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SUMMARY:—

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THOSE who have to build scaffoldings to protect the public during building-operations should see that they are strong enough to carry any proper load, and foremen should see that their laborers do not pile up unreasonable weights of brick and stone on stagings. On the evening of the Dewey parade in New York, a shed built over a sidewalk in Fourteenth Street, intended to protect passers-by from falling objects, gave way under the weight of several tons of bricks, which had been gradually accumulating on it. Four persons were under the shed at the time. Three of them, alarmed by the sound of the cracking of the timbers, succeeded in making their escape, but the fourth, a young Bohemian woman, was caught by a mass of falling material, and instantly killed. The shed is said to have been strongly built, and it is probable that, as often happens, the laborers employed in the work on the adjoining building continued to empty hods of bricks on the platform, without knowing or caring whether they were taken away for use, or whether the load was becoming dangerous, until failure took place. In such cases, the determination of the responsibility for the accident is a difficult matter, and while, in the public interest, some one should be held to account, the process of ascertaining who is the proper one will be an interesting one.

THE new Department of Justice building, in Washington, is to be designed by Mr. George B. Post, of New York; the design by Messrs. Price & Aiken being placed second, while that by Messrs. Warren & Wetmore was placed third by the jury. Meanwhile, the execution of the New York Custom-house has been definitely awarded to Mr. Cass Gilbert, formerly of St. Paul, Minnesota, but now established in New York. There is a rumor that influential Republican politicians from New York are attempting to secure a change in the latter award, on various grounds, and that the Treasury Department stands firmly by its promises to the profession. It could hardly do otherwise, except at great cost to the Government, as there is no question in regard to the validity of the contract that it entered into with the competing architects, and it is to be hoped that no countenance whatever will be given to any scheme for setting aside the award. Where the people's money is spent in such large sums as it must be in erecting public buildings, and where it is so easy, with the collusion of a dishonest architect, to divert a substantial portion of it into the hands of persons who live on what they steal from their fellow-citizens, great efforts are always made to have its expenditure controlled by corrupt or incompetent men, and these

efforts are too often successful. It is not surprising that the statesmen who hope to divert into their own pockets, and those of their followers, a million dollars or more of the appropriation for the Custom-house, do not like the idea of having either Mr. Cass Gilbert or Messrs. Carrère & Hastings placed in charge of the work, and the energetic support, not only of the Treasury Department but of public opinion, may be necessary to protect the architect against the manœuvres to discredit or disgust him, which, if we may judge from countless previous instances, will not cease so long as a dollar of public money remains to be expended under his care.

IT appears that certain decorations in the Capitol at Washington have been treated in a manner which has excited the indignation of the Government officials, who will endeavor, at the next session of Congress, to secure the passage of a law to prevent such misdemeanors. Many of the smaller rooms in the Capitol are elaborately frescoed, in the style of fifty years ago, with the arms of the States, or other decorations, sometimes of an interesting character. Where these decorations have grown shabby with age, it seems that it has been the practice, instead of cleaning or retouching them, to scrape them off, and paint the wall in plain color. One does not need to be a devoted archæologist to object to this way of improving the Capitol, and it may be hoped that Congress will put an effectual stop to the abuse of public property which is so common, not only in Washington, but elsewhere.

THE newspapers generally have had a good deal to say about the contract for the superstructure of the Atbara bridge, over the Nile, which was awarded last winter to the Pencoyd Iron Works, of Pennsylvania, in preference to English contractors. A patriotic member of Parliament having demanded an explanation of the affair, the Government furnished documents which have much interest. The bridge was a military affair, a part of the railway line to Khartoum, which had been undertaken to secure the occupation of the Soudan. Lieutenant-Colonel Gordon, of the Royal Engineers, who had charge of the bridge-work on the ground, sent a description of what was wanted to Colonel Western, the representative of the War Department in London, requesting him to consult with a Mr. Robertson in regard to the design; and General Kitchener, who was then in London, explained to Mr. Robertson the strategic necessity for quick completion of the bridge. Mr. Robertson drew up plans and specifications, which were forwarded to Egypt. On their arrival, Colonel Gordon saw at once that they could not be carried out without false-work, built up from the bed of the river, which the Nile floods would assuredly sweep away. He therefore telegraphed to Colonel Western that the bridge must be capable of being erected without false-work in the river. Meanwhile, Colonel Western had been studying the conditions, and had written that it would be impracticable to get the bridge built in less than a year; while Mr. Robertson thought that two years was the least practicable time, and suggested that a ferry might be established for use until the bridge could be made ready. Colonel Gordon, who understood the military necessity for its completion before the spring flood, then took the reins into his own hands, and "privately" communicated with American bridge-builders. In reply to his communication, the Pencoyd Company telegraphed an offer to deliver the bridge in six weeks. Colonel Gordon immediately reported this offer to the War Department, advising Colonel Western to accept it. The latter still demurred, saying that the Pencoyd bridge could not be built without false-work, but seems to have changed his mind on further inquiry, and the order was given. The exact date of giving the order is not mentioned, but it seems to have been about the first of February, 1899. On the twenty-fifth of February the first shipment of steel was made from Pencoyd, and the rest of the bridge was sent on the fifteenth of March. The contract price for the bridge, including only the superstructure, the piers having been put in meanwhile by an Italian firm, was twenty-eight thousand dollars. The lowest bid from English contractors on the same specifications was sixty-five thousand. The work and materials at Pencoyd were inspected by an officer sent from England for the purpose, and were pronounced very satisfactory.

THE School of Drawing and Painting of the Boston Museum of Fine-Arts makes an interesting report for the year 1898-99. It is hardly necessary to say that the school has long outgrown its preliminary stage of abundant lecturing and rather meagre painting, and its two hundred pupils now not only draw and paint to their heart's content, but have, in the monthly competitions, an opportunity to judge of their own progress which is of great value. It is rather singular that only twenty-seven of the pupils, or about fifteen per cent, are men. This need not mean that the school should be given a lower place than the schools of fine-art frequented mainly by men, for there are not many men who can compete successfully with the best women-artists, but the fact should have an interesting relation to the results of school-work. In one respect the preponderance of the feminine element should certainly be advantageous. The curse, we might almost call it, of art in this country is the propensity of people who have drawn a winter in a life-class, and learned the distinction between a hog-tool and a blender, to abandon themselves to the idea that, as artists, they are exempt from the rules applicable to common mortals, including those which inculcate industry as a requisite to success. Among women, this sort of folly is not common, and nothing is better suited to reduce the conceit of a silly young artist than to see his limping figures and staggering outlines cast into the shade, month after month, by the work of the modest and painstaking girls over whom he had assumed airs of superiority. It is possible that the dislike of women for contests of any kind might make the competitions in a school in which they predominate so greatly rather languid affairs, but in the Boston school there are now prizes and scholarships numerous enough, and valuable enough, to stir up emulation, and the number of these is likely to increase. The salutary influence exerted by these incentives is indicated by the fact that a picture painted by the present Longfellow Scholar, Mr. W. H. Haskell, during the first year of his scholarship, was admitted to the Paris Salon of this year.

IT is, perhaps, fortunate that community of philanthropic interest is an actively real and not merely a sentimentally passive feeling, for we cannot perceive that there is any commercial advantage accruing to the British Fire-Prevention Committee, which is mainly the creation of Mr. Edwin O. Sachs, from aiding in the establishment at St. Petersburg of a testing-station conceived on lines similar to those of its own establishment in Regent's Park, London. To enable the Russians to prove to themselves, or to prove it to them, that it is needless to allow thirty-five million dollars' worth of village buildings to burn up each year is, philanthropically considered, a most admirable thing; but why Mr. Sachs and his British friends should take the trouble to do so does not appear very clear. Theoretically, perhaps, testing-stations operating on similar lines at each National capital afford a very scientific means of procuring a series of records, but it seems rather odd that such work should be undertaken by a private corporation, and a foreign one at that, rather than by each Government on behalf of its own people. Surely the conducting of fireproofing tests is not so lucrative an employment that it can earn dividends for holders of the corporation stock. Whatever the motive may be, and however the operation is "made to pay," the new Russian establishment can hardly fail of being immensely useful to Russian interests.

THE most interesting of the recent successes of science is certainly the freezing of hydrogen, which has been accomplished by Professor Dewar. For some time, Professor Dewar has been experimenting with liquid hydrogen, and has been able to obtain it in quantities of half a pint or so at a time. In the course of his experiments, he observed that a white, spongy mass, like frozen foam, often formed on the inside of the receptacles containing the hydrogen. He supposed at first that this white solid must be frozen air, or, perhaps, a sponge of frozen air containing free liquid hydrogen, similar to the sponge of frozen nitrogen, containing liquid oxygen, which forms under some circumstances in freezing air. The temperature at which the new substance melted showed, however, that it could not be frozen air; and Professor Dewar arranged a new apparatus, by which a tube of pure hydrogen was surrounded by liquid hydrogen, the latter being cooled by

evaporation. On releasing the pressure on the liquid hydrogen, so that evaporation could begin, the gas in the inner tube was seen to condense, and collect at the bottom, and, soon after, a crust of frozen foam formed at the surface of the hydrogen, while all below was converted into a transparent blue solid, which remained in place when the tube was inverted. This experiment proves the error of the opinion long held by chemists, that hydrogen in the solid form would be found to be a metal, and shows that it is similar in constitution to other gases. Professor Dewar was able to determine the temperature due to the evaporation of the liquid hydrogen to be about sixteen centigrade degrees above the absolute zero, while the density of the liquid at the boiling-point is about one-fourteenth that of water. The density of the solid could not be ascertained, on account of the spongy condition of the upper portion. Having thus, so to speak, conquered hydrogen, Professor Dewar will, it is said, turn his attention to helium, a lighter gas even than hydrogen.

IT is some time since the public has heard from the "*Turbinia*," the wonderful boat, driven by something like a dozen propellers, all actuated by steam turbines, and revolving at great speed, and a paper read by Mr. Charles Parsons, the builder of the "*Turbinia*," and the inventor of the best-known form of steam-turbine, before the British Association at its recent meeting, is of interest. The "*Turbinia*" having shown the practicability of using the new form of engine for navigation, Mr. Parsons suggests that his system is peculiarly applicable to the vessels which cross the English Channel. As the harbors on the coast of the Channel at its narrowest part are shallow, it has been necessary to use side-wheel steamers of light draft to run between them, and the trembling of a side-wheel steamer, driven at high speed, no doubt contributes something to the effect of the cross-currents in producing the seasickness for which the Channel passage is so much dreaded. Mr. Parsons points out that the steam-turbines run without vibration, while the propellers driven by them, being small, well submerged and numerous, push a boat with a smooth motion, like that of a sailing-vessel. It would be easy to secure a speed of thirty knots an hour with steam turbines on a vessel as large as the average Channel boat, and Mr. Parsons thinks that in this way not only would the duration of the sea-passage be materially shortened, but the voyage would be so much more comfortable that the turbine boats would become popular. The competition between the various Channel lines is so great that it seems quite likely that some enterprising company may try the venture before long. At the worst, the turbine boats would cost much less than the old double steamer, "*Castalia*," now abandoned, which was designed to reduce the dangers of seasickness, and, unlike the "*Castalia*," they could be utilized for river service in case they proved unprofitable on the Channel.

THE sale of historical buildings in England by their unromantic, not to say unfeeling, owners goes on rapidly. This week the estate of Chepstow, or Striguil, is to be sold at auction for the account of its present owner, the Duke of Beaufort, whose ancestors came into possession of it nearly four hundred years ago. The castle itself is Norman, being one of the five strongholds erected under the Conqueror which still remain. The oldest portion of it is said to have been built by William Fitz-Osbern, the friend and confidant of the Conqueror. It came later into the possession of the Earls and Dukes of Norfolk, and from them passed, through the Herberts, Earls of Pembroke, to the Somersets, the ancestors of the present owner. Who will be the next possessor remains to be seen. It is singular that, while in this country a Colonial mansion, dating, as some of them do, from the middle of the seventeenth century, is generally an object of great pride to the descendants of its original owners, a similar object in England seems to be regarded as a burden, to be got rid of as soon as possible. Whether this indicates that what Mr. Ruskin calls the "Lamp of Memory" is burning low in English bosoms at present, or whether the people who own the historic castles do not find as much satisfaction in communion with their ancestors as their predecessors did, we will not pretend to say, but, unless some of the present representatives of the great English families are much belied, it is conceivable that their forefathers might utilize an occasional sojourn at their ancestral seats to give them ghostly counsel.

THE PALACE OF THEODORIC AT RAVENNA.



Escutcheon from the Monument to Alexander III, Moscow, Russia.

RAVENNA is assuredly one of the most important of the monumental cities of Italy. Ever since the Middle Ages it has piqued the curiosity of students. Its architecture, sculpture and painting have been made the object of serious study, while the Italian Government takes the greatest care of its remaining monuments. A small provincial city, to-day almost deserted and half dead, Ravenna served as the asylum of the last of the emperors of the Roman Empire, as a residence for the kings of the Ostrogoths, and as a capital for the Byzantine governors of Italy; and by the great memories that it evokes, by the monuments of a glorious past which it preserves, it still retains a singular importance, which increases from day to day, inasmuch as the love and knowledge of Byzantine work goes on increasing. So a French historian did not exaggerate who wrote that at Ravenna better than in the Orient, better than in Constantinople itself, one can study the Byzantine art of the fifth and sixth centuries, and here, better than at Rome, can be seized and understood the living influences of the Christian art of the East preserved in so remarkable a degree throughout Italy.

The Byzantine monuments of Ravenna are, generally speaking, in a bad condition of preservation. That jewel [SS. Nazario e Celso] which is called the Mausoleum of Galla Placidia, which is the monument that is best preserved, during these later years has been struck by lightning, which effected the downfall of several portions of the mosaic, — repaired about 1893. On this occasion was drawn up a general scheme of isolation to which execution was partially given. The Mausoleum of Galla Placidia, as I said, is the best-preserved monument at Ravenna (even the Metropolitan baptistery being found in fair condition), but does not resemble the famous Palace of Theodoric, which, like his mausoleum, has been lately the object of interesting investigation; that is to say, it is only within the last few weeks that has been finished an investigation about the palace, the results of which I hasten to communicate to you. And, in the first place, is there indeed historic certainty that the remains of the Palace of Theodoric, so-styled, really form portions of the royal residence of that prince? Everybody will answer in the affirmative, but it would be a good thing to discover if current opinion has a solid and unassailable foundation. The question, so far as I know, has not yet been asked, at least in a review, and I do not believe it useless to write a word about it in your excellent journal. Perhaps this word will be more interesting for your readers after I have given them some knowledge of the works at the palace.

At Ravenna there exists two palaces of Theodoric, so-called — one on the right wall of the Church of St. Apollinare Nuovo, and here it is in mosaic; the other on the Strada del Corso and the Porta Alberoni, and here the relics are in masonry. The mosaic at St. Apollinare Nuovo has a majesty which the ruined stonework does not present. The Church of St. Apollinare which is called "Nuovo" to distinguish it from St. Apollinare in Classe, outside of Ravenna, is a long basilica with two rows of columns; the sides of the nave are divided in their height into three portions, lined with mosaic, the first of which represents a procession of twenty-five personages who are departing from a palace in the style of the Roman decadence and this is called the Palace of Theodoric. The mosaic which represents this palace dates back to the time of the full flower of Byzantine art, the sixth century. The palace is represented geometrically. A four-column portico in the middle of the façade is higher than the porticos on the sides, above which are arranged a series of windows which almost form another portico, or, to speak properly, a pseudo-loggia; and the columns of the porticos, as well as those of the pseudo-loggia, are surmounted with small segmental arches, while the arches of the porticos are enriched with curtains, as if they formed parts of an Oriental palace in Persian style. Foliage and festoons held by angels give to this façade the cachet of exquisite taste; and the pediment, underscored as one might say, emphasizes the middle portion, and bears on its architrave, very clearly, the word "PALA TIVM." The capitals of the columns are carefully worked and form an appreciable contrast with the cornices, which are light, without mouldings and without picturesqueness. In short, while the ensemble is majestic because of its richness, it is in no way a work of art, its effect being less than mediocre.

As to the actual palace of real stonework, it is represented by a portion of wall, where the artistic note is given by a sufficiently elegant loggia on the first story (the remainder, as it exists, has only a single story). On the ground-floor we see the middle doorway, which has by no means a lordly air, and on the side two arches. In fact, this relic of the Palace of Theodoric, which forms one angle,

and of which I have tried to give you an image of the most interesting side, has not that air of Byzantine splendor which fancy is pleased to bestow upon a royal residence. A very fine capital, with a cross of Byzantine style, that has arms incurved at the extremities, giving it the effect of a jewel in a large velvet box, has been raised during the last excavations, as well as a porphyry urn, which has been set up against the façade of the palace which we speak of as the principal one. If, now, we take the trouble to compare the mosaic in St. Apollinare Nuovo with the remains of the royal palace on the Strada del Corso, a singular discovery awaits us: an enormous difference exists between the two palaces of Theodoric, or, to speak more strictly, between the mosaic-work at St. Apollinare and the remains on the Corso, both of which we would like to consider as the royal palace of Theodoric. And yet, tradition, the historians, the chroniclers, cite as the ruins of the Palace of Theodoric those very walls on the Strada del Corso, and even tradition itself says that the palace in mosaic represents this very building, and so the royal palace. History assures us that the Palace of Theodoric covered an area of some two hectares, but in the course of ages, and because of indifference to antiquities, all has been destroyed, and to-day, with all our knowledge, we only know that the palace was built where now rear themselves the few remains of which we are speaking. In fact, the historiographer Agnello, a priest of Ravenna, who left a very curious and valuable book on his native city (he lived in the ninth century and Theodoric died in 526), wrote, three hundred years after Theodoric must have built the palace under discussion, that this palace was near the Church of St. Martin in Caelo Aureo ("juncta ecclesiam S. Martini in caelo aureo"). This church was really the present St. Apollinare, which formerly was called St. Martin's. The testimony of Agnello is fortified by a "bolla" of Alexander III (†1181), which said the same thing as Agnello, whose testimony, moreover, had been confirmed before this by another pontiff, Paschal I (†824). One would never come to the end of citing documents which bear testimony to the fact that the Palace of Theodoric was built in the locality where these masonry ruins now appear, but I believe that I have given enough in the notes which I have exhumed. I will only add one more bit of testimony, which I extract from the last excavations carried on at the palace. In excavating about these remains in the "orti" Monghini, on the Strada di Porta Alberoni, there have been discovered some very remarkable pavements in mosaic of the Alexandrian character, which precisely covered the space now occupied by the gardens which are found between the city walls, the Strada di Porta Alberoni, the ex-convents of St. John the Evangelist and St. Apollinare.

I have said that of the Palace of Theodoric we, with all our knowledge, only know the locality where it was erected. Even down to our own days no one misdoubted that the remains on the Corso were those of the Palace of Theodoric. It is only from the time that serious studies of the Byzantine monuments were begun that the ancient traditions, supported by historians and chroniclers, excited some misgivings and people began to doubt whether these ruins might not be a work of later date, added to, or made out of, the ruins of the Palace of Theodoric, belonging, perhaps, to the time of the Exarchate. This doubt, which only the other day stood for an audacious novelty, has, in consequence of the works which have lately been carried out, become an unassailable verity, and it is this fact which interests students of Byzantine art. The recent excavations have brought to light the fact that between the levels of the foundation of the walls on the Corso and that of the mosaic foundation in the "orti" Monghini, which belong to the palace, there exists a difference of about one and one-half metres, and this can be accounted for only by acknowledging a difference of date between the two constructions. Besides, it must be added that the walls on the Corso are built with very ordinary material, and this fact is not in harmony with the idea which was entertained by everybody that this Palace of Theodoric was really worthy of a Roman emperor, both in the way of grandeur and in richness.

So, it is only by chance that the remains on the Corso have been called the ruins of the Palace of Theodoric, and this being granted the matter of the differences of the two palaces of Theodoric is explained. The mosaic in St. Apollinare is indeed the Palace of Theodoric. Moreover, the word "PALA TIVM," which is read on the architrave of the middle feature, was only used in the Middle Ages to indicate the royal residence of a monarch. Nor is it reasonable to suppose that in a basilica of so solemn a character as St. Apollinare Nuovo, close by the real Palace of Theodoric, one would try to execute a palace *de manière*, that is to say, after a fashion wholly different from the real one. Moreover, it can be added that the mosaic representation finds its support in the descriptions of the real palace which ancient writers have left us. Theodoric erected the palace with porticos, wrote John Diacono, and, in the openings of the porticos hung "vella," that is to say, the curtains of Oriental and Roman palaces. The testimony of Agnello himself witnesses to the authenticity of the mosaic-work in so far as that it reproduces the Palace of Theodoric, and Agnello mentions a portrait of the king in brilliant mosaic-work upon the façade between the figures of Rome and Ravenna, which, in all probability, was destroyed at the time when the Arian Church passed into the control of the Catholic branch. In fact, the new cult could not admit on a Catholic church the existence of a portrait of an Arian prince such as was Theodoric, and it can be taken for granted that everything which had about it the stamp of Arianism was effaced from the Catholic churches; and in

St. Apollinare Nuovo we see, on the left, the Virgin with Jesus being adored by the Magi, which gives the proper tone of Catholicity to the decoration of the church, for the Arians did not admit the dogma of the Incarnation.

I hope what I have said will illuminate a question of some interest, and I hope that the excavations and future researches will only fortify the conclusions to which my study has brought me.

Returning to the works themselves, which have rendered possible the present researches, I will inform you that the so-called Palace of Theodoric has become a very modest civic habitation, and the Ravenna savings-bank, in consequence of a decree of expropriation, has become its proprietor; but, under the laws, the Savings-bank cannot sell this piece of real-estate, and under these conditions, although private purchasers have made their offers, the Savings-bank has yielded its property to the Government at the price of 5,200 Italian lire, the price which it had itself paid. It is almost certain that if the so-called Palace of Theodoric should come into the hands of a private person it would become the object of a more or less disgraceful speculation. It is plain, then, that the purchase of this interesting relic, which, even though it be not the Palace of Theodoric, is nevertheless an historic relic, was made not only to assure its preservation, but also for the purpose of carrying on further explorations about its site. Explorations have been carried on since 1897, and in these later days the façade has been restored to its first aspect, respect being paid to primitive lines and looking to the eventual destruction of the little houses which conceal it from view on the side of the Strada di Porta Alberoni. A little iron railing has been built about this monumental ruin, and to-day all those who visit Ravenna will be satisfied with the works carried out at the so-called Palace of Theodoric, of which, whatever it may be, the monumental aspect is calculated to impress those people who have a mind open to the impressions of beauty; yes, beauty—in using the word I do not exaggerate, for these two side-walls on the Corso and the Porta Alberoni, vigorous and energetic in tone, disjoined by the pseudo-loggia of the first story and the openings of the ground-floor, have the lines of an architectural picture, of sombre effect, it is true, but yet of exquisite beauty.

ALFREDO MELANI.

AN ANGLO-SAXON CHURCH.

THE ancient Church of St. Martin, at Wareham, is considered by the best authorities to be undoubtedly of Saxon origin. The town was once the seat of Anglo-Saxon kings; it had a strong castle and a mint of its own; and its so-called walls (earth-mounds) still surround it and cross the main street where, probably, St. Martin's and St. Mary's Churches formed part of the north and south entrances, overlooking the gates. The priory near the river on the south side of the town was founded by St. Aldhelm, and given by Robert Bellemont, Earl of Leicester, to the Benedictine abbey of Lyra, in Normandy, whose monks formed the congregation dedicated to St. Mary. In the reign of Edward III, it fell to the Crown, but was restored to the Church by Richard II, who gave it to the prior



St. Martin's, Wareham, Dorset, Eng.

of Montgrace, an abbey of the Carthusians in Yorkshire, after which it reverted again to Lyra. Henry V bestowed it upon the Carthusian monastery at Shene, Surrey, with the advowsons of four of the eight churches which the city then possessed. The ramparts are intersected by two streets at right angles, after the Roman fashion, passing through the town, which is further protected by two rivers, crossed by old stone bridges, the Trent and the Frome. Thus there is every evidence, besides that of parts of the church itself, that St. Martin's was built by the Saxons; and although it is not as fine and compact an example as the church of Bradford-on-Avon (see *American Architect*, February 18, 1893), it is none the less most interesting. It is a tall, square building, with a short, high chancel, and a projecting square porch under a gable-topped tower. The chancel-opening is much larger than that at Bradford, and we miss the long-and-short work and the exterior arcading, which are so

conspicuous a feature of the latter church; but the Norman arch is evidence of the remodelling of the old Saxon church in the eleventh or twelfth century. Indeed the Purbeck marble shafts and carved capitals supporting the arch which divides the nave and aisle are evidently of the twelfth or thirteenth century. On the south side, the Early English window has been filled with colored glass of the



St. Martin's, Wareham, Dorset, Eng.

poorest kind—the work of the custodian, a wheelwright or carriage-builder hard by. Is it not time that the State should take over all ancient buildings? Imagine a man, churchwarden or other, skilled or unskilled in architecture, being allowed to fill up the window of an old church with trumpery glass such as one sees in a fifth-rate villa residence to mask the view of the weekly washing which is pegged up in the backyard. The window was glassless until lately, and our friend evidently takes much honor to himself for this “restoration.” On the north side of the chancel is a circular-headed loop window, which is undoubtedly one of the original widely-splayed lights. The east window is walled up; the tracery is Perpendicular. A large squint bounds the chancel-arch on the north side, and on the south side is an irregular opening, probably intended for the pulpit. Above are traces of colored decoration.

The north aisle is divided from the nave by an arcade of two bays, and against the north wall of this aisle is an altar-tomb to Robert Carruthers, Surgeon Royal Navy, and his wife, who “died of a Typhus Favour.”

Part of the Church of St. Mary was rebuilt in 1841, when it was considered more economical to pull down the nave than to repair it, as was also done at St. Mary's Overy, Southwark; in both cases with disastrous results. Two effigies of cross-legged knights were removed from a side-chapel and placed in the chancel; there are also a double piscina and a triple sedilia. Here too on the wall is an earthenware plate, with the sacred monogram in blue, probably French, and possibly used for the blessed bread or Holy Loaf—the *pain bénit* of the French Church. In a small chapel dedicated to St. Thomas of Canterbury is a five-wick stone lamp.

St. Edward's Chapel is thought to be a reproduction in stone (twelfth century) of the wooden, or wattle, chapel where St. Edward, the Saxon king and martyr, was originally enshrined after his murder at Corfe Castle by his step-mother, Elfrida. A still more precious relic is the twelfth century leaden font. It has richly-decorated arcades round the sides, under which are the figures of the Twelve Apostles. It is one of the finest examples of an early leaden font in England.

S. BEALE.

FOREST MANAGEMENT IN MAINE.¹—I.

IN any broad view of the forest interests of Maine we should begin with topography. The ruling topographical feature of the State is a broad plateau² stretching from west to east, dividing its area into a northern and a southern slope. Of these slopes the northern is the smaller, embracing the watershed of the St. John River. The southern slope is a belt along our entire coast-line, on the average 140 miles wide.

A further feature to be noticed is the fall of the divide from west to east, from the foot of the White Mountains, in New Hampshire, to Mars Hill, on the borders of New Brunswick. The Rangeley Lake system at the west is between 1,400 and 1,500 feet above sea. Moosehead Lake, at about the centre of the line, lies at 1,020 feet. The highest point on the boundary between Maine and New Brunswick is about 500 feet above sea-level.

The botanical features of the State hang largely on the topography. In the southwest, for instance, a large district, low-lying

¹ A paper, by Austin Cary, A. M., Forester to the Berlin Mills Co., read before the Boston Society of Civil Engineers, May 10, 1899, and published in the *Journal of the Association of Engineering Societies*.

² For the original statement of these relations, and valuable information as to Maine's natural features and resources, see Wells' “*Water-power of Maine*.”

and with a mellow soil, is united botanically with Massachusetts and Southern New Hampshire. Oaks are prominent in the woods here, and white-pine was the staple of the original soft-wood timber. On the other hand, the plateau country presents a Canadian flora. The hardwood trees are the birches, maples, etc., characteristic of a colder region, and spruce forms the largest and most valuable part of its soft-wood timber. In the west, where the boundary of the plateau is sharp, and where it has its greatest elevation, the contrasts in timber stand are greatest. Eastward, with the easier topography, there is more variety and mixture.

We must next observe that a large part of the State of Maine is destined to remain permanently wooded. The bulk of our population is now and will continue to be located in the lower southern part, where milder climate, abundant water-power and areas of fertile soil offer advantages. Again, there is a strip of land with easy topography and very fertile soil along the New Brunswick line in Aroostook County. Out of these areas indeed a large proportion is wooded, and some bodies of land included within them are of such a character that they never will be inhabited or cultivated. For the great district remaining, about half the area of the State, the same thing is true. It is high in the first place, and the season of growth is short. As a rule, the topography is rough and the soil poor. Considerable of it, indeed, is little more than ledges and piled-up rocks.

Half the area of the State, then, about fifteen thousand square miles, seems destined to be permanently forest. This is an area twelve times as large as the Black Forest¹ in Germany. The States of Massachusetts, Rhode Island and Connecticut, taken together, just about equal it in area. The importance of this body of land as a source of wood material is evident from the statement. The relation to it of business development will be seen later on.

Since its settlement, Maine has always had a lumber business; that is to say, lumber has been cut and sawed here not only for local consumption, but to export to other communities. Many of the earliest settlements in the State were built about accessible mill privileges, and later movements of population have in considerable measure been related to woods and mills.

The development of the lumber business has proceeded according to evident laws. In the natural condition pine was at once the largest, most valuable and most accessible timber that the State possessed; pine, therefore, was the first timber to be taken. It was taken, too, where most easily accessible, along the coast and on the banks of the rivers, where it could be floated to mills, run by tide or located at the first powers above their mouths. As the best class of timber failed in the first locations men pursued it farther up the streams, or spread along the coast to other regions which had not yet been drawn upon. For a long period, however, they cut only pine, even after they had to go long distances for it. In fact, the State had been settled nearly two hundred years, and the larger rivers had been culled for pine clear to their sources on the plateau, before there was a profitable market for other soft-wood timber. At length, however, the limits of the pine supply, a supply never so abundant per unit of area in the northern wilds as in the low-lying parts of the State, began to be approached, and spruce began to take the place of pine as the staple of lumber export.

Since about 1840, then, the bulk of the lumber exported from Maine has been spruce, which was cut in the great forests of the plateau and sawed at mills located low down on the Penobscot, Kennebec and Androscoggin Rivers. Since the early 70's, however, the saw-mills have had a competitor in the log markets of the State in the shape of mills manufacturing wood paper. Beginning about 1870 in a small way, pulp and paper manufacture rapidly increased, and in ten years had become well established. After a period of experimentation spruce-wood was settled upon as by far the best technically for most uses, and it is now exclusively used in most mills. The amount of this use can be judged of from the mill capacity. In 1894 the pulp and paper mills of Maine numbered forty, and represented, as reported to the State Labor Commissioner, an invested capital of \$12,000,000. They employed between four thousand and five thousand men, and had a daily capacity of 397 tons of paper and 765 tons of pulp. At the beginning of 1899 the mills of Maine reported to the directory of the trade a daily capacity (not production) of 650 tons of paper and more than 1,000 tons of pulp. In this respect Maine stands second only to New York among the States of the Union.

Here we get at what is at once the big and the pressing matter in connection with the forests of Maine. Paper-making is one of the great, stable and growing industries of the country. It is mainly dependent on spruce-wood because spruce excels in length and strength of fiber, and is most readily reduced to the macerated condition. Now the woods of Maine possess the largest stock of spruce-wood existing within the limits of the United States, while probably in a still greater degree they embody growing capacity. The question what that resource amounts to, the question, too, how it is being used and what may be done to foster it, are questions of concern to the whole country.

The people of Maine have been behind in the appreciation of their natural resources. The State is approximately 31,500 square miles in area. Wells, in 1869, estimated, excluding water and cultivated land, that two-thirds of it, or 21,000 square miles, was covered with

woods, and the conditions since then have not greatly changed. The area destined to be permanent forests, as earlier defined, we may set at about half the area of the State, or 15,000 square miles. Probably more than that, even taking out waste areas in the shape of burned land and barrens, now possesses spruce of at least some small value. As to amounts of timber standing, no careful summaries have ever been made, except for some comparatively small portions. Much of the country never has had the timber upon it estimated, and if that had been done a vast amount of digestion and re-exploration would be required before the figures could be safely compared and summarized. The best that can be done here to give an idea of the condition of the Maine woods is to describe very generally and cursorily different tracts of country.

Some twelve thousand square miles on the St. John and upper Penobscot are timber-land of very varying quality, containing every variety of stand natural to the region. Considerable areas in the aggregate have never been cut for spruce, and the cutting that has been done has generally been for saw-logs of good quality merely, and pretty loose and unsystematic. The area named has not been seriously damaged by fire. Here, due to its area rather than quality, is the great supply of spruce-wood now existing in the State.

The Kennebec River drains 5,800 square miles, but less than half this area could be classed now as actually spruce producing. But at the heads of the streams, in very difficult situations, small tracts yet remain that never have been cut for spruce; but the remainder has been cut through, much of it severely and several times over, while both in early and more recent years the region has suffered severely from fire.

The Androscoggin River possesses about the Rangeley Lakes the best spruce timber-land in the State. It has been saved from fires, and, due to the roughness of the land, much of it has thus far escaped cutting. The drainage is of small area, however, 2,750 square miles in Maine, and half of that, in the lowlands of Southwestern Maine, cannot be considered as spruce-producing. There is also a great mill-capacity located in this region. At Berlin, Livermore and Rumford are some of the largest paper-mills in the world, and while they draw a considerable portion of their wood-supply from Canada and elsewhere by rail, the Androscoggin drainage itself is being called upon for timber at a rate and in a manner that will within a few decades, if continued, blot it out as a source of spruce-timber.

Other items of the timber-supply of Maine are of minor importance, at least in the present connection. Southwestern Maine has white-pine as its main soft-wood growth. This is a quick-growing wood, and on it that part of Maine does a considerable lumber business. This item is seldom thought of in connection with the lumber-supply of the State, but, as a matter-of-fact, wooded lands in this region are probably producing more per acre than the backwoods. Pine, however, is seldom used in the manufacture of paper.

Most of Washington and Hancock Counties, in the southeast, consist of poor and rocky land, fit for nothing else but the growth of timber. This country, however, has been long and hard cut. A good half of its area, too, has been burned over, and while burned land almost always quickly grows up again, fire changes the character of the growth and sets it back as a producer of lumber. As to spruce-supply, as available now and in the next fifty years, the main items have been considered already.

Under the circumstances it is perhaps rash to set any figures for the timber-resources of Maine. In stating clearly, however, that such a figure can be merely a rough guess, consequences of presumption are deprecated. It seems probable, then, that 25,000,000,000 feet, board measure, may approximate the amount of spruce-wood standing in the State. The total lumber cut in the State in 1896 was something over six hundred millions. Of this probably five hundred millions was spruce. About two-fifths of this went to the paper and pulp mills.

Six hundred millions is equivalent to 30 feet per acre on the gross area of the State. Five hundred millions may be 50 feet per acre on the area of what we might call spruce-producing land. These figures are within the amounts which such studies as have been made attach to ordinary cut-over land as its yearly growth. Certainly, they are small in comparison with what we know scientific forestry has produced elsewhere.

The general inference to be drawn from these facts is not a discouraging one. Our resources are still great, and we may feel justified in using them freely. It is to be remarked, however, that paper-mill capacity in the State is being rapidly increased at the present time, and promises to reach in the near future a much greater development.

It might be remarked of the foregoing that it is business and not forestry. The reply to that is, that whatever forestry we are to get in Maine, at least in the near future, must be worked out under business conditions. The State of Maine is not likely to interfere by law with the conduct of private business. Neither does it appear that State ownership of wild lands to any great extent is likely to be brought about. Maine is poor in comparison with the States that have inaugurated that policy, while it is not called to that course by such urgency. Agriculture has not, to our knowledge, been affected by the cutting of our forests. The flow of our rivers has not been affected to such an extent as to elicit protest or a call for investigation. The climate of Maine is such that almost all denuded or burned areas very quickly reclothe themselves with growth which,

¹ The amount of actual forest land is here meant, not the gross area.

if not valuable at once for timber, at least protects the surface of the ground beneath it.

The man therefore who would throw in his lot with the forests, who would economize in their use and maintain their growing power, must bring himself to bear on the forces in the field. He should not be choice in his weapons. The spread of information will accomplish much, but competition, when it can be brought to bear, may prove a more effective tool. Forestry should seek to ally itself with business, to promote the success of careful and foresighted concerns. The forester, if he would work directly on the problem of management, must work in private employ and in accordance with its fundamental conditions. First among these is the necessity of making profit. Should the forestry practised lead to loss, the business goes down and the forester's position and opportunity go with it.

The lay of the land in this quarter will become more evident if we briefly review the systems of landholding and management existing within the State. First is the stumpage-selling system, long current and now in vogue in the timber-lands of central and northern Maine. The land title in this case is held by men who neither own mills nor cut logs. Neither, as a rule, are they practical woodsmen. They are simply men of means who have acquired lands by inheritance, or who, having found out that timber-land is a safe and profitable investment, have bought it on the judgment of others. They sell lumber standing at so much a thousand, and do not, as a rule, exercise, either directly or through their representatives, any effective supervision as to how it is cut. The man who buys the stumpage may or may not own mills. At any rate, he is interested in getting as good a lot of logs as possible for the stumpage paid and with the least outlay of time and money. He cuts accessible bunches, therefore, and leaves distant or scattering timber. He cuts his stumps as high as is convenient, and throws away a quarter of his lumber in the shape of the knotty tops, which, though capable of use, are of distinctly less value. He slashes through the country anywhere with his roads, and makes no attempt to spare young growth or to save such as is killed if it comes below the class of most desirable timber. In examining these matters a few years ago for the United States Forestry Division, I found concerns where only 60 per cent of the whole volume of trunk-wood was saved from the largest and finest trees, and where, taking into consideration the small trees killed and left, the lumbermen put into the water less than half of the timber killed.

Such methods as these are an heirloom from former times, but they are rendered possible in the present only by the system of landholding under consideration. The trouble is the interests of the man who does the work are divorced from those of the land on which he is operating, and that this is not offset by strict contract and supervision. The power of remedy lies with the land-owners, who are strong parties, and who would benefit by careful handling of their lands. In a few cases this has been done. Thus the only really conservative force on the Androscoggin to-day is a large body of land held in this way which is operated carefully and with a view to the future. As a rule, however, nothing can be expected from present owners. The only remedy is to buy them out.

Again, land-ownership in the past has often been a subsidiary part of the saw-mill business. Men engaged in lumber-manufacture found that they could buy land cheaper than logs, and did so, going on often to do their own lumbering. In their cases logging-work is frequently somewhat more economical, but it can hardly be said to be more foresighted. The man's object here is to stock his mill. Beyond that the land has no value.

An example here, an extreme one, to be sure, will serve to show what is sometimes lost under the present methods of conduct of the lumber business. I happen to know where a very large amount of spruce timber, belonging to one concern and standing in one compact body, was killed by the ravages of insects. Within two years from the death of the trees there must have been a loss on the lumber not far from fifty per cent. After five years or so there would be nothing there worth going after. And yet, due to stupidity, obstinacy or to financial pressure, no adequate measures were taken to save it. In fact, the dead timber was left to rot, while nicely-growing land that had once been cut through was stripped off beside it because logs could be got there a little cheaper. What good forest management consists of in such a case is very evident. The fact illustrates the principle that good forestry is very often identical with sound business. Neither one is possible if there is too great financial pressure.

Whatever the economy of his work, from the point-of-view of forestry, there is one fundamental trouble with the saw-mill man's attitude to his land. He regards it simply as a source of stock for his mill. He buys the land to strip it. He wants to get his money out quickly and put it into some other investment. So he takes principal as well as interest, the stock of wood needed for growth and reproduction, and not merely the mature crop. If, in years back, owing to slack methods and the condition of the market, a good deal of growing lumber has been left standing, that is entirely aside from his main purpose and intention. At present some of our most destructive and thoroughgoing cutting is being done by saw-mill men.

Since the pulp and paper mills began to be a strong factor in the log market of the State a good deal of hue and cry has been raised, because they cut or caused to be cut much of the small growing lumber. Small logs could be used by them to quite as good advantage

as large ones, while, since they were less desirable to the saw-mills, they could be had much cheaper. There have been, therefore, of late years two classes of logs on our larger rivers, saw-logs and pulp, selling at considerably different figures.

The pulp-mills have been justly criticised on this head, and yet there are considerations here that should weigh strongly in their favor. They have worked great economy in the use of our forest resources, have taken vastly more from our lands than would have been possible under the old régime. The pulp-mill can use the knotty tops; a seamy or crooked tree is as good as a perfect one; the small trees cut or smashed down, which in other times were left to rot, can all be utilized by the pulp-mill. Sometimes tracts of land are given a value, and can be operated at a profit for pulp, which would never have been cut for saw timber.

And if, in the direction of economy, the paper-mill has vastly raised the standard, it has seemed to promise the same in the direction of foresight. In beating about among the lumber-consumers of the State, as just mentioned, the fact forced itself upon my notice that the men who were thinking pointedly about the matter of timber-supply, the men who were most interested in anything that promised to increase and extend the yield from our forests, were the owners of pulp and paper mills. And, on consideration, the reason for this is plain. It is their great investment in mill-plant, an investment dependent on forest-supplies for life and profit. The contrast with the saw-mill business is striking, and, in the present connection, vital. A plant that will convert 7,000,000 of spruce-wood a year through the stages of ground-wood and chemical-fiber into finished paper requires a capital, mostly in the fixed form, of not far from a million dollars. Many of our operating saw-mills, on the other hand, represent a valuation of only \$10,000 to \$20,000. The paper-mill man is tied; he is in the business for a long period. The saw-mill, when lumber gets scarce or business poor, may be abandoned.

Thus, we have had a movement among the paper-mills, yet in its infancy, but apparently increasing, to back themselves with land enough to render them independent. With that movement has gone the purpose to treat those lands carefully and with foresight.

In this movement it seemed as if the financial basis might have been attained for conservative forest management, as if we had solved the problem of so disposing of the ownership of our forests that their value might be preserved and the community at large derive most benefit from them. Still more was that hope nourished last year when, at the organization of the International Paper Company, with control of 80 per cent of the output of newspaper of the country, a professional forester was employed, and the intention expressed of living, so far as forest-supplies were concerned, within the limits of actual growth. It looked as if the paper-mill, backed by forest-land, the two operated together as one great permanent investment, was the form in which the bulk of our Maine woods might in time be held. This appeared the more likely because, as many of the mills have been situated, land sufficient to so stock and fortify them could be had for a less investment than the cost of the mills, so that heavy profit from the land part would be a minor matter in comparison with the safety and prosperity of the whole.

We may hope for much from this idea, and yet must be cautious in banking too heavily upon it. It seems sometimes as if American business enterprise were too grasping, reckless and shortsighted to have safely intrusted to it a great natural resource. Headless desire for immediate gain tends to the overstocking of every profitable line, and ruinous prices and cut-throat competition follow in its wake. Thus men reckoning at the very closest on the price of paper are compelled to figure on the price of pulp-wood as one element, and if that is done too closely it shuts out the opportunity to do anything for the land. On the other hand, the danger in combination is that business will be conducted with reference to the stock-market rather than to sound business success. Either excessive competition or wrongly-used combination is destructive of sound, liberal business. Either, in this case, will prevent doing anything to the advantage of the land.

At any rate, as a safe and satisfactory arrangement for the holding and operation of forest land, we have suggested to us the organization of companies of general investors. Forests, carefully handled, form a very secure form of investment, able to pay a moderate return without loss of capital. In Europe forests have proved the safest and surest investment, being used in that way not only by the noble families and others of the best class of investors, but being held for revenue by cities, towns and states. On the other hand, conditions are right here to keep the forest constantly producing. The investor looks only for interest, and wants his capital kept intact. By that means sufficient wood-stock for growth and reproduction is left on the land.

(To be continued.)

THE NEW FRONT OF MILAN CATHEDRAL. — A few weeks ago work was begun in Milan on the renovation of the facade of the cathedral, the completion of which will cost over \$4,000,000. The builders will follow the plans made fifteen years ago by Giuseppe Brentano, who won the prize over 120 competitors, and who died shortly after his triumph. The plan was then deferred to allow the funds to grow. An attempt will be made to remove some of the inconsistencies of style due to the fact that it took four centuries to complete the cathedral. — *N. Y. Evening Post.*

BOOKS AND PAPERS.

WE wonder whether English architects are as properly grateful to things American for their reputation as creators of delightful homes as they unquestionably should be. The particular American product that should command their grateful respect is the great Gulf Stream, without whose moist and balmy breath there would be fewer vines, mosses and lichens to soften the crudeness of and add grace to many an English home, both ancient and modern, which, under existing circumstances, is accepted by the student as all that is satisfactory and charming in domestic architecture. Tear away the vines, plough up the lawns, fell all the trees and replace them with freshly transplanted saplings, and how much more pleasure would one find in a half-timber house in Cheshire than in a stucco-covered villa just outside of Berlin? Even in the case of England's particular glories, her cathedrals, does not very much of their interest and value really lie in their settings, their landscape surroundings, their lawns, their closes, their garths, their trees, vines and shrubs, and is it not true that an English architect's claim to be considered an artist can rightfully rest more on his abilities to appreciate and take advantage of the landscape opportunities than upon his ability to compose an artistic design?

In city work, the Englishman seems to be obsessed by a spirit of triviality and love for littleness that, while presumptively seeking for grace, avoids all breadth. In the country, however, the Englishman is more at home and at his ease, and can more nearly express what he feels; but, even then, if shrubs and vines should be torn away there is many a building, which now has a character, would lose it at once, and appear as void of decency and propriety as the veriest drab upon the street.

As America is of service in warming the contents of England's watering-pot, it is only fair that England should reciprocate and show the kind of things that flourish because of this benign gift of needed warmth and moisture, and reciprocity is maintained through the providing the architects of this country with photographic views of some of the charming results which English architects, aided by climatic influences, have accomplished. But as English photographs are exceptionally and unnecessarily expensive, it is a matter of gratulation that those who are interested in the Englishmen's country-house can gratify their taste at less cost by procuring this series¹ of plates copied from such photographs, and though no copy of a photograph is as good as the original, still, this series is sufficiently good to buy and well worth the modest price its publishers place upon it.

There are probably few architects, and almost certainly no owners, who have indulged, in this country, in building half-timber houses with panels filled with rough-cast, who, on completion of the building, have not been distressed by its harsh contrasts, so different from the mellow effects one felt sure of having seen on every side in England. It happens that amongst these plates are shown several views of half-timbered houses which evidently have but lately been repaired, and, of course, the vines and shrubs have been torn away during the process. The fact that these plates exhibit the same unpleasantly harsh contrasts suggests how great is the debt that English domestic architecture owes to the modest and clinging vine. We can in this country, if we choose, erect copies of any of the charming residences shown on these plates, but the result will never look like the original. Even the most generous use of the hose will never make an American lawn in August look like an English one, nor an American woodbine like an English ivy, and until they do, it is hopeless to expect that American country-houses, however convenient and delightful they may be, can exhale the same kind of charm that meets one over yonder, no matter what English country he may be travelling through.

ILLUSTRATIONS.

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

PORCH OF THE ST. PAUL BUILDING, BROADWAY, NEW YORK, N. Y.
MR. GEORGE B. POST, ARCHITECT; MR. KARL BITTER, SCULPTOR,
NEW YORK, N. Y.

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

A SCULPTOR'S STUDIO ON THE PALISADES, FOR MR. KARL BITTER,
WEERHAWKEN, N. J. MR. FRANK E. WALLIS, ARCHITECT, NEW
YORK, N. Y.

PLAN AND FRONT VIEW OF THE SAME.

¹ "English Country Houses": One hundred plates, small quarto. Boston: Bates & Guild Company. 1898. Price, \$10.00.

ST. STEPHEN'S P. E. CHURCH, SEWICKLEY, PA. MESSRS. BART-
BERGER & EAST, ARCHITECTS, PITTSBURGH, PA.

SCREEN IN THE CHURCH OF ST. MERRI, PARIS, FRANCE. DRAWN
BY MR. W. T. PARTRIDGE, ARCHITECT, NEW YORK, N. Y.

[The following named illustration may be found by refer-
ence to our advertising pages.]

HALL OF HISTORY: WASHINGTON UNIVERSITY, WASHINGTON,
D. C. MESSRS. BRITTE & BACON, ARCHITECTS.

This plate is copied from *Architektonische Rundschau*.

[Additional Illustrations in the International Edition.]

CHAPEL OF THE SAILORS' SNUG HARBOR, STATEN ISLAND, N. Y.
MR. R. W. GIBSON, ARCHITECT, NEW YORK, N. Y.

[Gelatine Print.]

DOMES OF THE SAME CHAPEL.

[Gelatine Print.]

THE SURVEYOR'S INSTITUTION, WESTMINSTER, LONDON, ENG.
MR. ALFRED WATERHOUSE, ARCHITECT.

RETRO-CHOIR, ALTAR AND SEDILIA, BRISTOL CATHEDRAL, ENG-
LAND.

NOTE: The double-page plate illustrating the statue of General Arthur which, because of a mis-shipment, was omitted from last week's issue, will be found in to-day's issue, but dated as belonging to the previous one. Librarians and other subscribers will please insert it in its intended place when binding.

COMMUNICATIONS.

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

A CORRECTION.

38 LEWIS ST., LYNN, MASS., October 2, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I see that the honor of receiving second prize in the Rotch Scholarship Competition has been erroneously credited to me in the *American Architect* for last week, for my drawings were placed third by the jury. The competition was close between all three competitors.

WM. L. WELTON.

[We hope to atone for the unintentional injustice we have done to Mr. W. L. Mowl, the real winner of the second prize, by publishing his design for the scholarship in question, which will at the same time stand in some sort as representing the work of graduates from the Department of Architecture at Harvard.—EDS. AMERICAN ARCHITECT.]

A TRIUMPHAL-ARCH AND ROSTRUM.

BROOKLYN INSTITUTE OF ARTS AND SCIENCES, October 4, 1899.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—The magnificent "Dewey arch" in New York was the joint work of an architect and twenty different sculptors, all of the highest class, and working with an inspiring enthusiasm. The grand result was one of the finest triumphal memorial edifices in the world. Now, if some artistic architect would design an amendment to it, it might be made the noblest thing of the kind in existence.

A reviewing-stand, or rostrum, at the base would add greatly to its dignity and usefulness for processions and public functions. Give the hint to architects and artists in your influential journal, and, perhaps, a competition would produce something finer than has ever been produced.

Yours very truly, WM. H. INGERSOLL.

NOTES AND CLIPPINGS.

A CASE OF EQUESTRIAN SEPULTURE.—At a depth of 27 feet a curious discovery was made recently, a Berlin paper says, on the island of Gothland—the skeletons of several knights in full armor seated on their horses. Archaeologists think they date back to the ninth century.—Exchange.

A COMMERCIAL CURIOSITY.—There was a time when shipbuilders in this country could sit in their offices and harden their hearts against the pleading of clients who wished ships to be built. That, however, was long years ago, but we scarcely realized that business had deteriorated so badly as would appear from a note which originates from a Government Railway Department, who are willing to bestow patronage on shipbuilders on somewhat novel terms. They wish the hull of a 60-foot tugboat built, and a specification has been prepared and copies have recently been distributed broadcast, with the request that each recipient should send "immediately" to this State Railway Department a "postal money-order for the sum of 10s for this specification, which money will not be returned in any case." The italics are not ours; but are evidently intended to make assurance doubly sure. The specification, we hasten to add, is voluminous, more so even than that for a big battleship, and it so excels in the peculiarities of its conditions, that we are surprised that at least 100% were not charged instead of 10s. The larger sum would have been paid as readily as the 10s. "Tenders sent by firms not having paid the price of specification will not be considered." That, of course, goes without saying, for it is more important to get the half-sovereigns than a good boat. If a moderate percentage of the recipients of specifications send the money it will greatly help towards the payment for the boat. We hope for the future of the maritime greatness of England that shipbuilders will send tenders, for "the firms who receive our specification and abstain twice from tendering without justifying such act will be struck out from our list of tenderers." Truly it is an age of international "boycott;" but how can a firm that does not tender be on a list of tenderers? Then, again, to revert to this 10s, "it is understood that all firms tendering or not must pay the price of the specification, unless they signify on receipt that they do not wish to take part in any future specifications." To refuse to tender would be like selling one's birthright for a mess of pottage. We hope everybody will pay their 10s. to this State Railway Department; indeed, if it were not a State in which Britain has some administrative power, we might fear war if the offer were treated with disrespect. — *Engineering*.

FIGHTING THE CHICAGO DRAINAGE-CANAL.—The instant Gov. John R. Tanner signs the permit which will authorize the Chicago sanitary trustees to open the Chicago sanitary canal, the City of St. Louis will apply for a federal writ of injunction to prevent the opening of the canal. All the local ammunition for an attack through the federal courts on Chicago's drainage and deep-waterway scheme is ready. City Counsellor Schumacher has in hand an immense amount of material to back up his application for the injunction. Dr. Max C. Starkloff, St. Louis's Health Commissioner, has been making a series of bacteriological examinations of the waters of the Missouri, Mississippi, and Illinois Rivers, and now is arranging the results for court purposes. He also has gathered a large amount of scientific and other data on the pollution of streams and rivers and the effects of sewage on drinking-waters. Congressman Bartholdt is prepared to demand the appointment of a congressional commission to investigate the subject of pollution of navigable rivers as soon as the national House is called to order. The Bartholdt bill will certainly contain a clause prohibiting the opening of the sanitary canal under the permit granted by the War Department until the commission has made its report. It is held that General Alger, when Secretary of War, exceeded his authority when he gave the Chicago sanitary trustees permission to take water from Lake Michigan and send it down the Illinois Valley. St. Louis officials claim they have carefully investigated the federal statutes and find that General Alger stretched a law which authorizes the War Department to grant permission to builders of slips and basins to take water from navigable lakes and rivers. They say General Alger had ample authority to permit the filling of the sanitary canal with Lake Michigan water, for the excavation as far as Lockport is practically an extension of the Chicago harbor—a slip twenty-eight miles long—but they maintain Congress alone has the right to permit the opening of the gates of the controlling works at Lockport, so that there may be an outflow of Lake Michigan through the canal to the Des Plaines and Illinois Rivers. — *St. Louis Correspondence Chicago Record, September 23.*

TELEGRAPHY AMONG THE ANCIENTS.—Three or four centuries before our era, Eneus invented several systems of signalling. In particular, he devised the first synchronic apparatus. At each station was installed a great vessel of uniform capacity, having in its side a hole of the same size for each vessel. At the surface of the liquid contained in the vessel was a float in which was fixed an upright rod divided into equal parts, each of which corresponded to one of the phrases to be telegraphed. The attendant at each station had a torch. When the first raised his torch he uncorked the hole in his vessel, allowing the water to escape and the float to sink; the attendant at the second station did the same, and this was repeated from station to station. When the division of the rod corresponding to the message to be sent had fallen to the level of the edge of the vessel, the first attendant lowered his torch, and replaced the cork; the others, imitating his action, could then read off on their rods the particular message sent by the first. . . . In all such methods as these the messages were limited to words or phrases agreed upon beforehand. In the second century B. C., Cleomenes invented a method of doing away with this inconvenience by combining luminous signals so as to form a code. Each station was furnished with several huge fire-vessels corresponding each to a group of letters of the alphabet. The one that was exposed so that it could be seen from the next station, while the others were hidden, indicated the group including the letter to be transmitted, which letter was then shown more closely by lanterns. Polybius improved this by dividing the alphabet into five groups, four of five letters and one of four. These were telegraphed by torches moved in given directions. For instance, three torches at the left of the station meant the third group, then two at the right meant the second letter of this group. — *N. Y. Tribune*.

THE DEWEY ARCH.—The Dewey Triumphal Arch, in Madison Square, was modelled after the arch of Titus and Vespasian, in Rome. The sculptures are the work of the following artists:—

Top of arch—"Quadriga and Victory," J. Q. A. Ward.
Group on front of pier—"Call to Arms," Philip Martiny; "The Combat," Karl Bitter; "Return of the Victors," Charles H. Niehaus; "Peace," Daniel C. French.

Full length of attic—"Commodore Paul Jones," E. C. Potter; "Commodore Hull," H. K. Bush-Brown; "Commodore Perry," J. Scott Hartley; "Commodore Decatur," George L. Brewster; "Commodore McDonough," Thomas S. Clarke; "Admiral Farragut," W. Ordway Partridge; "Admiral Porter," J. J. Boyle; "Lieutenant Cushing," H. Augustus Lukeman.

Medallion head on spandrels inside and outside of arch—"Commodore John Barry," F. W. Kaldenberg; "Admiral Davis," F. W. Kaldenberg; "Admiral Dahlgren," Caspar Buberl; "Captain Lawrence," Henry Baerer; "Commodore Bainbridge," Ralph B. Goddard; "Commodore Preble," Carl F. Hamann; "Admiral Foote," Frederick Moynihan; "Admiral Worden," Frederick Moynihan.

Symbolical figure north spandrel—"The Atlantic and Pacific," R. Hinton Perry.

Symbolical figure, south spandrel—"The North and East Rivers," Isidor Konti.

Over keystones of arch—"American Eagles," Philip Martiny.
Relief on side of arch—"Progress of Civilization," Johannes Gellert; "Protection to Our Country," William Couper.

Decoration of the colonnades—"Victory," Herbert Adams.
Statuary group—"The Army," Frederick W. Ruckstuhl; "The Navy," George E. Bissell. — *N. Y. Evening Post*.

TO CURE FROST ON SHOW-WINDOWS.—During the last winter I made a number of experiments in removing ice or congelation of water from window-panes, using fourteen methods. I found them efficacious in every instance, but some far superior to others. That which worked best No. 1, that second best No. 2, and so on. I noted that in shops where there are so-called "box windows," the congelation was most apparent, and that in some where there was a comparatively dry heat, the windows were not materially affected. I place the efficacy of the remedies in the following order: (1) flame of an alcohol lamp; (2) sulphuric acid; (3) aqua ammonia; (4) glycerine; (5) aqua regia; (6) hydrochloric acid; (7) benzine; (8) hydriodic acid; (9) boric acid; (10) alcohol; (11) nitric acid; (12) cobalt nitrate; (13) infusion of nutgalls; (14) tincture of ferrous sulphate. I found, adds the correspondent, that by the use of an alcohol lamp (which, of course, has to be handled with great care) the results were immediate, and the effect more nearly permanent than by any other of the experiments. The sulphuric acid application was made with a cotton-cloth swab, care being taken not to allow any dripping, and so with all other acids. The effect of the aqua ammonia was almost instantaneous, but the window was frosted again in a short time. With the glycerine there were very good results—but slight stains on the window which were subsequently easily removed. I have had inquiries from retail opticians, who have complained about their windows being unserviceable in very cold weather, and desiring a remedy. I thought the results of my experiments would reach widest publicity through your columns, and consequently give the facts to you. — *H. C. Demming in the London Optician*.

VENTILATION OF THEATRES.—The fourth and last sitting of the Sanitary Congress was held yesterday at Southampton. Considerable interest was manifested in a paper by Dr. Thomas Glover Lyon on "Ventilation for Crowded Buildings and Consumption Hospitals, with Special Reference to the New Method of Distribution and Removal of Air." He stated that his object was to lay before the Congress methods of supplying air to rooms where there was such an aggregation of people as to render some method of forced ventilation necessary in such places as concert-rooms, public theatres, churches, dining-rooms, saloons of ships and railway-cars. It was usually considered that each person at a theatre should be supplied with at least 1,000 feet of air an hour. At the Opera-house at Vienna the figure was 1,000. The necessity of mechanical ventilation in the case of crowded rooms and the importance of natural ventilation were shown by Dr. Barwise at the Congress last year, and he also demonstrated how the additional expense entailed in supplying the extra purity of air was amply repaid by additional output in the case of workshops, and extra grant in the case of schools. The gain by introducing good ventilation in offices where clerks were crowded together would doubtless be even more marked. While agreeing with Dr. Barwise and most authorities on the superiority of the plenum over the vacuum system, he would insist on the great value of using both systems together—that was, of blowing in air at inlets, and exhausting it from outlets. Not only by this means was the air in rooms kept at nearly atmospheric pressure, but the necessity of making the building or rooms air-tight was dispensed with. — *London Telegraph*.

A CLOSE ESTIMATE.—Speaking about close estimates, Gen. John M. Wilson, Chief of Engineers, made one some time ago. Congress called upon him to estimate the cost of an addition to the Government Printing-Office. As it was near the close of the session, and Congress was hurriedly getting through its work, little time was given General Wilson to consider the matter, but he submitted his estimate, and the appropriation was made accordingly. He estimated that the proposed building, according to the plans and specifications which had been drawn, would cost \$121,121.90. The building was completed, and there was \$9.16 surplus covered back into the Treasury. General Wilson was put in charge of this work, and he took a great deal of interest in it. He always gave credit, however, to Lieutenant Sewell, of the Engineer Corps, who had the immediate supervision of the work, for the care with which the building was erected, and the fact that the cost did not overrun the estimate and appropriation. — *Exchange*.

THE AMERICAN ARCHITECT AND BUILDING NEWS

ADVERTISERS' TRADE SUPPLEMENT.

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SATURDAY, OCTOBER 7, 1899.

VOLUME LXXVI.
No. 1241

MERITS OF REDWOOD.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,— We wish to thank the patrons of your Journal, particularly the architects, for the interest they have taken in the introduction of California Redwood in this market for building-purposes, particularly its use for outside and inside finish, and shingles for roof-covering and walls.

We can assure all who wish to use California Redwood that we took great care to look into the merits and demerits (although we found no demerits) before deciding to introduce it into this market.

The Manager of this Company took an extended tour through California from the south to the north end, visiting the large cities and the source of supply of Redwood, visiting also the forest and mills from which it comes.

Being thoroughly practical with the uses of lumber for all purposes, much valuable information relating to California Redwood was obtained, and we have endeavored to give this information to our patrons through your Journal.

To substantiate our confidence in Redwood, we herein offer you the testimonials of many of the best architects and builders in California:—

T. PATERSON ROSS,
Architect,

14-15 Mutual Life Bldg.,
222 Sansone St.,
Tel. Davis 985.

SAN FRANCISCO, CAL., Sept. 23, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— After many years' experience as an architect and using almost every known wood in the construction and finishing of buildings, I have become firmly convinced that the California Redwood is superior to any soft wood known.

I have finished walls and ceilings in one solid plain surface, which were composed of wide boards simply glued together, and same have stood for several years without the slightest indication of shrinkage; the surface being polished in the natural wood and making a most beautiful finish.

As architect for the California Paris Commission I am now making a complete collection of California woods. One sample of California Redwood is 6 inches thick, 8 feet wide and 10 feet long, and the handsomest piece of grain I ever saw. The burl and curly wood makes the handsomest kind of furniture.

Respectfully,

(Signed) T. PATERSON ROSS.

CUNNINGHAM BROS.,
Architects and Superintendents,

San Francisco, Cal.,
Claus Spreckles Bldg.,
Tel. Davis 866.

Oakland, Cal.,
Central Bank Bldg.,
Tel. Black 3105.

SAN FRANCISCO, CAL., Sept. 14, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— California Redwood is used in

this vicinity almost exclusively for exterior and interior finish, also for structural work exposed to dampness. When kiln-dried it is almost proof against shrinkage, is durable, takes paint well and is not subject to dry-rot. It is the most suitable lumber we know of for general purposes. Respectfully yours,
(Signed) CUNNINGHAM BROS., Architects.

HAVENS & TOEPKE,
Architects,

55 Flood Bldg.

SAN FRANCISCO, CAL., Sept. 15, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— With many years' experience as architects in the use of California Redwood lumber, we can assure you that either air or kiln dried Redwood lumber will not shrink endways or otherwise. Yours respectfully,
(Signed) HAVENS & TOEPKE, Architects.

CHARLES J. COLLEY,
Architect,

Room 67, Flood Bldg.,
cor. Market and Fourth Sts.

SAN FRANCISCO, CAL., Sept. 14, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— In reply to your inquiry as to shrinkage of Redwood lumber, I would say that my experience with Redwood lumber for the last twenty-five years is, that thoroughly seasoned Redwood lumber will not shrink endwise or in any other direction, and when properly painted, shows less change where exposed to the weather, or otherwise, than any other building lumber I ever used.

Yours very respectfully,

(Signed) CHARLES J. COLLEY.

SAN FRANCISCO, CAL., Sept. 14, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— Being an architect, and having had forty years' experience in the use of California Redwood lumber, I can assure you that it will not shrink endways, or otherwise, if it is air-dried or kiln-dried. Yours respectfully,
(Signed) R. H. DALEY.

SAN FRANCISCO, CAL., Sept. 14, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— With an extended experience as an architect in the use of Redwood lumber, I can assure you that either air or kiln dried Redwood lumber will not shrink endways, or in any other direction. Very respectfully,
(Signed) WM. O. BANKS.

SAMUEL NEWSOM,
FRED H. MEYER,
Architects,

Room 16, 8th Floor,
Wells Bldg.

SAN FRANCISCO, CAL., August 3, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— I have used California Redwood of all kinds for several years. Some of the finest rooms I have seen are finished in the natural wood. It takes a fine polish, but I would prefer giving two coats of shellac and then a wax-finish on top. It is the easiest wood to work, is beautiful in color, and the curly and burl are the finest of any woods I know of and there is no limit to the quantity. Boards of enormous size can be got out and panels 3 feet in width can be used without shrinkage

if necessary. California Redwood is all right.
NEWSOM & MEYER, Architects.
(Signed) SAMUEL NEWSOM.

REID BROS.,
Architects,

Claus Spreckles Bldg.

SAN FRANCISCO, CAL., Sept. 16, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— In reply to your favor of August 15 in regard to the tendency of Redwood lumber to shrink, would say that we have had no trouble at all in that respect, even in the best work, where the material was well seasoned and kiln-dried. In work of a fairly good quality, we have found that with reasonable seasoning, there has been little, if any, tendency to shrink widthwise. A small percentage of the pieces, however, showed a slight tendency to shrink endwise. Our opinion is that shrinkage is less in good Redwood than in any wood ordinarily used for building-purposes. Yours very truly,
(Signed) REID BROS.

SAN FRANCISCO, CAL., Sept. 12, 1899.

BARTLETT LUMBER CO., BOSTON, MASS.:—

Gentlemen,— Having had forty years' experience in the use of California Redwood and being well acquainted with its merits, I take pleasure in recommending it for building-purposes, and as being superior to pine and other soft woods in the following particulars, namely, to wit:—

It keeps its place better, shrinking and swelling less than any other soft wood. Free from pitch, it takes paint well; it holds the nail better; it is superior in its lasting qualities and freedom from rot or decay under all conditions; it is slow-burning and less inflammable than any other kind of soft wood, being practically non-combustible.

In this city, frequently where a fire has broken out in a row of Redwood houses, it has been confined to the house in which the fire started. It is easily worked and finishes beautifully in natural color with oil.

I would most highly recommend it for interior finish, and as being far superior to any other soft wood for exterior finish.

Very truly,
(Signed) S. H. KENT,
President of Builders' Exchange.

We are much gratified at the rapidly-increasing demand for this lumber.

Again thanking our patrons for the interest taken in this matter, we are,

Very respectfully,

BARTLETT LUMBER CO.,
53 State St., Boston, Mass.

RENDERING COUNTRY HOUSES COMFORTABLE.

THE subject of planning a country house, so that the minimum amount of fuel would be used in winter, to insure it being comfortably heated, and, inversely, that the sun's heat in summer would not penetrate the walls and roof, so as to render the same uncomfortable when nightfall comes on, without making the plans too expensive, has always been a subject where it has been difficult for most architects to convince their clients that a slight expense at the start would amply pay for permanent

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results obtained. In talking the matter over with an architect lately, he stated that there is a struggle going on under every roof between the cold and the heat which, though unseen, is not without its interest to the occupant of the house. The matter of creating warmth is the only one that need be considered, for the relation of heat and cold is such that if you provide against the severity of the former, you at the same time protect yourself from the intensity of the latter. There is this difference, however, in the supply of heat: there is economy to be practised, and this narrows the field of our work down to the simple question of protecting a house from the cooling effects of the weather. A corner room, whose vertical walls are hollow, cannot be comfortable when heated by a stove, for the reason that the surface of the stove has a temperature of 180° , while the interior surface of the walls has a temperature of 40° . The problem before us in this case, which is the one presented to every man in building a dwelling, is how to construct the exterior walls so that the temperature of the interior surface shall remain at 60° , while the temperature of the exterior surface drops down to 20° . It will at once seem apparent that this is only a question of thickness of the walls. If all walls were made of one material, then this conclusion might be sound, but all the substances which, in one shape or another, might be used in the construction of the wall have a definite value as to their capacity for conducting heat. For instance, the conducting power of brick was determined, in connection with that of various other substances, by Peclet, to be 4.83 — that is, this fraction represents the quantity of heat in units transmitted per square foot per hour by a plate 1 inch thick. By taking the value of mineral-wool to be 0.323, which is the value of sheep's-wool and cotton-wool (as a matter of fact, it is 10 per cent poorer than either of them), we can ascertain accurately the quantity of heat which a wall of any given thickness will allow to escape.

Thus a wall of brickwork 4 inches thick, having one surface at 60° and the other at 20° will transmit $(4.83 \times [60-20] \div 4) = 48.3$ units per square foot per hour. Mineral-wool in place of the brickwork gives $(0.323 \times [60-20] \div 4) = 3.23$ units per square foot per hour.

From the result it is plain that the brickwork would have to be 40 inches thick to retain the same amount of heat that 4 inches of mineral-wool do. This illustration does not exceed the limits of truth. It brings out the fact, one difficult to reconcile with our general notions in this regard, that all materials are conductors of heat and differ from each other only in degree. Stone and marble are such high conductors that, if placed around pipes,

the loss with all thickness is greater than by an uncased pipe, and the thicker the case the greater the loss. There are some concoctions that really appear to have the solidity of stone or marble, and possibly are dispensing heat out into space faster than the law requires. The man who wishes to buy a low conductor should keep in mind the law that all good absorbents are bad conductors, and when one of the so-called "non-conductors" is offered him, to fill a tumbler to the brim with water and then immerse a large piece of the material in it. If the substance under trial is a very low conductor the water will not spill, but will be absorbed, so that a volume equal to that of the tumbler may be immersed.

The Queen-Anne cottage, which is so popular among architects, is not designed for the comfort of the occupants. Unless the low roof is filled in with mineral-wool, the rooms on the second floor of this house will be insufferably hot, and, while the architect is really to blame, not so particularly for sacrificing everything to looks, but for ignoring the fact that the sun's heat is certain to be transmitted, still there is no use ever expecting him to give attention to insulation, because the part of the house devoted to this object is bound to be hidden, and his profession does not thrive on

the invisible. The owner is the proper one under the circumstances to see that the hollow walls of his balloon-frame residence are filled with some poor conductor both of heat and sound. By using mineral-wool, he would not only have the most efficient barrier against the passage of heat, but render the house secure against fire attack, and free from the inroads of rats, mice and insects. Not only would these desirable objects be accomplished, but in a few years the expense of such a filling will be offset by the economy of heating and reduction or absence of insurance.

LIGHT AS A FACTOR IN DECORATION.

THE advance of mural painting in this country, and the use of figure decoration, particularly for ceilings, brings up a new problem in the use of artificial light for the architect to consider. While the possibilities of artificial lighting as an aid to decorative effect are unlimited, the obstacle to perfect success is lack of experience. Theoretically, the management of light is comparatively easy, but theory proves of little avail in practice unless backed up by experience. In the case of a large decorated ceiling, the problem

(Continued on page 4.)



CARVED WOOD MOULDINGS...

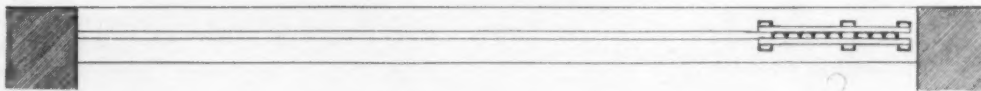
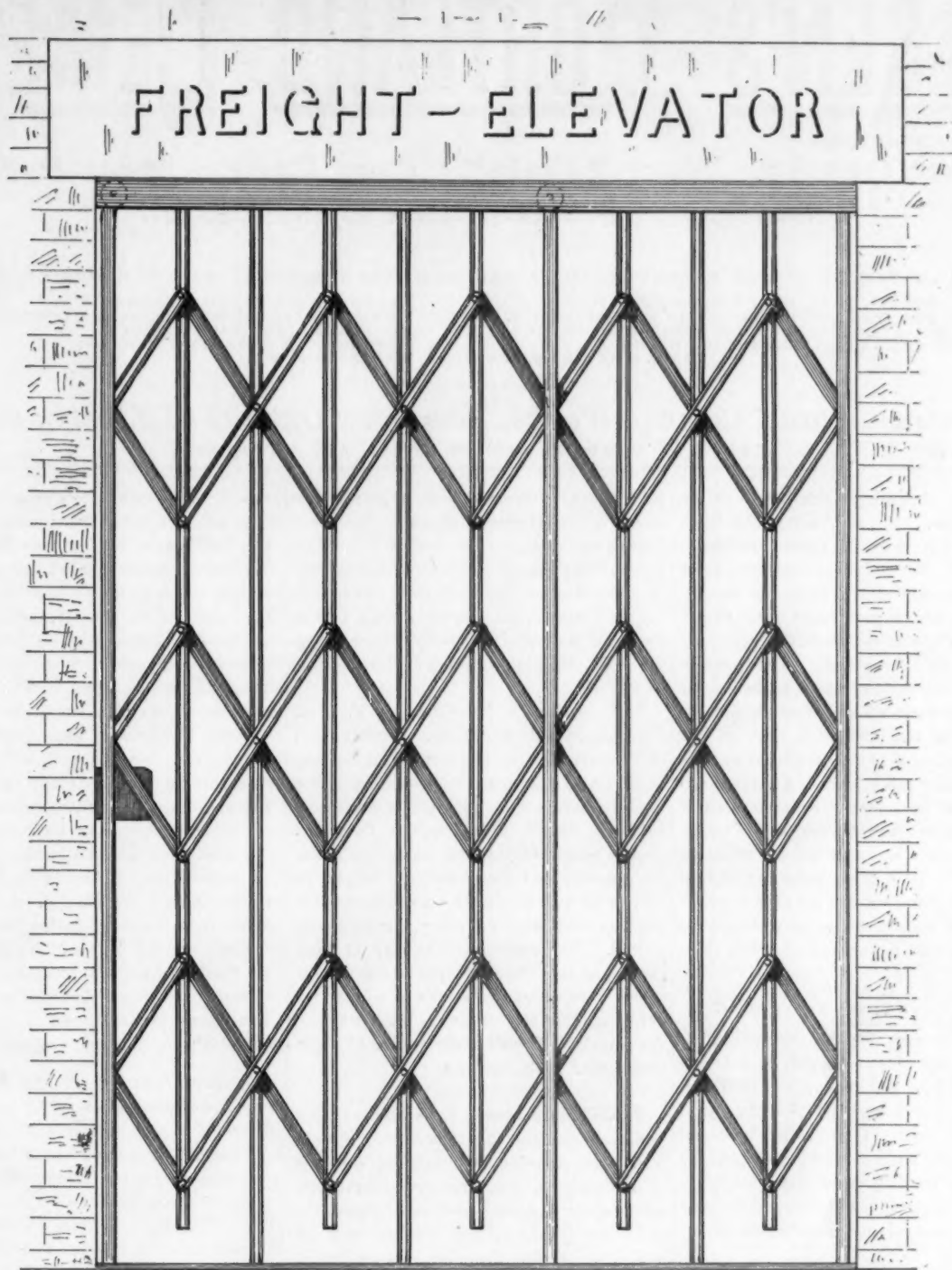
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Alsen's Portland Cement Works, New York Office, 143 Liberty Street.

AGENTS AT BOSTON: WALDO BROS., 102 Milk Street.

becomes one of lighting a painting in an unusual position. No architect would for a moment hesitate over the general method to be employed. But without experience to guide him in the amount of light to use for the subject, and the best apparatus for producing it, he would be almost certain to fail, especially in holding the color values. Our success in lighting such ceilings as those of the ball-rooms at the Waldorf-Astoria and Sherry's, and the dining-room of the Democratic Club in New York, is largely due to the experience we have had in lighting the principal American art-galleries, and to a general understanding of the principles of light reflection, born of nearly half a century's manufacture of reflecting fixtures. We take a particular interest in work of this character, and are ever ready to consult with architects having a decorative scheme that calls for special effects in lighting.

I. P. FRINK,
551 PEARL STREET, NEW YORK, N. Y.

THE new foundry for the Benjamin Eastwood Company, at Paterson, N. J., is nearly completed. The building is designed and built by the Berlin Iron Bridge Company, of East Berlin, Conn. It is 92 feet wide and 180 feet long, with a travelling-crane, the wings of the building being controlled by jib cranes. When done it will be one of the most complete foundries in the Eastern States.

It is always gratifying to know that an American manufacturing concern leads the world in any particular branch of industry, and more particularly so when we know that the leading European competitors are so far outstripped that a comparison between the two resembles the reply that was given to Queen Victoria, as she sat upon the deck of her yacht at Cowes and asked what yacht was second to the "America," just then coming into sight as winner of the most famous of all the world's yacht races: "Your Majesty, there is no second." And when it comes to the question of the manufacture of seamless brass-tubing, the same reply can well be given, for to America belongs the victory. The Randolph-Clowes Co., of Waterbury, Conn., manufacture seamless brass and copper tubes in all diameters from one-eighth of an inch up to monster tubes, thirty-eight inches in diameter. The largest tubes manufactured in Europe commercially are from twelve to fourteen inches in diameter, while of their American competitors, one firm has recently put in machinery for manufacturing nine-and-a-half-inch tubes, and only one or two others make up to eight-inch diameters, while the rest content themselves with modest sizes of three or

four inches. Compared with the giant tubes regularly manufactured by the Randolph-Clowes Co., these are like modest three-story houses to the giant thirty-story office-buildings that one sees in New York City. The Randolph-Clowes Co. are successors of the firm of Randolph & Clowes, which expired because of the death of the late Edward F. Randolph, of New York.

The president is Mr. Chauncey P. Goss, the manager of the Scovill Manufacturing Co., of Waterbury, who, however, takes no part in the active management of the concern that would interfere with his duties in connection with the Scovill Manufacturing Company. Besides seamless tubing, the Randolph-Clowes Co. manufactures sheet-brass and copper, as well as the well-known Brown's seamless copper range-boilers, and other plumbing specialties. The manifest superiority of their goods has only been brought about by the expenditure of large amounts of money, the development of very expensive machinery and the devotion of hard work for years by men experienced in the business.

THE Elmira & Seneca Lake Railway Company are pushing the construction of their line. The American Engineering Company, of Philadelphia, Pa., are the general contractors for the road and have placed the order for the 17 bridges required with the Berlin Iron Bridge Company, of East Berlin, Conn.

CHANGE OF NAME.

UNDER date of September 12, the W. S. Tyler Wire Works Co., of Cleveland, Ohio, changed their name to the W. S. Tyler Company. This change was made simply as a matter of convenience, there being no change whatever in the management: W. S. Tyler being President, and Proctor Patterson, Secretary and Treasurer. Within the past two or three years this Company's business has been so enlarged and the nature of it somewhat changed, that the old name was at times misleading; hence the change to
THE W. S. TYLER COMPANY,
CLEVELAND, O.

NOTES.

OVER five thousand letter-carriers visited Scranton, Pa., on Labor Day and took part in a parade which preceded the business sessions of the tenth annual convention of the National Association of Letter-Carriers. In honor of the occasion, the business-houses of the city were handsomely decorated and electrical devices were freely used. The International Correspondence Schools had a large mono-

gram, I. C. S., with letters composed of red, white and blue incandescent-lamps in front of their building, making a very fine display. This institution has over a hundred thousand students and as its mail is handled by carriers in all parts of the country, they were much interested in inspecting the home-office at Scranton. A constant stream of visitors went through the building and on Friday evening an informal reception was given the letter-carriers. Hundreds of them visited the building and saw how the work of the largest school in the world is conducted. The instructors, text-book writers, correspondents, book-keepers and other employes were at their desks and the printing-department was also in operation. Over five hundred people are employed in the building, which is one of the finest in the city, having been erected especially for the International Correspondence Schools at a cost of \$250,000.

Among the distinguished visitors were Hon. Chas. Emory Smith, Postmaster-General, and Colonel Ripple, P. M. of Scranton.

HARRISON BROS. & Co., of Philadelphia, well-known manufacturers of paints, varnishes and chemicals, have just issued a very neat and convenient two-foot folding-rule that very much surpasses a former effort of these enterprising advertisers in the same direction. This rule is of white celluloid, painted in black and red, and has four folding divisions, used, in part, to set forth the business-line of the firm. The other available space is given to rule division, both the common and metric systems being used. Useful formulas and tables, such as decimal equivalents, weights of metals, etc., also appear as a new feature. Altogether, it is as handy and artistic an arrangement of a useful piece of desk furniture as can be imagined.

MR. E. E. NICKSON, who has been the Boston sales-agent for the Pittsburgh Terra-cotta Lumber Co., will, on October 1, assume the position of general sales-agent of the company with headquarters at Pittsburgh. A new representative for Boston has not yet been appointed.

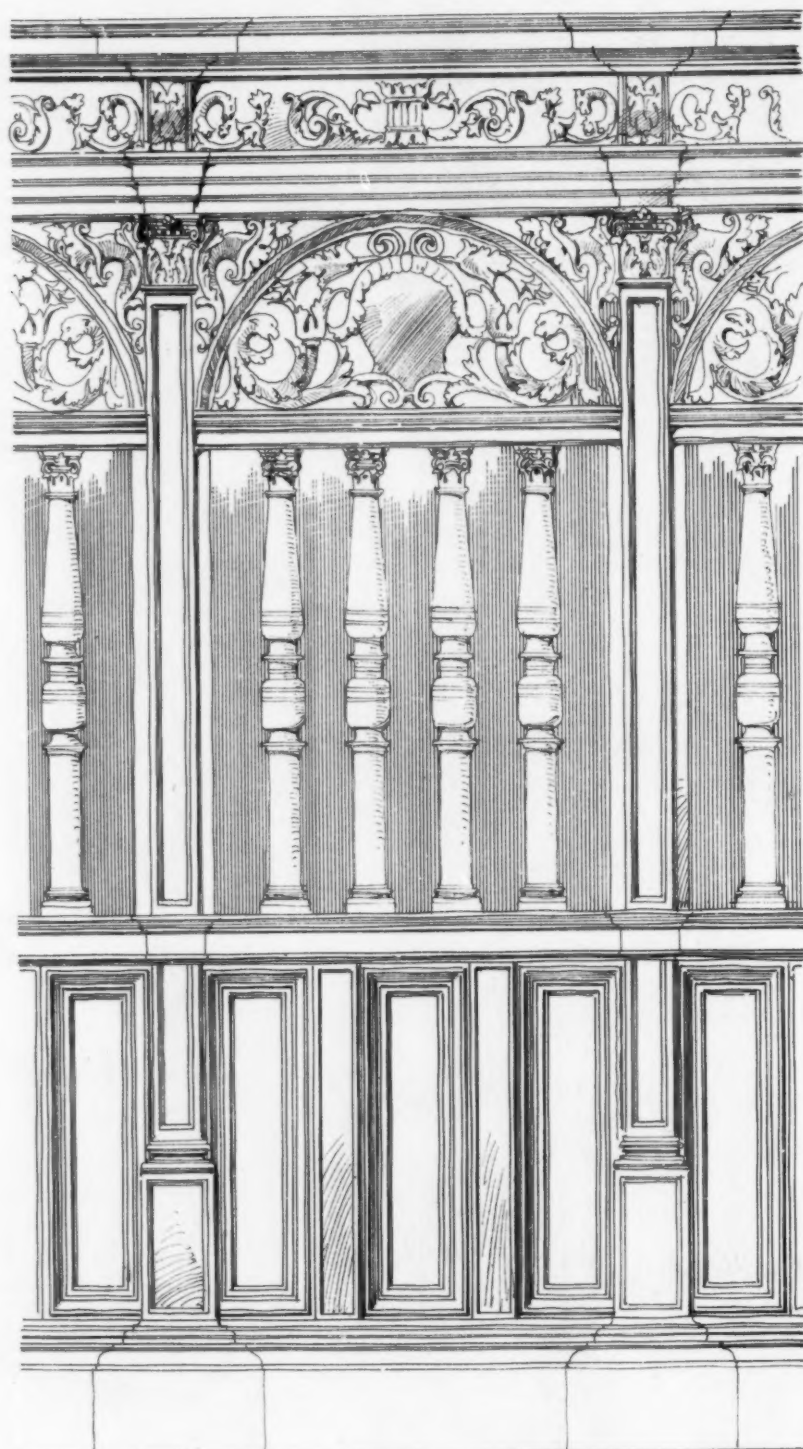
THE Berlin Iron Bridge Company, of East Berlin, Conn., are erecting in the Village of Baldwinville, N. Y., between the towns of Van Buren and Lysander, a plate girder bridge consisting of three spans of 85 feet each. The bridge has a roadway of 30 feet wide and two sidewalks each 7 feet wide. The structure is a very substantial one throughout; the flooring is of buckle plate carrying concrete roadway. The bridge is also designed to carry a double-track Electric Street Railway Line, besides the ordinary city traffic.





A SCULPTOR'S STUDIO ON THE PALISADES AT WEEHAWKEN FOR MR. KARL BITTER.
FRANK E. WALLIS, ARCHITECT.

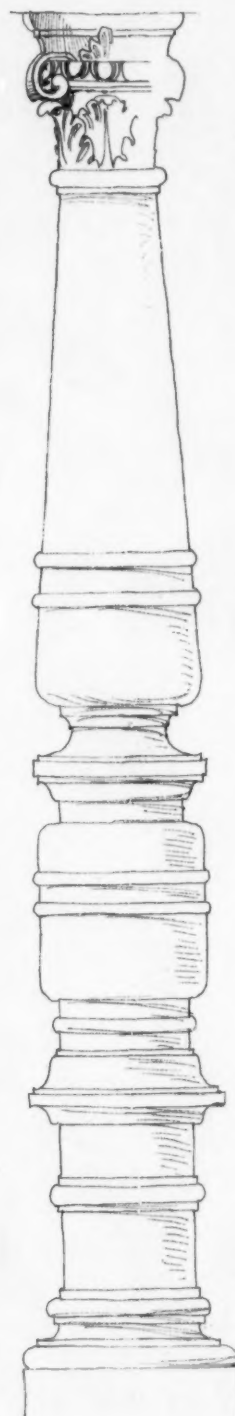
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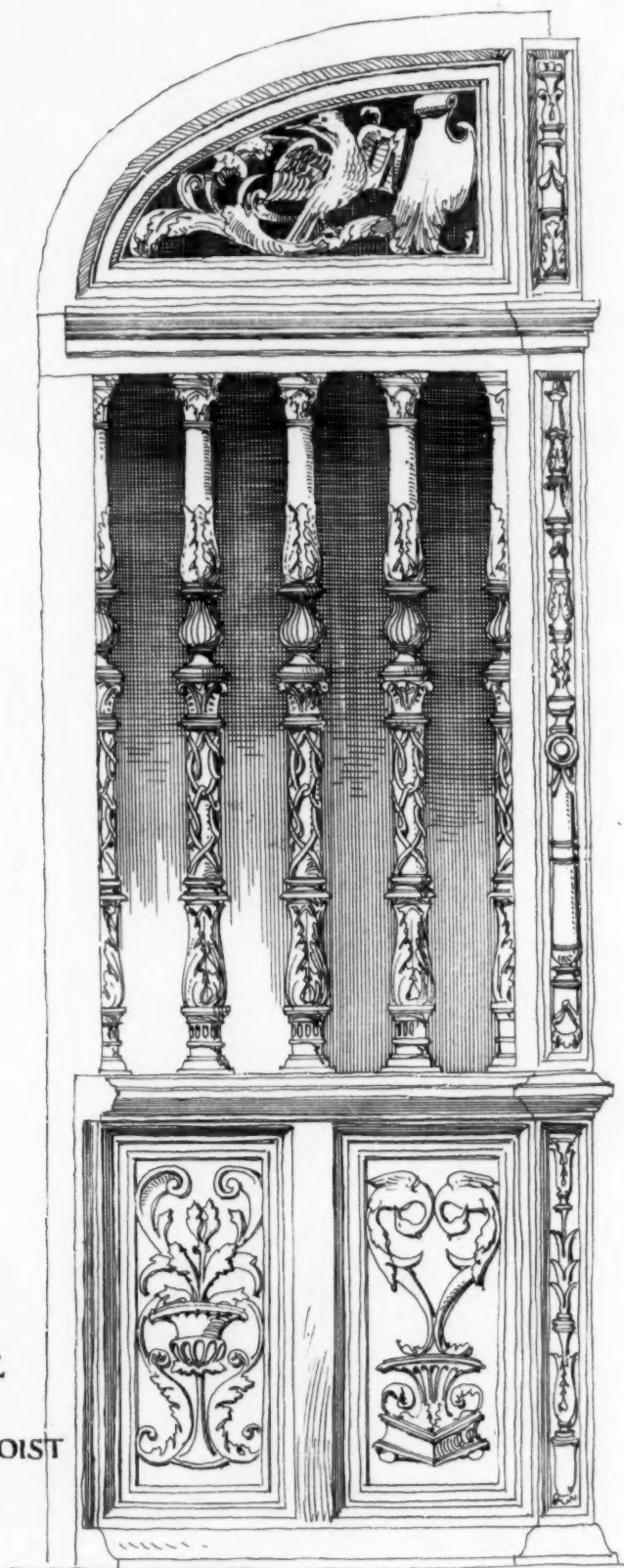


DETAILS OF
ST MÈRY

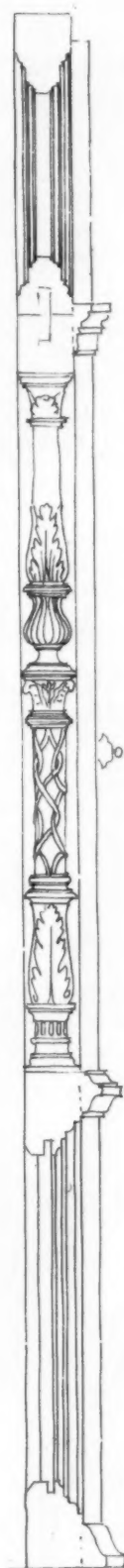
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TAILS OF SCREEN
ST MARY, PARIS



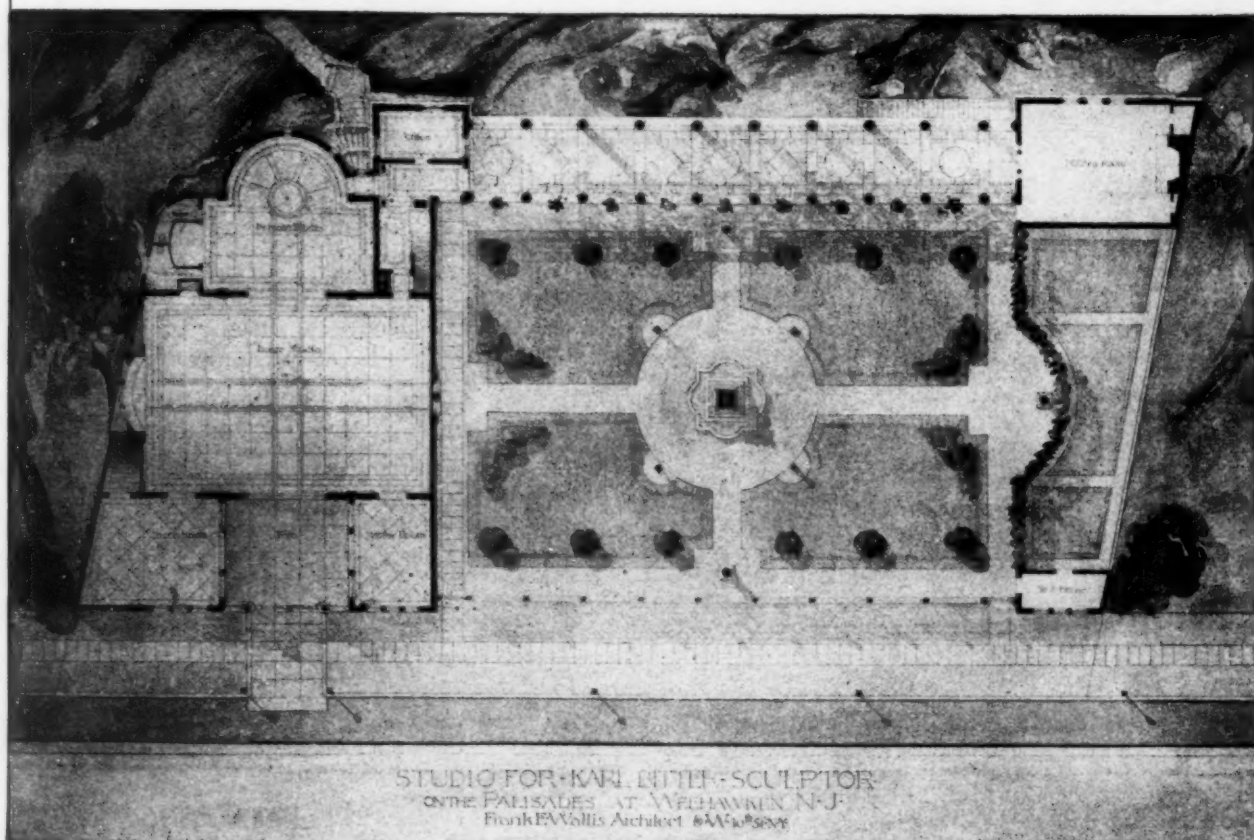
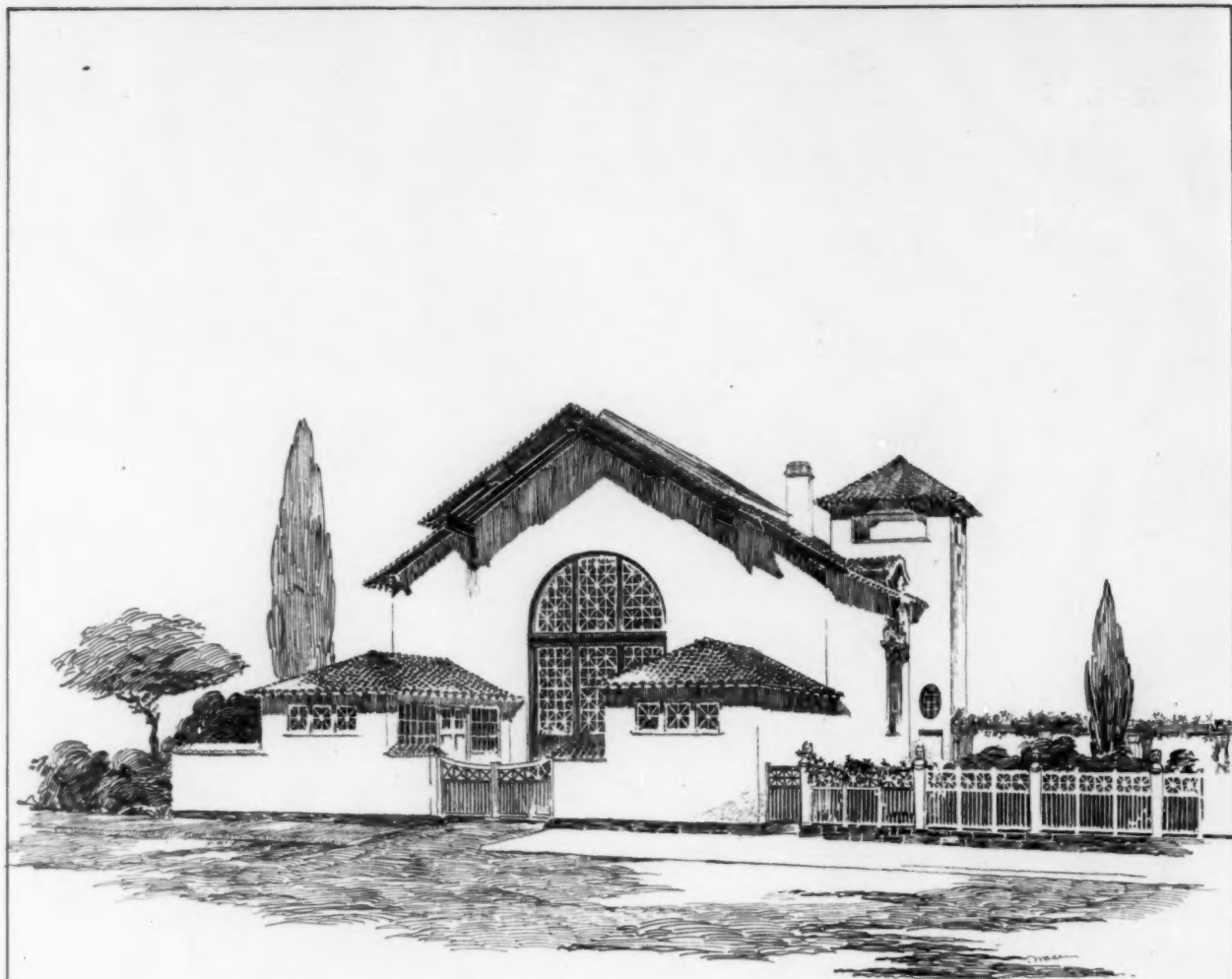
DOOR IN "EGLISE
DE L'ABBAYE"
DOUBS, MT ST BENOIST



SCALE -

1 METRE

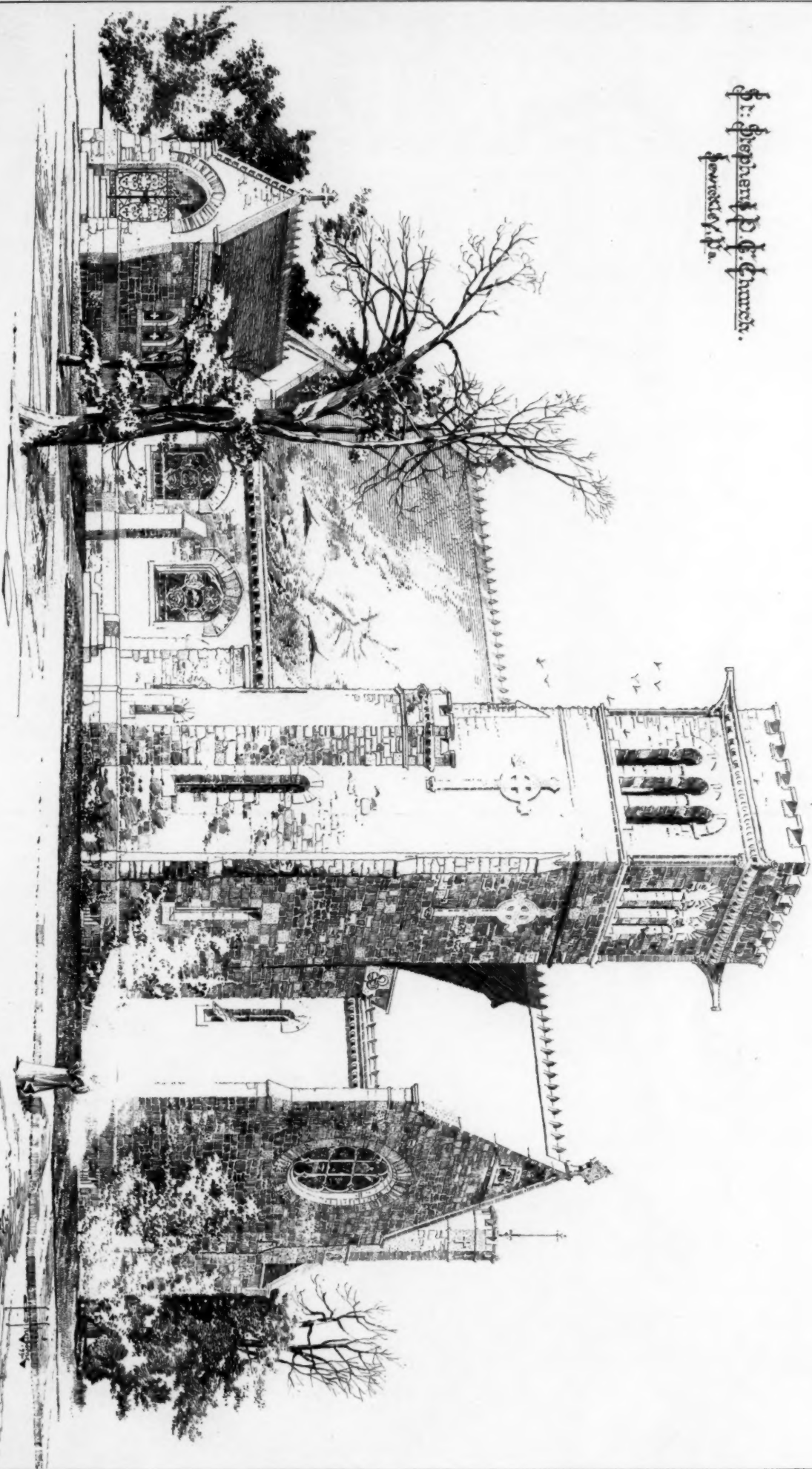
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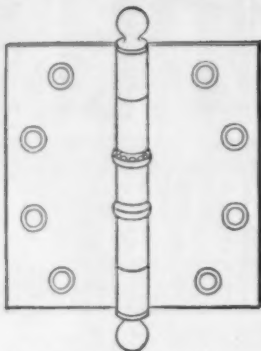
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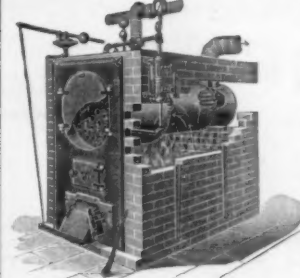
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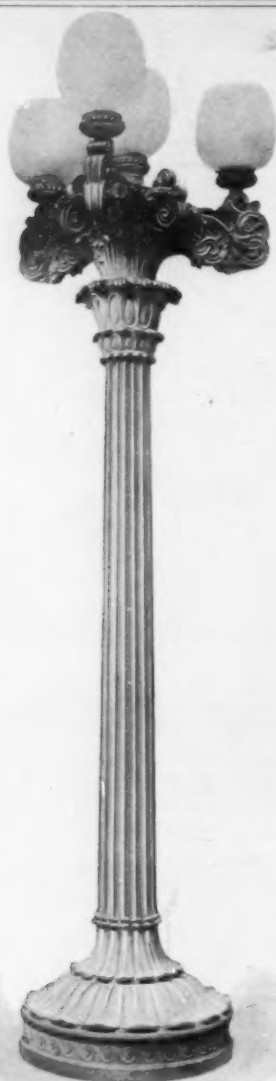
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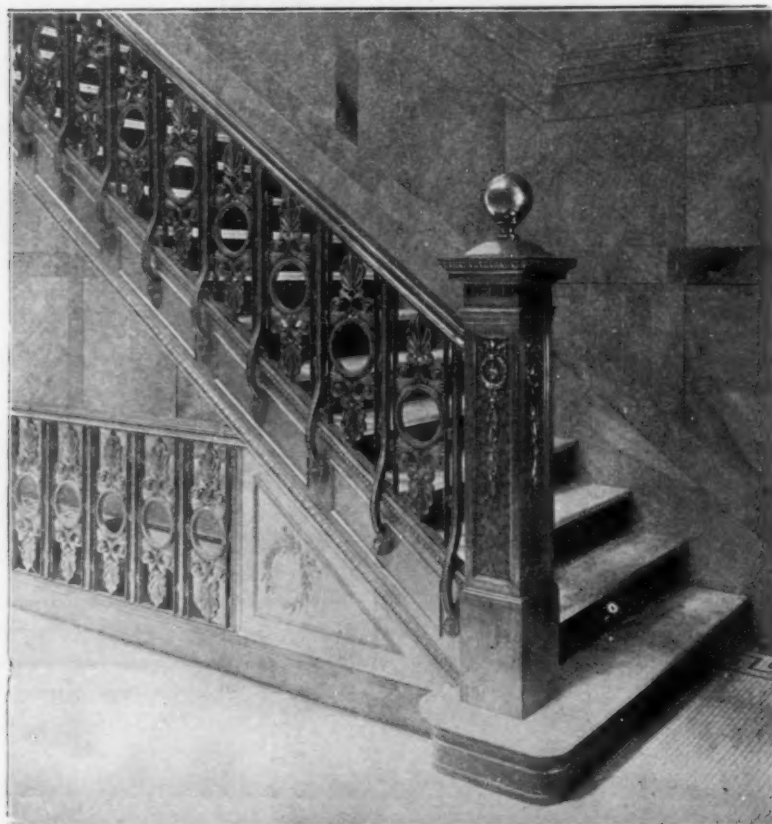


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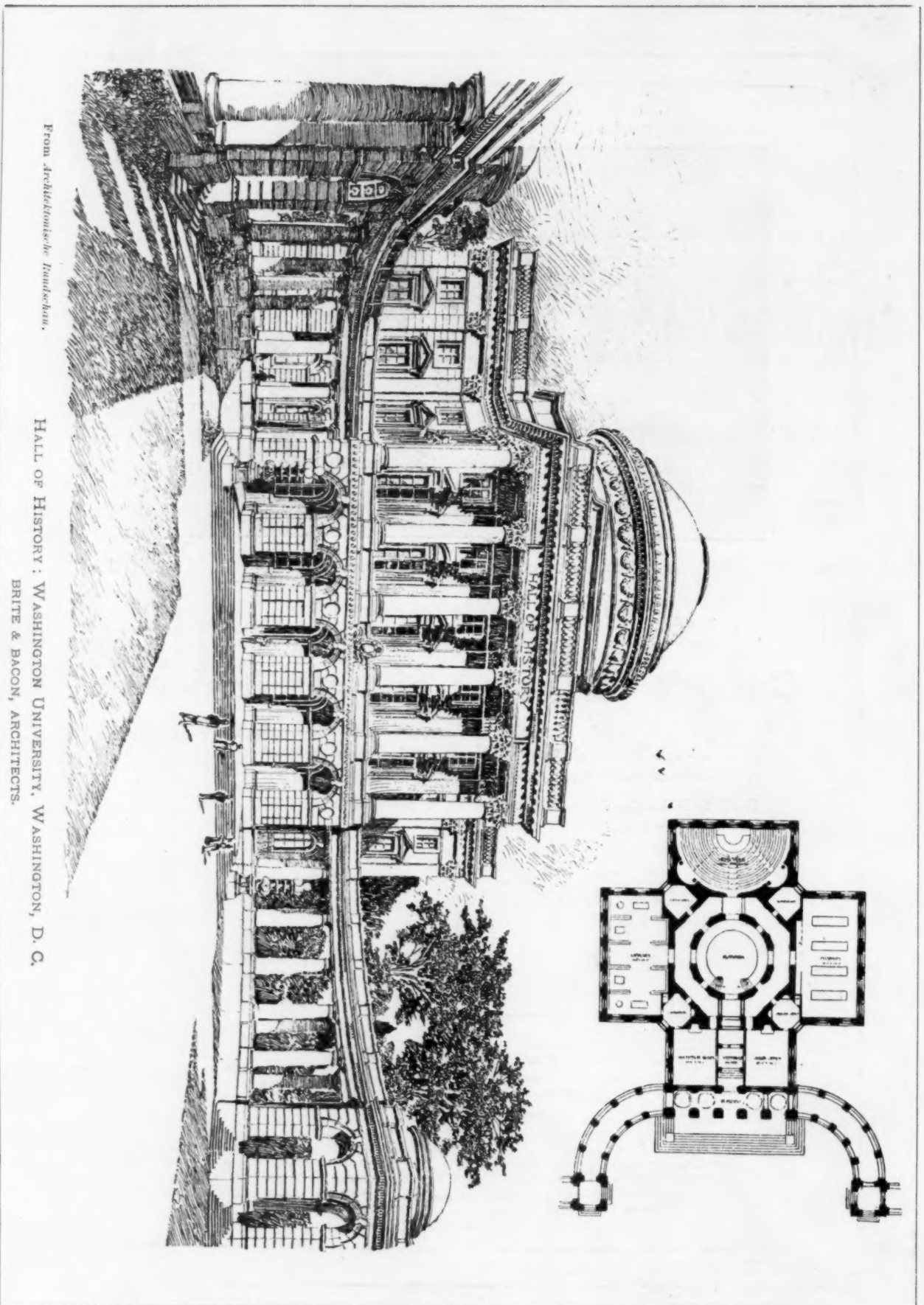
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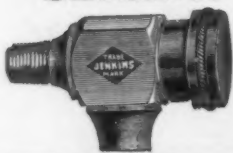
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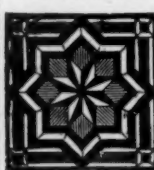
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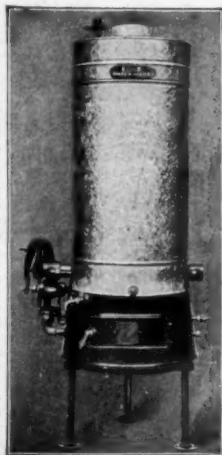
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633,510. SINK-TRAP.—Aaron C. Freed, Royersford, Pa.
 633,521. WINDOW-BLIND.—Page A. Lathem, Gainesville, Ga.
 633,536. LOCK AND LATCH.—S. P. Stevenson, Chester, Pa.
 633,589. PLUMB-LEVEL.—Frank B. Hinkson and William I. Crawford, New Castle, Pa.
 633,618. CEMENT.—John C. Sellars, Birkenhead, Eng.

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633,622. CRESTING.—Albert G. Souther, St. Louis, Mo.
 633,627. THAWING APPARATUS.—Chas. Taylor and Charles E. Robertson, Montreal, Can.
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 633,647. WASHTUB.—John T. Hattersley, Newark, N. J.
 633,652. DOOR CHECK AND CLOSER.—Edward Cliff, Newark, N. J.
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633,937. SASH HOLDER AND FASTENER.—Frank-
lin Yates, Racine, Wis.
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quhar M. McLarty, Greenock, Scotland.
633,979. DOOR-STOP.—William V. Bléha, St. Louis,
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BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Alpena, Mich.—Fletcher Bros. are building a \$200,-
000 pulp-mill at Broadway dam.
Atlanta, Ga.—A. G. Rhodes, of the Rhodes-Haverty
Furniture Co., is to erect a large cotton-factory in
or near the city, at a cost of \$150,000.
A five-story brick and stone apartment-building
is to be erected on the lot at the junction of Lloyd,
Pullman and Fair Sts., by Nat Kaiser; cost, \$25,-
000.
Baird, Tex.—A \$20,000 court-house is contemplated.
Baltimore, Md.—The Committee on Education of
the City Council has reported favorably the ordi-
nance appropriating \$40,000 for a school in the
vicinity of North Ave. and Pulaski St.
Belvidere, Ill.—Bradley & Carpenter, of Rockford,
are preparing plans for a school at North Belvi-
dere to cost \$18,000.
Boston, Mass.—Cabot, Everett & Mead, 62 Devon-
shire St., have prepared plans for a four-story fire-
proof building to be erected at Chandler and Cas-
enove Sts., South End. The building is to be a
home for working girls.
Boulder, Col.—W. H. Allison, Cashier of the First
National Bank, is said to be interested in the erec-
tion of a \$75,000 hotel.
Bridgeport, Conn.—The Bullard Machine Tool Co.,
have let the contract for erecting a new black-
smith shop, 40' wide and 60' long. The side-walls
are of brick, and the roof trusses have a clear span
and are made of steel. The Berlin Iron Bridge Co.,
of East Berlin, have the contract for the entire
building.
Buffalo, N. Y.—Architect Thomas A. Hyland has
prepared plans for a six-story brick and granite
union railroad station, which Michael J. Burke &
Co., representing a syndicate of New York capital-
ists, agree to build on the site of the present Ham-
burg canal, provided the city will deed the land to
them. The plans provide for a station, with a
frontage of 526 feet on Main St. and a depth of 203
feet, with a mansard roof and a tower at the north-
west corner, 320 feet high. The estimated cost of
the structure is \$1,500,000.
Dixon & Rockwood, 19 Court St., have completed
plans for a three-story fireproof building, 120' x
120'; cost, \$40,000.
Charles City, Ia.—The corner-stone has been laid
for the new \$40,000 school-house.
Chicago, Ill.—A \$25,000 four-story stone and brick
store and flat building is to be erected at the corner
of Rush and Oak Sts., for J. B. Thielen, 305 Rush
St. J. A. Miller, 1314 Ashland Block, contractor.
Clarkburg, W. Va.—It is stated the Lafayette
Window Glass Corporation will build a 12-pot
window-glass factory, to cost \$24,000.
Clinton, Ia.—Architect J. L. Rice, 213 Fifth Ave.,
has drawn plans for a large department-store build-
ing to be erected at the corner of 2d St. and 5th
Ave., for E. M. Howes. The building will be three
stories high, 80' x 100', built of stone and pressed
brick; cost, \$60,000.
Convent Station, Morris Co., N. J.—E. M. Mac-
dron & Co., of Newark, have been awarded the con-
tract for the erection of Xavier Hall. The cost of

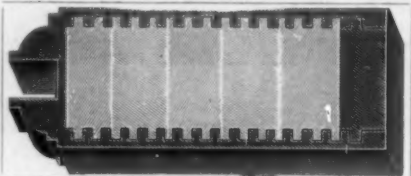


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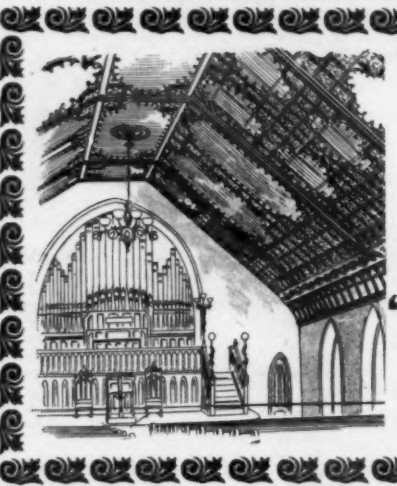
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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

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dollars. Stone, brick, terra-cotta and cement con-
struction.
Denison, Tex.—The sisters of St. Xavier are stated
to have decided to erect a college this fall to cost
about \$20,000.
Des Moines, Ia.—Plans are being considered for a
new high-school building, to cost about \$50,000.
Smith & Gutterson have prepared plans for an
apartment-house to be erected on N. 7th St., for C.
C. Loomis; cost, \$25,000.
East Des Moines, Ia.—A new high-school build-
ing, to cost in the neighborhood of \$50,000, may be
erected here.
Fort Worth, Tex.—Architect Howard Messers's
plans for the new brick and stone \$15,000 church
for Southside Broadway Presbyterian Church have
been accepted.
Gowanda, N. Y.—Eisenwein & Johnson, Mooney-
Brisbane Building, Buffalo, have drawn plans for
a new wing for the Gowanda State Homeopathic
Hospital; cost, \$60,000.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Grafton, N. D.—The Catholic Society will erect a
\$20,000 church in the spring.
Hammond, Ind.—J. T. Hutton is at work on plans
for the court-house to be built by Lake County. It
is proposed to build a two-story brick and stone
building, with tower and basement, Spanish tile
roof, and to cost about \$75,000.
Hegewisch, Ill.—The planing-mill of the Illinois
Car & Equipment Co., which was lately destroyed
by fire, will be rebuilt at once.
Hopedale, Mass.—Report states that the Draper
Co. are to build a large addition to their building.
Kansas City, Mo.—It is stated that the Interstate
Commercial Travellers' Association contemplate
erecting a new building, to cost \$25,000. E. W.
Mergenthaler, Paola, Kan., secretary.
Knoxville, Tenn.—The Southern Railway Co. will
build a passenger depot at a cost of \$50,000, work
to be let within next 30 days. John Anderson,
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Lincoln, Neb.—The congregation of the St. Paul

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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Methodist Church have decided to erect a new edifice at a cost of about \$40,000.

Los Angeles, Cal.—John Parkinson, 315 Currier Building, has prepared plans for a \$23,000 brick building to be erected by Homer Laughlin, at S. Broadway, near 3d St.

Louisville, Ky.—The city authorities are to build a \$200,000 auditorium.

Plans for a \$6,000 police-station are being prepared by H. P. McDonald. It is to be built on Shelby St.

The Hon. Matt O'Doherty contemplates building a \$12,000 residence on 1st St.

Lynn, Mass.—Plans have been completed by Henry W. Rogers for a hotel and theatre building to be erected on Union St.; cost, \$200,000.

Macon, Ga.—English, Johnson & Co. will build a cotton warehouse to cost about \$35,000.

Madison, Wis.—It is stated that Prof. C. S. Schlichter is manager of a company which has plans for a \$15,000 business block, prepared by Gordon & Pannack, architects.

Milwaukee, Wis.—Report states the Milwaukee Brass Manufacturing Co. will erect a new building which will be three stories, 75' x 100', also a foundry, 75' x 75', both to cost about \$35,000.

It is stated that Dr. Schneider, the oculist, contemplates erecting a hospital and free dispensary at Jackson and Oneida Sts., to cost complete \$100,000.

Minneapolis, Minn.—The Augsburg Seminary Society has had plans prepared by Omeier & Thori, architects, for a \$30,000 school-building, 94' x 108', two stories and basement, with a chapel for seating about 400.

P. W. De Lancey, 328 Boston Block, holds the contract for the \$25,000 stone chapel and Sunday-school to be erected for St. Andrew's Presbyterian Church.

It is stated that Pike & Cook, 224 S. 4th St., have the contract for the \$60,000 office-building for J. E. Andrews, of New York. Long & Long, architects, Kasota Block.

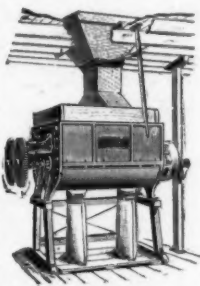
Monongahela City, Pa.—H. J. Lohman, 21 Bank Building, McKeesport, has completed plans for a \$100,000 brewery, to be erected on ground recently purchased by the Anson Brewing Co.

Mt. Vernon, Ia.—The corner-stone for the new \$37,000 church for the M. E. Society has been laid. John R. Gier, of Conrad Grove, contractor.

Newport News, Va.—Plans have been prepared by M. J. Dimmock, State Bank Building, Richmond, for a four-story brick store-building for D. S. Jones; cost, \$20,000.

R. G. Bickford and Gov. P. T. Woodfin have purchased a site and will erect a five-story office-building, to cost \$25,000.

Newton, Mass.—It is stated that H. P. Cummings & Co., of Ware, have been awarded the contract to build the Bigelow School-house; cost, \$75,419.



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BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Omaha, Neb.—A five-story and basement warehouse, costing \$40,000, will be built at 10th and Jones Sts.

Paducah, Ky.—Report states that the Palmer House Hotel Co. will erect a \$75,000 addition to its hotel.

Park Rapids, Minn.—The citizens have voted to issue \$15,000 bonds for a court-house.

Philadelphia, Pa.—A lodging-house to be erected and conducted on similar plans as the Mills hotels in New York City, is to be erected probably at 11th and Arch Sts., from plans by Winfield S. Thorp.

Rankin & Kellogg are completing plans and specifications for the new edifice which the congregations of the Chambers-Wylie Memorial Presbyterian Church propose erecting upon the site of the Wylie Church on Broad St., below Spruce St. At the request of the Board of Trustees, of which George Allen is president, some slight alterations to the original designs are now being made. When these changes shall have been made the plans will, it is expected, be formally accepted by the Building Committee.

Horace Trumbauer is preparing drawings for the reconstruction and remodeling of the interior of Peter A. B. Widener's residence, at the northwest corner of Broad St. and Girard Ave., which Mr. Widener has stated that he will present to the city as a branch of the Free Library.

Pittsburgh, Pa.—It is stated that Architect James T. Steen, 146 Sixth St., has awarded the contract to Murphy & Little for the erection of a six-story brick building, 20' x 110', at Penn Ave. and Garrison Alley, for Dr. C. F. Bingham; cost, \$40,000.

The Schoenberger Steel Co. will erect a steel mill building, 140' x 250', to cost \$34,000.

Reading, Pa.—Ryan & Kelly, 8 S. Broad St., have received the contract for erecting the repair shop for the Philadelphia & Reading Co.; cost, \$30,000.

Richmond, Va.—The Continental Tobacco Co. will soon erect a new four-story brick factory building,

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

150' x 200', to cost about \$60,000.

Rochester, N. H.—The Council have voted to appropriate \$20,000 for a school.

Spokane, Wash.—The contract to construct the Empire State Building has been awarded to Peter L. Peterson, at \$35,000. It will be six-story, of brick, iron and steel; J. K. Dow, architect.

St. Paul, Minn.—The Northwestern Grass Twine Co. will erect an additional factory building at its plant near Como Ave. The building will be 41' x 78', three stories, of brick, gravel roof, and will be just north of the present main building. George J. Grant will have charge of the work; cost, \$60,000. F. P. Sheldon, of Providence, R. I., architect.

Toledo, O.—Yost & Packard, Y. M. C. A. Building, Columbus, have prepared plans for a remodeling of the Hotel Madison, and also for an addition to be built to the hotel, to cost about \$200,000.

Washington, D. C.—The Secretary of the Treasury has accepted the proposal of John Pierce, of New York City, for the interior finishing of the post-office building at Buffalo, N. Y., at \$319,850.

The plans of Geo. B. Post, 33 E. 17th St., New York City, have been selected for the new Department of Justice Building; estimated cost, \$900,000.

Wheeling, W. Va.—Architects Giesey & Faris have awarded the contract to Wood Bros. for the erection of a \$20,000 brick residence for Col. W. H. Nave.

Worcester, Mass.—It is reported that the New York, New Haven & Hartford R. R. Co. will erect a union freight and office building combined, at a cost of about \$200,000.

APARTMENT-HOUSES.

Brooklyn, N. Y.—Avenue F and Flatbush Ave., four-st'y st. flat, 89' x 125'; \$30,000; O. Asa C. Brownell; a. Benj. Driesler, 1432 Flatbush Ave.

Chicago, Ill.—Madison St., cor. 61st St., three-st'y apart., 75' x 180', comp. roof, steam; \$68,000; O.

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BUILDING INTELLIGENCE.

(Apartment-houses Continued.)

Dr. John Guerin, 3211 Wabash Ave.; a., Maurice G. O'Brien, 122 Randolph St.

New York, N. Y.—One Hundred and Twelfth St., nr. 5th Ave., 7 five-sty bk. flats, 30' x 31', 90'; \$210,000; o., Diets & Janpole, 206 Broadway; a., G. F. Pelham, 503 Fifth Ave.

W. Fourth St., No. 228, six-sty bk. flat and stores, 26' 6" x 9' 4"; \$35,000; o., P. J. Herter, 1052 Lexington Ave.; a., P. Herter & Son, 1052 Lexington Ave.

Ninety-seventh St., nr. 1st Ave., 2 six-sty bk. flats, 37' 6" x 9' 11"; \$90,000; o., Salvador Lagrassa, 74 E. 137th St.; a., Neville & Bagge, 217 W. 125th St.

E. Thirteenth St., Nos. 243-247, 2 six-sty bk. flats, 30' x 37' x 93'; \$76,000; o., A. Silverman, 236 E. 61st St.; a., Schneider & Herter, 46 Bible House.

Brook Ave., cor. Wendover Ave., four-sty bk. flat, 26' x 10' 9"; \$30,000; o. & a., Anderson & Pontrick, 1370 Fifth Ave.

Wendover Ave., nr. Webster Ave., 2 four-sty fr. flats 37' 6" x 73' 3"; \$60,000; o., Emile Meyer, 171st St. & 3d Ave.; a., Neville & Bagge, 217 W. 125th St.

EDUCATIONAL.

Minneapolis, Minn.—Two-sty bk. & st. seminary, 44' x 100', tile roof, steam; \$30,000; o., Augsburg Seminary; a., Omeier & Thori, 509 Cham. of Com. Building, St. Paul.

Philadelphia, Pa.—Fifty-fourth St. and Lansdowne Ave., three-sty granite school, 53' x 165'; \$75,000; o., Board of Education; b., Chas. O'Neill.

FACTORIES.

Brooklyn, N. Y.—Thirteenth St., nr. 2d Ave., four-sty bk. factory, 75' x 100', gravel roof, steam heat; \$22,000; o., C. F. Holmann, 334 Adams St.; a., A. Ulrich, 371 Fulton St.; b., J. Harter, 24 Dean St.

Detroit, Mich.—Hubbard Ave., four-sty bk. factory, 50' x 300', comp. roof, steam; \$25,000; o., Hees & Macfarlane Mfg. Co., 621 W. Fort St.; a., Mortimer L. Smith & Sons, 78 Home Savings Bank Bldg.

Ivorydale, O.—Three-sty fr. & steel factory, 112' x 244', slate roof, steam; \$50,000; o. & a., Procter & Gamble Co.

Midvale, Pa.—Four-sty steel-fr. forging building, 172' x 280'; \$110,000; o., Midvale Steel Works; b., Shiffler Bridge Co.

HOSPITALS.

South Bend, Ind.—Three-sty bk. & st. hospital

BUILDING INTELLIGENCE.

(Houses Continued.)

building, 42' x 90', slate roof, hot water; \$20,000; o., Epworth Hospital Asso.; a., Parker & Austin.

HOTELS.

Boston, Mass.—Chandler St., Nos. 79-83, Ward 10, five-sty bk. hotel, 51' x 59' x 75', flat roof; \$50,000; o., Brooke House Corp.; b., Woodbury & Leighton.

New York, N. Y.—Greenwich St., No. 679, five-sty bk. hotel, 32' 6" x 64' 6"; \$22,000; o., James Holmes, on premises; a., F. A. Burdett, 33 Madison St., Brooklyn.

HOUSES.

Berlin, N. Y.—2½-sty fr. dwell., 40' x 60', shingle roof, hot water; \$9,000; o., E. W. Greenman, Troy; a., Mortimer L. Smith & Son, 78 Home Savings Bank Building, Detroit, Mich.

Boston, Mass.—Greenwood St., nr. Fowler St., Ward 20, two 2½-sty fr. dwells, 17' x 43', pitch roofs, furnaces; \$5,000; o. & b., Jas. F. Smith, 178 Humboldt Ave.

Kenwood Road, Nos. 39, 52, 55, 81, 82, Ward 19, five 2½-sty fr. dwells, 28' x 53', pitch roofs, furnaces; \$25,000; o., a. & b., Harry S. Freeman, 826 Huntington Ave.

Anderson St., No. 22A, Ward 11, five-sty bk. dwell., 16' x 20', flat roof, stores; \$6,000; o. & b., S. Zlotman and M. Seegal, 40 Bart'n St.

Blissmore St., nr. Lamartine St., Ward 23, 2½-sty fr. dwell., 28' x 52', pitch roof, hot water; \$6,000; o., Pat'k Daley; a. & b., J. A. McEachern, 3 Highland Terrace.

Walk Hill St., nr. Blue Hill Ave., Ward 24, 2½-sty fr. dwell., 25' x 51', pitch roof, furnace; \$4,000; o. & b., J. B. Mulvey, 653 Walk Hill St.

Centre St., No. 304, Ward 22, two-sty fr. dwell., 25' x 46', flat roof, furnace; \$4,500; o., a. & b., Gottlieb Merz, 306 Centre St.

Crescent Ave., Nos. 54-56, Ward 16, two-sty fr. dwell., 26' x 53', flat roof, stores; \$5,500; o., M. C. Bowen; b., H. P. Oakman's Sons, Neponset.

Perrin St., No. 41, Ward 21, 2½-sty fr. dwell., 33' x 44', pitch roof, hot water; \$5,000; o., L. F. Abbott; a., C. A. Russell, 56 Warren St.

Fauncebeck St., No. 64, Ward 23, 2½-sty fr. dwell., 33' x 48', pitch roof, furnace; \$7,000; o., Emma Mills; b., Calvin Lamont, 59 Warren St.

Buttwood St., nr. Columbia Road, Ward 16, 3 three-sty fr. dwells, 22' x 53', flat roofs, stores; \$12,000; o., a. & b., Boyd & Berry, Pond St., Dorchester.

Orkney Road, No. 18, Ward 25, 2½-sty fr. dwell.,

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(Houses Continued.)

37' x 45', pitch roof, furnace; \$9,000; o., Jeanette H. Rogers; a. & b., E. L. Rogers, 58 Englewood Ave.
Crescent Ave., No. 16, Ward 20, three-sty fr. dwell., 26' x 50', flat roof, stores; \$4,000; o., Laura E. Williams; b., Geo. F. Williams, 22 Crescent Ave.

Brooklyn, N. Y.—Eighty-second St., nr. 12th Ave., two-sty fr. dwell., 30' x 40'; \$4,000; o., Walter L. Johnson, 82d St. & 11th Ave.; a., C. Schubert Bath Ave. & Bay 19th St.

E. Twenty-third St., nr. Avenue G, two-sty & attic fr. dwell., 24' x 39'; \$4,500; o., Thos. Schmidt; a., A. W. Pierce, 1127 Flatbush Ave.

E. Nineteenth St., nr. Avenue C, two-sty fr. dwell., 25' x 45', hot water; \$5,000; o., Sam'l T. Sherwood, 277 Forty-seventh St.; a., A. W. Pierce, 1127 Flatbush Ave.

E. Twenty-second St., nr. Avenue G, two-sty fr. dwell., 22' x 45'; \$4,500; o., Thos. Schmidt, on premises; a., A. W. Pierce, 1127 Flatbush Ave.

Ditmas Ave., cor. E. 21st St., two-sty & attic fr. dwell., 23' x 43', shingle roof; \$6,500; o., Alice D. S. Halsey, 254 E. 21st St.; a., H. V. B. Ditmas, 60 Amersfort Pl.

Albemarle Road, nr. Buckingham Road, two-sty & attic fr. dwell., 43' 6" x 49', shingle roof, hot water; \$9,000; o., Nelson P. Lewis, 89 Linden Ave.; a., Frank Freeman, 132 Nassau St., New York; a., A. E. Gariepy, 15 Spruce St., New York.

Eighty-second St., nr. 12th Ave., two-sty & attic fr. dwell., 29' x 36' 6", shingle roof, hot air; \$4,000; o., Walter L. Johnson, 82d St. & 11th Ave.; a., C. Schubert, Bath Ave. & Bay 19th St.

Ocean Parkway, nr. Avenue C, two-sty fr. dwell., 22' x 36'; \$4,000; o., A. Stewart Walsh, 613 Madison St.; a., A. W. Pierce, 1127 Flatbush Ave.

Chicago, Ill.—Forty-fifth St. and Michigan Ave., three-sty st. dwell., 40' x 60', slate roof, hot water; \$25,000; o., Edward Morris, 4500 Michigan Ave.; a., W. C. Zimmerman, 618 Steinyk Hall.

Vincennes Ave., three-sty bk. dwell., 30' x 60', comp. roof, hot water; \$10,000; o., A. H. Veeder, Jr., 4746 Vincennes Ave.; a., W. C. Zimmerman, 618 Steinyk Hall.

Detroit, Mich.—E. Forest Ave., two-sty bk. dwell., 60' x 100', slate roof, furnace; \$12,000; a., Edw. C. Van Leyen, 47 Peninsula Savings Bank Building.

Lathrop Ave., 2½-sty bk. & st. dwell., 30' x 56', slate roof, hot water; \$16,000; o., Wm. Mitchell, 1312 Wabash Ave.; a., A. C. Varney & Co., 58 Newberry Building.

Fairmount, W. Va.—Walnut St., two-sty bk. & st. dwell., 28' x 33', slate roof; \$5,500; o., O. S. McKinney; a., A. O. Lyons.

Malden, Mass.—Mt. Vernon St., 2½-sty fr. dwell.; \$4,500; o., Mildred H. Allen, 429 Columbus Ave., Boston; a. & b., Peter V. Allen, 429 Columbus Ave., Boston.

Newton, Mass.—Montvale Crescent, Ward 6, two-sty fr. dwell., 32' x 52', furnace; \$10,000; o., Jos. W. Works; a., Kendall, Taylor & Stevens.

New York, N. Y.—Fifth Ave., No. 986, four-sty & base bk. dwell., 25' 6" x 100'; \$60,000; o., Simon H. Stern, 46 E. 78th St.; a., A. J. Manning.

Philadelphia, Pa.—Twenty-second and Locust Sts., four-sty bk. & st. dwell., 34' x 75'; \$25,000; o., Frank Samuel; c., Hayes & Mendenhall; a., T. P. Chandler.

Somerville, Mass.—Medford St., nr. Walnut St., three-sty bk. dwell., 49' x 52', flat roof, furnace; \$10,000; o., Alma C. Harvey; b., John Butland, Medford.

Walnut St., nr. Walter St., two-sty fr. dwell., 27' x 44', pitch roof, furnace; \$4,500; o., Broadway Meth. Asso.; b., Rob't Bennett, 9 Bennett St., Medford.

STABLES.

Boston, Mass.—Newbury St., No. 343, Ward 11, 2½-sty bk. stable, 35' x 112', pitch roof, steam; \$40,000; o., Thos. W. Lawson; a., C. A. Russell, 463 Warren St.

Springvale St., nr. Spring St., Ward 23, 2½-sty fr.

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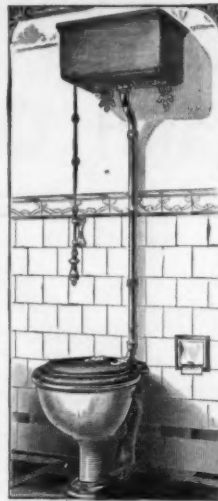


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PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., September 23, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 31st day of October, 1899, and then opened, for the low pressure steam heating and mechanical ventilating apparatus, etc., for the U. S. Post-office Building at Buffalo, N. Y., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Buffalo, N. Y., at the discretion of the Supervising Architect. **JAMES KNOX TAYLOR**, Supervising Architect. 1241

Treasury Department, Office Supervising Architect, Washington, D. C., September 23, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 24th day of October, 1899, and then opened, for the construction (except heating apparatus) of the extension of and alterations in the U. S. Post-office Building at Springfield, Mass., in accordance with the drawings and specification, copies of which may be had at this office or at the office of the Postmaster at Springfield, Mass., at the discretion of the Supervising Architect. **JAMES KNOX TAYLOR**, Supervising Architect. 1241

Treasury Department, Office Supervising Architect, Washington, D. C., September 18, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 25th day of October, 1899, and then opened, for the installation of a wiring system for the U. S. Post-office Building at Buffalo, N. Y., in accordance with the drawings and specifications, copies of which may be obtained at this office or at the office of the Superintendent of Construction at Buffalo, N. Y., at the discretion of the Supervising Architect. **JAMES KNOX TAYLOR**, Supervising Architect. 1241

BUILDING INTELLIGENCE.

(Stables Continued.)

stable, 33' x 35', pitch roof; \$1,000; o. & b., G. E. Whipple & Co., West Roxbury.

Newton, Mass.—Suffolk Road, Ward 6, one-st'y stable, 24' x 34', hot water; \$2,000; o., A. Winsor Weld; b., H. H. Hunt.

New York, N. Y.—Thirty-fifth St., nr. 12th Ave., one-st'y bk. stable, 16' x 24', 12'; \$400; o., N. Y. C. & H. R. R.; a., J. C. Hankinson, 93 Watts St.

One Hundred and Third St., nr. 1st Ave., three-st'y bk. stable, 75' x 100'; \$30,000; o., Mutual Milk & Cream Co., 2261 Second Ave.; a., John P. Walther, 205 E. 125th St.

Sixty-fifth St., No. 242, five-st'y bk. storage & stable, 25' x 95'; \$15,000; o., Sarah Adams, 347 W. 47th St.; a., G. F. Pelham, 503 Fifth Ave.

Franklin Ave., No. 1321, two-st'y fr. stable, 25' x 45'; \$1,000; o., Geo. Stolz, on premises; a., Edwin R. Will, 1362 Fulton Ave.

Philadelphia, Pa.—Second and Cambria Sts., two-st'y bk. stable, 28' x 31' 7"; \$2,000; o., Geo. B. Newton & Co.; b., Armstrong & Printzenhoff.

STORES.

Mansfield, O.—Bell Heights, four-st'y st. store-building, 40' x 200', comp. roof, steam; \$20,000; o., O. E. Bell Co.; a., Wm. Russell Smith, Jr.

TENEMENT-HOUSES.

Brooklyn, N. Y.—Pacific St., nr. Court St., 2 four-st'y bk. tenements, 26' 6" x 68'; \$20,000; o., Miss Nina Spencer, 132 Columbia Heights; a. & b., M. Thomas, 16 Court St.

MISCELLANEOUS.

Grand Rapids, Mich.—Two-st'y bk. power-house, 61' x 80', comp. roof; \$20,000; o., Mich. Soldiers' Home; a., Fred H. Eely, 10 Tower Block.

COMPETITIONS.

HOSPITAL.

[At Patton, Cal.] Competitive drawings are wanted October 30 for a State Hospital; estimated cost \$200,000, including fixtures and accommodations. 1243

COURT-HOUSE.

[At Martinez, Cal.] Architects are invited to submit, in competition, October 16, plans and specifications for a fireproof court-house. J. D. WIGHTMAN, Chmn. Bd. Superv. 1242

COURT-HOUSE AND JAIL.

[At Kallispell, Mont.] The County Board invites the submission of plans and specifications until October 13 for a court-house and jail, the cost not to exceed \$35,000. M. THERIAULT, county clerk. 1241

SCHOOL-HOUSE.

[At Montgomery, Ala.] Competitive plans and specifications for the erection of an 8-room brick school-building, to cost about \$20,000, will be received by Joseph M. Kennedy, chairman committee. 1241

PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., September 23, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 30th day of October, 1899, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the addition to the U. S. Custom-house and Post-office Building at Dubuque, Iowa, in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Custodian, U. S. Custom-house and Post-office, Dubuque, Iowa. **JAMES KNOX TAYLOR**, Supervising Architect. 1242

SCHOOL.

[At Wonevoo, Wis.] Sealed bids will be received by the Board of Education of Wonevoo, Wis., until October 20th, A. D., 1899, for the erection and completion of a school-building. F. R. POTTER, clerk. 1242

ENGINE-HOUSE AND LIBRARY.

[At Jefferson, O.] Bids are wanted October 14 for an engine-house and library. D. L. CROSBY, Village Clk. 1241

WAREHOUSES.

[At Genoa, Neb., and Osage Agency, Okla.] Sealed proposals will be received by W. A. Jones, commissioner of Indian Affairs, Washington, D. C., until October 12 for the erection of one brick warehouse at the Genoa Indian School (J. E. Ross, superintendent); also for the construction of a brick warehouse at the Klaw School, Osage agency, Oklahoma Territory. 1241

ADDITION TO HOSPITAL.

[At West Point, N. Y.] West Point, N. Y. Sealed proposals will be received here until October 27, 1899, for the construction of addition to Cadet Hospital. Address Q. M., U. S. M. A. 1243

EXTENSION OF STABLE.

[At West Point, N. Y.] West Point, N. Y. Sealed proposals will be received here until October 27, 1899, for extension of cavalry stable. Address Q. M., U. S. M. A. 1243

CONSTRUCTION, ETC.

[At Wilmington, Del.] U. S. Engineer Office, Wilmington, Del. Sealed proposals will be received here until October 19, 1899, for dredging in Wilmington Harbor, for construction of jetties at mouths of Brandywine and Christiana Rivers, and for repair and extension of jetty and construction of crib at mouth of Christiana River on north side. WM. F. SMITH, U. S. agent. 1241

SCHOOL.

[At Bonair, Ia.] It is stated that bids are wanted October 14 for a school. Address COUNTY SUPERINTENDENT, Cresco, Ia. 1241

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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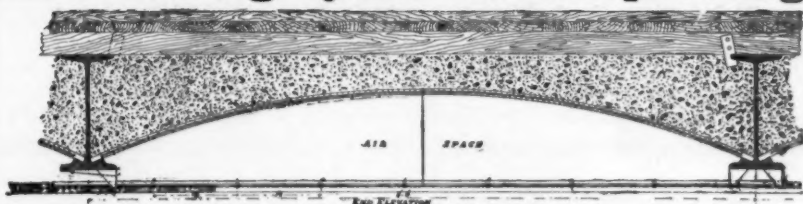
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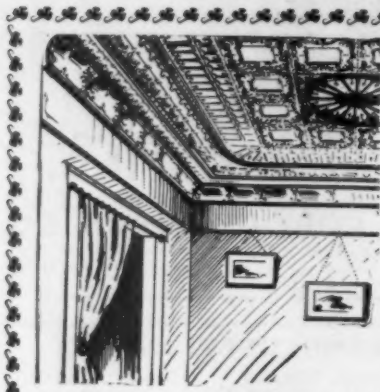
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" dark.....	" 12 00	50 00 @ 80 00 }		Press...27 00	Red " "
" red.....	" 12 00	Imported		Collinsville, do	" " 12 00
Chicago pressed		Enamelled B'k.		Findlay, do 22 00	Dark " "
" Moulded.....		Enam. (edge)		Chicago, do	Pressed " "
Baltimore.....	37 00 @ 41 00	105 00 @ 120 00		assorted shades	" 17 00
Philadelphia.....	19 00 @ 21 00	" (edge & end.)		16 00 @ 20 00	Paving
Trenton.....	17 50 @ 18 50	120 00 @ 135 00		Chicago, do	11 00 @ 15 00
Milwaukee.....		Domestic.		Brown...24 00	Second " "
Moulded:		Enam. (edge)		Chicago, do Red	" 12 00
Red Pressed.....	" 29 00	90 00 @ 100 00		Roman...24 00	Third " "
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" Ger. (Alsen).....	2 90 @ 3 25	2 75 @ 3 00		3 75 @ 4 25	Hemmoor
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" (Vorwohler).....	2 50 @ 2 90	& Co.,			2 75 @ 2 85
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" (Dyckerhoff).....	2 75 @ 3 00	2 75 @ 3 00		2 80 @ 2 90	Jooson
" (Hanover).....	2 50 @ 3 00			3 10 @ 3 30	2 80 @ 2 75
" Stettin, (Anchor)	2 35 @ 2 45			2 75 @ 2 90	3 00 @ 3 25
Roman.....	2 75 @ 3 00	3 50 @ 4 00		2 85 @ 3 00	2 75 @ 2 85
Keene's coarse	4 25 @ 4 75	" 7 00		2 75 @ 3 25	B. Egl. 2 50 @ 2 75
" superfine.....	" 6 50	8 00 @ 9 00		6 00 @ 7 00	3 00 @ 3 50
Lime:				9 00 @ 10 00	6 50 @ 7 00
Lime of Tell.....	" 4 00				8 00 @ 9 00
Hydraulic Lime.....	" 1 45			Not sold.	
Chicago Lime in bulk.....	{ St. John			45 @ 55	White Lime P bush
Wisconsin Lime.....	" "			45 @ 55	25 @ 30
Rockland and Rockport, (Com.)	80 @ 85	" 90		Not sold.	{ White Mash
Rockland, finish.....	90 @ 95	" 95		Not sold.	1 25 @ 1 50
Kelley Island Lime, finish.....	" "	" "		1 00 bulk, 75c.	1 00 @ 1 00
State, Com. cargo rates.....	" 65	Not sold.		Not sold.	
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