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Tile, Grate and Mantel Association of New York sued for ruining a Tile-layer.—Mr. J. P. Putnam's Advocacy of Coöperative Building by Mechanics.—The Attitude of the Labor Unions toward any such Endeavor.—Boston as an Early Seaport.—Its Decline owing to the Present Navigation Laws.—Its Reincarnation through the Agency of Western Railroads.—Domestic Architecture in Belgium.—New Bridge between Boston and Cambridge.	97
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A CASE of great importance is now before the New York Supreme Court. One Kiernan, a contracting tile-layer, sues the Tile, Grate and Mantel Association of New York for twenty-five thousand dollars' damages for having destroyed his business, and ruined him, by refusing to sell him materials, as he was not a member of the Association, or of some other body in league with the Association. The constitution and by-laws of the Tile, Grate and Mantel Association were put in as evidence, and clearly showed that any member who sold materials to an outsider was liable to expulsion. Kiernan proved that he was doing a thriving business until the Association refused to sell him materials and that after that time he had done almost no work; so that the connection between the action of the Association and his ruin was established, and the question, whether the Association, or any similar body, was entitled to take such action against any person, came definitely before the Court. It is well known that the dealers in plumbing goods have long pursued a similar policy in regard to the Plumbers' Association, in New York and elsewhere, and, more recently, the American Tin-Plate Association has combined with the steel-plate manufacturers in exactly the same way, to ruin tin-plate makers outside its own ranks; so that the decision in the Kiernan case will bring relief or despair to a great number of victims of the Trusts in New York, and probably elsewhere, since New York decisions have great importance as precedents all over the country.

MR. J. PICKERING PUTNAM, who is well known in the profession as a person with interesting ideas on many subjects, recently read a paper before the Twentieth Century Club, in Boston, describing a scheme for erecting buildings by coöperative effort on the part of skilled mechanics. According to his plan, foremen should be permanently employed, under whom men temporarily out of work should be permitted to labor on buildings to be owned by the persons erecting them. Each man working in this way would be paid by a check, representing the number of hours he had spent on the enterprise, and this check would entitle him to a corresponding share in it. At first, he would have to wait until the building was completed and sold before he could realize cash for his check, unless, indeed, he could find some one to discount it; but, as such coöperative enterprises multiplied, they would naturally receive from their sales an income, which could be used for cashing the labor checks on presentation. Mr. Putnam, after describing this ingenious and interesting scheme, said that he looked to the trades-unions as the most efficient supporters of such a movement, and thought that it

would be desirable to have the privilege of working in this way limited to members of the unions.

WHILE we have long thought that the construction of buildings offered a very promising field for coöperative effort, we cannot say that we anticipate much from the trades-unions in the way of the development of Mr. Putnam's system. At present the tendency of the unions is unquestionably to discourage independence and individual effort, and to cultivate in workmen the idea that they are somehow benefited by making their working days as short, and the amount to be accomplished in them as small, as the public will endure. Now, no one ever yet heard of an undertaking, either coöperative or otherwise, which was successfully carried through by people who gave to it only a feeble attention for a third part of their time, and it is hardly credible that the earnest thought, the energy and industry, which alone make success in business possible, should suddenly find favor among organizations which claim, as their cardinal principle, that each member should be compelled to devote half of his waking hours to "recreation," and that, in the other half, he should be required, by severe penalties, to do only about half as much work as can easily be accomplished by any man of energy and ambition. While we think, therefore, with Mr. Putnam, that coöperation in industrial enterprises will furnish the solution of many of the most threatening social problems of the present day, we are so far from looking to the trades-unions for guidance in such a direction that we expect rather to see the first coöperative associations of building workmen guarded by troops against the assaults of desperate, but dying, trades-unionism. We are not fond of making predictions, but it must some time occur to the younger and more independent sort of workmen that there would be great profit to a small body of skilled mechanics, who could get together a little capital, in carrying out building operations with long hours, unrestricted activity, and an intelligence and mutual helpfulness stimulated by the knowledge that a display of these qualities would count in dollars and cents, in competition with eight-hour days, limited output of work, mutual jealousy, and the general reluctance and discord which are so carefully cultivated by the unions. Architects have a good opportunity for watching workmen, and they would probably agree that if all the labor in building operations could be performed by men as active and intelligent as the best of those they know, working as many hours in the day as the architects themselves work, and with a mutual understanding which would preclude mistakes and misfits, it could, as a rule, be completed in half the time ordinarily devoted to it. In most building operations, the labor is at least half of the total cost, and a saving of half the time spent would mean, not only a profit of twenty-five per cent on the whole cost of the building, but an additional profit, often nearly as large, in the saving of rents, interest and insurance. Supposing twenty men, of all trades, to carry out in this way a hundred thousand dollars' worth of building in a year, which is by no means an extravagant estimate, each should have, at the end of the year, besides the regular wages, a dividend of twelve hundred and fifty dollars, and possibly much more. It is doubtful whether the income of the average union-carpenter or mason, taking one year with another, is, in our large cities, more than six or seven hundred dollars a year, and, as the coöperative companies could underbid any of the contractors who employed union men, and their members would therefore be sure of employment, the new system, if carried out with reasonable honesty and intelligence, should offer to good men an income two or three times as great as anything they could hope for under union rules. As we have already said, the introduction of this method of selling skilled labor would probably be resisted to the utmost by the unions, and by all the social philosophers who delight to separate workmen from the rest of mankind; but it has been successfully tried in other industries, and we believe that it will, sooner or later, be tried in the building industry, for which it offers peculiar advantages.

IT has long been a question of interest whether Boston would ever become, or could be made, a great seaport, perhaps rivaling New York in its foreign commerce. Two hundred years ago, although the foreign trade of the American colonies was still limited, Boston was the most important ship-building

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seaport in the world. Legislation, to which commercial interests are peculiarly sensitive, made Boston ship-building unprofitable, and the port declined. After the Revolution, a few intelligent and determined ship-owners in Salem succeeded in establishing a foreign connection for that port, and for many years the commerce of Salem exceeded that of Boston. Fifty or sixty years ago, Boston, which had become an important city, and the centre of a large manufacturing community, began to draw from Salem its foreign trade also, and many of the Salem merchants, whose ships had brought to their doors goods from India, China and Southern Africa, found it advisable to remove their counting-houses to Boston, and they followed, soon afterwards, with their families, establishing a little circle which even now, in the second or third generation from the original emigrants, prides itself on its Salem connection.

THE Civil War came, and with it the navigation laws which drove all American shipping from the ocean; and grass grew on the silent wharves which had recently been crowded with the swiftest, the best built and the best manned vessels that have ever sailed the sea, while the navigators who had carried the American flag to every port in the world, and who had too much professional pride to stoop to steering coasters from light-house to light-house along the New England shore, retired to their native Cape Cod villages, and devoted their time to raising hens and reading the newspapers. Some of the best wharf property was sold for trifling sums, and utilized for storage, or other unnautical purposes; while ferries, excursion steamers and coastwise lines occupied the rest. The Cunard Steamship Company, to which Boston owes a debt of gratitude, established and maintained, often, probably, at a loss, a line of steamships to Liverpool, but it was for years difficult to dispose of cargoes from England, and still more so to get return cargoes, and for a time, if we are not mistaken, even the Cunard service was discontinued, and no vessels bound to foreign ports left the harbor of Boston except an occasional "tramp" steamer, or a sailing-ship chartered by some patriotic Bostonian out of sentiment, rather than with hope of profit. It is said, however, that every steamship line which has ever been established to carry goods between England and America has at first selected Boston for its port on the American side, on account of its obvious geographical advantages, in being half a day's sail nearer Europe than New York, and in having railway connection directly from the wharves to every part of the continent, as well as on account of the straight, deep channel and sheltered harbor which the charts showed that it possessed; and, even when experience showed that Boston afforded only the most antiquated and ridiculous facilities for landing cargo, and that nothing was known there of the system by which, in more enterprising seaports, great houses receive whole cargoes from steamships, distribute them, and supply return cargoes, the owners of the new lines reluctantly changed their destination to New York. A few years ago, apparently through the provision, by some rich men of discernment, of facilities for loading grain directly from the cars into vessels, a sudden impetus was given to Boston's foreign commerce, and the Cunard fleet was increased, while two or three new lines were established. With these and the tramp-steamers, the harbor, on sailing days, began to assume a more cheerful appearance, and ten ocean-steamers are said sometimes to leave Boston in a day.

NOW, further changes are said to be impending, and Boston may some time be surprised to find itself as famous for the foreign shipping which it entertains as it once was for its fleet of American clippers. The passing of the railway lines terminating in Boston into the hands of the owners of their Western connections has made it easy to arrange for through shipments of freight and passengers to and from the wharves to any part of North America, and this advantage, combined with a depth of water in the harbor which even Liverpool does not possess, seems to have led the railway managers to devise a promising plan for increasing the value of their newly acquired property by developing still more the foreign commerce of the city. A large extent of deep-water frontage, directly connected with the tracks of the Boston & Albany and other railroads, has been secured, and is ready to be put to use at any time; and the attempt, once made by the Cunard Company, but abandoned in consequence of the loss of its swiftest steamer, to attract passenger travel to the Boston route, is likely to be repeated, the Cunard Company having, it is said, two of the finest and fastest steamships in the world under con-

struction to be put in service on the Boston line next summer, while some comfortable, though not very swift, passenger-steamers have been put on two of the other Boston lines, and have proved so popular and profitable that others are likely to be added. As the distance from Chicago to Boston, by the great Vanderbilt railway lines, is only about fifty miles longer than from Chicago to New York, and as Boston is one hundred and eighty miles nearer than New York to Liverpool or Queenstown, it is certainly desirable for a traveller from the West, if he can find as good and swift steamers at Boston as at New York, to embark at the former city for his ocean trip; and, as all the railroads entering Boston can easily run passenger-cars alongside the steamers, as is done at Liverpool, Cherbourg and other foreign ports, the expense and annoyance of transporting passengers and baggage across the city, which forms an important item in the experience of a family sailing from New York, can be avoided. In fact, this can be done better, perhaps, in Boston than at any port in the world, for at Liverpool and Cherbourg it is generally necessary to transfer passengers and their baggage to the landing by tenders, while the water in Boston harbor is so deep that the largest vessels go directly to their wharves at any tide. Any person who has conducted a tired family and a pile of trunks from the railway-station in New York to a hotel, and has risen at day-break the next morning to get them all moved a second time from the hotel to the steamer, can appreciate the luxury of being conveyed by the railway to the wharf, and of seeing their trunks taken from the baggage-car directly on board the steamer, leaving the members of the family with nothing to do but enjoy the change; and when Boston can offer this luxury, in connection with a service of swift and first-class steamships, she may be sure of preference in passenger business.

LE MONDE MODERNE for December has an interesting article on "Domestic Architecture in Belgium," which might furnish hints to many of our architects. All the cities of Belgium resemble our own Philadelphia in being filled with single dwellings, rather than tenement-houses. The Belgian is passionately devoted to his family and his home. He hates, like Dante, to climb other people's stairs, and his ideal, from the time that he is old enough to have any ideals, is to have a pleasant little house all to himself. As property is quite evenly distributed in Belgium, few people being either very rich or very poor, most fathers of families are able either to own or to rent such houses, and they are often made very attractive. In Ghent, the "city of Flora," as the Belgians call it, many of the houses have little conservatories attached to them, in which bloom the Indian azaleas and double fuchsias for which Ghent is famous. In Brussels, where land is more valuable than in the provincial towns, it was thought, some years ago, that considerations of economy and convenience would attract tenants to well-planned apartment-houses, and several were built near the centre of the city, and fitted with elevators and other modern appliances; but the native Belgians would have nothing to do with them, and such tenants as have been found for them have nearly all been foreigners. This experiment seems to have decided the future of the city, and since then new suburbs have been laid out in all directions, and have filled up rapidly with houses, the inhabitants of which reach their business in the old part of the town by innumerable tram-cars and omnibuses. By a fortunate concession to the views of instructed persons, the new suburban streets are generally laid out with great taste, curved lines alternating with straight ones, and very long streets being avoided; and the architects have supplemented this favorable disposition by a remarkable display of varied and attractive domestic work. Few of the houses in these new suburbs are very costly, and, owing to the value of the land, they are built in blocks, with narrow fronts, generally of red brick, but this modest material is managed with great skill, and it would be hard to find prettier city fronts, of small size, than some which *Le Monde Moderne* illustrates.

THE new bridge which is to connect Boston with Cambridge has been designed with a view to artistic effect, and, if the present plans are carried out, as is probable, the structure will be not only interesting, but creditable to both cities. According to the newspaper descriptions, the bridge is to be adorned with two light-houses near the middle, and two towers at the ends. Fortunately, the total length is considerable, so that this rather liberal allowance of features ought not to give a crowded look; and the light-houses will be of use in showing the channel for inward and outward bound vessels.

CROYDON PALACE.



Poppy-head in Chapel,
with Arms of Laud
and Canterbury.

WITHIN the vast circle of "Greater London" there are few places more historic than Croydon. Its name originally *Croindene*, a manor mentioned in Domesday Book as held by Archbishop Lanfranc, it has remained associated with the primates down to a very recent period; their ancient palace, with its principal rooms still intact, stands at one extremity of the old town, and the main street retains not a little of an Old World character, with red-brick fronts and tiled roofs, mellow with age. So lately as the first few years of this century the popular pronunciation was *Craydon*—said to be derived from *craie*, chalk, and *dun*, a hill; but it is more probably an illustration of the convertibility of vowel-sounds in our Saxon speech: it is not so many years since Tottenham Cross was spelled Tattenham Crass.

The main street of the ancient town of Croydon is built along a small ridge; its ancient houses also run down another picturesque winding street to the Palace and Parish Church: new Croydon is on the higher ground beyond it. Eastward are the Addington Hills, and at the village is the modern residence of the archbishop of Canterbury; in the beautiful park is the little church, where two of the primates lie buried; in the churchyard three more, Sumner, Langley and Tait, and "Catherine and Crawford Tait—mother and son"—as the simple gravestone tells us.

Charcoal-burning was the ancient industry of the place, "the Colliers of Croydon" figuring in several old English plays.

As the primates were settled here at the conquest, there must have been a manor-house; but no trace of it exists. Kilwardly was the first of whose residence there is any record; after his time the references are many to the subject in such writings as remain, but especially in the Archiepiscopal Registers at Lambeth. Courtenay received the pall in the Great Hall on the 14th of May, 1382; this ornament, a strip of ermine worn over the shoulders, still figures in the arms of the See of Canterbury, where it looks like a capital Y. Arundel is supposed to have built the Withdrawing Room; Cranmer is known to have repaired the building. In fact, Catholic and Protestant associations cluster equally about it, for Ridley and Latimer officiated in the Chapel, while John Frith, the martyr, afterwards burned at the stake in Smithfield, was brought here on his way to trial and rested for a night in the porter's lodge.

A beautiful and interesting figure in its history is the captive King of Scotland, James I: taken prisoner in his childhood, he passed many years in England, and a considerable portion of them in this Palace, where he was entrusted to the guardianship of Archbishop Arundel. It was at Croydon he signed "a deed of general confirmation" to Sir William Douglas of Drumlanrig.

Queen Elizabeth was often here on visits to Archbishops Matthew Parker and Whitgift. The former had been chaplain to her mother, Anne Boleyn, and will always be remembered for "the Bishops' Bible."

The great Perpendicular Church, almost destroyed by fire years ago and rebuilt under the superintendence of Sir George Gilbert Scott, contains the tombs of several archbishops, the finest, Jacobean in style, being that of Whitgift; a sarcophagus with a recumbent effigy of the primate in his robes, with hands joined in prayer. It is of painted marble—a device of which our ancestors were exceedingly fond, as almost every one of our old churches bears witness—the face and hands, exquisitely modelled, are of actual flesh color, the latter very delicate; the shields of the Sees of Canterbury, Worcester and Lincoln, and of three colleges of Cambridge, Trinity, Pembroke and Peterhouse, are introduced, blazoned in their respective colors.

In accordance with old-fashioned ideas, the site chosen for the Archiepiscopal Palace is in the lowest depression that can be found for some miles around; a spot where the Wandle formed several streams and one or two wide sheets of water, one of them known as "My Lord's Pond." All these have now disappeared; the little stream flows in a conduit underground; the land has been thoroughly drained, and rows of small new villas in yellow brick have approached

it in lines like an army. Yet it is still a pleasant spot, quiet, overshadowed by the vast pile of the Parish Church, and leafy with many trees. The Great Hall, 56' x 38', is a noble structure of stone, with elaborate Perpendicular openwork roof; the chapel still retains the gallery where Elizabeth sat; there is a withdrawing-room and a music-gallery, besides some curious little Gothic courts and offices. The Old World air and flavor of the place are enhanced by the undoubtedly authentic entrance to a vaulted passage leading underground to Beddington, a mile-and-a-half away. Local tradition has it that Queen Elizabeth told Sir Walter Raleigh he might kiss her, if he could follow her to Beddington by a silken clue through this passage, which "the gentleman with the bold face" succeeded in doing—but all details of the story are lost.

Much scepticism has been expressed upon the subject of these subterranean vaulted passages found in or about so many old English houses. The late Mr. Parker, of Oxford, declared positively against the idea of these being secret means of escape; he asserted that they were simply drains. This, however, is disproved in a great number of instances by the passage having no inclination and rarely leading to any place whence the drainage could either flow away or be artificially removed; the cases, too, are innumerable in which they co-exist with other and distinct arrangements for drainage. Nor is this all. Every student of the older domestic architecture of England has found these tunnels running from one important house to another, often at a considerable distance. The writer is well acquainted with one such instance in a part of Hertfordshire where he lived many years. The old manor-house at Cheshunt, now neglected and dilapidated, its fine hall hung with pictures by Rubens and Vandyck dropping from their frames, its wainscoted chambers and stately staircase mouldering and worm-eaten, communicates by means of a vaulted passage with Waltham Abbey, which is distant nearly three miles. This tunnel passes under the River Lea and can be traced throughout, in spite of many obstructions caused by the falling-in of masonry and bad ventilation.

In the old houses of the seventeenth century bordering upon Greenwich Park, there are several cases of passages leading down to the Thames and entered by a door in such a position as to preclude all idea of any sanitary purpose. But the advantages of such a means of entering or leaving a building unobserved in times of political disturbance, and in an age when the mere suspicion of holding certain opinions was enough to endanger a man's liberty, and even his life, are too obvious to need recital. In the present instance the passage leads to Beddington, an old manor of the Carew family, who were in high favor with Queen Bess.

The palace was sold and the residence of the primates transferred to Addington in the last century. Some parts of the building were long used as a laundry, others as the parish school. Fortunately, before it became a complete ruin it was generously purchased by the Duke of Newcastle and presented to the Kilburn Sisters, who have established an excellent school within the walls. The building in its present state calls for the hand and purse of the restorer, and—if the former be not too heavy—there is a good work waiting to be done by those who are interested in a remarkable fragment of English architecture.

Originally, there was a large principal court with hall, chapel, housekeeper's house, porter's-lodge and stables: the south and part of the west sides alone remain. The finest feature of the pile is the Great Hall. It is very lofty, rising to 70 feet, with openwork chest-

nut roof, quite perfect; its width is 38 feet, but the length, although reaching to 56 feet, is not in consonance with the usual proportions of English halls; it looks nearly square, and this is so exceptional a plan as to strike the spectator with a sense of awkwardness. But there is reason to suppose that it was much longer; the present east wall is modern, replacing one which fell in 1830; that in its turn dates, probably, from Juxon's time, the room having suffered considerably under the Commonwealth. The principals of the fine chestnut roof spring from angel-corbels holding shields



Croydon Palace and Church.

finely carved with the arms of several primates, of the Duke of Buckingham—Shakespeare's Buckingham, beheaded in 1483—and of Richard, Duke of York (1460). At the eastern end was once a music gallery, over the usual screen, with its openings for servants to pass through from the kitchen. The windows are Perpendicular, and the hall was either quite rebuilt or completely renovated by Archbishop Stafford between 1443 and 1452.

Assuming that the room was originally much longer, the beautiful vaulted porch now at its northeastern corner would formerly have

given entrance to the centre or nearly so; it is boldly groined, with carved bosses, and has some superb mouldings.

At the western end a massive structure of stone projects into the room, resembling an internal buttress; its exact purpose is unknown; upon it is carved an elaborate shield with the arms of Edward the Confessor and of some much later sovereign, possibly, judging from the covered crown which surmounts it, Henry VI.

The Withdrawing Room, used at a later period as the Guard Chamber, is characteristic and in good preservation; it possesses a



Vaulted Porch: Entrance to Great Hall, Croydon Palace.

beautiful oriel-window and a fine timber roof; the principals spring from angel-corbels with shields showing the arms of Archbishop Arundel. It is 50 feet long by 22 feet wide. Beyond this is a large room supposed to have been the library. It is panelled and the roof deserves mention for a method of treatment at once simple and vigorous; it consists of leaving the rafters uncovered; they are deep, however, and richly moulded. In other parts of the building the same system prevails; where, as in some of the passages, cross-beams are introduced, the effect is to divide the roof into a series of narrow coffers about five feet—in parts nine—long by 10 inches wide and nearly a foot in depth; the timber, both chestnut and oak, is left in its natural color; the mouldings are in threes, with a deep cavetto between. In Italy a similar system may be seen in the old palaces of Verona and also at Venice; it plays a conspicuous part also in some of the timber buildings in Norway; color being freely applied, but mouldings are rare; those of Croydon Palace are unique.

The chapel is 74 feet long by 24 feet wide, but of moderate height, not more than 18 feet. Externally it is of red brick, with stone dressings, door-casings and window-mullions. A curious feature is the west wall, which slants on plan from southwest to northeast; diagonally across its southwestern corner is a gallery used by Elizabeth on her visits, and called "the Queen's Pew;" it is reached by a small steep wooden stair from the floor of the chapel, her own private approach being from the floor above; under the gallery is a small narrow door; at the opposite corner is a very large doorway and massive door, from which a wide stone staircase leads down to the courtyard.

The room, which is of the type usual in large English residences of the late Medieval Period, is not unlike a college chapel at Oxford or Cambridge; panelled in oak and at the east end in cedar; the desk ends or "poppy heads" are richly carved with the arms of the See of Canterbury impaling those of Juxon and Laud. This chapel, like that at Lambeth, has a fearful association with Laud: the heated imagination of his opponents detected "Popery" in some of the details here as they also did in his stained-glass at Lambeth, and in those terrible times the suspicion cost the unhappy prelate his head.

The apartment is lighted by seven Perpendicular windows: the east window is formed of seven lancet-headed lights, the whole enclosed in a casing of Perpendicular stonework; on either side of it are double pilasters in wood, fluted, the capitals Corinthian. This Renaissance detail is very happily harmonized with and subordinated to the Gothic work around it. Towards the west end a screen of moderate height cuts off a species of antechapel; it is panelled, the upper part perforated and glazed; the door, with the archbishop's throne beside it, is in the middle. From her raised pew, the Queen could see the chancel easily over the screen; it is carved with late Gothic work. The rooms occupied by Elizabeth are at the end of the Great Hall and have windows on three sides; two which now look down into the hall originally gave light to a small passage divided from her bedchamber by a slight partition intended to enable attendants to pass without disturbing her. The Queen was often here. Although the house was larger then than now, as so much has been pulled down, she travelled with such a retinue that it was difficult to accommodate them. Bowyer, Gentleman of the Black Rod, writing on the 14th of July, 1573, was at his wit's end to find lodgings for them in the Palace and town. "For the Queen's waytters [waiters] I cannot as yet find any convenient romes to place them in, but I will doo the best I can to place them elsewhere, but yf yt please you S^r I doo remove them. The gromes of the Privye Chamber nor Mr. Drewrye have no other waye to their chambers but to

pass thorowe that waye agayne that my Lady of Oxford should come. I cannot then tell where to place Mr. Hatton; and for my Lady Carewe here is no place with a chymney for her but that she must lay abroad by Mr. Aparry. Here is as mutche as I have any wayes been able to doo in this house. From Croyden this present Wensday mornynge, your Honnors alwayes most bowden [bounden] S. Bowyer."

The Long Gallery has been divided into several rooms to give increased accommodation. It was here that one scene in Sir Christopher Hatton's fortunate career took place, for on the 29th of April, 1587, "at Croydon in the Archbishop of Canterburie's house, he received the great seale in the gallery there." His advancement was due to Whitgift, according to the archbishop's biographers; popular tradition in England, however, for three hundred years has attributed it to his skill in dancing, which delighted the Queen, and the belief, too strong to be shaken now, is embodied in Gray's flowing lines,

His bushy beard, his shoe-strings green,
His high-crowned hat and satin doublet,
Moved the stout heart of England's Queen,
Though Pope and Spaniard could not trouble it.

Chicheley, who preceded Stafford, lived much at Croydon; on 7th of July, 1441, he appointed Adam and Richard Pykman *custodes capitalis mansi manerii de Croydon*, for life. The architectural history of the building is occasionally alluded to in the Registers at Lambeth; from these we learn that Richard de Fairford and Thomas de Bunchesham, the latter reeve (sheriff) of Croydon, repaired the kitchen and "salsary"; boarded the wardrobe; weather-boarded the bakehouse and stables, also the sheepcotes and stalls for oxen: this was in the time of Archbishop Reynolds, somewhere between the years 1313 and 1327. Further references confirm the inference from the text that a large part of the buildings constituting the Palace were then of timber: this was the case with most structures of the time, only the hall and principal chambers being of stone or flints. Associating as we do all mediæval work with ideas of solidity and strength, we sometimes fail to realize the fact of its slow development, especially in England, from the simple dwellings of the Saxons to the elaborate palaces, colleges, monasteries and manor-houses of the fifteenth century. Previous to Courtenay's time, many public acts seem to have been performed and documents sealed by the archbishop's bed (*juxta lectum domini: sometimes ad pedes lecti*); after him, as ideas of comfort increased, we read of a chief chamber, probably a sitting-room of some sort. He built a small private chapel, now to be traced, it is said, in the basement, the large one being styled *capella manerii de Croydon*; in fact, several small chapels and oratories are known to have existed, and it has been thought that the *capella* here alluded to is really the great Parish Church hard by, no other building being large enough for the immense assemblages of people connected with a mediæval prelate who was also virtually a temporal prince. But if churches were splendid, private dwellings long continued to be very simple in their arrangements, and walls of stone none too plentiful. In the *computus*, or roll, of Adam Bochers, who was reeve of Croydon from Michaelmas, 1399-1400, he mentions some "works and walls of lath and plaster," with ridge tiles above, as the ordinary mode of constructing light walls, as flint and sometimes stone were for heavy ones, before the great revolution effected by the reintroduction of bricks.

The Palace is, almost throughout its extent, raised upon an immensely massive basement, whose walls appear at first sight to be of red brick; examination proves, however, that this is only a dressing; the core is mainly of flints and Godstone stone and the brickwork



East Window of Chapel, Croydon Palace.

is only one more instance of the practice of casing walls; when a change in material or in style set in, these old builders seem to have applied it without one thought of the past; the sentiment which leads us to conserve and revere an ancient piece of walling or an architectural feature was to them a thing unknown. This red brick, so popular in England as almost to deserve the name of the national building material, was introduced in the reign of Henry VI, the Chapel at Eton and the Castle of Herstonceaux being among the earliest examples. The basement under the Palace is now raised

about eight feet above the ground, though the height differs in parts, but there is abundant evidence of the earth-level having risen, thus diminishing the apparent height, as in so many old buildings: the visitor, for instance, steps down into the porch whose plinth is almost submerged and its original pavement several feet underground. The basement now presents a singular spectacle: walls of enormous thickness dividing it into many chambers; overhead wooden beams of immense size; neglect, patchwork repairs and semi-darkness prevail in the greater part, and many Gothic windows have been filled up with brickwork; the floor is uneven and far above its original level. But it must once have been a useful and even imposing feature of the place with much fine Gothic detail. It was here most probably that lodging was found for the numerous retainers, servants and soldiers who thronged the Archbishop's Court, as the records represent the primates as riding forth attended by nobles and gentry, chaplains and followers, the whole cavalcade escorted by a considerable body of soldiers, who also acted as a garrison in this as in most of the great houses of the Kingdom.

The Archbishop of Canterbury was usually Lord Chancellor as well, thus uniting legal with clerical functions. In the paucity of educated men his services were further utilized as the chief adviser or minister of the reigning sovereign and a vast mass of business since transferred to departments of modern creation had to be daily transacted under his eye. The custom of the age involved the exercise of a profuse hospitality; inns were few and, in Chaucer's words, "houses far asunder": the far-spreading buildings of these old establishments thus explain themselves, while the frequent journeys from manor to manor arose partly from the necessity of personally inspecting and governing both the Church and the State, and partly from the difficulty of feeding the great assemblages of people of all ranks thus brought together: as soon as the cattle, sheep, poultry and crops of one estate showed signs of depletion, the Court, whether of the King, the Archbishop, or of a powerful Earl or Baron, moved on to another, suitors and attendants following as best they might.

In the Civil Wars, Croydon Palace shared the fate of Lambeth and was much damaged, falling first to the Earl of Nottingham and then to Sir William Brereton, "Colonel-General for the Cheshire forces," who turned the chapel into a kitchen. Its neighbor, the Parish Church, fared no better, one Blease being paid half a crown a day for breaking its superb painted windows!

At the Restoration, the short administration of Archbishop Juxon was occupied in repairing as much as possible of this injury, and from his time a large portion of the present pile of buildings may be dated. As years passed by they were more than once altered; the Archbishop's office no longer involved the employment of crowds of dependants; many chambers, decaying from want of use, were pulled down, and the place was finally sold and Addington Park bought in its stead.

Archbishop Herring was the last primate of all England who lived in the Palace; to him the heavy tie-beams in the Great Hall are due, a necessary protection to the ancient fabric but somewhat obscuring the symmetry of the beautiful openwork-roof above: his arms, *three herrings argent*, quartering Canterbury, terminate the long series of blazonings, carved and—originally—painted, which adorn the house and add one more testimony to the value of heraldry as an adjunct of architectural study. But the name which lingers most at Croydon is that of Whitgift, whose Grammar School and Hospital, the former now rebuilt, the latter a simple Elizabethan building, are in the main street. He "had ever a great affection to lie at his mansion-house at Croydon for the sweetness of the place, especially in summer time."

J. C. PAGET.



THE PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS.—THE EIGHTEEN CLUB AND ITS POSSIBILITIES.—MANUAL TRAINING CLASSES.—SUBVENTIONED ART SCHOOLS.—A BLAST-FURNACE TO BE ENLARGED.

THE Province of Quebec Association of Architects, having secured to themselves by act of local legislature

the right to preserve all the professional work of the Province to themselves and prohibit architects of other provinces or countries, except under certain conditions, from practising within their border, are now confronted with the fact that the law, to be of any use, must be upheld and enforced, and action must be taken against such architects who invade their precincts contrary to the terms of the Act, and in face of the protest of the Association. That there are such men who openly dare to practise as if there were no such law is evidenced by a clause of the Ninth Annual Report of the Council presented at the Convention recently held at Quebec. "The Council has devoted earnest attention to the question of instituting proceedings at law against those illegally practising as architects within the Province. . . . In the opinion of our legal adviser we are not at the present

moment in possession of legal proofs so convincing as to justify legal proceedings being taken."

It is then, apparently, not sufficient to have an Act in force,—an architect who has not conformed to the requirements of the law, is still able to practise to the extent, at any rate, of continuing to call himself an architect, but how far he may go, without providing for those on the watch sufficiently convincing legal proofs of the fact, is a question which time, perhaps, will answer. At any rate, these "illegal practitioners" are running a risk that may land them in the courts one of these days. But it looks as if there were a defect somewhere in the law, as the ends in view seem difficult of attainment in spite of the definite wording of the Act.

The attendance of the members at this Convention was small, probably on account of the meeting being held in Quebec instead of Montreal, and, naturally, the proceedings were somewhat dull in comparison with the previous Convention, when all the members were in high glee over the success which had just crowned their efforts to secure legislation. The new President of the Association is Prof. S. H. Capper, Professor of Architecture at McGill University, Montreal, a graduate of the University of Edinburgh and an Associate of the Royal Institute of British Architects.

It is reported that the remains of the Ontario Association of Architects will be produced by the officers for public inspection in convention form about the middle of January, when in all probability they will be decently interred. The sinews are stated to be drying-up, it is evident that they have very considerably shrunk, and there appears to be little chance of new life being infused. The efforts of unskilful doctors have resulted in prolonging life, but the decadence under the treatment has been steady and increasing until it is little else than a skeleton that can be exhibited. During the intervening weeks suggestions for its revivification will be thankfully received, provided they are such as have not been offered before and that they are well worked out and substantially backed up.

The younger members of the profession in Toronto have organized an architectural club known as "The Eighteen Club" and this new society appears to be full of life and vim. It should be a thorn in the side of the Ontario Association of Architects (if that society had any flesh into which a thorn could be run), for this new club holds aloof from the Association and will have nothing to say to it. A new generation of architects has sprung up since the Provincial Association was first organized and these have no feelings of distress at the dying of that society. They have learned that there is nothing to be gained by entering its folds, that it is not in any way suitable to their needs, and, therefore, they are starting "out on their own hook," and providing for themselves that which they cannot obtain through the Ontario Association of Architects. They are not to be blamed, but rather commended; the only wonder is, that some other society was not formed long ago, to further the ends that the Ontario Association professed, but lamentably failed in.

Sir William Macdonald, who has so liberally assisted in the establishment of so many professional chairs and educational buildings at the McGill University, in Montreal, by his princely gifts, has again come forward with a handsome offer. He has agreed to bear the cost, for three years, of an effort to establish manual-training classes in one centre in each of the eight Provinces of the Dominion. Professor Robertson, the Dominion Agricultural Commissioner, who takes a keen personal interest in technical education, has been appointed to take charge of the matter, and the funds are to be under his control. Competent men have been engaged to superintend the experiment under Professor Robertson. The scheme has been thoroughly developed and will soon be put in practice.

The plan is that in one city in each province, a place shall be secured at which, on one or two days in the week, scholars, aged from nine to fourteen years, shall spend a few hours in actual use of tools. Evening classes will be held for the benefit of older students and mechanics, and special instructors will attend.

It is true that there are already established Technical Schools in some of the principal cities. They have, I believe, a small Government grant and this is sometimes supplemented by a Municipal grant, but there appears to have been a very great deal of dissatisfaction over the usual management, the funds have been insufficient, and worse than that, the results to the students attending have not been satisfactory. The poor remuneration allowed to the instructors, though it was all that the means at hand permitted, has failed to secure the best teachers, and this vital insufficiency has had an injurious effect upon the whole system. Technical Schools are looked down upon by those who should be the chief beneficiaries. It is hoped that the subject, since it has attracted lately so much attention, will now be properly dealt with and the start being given by Sir W. Macdonald in a practical direction, with the details being worked out by practical men, the future of Technical Schools will be what it ought to be—an immense benefit to the students.

The Art Schools come under similar condemnation, although from a different cause. They likewise have Government and Municipal aid, and are generally supported locally in such a manner that it is possible to secure for them better-qualified instructors. But it is found that there is something faulty in the system: the course of training is governed and limited by a stereotyped examination arranged by Government officials of the Education Department who know as little about art as it is expected they could know. Until greater freedom is allowed and the Government grant is given, freed from cast-iron regulations, the Art Schools of Canada will never

produce designers who can be of use to the manufacturer. The Art Schools can train up to a certain point as they are: so can any drawing-master who has not the school influence or prestige to back him up, and therefore the Art Schools become mere drawing-schools and are not what they should be — training-schools whence a student may pass qualified to take a place as a designer for manufacturers. The students at the Art Schools having finished the prescribed course find they have only learned to draw. They attempt to get situations where their talents may be of use in the draughting offices of the manufacturers, and when successful they understand that they have then to begin their training in design, which they should have received at the schools and believed they were receiving.

The Art School masters should be up-to-date men. Fashion dictates the character of design and fashions continually change. It is too often the practice of these art masters to develop in a student some particular character or style of design for which the student has shown a predilection to the exclusion of all others. The result looks well; the student becomes an adept in one line and his drawing takes prizes and reflects credit upon the school, but in this the master has worked for his own interest rather than that of the student. These matters are beginning to arouse public attention, and though reforms take a long while to institute, a move is being made in the right direction.

A blast-furnace company that began business in Ontario some years ago built a plant capable of turning out two hundred tons a day, but very soon found that they could not dispose of more than one hundred tons a day. Consequently they reduced their furnaces about two years ago. Now the demand for iron and steel is so great that the plant is to be entirely rebuilt for a capacity of two hundred and fifty tons a day and a complete steel plant is to be added, capable of complying with the demand. The company expects to turn out ninety thousand tons a year, a quantity greater than has heretofore been used in Canada alone in one year.

The immense increase in business all round seems to be staggering the railway companies, who cannot provide cars to transport produce. Cars are being built as fast as possible, but in the meantime all but perishable goods have to be held over to await their turn of handling.

SOME RECENT DISCOVERIES IN OLD ROME.



THE visit which I have just paid to the excavations of the Forum and of the Sacra Via, after an absence of four months, makes me realize how little is known at home and abroad about their importance and magnitude. The few bits of information which I was able to gather while absent, from Roman papers, or from Roman correspondence to foreign papers, give a very meagre idea of their development and archaeological results. The Minister of Public Instruction, Guido Baccelli, is so anxious to make an advance in the direction of the Forum Julium and the Forum Augustum, and to open up fully the Senate House, now represented by the Church of St. Adriano, that the work of excavation is carried on without intermission by day and by night. For the convenience of readers of the *Athenæum* I shall consider in due order each building or group of buildings, beginning with the Atrium Vestæ, within the walls of which the latest finds have taken place.

First of all, I must speak of the *ripostiglio*, or hidden treasure, of gold pieces discovered recently in a branch drain, near the west corner of the edifice, adjoining the Church of St. Maria Liberatrice. It consists of nearly four hundred *aurei*, which must have been thrown into the drain in a leather bag, or done up in a piece of cloth, on the occasion of one of the barbaric invasions of the last quarter of the fifth century. The oldest coin dates from the time of Flavius Julius Constantius (Constantius II, 337–361 A. D.) and shows the figures of Rome and Constantinople supporting a shield, with the legend "*Gloria Reipublicæ*." Next come several *aurei* of Valentinian III, son of Constantius III and Galla Placidia, associated to the Empire A. D. 425; slain by Petronius Maximus in 455. The reverse of these coins shows the Emperor crushing with his right foot the head of a dragon, and holding the sign of the cross with one hand, the globe and the victory with the other. By far the greatest number of coins — three hundred and more — belong to the Emperor Anthemius, son of Procopius, slain by his son-in-law, Ricimer, in 467. The rarest set of all is one of nine pieces with the effigy and the name of Ælia Marcia Euphemia, daughter of the Emperor Marcianus, and wife of Anthemius. Remarkable, also, are some *aurei* of Libius Severus, poisoned by Primicerius in 465, and of Marcianus, poisoned by Aspar in 457 while preparing an expedition against the Vandals. The latest pieces in the chronology of the *ripostiglio* belong to the Emperor Leo I, crowned in 457, whose death took place in 474.

It is difficult to connect the burial of this considerable sum of money with any particular event in the history of the barbaric inroads which marked the end of the fifth century. There is no doubt, however, that the gold was thrown into the cesspool under the apprehension of an impending pillage. The House of the Vestals, abandoned by the Sisterhood since its suppression in 393, was probably falling into ruin, and the owner of the gold selected the hiding-place so skillfully that not only did it escape being plundered by the barbarians, but the owner himself could not recover it after the danger was over. Perhaps he lost his life in the defence of the city; perhaps he was carried away into slavery; perhaps this wing of the

cloisters fell to the ground, and the hiding-place remained buried under a heavy mass of debris.

Discoveries of this kind are by no means a rare occurrence in Rome. Six thousand four hundred brass coins were found in 1880 in a drain near the tomb of Sulpicius Platorinus, in the Trastevere; and almost as many in 1876 in another sewer near the present Piazza di Magnanapoli, on the Quirinal. This practice may help us to explain, to a certain extent, the presence of an enormous mass of coins in the beds of the Tiber. During the dredging operations of the last decade about twelve hundred pieces a month were brought up to the surface by the dredgers. In desperate cases coins may have been thrown directly into the Tiber to prevent their falling a prey to the barbarians; but it is also possible that a fair percentage may have been washed down from the sewers into the bed of the river. . . .

Important discoveries are announced from the city of Fano, the ancient Fanum Fortunæ, on the coast of the Adriatic, between Pesaro and Sinigaglia. In the area of the ex-convent of St. Filippo, which is now being transformed into a municipal school, remains of a great public edifice have been brought to light, possibly of the Basilica, or court-house, described by the pseudo Vitruvius in the fifth book "*De Architectura*." Here, embedded in a wall of a much later age, several magnificent pieces of statuary have been discovered, representing members of the Julia gens, kinsmen of the founders of the empire. These statues were probably set up in the local Augustæum.

— Rodolfo Lanciani in the *London Athenæum*.

BOOKS AND PAPERS.

THE ninth edition of Professor Baker's excellent "*Treatise on Masonry Construction*"¹ is before us. The work in its earlier editions has been noticed in these columns. This edition contains a considerable amount of new matter, the portion dealing with cement, in particular, having been considerably extended and much new material incorporated therein. It is impossible to write a work of this kind which will exactly fit all localities and conditions of buildings, but there is so much that is common practice throughout the length and breadth of this country and so much that is sound common sense where it is not actual practice, that this book offers most valuable reference for constructors of all sorts. We confess the practical part of it appeals to us more strongly than the theoretical. That is to say, the formulas, the purely hypothetical solutions of problems, seem of less real value than the citations from current practice and the formulation of actual business methods. It will never be possible to build in a scientifically accurate manner so long as we use materials so varying in their qualities and capacities as those with which we have to deal at present, and though some theories may sound very plausible, especially such as Professor Baker's analyses of that old, familiar subject, the strains in an arch, yet we doubt if any builder would place a great deal of reliance on any analysis of that sort and would prefer to trust entirely to results of practice. For example, it is doubtful if any of the Guastavino arches which have been used so plentifully during the past few years would theoretically even support themselves. On the other hand, it is doubtful if any architect would be content with the restricted dimensions which in theory would limit the size of *voussoirs* in an ordinary arch of stone-work. On the one hand, we have an extremely strong arch which is theoretically very weak, on the other hand, we are obliged, on account of appearance, to make an arch which of itself is ample, extravagantly heavy. But the solid meat in Professor Baker's book so far outweighs the pure theory that the most carping critic must admit that it is one of the best extant works upon the subject, one which the student, the architect and the constructor cannot afford to be without.

THE construction of tall chimneys is a subject which has been treated very generally in a discursive way, though there have been few publications, in complete form, on the subject. The latest work² is a very exhaustive treatise, going into all the details which would need to be observed in the construction of chimneys of various sorts. This is a department of building, or, perhaps more properly, engineering, which seldom comes within the scope of the architect's work; but when by any chance such a big chimney has to be built, it is well to know that there is so thorough a work upon the subject, giving such careful analyses of both the scientific and the practical side of the question. There are included also many descriptions of actual chimneys which have been built and are standing in use to-day, and after a perusal of the list of structures of this sort, the wonder grows, not that they can be built, but, rather, that it should be possible for human ingenuity to twist them about, straighten them out, or take them down, with such apparent ease. The highest chimney in the country is that of the Metropolitan Street Railway Company, in New York, which stands 353 above its foundation, with

¹ "*A Treatise on Masonry Construction*." By Ira O. Baker, C. E. Ninth Edition, Revised and Partially Rewritten. New York: John Wiley & Sons. London: Chapman & Hall, Limited. 1899. Price \$5.

² "*Chimney Design and Theory*." A book for Engineers and Architects. By William Wallace Christie. New York: D. Van Nostrand Company. 1899. Price \$3.

an internal diameter of 22 feet, being in that dimension the largest chimney in the world, though there are chimneys abroad which run between 450 and 500 feet high. That a structure of this kind could be safely tilted back after settling out of plumb, or could be taken down with accuracy and any safety to the surrounding neighborhood, speaks volumes for human ingenuity. Tall chimneys, however, the author does not consider in any sense necessary, but rather as monuments to the folly of the builders, and the claim is made that multiple chimneys, while not as imposing in appearance, give better results in use.

Beside the purely theoretical formulations with which the book bristles in spots, there are a number of very convenient and readily applied empirical methods stated, such as the handy rule that "the sectional area of the chimney in square feet should be equal to the number of pounds of fuel to be burned per minute"; or the rule as to wind-pressure, "Divide the square of the velocity in miles per hour by 200 to obtain the pressure in pounds per square foot." Then there is a carefully-considered chapter on steel chimneys, with theories pertaining to the same, and examples from existing structures; also a chapter on a subject which we do not remember ever to have seen treated before, that of house-chimneys, with some rules, which promise to be certainly on the side of safety, for determining the areas of flues for furnaces, hot-water boilers, etc. Also there are some very pertinent suggestions as to the method of building a chimney to avoid poor draughts, smoking, etc.; and, apropos, the statement is made that Count Rumford, who in the early days of this country gave the matter a great deal of study, actually prescribed for and cured more than 500 chimneys that had been given up as incurable.



THE T-SQUARE CLUB OF PHILADELPHIA.

THE monthly meeting of the T-Square Club was held on Wednesday evening, December 6, at which drawings were submitted for the Third Competition in the series of the Travelling Fellowship Programme. The subject was the "Elevations of a Semi-suburban Residence to be Characteristically Philadelphian in Treatment," and the designs were original and especially interesting as solutions of the problem of local expression in architecture. By judgment of the Club, the first place was awarded to Andrew I. Sauer; second to I. Edgar Hill; third to W. P. Trout.

On Monday evening, December 4, after the meeting of the Jury of Selection of the coming Exhibition, the visiting members — Mr. J. Randolph Coolidge, of Boston; Mr. Julius F. Harder, of New York; and Mr. John T. Comes, President of the Architectural Club of Pittsburgh — were the guests of the T-Square Club at a dinner given in the Club-house, at which Mr. Herbert G. Ripley, of Boston, was also present. The occasion was one to be remembered with pleasure by the Club.

The Annual Architectural Exhibition will be held at the Art Club from December 17, 1899, to January 6, 1900. The opening reception took place on Saturday evening, December 16.

ARTHUR S. BROOKE, Secretary.

OBITUARIES.

MR. F. F. HAMILTON who for the past twenty years has been associated with Mr. G. W. Percy under the firm name of Percy & Hamilton, architects, San Francisco, Cal., died on December 1, at his residence near Hayward after a short illness.

Mr. Hamilton, born in Maine, 1853, received his training in Boston, working in the offices of Gridley J. F. Bryant, Peabody & Stearns and others. Coming to the Pacific Coast in the seventies he was engaged for several years as draughtsman on the new City-hall of San Francisco. He entered, 1880, into partnership with Mr. Percy, and through his ability and indefatigability secured an equal share in the excellent reputation which his firm has enjoyed ever since. Among the earlier works of the firm may be mentioned the State Insane Asylum at Stockton and the Masonic Temple in the same city. In the last decade the success of the firm culminated in the erection of the Academy of Science, the new Wells, Fargo & Co. Building in San Francisco, and the museum, library and assembly-hall at the Stanford University, in Palo Alto. All these works are distinguished types of well-defined, substantial and practical architecture and will, for generations to come, do credit to the talent of the deceased. Personally, of a kind and genial disposition, Mr. Hamilton was equally liked in professional and social circles, and his many friends mourn his death as the loss of a good architect and man.

M. F.

AMOS S. WAGNER, a prominent architect of Williamsport, Pa., died at his home in that place on December 11, 1899, aged fifty-nine years.

CHICAGO'S WOODEN SIDEWALKS. — Chicago is going to banish wooden sidewalks by ordinance. As she has got 3,000 miles of them, the movement may be said to be as extensive as it is salutary and sensible. — *Boston Herald.*

ILLUSTRATIONS.

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

THE GARDEN FRONT: "WYNDHURST," HOUSE OF JOHN SLOANE, ESQ., LENOX, MASS. MESSRS. PEABODY & STEARNS, ARCHITECTS, BOSTON, MASS.

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

PROPOSED ST. PAUL'S CHURCH, FLATBUSH, LONG ISLAND, N. Y. MR. ALBERT E. PARFITT, ARCHITECT, BROOKLYN, N. Y.

THE NEW FRANKEL BUILDING, DES MOINES, IA. MESSRS. LIEBBE, NOURSE & RASMUSSEN, ARCHITECTS, DES MOINES, IA.

This building was begun last February and finished in July, at a cost including elevators, heating, plumbing, etc., of \$100,000.

BRUCE STREET PUBLIC SCHOOL BUILDING, NEWARK, N. J. MR. GUSTAVUS STAHLIN, ARCHITECT, NEWARK, N. J.

PLANNED in accordance with the latest French requirements for school-houses as published in the *American Architect*, March 21, 1896, viz: —

Bi-lateral lighting for class-rooms over twenty-one feet wide — long axis running north-north-east — south-south-west, not varying forty degrees from north-south, necessitating isolation of class-rooms and limiting the number of stories — and shutting out north and south light; neither pupils nor teacher looking into the light.

These new French requirements are based mainly upon conclusions arrived at by a commission of scientific men appointed by the French Government to investigate the problem of lighting school-rooms. (Planat, 1882, Vol. I., p. 21, *Construction des Maisons d'Ecole*.) Among them were: —

Dr. Liebrich, ex-oculiste à Londres.

Dr. Gaveret, prof. de physique à la Faculté de médecine à Paris, inspecteur de l'instruction publique.

Dr. Javal, directeur du laboratoire d'ophtalmologie à la Sorbonne.

Dr. Panas, prof. d'ophtalmologie à Paris.

These gentlemen limited unilateral lighting to rooms of five metres in width, and stated that there was no scientific evidence produced before them to sustain the opinion that cross-light in rooms lighted bi-laterally affected the eyesight injuriously.

A COMPETITIVE DESIGN FOR THE ALBANY SAVINGS BANK, ALBANY, N. Y. MR. BRUCE PRICE, ARCHITECT, NEW YORK, N. Y.

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

ELLINGTON PIANO FACTORY, CINCINNATI, O. MESSRS. ELZNER & ANDERSON, ARCHITECTS, CINCINNATI, O.

[Additional Illustrations in the International Edition.]

SOUTHWEST VIEW: HOUSE OF GIRAUD FOSTER, ESQ., LENOX, MASS. MESSRS. CARRÈRE & HASTINGS, ARCHITECTS, NEW YORK, N. Y.

[Gelatin Print.]

PORTICO OF THE SAME HOUSE.

[Gelatin Print.]

MONUMENT OF MORITZ, ELECTOR OF SAXONY, DRESDEN, SAXONY. [Gelatin Print.]

This peculiar monument, erected by Augustus, Elector of Saxony from 1553 to 1586, in remembrance of his illustrious brother, Elector Moritz, who, although victorious, was killed in 1553 in the Battle of Sievershausen, waged against Albrecht, Margrave of Brandenburg, presents itself as a remnant of its former more extensive appearance. When in 1811 the fortifications of the city of Dresden were demolished, it became necessary to move the monument, which occupied a prominent place in the old wall of the town, to a new locality, and it was then that portions of the original work were lost, or destroyed. The Tuscan architecture of the principal feature, with its peculiar two-fold entablature, is believed to be the work of, or, at least, to have been influenced by, Juan Maria Padovano, an Italian master stone-cutter, employed until 1555 on the new Electoral palace then in course of erection. Totally different in character from the architectural part of the monument is the sculptured work, which bears unmistakably the stamp of its Saxon origin, showing the hand of a skilled, but by no means eminent, master. The two statues represent Moritz of Saxony in the act of transferring the Electoral sword to his brother Augustus. In the background, behind Moritz, stands the grim figure of Death, holding up the hour-glass, while above the group the Holy Trinity, rather naïvely conceived, is seen. The central group of figures is flanked by the wives of the two princes. It is proposed to again move the monument to a new locality, the present site being required for a new street to be laid out for the embellishment of the old quarters of this interesting city.

ST. GABRIEL'S CHURCH, WARWICK SQ., LONDON, ENG. MESSRS. BAKER & TURRILL, ARCHITECTS.

NATIONAL PROVINCIAL BANK, PICCADILLY, LONDON, ENG. MR. ALFRED WATERHOUSE, ARCHITECT.



[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.]

"AN AWARD CRITICIZED."

December 18, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—May I add just a word to Mr. Hamlin's letter of December 6th? The fundamental error, and burden to the architectural profession, regarding competition is that the object of the competition is wrong.

As I read some time ago in a paper by Mr. John M. Carrère, architect, the object of competition should always be the selection of an architect rather than the choosing of a finished completed design.

The public will value the work of architects at precisely the same rate that architects themselves value it, and when such competitions as this under discussion are invited, the world of eager aspirants, most of them young in the profession, will, it is true, respond in such numbers as to bewilder the judges, and the public rating of the value and cost of architects' work goes down to the lowest mark possible.

The competition under discussion could readily have been reduced to less than one-half the cost and been quite as practical. Sixteenth-scale drawings for the plans good enough for first preliminaries. Suppose, further, they had been in lead pencil only (ink lines prohibited), and on thin sheets of tracing paper, by which the several stories can be quickly developed one from the other—the architect to show his brains therein rather than his fine drawing; sections omitted—rarely ever essential, for height of stories can be readily shown at one side of an elevation or plan; one perspective or two elevations—surely both not necessary—and in this let the architect be permitted to beautify and bring out his architectural features; elaboration to be restricted to this one drawing only—all other drawings in lead pencil on thin paper.

Such monstrous formulas of competition as the New Haven Y. M. C. A., followed by the Scranton Y. M. C. A., perhaps do some good in the disgust for all competition which follows the heavy losses they entail among architects, but with the public, as I have said, they advertise architects' time and work as not worth much, and new invitations on similar lines follow.

How many of them sent me the past year have I tossed in the waste-paper basket!

Two of them, I remember, called for $\frac{1}{4}$ scale drawings. Some of them were important works that would have been a keen temptation to any architect, if only he could enter his ideas in the contest on a rational basis.

Respectfully yours, A. B. JENNINGS.

NON-ABSORBENT FLOORS FOR HOSPITALS.

KNOXVILLE, TENN., December 14, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I am engaged in preparing plans for a small hospital, and in the operating-room we want a floor that will not absorb anything whatever in the way of moisture. I have been instructed by the committee to lay this floor in vitrified tile, or glazed tile, in order that it may not absorb moisture, but at the same time there is a small joint in it that even being filled with Portland cement will absorb more or less. Is there to your knowledge a wash, or an enamel, that could be used to finish over a cement floor that would render it non-absorbent? Any information on this point will be gratefully received.

Yours respectfully, GEO. F. BARBER & Co.

[PORTLAND cement, when well hardened, is not very absorbent. In fact, a surface entirely of Portland cement is often used in hospitals, and would be satisfactory if it were not for its tendency, in large areas, to shrink and crack. In the present case, it might be advantageous to saturate the joints, while the cement is fresh, with a strong solution of silicate of soda. This will hasten the hardening, besides filling the pores to a certain extent. Do not be persuaded to rub the joints with linseed-oil, or to mix linseed-oil with the cement. This, if done before the cement is thoroughly hardened, will make the surface chip off, leaving the joints hollow. — Eds. AMERICAN ARCHITECT.]



"THE HOLY DOOR OF ST. PETER'S."—Interesting particulars are given by the Rome correspondent of the *London Morning Post* of the ceremony by which the Holy Year 1900 will be inaugurated at midday on December 24 next—namely, the opening of the "Porta Santa," or holy door of St. Peter's by the Pope himself. The basilica of St. Peter's will be completely closed to the public and to ecclesiastics, only the portico remaining at the disposition of the Papal Court and of a few privileged sightseers. The door will be sawn through on the inside, and placed in an iron and wooden clamp. The Pope will strike the wall thrice with a golden mallet, and then return to the throne. The door will then be lowered by means of pulleys, and placed on a car specially prepared, and carried away for preservation until the end of the year.

A NEW READING OF THE MERCHANT OF VENICE.—Trouble has arisen between the families of Louis Schwartz, of 31 Stevens Avenue, Jersey City, and Mrs. Josephine Miller, who lives next door. Mrs. Miller owns 29 and 27. In the latter lived a family named Bolte. They moved a short time ago. Mr. Bolte presented a number of plants growing in the yard to Mr. Schwartz. When he removed them Mrs. Miller notified him, so he alleges, that if he removed any of the soil clinging to the roots of the plants, she would prosecute him. He paid no attention to her. On the following day he was notified by Mrs. Miller's lawyer that if he trespassed further upon her property suit would be brought at once. Mr. Schwartz considered the matter. He took note of the fact that his house was several feet from the edge of his lot, and that there was a large and pleasant window in the side of Mrs. Miller's house. He decided to build a fence on his spare space. This he did, making the fence 20 feet high. This greatly interfered with the view from Mrs. Miller's window. To make the fence more objectionable, as he admits, Mr. Schwartz covered the side facing Mrs. Miller's premises with black tar paper. — *N. Y. Times*.

A LOCKLESS NEW JERSEY CANAL.—Running from Phillipsburg, N. J., to Newark, N. J., there is a canal that is in many respects the most remarkable in existence. It is sixty miles long, and was in operation in New Jersey before a railroad existed in the State. It runs in many cases side by side with the Lackawanna Railroad, and furnishes the most striking example of the difference between the old-time and modern methods of freight transportation that can be seen. Its most remarkable feature is that in place of the lock system in use on canals the boats are drawn up and down elevations on great cars with high sides and open ends on a track 18 feet wide. These are the original "cable-cars." The principle by which they are operated, the endless cable, is exactly the same as that which was utilized for operating cable-cars in cities. This method of transportation has been in use on the Morris Canal for half a century, and antedates the introduction of cable-cars by at least thirty-five years. The unusual features of the canal are most in evidence between Boonton and Montville, N. J. An interesting feature in connection with the Morris Canal is that this is likely to be the last year of its operation, as an effort will be made at the next session of the New Jersey Legislature to secure it as a means of furnishing Jersey City with additional water-supply. — *Boston Transcript*.

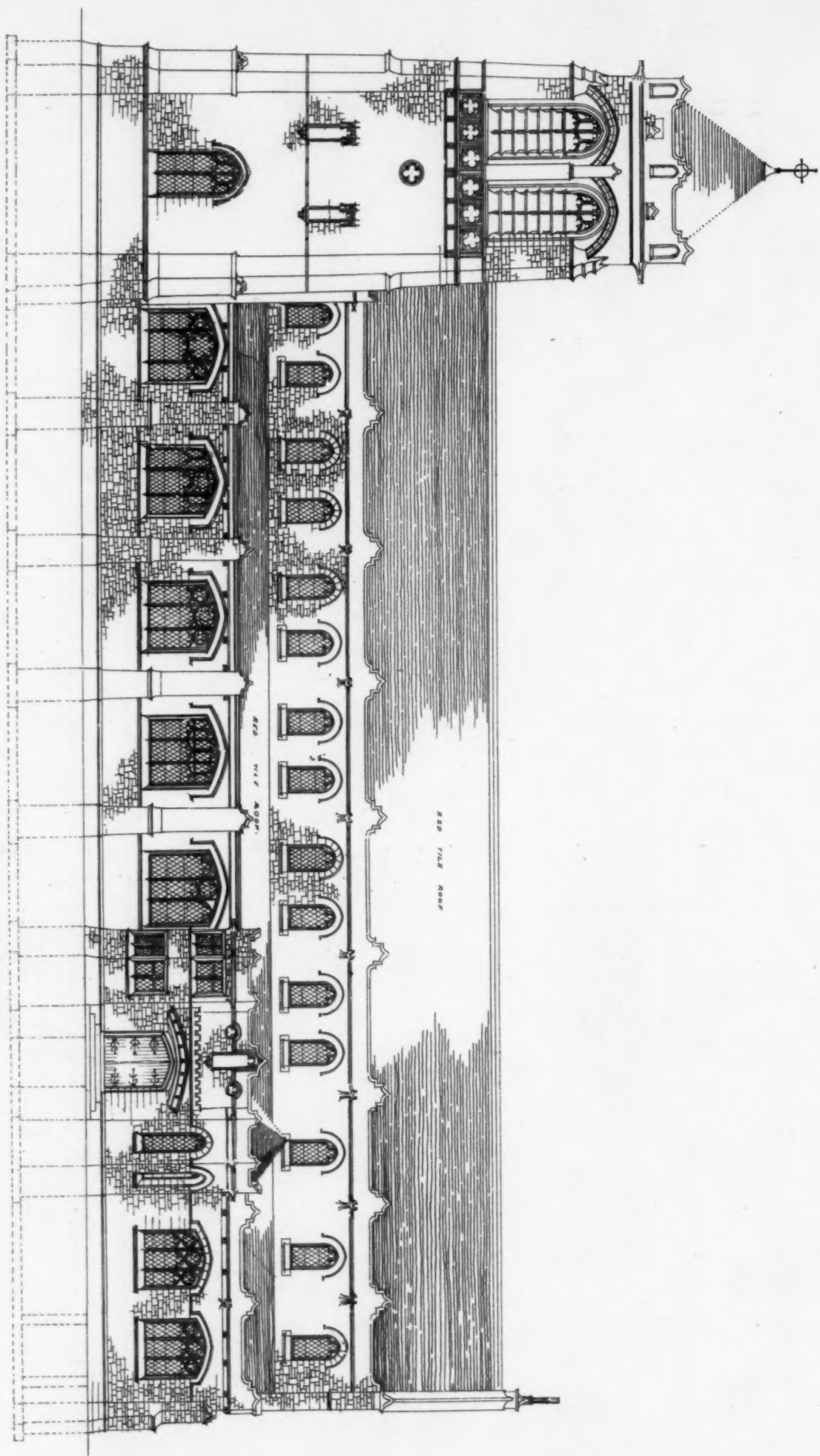
THE ROWTON HOUSES, LONDON.—Philanthropy and municipal statesmanship have undertaken to solve the problem of the housing of the poor in large cities, but the most satisfactory results have been secured by a purely commercial enterprise. Rowton Houses, Limited, was organized in 1894 with a capital of \$250,000, after the first of the "poor men's hotels" had been opened at Vauxhall, with 475 cubicles or rooms for lodgers. The second Rowton House was completed and set in operation during the following year in King's Cross Road, with accommodations for 677 lodgers. The third Rowton House was opened two years ago at Newington Butts, in the southeastern section of London, with 805 sleeping-rooms. The fourth hotel for poor men will be in operation this month at Hammersmith, with 800 rooms, and a site has been obtained in Whitechapel, near St. Mary's Church, for the erection of another Rowton House, with equal accommodations. When the two new hotels are opened there will be over thirty-five hundred sixpenny lodgers, and the stockholders will receive a dividend of 5 per cent on their investment for the housing of the poor. . . . These hotels are filled as soon as they are opened, and from 80 to 90 per cent are permanent lodgers, who sleep every night in the cubicles. The gates are opened at 7.15 o'clock in the evening for the earliest applicants, who are generally marketmen and news-venders, with early hours for rising and breakfasting. Every quarter-hour brings a fresh relay of lodgers, until at 9 o'clock every room is occupied and applicants have to be turned away. It is a motley assemblage of working people, with not a few broken-down professional men reduced to the pittance of a shilling or eighteen pence a day. Some of the lodgers who grill their own chops in the scullery have had a university education and can quote Horace's Odes or early English poetry when they are chatting together over their pipes in the smoking room. There are no tramps, for the sixpenny toll keeps them out, and there are few intemperate men, for no liquor is sold at the bar and habitual topers are not attracted. The lodgers soon find their mates, and entertain one another in their own way. In a real sense the poor men's hotel is a club-house, where the lodgers can read, write, talk or smoke, and have the companionship of men of their own sort. They enjoy all these privileges at a net cost of from fourteen to nineteen pence a day, and the shareholders receive 5 per cent on their investment. The London County Council, having schemes of its own for improving the housing of the poor, has been jealous of the success of the Rowton Houses. The management has met with resistance from the local authorities at every turn. The building-laws have been rigorously enforced, and the sanitary plumbing has been critically examined. Additional safeguards against fire have been required, and the company has been harassed in many ways. Not long ago a determined but unsuccessful effort was made by the County Council to bring the Rowton Houses under official control and supervision as common lodging-houses, and thereby to discredit them. This opposition from municipal reformers has served to emphasize the fact that a private company, working on commercial lines and without affecting any pretensions of philanthropy or public obligation, had succeeded in proving that poor men's hotels could be built and operated at a profit of 5 per cent on the capital invested. Neither charity nor municipal enterprise has done as well in London as this company in ministering to the comfort and welfare of workmen. It has not yet taken up the experiment of building similar hotels for women, but it has pointed out practical methods by which the social condition of working people can be elevated without expense to taxpayers or philanthropists, and with a good return for the investors' money. — *J. N. Ford, in the N. Y. Tribune*.



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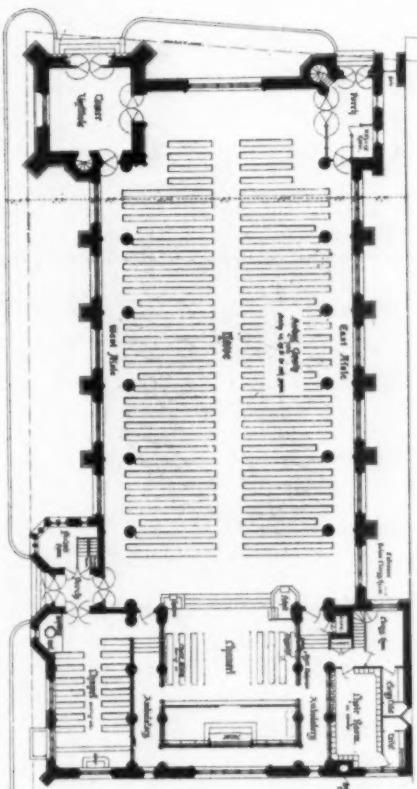
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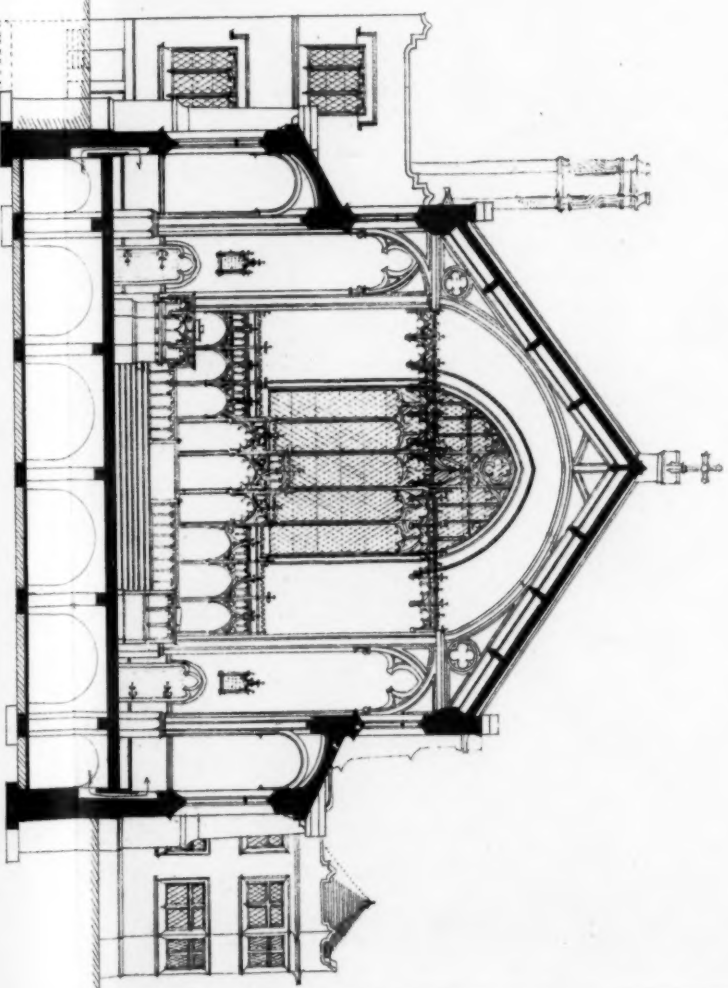
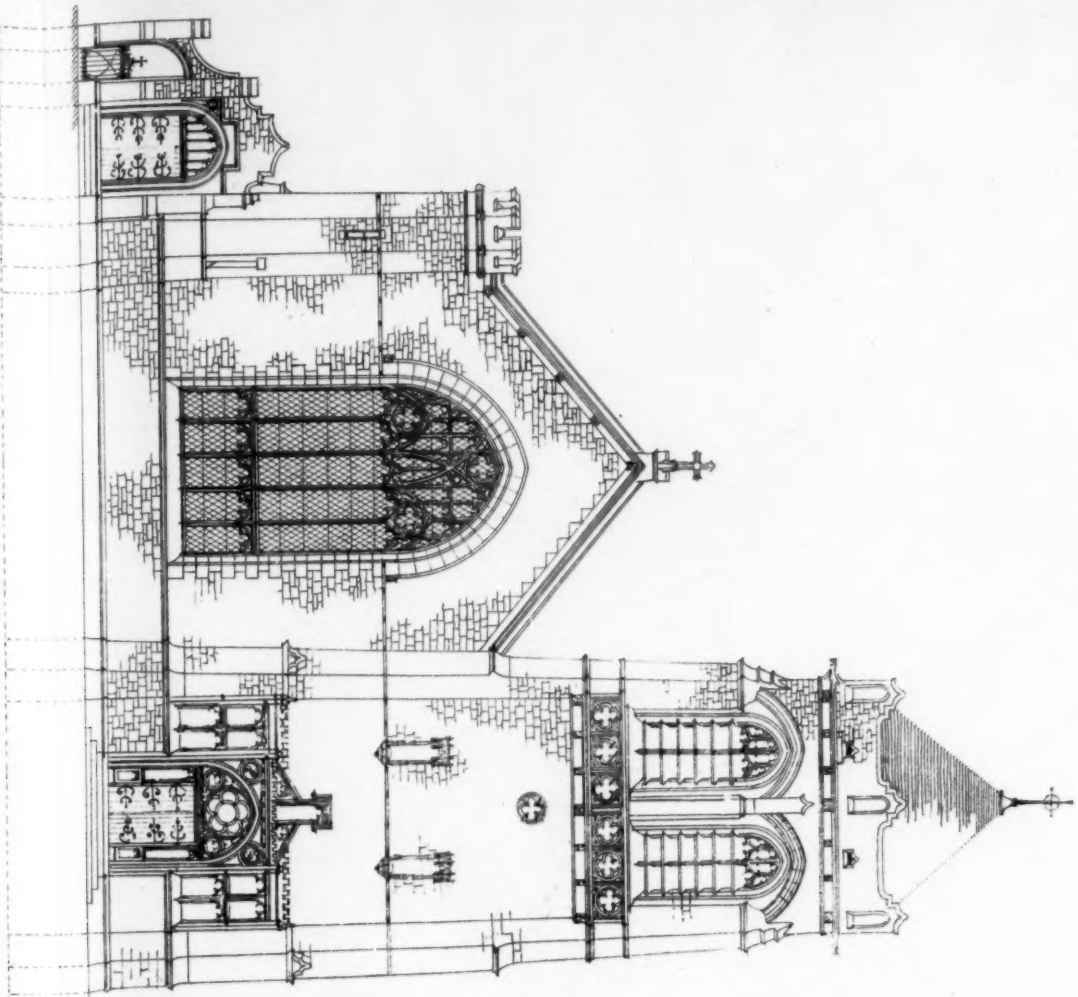
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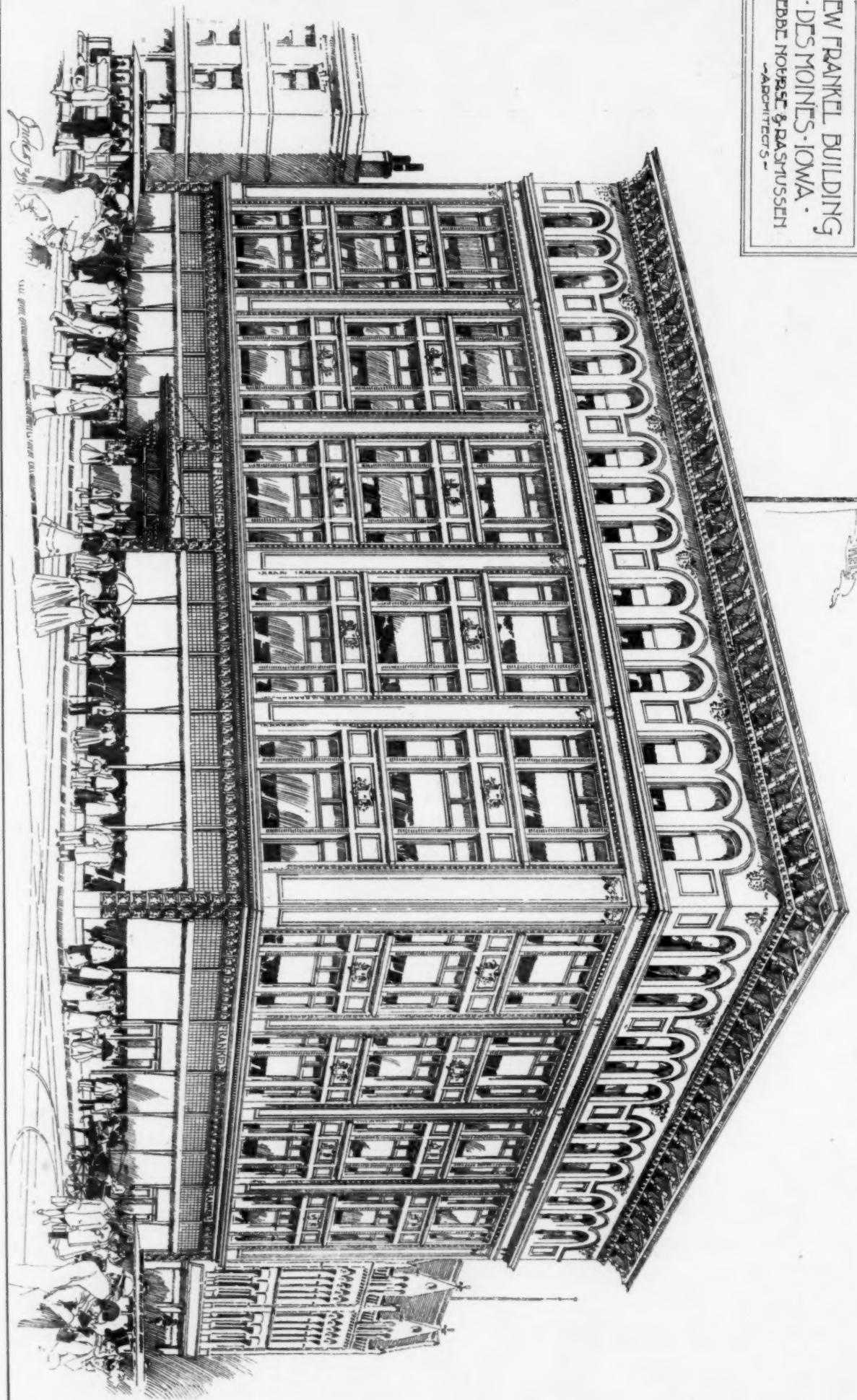
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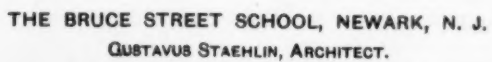


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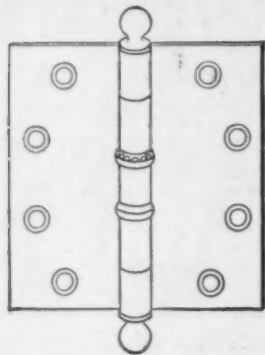
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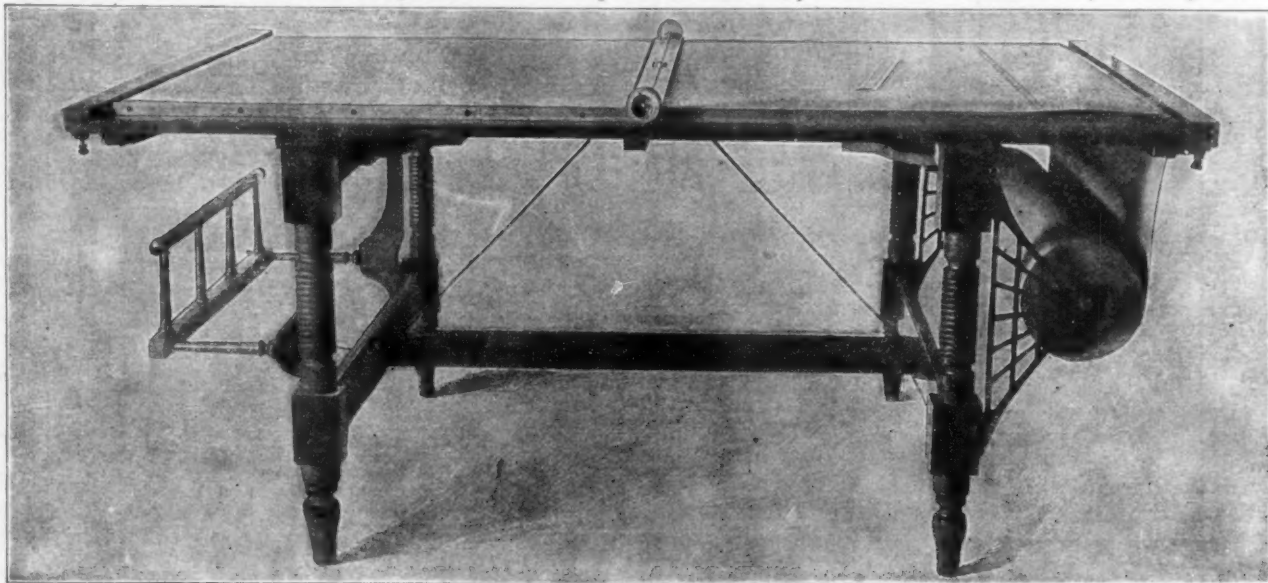
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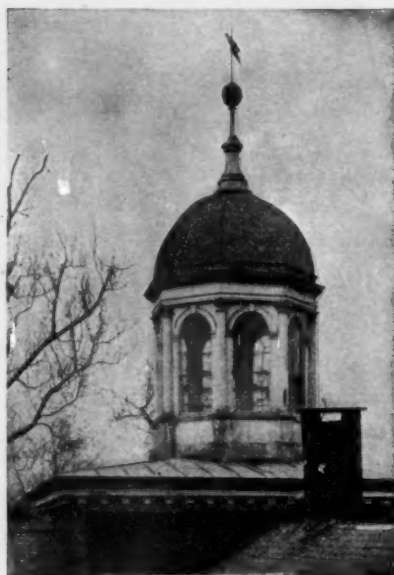
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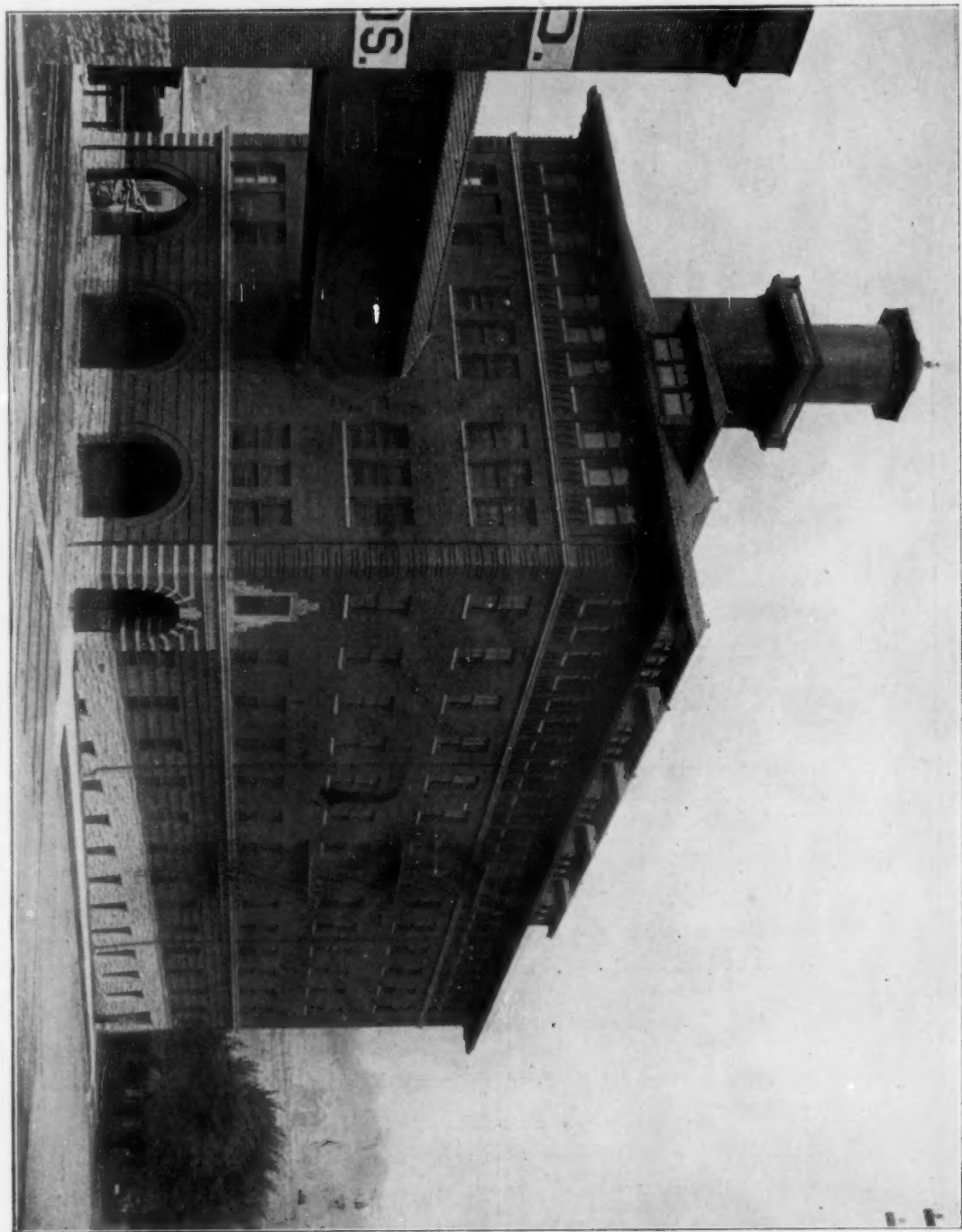
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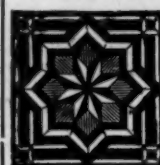
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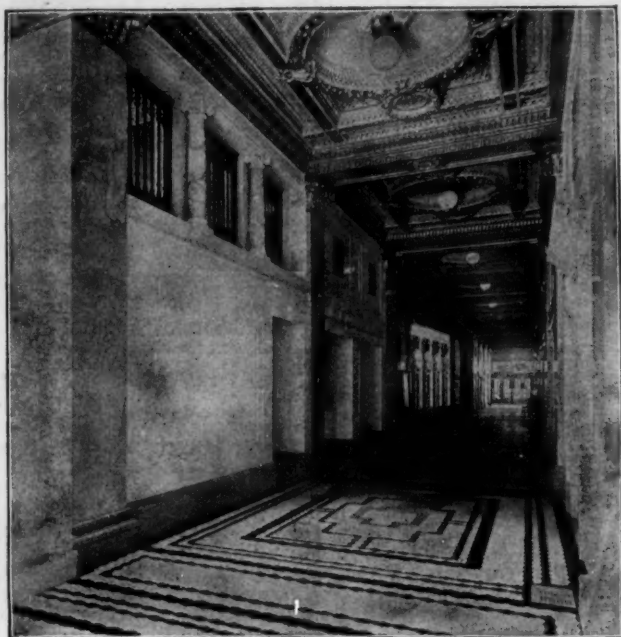
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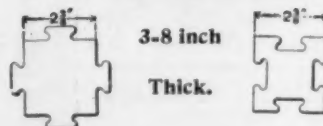
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638,691. INLET FOR CATCH-BASINS.—James Banwell, Cleveland, O.
638,713. CHIMNEY-FLUE.—Jacob F. Hill, Nanticoke, Pa.
638,718. COMBINED DOOR HINGE AND CHECK.—Joseph Hughes, New York, N. Y.
638,740. AUTOMATIC TANK-VALVE.—John T. Morrison, Minneapolis, Minn.

BUILDING PATENTS.

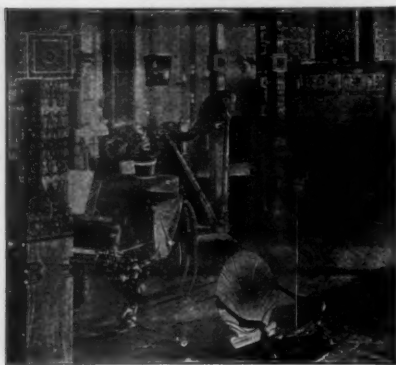
638,761. DOOR-HOLDER.—Joseph B. Sargent, New Haven, Conn.
638,763. SAFETY DEVICE FOR ELEVATORS.—Alonso B. See and Allan Cowperthwait, New York, N. Y.
638,802. TILE.—John E. Donaldson, Montezuma, Ind.
638,812. SCREEN-DOOR.—Wm. H. Rogers, Watertown, N. Y.
638,813. DETACHABLE DOOR-HOOK.—Michael B. Ryan, Danbury, Conn.
638,835. VISE.—Samuel Coran, New York, N. Y.
638,845. WINDOW BRACE AND FASTENER.—Oren J. Jenks and Thomas M. Hines, Merrill, Wis.
638,870. WATERPROOF SIDEWALK, FLOOR OR ROOF CONSTRUCTION.—Peter H. Jackson, San Francisco, Cal.
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638,945. APPARATUS FOR FLUSHING WATER-CLOSETS. — Thomas Tripp, Avon, Mass.
638,953. FLUE OR CHIMNEY. — Jas. W. Campbell, Mangum, Okla.
638,992. INDICATOR FOR ELEVATORS. — Harold Rowntree, Chicago, Ill.
639,006. KNOB ATTACHMENT — Henry G. Voight, New Britain, Conn.
639,026. WEATHER-REPELLING DEVICE FOR DOORS. — James C. Fernald, Philadelphia, Pa.
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639,058. SASH-HOLDER. — Jas. L. Kimball, Mountain Iron, Minn.
639,068. BASIN-SUPPORT. — William H. Lloyd, Boston, Mass.
639,106. WINDOW-SASH. — George T. Soper, New York, N. Y.
639,125. SQUARE. — Elkanah L. Winnett, Vicksburg, Miss.
639,139. TRANSM-LIFTER. — George Bickelhaupt, New York, N. Y.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

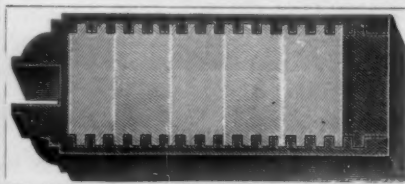
[Although a large portion of the building intelligence is provided by their regular correspondents, the editors greatly desire to receive voluntary information, especially from the smaller and outlying towns.]

ADVANCE RUMORS.

Ambler, Pa. — It is said that Dr. R. V. Mattison will build several houses at an aggregate cost of \$25,000.
Bar Harbor, Me. — The Board of Trade has set in motion a petition to Congress for a government appropriation for a post-office building, and Congressman Burleigh and Senator Hale will endeavor to secure a \$50,000 or \$55,000 building for Bar Harbor at the present session of Congress.
Bridgewater, Mass. — O. B. Cole will build a two-and-a-half story residence to cost \$10,000.
Buffalo, N. Y. — Architect E. C. Paul has prepared



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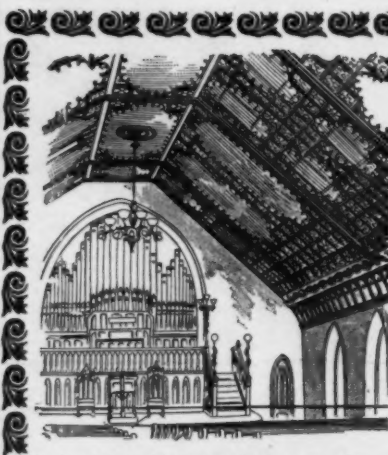
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IN

METAL CEILINGS.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

plans for a three-story frame addition to the mantle factory of Steul & Thuman, at 284-286 Johnson St.; cost, about \$5,000.
The Council has directed the Board of Public Works to prepare plans and specifications and advertise for proposals for a new three-story brick, 16-room school-building to be built in district No. 44, at Broadway and Persons St.; cost, about \$75,000.
The Lehigh Valley Railroad Co. has filed plans with the Bureau of Buildings for a new freight-house, 53' x 250', alongside its tracks south of Dingens St. The structure will cost about \$12,000.
Cambridge Springs, Pa. — G. L. Parkhurst has prepared plans for the Hotel Elks, to be erected for Dr. Crain; cost, \$45,000. Architect Parkhurst is at work on plans for a frame and stone hotel, costing about \$28,000, for Mrs. Sarah Car, Brookline Pl.
Central Islip, L. I., N. Y. — The managers of the Long Island and State Hospital at Kings Park have asked the State Commission to appropriate a sufficient sum for the erection of a suitable building for the treatment of 350 acute insane patients. It was calculated that such a building could be erected for about \$245,000. They also requested the erection of a building for the 400 employes connected with the institution.
Chicago, Ill. — Wm. G. Krieg, 84 Washington St., has drawn plans for a \$12,000 pressed-brick and stone residence, 24' x 60', and a pressed-brick barn, 25' x 38', to be built on Douglas Boulevard, near Central Park Ave., for Dr. Wellington T. Stewart.
It is reported that R. H. Murphy, of Mayville, N. D., has purchased a vacant lot at the northeast corner of Grand Boulevard and 49th St., on which he expects to erect a \$40,000 residence in the spring.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

A. G. Lund, 602 W. 63d St., is drawing plans for a \$10,000 three-story stone apartment-house, 28' x 76', to be erected on Indiana Ave., near 56th St., for Charles L. Anderson.
Clay Centre, Kan. — Plans are being prepared by Architect C. J. Holland, 727 Kansas St., Topeka, for a court-house to be built here, to cost \$30,000.
Cleveland, O. — At a recent meeting of the Executive Committee of the Brotherhood of Locomotive Engineers it was decided to look no farther for a site for the big building which the brotherhood intends to erect for its permanent home. The land and building will cost \$300,000.
Concordia, Mo. — Press reports state that a \$40,000 building will be erected by the trustees of Concordia College next spring.
Davenport, Ia. — A. Steffen, Jr., will erect a brick residence after plans drawn by Architect B. F. Auferheide; cost, \$12,000.
Des Moines, Ia. — Architects C. C. Cross & Son are preparing plans for a two-story and basement brick flat-building, 58' x 60', for Henry Reigleman; cost, \$7,500.
East Liverpool, O. — It is announced that the Pennsylvania Railroad Co. has decided to erect a \$10,000 brick and stone depot at this place. W. H. Brown, engineer, Philadelphia, Pa.
Fall River, Mass. — Plans have been prepared by Louis Destremps, Section B, Granite Block, for a school-building which is to be erected by the Notre Dame parish on Bassett St., to cost about \$60,000.
Forestville, Conn. — Press reports state that the case manufacturing building of the E. N. Welsh Clock Mfg. Co. which was totally destroyed by fire last week will be rebuilt as soon as possible. The loss was \$125,000.
Fort Meade, S. D. — A bill has been introduced in

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

the house making a permanent military post here, and carrying an appropriation of \$500,000 for repairs and improvements to the present structures.

Hastings-on-the-Hudson, N. Y.—The New York Orphan Asylum Society, 73d St. and Riverside Drive, New York City, are having plans drawn by James B. Baker, 156 Fifth Ave., New York City, for asylum buildings at this place; cost, about \$300,000.

Holyoke, Mass.—Superintendent of Schools Nash, in his annual report to the School Committee, recommends a new school-building to cost \$20,000 for the Elmwood District, and also a new school-building for the Highlands. Headvises immediate action in both these matters.

Kalamazoo, Mich.—The trustees of Kalamazoo Baptist College are preparing to erect a \$50,000 building.

Kalispell, Mont.—Bell & Kent, architects, Helena, have drawn plans for a court-house and jail to cost about \$45,000.

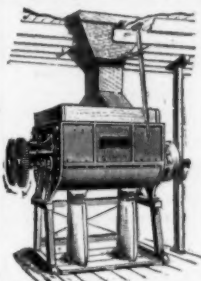
Louisville, Ky.—Architect W. C. McDougall, 5th and Jefferson Sts., has prepared plan for a three-story brick flat-building; cost, \$40,000. Architects Clarke & Loomis, 4th and Green Sts., have prepared plans for a two-and-one-half-story brick residence, 32' x 47', for R. H. Courtney; cost, \$8,500.

Lewiston, Me.—The Howland Pulp Co., it is said, will build a \$50,000 addition to its mill.

Milwaukee, Wis.—The Milwaukee Automobile Co. has been incorporated with a capital stock of \$100,000. William H. Starkweather, Herman Pfel and W. G. Smith are interested. The projectors expect to become located early in the new year.

The Filer & Stowell Co. proposes to enlarge its plant on Zieman St. by additional buildings to cost about \$60,000.

The Illinois Steel Co. is projecting improvements and additions to its Bayview plant in this city that



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

will cost \$3,000,000 or more. It will take about two years to complete the improvements, when it is expected that 1,200 more men will be given employment.

Minneapolis, Minn.—F. C. Genge & Co. will erect a new building for their parlor-furniture factory, frame, two-story, 60' x 150', at once; cost, \$6,000.

Gangelhoff Bros. have secured a site on 2d St., S., for the erection of a new building for the woven wire bed and mattress factory. The building will be two-story, 88' x 155', and will cost complete \$10,000.

New Haven, Conn.—A new school-house to cost \$45,000 is soon to be erected upon a lot that was purchased by the Board some time ago at the corner of Livingston and Canner Sts.

New York, N. Y.—J. B. Baker, 156 Fifth Ave., is drawing plans for an American basement dwelling, 55th St., south side, near 5th Ave., to cost \$200,000, for J. S. Kennedy, owner.

Building Commissioner Brady has received plans from the Metropolitan Street Railway Co. for a four-story brick car-house, estimated by the architect, A. B. Porter, to cost \$250,000. The new structure will be of brick, four stories in height, and will replace the present car stables at the southeast corner of 54th St. and 9th Ave.

Philadelphia, Pa.—The Standard Ice Manufacturing Co. has purchased a tract of land on 27th St., above South St., for \$40,000. An ice plant to cost \$150,000 is to be erected on the site.

Press reports state that Prof. James M. Munyon has practically completed plans for founding an industrial school for girls. An initial contribution of \$2,000,000 will be made to start the school, and ample funds are to be provided for its maintenance. The institution will be called the Munyon

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

College for Girls. It will consist of a number of smaller structures grouped about a large central edifice, and initial plans for these buildings have already been presented to Professor Munyon. The site has already been secured adjoining Fairmount Park. The grounds will be at once placed in preparation for building operations, and it is probable that the foundations of the college will be laid before the end of 1900.

Pittsburgh, Pa.—Press reports state the Allegheny Valley Railroad will shortly build a new and larger station in this city, to cost about \$100,000, plans for which are now being prepared.

Edwin Carrell has drawn plans for an \$18,000 brick residence to be built on Highland Ave.

Providence, R. I.—Senator Aldrich has introduced a bill in the upper branch of Congress providing for the erection of a Federal building here. The bill authorizes the Government to accept the site in Exchange Pl., and to expend \$1,500,000 for the erection of a structure large enough for a post-office and the judicial and revenue offices of the United States.

Salt Lake, Utah.—O. L. Palmer has had plans prepared by Thompson & Thompson, architects, of Seattle, Wash., for a modern residence to cost between \$8,000 and \$10,000.

Saxonville, Mass.—It is announced that another mill is to be constructed here, and that the Flynt Construction Co. has the contract, on which work will soon be commenced.

St. Joseph, Mo.—It is reported that the Val Blatz Brewing Co., of Milwaukee, Wis., are having plans prepared for a cold-storage warehouse, stable and store-building to be erected here; cost, \$25,000.

St. Louis, Mo.—Architects J. Stauder & Son have

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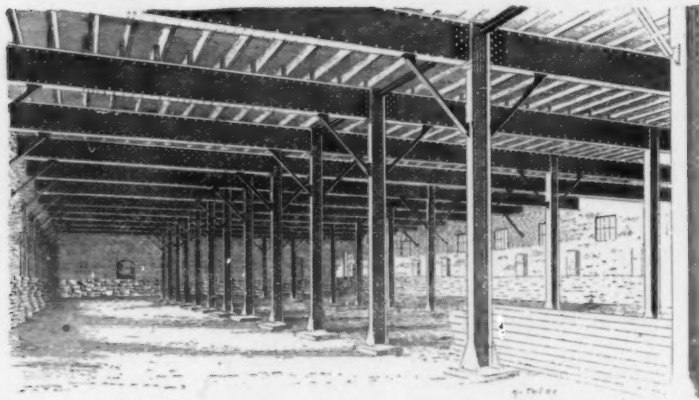
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

prepared plans for a two-story brick and terra-cotta
store and flat building, 37' x 56', to be erected at
the corner of Vandeventer and Bell Ave., for John
Witmar; cost, \$9,000.

Architect E. J. Kelley, 209 N. 8th St., has designed a
two-story brick and stone double flat-building,
44' x 60', to be erected at Newstead and McPherson
Ave., for Mrs. E. J. Kelley; cost, \$7,000.

Architect Otto J. Boehmer, Insurance Building,
has designed four flat-buildings for Herman Ost-
hoff, Blair Ave. and N. Park Pl.; cost, \$16,000.

St. Paul, Minn.—Press reports state that the
School Board will have about \$40,000 for immedi-
ate use for the erection of a new school-house and
making repairs on other buildings.

Wm. Kingsley, architect, 260 Selby Ave., has
plans for a flat building to be erected west of
"seven corners." It will be about 42' x 65', three
stories and basement; cost, \$13,000.

Syracuse, N. Y.—The order of the Holy Cross has
purchased the Mulford property of 70 acres in
West Park, Ulster County, where it is proposed to
build a monastery; cost, \$30,000.

Templeton, Ia.—Cordes & Schaeffer, architects,
of St. Louis, Mo., have completed plans for a church
to be erected for Sacred Heart Catholic Church.
It will be 57' x 137', of brick and stone, with a
steeple 170' high; cost, \$20,000.

Wilmington, Del.—An addition will be built to
the Kartavert Brick Company's plant, to cost
\$6,000.

Winfield, Ia.—The Presbyterian Society will erect
a brick church, at a cost of \$10,000. Work will be
started in the early spring.

Youngstown, O.—Architect R. F. & R. Thompson
have prepared plans for a brick and terra-cotta
church, 55' x 120', to be erected for the United
Presbyterian Society; cost, \$50,000.

ALTERATIONS AND ADDITIONS.

Chicago, Ill.—S. Hoyne Ave., Nos. 114-116, four-st'y
bk. addition, 25' x 60'; \$10,000; o., Dr. Peter Fahr-
ney; a., D. A. Lapointe; b., W. H. Cameron, 177 La
Salle St.

Carroll Ave., five-st'y bk. addition to factory, 115'
x 124'; \$85,000; o., C. C. Helsen; a., J. M. Van
Osdel.

Dearborn St., No. 2629, 2½-st'y bk. addition to
factory, 70' x 90', comp. roof, steam; \$20,000; o., A.
B. Ausbacher; a., Charles Furst.

BUILDING INTELLIGENCE.

(Alterations and Additions Continued.)

Norwood, O.—One-st'y fr., steel & bk. addition to
factory, 101' x 200', slate roof; \$20,000; o., Bullock
Electric Mfg. Co. Station, Cincinnati.

Philadelphia, Pa.—Fourth and Chestnut Sts.,
interior alterations to banking-rooms; \$18,000; o.,
Provident Life & Trust Co.; b., McDavitt & Ramsey;
a., Furness, Evans & Co.

Clearfield St., Nos. 2127-29, two-st'y on one-st'y
brewery stock house; \$7,000; o., Jacob Hurnung;
b., Philip Halbach.

Germanstown Ave., No. 5555, three-st'y bk. & st.
store & dwell. addition, 26' x 61'; \$6,000; o., Jesse
Pinder; b., Harry Hinkle.

St. Louis, Mo.—Potomac and Ohio Sts., three-st'y
bk. & st. addition to hospital, comp. roof, steam;
\$15,000; o., German Lutheran Hospital; a., C. F.
May.

APARTMENT-HOUSES.

Chicago, Ill.—S. Park Ave., 2 three-st'y bk. flats,
25' x 86'; \$25,000; o., Thomas Barnes and Cath.
Feeley; a., Murphy & Camp.

E. Sixtieth St., three-st'y bk. apart.; \$90,000; o.,
William P. Doerr; a., J. F. & J. P. Doerr.

Midway Plaisance and Kimbark Ave., three-st'y
bk., st. & terra-cotta apart., 87' x 158', comp. roof,
steam; \$75,000; o., W. P. Doerr; a., J. F. & J. P.
Doerr.

King Pl., nr. Blucher St., three-st'y st. & bk.
apart., 66' x 90', comp. roof, steam; \$20,000; o.,
Chas. A. Strandel.

E. Sixty-fourth St., Nos. 437-441, three-st'y bk.
apart., 54' x 70'; \$22,000; o., A. & G. Armstrong; a.,
J. F. & J. P. Doerr.

Milwaukee Ave., No. 2250, three-st'y bk. & st.
store & flats, 25' x 125', comp. roof, steam; \$12,500;
o., Augustus Allen; a., Henry Worthman.

S. Spaulding Ave., Nos. 917-21, 2 two-st'y bk.
flats, 22' x 60'; \$11,000; o., Mary Shea; a., William
Gubbins; b., Ed. Shea.

Irving Park Boulevard, No. 874, two-st'y bk. flats,
22' x 56'; \$5,000; o., Capt. John C. Revere; a., H. G.
Hayes; b., Labinski & Nordlie, 227 Cuyler St.

Cottage Grove Ave., Nos. 6501-6507, three-st'y bk.
store & flats, 57' x 106'; \$30,000; o. & b., H. McCorm-
ick; a., H. L. Newhouse.

Sixty-fifth Pl., Nos. 300-302, three-st'y bk. apart.,
40' x 74'; \$18,000; o., C. B. Snyder; a., A. Foster;
b., J. W. Snyder.

Columbus, O.—Neil and Marshall Ave., three-st'y
bk. apart., slate roof, steam; \$25,000; o., C. B.

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Flagg; a., J. R. Stone, Hartford Building, Chicago,
Ill.

Detroit, Mich.—Alexandrine Ave., three-st'y bk.
& st. apart., 36' x 80', comp. roof, steam; \$10,000;
a., E. C. Von Leyen.

Alexandrine Ave., two-st'y bk. & st. apart., 42' x
73', steam; \$10,000; o., Crossman, Gregory & Co.;
a., E. W. Gregory.

Fort Dodge, Ia.—Three-st'y bk. & fr. store &
apart., 20' x 100', gravel roof, steam; \$6,000; o.,
Miss Cahill; a., J. H. Albright.

Newark, N. J.—Springfield Ave., nr. 12th St., four-
st'y bk. & terra-cotta stores & flats; \$22,000; a., C.
C. L. Steinbrenner & Co.

St. Louis, Mo.—Oregon Ave. and Cherokee St., two-
st'y bk. apart., 42' x 56', comp. roof, furnace;
\$6,000; o., Lorenz Kuechler; a., G. P. Wuest.

Newstead and Evans Ave., two-st'y bk. & terra-
cotta store & apart., 55' x 60', comp. roof; o., Charter
Oak Invest. Co.; a., A. B. Ridington.

Delmar Ave., nr. Walton St., three-st'y bk. & st.
store & apart., 45' x 60', comp. roof, steam; \$8,000;
o., William Bagnall; a., William A. Lucas.

Evans Ave., nr. Newstead Ave., two-st'y bk.
apart., 44' x 60', comp. roof, furnace; \$7,500; o., F.
A. Banister; a., A. B. Ridington.

Theresa and Eads Ave., 4 double apart., 43' x
63', comp. roof, steam; \$30,000; o., P. Bruney; a.,
Louis Harman.

Delmar St., nr. Walton St., three-st'y bk. & terra-
cotta apart., comp. roof, steam; \$10,000; o., Wm.
Bagnall; a., William A. Lucas.

Sarah and Westminster Sts., four-st'y bk. apart.,
40' x 116'; \$30,000; o., Chas. M. Mason; b., W. L.
Denham.

Toledo, O.—Cherry St., three-st'y bk. store & flats,
gravel roof, hot water; \$20,000; o., Allen Korea;
a., Bason & Huber.

Zanesville, O.—Three-st'y bk. & st. apart., 33' x
80', asphalt roof; o., Dr. Holden; a., H. C. Lindsay.

Greenwood Terrace, two-st'y bk. & fr. apart., 40'
x 232', asphalt roof, steam; \$15,000; a., H. C. Lind-
say.

EDUCATIONAL.

Detroit, Mich.—Boulevard and Mack Ave., three-
st'y bk. & sandst. high school, slate roof, steam;
\$150,000; o., Board of Education; a., L. N. Cham-
berlin.

Millerville, Pa.—Three-st'y st. & bk. school, 60' x
123', slate roof, steam; \$25,000; o., State of Pa.; a.,
J. A. Dempwolf, York.

FABRICIES.

Chicago, Ill.—Thirty-sixth Pl., Nos. 2281-83, one-
st'y bk. foundry, 50' x 211'; \$10,000; o., Western
Foundry Co.; a., M. J. Morehouse, 226 La Salle St.;
b., C. D. Armstrong.

Cincinnati, O.—Five-st'y bk. factory, 60' x 160',
comp. roof, hot air; \$40,000; o., Boas Washing
Machine Co.; a., Doenette & Shepherd.

Detroit, Mich.—Summit Ave. Front, three-st'y bk.
& st. factory, 80' x 200', comp. roof, steam; \$30,000;
o., Diamond Stamped Ware Co., 58 Clarke Ave.; a.,
Rogers & Macfarlane.

Grand Rapids, Mich.—Three-st'y mill-construc-
tion bk. factory, 70' x 148', comp. roof, steam; \$30,-
000; a., E. C. Van Leyen, Detroit.

Philadelphia, Pa.—Pennegrove St., nr. 54th St.,
two-st'y bk. factory, 32' x 147'; \$5,000; o., Henry
Brooks.

Summerdale, Pa.—One & two-st'y bk., pine & iron
factory buildings, 42' 9" x 369' 9", 148' x 202'; work-
shop & storehouse, 50' x 82'; varnish house, 148' x
202'; engine & boiler house, 50' x 75'; & an office-
building; \$59,000; o. & a., Wolff Leather Process
Co.; b., Geo. W. Pierson.

St. Louis, Mo.—Singleton St., No. 2111, two-st'y
bk. factory, 43' x 105'; \$11,000; o., B. Tholmann;
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No. 663,275, May 25, 1897
No. 683,276, May 25, 1897
No. 691,688, Oct. 12, 1897

No. 620,888, Mar. 14, 1899
No. 601,436, Mar. 29, 1898
No. 608,540, Aug. 2, 1898
No. 608,972, Aug. 9, 1898

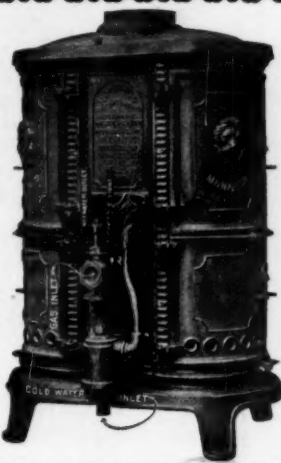
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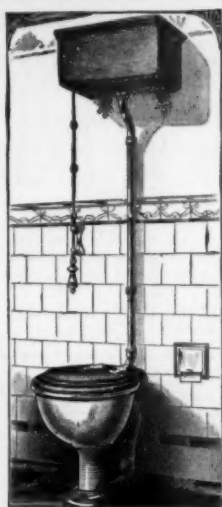
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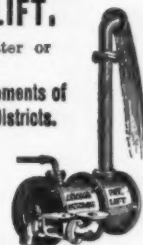
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HOTELS.

Boston, Mass.—Boylston St., cor. Exeter St., eleven-sty' bk. hotel, 90' x 146', flat roof, steam; \$600,000; o., Lenox Hotel Trust; b., G. A. Fuller & Co.; a., A. W. Bowditch, 112 Water St.

HOUSES.

Boston, Mass.—Arboretum St., nr. Beacon St., 3 three-sty' bk. dwells, 25' x 30' x 70', steam; \$27,000; o., Mark Lewis; a., G. E. Parsons.

East St., nr. Dorchester Ave., 2-sty' fr. dwell, 27' x 53', pitch roof, hot water; \$6,000; o., John E. Nowland; a. & b., William Riley.

Vale St., nr. Dorchester Ave., 3 fr. dwells, 23' x 30' x 70', steam; \$27,000; o., Frank T. Horgan; a. & b., Daly Bros.

Crosby Pl., nr. Brooks St., 2-sty' fr. dwell, 23' x 40', pitch roof, furnace; \$5,500; o., J. C. Bagloe; b., Chute & Bagloe; a., G. Parsons.

Bellport, L. I., N. Y.—2-sty' fr. dwell; \$7,000; o., John A. Potter.

Chicago, Ill.—Michigan Ave. and Fifty-sixth St., three-sty' Bedford st. dwell, 30' x 38', slate roof, steam; \$16,000; o., James Tuttle; a., W. J. Brinkman.

Cincinnati, O.—Bryant Ave., 2-sty' bk. & st. dwell, 39' x 55', steam; \$8,000; o., Dr. Ravogli; a., Dee Jardins & Hayward.

Clifton Terrace, Ill.—2-sty' fr. dwell, 65' x 70'; \$10,000; o., W. M. Elliott, St. Louis, Mo.; a., V. J. Klutho, 306 Benoit Building, St. Louis, Mo.

East Hampton, L. I., N. Y.—2-sty' fr. dwell; \$5,000; o., Frederick McCann.

Evanston, Ill.—Two-sty' bk. & st. dwell, 30' x 60', pitch roof, hot air & hot water; \$10,000; o., E. A. Mayo.

Lake Shore Boulevard, two-sty' bk. dwell, 30' x 50', pitch roof, hot water & air; \$7,500; o., A. B. Porter; a., Ernest A. Mayo, Dexter Building, Chicago.

Franklin, Pa.—2-sty' bk. & st. dwell, 38' x 40', slate roof, hot air; \$6,000; o., Eshelmann; a., Beezer Bros., 509 Liberty National Bank Building, Pittsburgh.

Joliet, Ill.—Three-sty' bk. dwell, 40' x 89', steam; \$15,000; o., Chas. L. Wallace.

Minneapolis, Minn.—Two-sty' fr. dwell, 34' x 34'; o., E. C. Keller; b., Harry Ingham.

Newark, N. J.—S. Seventh St., No. 100, 2-sty' fr. dwell; \$4,500; o., George H. Trivett; a., L. A. Virtue.

Philadelphia, Pa.—Fortieth St., nr. Spruce St., 5 three-sty' bk. & fr. dwells, 18' x 62' 11" & 18' x 60'; \$28,000; o. & b., Charles I. Metzger.

St. Louis, Mo.—Chouteau St., nr. Boyle St., two-sty' bk., stone & terra-cotta dwell, 43' x 64', comp. roof, steam; \$32,000; o., C. E. Kraleman; a., L. Harman.

Jefferson Ave. and Cherokee St., two-sty' bk. & st. double dwell, 44' x 50', comp. roof, furnace; \$7,500; a., C. F. May.

St. Paul, Minn.—Two-sty' fr. dwell, 30' x 38', pitch roof, hot water; \$5,000; o., Dr. Hunt; a., Louis Lockwood.

Worcester, Mass.—Penn Ave., three-sty' fr. dwell, 37' x 61'; \$4,500; o., Mrs. E. J. Aldrich; a., A. J. Harrington; b., F. K. Feyler.

Midland St., two-sty' fr. dwell, 28' x 43 1/2'; \$4,500; o. & b., Wm. B. Howe; a., Louis Plack, Jr.

BUILDING INTELLIGENCE.

(Houses Continued.)

Elm Ave., two-sty' fr. dwell, 26' x 41 1/2'; \$4,500; o., J. H. & F. H. Howland; a., Frost, Briggs & Chamberlin; b., Wm. B. Howe.

Dodge Terrace, three-sty' fr. dwell, 23' x 52'; \$5,200; o., James B. Seringecour; a., J. P. Kingston; b., Axel Erikson.

Dayton St., two-sty' fr. dwell, 39' x 40'; \$7,500; o., E. M. Holman; a., Frost, Briggs & Chamberlin.

W. Boylston St., 2-sty' fr. dwell, 26' x 54'; \$4,400; o., J. B. Seringecour; b., C. E. Anderson.

Vernon St., three-sty' fr. dwell, 28' x 64'; \$5,000; o., Mrs. G. I. Donoghue; a., M. J. Reidy; b., J. A. McDermott.

LIBRARIES.

Litchfield, Conn.—One-sty' granite & st. library, 22' high, 26' x 59', with wing, 25' x 97'; \$20,000; o., The Noyes Memorial Library; a., Ross & McNeill, 39 E. 42d St., New York.

OFFICE BUILDINGS.

Chicago, Ill.—Sheffield Ave., Nos. 1197-99, two-sty' bk. station, 40' x 100'; \$25,000; o., Chicago Telephone Co.; a., D. H. Burnham & Co., Rookery Building; b., Jonathan Clark Sons Co.

Hackensack, N. J.—Four-sty' bk. office & bank building; \$65,000; o., Hackensack Bank & Trust Co.; a., Mowbray & Uffinger, 49 Liberty St., New York City.

New York, N. Y.—Irving Pl., cor. 18th St., six-sty' bk. & st. offices, 53' x 100'; \$150,000; o., N. Y. Telephone Co., 15 Dey St.

PUBLIC BUILDINGS.

Columbia, S. C.—Three-sty' bk. city-hall & opera-house, 80' x 150', tin & tar roof, steam; \$50,000; o., City; a., Frank P. Milburn, Charlotte, N. C.

STABLES.

Chicago, Ill.—East End Ave., two-sty' st. & bk. stable, 27' x 32', tile roof; \$5,000; o., W. C. Farsman; a., J. E. O. Fridmore.

Carroll Ave. and Ada St., one-sty' bk. stable, 30' x 125', comp. roof; \$2,500; o., Eckhart & Swan Milling Co.

STORES.

Chicago, Ill.—Madison St., nr. Hamlin Ave., two-sty' & base. bk. & iron store & dwell, 26' x 75', comp. roof; \$7,000; o., C. Koerstein; a., Harry E. Stevens.

PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., December 19, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 31st day of January, 1900, and then opened for the construction (except electric work, heating and ventilating and elevators) of the hospital building at the U. S. Immigrant Station, Ellis Island, New York Harbor, in accordance with the drawings and specification, copies of which may be had at this office or the office of Boring & Tilton, architects, 32 Broadway, New York City. **JAMES KNOX TAYLOR,** Supervising Architect. 1253

HIGH SCHOOL. [At Centerville, Md.] Bids are wanted January 15th for the erection of a high-school building. **L. L. BEATTY,** Sec'y Bldg. Com. School Commissioners. 1253

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CITY-HALL. [At Columbia, S. C.] Sealed proposals will be received until January 5, 1900, for the erection of a city-hall. **THOS. H. GIBBS,** et al., committee. 1254

JAIL. [At Nevada City, Nev.] Sealed proposals will be received until January 9th, for the erection of a jail to cost \$175,000. **SUPERVISORS.** 1254

SANITARIUM. [At Pueblo, Col.] Bids will be received after January 1 for the construction of a sandstone and brick sanitarium, to cost \$60,000. **WESTON & CO.,** Pueblo. 1252

COUNTY JAIL. [At Alexandria, Minn.] Sealed proposals will be received until January 4, 1900, for the erection and construction of a county jail for Douglas County. **E. P. WRIGHT,** county aud. 1252

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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.

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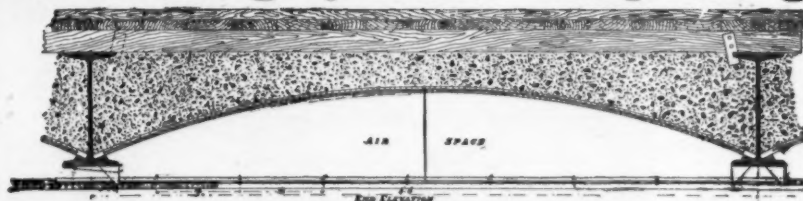
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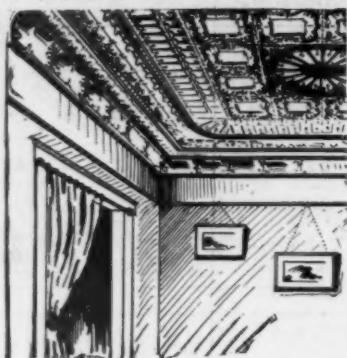
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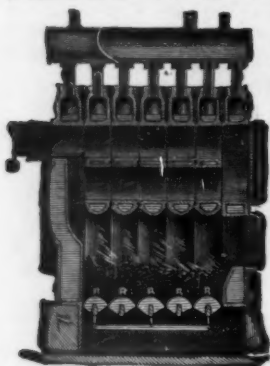
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