducted the experiment and registered all data as to temperature, deflection, etc.

A REMARKABLE HOUSE.



WHEN we take up a study it is often impossible to foresee the end to which it may lead. The accurate determination of an atomic weight has resulted in the discovery of new elements. The observation that a magnet moved when suspended above a rotating copper disc was the germ of dynamos and motors. Investigations bearing upon movements which at times violently affect the earth's crust have carried us to the unfelt movements of the same, the subsurface precipitation of moisture, the action of stones as fertilizers, the transposition of plants, and to the study of phenomena of more direct importance to the farmer than the physicist. Bacteriology has led Dr. W. Van der Heyden, of Yokohama and Utrecht, to devise and construct a dwelling which he has described as "Eine Hygienische Wohnung." As a sanitary dwelling, relatively to ordinary types of houses in which we exist to swallow vitiated atmosphere, sometimes hot and sometimes cold, it seems to possess many marked advantages. But its sanitary aspect is by no means its only title to recognition. Although the inventor of this new departure in house construction lays emphasis upon its sanitation, he also sees in it a means of shielding ourselves against extremes of temperature, of economy in the use of fuel, and a protection against the effects due to the more serious movements accompanying earthquakes. To us, whose fortune it is to live in a country where the foundations of our buildings are not subjected to violent agitation, this latter feature in Dr. Van der Heyden's house possesses but small interest, but as this building was built in Yokohama, where it now stands in the grounds of the General Hospital, and since its erection in 1891 has already had to withstand about three hundred shakings of varying degrees of intensity, that it should be earthquake-proof became a necessary feature.

Although the writer is not able to give any minute details of this remarkable structure, yet inasmuch as he saw it when in process of construction and because the basement was kindly put at his disposal for the erection of instruments designed to show changes of level which might precede or accompany an earthquake, which instruments required isolation from great changes in temperature, the opportunities for studying its behavior and confirming the conclusions arrived at by its inventor were numerous.

Roughly, the house is 44 feet in length, 23 feet in breadth, and 17 feet in height, and is built of glass. This glass is rough plate approaching ½ inch in thickness, and each wall is made of two layers of this material separated by a space of about 4 inches, which space is filled with a strong solution of a salt-like alum, or one of the commoner salts of soda.

To carry out this construction, panes of glass measuring about three feet by two feet are fitted into two sides of a cast-iron frame to form a box. A number of these boxes are screwed together, end to end, until a row the length of a wall has been formed. On the top of a row, felt and boards are placed, above which comes row after row until the required height of a wall has been reached. It was the original intention of Dr. Van der Heyden to construct the roof in a manner somewhat similar to the walls, but experience has shown that this is hardly necessary. The roof consists of glass plates with strips of rubber between the joints, above which there is a layer of ashes and a light frame of wood covered with cement. In this instance the roof is not translucent, but is made of materials which are fairly impervious to the heat from outside and to the escape of heat from the inside.

From this description the house is, therefore, a well-lighted box-like space without windows or doors. There are no openings, cracks, or fissures to admit air, moisture, insects, dust, or microbes, while the function of the walls in excluding heat and cold will be referred to presently. On account of the color of the solution in the walls, which color may be varied to suit taste or the requirements of experiments, the light in the room at the time of the brightest sunshine is diffused and pleasant. The floor of the room is made of double planks, between which there is a layer of sawdust. In this floor there are grids for the admission of air and four large plates of glass, which give light to a lower room which is partially underground. The entrance to the dwelling is by means of a corridor leading to the lower room and a staircase. Doors are so arranged in this corridor that but little air is admitted while a person is entering or leaving the building. Fresh air is obtained from a pipe, or pipes, which rise vertically above the ground at some distance from the house and communicate with a tunnel or pipes leading to the lower room. Before entering this room the air is filtered by passing through cages filled with cotton-wool. As the air emerges from its filter it strikes a large pane of glass coated with glycerine, where the few microbes that may have succeeded in passing the net of cotton fibre are caught. By this means it is assumed that the air entering the room is as pure as an antiseptic dressing of Sir Joseph Lister's. From the lower room this purified air is allowed to pass through the regulating grids to the upper chamber, from which it is discharged around a space near the ceiling which in ordinary rooms is represented by a moulding. Running round the building on the outside and communicating with these air-openings there is a belt-like chamber covered with ordinary window-glass. Usually it is found that the heat in this belt is sufficient to cause a current towards a chimney, also constructed to be heated by the sun. In connection with this chimney there is an opening for the rain, which is discharged at its base to create a draught after the well-known manner of a water trompe. The general result is that the more the sun shines or the more it rains, the greater is the ventilation. When sun and rain fail, a small stove may be lighted to create the necessary current, but this has seldom been required. To obviate the effects of earthquakes, the upper building is carried on balls resting in cups, that is to say, it has a free foundation similar to those described in articles on "Construction in Earthquake Countries" (*Engineering*, July 3, 1896, page 2). From this imperfect description of Dr. Van der Heyden's somewhat costly and bold experiment we will next turn to its working.

So far as ventilation is concerned, calculations based upon records obtained from anemometers placed in the air-ways, this has been shown to have been at all times ample. Although the bulk of this air as it enters the rooms is purified, there is from time to time added to it a small quantity of ordinary unfiltered air entering with each person, who also, we may presume, carries on his dress and body a certain number of the omnipresent microbes. These, however, because they come into a room bathed in light, without a single dark corner in which they can multiply and develop, are quickly doomed to extinction, especially in a chamber which lends itself to disinfectant sprays and washings. Whether this is absolutely so or not, it is beyond the power of the writer to pronounce upon, but the fact that Dr. Van der Heyden finds that butter, milk, and other putrescible substances remain in a fresh state longer in his house than in ordinary dwellings, indicates that a chamber in which the air, if not absolutely pure, approaches such a state, has practical advantages which appeal to the housekeeper. By placing catches partly similar to those before the openings through which air enters the house in the sun-belt, and by other means, carbonic acid, organic alkaloids, the products of expiration and exhalation generally, dust and any impurities are deposited before the outgoing air passes into surrounding space. The arrangement for the oxidization of the unassimilated products of the human system and their conversion into nitrate of ammonia and other inorganic salts is also instructive. Dr. Van der Heyden evidently regards every dwelling, and especially hospitals, as possible foci of infection, and although it is highly important that these should be supplied with pure air, he considers it equally important that they should not be allowed to discharge anything in the form of liquid, solid, or gas which could possibly carry with it the germs of contagion. Even the water used for washing and that from the kitchen is rendered innocuous before it leaves this sanitarium.

We next come to a feature in the house which, to the minds of those who take little heed of dust and microbes, is suggestive of development along many lines for the economy of labor and of fuel. During one winter that Dr. Van der Heyden was living in his house, the writer, for the purpose of attending to his instruments in its basement, had often occasion to visit him, and during that winter he did not require to burn any fuel for heating purposes only. From time to time, however, during cloudy weather, a little fuel was used for the ventilating-stove. The total amount for the season could not have exceeded half a ton, but whatever it may have been, after the addition of the "sun-belt," the small consumption of fuel was practically reduced to zero. In Mr. Van der Heyden's house no inconveniently low temperature was felt, while in adjacent houses on several occasions water froze in bedrooms. It may, therefore, be concluded that at night the temperature closely approached and sometimes fell beneath the freezing-point. During the day, with fires burning in grates and stoves, assisted by the sun heat through windows and glass verandas, the temperature of these same rooms rose at least to 60° Fahr. The daily range in temperature experienced in an ordinary house in central Japan may, therefore, for the winter months, be taken at about 30°, and to attain the daylight temperature for, say, a couple of rooms, from five to seven tons of coal are burned. The maximum range of temperature in the glass house, as shown by a self-recording thermometer, was less than 6.5° Fahr. An experiment made in the house during freezing weather in January was to note the fall in temperature while the ventilating-stove, which is arranged to warm the incoming air, was extinguished. In 53 hours the fall was from 66° Fahr. to 49° Fahr., and as the surface of the house is 108 square metres, this represented a fall of $\frac{1}{2000}$ degree per square metre per hour.

The action of the building as a heat absorber and heat retainer is, briefly, the following: When the sun shines, its heat, rather than passing through the glass walls to raise the temperature inside, as it does in a greenhouse, is taken up by the liquid they hold, and more salt enters into solution. At night, when the temperature falls and the liquid cools, there is a tendency for this extra quantity of dissolved salt to crystallize, and whilst crystallizing, heat is given out. Because on the outside of the fluid walls there is an air-space bounded by ordinary window-glass, the escape of heat outwards is minimized, with the result that the heat trapped during the day is given up to the interior of the building, which, unlike the greenhouse, cannot fall rapidly in temperature.

When the building might fail would be in the winter months, after three or four days of cloudy weather. To meet this contingency it becomes necessary to light the ventilating-stove, which might be of gas or petroleum, and warm the incoming current. In very many countries outside the British Islands, three or four winter days of continuous cloud are of comparatively rare occurrence; but even in Great Britain we have a few days of sunshine, and Dr. Van der Heyden shows us how to capture and utilize a portion of this heat. A plant house, for example, built after his plan ought to be worked at less expense and with less trouble than one built in the ordinary manner and requiring artificial heat. From want of judgment, and often from carelessness, the omission to light a fire in a greenhouse is attended with results which ought not to occur in a house with a supply of heat within its walls.

In summer time what we look for and obtain, by throwing open windows and doors, the doing of which may be as often forgotten as closing them, is usually a reduction in temperature. In the Yokohama house the thermographic records show that this has been attained in a very marked measure. Although this house stands in the open, with its flat roof and walls exposed to 14½ hours of summer sun, not cooled by a sea breeze, not sheltered by trees, and not divided by sheltering walls in its interiors, these records have shown that day after day the temperature has never been above, and often been below, that of the most sheltered place that could be found in the neighborhood. In five ordinary houses, taking apartments considered to be cool and pleasant, the temperature in them was always found to be several degrees higher than that in the sanitary building. The explanation for this is that the fluid walls take up the direct heat of the sun, whilst the air before it enters the building, because it passes through tubes underground, is reduced in temperature. In winter the latter arrangement leads to a slight rise in the temperature of the inflowing current.

In Japan the temperature of the air in summer rises to 80° and 95°, and is often loaded with moisture. In the glass house the temperature was fairly constant at about 74° Fahr. To reduce this 3° or 4° more, and to get rid of the suspended moisture, we understand that the air coming through the underground passages before it enters the lower chamber is passed to the bottom of a well which has been sunk in the basement.

In this imperfectly described experiment of Dr. Van der Heyden's we also see, in addition to what we have described, a building in which there should be a total absence of insect life. The man who lives in a warm country knows the pleasure of a room free from mosquitoes and other pests, which not only cause irritation by their noise and bites, but which in some instances have been the means of transmitting disease, whilst the absence of dust will always appeal to domestic servants. The variations that can be made in the forms of construction that have been here indicated are numerous. Should we, for example, only desire to capture sun heat, it possibly may be accomplished by two metal walls, carrying between them a solution of soda sulphate (?); the outside walls can at night time be covered with a layer of felt. Whether this is practicable or not, that sun heat may be caught within a chamber until it even causes the ebullition of water is realized in the heating box of De Saussure, while the house of Van der Heyden, however we may be pleased to vary it, shows that the conditions under which we ordinarily exist are capable of modifications attended with advantage.—*Engineering.*

SOCIETIES

T-SQUARE CLUB OF PHILADELPHIA.

THE regular meeting of the T-Square Club was held in the office of Mr. Frank Miles Day, 925 Chestnut Street, on Wednesday evening, November 4th. In the absence of President David K. Boyd, Mr. Louis C. Hickman occupied the chair.

Competitive designs for a typical "Bicycle Pavilion," in connection with the proposed bicycle paths in Fairmount Park were submitted. These pavilions are to be located every four or five miles apart and provide ample room for one hundred wheels; also a resting and refreshment hall, music-stand, service-rooms, check-room and repair-shop.

First Mention awarded to E. Perot Bissell.
Second Mention awarded to George Bassett.
Third Mention awarded to W. P. Trout.

Messrs. F. M. Mann and E. V. Seeler lead the criticisms of drawings. CHARLES E. OELSCHLAGER, *Secretary.*

MINNESOTA CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE regular monthly meeting of Minnesota Chapter, A. I. A., was held on Friday evening, November 6th, at West Hotel, with President Jones in the chair and ten members present.

After the usual dinner and disposal of routine business, the subject of the evening, "The Inception of Modern Steel Construction," was taken up in a paper by E. P. Overmire, followed by a general discussion.

This is the first of three meetings to be devoted to "Modern Steel Construction," the two succeeding papers to be on "The Progress" and "The Present State of Modern Steel Construction."

An instance of unprofessional conduct, on the part of a prominent firm of architects, was brought to notice of the Chapter, but, inasmuch as they are not members of the Chapter, no action could be taken.

The next meeting will be held at St. Paul, the first Friday evening in December. E. P. OVERMIRE, *Secretary.*

ILLUSTRATIONS

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

REVERSE OF THE JOHN BOYLE O'REILLY MEMORIAL, BOSTON, MASS. MR. DANIEL C. FRENCH, SCULPTOR, NEW YORK, N. Y.; MESSRS. WALKER & KIMBALL, ARCHITECTS, BOSTON, MASS.

[Gelatine Print, issued with the International and Imperial Editions only.]

THE bronze figures shown in this view of the monument are somewhat more than life-size and represent, respectively, "Patriotism," "Erin" and "Poetry."

THE LIBRARY STACK BUILDING FOR PRINCETON UNIVERSITY, PRINCETON, N. J. MR. WM. A. POTTER, ARCHITECT, NEW YORK, N. Y.

ENTRANCE TOWER OF THE SAME.

COURT-YARD VIEW AND PLAN OF THE SAME.

STABLE FOR GEO. G. HALL, ESQ., 11-13 BYRON STREET, BOSTON, MASS. MR. WILLIAM WHITNEY LEWIS, ARCHITECT, BOSTON, MASS.

THE materials used in the front of the stable are Milford pink granite for the plinth, coral-colored bricks from the Perth Amboy Terra-Cotta Co., and Indiana limestone for dressings and cornices.

The owner's room is finished with marble mosaic floor, oak dado and walls, and ceiling tinted in oil-colors; the toilet-rooms attached are finished with oak and marble, the floors being of mosaic.

The harness-room is fitted with harness cases on three sides inclosed with sliding glazed doors; the floor is of white maple. In the centre of this room stands a convenient form of sink supplied with hot and cold water. The ceiling of harness-room is formed by glass floor of the second story, over which is a large skylight. The carriage-room walls are sheathed 6 feet high with white maple, and plastered walls and the ceiling are tinted in light oil-color. At one side of the carriage-room is the washing-floor made of a single slab of North River flagging stone, 11′ x 14′, dished towards and drained from the centre. The wall at one side of washing-floor is lined with Knoxville marble and the water-trough is of a block of Milford pink granite. Hot and cold water are supplied to trough and an overhead revolving carriage-washer is fixed above washing floor. At one side of the room is a large blanket-locker fitted with shelves and with case of drawers; at the other side of the room is the carriage-elevator of improved design. The floor of carriage-room is unobstructed by columns, a steel girder with a span of 33 feet supporting the floors and roof above.

The stall-room including the walls and ceiling is finished in lightest colored white maple and contains eleven box-stalls, averaging 9′ x 11′ in size, water-trough, closets for tools, medicine-locker and grain-closet. The stall-room is abundantly lighted, having, besides the large windows, a skylight 30 feet long fitted with sliding ceiling-sashes, giving ventilation through a monitor skylight on roof.

The under floors of stalls are built of concrete and iron resting on the foundation walls. The upper floor of stalls is of maple and, with exception of a tight border about 18 inches wide, is an open rack over a dished basin of Portland-cement concrete; the racks being folded back, the floor of basin can be cleaned and then thoroughly flushed with water supplied through perforated brass pipes, fixed in pocket between concrete and wooden floors, the flushing-pipes being operated independently for each stall. Drainage from centre of each stall basin is carried away by vitrified earthenware pipes encased in Portland cement concrete. The stall doors slide through the iron posts into pockets in stall partitions and doors are so hung that no accident can throw them from the tracks. The lower panels of stall doors are fitted with gratings to allow thorough ventilation of stalls. No hay-racks are used in stalls and flush-sockets in partitions receive aluminium composition feed-boxes at meal-times. The stall-room is at all times supplied with fresh air through a fresh-air duct, 20″ in diameter, fitted with a stack of radiators just sufficient to take chill from the air in winter, and foul air is exhausted through a large shaft heated by smoke-flue of hot-water heater.

The second story contains besides a tenement for the head coachman, harness and carriage storage-rooms and hay-loft, the latter fitted with large grain-bins of galvanized-iron.

The building is lighted by gas and electricity, and warmed by a hot-water heater placed in a small water-tight cellar, the grade of the lot being so low that cellar floor is at all times from 3 to 4 feet below level of water in the soil.

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

STABLE FOR EBEN D. JORDAN, ESQ., CHILTONVILLE, MASS. MESSRS. WHEELWRIGHT & HAVEN, ARCHITECTS.

RESTORATION OF SGRAFFITO WORK CREDITED TO PIERINO DEL VAGA. NOS. 39-40 VIA. TORDINONA, ROME.

A GROUP OF ORIELS.

[**Additional Illustrations in the International Edition.**]

PULPIT IN THE SCHLOSSKAPELLE, ASCHAFFENBURG, BAVARIA.

[Gelatine Print.]

THE pulpit in the castle chapel is of a fine-grained clear greenish sandstone, the reliefs and figures about the base and on the pulpit front, as well as the cherub's heads, are of alabaster and white marble. Above and below the reliefs in the frieze are bands of grayish-red marble. The reliefs show, in free and artistic handling, SS. Gregory, Ambrose, Augustine and Jerome. The figures in the round between the reliefs represent the Four Evangelists and the Apostles Peter and Paul. The figures about the base show Moses, David and the heavy figure of a youth. All the carving about the pulpit itself is executed with extreme fineness. The uninteresting sounding-board above with its formless supporting eagle is executed in wood and is of much later date than the pulpit itself.

ENTRANCE TO SPIRAL STAIRCASE OF THE SCHLOSS AT ASCHAFFENBURG, BAVARIA.

[Gelatine Print.]

THE JOHN BOYLE O'REILLY MONUMENT, BOSTON, MASS. MR. DANIEL C. FRENCH, SCULPTOR, NEW YORK, N. Y.; MESSRS. WALKER & KIMBALL, ARCHITECTS, BOSTON, MASS.

[Gelatine Print.]

THIS view shows the obverse of the monument as it is seen by one entering the Back Bay Fens from Boylston Street.

DESIGN FOR A TRIUMPHAL BRIDGE OVER THE SEINE. M. EDOUARD BÉRARD, ARCHITECT.

THESE illustrations are copied from *L'Architecture.*

DETAILS OF METAL WORK: BANK OF SCOTLAND, BISHOPSGATE, LONDON, ENG. MR. W. W. GUYTHER, ARCHITECT.

THIS plate is copied from the *Builder.*

RESTORATION OF THE TOWN-HALL, TÜBINGEN, WÜRTEMBERG.

THIS plate is copied from *Architektonische Rundschau.*

SECOND PREMIATED DESIGN FOR THE PRESBYTERIAN THEOLOGICAL COLLEGE, CAMBRIDGE, ENG. MESSRS. SETH-SMITH & JENNINGS, ASSOCIATED ARCHITECTS.

THIS illustration is copied from the *Building News.*

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.*]

A CORRECTION: THE U. S. CAPITOL.

WASHINGTON, D. C., November 5, 1896.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—Figure 54 in article, "History of the United States Capitol, No. VIII," has the eastern view of Capitol inserted instead of western, which shows Bulfinch's portico.

Yours truly, GLENN BROWN.

NOTES AND CLIPPINGS

A CARLYLE ANECDOTE.—A Scotch visitor to the Carlyles in Cheyne Row was much struck with the sound-proof room which the sage had contrived for himself in the attic, lighted from the top, and where no sight or sound from outside could penetrate. "My certes, this is fine," cried the old friend, with unconscious sarcasm. "Here ye may write and study all the rest of your life, and no human being be one bit the wiser."—*Household Words.*

ANCIENT CLOCK.—The ancient City of Rouen, France, owns the very earliest specimen of the larger varieties of the ancient clock-makers' triumphs. It was made by Jehan de Felains, and was finished and set going in September, 1389. So perfect in construction is this ancient time-recording machine that, although it has been regularly striking the hours, halves and quarters for more than five hundred years, it is still used as a regulator. The case of this early horological oddity is 6 feet 8 inches in height by 5 inches broad. For three hundred and twenty-five years it continued to run without a pendulum, being provided with what the old-time clock-makers called a "foliot."—*The Churchman.*

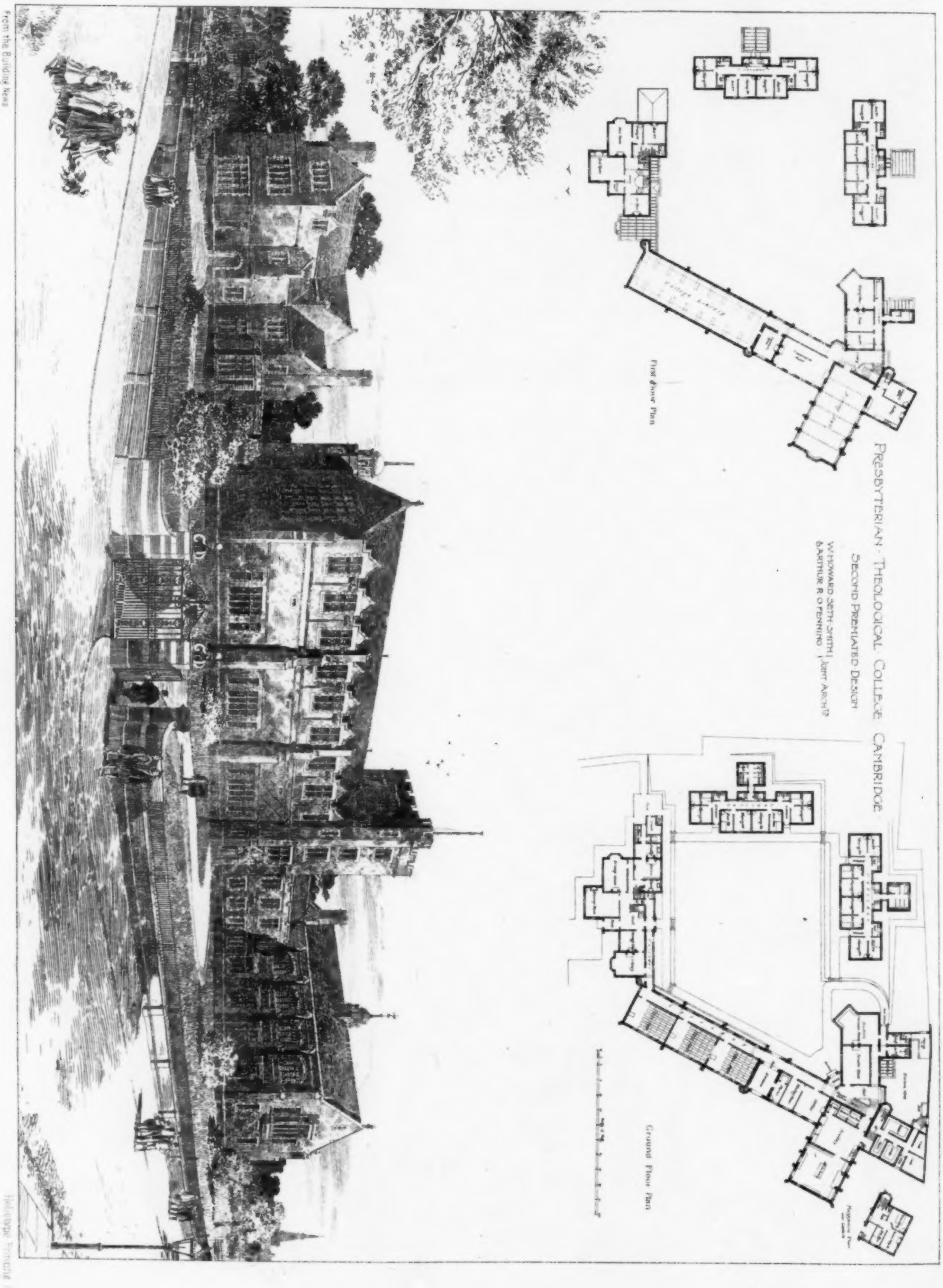
IRON PIERCED BY HAILSTONES.—One is justified in many cases in giving only a tentative belief to many of the big hailstone tales over which some travellers delight to spread themselves, says the *St. James's Budget.* A correspondent in Dholi, Behar, however, sends the indubitable proof of photographs to quite convince us and our readers of the terrible nature of the hailstorm which occurred in his district recently. The storm passed over the greater part of the districts of Mozufferpore and Durbungah, but it appears to have concentrated itself with special fury over the indigo factory called Dholi. Here the storm was terrific, even for tropical regions, the hailstones weighing as much as five ounces. On an average they were as large, if not larger, than cricket balls. It can be easily understood that the damage done was great. Not a whole tile was to be found in the roofs, trees were uprooted, birds were killed, and general destruction wrought all round. What is more astounding, the corrugated iron roofing over many of the factory buildings was riddled as if it had been shelled by a battery. We can quite imagine, as our correspondent informs us, that no storm like it has ever occurred in the district. Hailstones have, however, had the same terrific force in Africa, a sample of corrugated iron pierced in a like manner having been recently shown in London.—*Scientific American.*

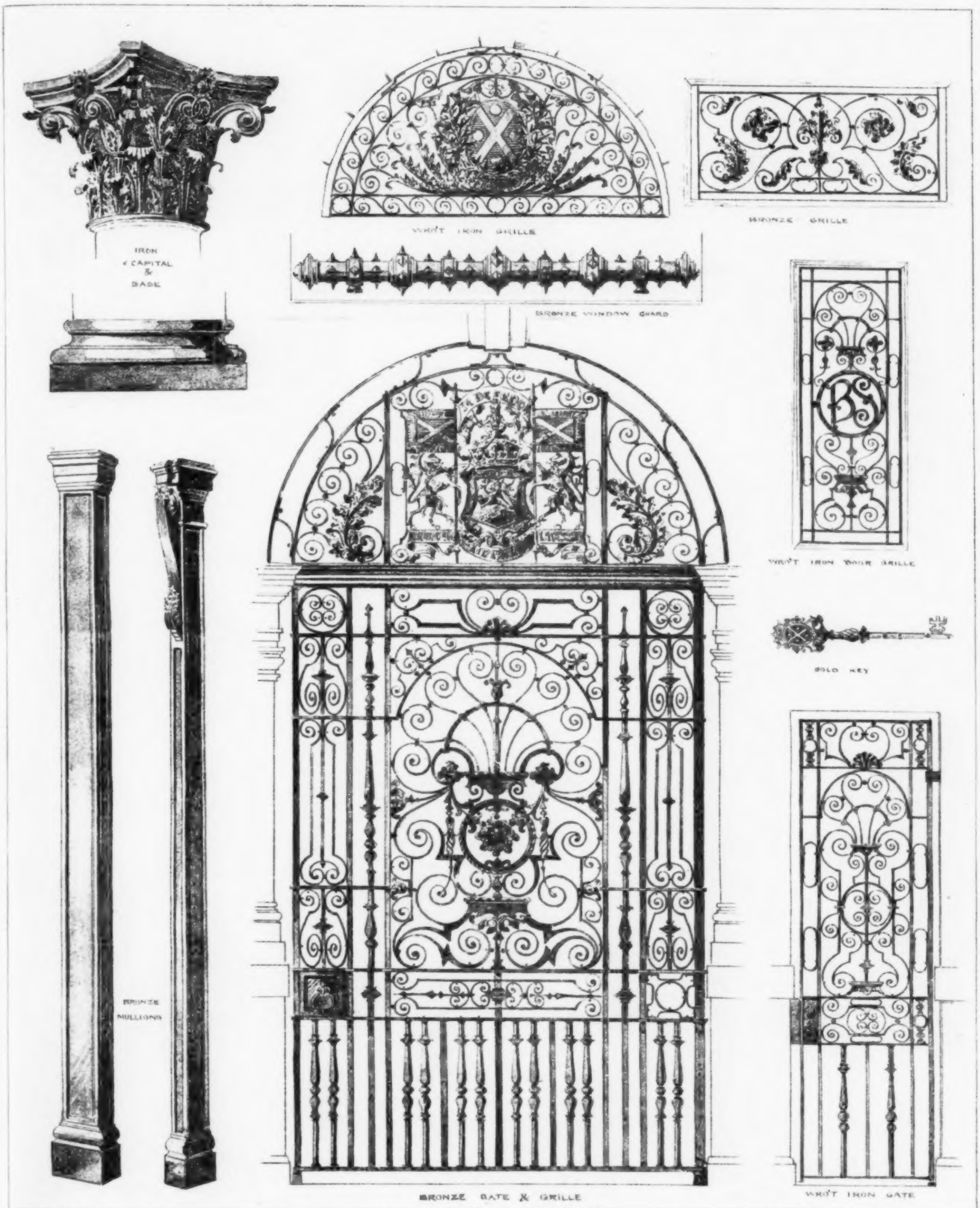
S. J. PARKHILL & Co., Printers, Boston, U. S. A.

From Architektonische Rundschau

Heliotype Printing Co. Boston

Restauration des Rathauses zu Tübingen; entworfen von Professor C. Dollinger in Stuttgart, ausgeführt vom † Maler L. Lesker.

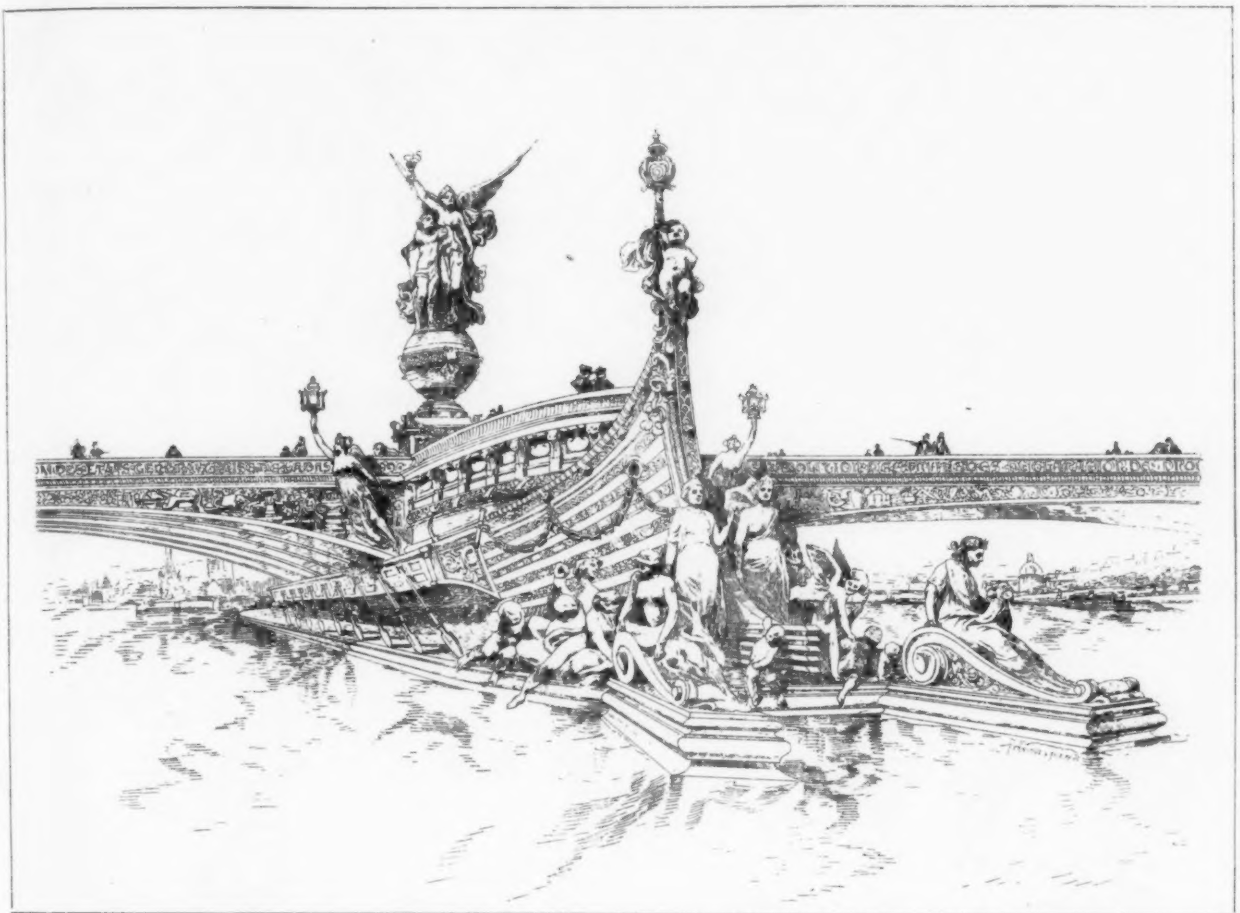

Presbyterian · Theological College Cambridge
Second Premiated Design
W. Howard Seth-Smith & Arthur R. O'Penning | Joint Archts
First Floor Plan
Ground Floor Plan
From the Building News
Heliotype Printing Co. Boston



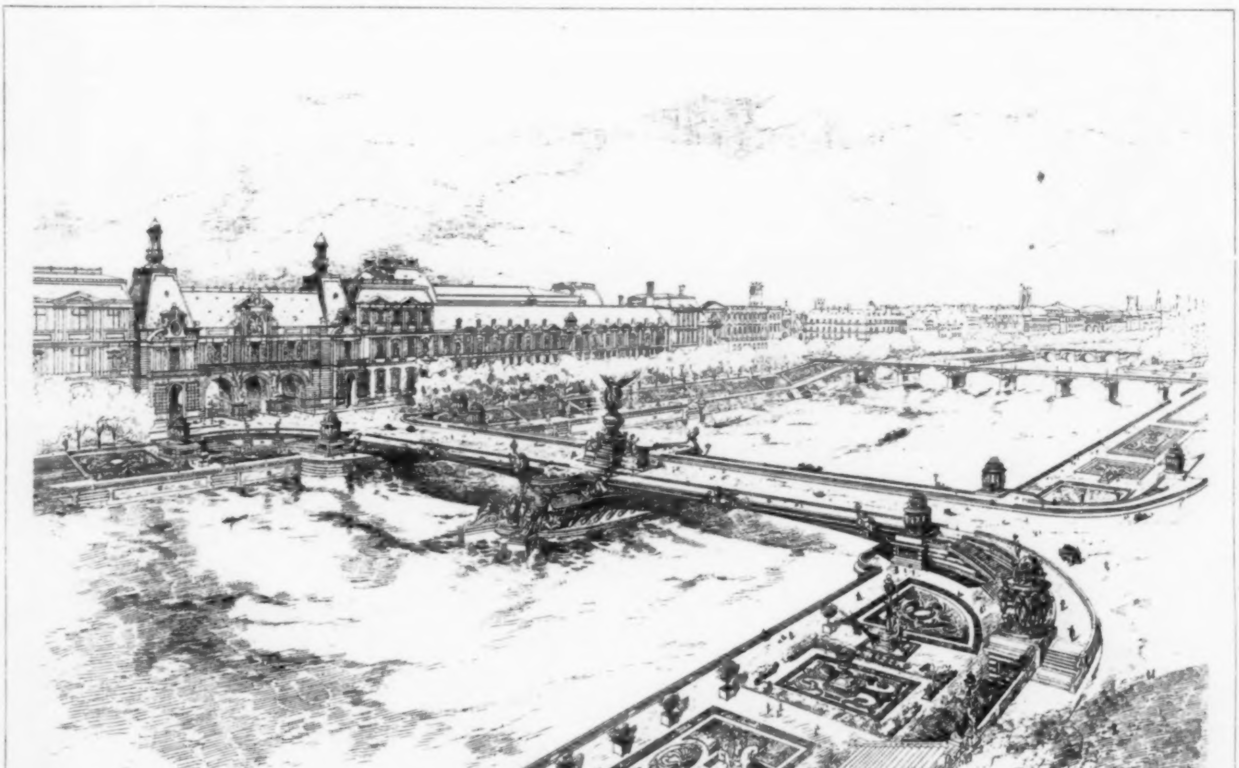
From the Builder

Heliotype Printing Co. Boston

BANK OF SCOTLAND, BISHOPSGATE: DETAILS OF METAL WORK.
Executed by Messrs. Hardman, Powell & Co., under the direction of
The Architect, Mr. W. W. Gwyther, F.R.I.B.A.



PROJET DE PONT TRIOMPHAL SUR LA SEINE, A PARIS, EN FACE DES ENTRÉES DE LA PLACE DU CARROUSEL. — Architecte : M. Édouard BÉRARD.
Décoration de la pile à l'aval.



From L'Architecture

PROJET DE PONT TRIOMPHAL SUR LA SEINE, EN FACE DES ENTRÉES DE LA PLACE DU CARROUSEL. — Architecte : Édouard BÉRARD.
Vue perspective de l'ensemble.

Heliotype Printing Co. Boston

THE JOHN BOYLE O'REILLY MONUMENT, BACK BAY FENS, BOSTON, MASS.

DANIEL C. FRENCH, Sculptor. WALKER & KIMBALL, Architects.

The American Architect and Building News, November 14, 1896. No. 1090.

THE JOHN BOYLE O'REILLY MONUMENT, BACK BAY FENS, BOSTON, MASS.

DANIEL C. FRENCH, Sculptor. WALKER & KIMBALL, Architects.

THE HELIOTYPE PRINTING CO., BOSTON

DANIEL C. FRENCH, Sculptor. WALKER & KIMBALL, Architects.

THE JOHN BOYLE O'REILLY MONUMENT, BACK BAY FENS, BOSTON, MASS.

DANIEL C. FRENCH, Sculptor. WALKER & KIMBALL, Architects.

THE HELIOTYPE PRINTING CO., BOSTON

Blätter für Architektur

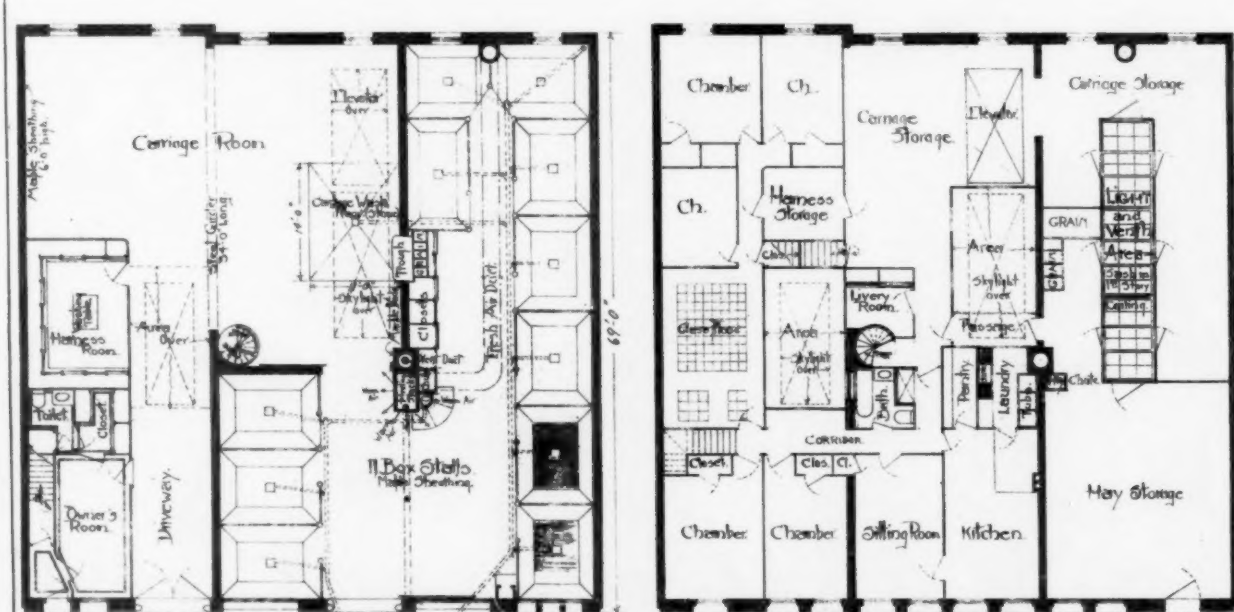
Neumann & Co., Berlin.

Pulpit in the Schlosskapelle, Aschaffenburg, Bavaria.

Blätter für Architektur

Neumann & Co., Berlin.

Entrance from Courtyard to one of the Spiral Staircases of the Schloss at Aschaffenburg, Bavaria.

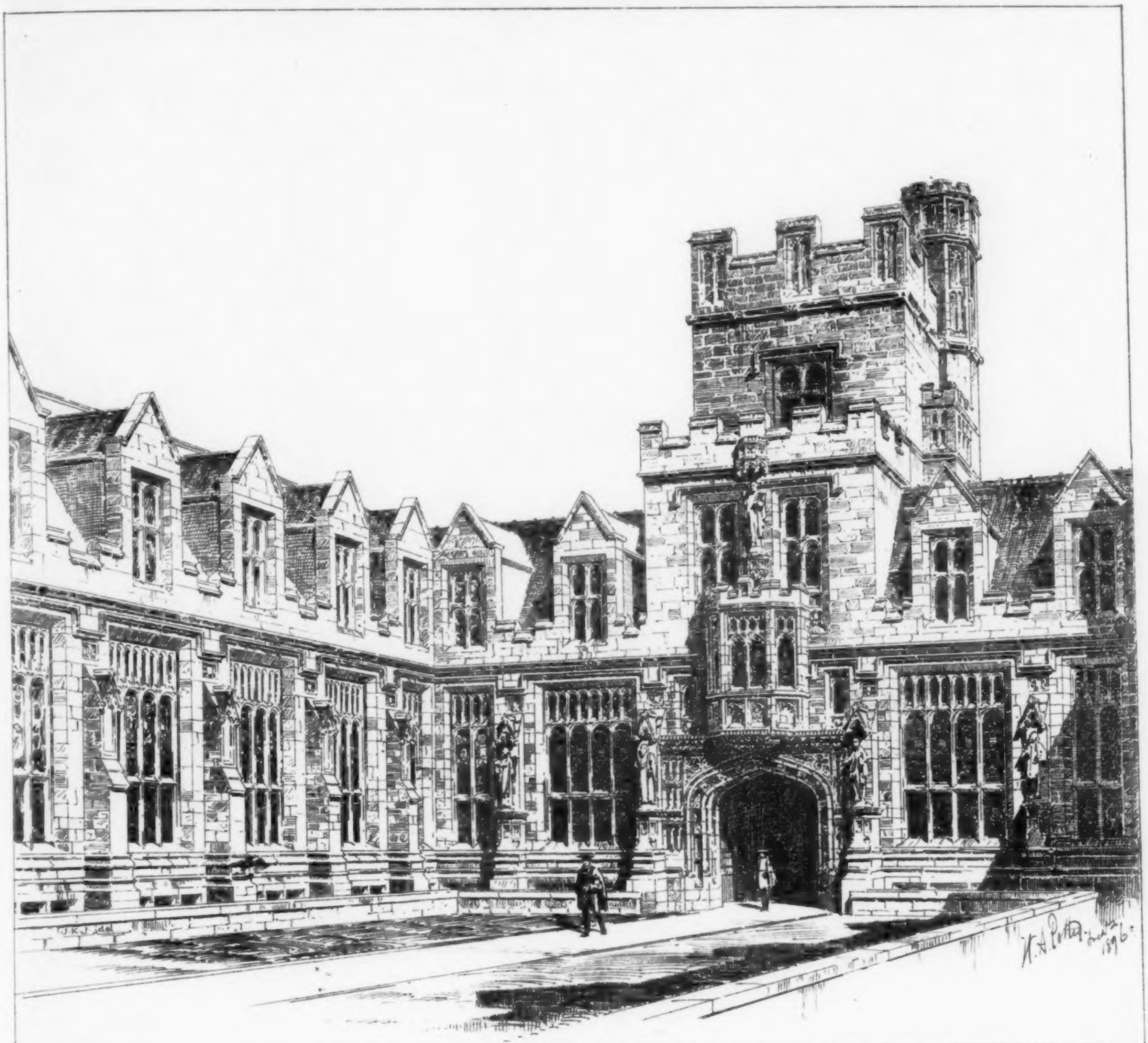


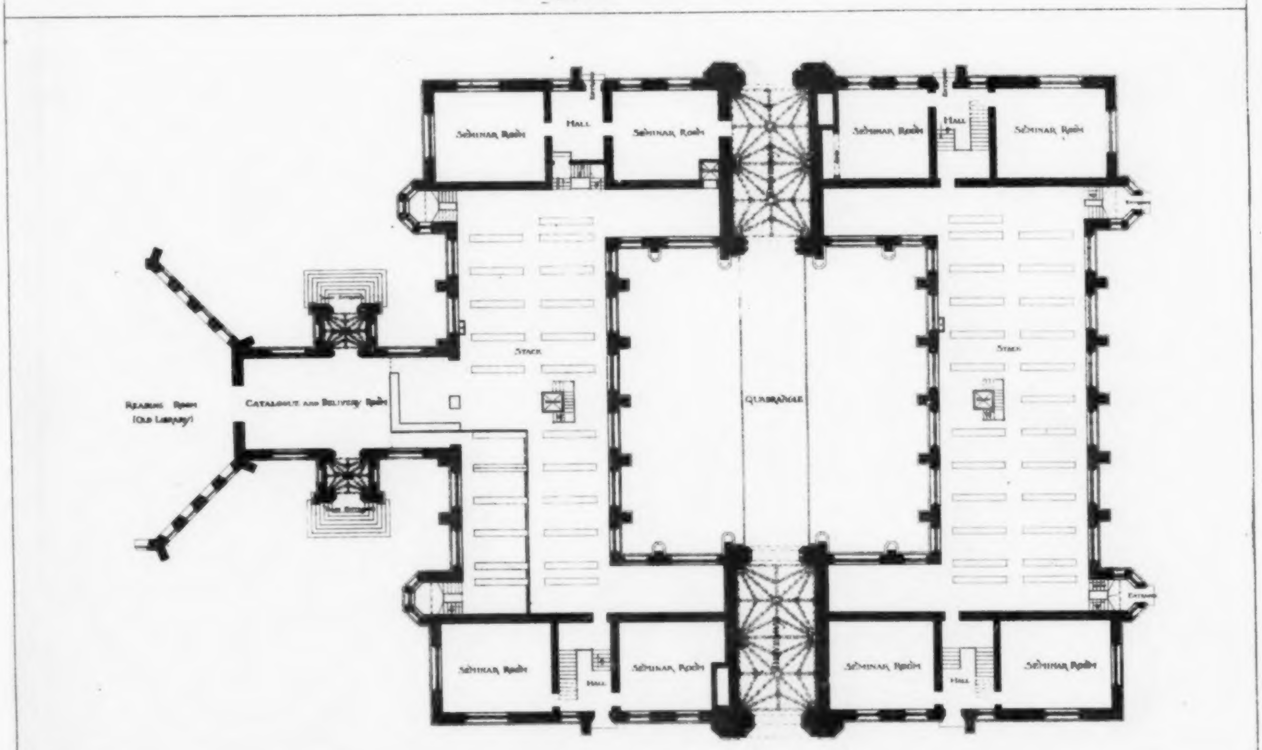
Plans of Stable for Mr Geo. C. Hall
11-12-13 Byron St. Boston, Mass.
Wm. Whitney Lewis, Archt.

0 1 2 3 4 5 10 15 20 Feet.
Scale.

Heliotype Printing Co. Boston

AMERICAN ARCHITECT AND BUILDING NEWS, Nov. 14 1896. No. 1090.





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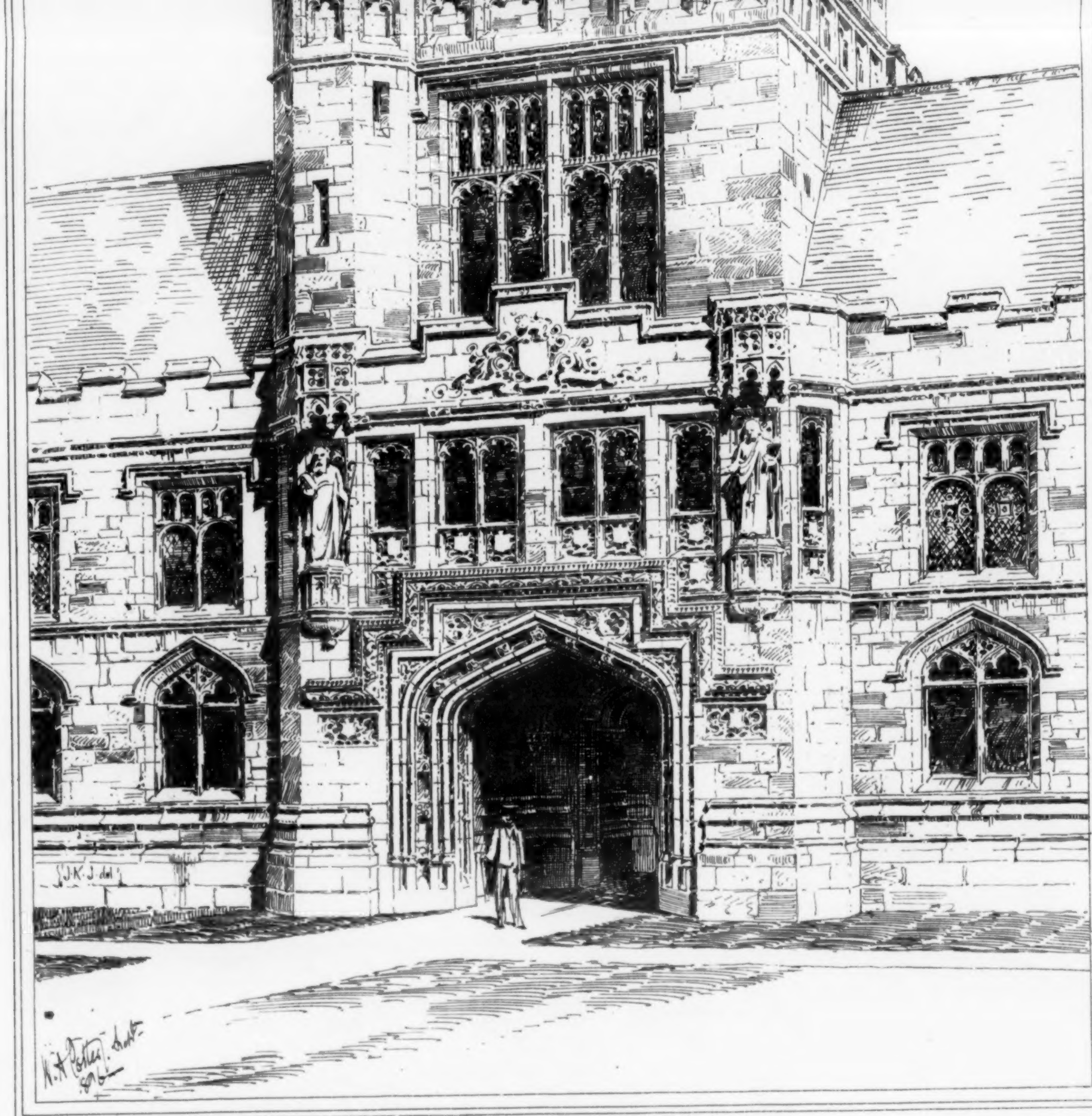
COURT-YARD FRONT OF THE STACK BUILDING FOR PRINCETON UNIVERSITY, PRINCETON, N. J.

WILLIAM A. POTTER, Architect.



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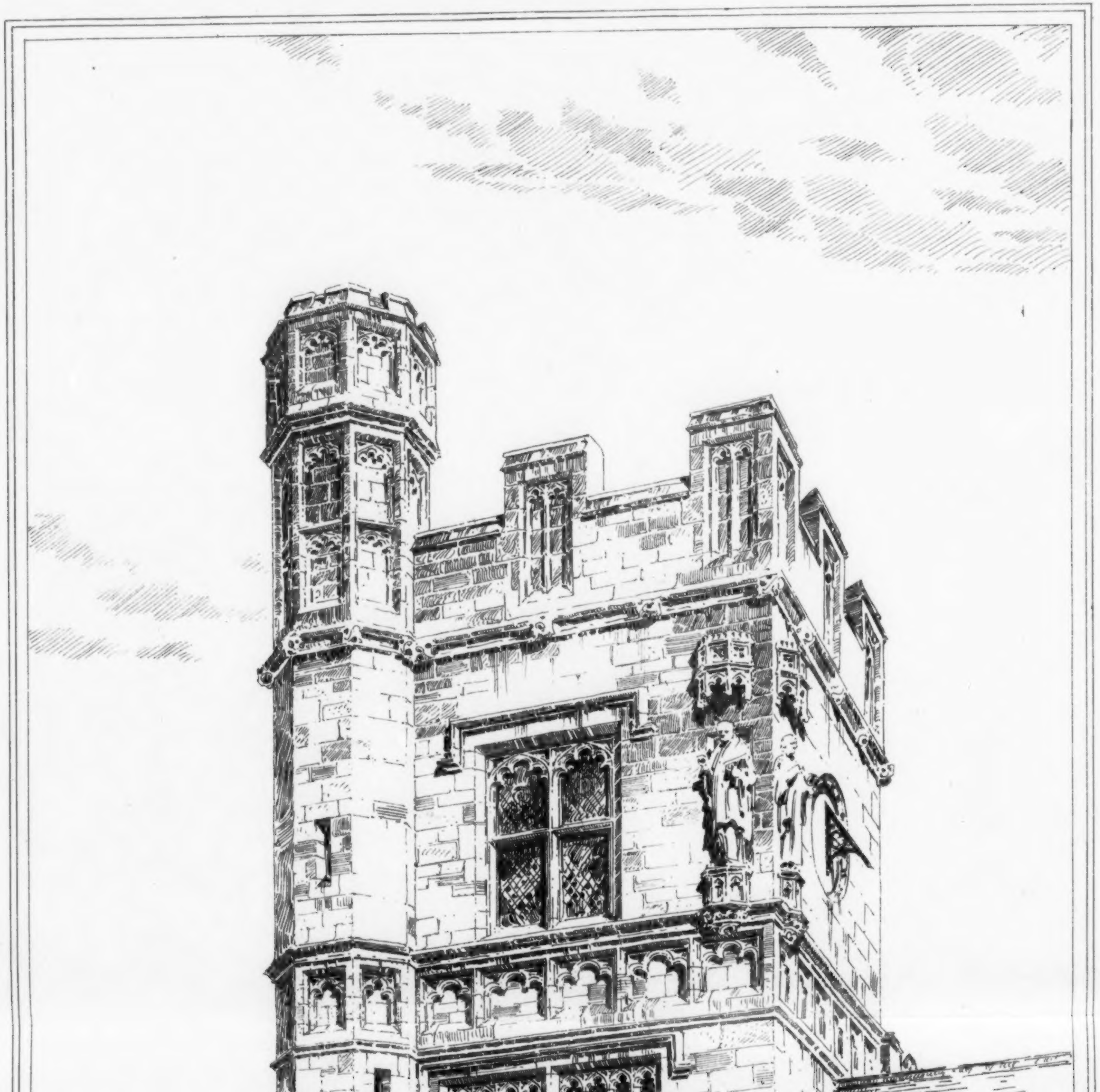
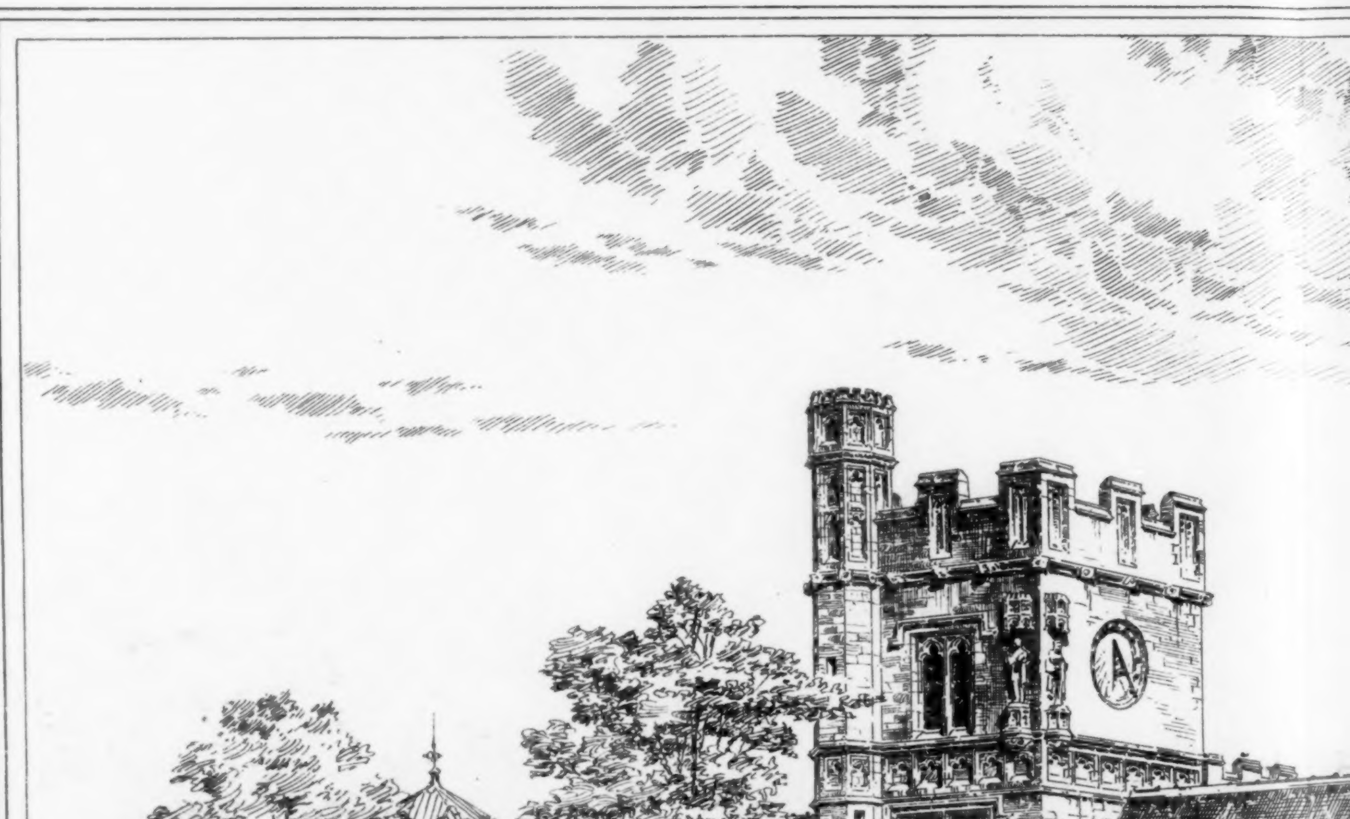
ENTRANCE TOWER OF

THE STACK BUILDING FOR PRINCETON UNIVERSITY, PRINCETON, N. J.



AMERICAN ARCHITECT AND BUIL



THE STACK BUILDING FOR PRINCETON

WILLIAM A. POTTER

Heliotype Printing Co. Boston

PRINCETON UNIVERSITY, PRINCETON, N. J.

…AM A. POTTER, ARCHITECT.