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THE New York Chapter of the American Institute of Architects, with the support of the Fine-Arts Federation, has taken the initiative in a step of great importance to the public, and to the profession, in suggesting the draft of a bill, which has been introduced in the New York Legislature, providing that the Mayor of New York shall, before June 1, 1902, select, from a list of one hundred candidates presented by the Fine-Arts Federation, fifty architects, who shall be listed as "Eligible Architects for Municipal Work," and that architectural work for the city of New York, or for any of its departments, shall thereafter be confided only to architects whose names appear on the list. Provision is made for increasing the number, by yearly selection, until the list contains one hundred names; after this, vacancies are filled, in a similar way, only as they occur. The Fine-Arts Federation is at liberty to propose candidates not resident in New York, and the Mayor may select such candidates. The bill, as introduced, is an excellent one, showing every indication of the utmost fairness of intention on the part of those concerned in drawing it, and it has received deserved commendation and support from a very large number of architects, both members and non-members of the professional societies in New York.

AS to the effect of such a measure, if it should be passed, as seems quite probable, it need hardly be said that the assurance that it gives that public building work will be placed in proper hands is of the greatest value. New York has suffered less, perhaps, than many other cities from the ignorance and incompetence of those whom political influence or favoritism has put in charge of important building operations; but it needs to be secure in this respect, and the course of the authorities in recent years has not been such as to encourage the belief that professional reputation and skill constituted the sole claim to their favor. To put it out of the power of a new administration to reward political services by giving architectural work to incompetent men, or to utilize a dishonest architect as a means of plundering the public treasury for the benefit of politicians, will be a great gain for the city; and this the new bill would do effectually. Few people outside the profession know how great are the opportunities offered to architects for robbing, or helping other people to rob, the owner of a new building, or how strong and persistent is the pressure on the architect of a public building to connive, or, at least, to wink at, overcharges, needless extras, and violations of the contract, in favor of some one influential in politics. Many a young architect, who had fairly won a public commission, has been ignominiously discharged, without explanation, or forced out of his position by deliberate insult and annoyance, to make room for one more ready to join in schemes for diverting the public money into the pockets of politicians; and a law which will exclude from employment on public building work every one not trained in the principles of professional integrity, as well as of professional science, is a most prudent measure.

THE profession, also, has something to gain by a law of the sort proposed, not so much in the way of employment as in the encouragement which it will give to the younger men. In France, the appointment as "architecte du gouvernement" means almost precisely what selection for the eligible list would in New York under the Davis bill; that is, simply, qualification for public professional work. The "architecte du gouvernement" very often passes his whole life without a public commission, but the fact that he has been selected as qualified to carry one out, if occasion should offer, is regarded as a high professional honor. The architect on whom it has been bestowed is careful to make the fact known on all occasions, by adding the title to his name, and it is, naturally, of great advantage in private practice. The man whose name figures on the New York eligible list, particularly if he is young, should find similar advantage in the circumstance; and the chance of winning a place on a list of one hundred is sufficiently good to act as a great encouragement to all architects practising in the city. Some such encouragement is more needed than anything else by the profession in this country. The younger practitioners, who see the award of the most important public commissions secured by bribing servants, or in other equally discreditable ways, become cynical, and, instead of doing their best, fall into the habit of doing what they think most likely to please the unskilled, even if honest, judges who control the decision. For such men a test in which the judges are the most accomplished men in their own profession is a pleasant, as well as wholesome, tonic, and such a test the Davis law provides; for it is very certain that no architect who, in his competition drawings, suspends towers in the air over the middle of large rooms, or who adorns his buildings with Corinthian pilasters without bases, or gives other evidences of imperfect professional attainment, or doubtful professional sincerity, or who has been detected in violations of the code of professional ethics, will ever be presented as a candidate by the Fine-Arts Federation, the ablest and least prejudiced professional tribunal in New York. To receive the suffrages of such a tribunal, or of the similar ones which would be likely in other cities to follow the establishment of one in New York, would do more to encourage a young architect, and strengthen him in his artistic development, than a dozen commissions secured from friends, or from non-expert judges; and the artistic future of this country needs nothing so much as this sort of recognized and skilled criticism.

THE Westminster Chambers matter has come up again in the Massachusetts Legislature in a new form, the city of Boston having petitioned for a change of the law, permitting buildings on the east side of Copley Square, which would include Westminster Chambers, to be "completed, rebuilt or altered" to a height of one hundred feet, instead of ninety feet, as the law stands at present. The object of the petition is evidently to save the city money, for, the Supreme Court having decided that the law establishing the ninety-foot limit was constitutional, the portion of it requiring the city of Boston to pay all damages consequent upon the restriction is sustained with the rest, and the city finds that its bill will be considerably smaller if the Westminster Chambers is permitted to remain as it is, at a height of about ninety-six feet. Now that the Museum of Fine-Arts, which alone, out of all the petitioners for the original restriction, had a tangible reason for its action, is to be removed, there is no one left who will be in the slightest degree injured by letting the Westminster Chambers stay as it is, and the taxpayers of the city, of whom not one in a thousand takes even a sentimental interest in the matter, have a claim to be considered. The newspapers have begun their usual outcry about "defying the law," and so on; but the Legislature which passed the original law has a perfect right to pass a modified one, if it sees fit, and a statute for the relief of the taxpayers of Boston is a very different affair from one intended to make a special exception to a law applying to a considerable number of estates. We have always thought the original law arbitrary and oppressive, and, while that would not justify any one in defying it, a great many people will think that, after the reason for the original law had been removed, a small retrograde movement in the direction of equal rights for all citizens might not be amiss, independent of any

consideration for the taxpayers' pockets. One of the Boston newspapers makes a rather unfortunate comparison of the Westminster Chambers with the Algonquin Club, the front wall of which originally projected beyond the street line, and was, by order of a court, taken down and rebuilt. In the case of the Algonquin Club, however, the restrictions were clearly fixed in the deed of the land, and it was the neighboring owners who objected, with good reason, to the construction of the clubhouse on territory in which they had rights. This was quite a different matter, and it was as much for the interest of all the citizens to see that no owner was allowed to encroach on the property of his neighbors or of the public as it is now to see that no one is selected for special oppression without good reason, and that, if the reasons which make oppression necessary are removed, the oppression shall, so far as possible, cease.

NOTWITHSTANDING M. Santos-Dumont's occasional misfortunes, his attempts at navigating the air form the most interesting and important events of the day, for, in his fragile craft, the daring inventor carries the fate of empires. Starting from Nice the other day, while waiting for a favorable wind for a trip to Corsica, he sailed over the water to Cape Martin, and then turned and came back, performing "graceful evolutions" with his balloon. Cape Martin is only about two miles from the Italian frontier at Vintimiglia. If, then, France and Italy had been at war, as they have been on the point of being several times within the last five or six years, it would have been easy for him to sail for a few moments farther eastward, and, instead of amusing the ladies on the beach at Mentone, to perform his "graceful evolutions" over the Italian fortifications at Vintimiglia, leaving them, with the aid of a few packages of explosive gelatine, a mass of ruins, and the way clear for the march of an invading army. Moreover, Cape Martin is in plain sight of the great city of Genoa, and the naval station of Spezia, and a few more "graceful evolutions" would be quite sufficient to destroy the docks of Spezia, and the vessels under construction there, and to render the fortifications of Genoa useless.

ALL these things are obviously already within the power of Santos-Dumont and his balloon, and it cannot be doubted that, before many months have passed, machines will be built capable of taking much longer and swifter flights, and carrying greater burdens, than are suited to his modest craft. When this result has once been attained, the political equilibrium of the world must inevitably begin to rearrange itself. It need hardly be observed that the system of civilization by extermination will be the first to fall before the new force. When science has put it within the power of an oppressed or defeated people, however weak in numbers, to build or buy, at a hundredth part of the cost of a battle-ship, a machine which will travel over sea or land, more swiftly than any steamer or railroad train; which can, in an instant, destroy the most powerful naval vessels, either at sea or in port, blow up railway bridges and viaducts, and the ammunition and commissary trains of armies on the march, and, flying over the heads of the armies, can burn and destroy the enemy's cities, the coercion of weak nations by the strong ones must cease. The stronger the oppressor, the greater and richer will be the cities which lie at the mercy of the avenger, and the advantage, in such a contest, will be on the side of the poor community, which has no cities, ships or armies to lose, but possesses the means of destroying those of its enemies. It is not necessary that a Santos-Dumont should be found to sail in every air-ship. When once the secret of directing the flight of a balloon is known, its capacity as an engine of destruction can be utilized without the employment of a pilot. Supposing, for example, the people of the Low Countries to wish to make a "demonstration" in behalf of their brethren in South Africa, it would be by no means difficult, even in the present state of knowledge, to send a swarm of balloons, driven by compressed-air motors, or something of the kind, over the hundred miles or so separating the Belgian coast from London; and, with fuses timed with even moderate precision, fire and destruction could be scattered through the metropolitan district. It is true that such an attempt would be immediately followed by the appearance of a British fleet off the Belgian coast, but, with a few "graceful evolutions" of a Santos-Dumont, the English vessels could be sent to the bottom before they reached their destination. We have no wish to suggest, still less to encourage, the application of science to violence, but prudence in anticipating

events is the best means of avoiding or mitigating them, and the peace of nations, and the security of their citizens, will be promoted by the clearest possible understanding of the offensive resources which the near future will afford, and which will render navies useless, make foreign expeditions impracticable, and transfer the devastation of war to the centres of population.

IN a more peaceful field, the advent of the navigable balloon will have important and extended consequences. Supposing M. Santos-Dumont, instead of a person of scrupulous integrity, to be intent upon dishonest gains, it is difficult to see how he could have been prevented, after flying from Nice to Mentone, from flying a few miles farther, and landing, at some point across the Italian frontier, such portable articles as he might wish to introduce into Italy without paying duty on them; or, to suppose a case nearer home, if a rival aeronaut were to start at night from some point in Northern Mexico, and land a hundred thousand dollars' worth of jewelry somewhere in Texas, where an agent of New York or Chicago jewellers was waiting to receive it, no possible vigilance of Custom-house officials could prevent him. The duty on jewelry brought into the United States is sixty per cent, so that the profit on each trip would be sixty thousand dollars, and it would be easy to make a trip every night. As in the other case, we are very far from advising any one to imperil his soul in such adventures, but it can do no harm to point out that, if persons deaf to the voice of wisdom should indulge in them, the consequence would be the speedy bankruptcy of all, or nearly all, the jewellers in the United States not concerned in the conspiracy, for the obvious reason that the contraband dealers, having a sixty-per-cent advantage over their competitors, would soon have all the trade. The same system would, undoubtedly, be utilized for the importation of other goods, having great value in a small compass, and burdened with heavy duties, and it would not be surprising to see some of the most highly protected industries brought, by the introduction of the navigable balloon, to the position of earnest advocates of a change in the tariff, as the only means of saving them from ruin.

SOME one, who has been inspecting the list of delinquent taxes about Chicago, finds in it evidence of the collapse of the great speculation of 1893 in lots in the "extension of Jackson Park, Chicago," as it was called. It will be remembered that Jackson Park borders on Lake Michigan, and about three million dollars were paid to the promoters of the scheme in return for deeds of lots from six inches to three feet under water. These worthless lots sold, in some instances, for three thousand dollars each. Now, the owners do not care to pay the very trifling tax upon them, to keep them from being sold by the sheriff. The moral of this tale is that people who propose to buy land as a speculation will do well to see the land before they commit themselves; and, in the case of Chicago speculations, even this is not always sufficient. Years ago, when Chicago was growing rapidly, the real-estate operators were said to have a way of buying up a large tract, laying out and grading streets, setting lamp-posts and so on, and then advertising a grand excursion and auction sale for a certain day. On the appointed day, the excursionists found the place swarming with workmen, new houses going up on every side, bricks, mortar and lumber encumbering the streets, and the air full of the cheerful sounds of trowel and hammer. The auction then began, amid great enthusiasm; large sums were bid for choice of lots, and multitudes of the visitors went home feeling that they had secured a fortune by a successful bid. Before the last excursion train was out of sight, the sound of hammer and trowel had ceased; the workmen were packing up their tools, carts were removing the bricks and lumber, and, by nightfall, the place had reverted to solitude.

OF necessity the exigencies of rapid serial publication compel editors to depend on certain routine systems which are supposed to be automatic in their working; but now and then these routine operations break down, as any system in which the personal equation enters is liable to do. Some of our readers possibly detected that the illustration of the Post-office at Kansas City, Kans., published in our last issue had already made its appearance in our issue for November 10, 1900. The accidental replacing of a used negative among those not used is probably responsible for the republication. Fortunately, Mr. Taylor's designs are so satisfactory, a second appearance of one of them can hardly be considered a grave misfortune.

THE CROSS IN HISTORY AND ART.¹

THE simple Latin cross, free from floriation or ornament, is known as the cross of suffering or passion. It represents the actual gibbet-altar upon which the atonement was offered. The barbarous execution by crucifixion, of which traces are to be found from a very remote period, was carried into effect in two forms—viz, when the sufferer was left to perish bound to a tree or an upright stake, sometimes after being impaled; and when by nails driven through his hands and feet, his limbs also sometimes further secured by cords, the sufferer was fixed with outstretched arms to a cross having a horizontal bar as well as a vertical stake.

The form of this instrument of punishment inspired a deep and unmitigated horror on the part of the Romans. Cicero, who lived before the Christian era, says that "the very name of the cross was banished from the thoughts, eyes, and ears of a Roman citizen," and several generations elapsed ere the old ideas connected with the "arbor infelix" gave way before its new meaning, so that it was not till the middle of the fifth century, more than a hundred years after the cessation of death by crucifixion, that the pure form of the cross emerged to sight. . . .

THE PUNISHMENT OF THE CROSS.

This form of punishment was in ancient times a very ordinary one, and of far wider extent than is generally known. It was common among the Scythians, the Greeks, the Carthaginians, the Germans, and the Romans, who, however, principally applied it to their slaves, and rarely crucified free men unless they were robbers or assassins.

Alexander the Great, after taking the city of Tyre, caused 2,000 inhabitants to be crucified. Flavius Josephus relates, in his "*Antiquities of the Jews*," that Alexander, the King of the Jews, on the capture of the town of Betoma, ordered 800 of the inhabitants to suffer the death of the cross, and their wives and children to be massacred before their eyes whilst they were still alive. Augustus, after the Sicilian War, crucified 6,000 slaves who had not been claimed by their masters. Tiberius crucified the priests of Isis, and destroyed their temple. Titus, during the siege of Jerusalem, crucified all those unfortunates who, to the number of five or six hundred daily, fled from the city to escape the famine, and so numerous were these executions that crosses were wanting, and the land all about seemed like a hideous forest. . . .

THE CROSS IN ART.

Crosses exhibiting an endless variety of form, proportion, and adornment surmounted the loftiest architectural features of cathedrals and churches, while here and there upon the masonry they attested the consecration to Christian worship of the buildings which bore them. With the triumph of Christianity, the cross was recognized as a symbol of the highest dignity and honor. It was made of the most precious materials, enriched with the most costly gems, and adorned with most exquisite art. The cross became the proudest ensign upon royal diadems, and it gave both their form and their name to the noblest insignia of knightly rank. The cross crowned the sceptres of princes, and warriors of renown were proud to see the cross as well in the hilts of the swords as in the banners under which they fought. In private life also the cross was held in corresponding estimation, and, accordingly, the most beautiful and most highly-prized personal ornaments appeared in some cruciform type. In this connection it may also be mentioned that Justin Martyr said, "The sign of the cross is impressed upon the whole of human nature. There is hardly a handicraftsman also but uses the figure of it among the implements of his industry."

The mediæval artists delighted in designing the cross under various conditions of both form and decoration. They wrought leaves and flowers into cruciform figures, and adorned their crosses with foliage in every degree of richness. They made the cross both simple and compound; they introduced it in combination with other figures and devices; and they composed it from figures and devices, each one of them having some definite motive or significance of its own. . . .

CROSSED AND CRUCIFORM STANDARD MEMORIALS.

Among the remains of early monumental art preserved in Scotland, none, it is believed, can be accounted more interesting and worthy of thoughtful inspection than those curiously pictured pillars described by Gordon, Cordiner, and other topographers of the eighteenth century. Of their age and purpose nothing seems to be known more precisely than that they were probably set up at a remote time, either as wayside incentives of devotion—to commemorate a military leader slain in battle—the battle itself—or, as some are disposed to think, to mark the boundaries of jurisdictions and feudal territories.

In local parlance they are called Danish stones, in accordance with tradition, which has always connected them with the battles fought with the Northmen in the early part of the eleventh century. But, however much they may be historically associated with Danish transactions, it does not follow that the Danes themselves had anything to do with their erection, for it is not to be supposed that they would be at the trouble and expense of erecting such artificial monuments of their rapine. Besides, these stones have generally crosses, while the Danes at that period were not Christians. It is, therefore,

concluded that these remains belong to the Picts, the inhabitants of the country. In another passage regarding these pillars Pinkerton believes that some of them belong to the period between 843 and 1056; and again, with reference to the sculpturings upon them, thinks "it may be also reasonable to infer that the centaurs, elephants, and some other representations on these singular monuments, may have passed from the Roman mason left in Britain, after the departure of the military force, to their native apprentices, and thus having descended with the craft, as traditional decorations without meaning, as the skulls of bulls used in ancient sacrifices continue to mark certain parts of modern architecture."

These pillars, which are confined almost altogether to the northern and north-eastern counties, consist of a parallelogrammic pillar of one stone, varying from about 5 feet to 22 feet in height, from 18 inches to nearly 6 feet in width, and from 3 inches to 16 inches in thickness. In most instances a Latin cross, with short arms hollowed out at the angles of intersection into half, three-quarter, or entire circles, trefoils, or rectangular notches, occupies, more or less in relief, one, not unfrequently both, the superior faces of the pillars. Often the arms of the cross are free; as frequently, perhaps, they are surrounded by a circular fillet, or wheel, or by a cincture of slightly elliptical shape. In all instances the cross, which generally occupies the whole plane of the pillar, is ornamented variously with bosses, pellets, figures of men and animals, etc.

While on the subject of carved and cruciform pillars, a few straggling specimens of miscellaneous character may be mentioned, which, although in main part comparatively modern, may in some instances be coeval with the oldest of the kinds above referred to. Of these, the nearest to the Norman type are a curious cruciform specimen in the islet of Inishail, Loch Awe; one of slab form, with cross, etc., beautifully situated over a well at Kilmory-Oab, in Knapdale; and another, overspread with the cross, braided work, etc., at Corsewall, on Loch Ryan, Galloway.

In the village of Dull, Perthshire, and in its immediate vicinity, are several plain, ponderous cruciform pillars, evidently the production of a rude time; and of the same sort are some heavy specimens standing on the low, grassy Eilean Finan, in Loch Sheil, in the highland districts of Moydart and Sunart. The pillar at Eccles, Berwickshire, incised with some coarsely-executed figures, and ending in a solid disc quartered on both faces by a plain cross; and the Merkland Cross, near Kilpatrick-Fleming, Dumfriesshire, nearly 10 feet in height, are quite distinct types, and the latter of no great antiquity.

The well-known Ruthwell pillar, which by some is supposed to be of early Saxon date, is about 18 feet in height, and so far as shape is concerned belongs to the class of tapering cruciform pillars with the limbs cusped.

MONUMENTAL CROSSES.

The crosses upon stone coffin-lids or sepulchral-slabs, which in England first appear at the close of the eleventh century, and from that period gradually became general, were executed either in low relief or by incised lines, while in some instances the two methods of treatment were combined. Occasionally repeated in the same example, the cross sign, exhibiting a truly wonderful variety of design, at first appears alone, the shaft, or stem, almost always considerably elongated, and often enriched with sprouting foliage or some other ornamentation. When the elongated shaft of a cross or slab rises from two or more steps at its base it is said to be a Calvary cross, and after a while a brief inscription was added. Then the further addition appears to have been introduced of some device or figure which symbolized the profession, occupation, rank, or office of the person commemorated—such as a pastoral staff for a prelate, a chalice for a priest, a sword for a knight, a trumpet for a trumpeter, a bell for a bell-founder, a hammer and pincers with a sword for an armorer, a horseshoe and hammer for a smith, etc. In a few instances a knightly sword placed erect in the centre of a slab either acts as the shaft of a cross, or with its cruciform guard to the hilt, the figure of the weapon itself becomes the cross symbol. There are also occasionally found early monumental stones, upon which both a cross and the head or bust and the feet of a human figure are so treated as to form a single composition. Kneeling figures, again, are sometimes introduced either at the foot of a monumental cross or on each side of the shaft of such a cross, and full-length figures in other examples appear placed within the expanded floriated heads of monumental crosses. . . .

QUEEN ELEANOR'S CROSSES.

The marriage of Eleanor, daughter of Ferdinand III, King of Castile, with Prince Edward of England, when fifteen years old, took place in May, 1254, at the castle in Burgos, Spain, and it was on Sunday, August 19, 1274, that Edward I and his Queen Eleanor were crowned in Westminster Abbey. During almost thirty-six years she was the constant companion of her husband on his perilous journeys, while the issue of the marriage was seventeen children—five sons and twelve daughters. Holinshed, in his "*Chronicles*" under date 1291, records: "In the nineteenth yeare of King Edward, Queen Eleanor, King Edward's wife, died upon Saint Andrew's Even at Hirdlebie, or Hirdlie, neere to Lincoln, the King being as then on his waie towards the borders of Scotland; but having now lost the jewell which he most esteemed he returned towards London to accompanie the corps unto Westminster, where it was buried in St. Edward's Chapell, at the feet of King Henry III."

¹ Extracts from a paper in the *Illustrated Carpenter and Builder*.

In the solemn procession with which the embalmed corpse was slowly brought to Westminster the King himself was the principal mourner, and that passengers might be reminded to pray for her soul he caused a stately cross to be erected to her memory at every place upon the road where her remains rested—namely, Lincoln, Grant-ham, Stamford, Geddington, Northampton, Stony Stratford, Woburn, Dunstable, St. Albans, Waltham, Chrepside, and Charing. Dean Stanley, in his "*Memorials of Westminster Abbey*," says: "The crosses erected at all the halting-places of the remains of her kinsman, St. Louis, from Mont Cenis to St. Denis, seemed to have furnished the model of the twelve memorial crosses which marked the passage of the Queen of good memory from Lincoln to Charing."

Holinshed says:—

"She was a godly and modest Princesse, full of pitie, and one that showed much favour to the English nation, readie to relieve everie man's grief that sustained wrong, and to make them friends that were at discord so far as in her laie. In everie town and place where the corps rested by the waie the King caused a cross of cunning workmanship to be erected in remembrance of her, and in the same was a picture of her engraven. Two of the like crosses were set up at London, one at Charing and the other in West Cheap."

At Geddington the cross still exists in the middle of the town where the three principal streets centre. The Rev. C. H. Hartshorne, in "*Historical Memorials of Northampton*," says that the three figures of Eleanor upon this monument exhibit a similar cast of countenance to the others. There exist the same elegance of outline and skilful arrangement of drapery, thus evidently showing that all of them, with the four figures round the cross at Northampton, are copied from the same original. With regard to this cross, a writer says: "The cross at Geddington fares remarkably well. I have never heard of its being defaced, nor have I seen any signs of ill-treatment. The weather, of course, affects it to some extent."

The cross at Northampton, which stands on an eminence about three-quarters of a mile south of the town of Northampton, was the work of John de Bello, or De la Bataille, who also erected the crosses at Stony Stratford, Woburn, Dunstable, and St. Albans, between the years 1291 and 1294. About the base of this cross is a flight of steps. The shaft of this cross is divided into three stages. The first is octagonal, 14 feet in height, and each face of the octagon measures 4 feet. On the south and east sides are the arms of Ponthieu in Picardy, and in another escutcheon those of the kingdom of Castile and Leon. The shaft of the second stage, or story, is of the same shape as the first one, but only 12 feet high. The upper shaft is square, each side facing one of the cardinal points of the compass. Its height is only 8 feet.

Waltham Cross stands on the side of the high-road, where the Queen's body rested. Its erection was begun by command of the King, under the superintendence of Nicholas Dymenge de Reynolds, in 1291. Three other persons appear to have had some share in the work—viz., Roger de Crundale, Alexander le Imaginator, and Robert de Corf. The whole cost was £95. It is hexagonal in form and presents three elegantly-constructed stories, each of which is finished by an embattled frieze; at every angle is a graduated buttress ornamented with foliated finials. In the second compartment appear the three statues of Queen Eleanor, the work of William de Ireland.

Another cross stood in the middle of Cheapside, a little to the west of Bow Churchyard, opposite Wood Street. It had originally the statue of the Queen, and in all respects resembled that at Northampton. The destruction of this famous cross took place in 1643.

Charing Cross was the last spot on which the body of Queen Eleanor rested in its progress to Westminster Abbey. The cross was octagonal in form and built of Caen stone, and in an upper stage contained eight figures. The steps and other parts of the fabric were made of marble brought from Corf, for which large sums were paid. Its demolition took place in 1647. The exact spot upon which it stood, according to some historians, is that occupied by the equestrian statue of Charles I.

The modern Eleanor Cross, in front of the Charing Cross Hotel, was erected in 1863, and is a reproduction as near as possible of the old one. It is from the designs of Mr. E. M. Barry, and cost nearly £1,800.

BANBURY CROSS.

It has been safely affirmed that, thanks to the nursery rhyme, this celebrated cross will never be forgotten while the English language lasts. The destruction of the original took place during a riot in the early part of the seventeenth century. Its restoration took place on the marriage of the late Empress Frederick, when it was resolved to restore the cross as the most graceful memorial of that event, and the present elegant structure of hexagonal form was erected from a design by Mr. Gibbs, of Oxford. It is 52 feet in height, of Bath stone, and is divided into three stories, or compartments.

IRISH CROSSES.

Ireland contains a great many stone crosses which are beautifully carved, and it is claimed that they constitute the finest monuments in Europe of the early Christian ages. In all the remains of ancient Irish art there is a peculiar style, the characteristics being interlaced ornaments; bands, cords, serpents, dogs, birds, even human beings are interlaced. There are also other modes—spirals, waves, zig-zags, frets, etc. These ornaments display wonderful powers of invention and execution, and entitle the ancient Irish, in the opinion of Mr. H. O'Neill, to rank as the greatest masters of ornamental art that ever existed.

About thirty-four miles from Dublin, in the County Louth, and some four miles from Drogheda, are situated the ruins of Monasterboice Abbey, consisting of two ancient churches, a pillar, and two very large crosses. The largest, or what is distinguished as the West Cross, is 23 feet high, and is a work of infinite beauty, as it stands amid the ruins of hallowed fane and long-forgotten altars, presenting an object of the most contemplative interest. The other, known as the South-east Cross, is 17 feet high, and both of them are elaborately carved, while the material is a white silicious stone, close-grained, not unlike statuary marble.

The first panel on the lower part of the West Cross is greatly injured; it represents the soldiers guarding Christ's sepulchre. The second panel is understood to represent Christ's baptism, with the Holy Ghost descending, in what imagination may conceive to be the likeness of a dove. The four succeeding panels are supposed to represent the Transfiguration and other incidents relating to the Saviour. In the centre of the cross is Christ crucified, with the sponge and the spear-bearers.

The arms of the South-east Cross are 7 feet wide, and the shaft is 2 feet 3 inches wide at the base. This cross is composed of three stones; first, the base; the second reaches from thence to the top of the circle; and the third one completes the monument. There is an inscription at the base, "Or do Muiredach las in dernad Chrossa," meaning "A prayer for Murdoch, by whom was made this cross." This Murdoch referred to is supposed to have been Abbot of Monasterboice in A. D. 923. The three groups on the shaft of the cross and the fourth one over the Crucifixion seem to refer to one story; in the lowest group an ecclesiastic is attacked by two armed men; in the next, these men have become students or ecclesiastics; in the third, the ecclesiastic resigns his staff to one and his book to the other.

The Cross of Cory is a beautiful processional cross originally made for the church of Tuam, seat of the Archbishopric of Connaught, and for Muiredach O'Duffy, who died in the year 1150. It was made to enshrine a portion of the true cross by order of King Turlough O'Connor, as may be learned from an entry in the "*Annals of Inisfallen*," A. D. 1123. The annalist states: "A portion of the true cross came into Ireland, and was enshrined at Roscommon by Turlough O'Connor." This statement is supported by inscriptions along the sides of the cross. The shaft of this cross is formed of oak, covered with plates of copper outside. It was concealed at the time of the Reformation and found early in the last century in an oak chest. It was presented to the museum of the Royal Irish Academy in 1889.

The form of the Irish cross, being that of the Greek cross with arms projecting outside the circle and shaft elongated, is a curious combination of the Greek and Latin cross, and seems symbolic of the whole subject of Irish ecclesiastical art, which, from its very beginning, shows Byzantine and Latin elements commingled. . . .

THE CROSS IN HERALDRY.

In the heraldry of the Middle Ages the form and enrichment of the cross was treated in many ways.

The English cross of St. George is a plain red cross, set erect on a white ground. The Scottish cross of St. Andrew is a plain diagonal cross on a blue ground. The Irish cross of St. Patrick is a plain diagonal red cross on a white ground. . . .

The cross of Passion, when erected upon three steps, is known as the cross of Calvary. The steps allude to the three Christian virtues—Faith, Hope, and Charity.

Many wealthy merchants in the Middle Ages, both in England and on the Continent of Europe, having no armorial bearings, used as their signet, or marks of cognizance, certain monograms. These were invariably of the cross in combination with some other emblem, such as the circle, referring to the globe, the pennon or flag of a ship, or the vane of a weathercock, alluding to the prosperous gales upon which depended the success of their navigation.

MARKET-CROSSES.

The privilege of holding markets was in olden times granted to the monasteries, and the cross was erected, not only as a sign of their jurisdiction and power to receive tolls, but also as a pulpit for occasional religious exhortation. The influence of the cross was acknowledged by the traders, for they were in the habit of appealing by oath to that sacred image, under whose shadow they stood, that their goods were honestly come by and up to the mark. At first these market-crosses were only single cruciform shafts elevated on steps, but after awhile they became decorated with pinnacles, niches, etc., and then later on projections, or arches, were erected to shelter the people from the weather. The cross at Cheddar, for instance, shows the original structure as having been at first merely a simple shaft raised on steps with lateral piers, and a roof was erected at a later period. At Winchester there is still a fine cross known as the Butter Cross, which is on the site formerly occupied by the old market-cross.

The great market-cross of Chichester is another of the very few structures of this kind now standing, and was completed by Edward Storey, Bishop of Chichester, about the year 1500. The worthy prelate left an ample estate to keep his practical monument in repair. The cross is octagonal in plan, and consists of an open arcade of flat, moulded arches with ogee-crooketed heads, flanked by buttresses, terminating in crooketed pinnacles. The clock is a later addition, being the gift of Dame Elizabeth Farrington in 1724, "as an hourly

memento of her good-will." The total height of the cross is 50 feet, and in 1724 it was completely restored at the expense of Charles, second Duke of Richmond.

With regard to the market-crosses of Scotland, there seems every reason to believe that these had their beginning in the cross ecclesiastical, which was erected as the visible ensign of the Christian faith, and that the earliest ones were of wood, but as the missionaries felt their position in the country more assured they erected crosses of stone which at first in shape resembled the wooden crosses. Of the ornamental stone cross ecclesiastical, which succeeded to the plain stone cross of wooden type, many elaborately carved examples still survive. Chronologically parallel with the cross ecclesiastical, for a very long period before the Restoration, the municipal, or market, cross existed where merchandise had to be presented for sale, and where proclamations were made. The market-cross was also the scene and the centre of public rejoicings of all kinds as well as the theatre of public punishment and shame.

The market-cross of Edinburgh was properly that which ranked first in importance in royal and other proclamations. After that, perhaps, no market-cross in Scotland was associated with so many stirring events of public interest as that of St. Andrew's, which was removed in 1768. The market-cross, as an institution, has now all but fallen into desuetude.

A SEWAGE-DISPOSAL SYSTEM FOR A COUNTRY-HOUSE.

MY work as sanitary engineer brings me in constant touch with the architectural profession, and I have found that the question of a properly designed sewage-disposal system for a medium-sized and moderate-priced country-house is rarely thought of, on account of the cost.

It is with this in mind that the writer shows herewith a sub-surface disposal-system for a house of three bath-rooms, of about twenty-one fixtures, and which has been built within sixty miles of New York City. The house contained the following fixtures:—

Basement: one water-closet, one sink, one set (three) laundry-tubs. First story: one water-closet, one pantry and one kitchen sink, one basin. Second story: two water-closets, two baths, one slop-sink, five basins. Third story: one water-closet, one bath, one slop-sink, one basin. A total of twenty-one fixtures.

A sewage-disposal system may be located at any distance from the house, depending upon the size of the property; in one case, the basins were but 60 feet from the house; in general, however, 200 feet is a good distance.

The sewage-disposal system under discussion consists of a 5-inch sewer of earthenware pipe, with cemented joints, running from house to the basins; the two settling-basins with the adjoining siphon-chamber; the 4-inch line from the siphon to the irrigation-field; and the irrigation-field. [See Illustrations.]

The house-sewer is laid with great care. The settling-basins consist of two chambers built to contain sewage without a possibility of leakage. The first basin is to be of sufficient size to contain one day's supply of sewage from the house, the second basin to be of somewhat large size. The siphon-chamber contains the siphon; and is for making any needed repairs to the siphon and for inspection. The line from siphon to irrigation-field may be of any length, but in this case was about 60 feet long, and of 4-inch earthenware pipe with cemented joints. The irrigation-field consists of a series of lines of small porous irrigation-tiles, in this case 3-inch, laid about 10 inches below the surface of the ground and well covered by small stone.

The general dimensions and quantities shown are from data obtained by the writer from observation, and are used in all his works with but slight modifications.

The theory of sewage-disposal by sub-surface irrigation may be thus summed up: The sewage from the house is to be disposed of as soon as possible. The sewage reaches the first of the settling-basins, where bacterial action immediately takes place, breaking down the organic bodies. In this basin precipitation occurs. The now somewhat clarified sewage enters the larger basin, where another period of rest takes place. When the sewage in this basin has reached a certain determined height, the seal in the siphon in the adjoining chamber breaks and the entire contents of the basin is sent to the irrigation-field. The small tile, having a covering of broken stone, are surrounded by a large volume of air, which immediately attacks the sewage, throwing off hydrogen and nitrogen, the latter being eagerly sought after by the roots of the plants in the soil above.

The irrigation-field should be selected with great care. It should have a southern exposure, with sandy soil, and not be near a stream or brook. Should the soil be poor, heavy or of clay, then the "field" should contain more tile. Should shaded land only be available, then, too, more tile will be necessary.

The method of running the lateral irrigation-tiles is entirely governed by the contour of the surface of the ground. They may be laid in curved lines, or in lines at right angles to the main distributor, or, again, the distributor may be branched, and two "fields" may be formed. The lateral tiles should have a fall of about 3 inches per hundred feet, the main distributor a fall of about 6 inches per hundred feet.

The lateral 3-inch tiles are laid with caps and gutters, the former keeps small stone or earth from entering the pipe and the latter

provides a permanent bed for the pipe. They provide an easy means for inspection or for making repairs or additions.

It often happens that on account of the flatness of a tract of land, the use of a siphon on account of its depth is out of the question. In such a case both basins should be built much larger, and all openings should be provided with screens of $\frac{1}{4}$ -inch mesh, of galvanized ware, and the sewage be allowed to enter the 3-inch lines direct; the field, too, should be made much larger.

The cost of the above work, the settling-basins and the field only, was about \$230. WM. C. TUCKER.

BOOKS AND PAPERS

IT is a little startling to any one who has seen the long rows of books in every library treating of Italian sculpture, Italian art, the Cinque Cento, the Renaissance in Italy, and the histories of Florence, Milan, Rome, Venice and Sicily, to hear that there is no history of Italian architecture in English; and architects, most of whom consider themselves tolerably familiar with all the principal buildings in Italy, will, at first, be inclined to question the statement with which Mr. Cummings introduces his book; but, on reflection, it will probably appear that the knowledge which most people possess of the best-known buildings in the world is a collection of fragments, picked up, bit by bit, from local annals or from critical essays; and that a connected history of the development of Italian architecture, from the decadence of the antique to the Renaissance, has not existed, at least in a form available for English readers, until Mr. Cummings undertook to supply the want. This task he has fulfilled with the most painstaking care, and with corresponding success. Not only have the abundant sources of fragmentary information been collated, and what they could furnish properly connected with the rest, but Mr. Cummings has examined most of the buildings of which he speaks on the ground, with his manuscript in his hand, modifying where his trained intelligence showed him that the accepted conclusions were questionable, and, in many cases, adding observations of the greatest value and interest. In these, as well as in the clear presentation of the facts, as distinguished from theories and errors, in connection with familiar buildings, the professional reader will find great pleasure, and every reader must be charmed with the pure English in which the ideas are expressed, and with the beautiful and well-selected illustrations.

Mr. Cummings begins with the catacombs, in which the origin of Christian architecture is now generally sought, giving a particularly interesting description of the chapels built either in the catacombs or in close connection with them. From these it is an easy transition to the basilicas; and, in fact, the first Christian basilicas were themselves built in connection with catacombs or with other places of sepulture of martyrs or saints. Mr. Cummings does not go so far as Mr. Lowrie and the Germans in rejecting the theory of the adaptations of the judicial basilicas to the uses of Christian worship, but he says that the extent to which the former were copied in the Christian basilicas "has been greatly overstated." He mentions that the basilica, or hall of justice, in Nero's palace of the Lateran, was transformed under Constantine into a Christian church, in connection with the papal residence established at the same time in the palace; and it is not likely that so conspicuous an example would have been wholly ignored.

The basilicas lead naturally to the great churches which have succeeded them, and which, in many cases, stand on the site of those of Constantine and his successors. It is difficult to say in some cases how much of the original building still remains in the present structures, and it is necessary, for the proper study of the style, to show photographic plates of St. Paul without the Walls, rebuilt since 1823, close to those of St. Agnes, perhaps fifteen hundred years older; but St. Paul was rebuilt substantially in the old form, and by no other method could the architectural development of the characteristic Roman basilica have been shown.

The period of basilica-building in Rome was followed by the brilliant reign of Theodoric in Ravenna, and the construction of the remarkable group of churches, half Roman and half Byzantine, which still stand to attest the vigor of the new Gothic element which had invaded Italy. Every one knows the magnificence of the Ravenna mosaics, but it is, perhaps, not so much in these as in the curious blind arcades at the top of the walls of the churches, and in certain other Northern characteristics, that we trace the artistic movement which developed, long afterwards, into the Romanesque of North Italy.

The power and wealth of the Gothic conquerors are strikingly shown by these and the other splendid buildings erected under Theodoric and his immediate successor, yet, a few years later, the body of Theodoric was taken from his magnificent mausoleum, the roof of which is of a single stone, 35 feet in diameter, and was carried by the remnant of his people, fugitives before the Byzantine armies of Belisarius and Narses, and thrown into the centre of Vesuvius by the handful of despairing Goths who had escaped the sword of the Greeks.

"A History of Architecture in Italy," from the Time of Constantine to the Dawn of the Renaissance. By Charles A. Cummings, Fellow of the American Institute of Architects. With nearly 500 illustrations. New York and Boston: Houghton, Mifflin & Co. 1901. In two volumes. Price, \$7.50.

The extirpation of the Goths, who, it is interesting to remember, came from the island of Gothland, in the Baltic Sea, and were so closely related to our own Anglo-Saxon ancestors that the translation of the Bible made by the Gothic bishop Ulfilas is easily understood by English readers, was followed by the invasion of the Lombards, who fixed themselves firmly in Northern Italy. Mr. Cummings presents an interesting study of the Lombard institutions, and the development of the organization of mechanics through which the Lombard manner of building was formed, and carried over nearly all Italy. It is remarkable, considering the original barbarism of the Lombards, that their masons very soon undertook the vaulting of their churches, using independent ribs, both transverse and diagonal, and even anticipating the French architects of three or four centuries later, by slightly pointing the diagonal ribs, to give greater stability to the vault.

After a long and most interesting chapter devoted to the Lombard architecture and the Byzantine influence upon it and other Italian work of the period, notably in Venice, Mr. Cummings turns to what he calls the Central Romanesque, or that of Tuscany, and then to the South, giving a great deal of new and valuable matter about the curious Norman-Byzantine-Moorish architecture of Sicily and Apulia. This brings us to the Gothic; and here, although the ground is tolerably familiar to most of us, he supplies much new and interesting detail. Speaking, for example, of San Petronio, at Bologna, the finished portion of which is, perhaps, the most beautiful piece of Gothic work in Italy, he mentions the competition which was held, about 1335, when the Renaissance was in its full glory, for designs for completing the front of the Cathedral, nearly all of which is still in rough brickwork, the Gothic facing of the fourteenth century never having been carried up above the arches of the doors. Palladio, Vignola, Baldassare Peruzzi, Giulio Romano, and some twenty-five others of the most distinguished architects in Italy competed, and their drawings are still preserved in the sacristy of the cathedral. It is remarkable that Baldassare Peruzzi and Giulio Romano sent in Gothic designs, although both of them were among the most distinguished leaders of the Renaissance, and, at this period, the Gothic style had been, for nearly a hundred and fifty years, regarded in Italy as antiquated and barbarous. Apparently, these great men, recognizing and respecting beauty, even in a discredited and unfashionable style, had, like true artists, chosen to complete the work of another, in preference to displaying their own skill in a style of which they were recognized masters. None of the designs were carried out, and the church remains with its rough brick front to this day, but it is much to be wished that the competitive drawings could be published for the benefit of the community.

It has probably already occurred to the reader of these notes that Mr. Cummings's volumes would make an excellent companion, either for an architect on a vacation tour in Italy, or for a student intent upon serious work among Italian architecture; and they are in every way admirably adapted to such a purpose, being moderate in size, although not so small as to spoil the illustrations, and as light as the quality of the paper required for proper rendering of the illustrations will permit, while the general reader, and the lover of beautiful books, will find in them perfect printing, both of text and illustrations, good binding, and excellent proof-reading. The last is a quality of much greater value than publishers in general seem to suppose; and it is a satisfaction to the professional man to be able to read about Italian architecture without stumbling over references to "Pope Damasus," and the "Palace of Diocletian at Spoleto," which disfigure a recent book on the subject, otherwise in every way admirable.

It is not only with the greatest interest and pleasure, but with no small pride, that we look over Mr. Lowrie's book,¹ one of the first important fruits of the opportunities given by the American School for the study of antiquity at Rome, and a work which would do honor to any scholar, of any nation. For the general reader, no more attractive theme could have been chosen in the whole range of archaeology. Notwithstanding the opinion of the distinguished divine who came to the conclusion that martyrdom was merely a fashionable craze among the early Christians, and that they rather enjoyed being devoured, the world at large, both Protestant and Catholic, cherishes with daily increasing veneration the memory of the people who met death, kneeling hand in hand in the arena, to bear witness of their belief in the crucified carpenter's son, and their devotion to his doctrine of love, and welcomes with eager interest everything that can bring us nearer in imagination to the love-feasts, in which masters and slaves joined, in humble obedience to the words of their Master, and to the burial services in which, for the first time, perhaps, on earth, the sorrow of separation was turned into joy by confidence in a Divine revelation of immortality. In this field there is much work yet to be done, but it is a matter of congratulation for readers of English that the investigations which Lanciani, in his "*Christian Rome*," hardly more than suggested, should have been carried on with such skill and learning, as well as with such sympathetic insight, as Mr. Lowrie has shown. It is hardly necessary to say that the five hundred and fifty miles of galleries in the Roman catacombs, to say nothing of those in other parts of Italy, and the thousands of Christian monuments, as yet almost unknown, in Syria and Africa, will furnish, for many years to come, new illus-

trations of the faith and life of the early Church; but these will be much more correctly and easily interpreted if the preliminary steps in investigations of the kind are carefully taken.

Naturally, the most characteristic works of the Christians of the early Church in Rome are found in the catacombs, and Mr. Lowrie begins his book by a most valuable chapter on the origin and use of these subterranean burial-places, upsetting, in the course of it, some cherished theories in regard to their having been abandoned quarries, utilized by the Christians for their purposes. As all the Roman catacombs are cut in a granular tufa, useless for construction of any kind, it is evident that they must have been excavated with a definite intention; and, as nearly all of them are comprised within the boundaries of what were then, in all probability, enclosed gardens, the inference is that they were, in most cases, formed by permission of the owner of the ground, who may have been a convert, or, at least, a favorer of the new doctrine; and the few instances in which the catacombs proper connect with sand-pits or quarries seem to have been due either to the desire to utilize a disused space for disposing of the material excavated from the new galleries, or, possibly, in some cases, to the wish to make available an additional mode of egress in times of persecution. The rock, within the boundaries of the lot devoted to the burial-place, is perforated with galleries according to a definite plan, often in two or more stories; and the recesses, or *loculi*, in which the bodies of the dead Christians were laid, were regularly cut, either in the walls of the passages, or around little chambers, apparently devoted to families, as the case might be. So far as the means of the surviving relatives would permit, the burial-chambers, or the covers of the *loculi*, were decorated with painting or sculpture of a character which is artistically of the greatest interest, forming, as it does, a step in the transition between the refined but unsympathetic perfection of the antique and the expressiveness of mediæval art. It is true, as Professor Wickhoff shows in his beautiful work on "*Roman Art*," that a great change came over even Pagan sculpture under the Empire, in the direction of freedom and naturalism in the study of ornament, and of expression in portraiture; but whether this change was due to the influence of Christian artists on their Pagan brethren, or whether the Pagans set the fashion for the Christians, or whether both Pagans and Christians were unconsciously affected by the new spiritual light which had begun to shine in the Roman world are questions which people will long take pleasure in trying to answer.

After the catacombs, the study of which forms the natural introduction to that of ancient Christian art in general, Mr. Lowrie takes up the architecture of the basilicas and other ecclesiastical buildings of the early Church. In regard to the origin of the Christian basilica, he, like other recent writers, rejects entirely the theory that it was simply an adaptation of the judicial basilica familiar in all Roman towns. Those of our readers who have studied the history of architecture from the ordinary text-books will remember that they agree in asserting that the decay of the Roman power under the later Empire, and the crowding of the rural population into the capital, had caused the abandonment of the public buildings of many provincial towns, and that the Christians, after their worship was permitted by law, appropriated the disused basilicas, or court-houses, for the use of their congregations; and even the details of the civil basilicas, such as the seats for the judge and the lawyers in the apsidal "tribune," corresponding to those of the bishop and inferior clergy in the sanctuary of the Christian church; the altar in front of the tribune, where the judges took their oath before the assembled people to execute justice, corresponding to the primitive position of the altar in the Christian churches; and even the "cancelli," or railings, which divided the tribune from the main body of the building in the judicial basilicas, as they still do the chancel from the nave in ecclesiastical buildings, are given in most books with such completeness that it is difficult to question the analogy. Mr. Lowrie, however, says that there is not a single instance recorded in the history of the Church in which a secular public building of this kind was appropriated to Christian worship, while all the secular basilicas, the ruins of which still remain, show a disposition of plan quite different from that familiar in the Christian basilicas. It is true that there is a striking coincidence in name between the pagan hall of justice and the Christian place of worship, but he says that the word "basilica," or "house of the king," or "master," was used so widely under the Empire to designate any state apartment or place of public business, that its adoption by the Christians to denote the house of their Divine Master was quite natural. Instead of the civil basilica, he thinks that the type of the Christian house of worship is easily found in the ordinary Roman or Italian dwelling. Every such dwelling contained, as its principal apartment, an atrium, or hall, generally surrounded by a colonnade, which served for the reception of friends, and undoubtedly, for the meetings of the little congregations of Christians in the earlier period. In the larger houses, the atrium formed a preliminary reception-room, intended particularly for strangers, or visitors on matters of business, while the family and its friends met in the peristyle, a larger room, also surrounded by a colonnade, beyond the atrium, and connected with it only by a narrow passage. Whether the atrium or the peristyle was the family reception-room, the arrangement was nearly the same, a recess, or tablinum, in which stood the family altar, always opening from it, on the side facing the entrance, while two other recesses, or small rooms, opening from the sides of the main room, at the upper end, near the altar, usually contained portraits of the ancestors of the family. These "wings," or side rooms, developed very naturally

¹ "*Monuments of the Early Church*," By Walter Lowrie, M.A., late Fellow of the American School of Classical Studies at Rome. New York: The Macmillan Company. 1901. Price \$1.75.

into the transepts of the Christian church, which have no counterpart whatever in the civil basilica; and the colonnades of the atrium or peristyle, separating the central space from an encircling passage-way, served, probably, in the churches, as in dwellings, for a needed separation between the professed Christians who participated in the service in the central space and the interested spectators just outside the columns. Even the less simple dwelling-house plan, including both atrium and peristyle, was transferred to the larger churches, particularly in the East, where the atrium became the "narthex," or porch, in which the unbaptized remained, seeing and hearing what they could of the service through the open doors. The tablinum, or altar-recess, was transferred, almost without change, to the larger building, as were also the transept-like wings, which, in the earlier basilicas, were proportionally small, and seem to have been used as sacristies or chapels. The main difference between the Christian basilica and the domestic reception-room lay, of course, in the extension of the colonnade of the former vertically, in the form of a clerestory wall, in such a way as to permit the roofing of the nave, at the same time that light and air were admitted by the clerestory windows. Mr. Lowrie thinks that the peristyles, or, at least, the atria, of dwellings may sometimes have been covered and lighted in the same way; but, although this seems perhaps questionable, it is certain that such an expedient would readily occur to the bold and resourceful Roman architects as soon as the proposed dimensions of such a building made something of the kind necessary.

We should be glad to follow our author farther into his deeply interesting study of the development of the Christian house of worship, as well as to say something about the succeeding chapters, on painted decoration, sculpture and vestments in the early Church, but space does not permit, and we must refer our readers to the book itself, in which students of the history of art will find equal pleasure and instruction.



DETROIT ARCHITECTURAL CLUB.

THE Detroit Architectural Club, through the Educational Committee, instituted some time ago a competition among its members, the subject being a design for a country residence to be located in a suburb of Detroit on the shore of Lake St. Clair, the lot to have a lake and street frontage of 200 feet. Besides the residence the sketches were to include buildings for saddle-horses, hounds, and automobiles, a greenhouse and a boat-house. Numerous designs were submitted. At the last regular meeting of the Club, Architect J. W. Case gave a criticism on the different designs, awarding First Mention to J. J. Fraunfelder; Second Mention to George V. Pottle; prize for First Mention being a handsome bronze medal; for Second Mention, a set of books.

A competition has also been held to procure a design for a book-case to be placed in the club-room. Architect Albert Kahn gave a criticism on the drawings submitted. The design submitted by A. Eisen was adjudged as the winning design.

The Club has now constituted and under way a competition for a band-stand to be located on Belle Isle. The construction for same may be of stone, brick or terra-cotta. All drawings must be in the hands of the Secretary on Monday, February 24, 1902. Architect William B. Stratton will judge them and render criticism.

A. EISEN, Chairman Publicity Committee.



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

NEW WILLARD HOTEL, WASHINGTON, D. C. MR. H. J. HARDENBERGH, ARCHITECT, NEW YORK, N. Y.

THE interior of the building, decoratively considered, has received the following treatment:—

Dining-room: Woodwork of dark English oak; columns of dark green (Alps-green) marble; caps, gold; ceiling-beams of dark oak; panels and decoration in greens, brown and gold. Palm Court: Pompeian decoration. Main Lobby: Columns and pilasters of Siena marble; caps, gold; walls of Venetian red; ceiling in buff and gold. Ball-room: Woodwork enamelled, ashes-of-rose with delicate pink panels. Banquet-room: Woodwork enamelled ivory-white with delicate green panels.

SCALE DETAILS OF THE SAME.

RESIDENCE FOR MRS. WILLIAM L. SKINNER. MESSRS. VAS & TAKACH, ARCHITECTS, NEW YORK, N. Y.

THE construction of concrete houses has hitherto been in disfavor owing to the lack of a suitable style which could be properly

shown by such material. In the construction of the residence as illustrated, the most stringent rules of architecture have been obeyed; that is to say, stability, usefulness and beauty have been obtained by the combination of the style with the material best suited to the beauties of that style. The walls, floors, partitions and roof will be a combination of iron and concrete. The combination has been so designed that the floors are never more than nine inches thick. The wall-construction is the same as the floor-construction except that a hollow space of two inches is provided, thus securing a minimum of material and the greatest amount of strength and comfort to those who occupy the house. The most novel feature of the house is in the finish of the floor-surfaces. No wood whatever will enter into the construction of the floors. On the top of the concrete-and-iron combination, there will be a finish in natural cement, which will be continued up on the partitions and walls, to form a moulded base-board. Between the base-mouldings and on the surface of the cements will be laid thick linoleum of suitable design to harmonize with the decoration of the room in which it is laid.

A SEWAGE-DISPOSAL SYSTEM. MR. W. C. TUCKER, ENGINEER, NEW YORK, N. Y.

For description see elsewhere in this issue.

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

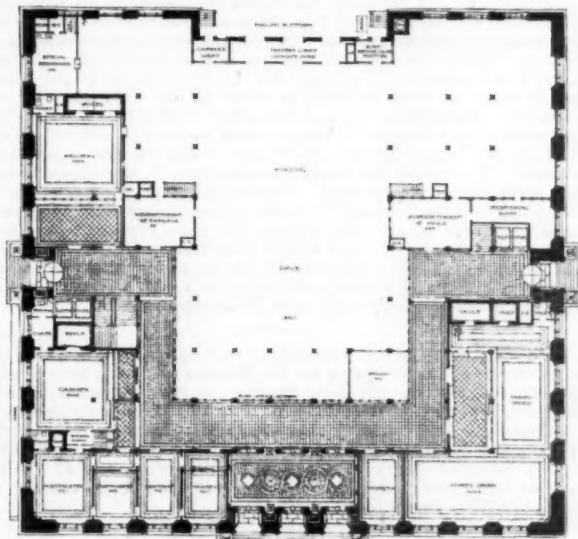
THE BELFRY AND THE CATHEDRAL OF ST. BAVON, GHENT, HOLLAND.

[Additional illustrations in the International Edition.]

THE ARCHITECTURAL BUILDING: HARVARD UNIVERSITY, CAMBRIDGE, MASS. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.

ENTRANCE TO THE PRUDENTIAL LIFE BUILDING, NEWARK, N. J. MR. GEORGE B. POST, ARCHITECT, NEW YORK, N. Y.

A COMPETITIVE DESIGN FOR THE UNITED STATES POST-OFFICE, COURT-HOUSE AND CUSTOM-HOUSE, CLEVELAND, O. MR. C. F. SCHWEINFURTH, ARCHITECT, CLEVELAND, O.



Plan of Cleveland Post-office.

ENTRANCE-HALL: ARCHITECTURAL BUILDING, HARVARD UNIVERSITY, CAMBRIDGE, MASS. MESSRS. MCKIM, MEAD & WHITE, ARCHITECTS, NEW YORK, N. Y.



THE DESPOTISM OF TRADE-UNIONS.—At Franklin and Marshall College Chapel recently, George F. Baer, President of the Board of Trustees of the College and President of the Philadelphia & Reading Railway and the Central Railroad of New Jersey, delivered a lecture on "Work is Worship," in which he severely denounced labor-unions. He said in part: "To-day there is no greater absolute despotism and tyranny on the earth than the power which forbids a man to work because of some other man's quarrels. In some trades employers are not

permitted to employ workmen without labor-organization cards. Union men will not work with non-union men. Was ever greater tyranny practised by one set of men over their fellow-men? So apathetic has the public conscience become to the terrorism, tyranny, and lawlessness of labor organizations that not only the politicians, who are seeking votes, but well-meaning men, who ought to know better, cry aloud against the decrees of the courts when the principles of Constitutional liberty are invoked in legally established tribunals to restrain the lawlessness of labor organizations. Labor may organize, but it may not tyrannize. Labor organizations hitherto have failed because they have entirely overlooked these simple fundamental truths. The modern theory of labor organizations seems to be that the employer and employee are to be divided into two great hostile camps, armed and fully equipped, at a given signal, to engage in industrial war. Peace is only to be a temporary thing, brought about by formulating a truce between the two contending armies, which shall terminate at the end of the year. In the meantime, the leaders of the hostile camps are to be fully occupied during the whole of the year in adjusting the thousand and one vexatious misunderstandings as to the true meaning of the terms of the truce. The business is to be carried on by divided authority, each hostile camp having representatives to determine when and how the work shall be done. This is violating the old rule that 'No man can serve two masters.' If it continues, the present industrial supremacy of the United States will soon be a thing of the past, and we will share the fate of England. It is beyond question true that the primary factor in the decadence of England's industries has been the arbitrary exactions of trades-unions. The London papers continue to call attention to the crisis in British industry, and practically agree that British workmen through their trades unions are ruining not only themselves but the industry of the country. — *Exchange*.

LORD LEIGHTON'S HOUSE DECLINED. — The *Times* says that the Kensington Borough Council, on the recommendation of the Libraries Committee, has declined to proceed further for the transfer of Lord Leighton's house. The proposal to hand this beautiful building to the public has therefore fallen through.

STATE HIGHWAY WORK IN MASSACHUSETTS. — In the last season's work of the Massachusetts State Highway Commission some 27 miles of new roads were added to the State's system, these and the more extensive work done on old roads being the proceeds of the \$500,000 which the Commission has decided to spend a year. Since the plan of State activity in the construction and supervision of highways was adopted in Massachusetts 888 miles of road have been built, or about half of the 10 per cent of all roads in the State, which, to live up to the French standard, the Commission will have to improve. Most of the main lines, such as the one from Boston to Springfield, from the end of Cape Cod to Fall River, from Pittsfield to the New York State line, the northern route from Boston west, the roads from Boston to Lowell, and from Boston to Providence, are being advanced in satisfactory fashion toward completion. Especially ready cooperation with the work of the Commission has been carried on by the towns in the southeastern part of the State, but a growing interest in the enterprise of the State and an increased disposition to profit by the Commission's experience and construction have been displayed by communities in all sections. Much of the new road built in Massachusetts has cost about \$5,500 a mile, though the average for the State, owing to the grades met in many sections, amounts to about \$7,500. The material was macadam. Maintenance charges run about \$100 a mile a year. The Commission has succeeded in keeping costs something under the levels at which they began, and this has helped to win popular approval for the work. Concerning the benefits coming from it, the Massachusetts folk seem to be of one mind. Time saved in travel, less strain on horses and vehicles, economy of power in transit, this last often reaching 33, and even 50 per cent, cheaper and more expeditious access to markets, and more trade and benefit from casual visitors, or more or less permanent residents, attracted by the excellence of the roads, are among the advantages claimed, and apparently with justice, as the results of the Commission's work. — *N. Y. Evening Post*.

PROPOSED STATUES OF SHERMAN AND LONGFELLOW. — A bill has been introduced in the Senate by Mr. Foraker providing for the erection of a statue of the late John Sherman in Washington, to cost \$50,000. Mr. Wetmore, of Rhode Island, submitted favorable reports from the Committee on the Library, on resolutions authorizing the selection of a site and the erection of a pedestal for a bronze statue in Washington, in honor of Henry Wadsworth Longfellow, to cost \$4,000, and for completing a monument to the memory of Dorothea Lynde Dix, for which \$10,000 is appropriated. — *Exchange*.

GIGANTIC DYNAMOS FOR NIAGARA. — The *Electrical World and Engineer* contains an article commenting on the notable development of the Canadian Niagara power-plant. The article is in part as follows: On the American side, where all the work has been done hitherto, newer machinery of the very latest type of its class has just been ordered, while for the hitherto unattempted utilization of the water-power on the Canadian side of the great cataract, the Niagara Falls Power Company has just given a contract to the General Electric Company for three immense units of 10,000 horse-power each. These machines are not only to be the largest electric-generators ever built, but they will embody features of design of the utmost significance, altogether aside from the fact that the new work is to be done under American initiative with American capital and employing American apparatus. We understand from the Canadian Niagara Power Company, which has just awarded the contract, that these gigantic generators are but the first units in a plant which will probably reach an aggregate of 200,000 horse-power or more within a very few years. The power-house is to be situated on the flat land adjacent to the Dufferin Islands near the

river, less than a quarter of a mile above the Horseshoe Falls. A wheel-pit is being excavated in the rock, which will be connected by a tunnel tail-race to the gorge below the Falls. The dynamos will be placed at the surface-level as before, being connected to the turbines by long vertical shafts, which extend to the bottom of the pit, where the turbines will be situated. The machines contracted for are, as already noted, far larger in capacity than any electric-generators previously built. They are also remarkable on account of the high speed at which they will operate, 250 r. p. m., the same as that now used with the smaller 5,000-horsepower generators on the American side. This, it may perhaps be worth noting, is the third large contract for generators at Niagara Falls which has been awarded to the General Electric Company during the past twelve months. All will be built at Schenectady.

THE PROPOSED ANGLO-AMERICAN HIGH BUILDING IN LONDON. — The London County Council refused January 20 the application, in behalf of an Anglo-American syndicate, headed by Sir Charles Rivers Wilson, for a 999-year lease of a site on the north side of the Strand, with a frontage of 750 feet, and with still larger frontages on the new streets coming out on the Strand, for the erection of an office-building on American lines, to cost \$2,000,000. The Council took the ground that such a length of tenure practically amounted to selling the freehold, which was not within its power; but announced that it was willing to negotiate on the basis of a 99-year lease. — *Exchange*.

RARE FINDS IN ARMENIA. — The interest of the German Government in the Bagdad Railway has led it to dispatch important missions to Armenia for the purpose of making archaeological explorations in Armenia. The first of these expeditions was intrusted to Dr. W. Belck alone, and in 1898 and 1899 he was accompanied by the Assyriologist Dr. C. F. Lehmann. The report of these expeditions has just been issued, and the results to science are most important. The first indications of a civilization in the mountain-lands bordering on Lake Van were made known by the French traveller Dr. Schultz, who copied a number of inscriptions on the rocky walls of the fortress of the city of Van. Schultz, unfortunately, was killed by the Kurds, but his diaries and copies of inscriptions were recovered and published by the French Government in the *Journal Asiatique*. Layard, who visited Armenia in 1849, copied a number of inscriptions, and Rassam, who made several visits to the country and excavated at Toprak Kaleh, the ancient palace of the Vannic kings, copied or took casts of several more, but the work of the German expeditions has greatly increased our knowledge of the country. The members collated all inscriptions previously copied, and increased the material for the study of ancient Armenian history by nearly two thousand lines—including the discovery of a most important and fairly lengthy bilingual inscription in Assyrian and Vannic. The most important result of the expedition has been to define clearly the extent of this empire, which had almost entirely disappeared from the field of history. The capital city was Van, on the lake of that name, called *Dhuupas* — the *Tops* of the classics — but the royal residence seems to have been at Toprak Kaleh, called at a later period "*Rusas town*." The northern boundaries of the empire are uncertain, but several inscriptions were found in Russian Armenia. On the east the inscriptions were found as far as Lake Uromiyeh, and one on the rocky heights near Rowandiz, on the summit of the Pass of Keli-shin, 12,000 feet above sea-level. This inscription was first discovered by Sir Henry Rawlinson, and was set up during the joint reigns of the Kings Ispunis and Menuas, about B. C. 800. Westward, on the rocks at Palu, on the Euphrates, near Malatiyeh, the inscriptions of Menuas are also found. — *Paris Messenger*.

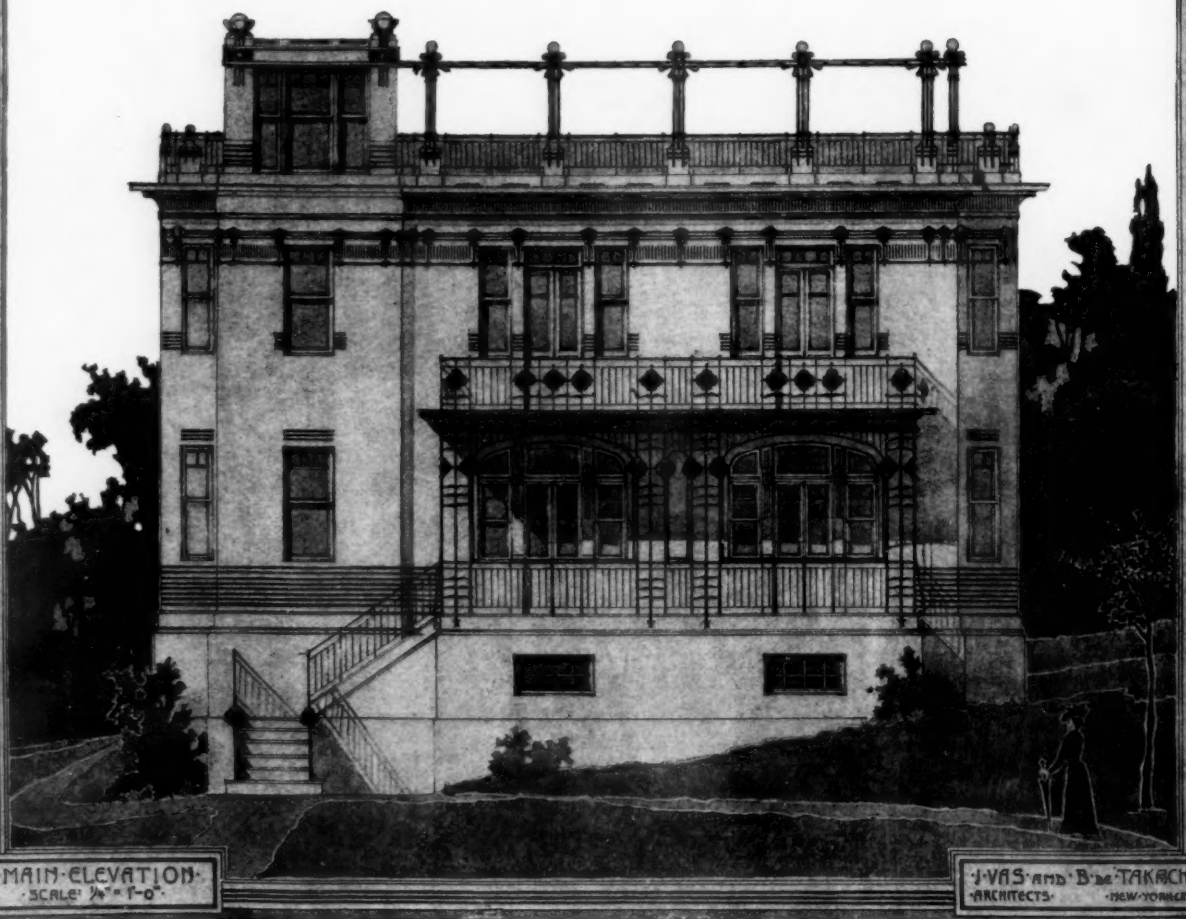
HOW ITALY DEALS WITH RAILROAD STRIKERS. — The *Official Journal* of January 25 announces that the Government has taken a decided stand in view of the rumors of an impending strike upon all the great railways in Italy. The Cabinet announces that it cannot consider a railway strike, affecting, as it does, great public interests, in the same category with a strike of ordinary workers, but will class such an action as a strike of public servants, punishable under the penal code. While determined not to allow a railway strike, the Cabinet recognizes the right of the working-classes to improve their own condition, and therefore the Government has approached the railway-companies with a view of obtaining the desired concessions, which it is confident it can do. — *Exchange*.

ART IN FRENCH TOYS. — The thorough manner in which the French Government interests itself in art matters is once more shown in the prizes offered by the city of Paris for the best new toys seen at the great New Year's Day sale along the boulevards, when miles of booths devoted to the display of toys and holiday wares are erected for a fortnight. Twenty prizes went to the designers or inventors of toys, not exceeding three francs in value, which showed the most originality and artistic taste. — *N. Y. Evening Post*.

ART IN THE COMMON SCHOOLS. — A few days ago a little boy came into a certain library with a penny picture of a cold, flabby modern German Madonna, and said to the librarian, "Will you please tell me if this is beautiful?" The librarian told him that she thought it hideous. "Oh, I'm so glad," said the child. "Teacher gave us each a picture, and told us to live with it until we could see all its beauty, and I've lived with this for three weeks, and the more I look at it the homelier it seems to get." — *Library Journal*.

THE CRESSON BEQUEST TO THE PENNSYLVANIA ACADEMY OF FINE-ARTS. — By the will of Mrs. Priscilla P. Cresson, of Philadelphia, a trust-fund of \$500,000 is created, the interest to go to the Pennsylvania Academy of Fine-Arts to pay the expenses of promising students who wish to study art abroad. Mrs. Cresson's husband died in 1899 and left \$200,000 for the same purpose. — *Exchange*.

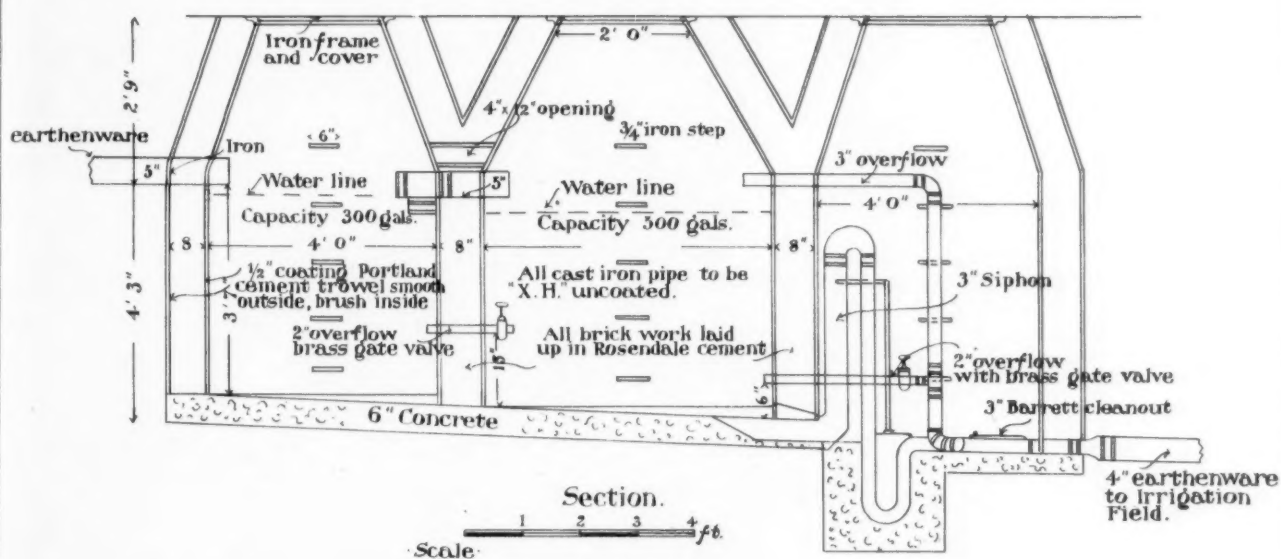
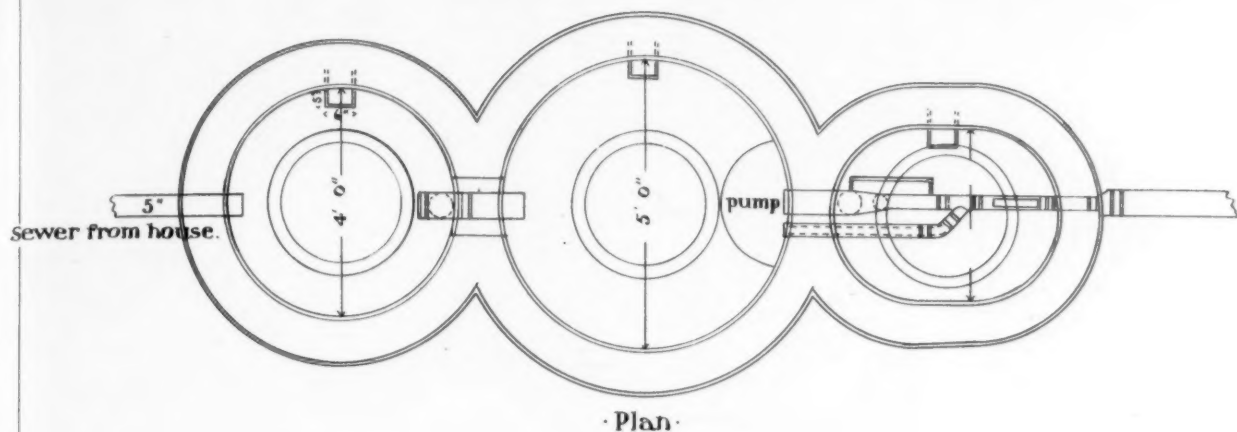
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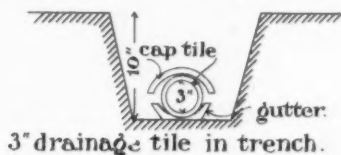
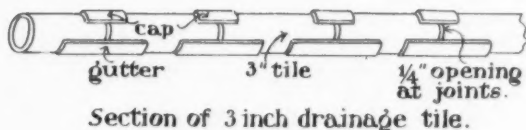
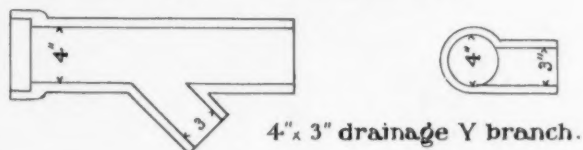
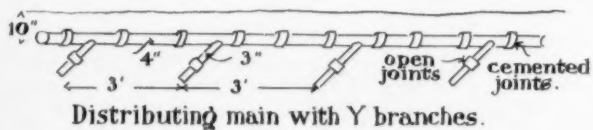
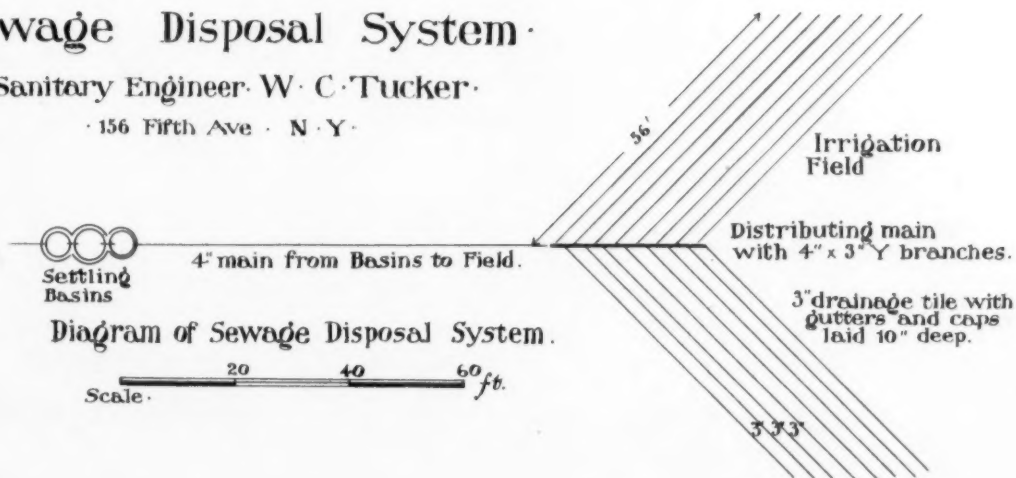
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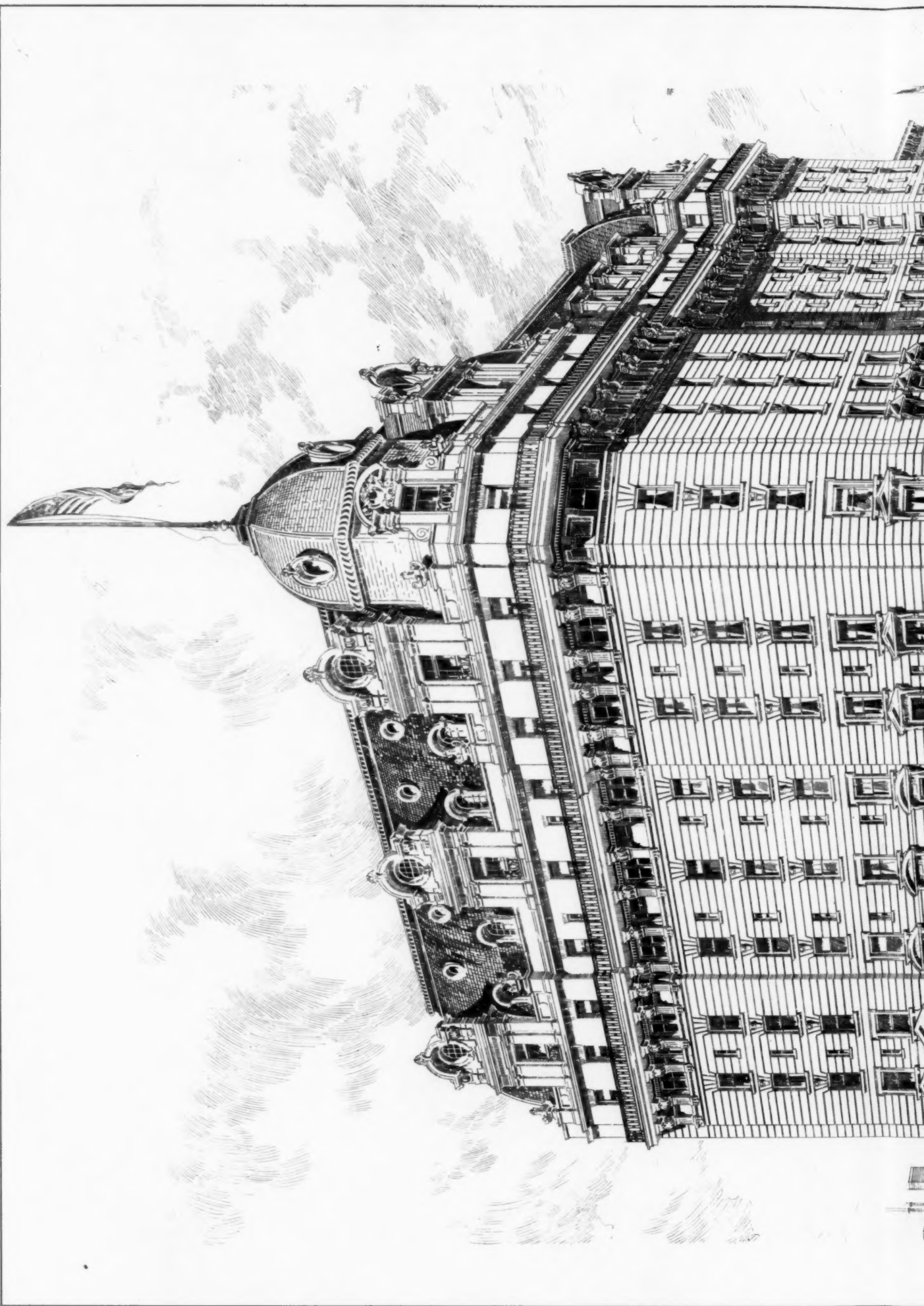


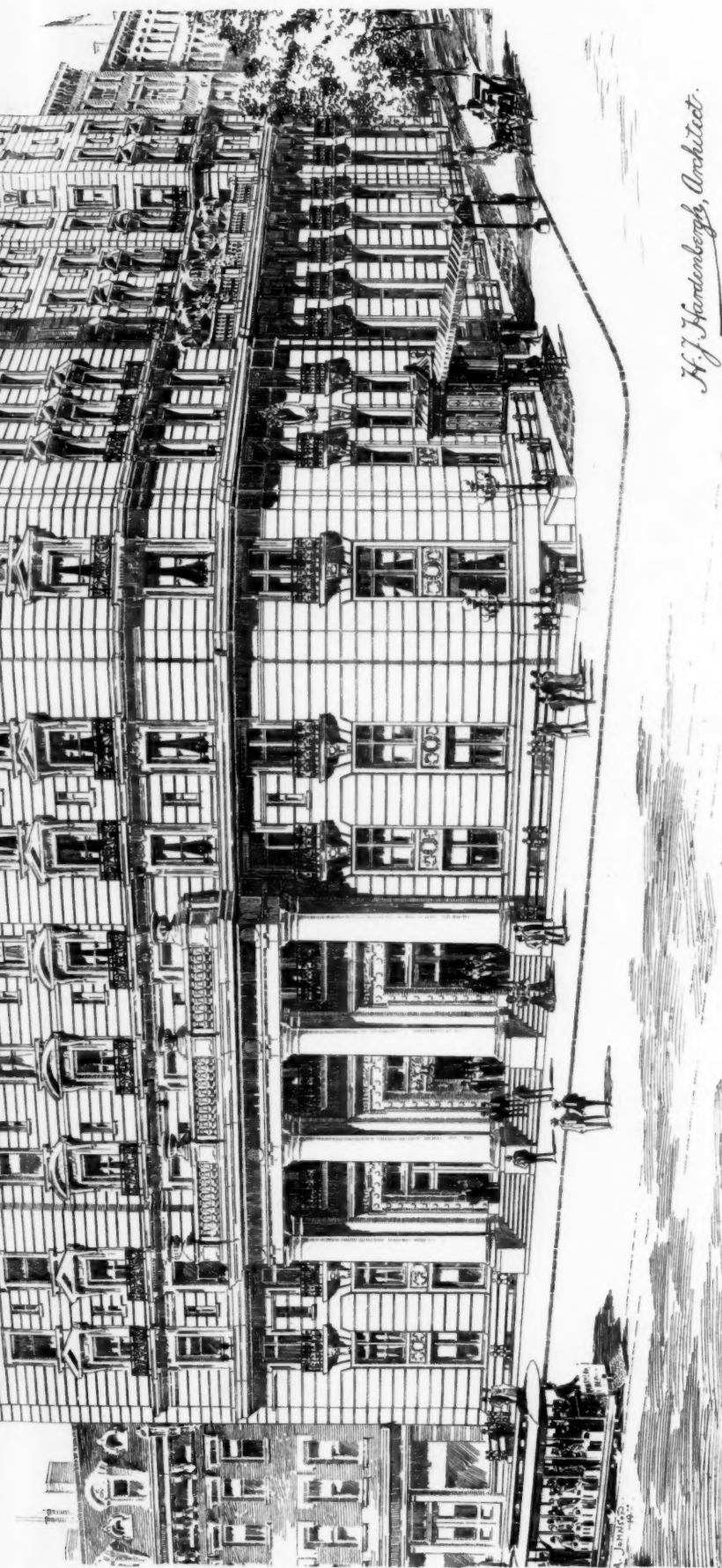
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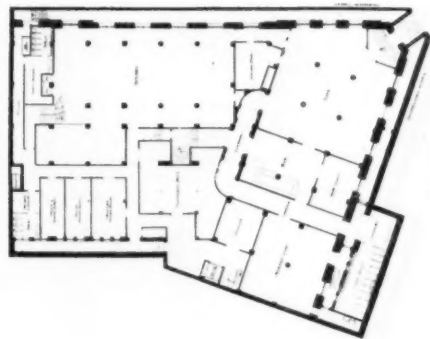
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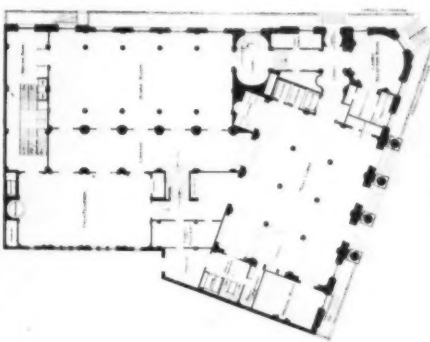




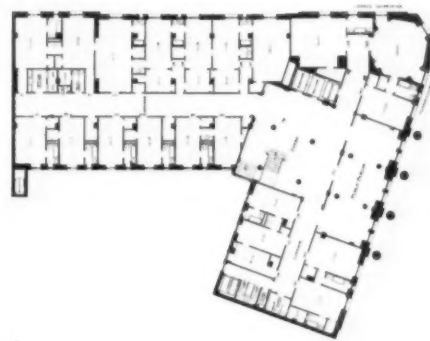
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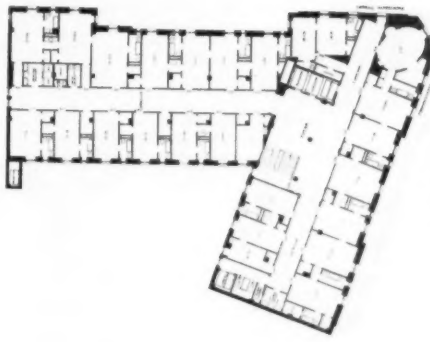
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Old State House, Boston, Mass.		" 1748
Pennsylvania Hospital, Philadelphia, Pa.		" 1755
Carpenters' Hall, Philadelphia, Pa.		" 1770
Independence Hall, Philadelphia, Pa.		" 1729
Faneuil Hall, Boston, Mass.		" 1741

and others.

CHURCHES

King's Chapel, Boston, Mass.		Date 1749
Seventh-day Baptist Church, Newport, R. I.		" 1729
Christ Church, Alexandria, Va.		" 1767
Christ Church, Philadelphia, Pa.		" 1727
St. Paul's Chapel, New York, N. Y.		" 1764
Old South Church, Boston, Mass.		" 1729
First Church, Hingham, Mass.		" 1681
St. John's Chapel, New York, N. Y.		" 1803
First Congregational Church, Canandaigua, N. Y.		" 1812
St. Peter's P. E. Church, Philadelphia, Pa.		" 1758
Gloria Dei Church, Philadelphia, Pa.		" 1700

and others.

IMPORTANT HOUSES

Fairbanks House, Dedham, Mass.		Date 1636
Royall Mansion, Dedham, Mass.		" 1737
Philipse Manor House, Yonkers, N. Y.		" 1745
Tudor Place, Georgetown, D. C.		" 179-
Mappa House, Trenton, N. Y.		" 1809
Woodlawn, Va.		" 1799
Mount Vernon, Va.		" 1743

and others.

Incidentally there are shown special measured drawings or large views of the following features and details:

Porches and Doorways		67 Subjects
Staircases		21 "
Mantelpieces		81 "
Pulpits		6 "
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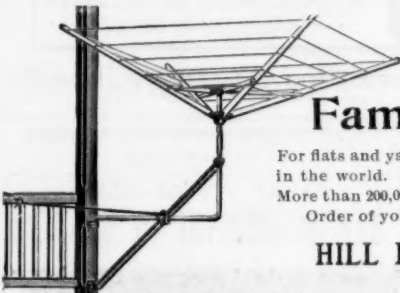
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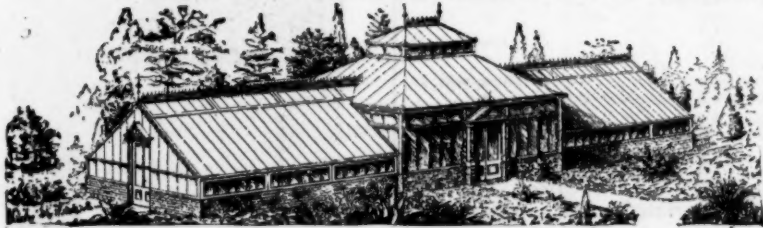
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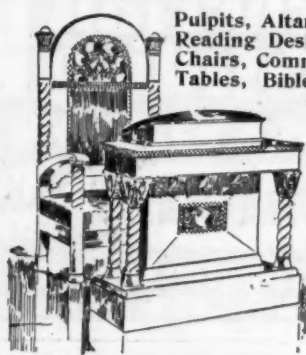


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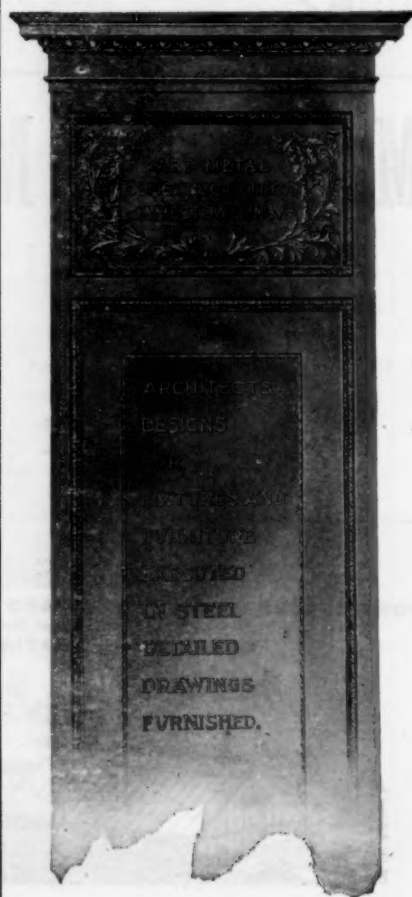
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The Bill prays for a preliminary writ of injunction, to be continued during the pendency of the suit, and upon the final determination thereof to be made perpetual, and also demands an accounting and damages.

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AMERICAN ARCHITECT AND BUILDING NEWS CO.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

and Park St. has been purchased by Benj. Whitney, Esq., who will improve the land by the erection of several private houses.

A ten-story brick and stone apartment hotel of fireproof construction, 40' x 270', will be erected in the spring at corner of Beacon St. and Mason Terrace, for the Beacon Boulevard Hotel Trust, W. H. Allen, 67 Chauncy St., and Charles R. Batt, of 79 Court St., trustees, from plans by C. H. Blackall, 1 Somerset St., Boston; cost, about \$650,000.

Brooklyn, N. Y.—Eight blocks of property along the waterfront of South Brooklyn, between 42d and 50th Sts., have been purchased from the Hunt estate by the Bush Co., one of the largest wharf and warehouse concerns in the city. The plans for the development of the property comprise the building of a series of piers, each extending 1,300 feet into the bay, which will admit of their being used by the largest freight steamers. With big wharves and warehouses, which are to be built, it is said the plant will eventually be one of the largest in the world. It is said that the property was bought for \$1,500,000, and that in a few months the work of improving it will begin.

A new church is to be erected by the parish of St. Barbara's Church at Bleeker St. and Central Ave., Williamsburg, at a cost of \$100,000. The new edifice will replace the present frame structure.

Dodge & Morrison, 41 Wall St., have completed plans for English Evangelical Church of the Messiah to be erected on Russell St., near Nassau Ave., Grapenpoint. It will be of brick construction with marble front; Gothic style; cost, \$40,000.

Burlington, Ia.—The County Superintendents will erect \$40,000 buildings at the county poor farm.

Cambridge, Mass.—Harvard College has purchased the property on the southwest corner of Mt. Auburn and Holyoke St., where a dormitory is to be erected.

Chicago, Ill.—Plans have been prepared by C. M. Palmer, 1207 Monadnock Block, for the apartment-house to be built at Lincoln Park Boulevard and Oak St., by Potter Palmer. The building will be eight stories high, 83' x 105', of Bedford stone, and have marble and glass mosaic floors and walls, tile roof, mahogany and white enamel finish, and will cost \$500,000.

D. A. Lapointe, Security Building, has prepared plans for a \$35,000 parochial school and hall building to be erected at the corner of Hermitage and Addison Aves. by members of St. Andrew's Roman Catholic congregation. The structure will be three stories and basement, of stone and pressed brick. Specifications provide for all modern improvements, including bowling-alleys, lodge halls, a refectory, auditorium, etc.

As a result of the City Council having removed the height limit of fireproof buildings, local architects say that it will mean an outlay of nearly \$25,000,000 for new skyscrapers. D. H. Burnham & Co., The Rookery, say that that the firm has projects of that nature on the boards which will approximate more than \$7,000,000.

Cincinnati, O.—It has been decided by the trustees of the University of Cincinnati to erect a \$75,000 gymnasium.

Concord, N. H.—A one-story and basement stone church edifice, with tower, will be erected at a cost of \$100,000 at corner of State and School Sts., for the First Church of Christ Society, from plans furnished by F. R. Comstock, 20 E. 42d St., New York.

The contract has been awarded C. L. Fellows & Co., builders, for proposed two and one-half story brick and stone dormitory, to be erected at a cost of \$60,000, for St. Paul's School.

Dedham, Mass.—The Norfolk County Commissioners have selected Peabody & Stearns as architects for the new Registry of Deeds and Probate Building to be erected opposite the new court-house. Work will be begun as soon as possible, and will be rushed forward to completion. The building will be of brick and stone, the Registry of Deeds occupying the first floor, and the Probate Office on the second floor. The appropriation allows for a building not to cost more than \$200,000.

Des Moines, Ia.—The State Department of Agriculture has asked the legislature to build a stock pavilion to cost \$40,000 at the State fair grounds.

Exeter, N. H.—A fine gift came to Phillips-Exeter Academy recently in the form of a deed of a \$30,000 building on one of the town streets, and an adjoining plot of land on which is a fireproof warehouse. The giver is Dr. Abner L. Merrill of Boston. The chief building is to be known as "Merrill Hall." In it will be located the administrative offices of the academy and rooms for the literary societies. The warehouse will be transformed into the Rice library building.

Fall River, Mass.—Work will start on superstructure of church edifice to be erected on S. Main St. for St. Anne's Church from plans furnished by an architect from Montreal; cost, \$225,000.

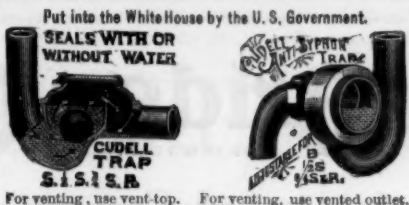
Haverhill, Mass.—St. Joseph's Parish is contemplating the erection on Broadway of a two and one-half story brick and stone church edifice to cost about \$50,000. Architect not yet selected.

Hoboken, N. J.—The next building to be erected for the Stevens Institute of Technology is the Morton Alumni Chemical Laboratory. President Morton has been working with the Alumni Association in raising a fund for this building. He has given more than \$100,000 himself for the building and an endowment fund after it is completed. Plans have been selected and work will be begun in the spring.

Hyannis, Mass.—A three-story summer hotel will be erected here next spring on property of the Egglewood Beach Land Co.

Indianapolis, Ind.—Rankin & Kellogg, of Philadelphia, have won the Government architectural competition for plans for the new Federal Post-office. It will be built of Indiana limestone, in the Italian Renaissance style, and will have a frontage of 175 feet by a depth of 350 feet. Probable cost, \$1,500,000.

Jersey City, N. J.—The American Type Founders' Co. is to build a large plant in this city on a plot comprising about 52 city lots. The property acquired is bounded by Communipaw Ave., Monitor, Maple and Garabrant Sts. Preliminary sketches have been prepared by the architect, John T. Rowland, Jr., Montgomery St. Nothing definite will be



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

decided upon before spring. The American Type Founders' Co., 25 William St., N. Y. City, R. W. Nelson, president, are the owners.

Lakewood, N. J.—Architect Henry Dagit, of Philadelphia, has prepared plans for a convent for the Sisters of Mercy. It will be a three and a half story brick structure, measuring 60' x 100', and will cost about \$80,000.

Lawrence, Mass.—Land situated at corner of Essex St. and Broadway, opposite the B. & M. depot, has been selected for the erection of new post-office building; cost, \$50,000.

Montreal, Can.—The construction of one of the largest bridges of its class in the world will soon begin. It will cross the St. Lawrence River at this city, and cost, complete, \$10,000,000. The Montreal Bridge Co. has entered into a contract with the Atlas Construction Co. to erect it.

Newburyport, Mass.—Plans are about to be figured by invitation for proposed one, two and three story brick hospital building to be erected on High St., for the Anna Jacques Hospital. Kendall, Taylor & Stevens, 95 Federal Sts., architects.

New London, Conn.—Maxson & Co., of 106 Milk St., Boston, have been given the contract to build a summer dwelling here for J. C. Lynch, of New York.

Newtonville, Mass.—A one-story granite chapel, 25' x 40', will be erected at corner of Lowell Ave. and Otis St. for St. John's Episcopal Society from plans by Henry Vaughn, Pemberton Sq., Boston. General contract not let and arrangements not yet made for any portion of work or materials.

New York, N. Y.—A press report states H. A. Taylor, one of the Assistant Secretaries of the Treasury Department has sent a letter to the Committee on Public Buildings and Grounds recommending that Congress authorize the additional appropriation of \$1,500,000 for the completion of the New York Custom-house in accordance with the original plans. Cass Gilbert, the architect of the building, informed the department that the sum would be necessary to defray the expenses of finishing the building with granite. To use brick in constructing the building above three stories would ruin the effect of this building, which the people of New York desire to stand as a monument for the city.

Hegeman & Co., 196 Broadway, has leased for 21 years Nos. 200-202 Broadway. The five-story buildings will be altered and modernized.

Norfolk, Va.—The Second Presbyterian congregation will shortly begin the erection of a \$25,000 church.

Philadelphia, Pa.—The Philadelphia Suburban Express Co., recently organized with a capital of \$500,000, proposes to erect at the southwest corner of 16th and Callowhill Sts. a large depot, storage warehouse and terminal station. The structure will be of brick, eight stories high. On the first floor will be a driveway for wagons; the offices of the company will be on the second floor, and the remaining six stories will be used for storage purposes. Plans for the structure are being drawn by Architects Duhring, Okie & Ziegler, and the total cost of the plant will probably amount to about \$225,000. The company is a consolidation of many of the small local express companies.

Femberton & Co. have had plans drawn for a large operation of dwellings at 57th and Thompson Sts. The houses will be two stories high and will be built of brick with Pompeian fronts.

Architects Charles M. Bolton & Co. have made plans for extensive alterations to the German Lutheran Church of Roxborough. In addition to many changes in the interior of the building a brick tower, built in the Norman style, 100 feet high and equipped with a set of chimneys, will be added.

It is said that negotiations have been nearly completed for the erection of a ten-story hotel on the northwest corner of Broad and Spruce Sts., now occupied by the Third Church of Christ, Scientist. The names of the interested parties and the architects are withheld for the present.

Felix Isman, acting for a large mercantile establishment, has purchased St. George's Hall, southwest corner of 13th and Arch Sts., for a sum in the neighborhood of \$225,000. The property is 60' x 137', and it is the intention of the purchasers to erect a ten-story store and manufacturing building.

Henry S. Hale, representing a large corporation in which he is interested, has purchased from the Smalts estate, a tract of land at 18th and Lehigh Ave. The property, which measures 200' x 750', is bounded by 18th St., Lehigh Ave., Glenwood Ave. and Margie St. and the New York division of the Pennsylvania Railroad. It is the intention of the purchasers to erect a series of manufacturing buildings, which will be thoroughly up to date in construction and appointments. The cost of the operation will be about \$250,000.

The Department of Public Works will invite bids for the erection of a series of buildings at the city's filtration plant, at Lardner's Point, on the Delaware River. All the buildings will be of brick, and the cost of the entire operation will be about \$250,000.

George C. Dietrich will erect for Nelson Morris & Co. a large refrigerating plant and beef storehouse at 21 and Willow Sts. It will be a four-story brick building measuring 74' x 93', and is to cost \$30,000.

Architects McIlvane & Roberts have awarded to E. J. Heddin the contract for the erection of a ten-story apartment-house at 1722-1726 Locust St., for

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Operators Mollvane & Co. It will be built of brick and terra-cotta in the French Renaissance style.

Pittsburgh, Pa.—It is reported that the site for the new Standard Steel Co.'s plant is to be between Heaver and Van-Port, a few miles below here, and consists of 250 acres, which will connect the Pittsburgh and Lake Erie and Cleveland and Pittsburgh railroads in the form of a triangle. Besides the building of its great car works, it is the intention of the company to create a new town by building houses for the accommodation of three thousand workmen. The cost of the new plant will exceed \$1,500,000, and the new corporation is prepared to spend another \$1,000,000 on equipment and improvements during the year.

B. F. Keith, the theatrical manager, contemplates building a one-million-dollar theatre in this city. Mr. Keith stands ready to put up one of the finest theatres in the country if he can get the right spot. Prices for land are rather high. One suggestion is to build a theatre and a business block on the Oliver property at the corner of Wood St. and Virgin Alley.

Pittsfield, Mass.—Ferdinand Fredericks, of 656 North St., will erect a three-story business block, with stores on street floor and tenements above. Plans by H. E. Weeks; cost, \$25,000.

Portsmouth, N. H.—A three-story brick society building will be erected for Y. M. C. Association from plans to be furnished by Walter J. Paine, 120 Tremont St., Boston.

Providence, R. I.—The gift of \$75,000 from John D. Rockefeller for the erection of a social and religious building has been accepted by the Brown University Corporation.

Rockaway Park, L. I., N. Y.—A new building will be erected by the Board of Managers of the Sanatorium for Hebrew Children, at this place, in order to keep the institution open throughout the year and take care of the sick and convalescent poor children of New York. The land necessary for the purpose has already been purchased.

Rockford, Ill.—It is reported that Alexander D. Forbes has presented to the Rockford City Hospital \$15,000, to be used in the erection and furnishing of a ward for the care of young women and children. The new department is to be known as the Jessie Elizabeth Forbes Ward, in memory of Mr. Forbes's daughter, who died in Arizona last year from the effects of a fall from her horse.

Roxbury, Mass.—Five single dwelling-houses will be erected by A. E. Aldrich on his land fronting on Humboldt Ave., Homestead and Ruthven Sts., recently bought of A. H. Tufts.

Somerville, Mass.—A four-story brick and stone mercantile block, containing lodge-rooms, assembly halls, etc., will be erected at corner of Broadway and Franklin St., for the Columbia Association, from plans furnished by Eugene L. Clark, 59 Bromfield St., Boston. Heating, steam; composition roof; cost, \$50,000. Architect has entire charge of all details.

Springfield, Mass.—The Kibbe Bros. Co. will build an addition to its candy factory in the spring. It will be of brick, five stories, 50' x 80', and cost about \$50,000.

Contract has just been let for the two-story frame school building to be erected for the new parish of the Holy Family. It will measure 70' x 106'. For the present, and until the permanent brick church is erected, which will be in the near future, this building will be used as a place of worship. John William Donohue is the architect.

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Syracuse, N. Y.—At the opening exercises of the new Hospital of the Good Shepherd recently it was announced that W. B. Cogswell, of this city, had given to the institution \$100,000 and arranged for a loan of \$100,000 in addition, upon which he would pay the interest while he lived or until the principal had been paid. The money will be expended in the enlargement of the hospital.

Tewksbury, Mass.—Trustees of the Massachusetts Insane Hospital have recommended an appropriation for a separate building, to be occupied as a surgical ward.

Washington, D. C.—The proposed State and Justice Building will be of white marble, of purely classic style, probably four stories in height and covering an area of 250' x 325'. The cost is roughly estimated at \$5,400,000. Several historic residences will have to be removed to make a place for the new building, among them being the houses of Montgomery Blair, Gen. Edward F. Beale and Blair Lee. The location is the square bounded by Jackson Pl., 17th and H Sts and Pennsylvania Ave., just north of the State, war and navy departments building.

Senator Foraker has introduced a bill providing for the erection of a statue of the late John Sherman to cost \$50,000. Senator Wetmore submitted favorable reports from the Committee on the Library on resolutions authorizing the selection of a site and the erection of a pedestal for a bronze statue in honor of Henry Wadsworth Longfellow to cost \$4,000, and for completing a monument to the memory of Dorothea Lynde Dix, for which \$10,000 is appropriated.

Report states that a new Catholic university is to be established here, at a cost of \$150,000. The university is promoted and the funds for its building will be obtained by the members of the Paulist Fathers' community in the United States.

Westboro, Mass.—The trustees of Insane Hospital have recommended an appropriation of \$50,000 for an addition of one or more cottage buildings.

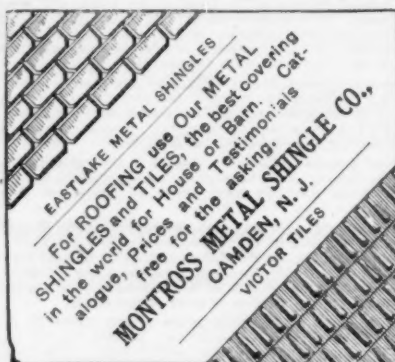
West Yarmouth, Mass.—Plans for a summer hotel to be erected here have been completed by Stratton & Simonds, of Boston, and contracts have been awarded. The building will be three stories high, built of wood, and will be 100 feet long with a depth of 40 feet. The owners are the Englewood Beach Land Co.

Woonsocket, R. I.—Plans for a new building for the Lafayette Worsted Co. have been made. It will be four stories high and have accommodations for 400 hands.

Worcester, Mass.—A five-story brick office block will be erected at a cost of \$75,000 at the corner of Commercial and Mechanics Sts., from plans by W. E. Putnam, Jr., 1 Somerset St., Boston, for Frank H. Bigelow.

Xenia, O.—It is announced here that Andrew Carnegie will give \$20,000 for a library building.

Yonkers, N. Y.—Yonkers is trying to have the State buy its city-hall as a historic reserve, because it has proven inadequate for the demands made on it for office room. The building is known as Manor Hall, and is more than two hundred years old. It was originally owned by Frederick Phillips. For some time past the building and the property have been protected by the Yonkers Historical Association, and more recently by the Manor Hall Association, an organization formed to preserve it.



BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

The City Attorney has been ordered to draft a bill to be presented to the legislature enabling the city to issue bonds to an amount not exceeding \$250,000 for the erection of a new city-hall.

ALTERATIONS AND ADDITIONS.

Chicago, Ill.—W. Ohio St., Nos. 581-585, three-sty addition to school, 110' x 122'; \$75,000; o. Board of Education, Schiller Building; a. W. B. Mundie, 171 La Salle St.; b. J. F. Muldoon, Unity Building. Twelfth St., Nos. 6-16, eight-sty side addition to office-building, 60' x 100'; \$150,000; o. Illinois Central Railroad Co., 1 Lake Park Pl.; a. F. T. Bacon, 902 Central Station.

Newport, R. I.—Three-sty fr. addition to dwell., 40' x 85'; \$20,000; o. Whitney Warren, 3 E. 33d St., New York City.

APARTMENT-HOUSES.

Chicago, Ill.—Pine Grove Ave., three-sty bk. & st. apart., 100' x 200'; steam; \$85,000; o. Hildreth & Colvin; a. John S. Woollacott, 1022 Chicago Opera-house Block.

Waukegan, Ill.—Nos. 1502-10, 2 three-sty apart., 49' x 50'; \$50,000; o. N. B. Johnson; a. Charles A. Straudel, 713, 84 La Salle St.; b. Leafgreen Bros., 614 Chamber of Commerce.

Washington, D. C.—Nos. 4939-43, three-sty apart., 64' x 108'; \$40,000; o. W. J. Bryson, 507, 203 Michigan Ave.; a. S. S. Beman, Pullman Building; b. W. M. Crilly, 167 Dearborn St.

Columbus, O.—Mound and Third Sts., three-sty bk. apart., 65' x 120'; \$40,000; o. Philip Lindinberger; a. C. W. Bellows, The Ruggery.

New York, N. Y.—One Hundred and Seventh St., nr. Manhattan Ave., 4 s-sty bk. & st. flats, 48' x 87', plastic slate roof; \$20,000; o. Park Construction Co., 4-6 Warren St.; a. Jos. C. Cocker, 243 E. 123d St.

CHURCHES.

New York, N. Y.—One Hundred and Forty-second St., nr. Amsterdam Ave., one-sty bk. church, 75' x 90'; \$80,000; o. Church of Our Lady of Lourdes, on premises; a. O'Reilly Bros., 121 E. 44th St.

EDUCATIONAL

New London, Conn.—Hampstead and Truman Sts., three-sty bk. school-house; \$45,000; a. Donnelly & Hazeltine, Garfield Building.

FACTORIES.

New York, N. Y.—One Hundred and Sixteenth St., three-sty bk. factory, 90' x 90'; asphalt & gravel roof; \$30,000; o. Delaplaine Estate, 141 Broadway; a. Chas. Baxter & Son, 2580 Third Ave.

Houston, Tex.—Nos. 491-501, seven-sty bk. factory, 39' 9" x 75', plastic slate roof; \$30,000; o. Henry W. Schlesinger, 127 Chambers St.; a. S. S. & Small-heiser, 23 Park Row.

Thirtieth St., Nos. 445-447, nine-sty bk. factory & storage building, 50' x 90', cement roof; \$55,000; o. Herman and Louis Bunkel, 449 W. 30th St.; a. G. F. Pelham, 503 Fifth Ave.

HOTELS.

New York, N. Y.—Seventy-sixth St., nr. West End Ave., ten-sty & base. bk. & st. hotel, 55' x 92' 2", slag roof; \$180,000; o. Alexander McDowell, 132 W. 112th St.; a. Ralph S. Townsend, 29 E. 19th St.

Worcester, Mass.—Park St., five-sty bk. & st. hotel, 60' x 125'; \$50,000; o. Harrison S. Prentice, 223 Summer St.; a. W. H. Harvey, Main St.

HOUSES.

Chicago, Ill.—Ellis Ave., No. 6826, two-sty dwell.

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BUILDING INTELLIGENCE.

(Houses Continued.)

42' x 48'; \$5,000; o. Mrs. E. Silkenat, 6621 Ingleside Ave.; a. G. H. Gilbert, 367 Thirty-third St.; b. John Kindberg, 6641 Wabash Ave.

Dedham, Mass.—2-sty bk. & st. dwell., comp. roof, hot water; \$35,000; o. P. W. Wrenn, Cambridge; a. Whitman & Hood, 62 Devonshire St., Boston.

New York, N. Y.—Buena Vista Ave., nr. 170th St., 2 two-sty & attic fr. dwells., 27' 4" x 40' 6", shingle roof; \$14,000; o. Wm. C. Reeber, 409 E. 107th St.; a. Gilbert Robinson & Son, 39 Hancock Pl.

One Hundred and Forty-eighth St., nr. Broadway, two-sty bk. dwell., 25' x 74', plastic slate roof; \$8,000; o. a. & b. John P. Leo, 143 W. 125th St.

One Hundred and Ninety-fifth St., nr. Marion Ave., two-sty fr. dwell., 22' x 55'; \$6,000; o. Harriet S. Lum, 628 Travers St.; a. J. J. Vreeland, 1965 Webster Ave.; b. A. T. Lum, 628 Travers St.

Seventy-seventh St., nr. Central Park West, 3 four-sty base & sub-baso. bk. & st. dwells., 25' x 71'; \$180,000; o. James Carlew, 17 W. 122d St.; a. L. A. Goldstone, 230 W. 138th St.

Eighty-second St., nr. Park Ave., five-sty bk. & st. dwell., 20' x 60' 2", tin & copper roof; \$15,000; o. Celia Frank, Hotel Chastagnery, Madison Ave., n e cor. 92d St.; a. Buchman & Fox, 11 E. 59th St.; m'n, J. C. Lyons, E. 125th St.

Fifty-fourth St., nr. 6th Ave., four-sty & base. st. front dwell., 25' x 68', tin, copper & tile roof; \$40,000; o. Elden O. D. Witt, Waldorf-Astoria Hotel; a. C. P. H. Gilbert, 1123 Broadway.

Fifty-first St., nr. Madison Ave., 2 five-sty & attic st. front dwell., 20' x 21' x 70', tin & copper roofs, \$120,000; o. J. S. Parker, 225 Fourth Ave.; a. Buchman & Fox, 11 E. 59th St.

Somerville, Mass.—Fosket St. and Bay State Road, two-sty fr. dwell., 28' x 48', shingle roof, hot water; \$5,000; o. a. & b. Zebedee E. Cliff, 345 Summer St.

Worcester, Mass.—Dupont St., three-sty fr. dwell., 36' x 62'; \$6,000; o. N. P. Huot; a. O. E. Nault. Forest St., two-sty fr. dwell., 36' x 45'; \$6,000; o. Edward F. McCabe; a. Chapin & Tapanelian; c. A. N. Booth.

COMPETITIONS.

LIBRARY BUILDING. [At Boston, Mass.]
Competition for a new Library Building for the Boston Athenaeum. Architects may obtain the programme of competition by applying to the Secretary of their local Chapter of the A. I. A., or to J. K. COOLIDGE, Jr., Secretary of the Building Committee, Boston Athenaeum. 1365

PROPOSALS.

BUILDING, HEATING AND PLUMBING. [At Amherst Junction, Wis.]
The county clerk, Stevens Point, Wis., will receive bids for the entire work or any sub-division of the work for building, heating and plumbing an addition to the poorhouse near Amherst Junction. Bids close March 5. A. D. CONOVER, of Madison, Wis., architect. 1365

BUILDING. [At Boston, Mass.]
Sealed proposals will be received at the bureau of yards and docks, Navy Department, Washington, until March 1, 1902, for constructing a brick and

["A Hit, a Palpable Hit!"]—HAMLET.

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PROPOSALS.

steel building at the Navy Yard, Boston, Mass. Estimated cost, \$170,000. Plans and specifications can be seen at the bureau or at the navy yard named, or will be furnished by the commandant of said navy yard upon deposit of \$25 to secure their return. MORDECAI T. ENDICOTT, chief of bureau. 1365

FIREPROOFING, METAL FURRING, ETC.

[At St. Paul, Minn.]

The Board of Capitol Commissioners will receive bids until March 4 for fireproofing and metal furring and lathing for the new State Capitol building, on plans by Cass Gilbert, architect, of St. Paul. For the Board of State Capitol Commissioners. CHANNING SEABURY, vice-president. 1365

CHURCH.

[At Lake City, Minn.]

W. E. Perkins, chairman St. Mark's church building committee, will receive bids until March 1 for the erection of a church. 1365

CHURCH.

[At Escanaba, Mich.]

The undersigned hereby gives notice that sealed proposals for the erection of a brick church building at Escanaba, Mich., including all labor and material, will be received by the building committee until the 3d day of March, 1902. All bids must be in strict accordance with the plans and specifications, prepared by Schick & Roth, architects, of La Crosse, Wis., which may be seen at the office of the architects on and after this date, and may be seen on application to Rev. J. M. Langan at Escanaba, Mich. (Signed) Building Committee. 1365

PROPOSALS.

pared by Schick & Roth, architects, of La Crosse, Wis., which may be seen at the office of the architects on and after this date, and may be seen on application to Rev. J. M. Langan at Escanaba, Mich. (Signed) Building Committee. 1365

HEATING AND VENTILATING.

[At Newburyport, Mass.]

The committee on public property, Newburyport, ask for bids, plans and specifications for a combination heating and ventilating or gravity system for the Putnam school building, Newburyport, Mass. Information may be obtained of Herbert D. Hale, 15 Exchange St., Boston. All bids to be filed with the city clerk, Newburyport, on or before February 28, 1902. Per order Committee on Public Property, Newburyport, Mass. GEORGE H. STEVENS, city clerk. 1365

PIPE, LEAD, ETC.

[At Meriden, Conn.]

Sealed proposals will be received by Board of Public Works, Meriden, Conn., until March 6th for cast-iron pipe, special castings, lead, etc., to be used in construction of 18-inch pipe line. W. S. CLARK, city surveyor. 1365

BUILDING.

[At West Salem, Wis.]

The trustees of the La Crosse County Insane Asylum

PROPOSALS.

will receive bids until March 3 for the erection of an addition to the building at West Salem, according to plans by Schick & Roth, architects. 1365

Treasury Department, Office Supervising Architect, Washington, D. C., February 18, 1902. Notice is hereby given that the time for opening the bids for the general construction (except heating apparatus, electric wiring and conduits), of the U. S. Court-house and Post-office building at Indianapolis, Ind., has been extended from March 17, 1902, to April 1, 1902. JAMES KNOX TAYLOR, Supervising Architect. 1365

Treasury Department, Office Supervising Architect, Washington, D. C., February 18, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 24th day of March, 1902, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Court-house, Post-office and Custom-house at Newport, Vt., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at Newport, Vt., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1366

CONSTRUCTION, ETC.

[At Fort Terry, N. Y.]

Fort Terry, N. Y. Sealed proposals for constructing, heating, electric wiring and plumbing two single

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PROPOSALS.	PROPOSALS.	PROPOSALS.
sets, frame, officers' quarters here, will be received until March 10, 1902. A. A. MAYBACH, Q. M. 1366	DORMITORY. [At Fulton, Mo.] Bids are wanted March 6 for erecting a three-story pressed brick dormitory for the Missouri School for the Deaf, at Fulton. N. B. McKEE, Supt. of School. 1365	Postmaster at New Iberia, La., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1365
COURT-HOUSE. [At Russell, Kan.] Ira S. Fleck, county clerk, has plans and will receive bids until March 12 for the erection of a court-house, from plans by George A. Berlinghof, architect, Beatrice, Neb. 1367	JAIL AND SHERIFF'S RESIDENCE. [At Vincennes, Ind.] Bids are wanted until March 5 for erecting a jail and sheriff's residence. J. D. WILLIAMS, Co. Archt. J. W. Gaddis, archt. 1365	HALL. [At Rockford, Ill.] Bids are wanted until March 1 for erecting a memorial hall building; cost about \$30,000. J. B. WHITEHEAD, Sec'y Bldg. Com., 408 Brown Bldg. Bradley & Carpenter, archts., 226 S. Main St. 1365
BRIDGES. [At Chicago, Ill.] U. S. Engineer Office, 1637 Indiana Ave., Chicago, Ill. Sealed proposals for manufacture and erection of twenty-one riveted steel highway bridges over Illinois and Mississippi Canal will be received here until March 6, 1902. Information furnished on application here, or to Assistant Engineer Jas. C. Long, Princeton, Ill., and Assistant Engineer L. L. Wheeler, Sterling, Ill. J. H. WILLARD, Maj. Engrs. 1365	SCHOOL. [At Scottsville, Ky.] Bids are wanted March 1 for erecting a school in Clinton District. R. E. STOVALL, chmn. 1365	Treasury Department, Office of the Supervising Architect, Washington, D. C., February 4, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 17th day of March, 1902, and then opened, for the general construction (except heating apparatus and electric wiring and conduits) of the U. S. Court-house and Post-office building, Indianapolis, Indiana, in accordance with the drawings and specifications, copies of which may be had at the discretion of the Supervising Architect on application at this office or the office of the architects, Rankin & Kellogg, 1012 Walnut St., Philadelphia, Pa. Applications must be accompanied by a certified cheque for \$250 which will be held at this office until the return of the drawings and specifications. JAMES KNOX TAYLOR, Supervising Architect. 1365
OPERA HOUSE. [At Bluefield, W. Va.] Bids are wanted March 1 for erecting a three-story brick opera house and lodge room, 60' x 160'. A. H. LAND, Sec'y, Bluefield. 1365		