THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXIII. No. 1207.

Entered at the Post-Office at Boston as second-class matter.

FEBRUARY 11, 1899.

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THE crusade against high buildings goes on vigorously, and with considerable success in most parts of the country. In Washington, it is proposed to limit business-buildings to a height of one hundred and ten feet, or one hundred and thirty feet where they front on a street not less than one hundred and sixty feet wide; while no building on a residence street must exceed ninety feet in height. Apartment-houses and hotels more than sixty feet high must be fireproof, and business-buildings more than seventy-five feet high must also be fireproof. These restrictions will not be very burdensome, and it seems probable that they will be adopted. In Boston, the public, which has apparently had its appetite whetted by its success in cutting down the height of buildings around Copley Square, has discovered that two lofty buildings are about to be erected within a short distance of the State-house, and, consequently, a law has been brought before the Legislature which limits buildings within a radius of one thousand feet from the dome to the height of the main cornice of the State-house itself in those cases where the present general law would allow them to exceed that height-level.

MR. GEORGE L. HEINS, of New York, has been appointed architect of the State Capitol, in place of Mr. Isaac G. Perry, who retires. Mr. Heins, at present a member of the firm of Heins & La Farge, the architects of the New York Cathedral, is very well and favorably known in the profession, and his appointment will be as satisfactory to his brother architects, and, we are sure, to the citizens of the State, as we hope it may be to himself. Mr. Perry, whom he succeeds, has been for many years in the service of the State, his first connection with the Capitol dating back to the time of the Richardson-Eidlitz-Olmsted triumvirate, when, if we recollect rightly, he was called in as a sort of consulting expert and superintendent, afterwards succeeding to the general charge of the building.

THE Managing Committee of the John Stewardson Memorial Scholarship in Architecture announces the third competition for the Scholarship. The Scholarship is restricted to candidates under thirty years of age, who have studied or practised architecture in Pennsylvania for at least one year. Preliminary examinations are held in History of Architecture, Construction and French or Italian, and in Freehand Drawing, followed by a final examination in Design, the subject assigned being a School of Architecture, with a Museum of Architectural Casts. The preliminary examinations are held at the University of Pennsylvania, February 13, 14 and 15; the final examination will begin in the same place, February 18, when a twelve-hour sketch is to be made and handed in; and from that time to March 11 the candidates will work on their designs at the University. Only candidates who receive at the preliminary examination at least sixty per cent of the maximum mark in Construction, History and French or Italian, and at least seventy-five per cent in Drawing, will be admitted to the final examination. The award is to be made by a jury of architects, and the successful candidate will be required to sail for Europe not later than April 1. The Scholarship is for a term of one year, and the income is one thousand dollars. Further information may be obtained from Professor Warren P. Laird, at the School of Architecture of the University of Pennsylvania.

THE option given to candidates for the Scholarship of examination in French or Italian is, so far as we know, a novelty. Fortunately, as we think, very few candidates are likely to offer Italian, unless that language is more extensively studied in Pennsylvania than in the other States of the Union. While it is certain that Italy is the most interesting of all countries to the architect, and that a knowledge of conversational Italian sufficient to enable a student to make his way comfortably and economically through the Italian country is extremely desirable, it is equally certain that the professional literature, and, we may say, the professional thought, open to one who reads only Italian, is infinitesimal in amount and suggestiveness in comparison with that which is at the service of the student who understands French thoroughly. For this reason, French can never be dispensed with by the student of architecture, and one who wishes for high professional attainment should know the language well; while Italian enough to enable a young man to travel comfortably in Italy can be acquired in far less time than is necessary for learning to read French with understanding. It is said that the ordinary conversation of the people with whom a traveller in Italy would have to deal is carried on with the use of about three hundred different words; while Shakespeare, for example, uses about thirty thousand different words. The proportion between these two numbers approximately measures the difference in the labor required to acquire a conversational and a literary knowledge of a language; and Italian is one of the easiest of all languages to pronounce, and to learn a little of.

WHEN a few weeks ago we spoke of the New York City Prison embroglio, we were so impressed with the fact that it was merely one of the pieces of political manœuvring to which Tammany has accustomed the public that we rather lost sight of the possibility that some of those who appeared to be players in a discreditable game might really be mere pawns on the board, moved and jumped about without volition of their own. Now that we have fuller information, we find that the position of the architects of the building is not as good as we understood it to be, while that of the architects of the new cell-work is much better in that they did make due endeavor to treat the original architects with all proper professional courtesy. The position of the original architects is impaired by the sworn statement of Mr. Wright, the Commissioner of Correction who appointed them, who declares that his approval of their work at the time of signing their appointment concerned "only that portion of the work which was covered by the specifications and estimates accompanying said plans"; and the fact that detailed drawings, specifications and estimates for the cell-work were not included in this approval seems to be proved by the statement of the consulting architect, who declares that "no detailed plan of the cell-work as prepared by Messrs. Withers & Dickson had ever been seen by me until after making my report . . . the plans for the cells not having been made." Mr. Wright further swears that he "personally visited the office of Withers & Dickson in June, 1897 [before Tammany appeared on the scene], and notified them that they were under no circumstances to prepare plans of cells, etc., for the City Prison." Still, for the pleasure of doing business in an unbusiness-like way, the city may have to pay damages and certainly must bear the expense of doing, undoing and doing over again a portion of the structural work, for the appointment of Messrs. Horgan & Slattery has been confirmed, their heavier cell-work is to be used and the supporting girders, on

the advice of Mr. L. L. Buck, engineer of the Brooklyn Bridge, and with the approval of Mr. Post, the consulting architect, must now be strengthened by riveting plates to the flanges, the floor-arches, beams, etc., being first removed. The strength or weakness of these girders as regards the weight Messrs. Withers & Dickson proposed to place on them is largely a matter of the construction of the New York Building-law, which obliges an architect to provide for a live-load of seventy pounds per square foot: their strain-sheet shows an intended load, both live and dead, of one hundred pounds, and the Commissioner of Buildings approved the work as executed to endure a strain of one hundred and twenty pounds per square foot. Yet the expert called in by the Board of Estimate and Apportionment, Mr. Buck, declares that "two heavy men in each cell would hardly bring the live-load to ten pounds per square foot"! It might be difficult to build the cells with a dead-load of only thirty pounds to the foot, but it would certainly be less difficult if the law would use a more rational constant, for, taking Mr. Buck's estimate, the unstrengthened girders would be found prepared to meet the actual dead-load of the cells with a stress of something like one hundred pounds. But "the law allows it and the court awards it," or will when the case comes to trial, and unless the architects can show a cell-construction — one that the Commissioner's consulting architect would approve — weighing not more than fifty pounds to the foot we fancy the case would go against them.

THE well-known political serviceableness of an important State building-enterprise is likely to be illustrated with unusual distinctness in the history of the Pennsylvania Capitol. A Democratic member of the House has introduced a bill, appropriating two million dollars for the completion of the present, or some other, building, and appointing a Commission, authorized to employ experts in its discretion, to remodel plans, or obtain new ones, and to contract for the necessary work. An excellent Commission seems to be proposed, including such men as Governor Pattison, and A. J. Cassatt, of Philadelphia; but, as there is a large Republican majority in the Pennsylvania Legislature, there is, apparently, no prospect whatever of the passage of the bill, which seems to be intended mainly to indicate to voters how efficient the Democrats would be, and what excellent men they would appoint, if they only had control of the State Government.

THE Sewerage Commission appointed some time ago by the Governor of Connecticut has made its report, which embodies some queer notions. Naturally enough, in the present state of engineering science, the Commission favors purification of sewage by intermittent filtration through prepared beds of sand or cinders, — the so-called "bacterification" system, — and recommends legislation prohibiting the pollution of natural streams by sewage, and compelling cities and towns to purify their sewage. So far, the report is well enough, but it goes off into a discussion of the ways and means for carrying out its recommendations, and suggests that "where a village is too poor for the initial expense a wealthy citizen can memorialize himself by the gift of a sewerage system, quite as fitly as by a watering-trough, a chime of bells, or a stained-glass window." This piece of engineering socialism will have, we should say, the effect of postponing for a long time the adoption of any sewerage system in the "poor villages" in question, and of promoting the flight of the "wealthy citizens" of such communities to places whose inhabitants are energetic enough to keep their houses clean without waiting for "wealthy citizens" to come to their relief. A "wealthy citizen" of a New Jersey town once tried the experiment of providing the place with a sewerage system, but the history of his experience is not calculated to invite others to imitate his example; and both for the sake of the "wealthy citizen," who could hardly find a better way of learning the depths of human ingratitude, laziness and meanness, and for that of the other people, who could not be encouraged in anything more pernicious than the habit of lying on their backs and waiting for "wealthy citizens" to do their work for them, we hope that the number of people who "memorialize themselves" in this way will be small.

MR. FRANKLIN W. SMITH, whose enthusiasm for Classic antiquity is well known to architects, and who once had a design, made, we believe, by Messrs. Renwick & Aspinwall, for an immense group of Classical buildings in Washington, has been able so far to carry his ideas into practice as to build in Washington a structure, known as the "Hall of the Ancients," to educate the public in antique art. This building, which has just been opened to the public, is divided into sections, apparently after the manner of the architectural rooms at the Crystal Palace in London, representing Egyptian, Greek and Roman interiors, correctly decorated and furnished. It is hoped that the new "Hall of the Ancients" may be the first portion of an extensive series of museums, to be built on the waste land between the Capitol and the river, and Congress will probably be asked to devote a portion of this tract to the purpose.

A BILL is pending in Congress, with the favor of the Treasury Department and the House Committee on Public Buildings and Grounds, providing for the sale of the present Custom-house, on Wall Street, and the erection of a new building, on the Bowling Green, at an expense of not more than three million dollars. The bill authorizes the Secretary of the Treasury to invite not less than five architects to compete for the commission, but does not require him to do so. As the bill is not yet passed, it is too soon to say what the probable course of the Government will be; but other Government buildings of importance in the Atlantic cities have, for the last two years, generally been designed by local architects in competition, and it may be presumed that the New York Custom-house, whenever it is built, will be designed in the same way.

A LIVELY discussion appears to have been awakened in France by an observation of M. Planat, of *La Construction Moderne*, who innocently remarked, speaking of the preparations for the Exposition of 1900, that this event would signalize the close of the nineteenth century. It seems that the official view of the matter is, or was, that the year 1900 will be the first of the twentieth century, and, as the question may be of some importance, a Paris journalist, M. Chincholle, undertook to ascertain the opinion of the most competent authorities upon it. Littré, the "great lexicographer," as people said in Johnson's time, declared without hesitation that the nineteenth century began in the year 1801, and will close at midnight, December 31, 1900, and the mathematician of the Paris Observatory, who has charge of the computation of the calendar, said the same. Moreover, when a similar discussion arose, at the beginning of the present century, Arago, who was then President of the Academy of Sciences, and, presumably, understood the subject, explained that our era commenced with the birth of Christ, which was, therefore, at the beginning of the year 1; and as a century has a hundred years, the last year of the first century must have been the year 100, and all subsequent centuries have followed the same rule. Even in the public offices, as M. Chincholle shows, it has not always been held that the century expired in its ninety-ninth year; for the treaty of El Arisch, concerning the evacuation of Egypt by the French forces, which was signed January 7, 1800, is officially classified among the acts of the eighteenth century.

SUBSCRIPTIONS are called for in aid of the project of erecting a statue of the poet Longfellow in the City of Washington. Although a bust of the poet has long stood in Westminster Abbey, nothing in the shape of a public monument in his honor exists in his own country, and an association has been formed, with the active coöperation of certain persons high in office in Washington, to supply the deficiency. The modest sum of twenty-five thousand dollars only is asked for, and there should be no difficulty in raising it. Meanwhile, however, it seems as if the City of Cambridge, where he spent nearly his whole life, might do itself the honor of devising some public recognition of his merits. Washington has already a large population of statues, and an additional one will be much less conspicuous in the crowd than it would be in Cambridge, while Cambridge is very deficient in anything like public art. In France, the scene of such a poet's labors would long ago have been adorned by a charming monument, erected by his appreciative fellow-citizens, and forming one of the principal attractions of the town or village in which it stood; and, while it would be too much to expect our people to follow the example of the affectionate and loyal French, our larger cities might at least do something to recall the virtues of those who have lived in them.

NATURE'S CATHEDRALS.[1] — I.

From the Mammoth Cave.

WE turn to the ruins of Classic Greece — the fountain-head of art — in our thirst for inspiration, that we may drink it in pure from its source. A fallen column crowned with its lovely, curling, "non-natural" leaves is to us a joy forever, as well it may be. Weary of the commonplace newness of a land without antiquities, without a background, "without a shadow," we yearn for the gray twilight of Gothic things.

Should we but venture to look deeper we might find low down beneath the earth's architectural crust forms of rare beauty and older than the oldest remnants of antiquity. In the dimness of the vast, mysterious caves of earth we might perchance be able to trace out the source from whence the Old World drew her inspiration. We might even recognize there the prototypes — the archetypes from whence her art-treasures were wrought. It were surely worth the quest.

The gem-encrusted walls, the delicate foliations, the pillared arcades, the answering aisles, the domes that are filled with the gloom and the silence of ages, all combine to bring to the mind irresistibly the mighty cathedrals of the upper world. It will be well, before entering into the broad opening for speculation this wonderful resemblance suggests, to acknowledge some of our long-standing indebtedness to the caves.

The knowledge of roofing-over stone buildings by the "process of vaulting" could only have been acquired in the first place by familiarity with the dome-shaped ceilings of those primitive abodes already provided to meet man's earliest, greatest needs. First, in his homeless, helpless ignorance, they were his cradle, his shelter, his home; afterwards his temple, and last of all his tomb.

Archæologists are indebted to those mighty storehouses of the ages for much valuable information as to the world's past history, the extinct species of animals, dates of formation of the different strata, etc., not the least important among their disclosures being the interesting fact, elicited from remains long buried there of the sculptured forms of man and beast, that our prehistoric progenitors — the troglodytes — were artists! These remains, however rude, indicate that efforts in this line were common as far back as the races of man can be traced — beyond the Stone Age.

This impulse to reproduce familiar forms is one of the traits that distinguish man from the lower animals; and nowhere could he have found forms better suited for reproduction *in stone* than in his first dwelling-place. Some architectural taste, however, must have been developed before he should have thought to use his designs for decoration. This development not taking effect for many centuries, the caves were abandoned as dwelling-places, forgotten, shunned perhaps, long before the taste was formed; and only in comparatively modern times have these been reopened to the world. So that it remains at this late day to be proved whether or not the world is indebted to them for more — much more. For it is not yet conceded how much, if any, of our architectural light had sprung from those "deep domains of darkness," nor is it yet decided whether the germ of the whole science of architecture may not have been developed from subterranean roots.

That the explorers of the caves were not blind to their resemblance to the cathedrals of the Old World we may readily infer, if only from the titles bestowed by them upon the various apartments therein.

In Kentucky in the Mammoth Cave (known far and wide to scientists for its immense size, its exquisite foliations, its great mysterious rivers, and especially for its eyeless fishes and reptiles) there is a vast hall or corridor known these many years,— since first explored, in 1809, from the strong resemblance of its columns and arches to the mediæval style of building, as "Gothic Avenue." However wanting in many of the minor details, so generally recognized and accepted is this likeness that an altar has been supplied and religious services are often held in the "Chapel," to which it leads; and many a fanatic couple, we are told, has been joined in the bonds of holy wedlock in this awe-inspiring temple not built with hands. The chapel has a massive grandeur, rude and bold, as though it might have been the work of a prehistoric race of giants.

In Weyer's Cave in Virginia there is also a "Cathedral Hall," with niches resembling shrines, with pendants, arches and columns — indeed few caverns or grottos in limestone regions are wanting in these distinctive features: they give a fitness to the titles so commonly bestowed. So general indeed is the practice it needs that one guard himself from an idea that might be suggested by it, that Nature had fashioned these forms from models originated by man.

We are told of the cavern of Baradla, near Agtelek, in Hungary, that its magnificent stalactites take the forms of "veranda-like galleries, of groves of trees in rows with interlacing boughs above. There are others resembling large churches, altars, images." In these caverns are numerous stalactite structures which, from their curious and fantastic shapes, have received such names as "The Image of the Virgin," "The Mosaic Altar," etc.

"The whole was explored in 1785 by some gentlemen deputed from the Royal Society of London. . . . There are said to be there an immense collection of flowers of every hue and size."

The caves of Northern Italy and of the Hungarian Alps are classed as the most beautiful in the world, — as rivalling the enchanted palaces of Eastern story in their rare perfection. The most beautiful, the most remarkable, of these, the largest in Europe, — Adelsberg, near the village of Carniola, in Austria, — has for centuries past been lost to the world as completely as the buried cities of Herculaneum and Pompeii. It is only in comparatively recent years, since 1816, that its vast extent has been explored, and the fact established by unmistakable evidence of its having been used in the Middle Ages as a sanctuary. "Altars, seats, baptismal pools, inscriptions, all attest the use of it for religious purposes."

It seems strange that no speculations as to the possible origin of Gothic architecture should have been given to the world as a result of these explorations. In view of the large and remarkable collection published by Mr. Britton in his "*Architectural Antiquities of Great Britain*," one would suppose any theory, however wild, would at least have been open to discussion if presented.

We cannot, of course, form an exact idea from their present appearance as to what these caves may have been in those remote ages, as the slow process of disintegration and re-formation by which the limestone transition takes effect, hour by hour and drop by drop continuously for centuries, would needs produce ever-varying designs; enough, however, can be traced to tempt one to further investigation.

Before the introduction into Gothic art of geometric designs and of statuary, both of which mark unmistakable steps in its decadence, the motive for its decoration is generally, perhaps universally, believed to have been taken from the natural forms of vegetation, of leafage and foliage. These, though "without unduly imitating nature," and often, we are told, rudely expressed, yet exhibited a vigorous frankness lost in after years — lost as the builders have gained in skill.

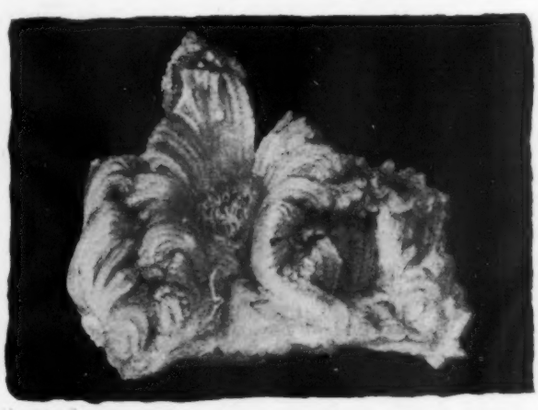
Describing the Early Gothic, Mr. Ruskin with his unerring use of words characterizes those rudely expressed, vegetal forms as quaint, non-natural, but lovely, curling leaves. Had he been describing certain formations which are often seen in rare beauty and brilliance adorning the walls and ceilings of the caverns of the underworld he could hardly have selected words more exactly fitted for the purpose.

Besides their quaint loveliness, the purity, the delicacy, the fragile grace of these flowers of stone that

"Never drank the sunshine nor the dew,"

lure one by a strange mysterious charm, tempt one to probe into the secrets of their being.

To speculate as to the process by which those lovely, curling

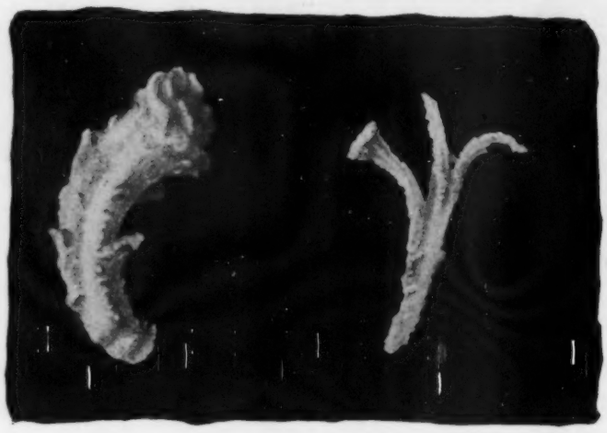


From the Mammoth Cave.

leaves are formed is even more attractive to the student of nature than working out the other problems suggested by them.

[1] Thanks are due Mr. Bennett H. Young, of Louisville, Ky., for the specimens from which these drawings were made. The foliations are so fragile that to remove and transport them is a difficult undertaking. These serve to show the character and variety of the formations. To procure illustrations suitable to verify the theories here advanced — such as arches, columns, buttresses, rosaces, ogees, etc. — personal attention would be required. Unfortunately the ideas here presented occurred to me after visiting the cathedrals and long after visiting the caves

By a well-known process of disintegration and liquefaction which takes place in the stratum of limestone overlying certain caves and grottos, causing the solution to percolate through the various openings below, are formed — as has been often described — the pendants called stalactites; and the overflow from the deposit, dripping thence to the floor and hardening there gradually, in the course of time, meets the pendant stalactite, and a column or cluster of columns is the result.



From the Mammoth Cave.

But there is another and less familiar mode of formation by which an entirely different character is given to the same natural combination of limestone and carbonic acid. Of this I have never met with any attempt at an explanation, so venture one of my own. Where the acid is too heavily charged with lime to drip, and, instead of dripping, it softly oozes through the pores and fissures of the stone roof and walls, globules of different sizes are formed. The surface of these globules, exposed to the air, gradually hardens, while the interior remains more or less consistent, as the case may be. While in this plastic condition an accumulation of gas sometimes takes place within, and the gas, having no outlet, is forced to explode. By these tiny explosions the soft interior is turned out in a sort of rosette-shape somewhat resembling, on a large scale, the seed-pod of the balsamine. Sometimes the edges are torn and ragged; often they are beautifully curled, ruffled, fluted, depending upon the consistency of the material as well as upon the force, and also upon the depth, of the explosion. The curled-out, heavy petals crystallize in time. Other globules, resisting the action of the gas only partially, explode in a one-sided sort of way, forming, it may be claimed, the prototype for a style of decoration to which architects have given the name of "crockets," a favorite and characteristic Gothic ornament. Other globules harden all through without changing their globular form, thus resembling fruits of different sorts. Clusters of these of a grape-like character have suggested such names as "The Grape Arbor," "Martha's Vineyard," etc., to the apartments they adorn.

Intermingled with this colorless fruit and these stony flowers are stemlike forms caused by exudations from tiny fissures. These formations are all, as a rule, white as alabaster, translucent and often brilliant. The walls and ceilings encrusted with them give the impression of the most elaborate sculpture, a sort of *repoussé* work in effect, profuse yet delicate and dazzlingly beautiful.

The rosettes thus formed may well have served as models for the architectural ornaments known as "bosses" and often described as having "all the essence of plant-life, only less naturalistic, and yet with a character distinctly their own."

Though many efforts have been made to improve upon the original designs as seen in the earliest specimens of Gothic art, bosses, similar in character to these rosettes, are still in use, being placed, almost as a rule, at the intersections of the vault-ribs, where, besides, and secondary to their decorative use, they are important in a structural capacity, forming, as they do, an ornamental keystone to the groining of the arches.

The crockets still belong to the ornamental features of the style and have varied little from their original shape, except in the flamboyant style, the latest stage of Gothic decadence in France. In this style they assume the forms of tiny flamelets carried up the mouldings of the pinnacles, which are capped, to accord, with a flame-like peak. This wavy character replaces the Gothic throughout in the flamboyant, leaving only the skeleton framework to indicate the order to which it belongs.

From the Mammoth Cave.

The gradual, unconscious departure of the builders from their original models — from whencesoever they may have been brought — led to other innovations. The naturalistic plant-designs, though, as in France, brought to great perfection, "have proved thin and weak compared with the earlier, more original, more vigorous specimens of Gothic art."

The subject of the foliations, the efflorescence of Gothic art, as evidently modelled from natural forms, yet without any "exact, recognized counterpart in nature," has given rise to endless speculation. A feeling exists, perhaps unconsciously, but none the less evidently, that it bears in some way on the question of the entire structural scheme, so closely is it intertwined with the very life — the spirit of the style.

The wide divergence of opinion to which its discussion has given rise can in no way be better shown than in quoting from the two leading art-critics of France and England respectively, M. Taine and Mr. Ruskin.

M. Taine, writing of Milan, says: "The cathedral, at the first sight, is bewildering. Gothic art transported entire into Italy at the close of the Middle Ages attains at once its triumph and its extravagance. . . . This certainly is a complete architecture, like that of Greece, having, like that of Greece, its root in vegetable forms. The Greek takes the trunk of the tree dressed for his type; the German, the entire tree with all its leaves and branches. True architecture, perhaps always, springs out of vegetal nature, and each zone may have its own edifices as well as plants; in this way Oriental architecture might be comprehended, — the vague idea of the slender palm and of its bouquet of leaves, with the Arabs; and the vague idea of the colossal, prolific, dilated and bristling vegetation of India. In any event, I have never seen a church in which the aspect of northern forests was more striking, or where one more involuntarily imagines long alleys of trunks terminating in glimpses of daylight, curved branches meeting in acute angles, domes of irregular and commingling foliage, universal shade scattered with lights through colored and diaphanous leaves. . . . A day might be passed here as in a forest, the mind as calm and as occupied in the presence of grandeurs as solemn as those of nature, before caprices as fascinating, amidst the same intermingling of sublime monotony and inexhaustible fecundity, before contrasts and metamorphoses of light as rich and as unexpected — a mystic reverie combined with a fresh sentiment of northern nature; such is the source of Gothic architecture."

Mark that this was at the *close* of the Middle Ages when Gothic art had reached "its triumph and its extravagance."

Compare M. Taine's view with that of Mr. Ruskin and we can form an idea of the confusion that exists on the subject at the present time.

"I have before alluded," Ruskin writes, "to the strange and vain supposition that the original conception of Gothic art had been derived from vegetation, — from the symmetry of avenues and the interlacing of branches. It is a supposition which never could have existed in the mind of any person acquainted with Early Gothic; but however idle as a theory, it is most valuable as a testimony to the character of the perfected style. It is precisely because the reverse of this theory is the fact, because the Gothic did not arise *out of*, but developed itself *into*, a resemblance of vegetation that this resemblance is so instructive as an indication of the temper of the builders. It was no chance suggestion of the form of an arch from the bending of a bough, but a gradual and continual discovery of a beauty in natural forms which could be more and more perfectly transferred into stone that influenced at once the heart of the people and the form of the edifice." Had he only stopped here! But he goes on: "The Gothic architecture arose in massy and monotonous strength, axe-hewn and iron-bound, block heaved upon block by the monk's enthusiasm and the soldier's force, and cramped and stanchioned into such weight of grisly wall as might bury the anchorer in darkness and beat back the utmost storm of battle; suffering, but by the same narrow crosslet, the passing of the sunbeam, or of the arrow. Gradually as that monkish enthusiasm became more thoughtful, and as the sound of war became more and more intermittent beyond the gates of the convent on the keep, the stony pillar grew slender, and the vaulted dome grew light, till they had wreathed themselves into the semblance of the summer woods at their fairest, and of the dead field-flowers long trodden down in

blood; sweet monumental statues were set to bloom forever beneath the porch of the temple or the canopy of the tomb."

When two such writers differ so diametrically and give to their opinions such beautifully clear and forcible expression, — prose-poetry you might call it, — it is not surprising that the mass of readers, devoting less time and thought to the subject, should be confused.

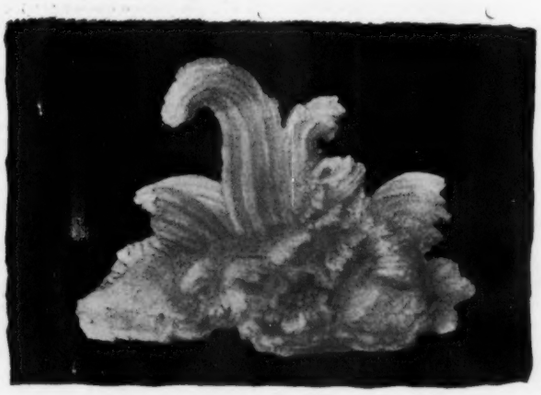
But when Mr. Ruskin, whose accuracy in all the minutiæ of art even his bitterest opponents admit (Nordau himself included) — when he proceeds to give his own "strange and vain suppositions" as to the real origin of the Gothic one is forced to wonder how any one, acquainted as he certainly must have been with the Early Gothic, should have so hopelessly confounded it with those Early Christian structures, built, as they were, for places of refuge as well as of worship, built necessarily with massive axe-hewn walls, like the castles and fortresses of the time, to resist the invasions of hostile tribes and the no less dreaded incursions of the robber-barons. Nothing could be more remote in spirit or in expression, in form or structure, or motive, from those mediæval strongholds than the open, light, graceful buildings that took their place, bringing about a revolution in architecture, which is, to this day, an enigma to the world, not only from the radical change in the art of building that it introduced but from the *rapidity* with which it supplanted all other styles extant, and for over three centuries reigned supreme in Western Europe, even the diversity of tongues — Latin, Gallic, Slavic, Celtic — having had no power to stay its course.

Though we are assured that the Gothic can fit itself most easily to all services, noble or vulgar, that, undefined in its slope of roof, height of shaft, breadth of arch, or disposition of ground-plan, it can shrink into a turret, coil into a staircase or spring into a spire with undegraded grace and unexhausted energy, one is forced to protest. The attempt to trust to a Gothic structure as a place of defence in a siege might prove a hazardous experiment. Bravely as the ravages of time, the great destroyer, have been resisted by these noble structures, a single storm of shot and shell — even a battering ram — would have made sad havoc among the flying-buttresses, the spires and pinnacles.

The folly of erecting in stone buildings so little suited to the exigencies of the times in which this great school of architecture had its birth is obvious, and readily accounts for the scarcity of mediæval remains.

Never, since art has been written upon at all, we are told, has so vast a number of publications on every branch of it been given to the world as within the last thirty years have been devoted to the illustration and history of Gothic architecture.

With this vast amount of research, with all the erudition brought to bear upon the subject, among the many fantastic speculations and vague guesses, this "evolution theory," so-called, seems to meet with the most general approbation.



From the Mammoth Cave.

The idea that this great school of architecture was slowly and gradually evolved from the *process of vaulting* (no method of accounting for said process being offered) has been warmly controverted, but to this day, so far as I can ascertain, no more acceptable theory has been proposed. This theory of gradual evolution is not borne out by the historical facts in the case. The process of vaulting had evolved itself into the massive axe-hewn style of the Early Christian builders — the Lombardic, the Romanesque, the Norman — long centuries before the Gothic put in an appearance. The evolution, accordingly, in this case, was a backward process, a lopping-off, a refining away; not a growth, not a development. To evolve presupposes a germ which gradually unfolds itself.

Not until after the Gothic had reached its culmination did another, a different sort of development, take place — a growth in the sense of material enlargement, a growth in height, in breadth, in costliness, in luxury, in superfluity, in wantonness.

Naturalistic plant designs were brought to the highest degree of perfection. Geometric designs with fan-like traceries brought from the East, perhaps by the Crusaders (and having most likely a similar *cavernous* origin), though wanting in the freedom and vigor of the decorations already in use, were readily adopted and, though criticised by some as an innovation, were, and still are, greatly admired, particularly in England.[1]

These departures led to many vagaries. But the hardest blow to Gothic art came from the hands of its friends, the pious monks, by the introduction of statuary. Thus the flood-gates were opened to endless innovations. The result has been that numberless composite styles (some also of marvellous beauty) have grown from the original. Many incongruous combinations have also appeared.

The great principle was lost to sight upon which the school is based: that every part, including what might at first sight seem as mere ornament, should have a constructive value. Every useless decoration therefore, however admirable in itself, is a blemish. But each builder, inspired by the flexibility as well as by the grandeur and grace of the style, has added or attempted to add something of himself; each location has supplied some design, some decoration characteristic either of its own history or of its own times; heraldic devices have been used; statuary of all kinds, ranging from saints and angels to demons, the beasts of the field, the birds of the air, the fishes of the sea, and strange nondescript monsters composed of all of them in one, dragons and reptiles and hideous, grinning imps. Nothing was too elaborate, too grotesque, or too fiendish to suit the meretricious taste of the time, or to illustrate the low ebb to which the Church had fallen through the luxury, the self-indulgence, the corruption of the priesthood, and the ignorance of the priest-ridden people.

It was thus and by such evolution this noblest style of church-building was done to death. M. H. McDOWELL.

[To be continued.]

THE FACE-BONDING OF BROKEN ASHLAR.

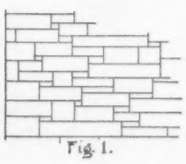


Fig. 1.

IF one may judge anything from architects' drawings and from illustrations published in some of our best text-books on the subject of masonry construction, there is much need for observation on the part of those called upon to make or accept such drawings. The word "observation" is used advisedly, for certainly few architects would ever allow face-walls to be bonded as many allow them to be shown on drawings; and it would be an ignorant inspector indeed who would pass such work as is used to illustrate the bonding of broken or random ashlar in many of our best works on masonry construction. That we have so much really good rubble and ashlar work in this country is more to the credit of the workmen and the superintendents than to that of the men who make the drawings. However, the purpose of this article is not so much to find fault as to offer a few suggestions that may be of use in drawing, building, and inspecting certain kinds of stone walls.

In speaking of bonding here, reference is made only to the bonding of the face-stones with one another and not to the bond in the thickness of the wall, though the latter, of course, is not to be neglected as a measure of good construction. The bonding of a rubble-wall offers few difficulties ordinarily, the principal requirements being to keep beds as nearly horizontal as possible and to see that vertical joints are well broken and not too long. In coursed work the bonding is so simple as practically to care for itself; but it is with broken or random ashlar that the difficulty occurs, and the following suggestions, which have been gradually formulated from a considerable experience as a superintendent, from hints dropped by workmen, and from careful observation of executed work both good and bad, are offered as a guide for the proper face-bonding of this kind of masonry: —

First. — All stones should be perfectly rectangular, no re-entrant angles being allowed, as such re-entrant angles are never cut except to save a stone that has been damaged by having a corner knocked off and are, therefore, *prima facie* evidence of patchwork.

Second — The horizontal dimension of a stone should always be greater than the vertical dimension except in the case of quoins, where it is sometimes, though not always, permissible to make the short end less than the vertical height.

Third. — No stone should be superimposed directly upon another stone of exactly the same length, thus bringing the end joints of both in the same vertical lines, except in the case of comparatively narrow piers, where this may be necessary to avoid the appearence of coursed work. (See Fig. 2.)

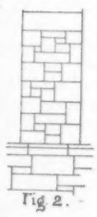


Fig 2.

Fourth. — Stones should not be so laid that four corners come together at a single point.

Fifth. — The number of stones abutting upon a single vertical joint (counting stones on both sides of the joint) should usually be three or four and should never exceed five; and the number of stones abutting upon a single horizontal joint should never exceed seven.

Broken range ashlar is exactly the same as broken (or random) ashlar, except that it is laid with numerous long horizontal joints. Aside from this it should be governed by the same rules that govern the laying of broken ashlar.

Figure 1 of the accompanying illustrations is a carefully measured drawing from a well-known building by the late Mr. Richardson and

[1] The ceiling of the chapel of Henry VII, in Westminster, is a specimen of this Oriental style, and is often alluded to by writers as resembling stalactites.

is a fair example of good broken ashlar. The drawing has the effect of emphasizing the extreme difference in the size of the stones used; but the difference here is not nearly so great as in much of Mr. Richardson's work, and it is much more apparent in the drawing than in the executed work. Figure 2 is a drawing of a pier in a recently erected building and illustrates allowable variations from Rules 2 and 3. Figure 3 is a drawing that is certainly no worse than Figures 4 and 5, but it illustrates nearly all of the possible bad points in the bonding of broken ashlar. Stone *a* is cut in violation of Rule 1; *b* and *c* are set in violation of 2; *d* and *e* in violation of 3; *c*, *d*, *e*, and *f* in violation of 4; and adjoining these stones are the long vertical and horizontal joints forbidden by Rule 5. Figure 4 is an illustration taken from what is undoubtedly one of the best books ever written on the subject of masonry construction. The book is a large 8vo. of 356 pages, sells for $5.00, and is now in its eighth edition. Figure 5 is a similar illustration taken from another $5.00 book that is now in its fifth edition and the author of which takes eight lines on the title-page to write his name, degrees, honorary titles, etc. Both of these illustrations (Figs. 4 and 5) are by their authors presented to the reader in good faith as typical examples of broken ashlar, and they are reproduced here as a justification for the discussion of so familiar a subject. Shown in conjunction with Figure 1, and compared with Rule 1, they require no further comment.

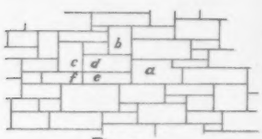


Fig. 3.

It should always be borne in mind, however, that most rules are better followed in the spirit than in the letter and that those here given are simply the formal presentation of a few well-established principles, which, though unformulated, have really governed the men who have done the best work of the kind under discussion.

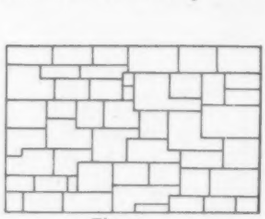


Fig. 4.

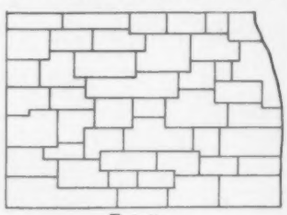


Fig. 5.

Clarence A. Martin.

THE CIVIL ENGINEER AS A GUARDIAN OF THE PUBLIC HEALTH.[1]

THE sphere of the engineer has rapidly widened with the new applications of scientific knowledge in the promotion of the convenience, the comfort and the happiness of mankind. The widening of this sphere has also led to a multitude of subdivisions of engineering work, and even the field of civil engineering is often subdivided. But since any civil engineer is liable to be called upon to provide means to promote the general health of the community, I shall here consider the duties of civil engineers as a class in the field of public sanitation.

Sanitary science may be said to have grown along with the science of bacteriology. While Jenner, with vaccination as an antidote for small-pox, in 1798, took the first important step in the way of prevention of disease, the means to be employed for the general avoidance of all kinds of infectious diseases could not have been formulated until the specific causes of these diseases had been found. The proof that all infectious and contagious diseases, together with several not hitherto so considered, such as malarial and intermittent fevers, are caused by taking into the system, either in the air we breathe, in the water we drink, or in the food we eat, pathogenic or disease-producing bacteria, has now been established beyond a peradventure. As soon as this is admitted it becomes somebody's duty to look well to the elimination of these ailments by preventing their causes from reaching their natural prey. On reflection it will be found that the carrying-out of these preventive measures devolves largely upon the civil engineer, and furthermore, he is called upon to determine what measures will prove at once most economical and most effective in preventing the spread of these fatal maladies. Our census reports indicate that fully 40 per cent of all deaths occurring in the United States are from these ordinary germ diseases. These are, in the order of their virulence, consumption, pneumonia, diarrheal diseases, diphtheria, typhoid fever, malarial fever, measles, whooping-cough, scarlet-fever and small-pox. It will be noted that these do not include such occasional visitations as cholera and yellow-fever, but only those ordinary, every-day diseases which are found with more or less frequency in almost every community.

The tracing of all these species of sickness to the ravages of micro-organisms which are not native to the human body, but which find, in weakened or diseased systems, conditions favorable for their propagation, has created a greater revolution in our lives, and is likely to be of far more benefit to the race than Darwin's and Spencer's theory of evolution, or than all other discoveries of this century combined. Second only in importance to these discoveries of the causes of infectious diseases come the various means of prevention which have already been found, most of which it is the business of civil engineers to provide. Now, I hold that if the provision of the preventive means falls within the sphere of duties of the civil engineer, *then it becomes his further duty to thoroughly inform himself as to all these causes and remedies, and to lead in the work of educating the public to the point of providing the necessary legislation and funds to carry out such measures and to build such works as are required.*

Here is where the emphasis of this paper lies. I believe civil engineers as a class are not sufficiently informed on this subject, and, further, that those who are informed are not sufficiently zealous in leading in the campaign of education required in every community in order to get the necessary acts passed and the funds provided. Engineers are known for their extreme modesty; but modesty becomes culpable neglect when it keeps us from coming forward at any and all times to aid in forming the right kind of public opinion on these subjects.

I wish it distinctly understood that I include myself in this condemnation. We are, I believe, all alike guilty of culpable negligence in this matter. For instance, out of the 1,400 active members in the American Public Health Association in 1894 there were listed but 33 engineers, only one of whom was from this city. Practically all the rest were physicians. This is a ratio of 42 physicians to one engineer, who are struggling in America with the sanitary problems of the age. It may be that this is about the ratio of the total membership in these two professions in this country, but I should be surprised to learn that the disproportion is so great. As that association is doing a vast amount of good in gathering and disseminating information on this the greatest of all sciences, so far as life and health are concerned, surely it should be better supported by the engineering profession. We should remember that it is the primary duty of physicians to cure disease, whereas it is the primary duty of the sanitary engineer to prevent it. We should expect to see, therefore, a public-health association, devoted to the prevention of disease, composed mainly of bacteriologists and sanitary engineers rather than of physicians. It is greatly to the credit of the medical profession and to the discredit of the engineering profession that the reverse is the case.

Let us now try to evaluate the engineer's responsibilities in these matters. You will all admit that it is solely the engineer's business to provide the drinking-water, to dispose of all sewage and garbage wastes, to make healthful streets and alleys and to keep them clean. The business of heating, lighting and ventilating large assembly-halls, hospitals, school-buildings and railway-stations and cars is also now coming to be regarded as the business of engineers, and soon the artificial cooling of such buildings will be added to their duties. But the census reports show that one death in every seven is caused either by a diarrheal disease or by typhoid, malarial or intermittent fevers, and nearly all these deaths are known to be caused by impure drinking-water. In the year 1890 over 120,000 persons died in the United States of these diseases, and without doubt we may charge this number of deaths to the use of impure water.

It is further shown that the average annual death-rate in 1890 from typhoid fever alone was the same in the large cities as in the smaller towns and country, being in both cases an average of 56 in every 100,000 persons. In 1896 this rate had fallen to about 30 in 100,000 in twenty-eight of the leading cities, owing to improvements made in the drinking-water in the meantime. Thus the Chicago rate dropped from 83, 160 and 104 per 100,000 in 1890, 1891 and 1892 to 31, 32 and 46 in 1894, 1895 and 1896 respectively. This was traceable directly to bringing into service the water-inlet four miles from shore in place of two miles out, which change was made in 1893. That is to say, this change in the intake of the water-supply reduced the deaths from typhoid fever in that city during the three years, 1894, 1895 and 1896, from 1,856 to 576, or a saving of 1,280 lives annually.

If a life is worth $5,000, as the laws of many States, including Missouri, have determined, then the money value of the lives saved in these years and since has been over $6,000,000 annually. If to this we add the value of the loss of time by sickness on the part of those attacked by this disease and who recovered, which is usually about six times as many as die, we have a saving of 7,680 cases of typhoid sickness. If we estimate a loss of six weeks' time to each patient, and a combined money loss of time and expense of $200 for each case, we have $1,500,000 more to be credited annually to the

[1] Extract from a paper by J. B. Johnson, Member of the Engineers' Club of St. Louis, read before the Club, November 16, 1898.—*From the Journal of the Association of Engineering Societies.*

improvement caused by taking the water from a point two miles farther out in the lake.

Again, the City of Lawrence, Mass., had an annual typhoid-fever death-rate in 1890 of 123 per 100,000, but after the use of filters in 1892 the death-rate from this cause fell off to 15 per 100,000 in 1896, or to less than one-fourth the former number.

But even this number of typhoid fatalities is large in comparison with that in many of the cities of Europe. Although in these cities the water is very often taken from very polluted streams, yet it is effectively and intelligently filtered under Government regulation and supervision until practically a perfect drinking-water results. Thus in 1896 the average annual death-rate from typhoid fever in Berlin, Vienna, Hamburg, Munich, Hague, Dresden, Stockholm, Copenhagen and Breslau was only 5 per 100,000, while the best American average of 16 or 17 could be made up from the cities of New York, Brooklyn, St. Louis, Lawrence and Milwaukee.

There is no American city found in the first class of European cities named above, while Atlanta, Pittsburgh, Denver and Jersey City fell in the lowest class (in 1896) along with (but not so bad as) Alexandria, Cairo and St. Petersburg. As showing how far behind we are, it need only be said, that no city in all Germany is allowed to supply an unfiltered surface-water to its inhabitants. Even so pure a source of supply as Lake Zurich, at the foot of the Alps, has, at times, been the source of typhoid fever, and now all the water coming from it for domestic uses is carefully filtered. There is, in fact, no surface-water free from contamination either by man or by domestic animals, so that we should immediately adopt the one and only means for purifying these waters for drinking purposes — viz, sand-filtration. Although America has the credit, in the experiments carried out under the Massachusetts State Board of Health, of establishing most clearly the efficiency of sand-filtration and the reasons therefor, Europe had long been practising the method and reaping its practical advantages. On the contrary, while we have fully established the theory of the efficiency of sand-filters, we have made little or no progress towards availing ourselves of their benefits. In this, as in many other directions, we are trusting to luck, or to the "genius of American institutions," or to the "hand of destiny," or to some such *ignis fatuus* to bring us along all right without being obliged to plan our lives and to guard the public health by means of these extraordinary precautions which "the effete nations of Europe" find it necessary to take.

While the annual typhoid-fever death-rate of St. Louis is now only about 20 per 100,000, in 1892–93 it rose to 103 and was considered epidemic. It is now just a year since a terrible epidemic of typhoid fever raged at St. Charles, Mo.,[1] *three per cent of the entire population being attacked and the death-rate being 250 per 100,000 population.* This epidemic was traced to a local contamination of the water-supply from their own sewer system,[2] whereas the St. Louis epidemic was not traced to any local cause. If the same proportion of citizens of this city had been striken down with typhoid fever we should have had 18,000 cases and over 1,500 deaths. What a terrible possibility this is to contemplate! Now, in the case cited at St. Charles, somebody is surely responsible. The sewage contamination was well known to the city engineer, and presumably to the other city officers. The danger arising from such contamination was also well known, or should have been.

As a sequel to a similar epidemic at Ashland, Wis., in 1893–94, a case was tried in the State courts in November, 1897, wherein the company supplying the city with polluted water was held liable for the death of the deceased in the (legal) sum of $5,000. I have not heard of this case being reversed[3] by a higher court, and if it should stand it will become a leading case in making the authorities responsible for the lives of the victims of their own negligence.

If a man loses life or limb by falling into an unguarded excavation or into a cellarway on a city street, he collects damages from the city. Why should he not obtain damages for disease brought upon him through the culpable negligence of city officials in any other direction? I believe he should, and I also believe we are now ready to make such suits lie against any city or private corporation furnishing polluted water to the citizens. What more right have they to sell to unsuspecting citizens a drinking-water containing the seeds of fatal diseases than they have to sell a poisonous drug as a medicinal remedy, or to take life and health in any other way? Evidently they have no more right, and as soon as the state of science becomes such as to make certain to the minds of twelve jurymen that the drinking-water was the cause of a death, and that the authorities had been warned and had reason to believe that the water was polluted, and yet continued to supply it, just so soon can the legal compensation be collected by the heirs of the deceased.

When this day arrives it will soon be discovered that preventive means cost a great deal less than the damages will amount to at $5,000 per death. And then our cities will be driven to devise the appliances and our city governments to furnish the means for freeing the drinking-water from these fatally poisonous germs. But does the conscientious civil engineer who knows, or ought to know, the character of the water he is supplying, and the dangers resulting from its use, propose to sit idly by till he is compelled to act as a means of economy only to avoid legal liability? Such a man should be unworthy of our respect; and yet such is exactly what all we civil engineers in America are doing as a class. One would suppose that as soon as a public official becomes satisfied that he is furnishing a polluted water to the inhabitants over whom he is placed as a guardian in this respect he surely would immediately exert himself to the utmost to have the city water taken from a purer source or purified by an efficient system of filtration. But the accomplishment of either of these ends involves the education of the citizens up to the point of acting in this matter and agreeing to pay the cost of the proposed change. In this country all improvements come from the people themselves, and hence come much more slowly than they do in a country like Germany, where a few men only need be convinced of the necessity of a given measure and it is done. All the more reason, therefore, in this country that the few who do understand the necessity of any proposed change should consider themselves charged with the duty of forming and leading public sentiment by all suitable means to hasten the dawn of a better day. And the civil engineer knows, or ought to know, for it is his business to know, the relation between water-supply, sewerage, street and alley conditions, the condition of school premises and buildings, and the air conditions in assembly-halls, in street and railway cars, in hospitals and in asylums — he knows, I say, the relation of all these to public health, and, as the construction and operation of all these fall within his professional jurisdiction, he is in duty bound to continually do what he can to teach and lead the public in such matters.

[1] A town of 7,000 inhabitants on the Missouri River a few miles above its mouth.

[2] See article by Dr. H. H. Vinke, in *The Medical News*, July 30, 1898.

[3] Since the above was in type I learned that the Ashland judgment was reversed in the State Superior Court, on the ground of contributory negligence. It was shown that it was common knowledge, and had been for months previous, that the water was polluted, and it was further held that the water company was only a carrier. This case would seem to clear a private corporation, but whether or not it would clear a city corporation furnishing water to its own people is another question. The private corporation could be attacked on its contract with the city to furnish pure and wholesome water, in a suit brought either by the city or by a citizen, but as it is a creature of the City Government, the city itself would seem to be the proper party to look to for damages for allowing impure water to be furnished to the citizens. The case, therefore, does not bear the marks of finality. — J. B. J.

SOCIETIES

WORCESTER CHAPTER, A. I. A.

THE Worcester Chapter of the American Institute of Architects held its annual meeting at the office of Earle & Fisher, State Mutual Building, and elected the following officers for the ensuing year: *President*, Stephen Earle; *Vice-President*, James E. Fuller; *Secretary and Treasurer*, Geo. H. Clemence.

At the close of the meeting the members accepted an invitation of Mr. George H. Clemence to inspect the new Fire-Department Headquarters.

GEO. H. CLEMENCE, *Secretary.*

ILLUSTRATIONS

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

HOUSE OF GARDNER G. HUBBARD, ESQ., GEORGETOWN, D. C. MR. FRANCIS R. ALLEN, ARCHITECT, BOSTON, MASS.

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

A COMPETITIVE DESIGN FOR THE PUBLIC LIBRARY, PAWTUCKET, R. I. MESSRS. YORK & SAWYER, ARCHITECTS, NEW YORK, N. Y.

A COMPETITIVE DESIGN FOR THE PUBLIC LIBRARY, PAWTUCKET, R. I. MESSRS. CABOT, EVERETT & MEAD, ARCHITECTS, BOSTON, MASS.

HOUSE OF MRS. EDWIN GREBLE, PASADENA, CAL. MR. T. W. PARKES, ARCHITECT, PASADENA, CAL.

MISS ORTON'S SCHOOL, PASADENA, CAL. MR. T. W. PARKES, ARCHITECT, PASADENA, CAL.

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

NEW PORCH ON THE WEST FRONT OF THE CATHEDRAL, METZ, GER. PAUL TORNOW, ARCHITECT.

THIS plate is copied from *Deutsche Bauzeitung.*

A COMPETITIVE DESIGN FOR THE PUBLIC LIBRARY, HYDE PARK, MASS. MR. GEO. HUNT INGRAHAM, ARCHITECT, BOSTON, MASS.

[Additional Illustrations in the International Edition.]

BROOKLYN SAVINGS BANK, PIERREPONT AND CLINTON STS., BROOKLYN, N. Y. MR. FRANK FREEMAN, ARCHITECT, NEW YORK, N. Y.

[Gelatine Print.]

A COMPETITIVE DESIGN FOR "SHATTUCK PRIZE" FOR ARTISANS' HOMES [OPEN COMPETITION.] SUBMITTED BY MR. J. PH. RINN, ARCHITECT, BOSTON, MASS.

MATERIAL.

OUTSIDE walls, one thickness of brick laid up against and tied to boarding on 2″ x 3″ studs. Brick may be either the red water-struck face-brick or the pumice-brick, which is white in color. Walls and ceilings plastered two-coat work; two inches concrete on cellar-floor; floor timbers 2″ x 10″ spruce; roof timbers 2″ x 6″ spruce; floors to be spruce; standing-finish to be of pine painted; roof to be covered with metal; house piped for gas and heated by furnace.

NOTE. — This scheme is for mechanics who earn from $2.50 to $3 a day. The circular plan produces seclusion. Building made more fireproof with brick on outside.

STATEMENT OF COST.

Cost of house per sq. ft.	$3.02
" " " " cubic ft.	.12½
Cost of land	$26,136
" " houses	83,200
" " sidewalks and streets	4,400
" " sewers and drains	1,600
" " trees, hedges and grass	1,000
Architect's commission	4,510
Total cost	$120,846
Rental from houses	$9,984
Less taxes, water-rate, repairs, insurance, rent collection and loss of rental	2,734
Net income	$7,250

Showing 6 per cent on capital invested.

PLANS OF THE SAME.

SOUTH STREET, BERKELEY SQUARE, LONDON, ENG. MR. J. J. STEVENSON, ARCHITECT.

RAPHAEL HOUSE, MOORFIELDS, LONDON, E. C., ENG. MR. W. HILTON NASH, ARCHITECT.

NOTES AND CLIPPINGS

THE FIRE CURTAIN OF THE PARIS OPERA-HOUSE. — The new fireproof curtain for the Paris Opera-house, to be lowered after each representation or in the event of accident or panic, is to be made of aluminium plates 3-32 inches thick, 13 feet long by 3 feet 3 3-8 inches wide, representing a surface of nearly 3,229 square feet, while weighing 1.8 ton, whereas a similar curtain made of iron would weigh nearly 5 tons. — *Invention.*

CÆSAR'S PILLAR. — Archæologists in this country have been much excited by the reports of remarkable discoveries on the site of the Forum at Rome, and nowhere are these being watched with more interest than at the British Museum. Dr. Stuart Murray, keeper of the Greek and Roman antiquities, explains that the excavations were begun about two months ago, at the cost of the Italian Government, under direction of Signor Bacelli, Minister of Public Instruction. Already the clearance of much accumulated earth and broken masonry has greatly improved the aspect of the classic spot, and the work is still being carried on. Careful examination of the famous Rostra Vetera has proved what has long been believed to be the case, namely, that at its northern end was an inscription written by Valentinus, and almost all the base mouldings and cornices are now revealed. Even more is expected as the work around the Temple of Cæsar proceeds, as the earth has never been moved in that space between its front wall and the supposed third-century wall at a little distance. According to Suetonius, a pillar was put up to mark the spot on which "Imperial Cæsar's" immortal remains were cremated, though this was afterwards removed by Augustus. The remains of the base of what is evidently this column have been found, standing upon a mosaic pavement of great beauty, and doubtless ere long we shall hear more of it through one or other of our learned societies. Another discovery is also of interest. The excavators have found what is called the "niger lapis," or black marble slab, which by some is supposed to mark the grave of Romulus, but as the founder of Rome was translated into a god, it is hardly likely that any permanent and public memorial of his mortal remains would have been constructed. However, the "niger lapis" had always been associated with Romulus and the she-wolf who is supposed to have suckled him, and it will be interesting to know what the stone really covers. It doubtless marks the sepulture of some ancient and distinguished person associated with the early fortunes of the famous capital. — *London Telegraph, January* 12.

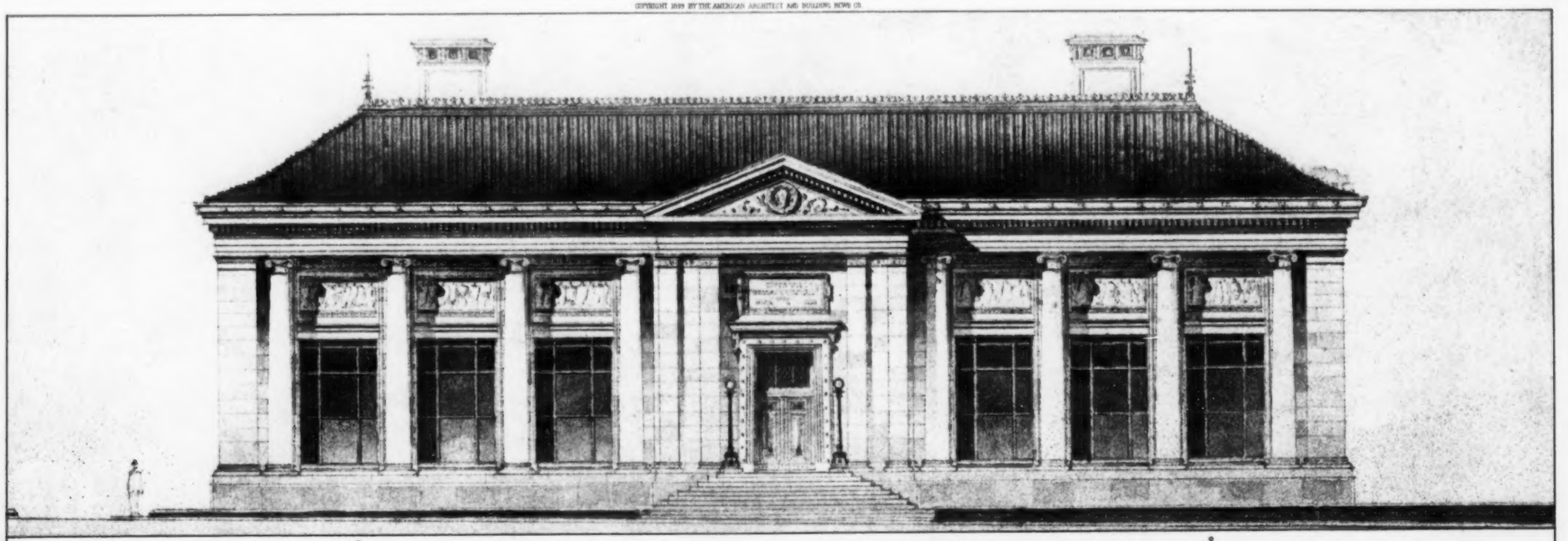
PERCOLATION THROUGH BRICK AND STONE. — The results of some experiments to ascertain the most effective material for checking the percolation of water through brick or stone work are given by Mr. A. W. Hale in a recent number of the *Engineering and Mining Journal.* The investigation was mainly carried out in connection with the new Croton aqueduct of New York, and the substances employed in the experiments were numerous and varied. It was found that Portland cement gave the best results, and that the hydrocarbons, which are commonly regarded as suitable materials for rendering brick or stone impervious to water, oxidized by exposure to air and gradually disappeared. It was also found that a brick was rendered impervious to water by cement more rapidly when the cement was applied as a wash by means of a brush than when applied with a trowel in the usual manner. A brick which had been treated with four cement washes was found at the expiration of two months to be quite impervious to water, even under a pressure of 200 pounds per square inch. — *The Builder.*

SHINGLE ROOFS FOR RUSSIA. — In view of the terrible loss sustained in Russia every year through accidental fires in the villages, efforts are being made by the Government to induce the peasantry to employ some less dangerous material than straw thatch for the roofing of their izbas. For some time past there has been a considerable increase in the use of "shingle" in place of thatch, with the object of diminishing the risk of fire; and this, in its turn, has led to a very large importation from Germany and Belgium, and more recently from the United States, of simple and inexpensive shingle-making machines for use in rural districts. Shingle must be made in the district in which it is to be used, as it would not pay for distant transport in Russia, and this necessitates the use of a very large number of small machines. German machine manufacturers, whose "Commercial Intelligence Department" is remarkably well informed, are now making redoubled efforts to meet the immense demand anticipated. An improved and inexpensive hand fire-engine is also being provided. The employment of shingle for roofing in the manner generally adopted in Russia entails the use also of roofing felt or paper. Nearly the whole of this is imported from abroad, and the demand is constantly increasing. — *London Saturday Review.*

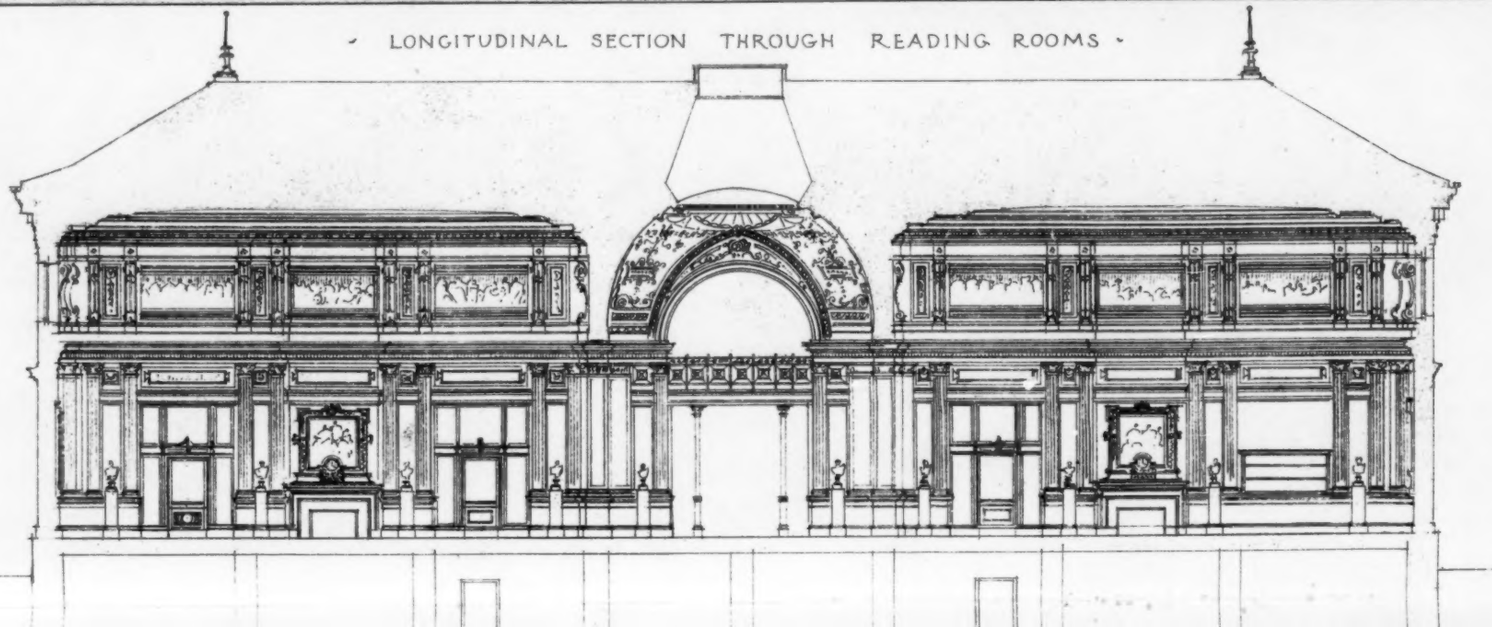
FOREST-PRESERVATION IN WISCONSIN. — Wisconsin can make a start in an intelligent system of caring for the forest interests of the State if legislative approval can be had of a bill prepared by the State Forestry Commission authorized by the Legislature two years ago. Forestry is not an experiment, the Commission thinks it necessary to tell the lawmakers, but has long been an accomplished fact in foreign countries. To introduce the system in Wisconsin will not be difficult, the Commission says. The State lands not yet sold can be used as a nucleus, and the unsold general Government lands could be brought into the plan by coöperation on the part of the Department of Agriculture. In addition the Commission has received assurance from a large owner of forest lands in Northern Wisconsin that he will donate several hundred thousand acres to the State forest preserve if one is established. The report says that the establishment of such a system of State forests is absolutely necessary for the preservation of the Wisconsin forests, and for the well-being of the climate and water-supply of the State. The bill accompanying the report provides for a department of State forests, with power to employ the necessary number of district foresters. It would prohibit the further sale of public lands which are suitable for the growing of trees, and it would authorize counties to have forest preserves in whatever way they may acquire them, such county preserves, however, to be under the supervision of the State Department. — *N. Y. Evening Post.*

THE ELEVATOR AIR-CUSHION IN THE EMPIRE BUILDING, NEW YORK. — One of the most extensive and elaborate applications of the elevator air-cushion is to be found in the Empire Building, New York. The building is a twenty-story office-building, recently completed, and provided with all the most modern appliances and conveniences. There are ten elevators, of the high-speed hydraulic type, arranged in two groups of five each. While nine of the elevators are distinctly for passenger-service, one is more powerful and is capable of lifting safes weighing 8,000 pounds. Each shaft is entirely independent from the floor of the third story to the bottom, and is inclosed by walls which are not perforated except by the door-openings. This forms the air-cushion proper, which is about 50 feet in depth. The doors of the main floor and of the second floor are in two parts, which slide in recesses in the wall. These are of bronze and of ample strength to resist the air-pressure that would come upon them if a car should fall. The usual open ironwork is entirely absent on these two floors, solid masonry replacing it. The cars have also been strengthened with the view of resisting this pressure. The shaft-walls are battered for a short distance below the third-story floor. The shaft at this point is 10 inches wider than the bottom, the batter extending just below the second floor. This provides a graduated air-escape and adapts the cushion to any fall which the car may make. The car fits more closely in the lower portion of the shaft, the walls of which are vertical. It has been estimated that the air-cushion should be in proportion of 1 to 6 of the travel; in the present instance the cushion is 50 feet and the travel 287 feet. In the bottom of each shaft is a suction-valve which opens inwardly as the car ascends, thus preventing the vacuum which would result from the car leaving the cushion. There is also an escape-valve, which opens outwardly into the atmosphere. It is so adjusted as to sustain the weight of a car under ordinary conditions, but will, in case of accident, relieve the cushion of undue pressure when the car falls. It has been calculated that the pressure in the air-cushion, if a car should fall from the top, would be 3 1-2 pounds to the square inch. On July 18th a car weighing 2,000 pounds was dropped from the twentieth story. The efficiency of the cushion was shown by the fact that the eggs and incandescent-lamps carried upon the floor of the car were uninjured. — *Iron Age.*

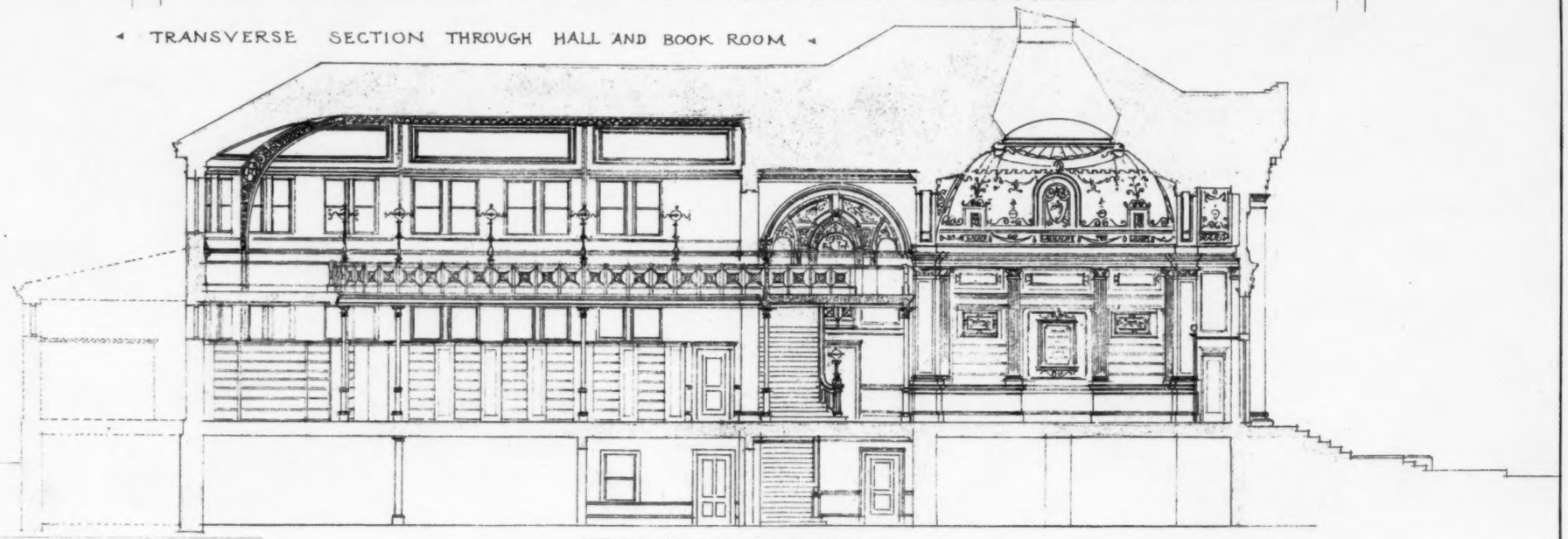
S. J. PARKHILL & CO., Printers, Boston, U. S. A.

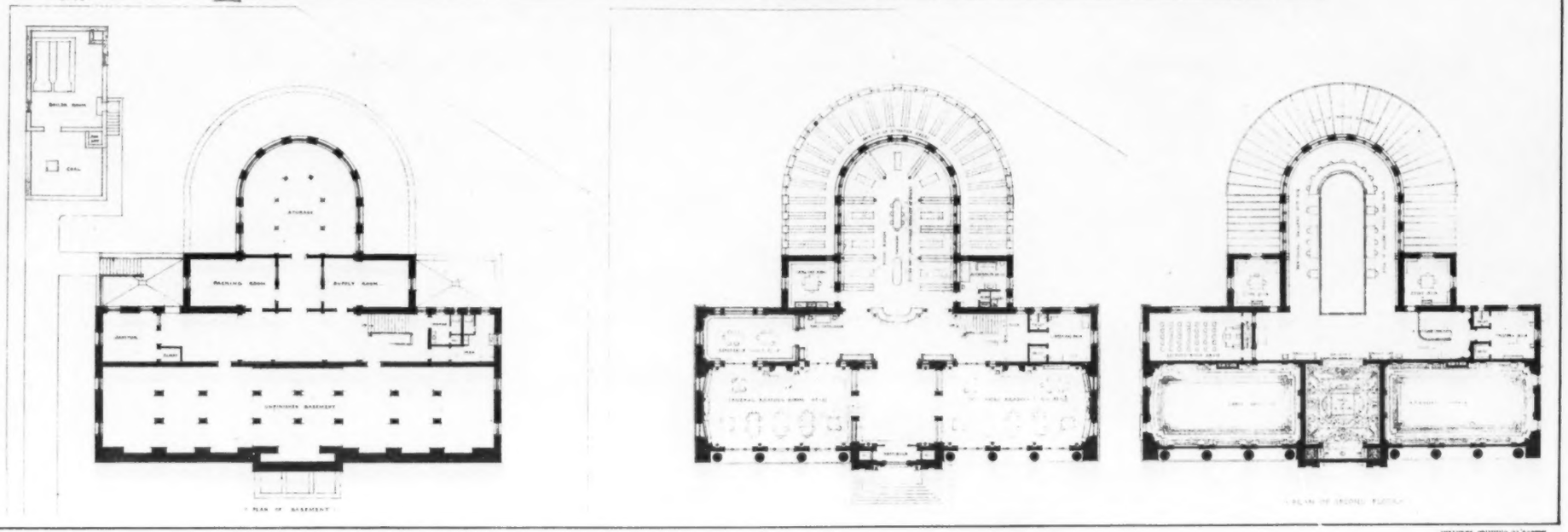


LONGITUDINAL SECTION THROUGH READING ROOMS



TRANSVERSE SECTION THROUGH HALL AND BOOK ROOM





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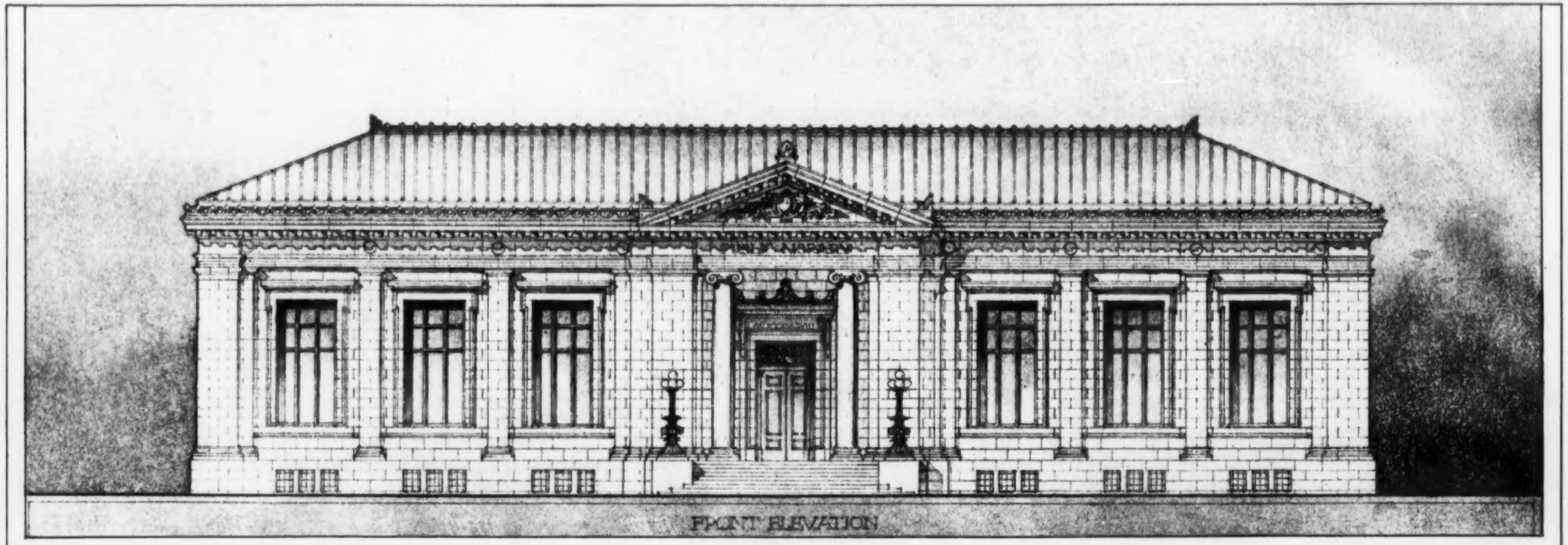
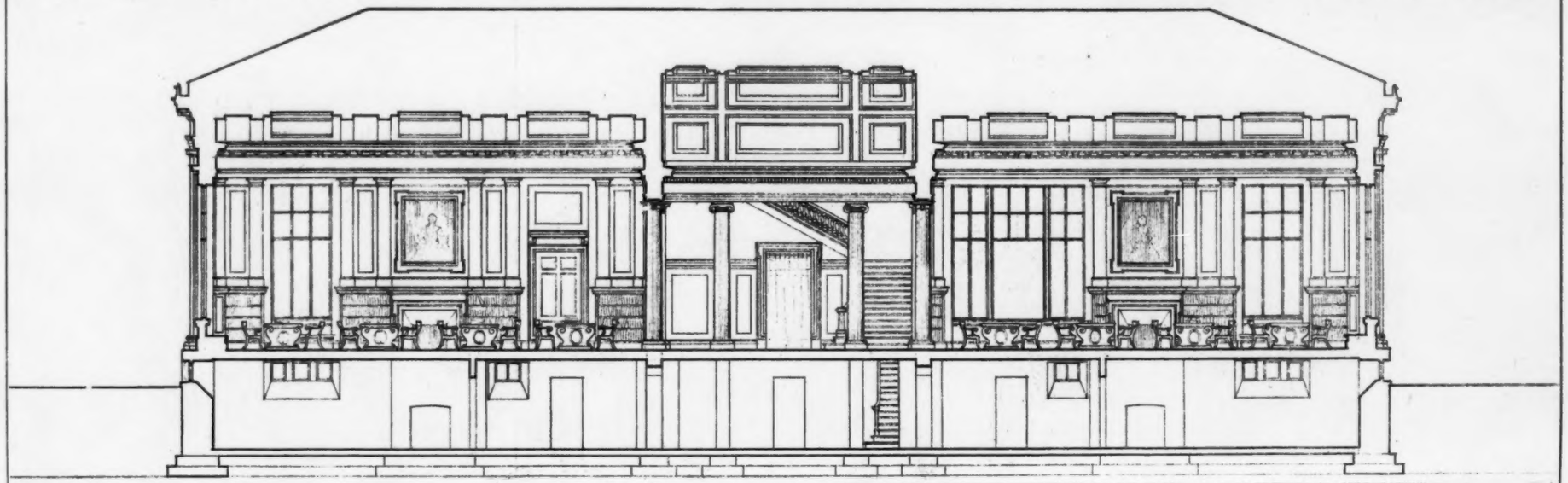
CABOT, EVERETT & MEAD, ARCHITECTS.



FRONT ELEVATION



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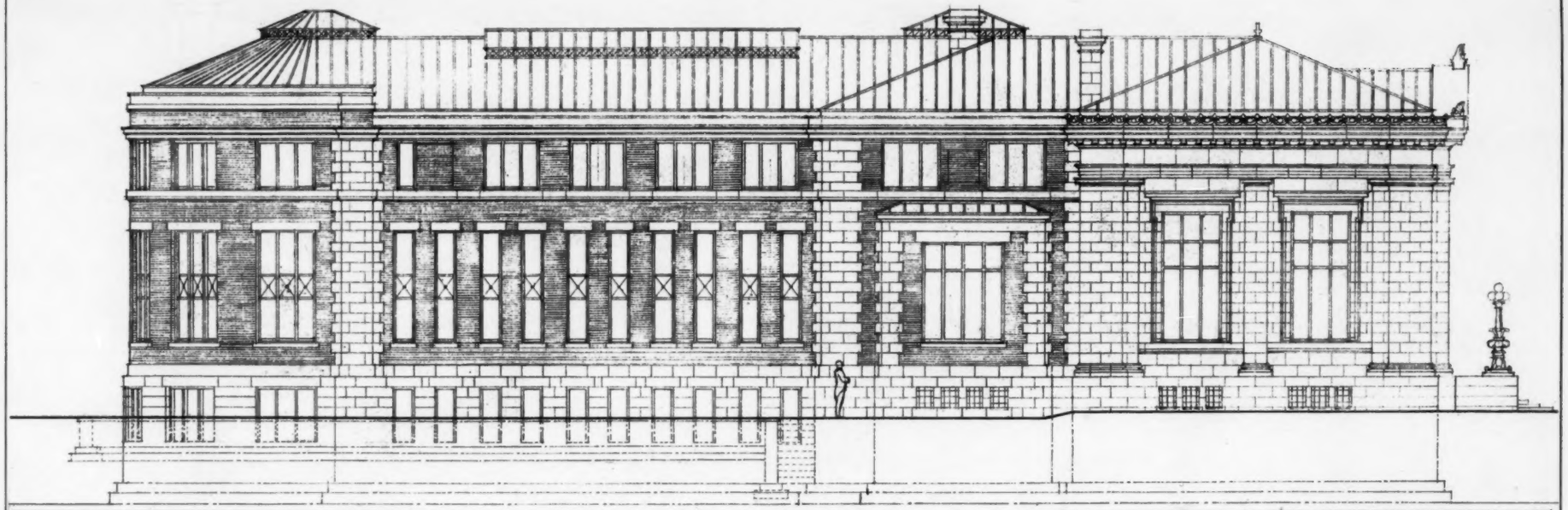
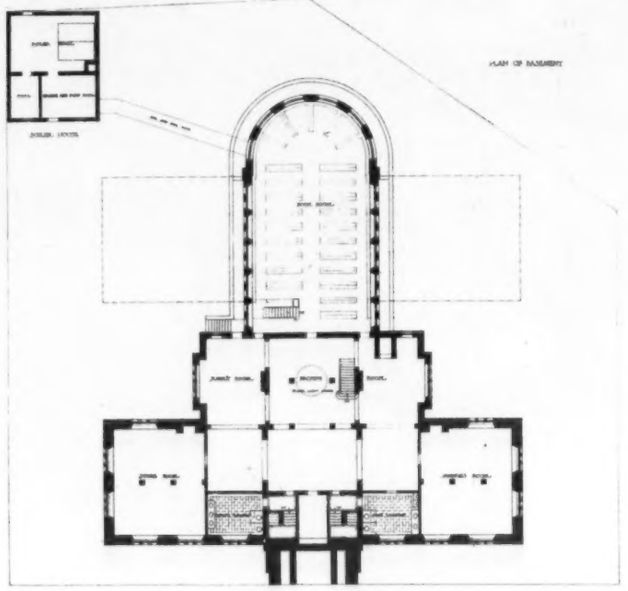
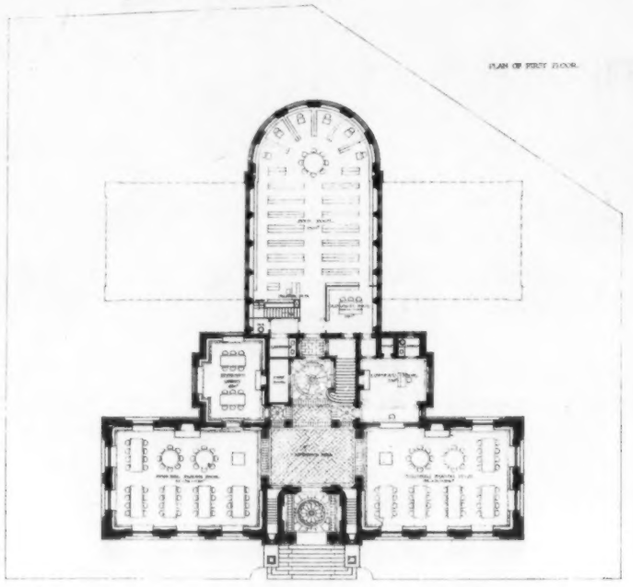
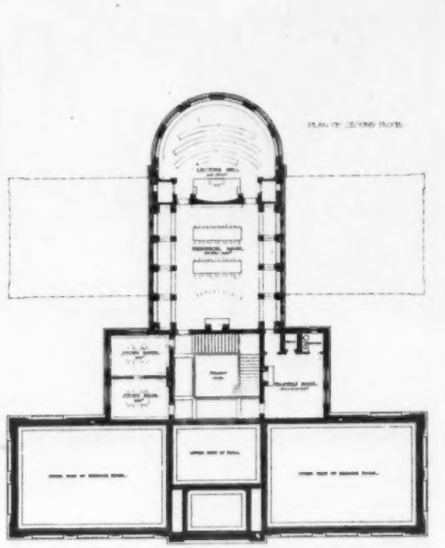


SIDE ELEVATION







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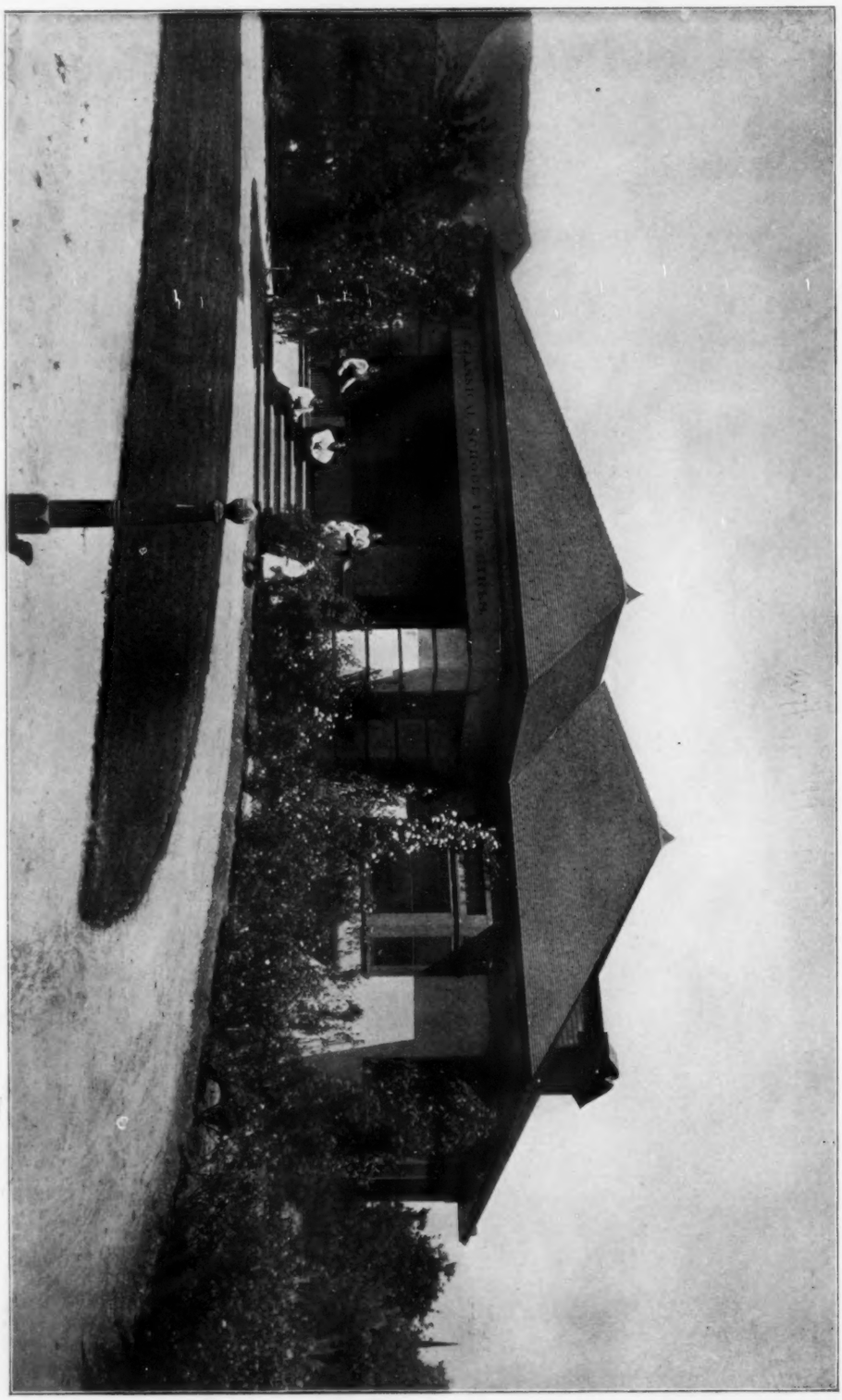
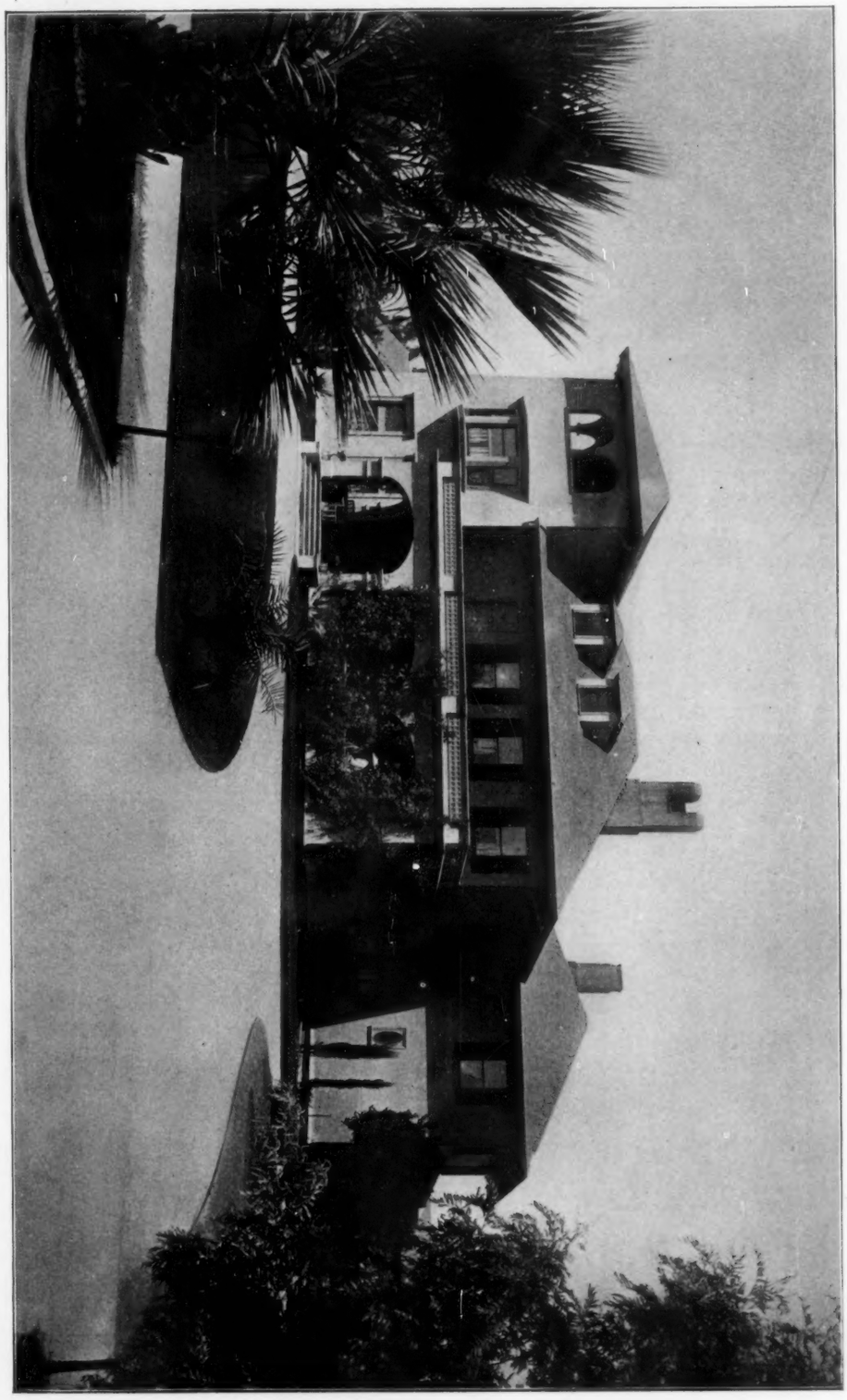


Miss Orton's School, Pasadena, Cal.

T. W. Parkes, Architect.



House of Mrs. Edwin Greble, Pasadena, Cal.

T. W. Parkes, Architect.

The American Architect and Building News

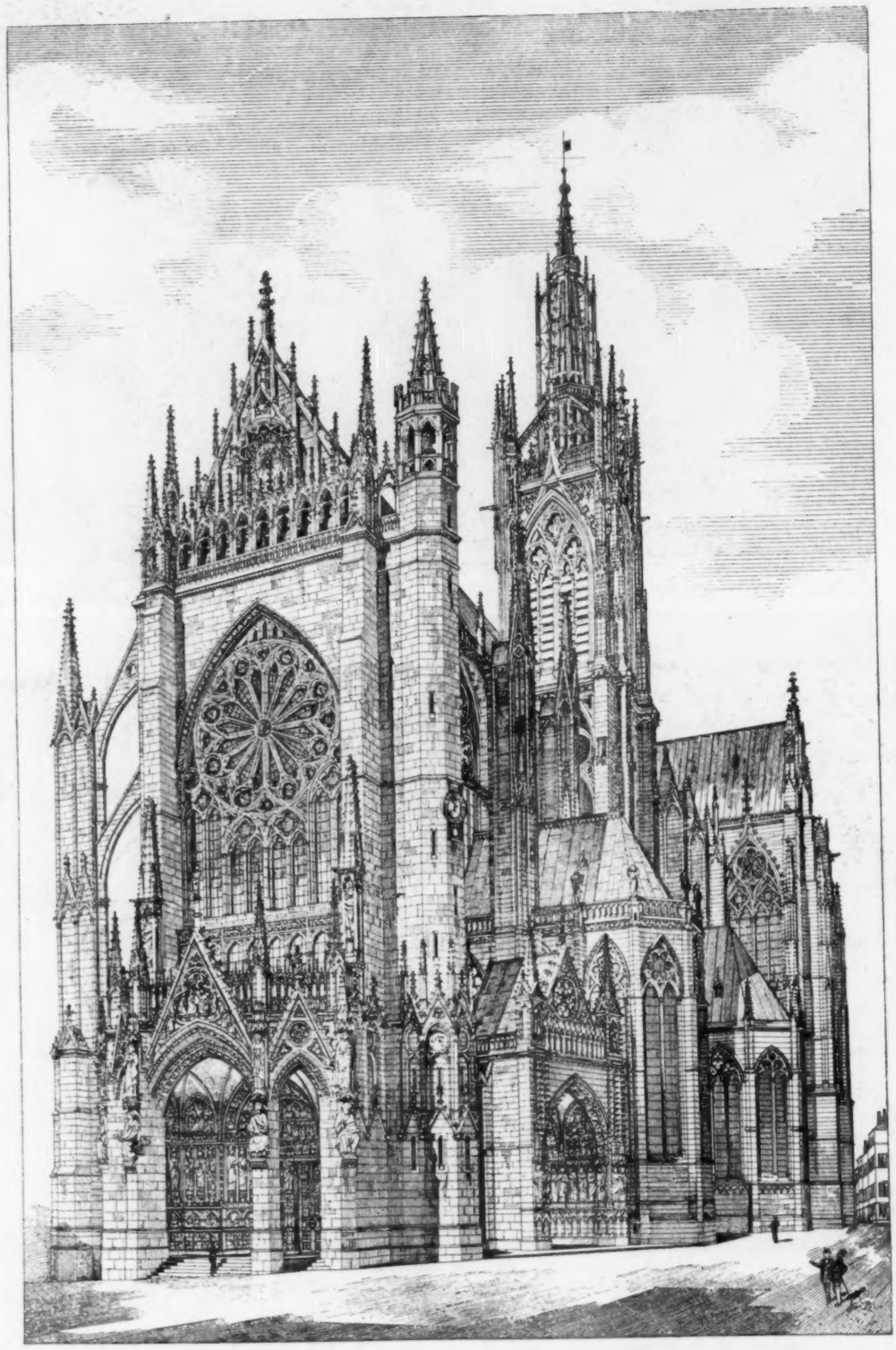
A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART.

VOL. LXIII. — No. 1207.] SATURDAY, FEBRUARY 11, 1899. PRICE, { REGULAR ISSUE, 15 CENTS. IMPERIAL " 25 "

BUILDING MATERIALS.

Reported for the American Architect and Building News.

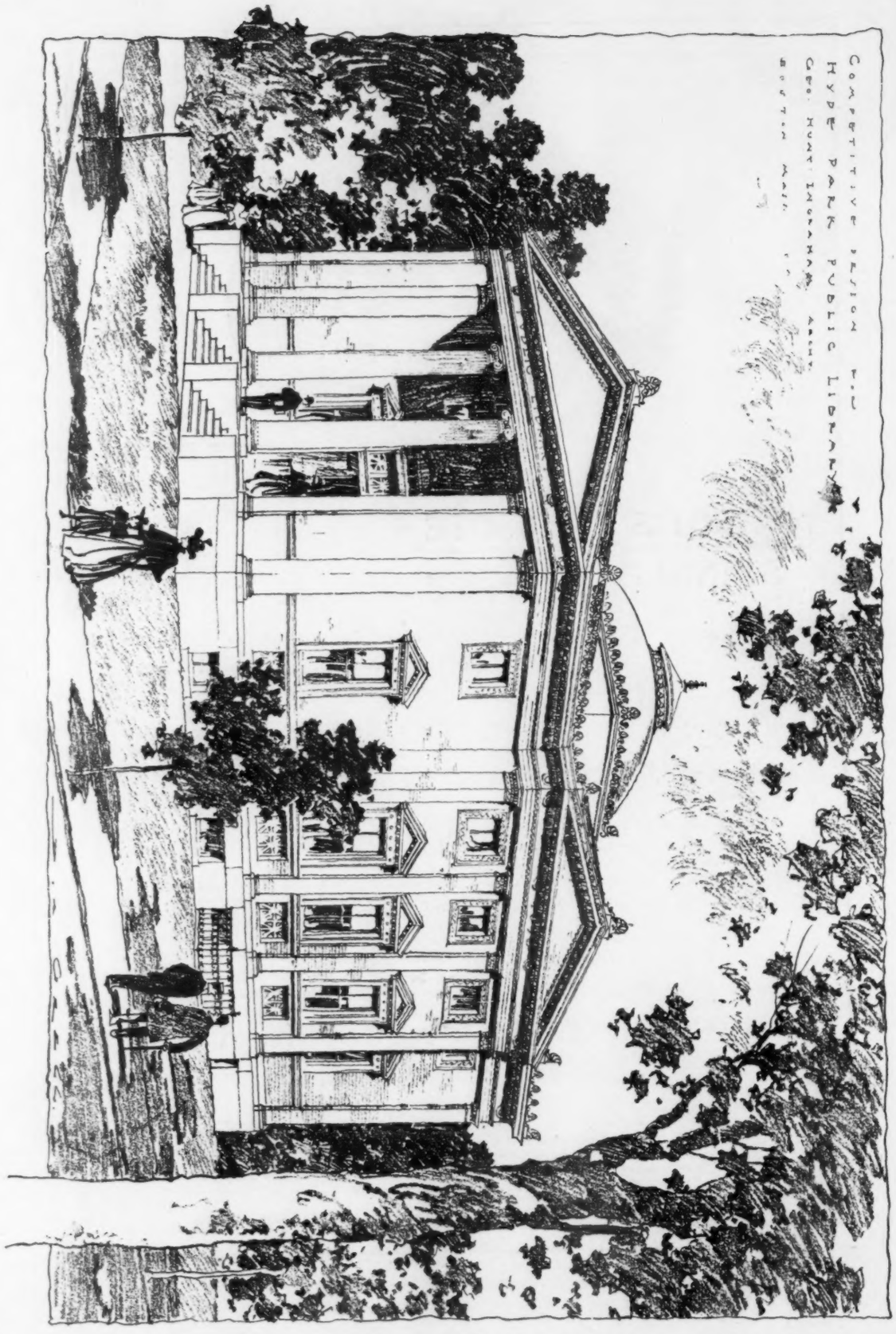
BUILDING MATERIALS	New York. (*Wholesale Prices.*)	Boston. (*Wholesale Prices.*)	Chicago. (*Prices to Builders and Contractors.*)	Philadelphia.
STONE. (℔ *cubic foot, rough.*)				
Foundation:				
Dimension	@	5 00 ℔ ton.	20 @ foot	@ 5 00
Block	@	4 60 ℔ perch.	10 00 @ cord	Conshocken
Rubble	@	1 25 @ 1 50	9 00 @ "	1 45 @ 2 50
Sandstone:				
Longmeadow	@ 80	80 @ 90	@	
Kibbe	@ 90	90 @ 1 10	@	95 @ 1 05
Brown (Connecticut)	1 00 @	1 00 @ 1 30	1 50 ℔ cub. ft.	1 05 @ 1 25
Amherst Ohio	90 @ 95	90 @ 1 00	45 @ 55	85 @ 95
Berea "	75 @ 1 00	85 @ 90	45 @ 55	55 @ 75
Berlin "	75 @ 1 00	80 @ 90	45 @ 55	85 @ 95
Belleville	80 @ 1 25	25 @ 1 35	@ 1 25	1 00 @ 1 10
New Brunswick (Dorchester)	@ 1 00	75 @ 90	*Not sold.*	1 05 @ 1 15
Potsdam Red	@ 1 30	@ 1 40	@ 1 55	@ 1 40
Caen	@	@ 2 00	@	1 25 @ 1 35
Carlisle, English	@ 1 05	@ 1 05	@	95 @ 1 05
Corse Hill (Scotch)	@ 1 05	@ 1 05	@	95 @ 1 05
Granite: (*Maine*)		@ 60	80 @ 1 50	55 @ 65
Limestone:				
Bedford	45 @ 1 25	95 @ 1 00	20 @ 40	75 @ 85
Joliet	1 00		@	Richmond
Lemont			@	℔ 75 @ 1 50
Serpentine		10 50 per ton.	@	Perch 4 50 @ 5 50
Bluestone: (℔ *sq. ft.*)			cub. ft.	
Sidewalk	30 @ 5 00	40 @ 1 75	1 00 @ 1 25	1 in. th. 10 @ 25
Planed	50 @ 6 00	@ 75	1 00 @ 1 25	37 @ 50
Marble: (℔ *cu. ft.*)				
Lee, Mass	@	1 75 @ 2 50	*Not sold.*	2 00 @ 2 50
Rutland, white and blue	@	@ 3 00	3 50 @ 6 00	2 00 @ 3 00
Sutherland Falls	1 25 @ 1 75	@ 2 00	3 50 @ 6 00	1 70 @ 3 00
Glens Falls, black	@	@	*Not sold.*	4 00 @ 4 50
Italian, blue-veined	@	@	@ 4 40	2 50 @ 2 75
" Sienna	@	@	*Not sold.*	@ 5 00
Tennessee, red	@	@	@ 4 40	4 00 @ 6 00
" Knoxville	@	@	@ 4 40	3 00 @ 4 00
Pennsylvania, blue	@	@	*Not sold.*	2 00 @ 3 00
Vermont, white	@	@	3 50 @ 6 00	2 25 @ 3 00
Slate: Roofing (℔ *square*)				
Green	5 00 @ 6 00	4 75 @ 5 25	3 75 @ 5 00	2 90 @ 3 60
" unfading	5 00 @ 6 00	5 50 @ 6 50	5 25 @ 6 00	4 25 @ 5 00
Purple	5 00 @ 6 00	5 50 @ 6 50	5 25 @ 6 00	4 50 @ 5 50
Red	@ 10 00	10 00 @ 11 00	10 50 @ 12 50	11 50 @ 13 00
Black, Lehigh	4 25 @ 4 75	@	4 50 @ 5 50	4 00 @ 4 35
" Chapmans	@	@	5 30 @ 6 15	4 50 @ 5 00
Genuine Bangor	4 35 @ 5 50	4 75 @ 5 90	5 25 @ 6 50	4 35 @ 5 50
Unfading black,	6 00 @ 8 50	6 00 @ 8 50	4 25 @ 8 95	6 50 @ 9 00
" "	5 50 @ 8 00	5 50 @ 8 00	5 50 @ 9 20	6 50 @ 9 00
Tiles, Am. ℔ M.	@	@	Salt-glazed tiles	@ 28 00
N. Peach Bottom, war. unfading	@	@	9" 8c. per ft.	5 76 @ 6 25
Fire Clay Roof Tile on cars at fac.	8 00 @	8 00 @	6 00 @ 6 50	8 60 @
LUMBER. — ℔ M.				
Boards: (*Ordinary dimensions.*)				
Pine, 1st quality, clear	65 00 @ 75 00	55 00 @ 70 00	50 00 @ 60 00	47 50 @ 60 00
" 2d quality	55 00 @ 60 00	42 00 @ 50 00	42 00 @ 50 00	38 00 @ 48 50
" 3d quality	18 00 @ 22 00	20 00 @ 40 00	20 00 @ 28 00	27 50 @ 36 50
Spruce	@ 25 00	12 00 @ 18 00	*Not sold.*	15 00 @ 21 50
Hemlock	eal3½ @ 14	12 50 @ 14 00	10 00 @ 12 00	11 50 @ 13 75
Yellow pine	20 @ 40	19 00 @ 35 00	18 00 @ 25 00	14 00 @ 29 00
Cypress	@	26 00 @ 40 00	30 00 @ 35 00	30 00 @ 38 00
Clapboards:				
Pine	@	35 00 @ 55 00	25 00 @ 30 00	14 00 @ 25 00
Spruce	@	24 00 @ 35 00	*Not sold.*	*Not sold.*
Framing Timber:				
Pine			15 00 @ 25 00	25 00 @ 37 30
Spruce	14 00 @ 16 00	14 00 @ 16 00	*Not sold.*	15 00 @ 21 50
Hemlock	12 00 @ 16 00	12 00 @ 15 00	10 00 @ 15 00	14 00 @ 20 00
Yellow pine	18 00 @ 21 00	19 00 @ 25 00	16 00 @ 25 00	22 50 @ 30 00
Laths:	@			
Pine ..... Round Wood	@	2 60 @ 2 50	1 90 @ 2 00	2 75 @ 3 00
Spruce ..... Slab	2 00 @ 2 10	1 80 @ 2 25	*Not sold.*	2 30 @ 2 35
Shingles:				
Pine, shaved ℔ M.	5 00 @ 6 00	@	*Not sold.*	
Pine, sawed " "	4 00 @ 5 00	@ 4 50	2 60 @ 2 75	
Spruce, sawed " "	1 50 @ 2 00	1 50 @ 1 75	*Not sold.*	
Redwood ℔ 125.	1 40 @ 1 60	3 00 @ 3 75	4 60 @ 6 00	30" $35 @ 40
Cedar split ℔ M.		@ 6 00	*Not sold.*	24" 8 @ 21
Cedar sawed " "	@	2 00 @ 3 25	2 50 @ 2 90	20" 35 @ 14
Cypress. Split.....7 x 24 " "	18 00 @ 20 00	5 00 @ 6 00	@	11 00 @ 14



From *Deutsche Bauzeitung.*

New Porch on the West Front of the Cathedral, Metz, Germany.

Paul Tornow, Architect.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IS PUBLISHED EVERY SATURDAY BY

The American Architect and Building News Co.,

211 TREMONT ST., BOSTON, MASS.

Advance Subscription Rates.

Regular Edition, $6.00 per year; six months, $3.50.
Imperial Edition, $10.00 per year; six months, 6.00.
International Edition, per year in advance, 25.00.
" " quarterly " 26.00.

[Foreign Postage extra.]

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

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MESSRS. HOWARD & CAULDWELL, architects, and Mr. L. Henry Morgan, announce that they have formed a partnership under the firm name of Howard, Cauldwell & Morgan, with offices at 10-12 E. 23d St., S. Madison Sq., New York. 1207

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POSITION. — First-class draughtsman, at present in charge of a New York office, desires position in vicinity of Boston. Twelve years' experience. Moderate salary with chance for advancement. "J. B. G.," care H. M. Carleton, 606 Temple Court, New York. 1208

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WANTED.

POSITION OR AGENCY. — Wanted, by an architect with an experience of sixteen years' active practice in New York City, a position in the profession, or an agency for some well established building product. Is familiar with all branches of the profession. Is thoroughly reliable and can give high references. Address "XVI," this office. 1207

FOR SALE.

FOUNDRY AND MACHINE SHOP. — I offer for sale a well-equipped foundry and machine-shop at Poughkeepsie, N. Y., together with the lease, and will be pleased to hear from any one desirous of purchasing such a plant. Chas. F. Cossum, 35 Market St., Poughkeepsie, N. Y. 1208

BUILDING PATENTS.

[*Printed specifications of any patents here mentioned together with full detail illustrations, may be obtained of the Commissioner of Patents, at Washington, for five cents.*]

618,438. AUTOMATIC SHUT-OFF BALL-COCK. — Thomas W. Ryan, Concord, Mass.

618,446. DOOR OR GATE CLOSER. — Henry O. Sparks, Monroe County, Mo.

618,457. WINDOW FRAME, SASH AND ATTACHMENTS. — Gustavus Grahn, Minneapolis, Minn.

618,462. WINDOW. — Espiridion Hipolito, Los Angeles, Cal.

618,471. SASH-LOCK. — Frank B. Kones, Rutherford, N. J.

618,476. DOOR CLOSER AND CHECK. — Joseph P. Magney, Chicago, Ill.

618,486. LOCK. — George C. Stanley, Ithaca, N. Y.

618,503. STOP AND WASTE COCK. — Isaac N. Glauber and Joseph H. Glauber, Cleveland, O.

618,505. DOOR-CHECK. — Charles F. Hanington, New York, N. Y.

618,510 511. LIBRARY-SHELVING. — Jackson L. Kail, Chicago, Ill.

618,516. METALLIC ROOFING. — Jonas S. Moyer, Hatfield, Pa.

618,524. SAW FOR SAWING STONE. — Frederick W. Shettleworth, Portland, Conn.

618,530. SHELVING CONSTRUCTION. — William H. Winslow and Francis A. Winslow, Chicago, Ill.

618,547. KNOB-LOCK. — Frank W. Steele, Terre Haute, Ind.

618,573. FLOOR-CLAMP. — Edwin C. Ingersoll, Philadelphia, Pa.

618,589. HOT-AIR REGISTER OR VENTILATOR. — Silas Tuttle, New York, N. Y.

618,590. AIR REGISTER OR VENTILATOR. — Silas Tuttle, New York, N. Y.

618,608. SLIDABLE HINGED WINDOW. — William McCall, San Francisco, Cal.

BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Annapolis, Md. — The bill for appropriating $100,000 toward the erection of the public buildings has been favorably reported on by the House Committee on Public Buildings and Grounds at Washington, D. C.

Baltimore, Md. — The House Committee on Public Buildings and Grounds at Washington, D. C., have favorably reported on the bill appropriating $100,000 for the site of a public building.

Boston, Mass. — David S. Hammond, of the Murray Hill Hotel, New York City, is reported to be interested in the erection of the $850,000 hotel on East and Essex Sts.

Brooklyn, N. Y. — The old Hamilton Building, at Court and Joralemon Sts., is about to be torn down. The site will be occupied by a fourteen story office-building, for which George L. Morse, the architect, is just completing plans. The plot is 90′ on Court St. and 100′ on Joralemon. The building will be fireproof, built after the best methods of business construction, and will cost in the neighborhood of $200,000. It is expected that the new structure will be ready for occupancy within a year. David G. Leggitt is the owner.

The bill appropriating $30,000 towards a public building has been favorably reported on by the House Committee on Public Buildings and Grounds at Washington, D. C.

Bryn Mawr, Pa. — Competitive plans are being prepared for a three-story brick and stone addition to the public school at this place.

Buffalo, N. Y. — The Council has directed the Board of Public Works to prepare plans and specifications for the erection of a sixteen-room school-building in District No. 2, costing $50,000.

Caldwell, N. J. — Ludlow & Valentine, New York City, are preparing plans for a two-and-one-half-story frame dwelling, 28′ x 55′, for Mr. James A. Hayden.

Cambridge, Mass. — A. W. Strauss, 151 Franklin St., Boston, will build an apartment-house on Massachusetts Ave.; estimated cost, $150,000.

Report states that a $150,000 building will be erected for the scientific department of the Harvard University.

Chappaqua, N. Y. — Plans are being prepared by Ludlow & Valentine, New York City, for a two-story frame cottage, 36′ x 45′, for Mr. Elmo Brown.

Chicago, Ill. — A committee has been appointed to consider the question of rebuilding the Frances Willard Hospital, 1619 Diversey Ave., at an estimated cost of $100,000.

It is stated that Patton, Fisher & Miller, 115 Monroe St., have plans under way for a $40,000 edifice to be erected on Oakwood Boulevard, near Drexel Boulevard, by the Memorial Baptist congregation.

It is announced that the Woodlawn Presbyterian congregation, Rev. Edw. H. Curtis, pastor, will erect a new $20,000 church at 64th St. and Kimbark Ave., after plans by George W. Maher, 218 La Salle St.

Marshall Field is to erect a building at the northwest corner of Clark and Adams Streets for the Merchants' Loan and Trust Co., of which he is one of the Directors. It is to be completed by May of next year, when the bank's lease on its present quarters, at Washington and Dearborn Streets, expires. Work will be begun as soon as possible. The structure that is to be raised will be called the Merchants' Loan and Trust Company Building, and will be eleven or twelve stories high.

The Griffin Wheel Works has secured a building-permit for the erection of a two-story factory on Sacramento St. The cost of the structure will be $24,000. Plans by W. L. Stebbins.

Council Bluffs, Ia. — The Rock Island Railroad will expend $100,000 in improvements in this city. A passenger-station, to cost $30,000, will be erected.

Des Moines, Ia. — The Library Board has finally selected the plans of Smith & Gutterson, architects, for the new library building. They provide for a building, 80′ x 150′, with stone basement, brick superstructure, terra-cotta trimmings, copper metal work, steam and hot-water heat, plumbing, ornamental iron, marble wainscoting and stairs, tiled floors, etc. Cost $111,000.

Duncansville, Pa. — The Portage Iron Works, of New York, has increased its capital stock from $250,000 to $400,000 preparatory to the enlargement of its plant.

Elwood, Ind. — The City Council is said to have decided to erect a $28,000 city building.

Estherville, Ia. — A $20,000 brick hotel is to be erected here.

Fitchburg, Mass. — It is stated that $20,000 has been appropriated for a ten-room school.

Greensburg, Ind. — Phillip Jeckel, of Anderson, has received the contract for the Indiana Odd Fellows' Home; probable cost, $25,000.

Holly Springs, Miss. — St. Thomas Hall, recently burned, will be rebuilt at a cost of $25,000. Address Rev. P. G. Sears.

Holyoke, Mass. — The Parsons Paper Co. has subscribed $3,000 to the library fund. More than half enough money for the building has been subscribed.

Iowa City, Ia. — It is stated that the plans of Proudfoot & Bird, of Des Moines, have been accepted for a $200,000 college for the State University of Iowa.

Kansas City, Mo. — Report states that an Orphans' Home will be erected near 26th and Cherry Sts. by the Women's Christian Association, at a cost of about $25,000.

Keokuk, Ia. — John W. Young has secured the contract to erect the Y. M. C. A. Building, at $21,100.

Macon, Ga. — Press reports state that C. B. & B. E. Willingham, of this city, are having plans prepared for a large cotton-mill, to be erected at once at a cost of $500,000.

Milwaukee, Wis. — The Kieckhefer Bros. Co. has taken out a permit for the erection of a large addition to the tinware factory on St. Paul Ave., between 8th and 10th Sts. The building will be 52′ x 110′, five-story, of brick and stone, and will cost $50,000 to $60,000; Ferry & Clas, architects; J. P. Jones, contractor.

Mercersburg, Pa. — The Board of Regents of the Mercersburg Academy are stated to have decided to erect a $20,000 building.

New Brighton, Pa. — Report states that the United States Senate has passed a bill providing for the purchase of a site and the erection of a public building thereon, at a cost not to exceed $75,000.

Newport News, Va. — Edw. A. Marye has prepared plans for a new church to be erected by the St. Paul Episcopal Society, to cost about $20,000, Rev. J. Francis Riddle, pastor.

Newtown, N. Y. — F. De Hass Simonson, a member of the Queens Borough School Board, has offered to present to the school authorities of the borough a school site in Newtown. The property includes ten city lots on Columbia Ave., 50′ on Carroll Pl. and 150′ on Callamus Road.

New York, N. Y. — The Board of Estimate has authorized the issue of $2,100,000 of bonds to pay for the erection of the new Hall of Records, at Centre, Chambers and Reade Sts.

The bills appropriating $750,000 for a site for the new Custom-house and $1,000,000 towards the erection of the building have been favorably reported by the House Committee on Public Buildings and Grounds, at Washington, D. C.

Petoskey, Mich. — A three-story brick hotel is to be erected by N. J. Perry, at an estimated cost of $20,000; Mead & White, Lansing, architects.

Philadelphia, Pa. — The Protestant Episcopal Church authorities propose to establish a new mission at 2d and Ritner Sts., in order to meet the growing demands for a church of their denomination in that section of the city. A church and clergy house will be erected, and Rev. C. A. Robinson, who is now in charge of the Church of the Evangelists, at 7th and Catharine Sts., will be rector. The church will be built of gray stone, 60′ wide and 130′ long. The clergy-house will be built adjoining it.

Phillipsburg, Pa. — The Alpha Cement Co., whose plant is located at Alpha, near this city, is to increase its capital stock to $1,000,000 for the purpose of making extensive improvements.

Pine Bluff, Ark. — It is stated that William W. Beerce, of New Orleans, has purchased ground in this city and will at once erect a cotton compress to cost about $100,000.

Piqua, O. — It is stated that a new edifice to cost about $20,000, will be erected for the St. James Episcopal Church.

Pittsburgh, Pa. — Wm. Miller & Sons, Carnegie Building, are stated to have received the contract for remodelling the Blakewell Law Building, at a contract price of $50,000.

Providence, R. I. — The question of erecting an addition to the Court-house is under consideration; estimated cost of site and building, $95,000.

Rockmart, Ga. — Reports state that William Bensel & Co., of Rome, have been awarded the contract for the erection of the new Aragon cotton-mill, which is to be erected near here; cost, about $200,000.

Selma, Ala. — The Central Cotton Oil Co. will build a new brick mill to cost $90,000, including machinery.

Sleepyeye, Minn. — It is stated that the St. Mary's congregation will erect a $30,000 edifice, Rev. Mr. Plut, pastor.

Somerville, Mass. — At a late meeting of the Somerville School Board, among the recommendations in the report of the Committee on Additional School Accommodations were the following: That a wing of four rooms be added to the Burns School; that land be purchased on the southeast side of the Forster school-house, and that a new six room building be erected thereon; that two wings, each to contain six class-rooms, be added to the rear of the English High-school Building, together with an assembly-hall, capable of seating 1,500 persons, situated on the ground-floor between the wings.

St. Cloud, Minn. — Improvements and additions will be made to the State Normal School; appropriation, about $25,000.

St. Johnsbury, Vt. — The citizens have voted to erect a $20,000 school in Summerville.

St. Paul, Minn. — The Minnesota Club is considering a proposition to erect an addition to its building, on 4th and Minnesota Sts., to cost $15,000. E. W. Johnson, secretary.

Published January 28

PART III

"THE GEORGIAN PERIOD"

Part III, though it contains only the same number of plates as does Part I, includes *seven more* Gelatine Plates than did that one.

WE RECOGNIZE the rights and interests of our subscribers by adopting the following sliding scale of prices for this new Part and the others already issued:—

PART III [in press.]

Retail price per single copy	**$3.00**
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:: :: :: PARTS I, II and III :: :: ::

[121 plates, 10 x 14½ inches.]

Price per set to non-subscribers to the *American Architect*	**$9.00**
Price per set to subscribers to the *American Architect*	**6.50**

PART IV [in contemplation.]

American Architect and Building News Co.,

211 Tremont Street, Boston, Mass.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Troy, N. Y.—L. H. Crowley, of the Mansion House, will erect a modern fireproof hotel-building on the site of the present Mansion House on Broadway, to cost $325,000.

West Bay City, Mich. — Report states that the West Bay City Sugar Co. has been organized with a capital stock of $200,000. The following officers have been elected: Hon. Spencer O. Fisher, president, P. C. Smith, vice-president, M. F. Bialy, secretary and treasurer. Plans for the plant have already been prepared, and the contract will be let in about ten days.

Wilkesbarre, Pa. — The House Committee on Public Buildings and Grounds, at Washington, D. C., has reported favorably on the bill appropriating $125,000 toward the erection of a public building.

Winchester, Ind. — We are advised that W. S. Kaufman, architect, Richmond, has prepared plans for the brick infirmary to be built by Randolph County, at a cost of about $40,000.

Worcester, Mass. — Architects Barker & Nourse have prepared plans for a private residence to be erected in Gardner, for F. T. Butler; cost, $4,000; contract not let.

Architects Barker & Nourse are preparing plans for a private residence and stable to be erected on Marie Ave. for Albert A. Spaulding; cost, $8,000; contracts not let.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Architects Barker & Nourse are preparing plans for a five-st'y brick addition to the factory of the Worcester Wire Goods Co., A. W. Parmelee, president; no contracts let.

Architect Geo. H. Clemence has prepared plans for a two-story brick store-house, 61′ x 140′, to be erected on Vine St. for Wm. H. Inman; contracts not let.

Architects Barker & Nourse are preparing plans for a large brick apartment-building to be erected at Trumbull Sq., for Drs. Kelley & Delehanty; contracts not let.

APARTMENT-HOUSES.

Boston, Mass. — *Commonwealth Ave.*, nr. Harvard St., Ward 25, four-st'y bk. aparts., 18′ x 76′ x 80′, flat roofs, steam; $40,000; o., a. & b., H. A. Slakin, 1010 Tremont St.

New York, N. Y. — *Amsterdam Ave.*, 148th to 149th St., 7 five-st'y bk. & st. stores & flats, 32′ 5″ x 93′ & 27′ x 86′; $195,000; o., Niels Hansen, cor. Amsterdam Ave. & 148th St.; a., G. F. Pelham, 503 Fifth Ave.

Eighty-third St., nr. Amsterdam Ave., 2 five-st'y bk. & st. flats, 25′ x 88′ 6″; $44,000; o., a. & b., Niels Toelberg, Home St., nr. Southern Boulevard.

Allen St., Nos. 128-130, six-st'y & base. bk. stores & flats, 40′ x 76′ 8″; $50,000; o., Jacob Fischel, 197 Henry St.; a., Horenburger & Straub, 122 Bowery.

Chrystie St., No. 82, six-st'y & base. bk. stores & flat, 25′ x 87′ 8″; $28,000; o., Julius Dreyfus, 324 W. 59th St.; a., G. F. Pelham, 503 Fifth Ave.

Fifty-fourth St. and Tenth Ave., six-st'y bk. stores & flat, 25′ 1½″ x 95′; $45,000; o., Geo. A. Fisher, 695 E. 141st St.; a., G. F. Pelham, 503 Fifth Ave.

BUILDING INTELLIGENCE.

(Apartment-Houses Continued.)

HOUSES.

Bayonne, N. J. — *Trask Ave.*, nr. 2d St., 2½-st'y fr. dwell.; $5,000; o., Chas. S. Noe; a., Arthur C. Longyear, 126 Liberty St., New York City.

Boston, Mass. — *Hooker St.*, nr. N. Beacon St., Ward 25, 2½-st'y fr. dwell., 30′ x 45′, pitch roof, furnace; $5,500; o., M. K. Johannson; b., John McRae, 360 Washington St., Brookline.

Creek St., nr. Dorchester Ave., Ward 20, two-st'y fr. dwell., 26′ x 44′, flat roof, stoves; $4,000; o., Michael Keane; a. & b., W. A. Williams, 18 Wrentham St.

Pontiac St., Nos. 14-18, Ward 19, 3 three-st'y bk. dwells., 25′ x 65′, flat roofs, furnaces; $20,000; o. & b., John M. Kelley, Hyde Park Ave.

Roosevelt St., Nos. 5-22, Ward 12, 14 three-st'y bk. dwells., 21′ x 51′, flat roofs, stoves; $100,000; o., a. & b., R. J. Connolly, 93 Vale St.

Boylston Terrace, nr. Centre St., Ward 22, two 2½-st'y fr. dwells., 31′ x 40′, pitch roofs, furnaces; $6,000; o., a. & b., Jos. Bulley, 72 Clarkson St.

BUILDING INTELLIGENCE.

(*Houses Continued.*)

Woodlawn St., nr. Hyde Park Ave., Ward 23, two-st'y fr. dwell., 25′ x 50′, pitch roof, furnace; $5,000; o., a. & b., Martin Flynn, 299 Chestnut Ave.

Brooklyn, N. Y.—*Degraw St., St. John's Pl.*, nr. Nostrand Ave., 41 three-st'y bk. & st. dwells.; $615,000; o., Wm. R. Pearce, Jersey City, N. J.; a. & b., F. L. Hine, 996 St. John's Pl.

Second St., nr. 7th Ave., 3 three-st'y bk. & st. dwells., 18′ 9″ x 48′; $30,000; o., W. C. Donnellon, 46 Rutland Road; a., R. Dixon, 213 Montague St.

Bay Twenty-eighth St., nr. Benson Ave., two-st'y & attic fr. dwell., 37′ 10″ x 34′, shingle roof; $5,000; o., Fred Durland, 18 Wall St., New York; a., J. J. Petit, 186 Remsen St.

East Eighteenth St., nr. Ave. C., two-st'y & attic fr. dwell., 35′ x 37′, shingle roof; $7,000; o., Henry S. Potter, 1812 Church Ave.; a., G. M. Lawton, 95 Lenox Road.

Jersey City, N. J.—*Ocean Ave.*, three-st'y fr. dwell., 25′ x 65′; $5,000; o., Leopold Kramer; a., J. A. Resch.

New York, N. Y.—*One Hundred and Forty-ninth St.*, nr. Amsterdam Ave., 3 three-st'y & base. st. dwells., 18′ 8″ x 54′; $27,000; o., J. J. Mahoney, 505 W. 149th St.; a., A. De Saldern, 130 Broadway.

Fifth Ave., cor. 130th St., 8 four-st'y bk. & st. English base. dwells., 99′ x 100′ & 18′ x 56′; $90,000; o., Trustees of John Jacob Astor Estate, 23 W. 26th St.; private plans.

Seventy-fourth St., nr. Park Ave., 3 five-st'y bk. dwells., 20′ & 19′ 7½″ x 85′ 10″; $75,000; o. & b., G. C. & C. J. Weber, 873 Putnam Ave., Brooklyn; a., Buchman & Deisler, 11 E. 59th St.

Ninety-fifth St., nr. Madison Ave., 6 five-st'y bk. dwells., 16′ & 18′ x 50′; $104,000; o., P. J. Quirk, 2280 Seventh Ave.; a., Henry Andersen, 1180 Broadway.

One Hundred and Thirty-seventh St., nr. 7th Ave., 3 three-st'y & base. bk. dwells., 16′ 6″ & 17′ x 67′; $60,000; o., Jas. C. Picken, 218 W. 137th St.; a., John Hauser, 1441 Third Ave.

One Hundred and Eighteenth St., nr. 7th Ave., 5 three-st'y & base. bk., st. & terra-cotta dwells., 20′ x 55′; $85,000; o., James C. Crawford, 34 E. 42d St.; a., A. H. Taylor, 20 W. 34th St.

OFFICE-BUILDINGS.

Brooklyn, N. Y.—*Court St.*, n w cor. Joralemon St., fourteen-st'y fireproof office-building on plot 90′ x 100′; $200,000; o., David G. Leggitt, 203 Montague St.; a., George L. Morse, 303 Washington St.

STABLES.

Boston, Mass.—*Cypher St.*, nr. B St., Ward 13, two-st'y fr. stable, 27′ x 35′, flat roof; $1,000; o. & a., A. P. Morse, Cambridgeport National Bank; b., T. J. Ormond.

Bowdoin St., rear No. 162, Ward 20, 2½-st'y bk. stable, 22′ x 30′, pitch roof; $1,000; o., Hugh Dever, 1 Shepard St.; b., David Campbell.

Canterbury St., nr. Perkins St., Ward 23, 2½-st'y fr. stable, 30′ x 40′, pitch roof; $800; o., Mary A. Roach, on premises; b., D. Campbell.

STORES.

New York, N. Y.—*Maiden Lane, Nos.* 5-7, eight-st'y & base. bk. & steel store & offices, 29′ 11½″ x 52′ 2½″; $30,000; o., Louisa M. Gerry, Newport, R. I.; a., John B. Snook & Sons, 261 Broadway.

Bond St., nr. Broadway, eight-st'y bk. store & lofts, 25′ x 95′; $60,000; o., Catherine Taylor, 306 W. 51st St.; a., Ralph S. Townsend, 29 E. 19th St.

BUILDING INTELLIGENCE.

(*Stores Continued.*)

TENEMENT-HOUSES.

New York, N. Y.—*Third St., Nos.* 340-342, six-st'y bk., st. & terra-cotta tenement, with stores, 37′ 6″ x 95′; $38,000; o., Harry Fischel, 215 E. Broadway; a., Samuel Sass, 23 Park Row.

Ninety-eighth St., bet. Park & Madison Aves., 4 five-st'y bk., st. & terra-cotta flats, 25′ x 87′ 6″; $65,000; o., Salomon & Haubner; a., Samuel Sass, 23 Park Row.

E. Third St., No. 248, six-st'y bk., st. & terra-cotta tenement, with stores: $27,000; o., Lippman & Friedman, 70 Elm St.; a., Michael Bernstein, 245 Broadway.

Goerck St., Nos. 23-25, 2 six-st'y bk., st. & terra-cotta tenements, with stores, 25′ x 65′; $40,000; o., Pauline Aronowitz, 66 Monroe St.; a., Michael Bernstein, 245 Broadway.

Stanton St., cor. Cannon St., 3 six-st'y bk., st. & terra-cotta tenements, with stores, 33′ 4″ x 70′ & 33′ 4″ x 65′; $85,000; o. & b., Rosenberg & Feinberg, 177 Floyd St., Brooklyn; a., Horenburger & Straub, 122 Bowery.

Ninth St., Nos. 635-639, 2 six-st'y bk., st. & terra-cotta tenements, with stores, 30′ x 81′ 9″; $44,000; o., Jacob Sommer, 170 E. 90th St.; a., Samuel Sass, 23 Park Row.

WAREHOUSES.

Boston, Mass.—*Harvard St., rear No.* 224, Ward 20, three-st'y fr. storage, 22′ x 40′, flat roof; $1,000; o. & b., C. H. Lindsay, 25 Nightingale St.

MISCELLANEOUS.

Boston, Mass.—*North St., No.* 34, Ward 6, four-st'y bk. cold-storage, 45′ x 51′ x 145′, flat roof, steam; $75,000; o., Eastern Cold Storage Co., 45 North St.; b., S. Brennan & Co.

New York, N. Y.—*Rider Ave.*, nr. 138th St., two-st'y bk. laundry, 50′ x 120′; $20,000; o., Patrick Donahue, 815 Westchester Ave.; a., W. C. Dickerson, 149th St. & 3d Ave.

COMPETITIONS.

CHANGE OF SCALE.—Society of Beaux-Arts, Class B, Order Programme No. 9, Competition No. 34. The scale of finished plan has been reduced from 1 8″ to the foot to 1-16″ to the foot. ERNEST FLAGG, Chairman.

COURT-HOUSE. [At Wilkesbarre, Pa.]
Competitive plans and specifications are wanted March 15 for a Court-house. A. D. HAY, Chmn. Co. Commrs. 1207

JAIL. [At Alexandria, La.]
Plans, specifications and bids are wanted Febru-

COMPETITIONS.

ary 22 for a Jail to cost between $15,000 and $25,000. W. C. JAMES, Pres. Police Jury, Boyce, La. 1208

PROPOSALS.

Treasury Department, Office Supervising Architect, Washington, D. C., January 23, 1899. Sealed proposals will be received at this office until 2 o'clock P. M. on the 23d day of February, 1899, and then opened, for fixing in place complete the boiler-plant, low-pressure and exhaust steam-heating and mechanical ventilating apparatus, supply-pumps and tanks for water-supply, etc., and pipe and duct covering for the United States Post-office and Court-house building at Kansas City, Mo., in accordance with the drawings and specification, copies of which may be had at this office or the office of the superintendent at Kansas City, Mo. JAMES KNOX TAYLOR, Supervising Architect. 1207

ARMY BUILDING. [At New York, N. Y.]
Sealed proposals in triplicate will be received here **until 1 o'clock P. M., February 15, 1899,** and then opened for supplying this department with 600 kegs of eight-penny wire nails, 300 kegs of ten-penny, 200 kegs of twelve-penny and 200 kegs of forty-penny; 3,000 squares American Ready Roofing manufactured by F. W. Bird & Son, East Walpole, Mass., or equal; also 8,000,000 feet of lumber, either white, yellow or Norway pine. Bidders will state prices, delivered on the dock at Havana, Cardenas, Gaibarien, Nuevitas, Santiago, Manzanillo, Cienfuegos, Cuba; delivery of less than 100,000 feet at any one point, however, will not be required. The Government reserves the right to increase or reduce the quantities advertised for 50 per cent if it is so desired. Specifications and blank forms for bidding and all information can be had at this office. The United States Government reserves the right to accept or reject any or all proposals or any part thereof. Preference will be given to articles of domestic production or manufacture, conditions of quality and price (including in the price of foreign productions and manufactures the duty thereon) being equal. Envelopes containing proposals should be endorsed "Proposals for Nails, Roofing-paper and Lumber, to be opened February 15, 1899," and addressed to A. S. KIMBALL, A. Q. M. G., U. S. A. 1207

BOILER-HOUSE. [At League Island, Pa.]
Sealed proposals will be received at the Bureau of Yards and Docks, Navy Department, Washington, D. C., **until February 18, 1899,** for the construction of a workshop and boiler-house for ordnance at the Navy Yard, League Island, Pa. MORDECAI T. ENDICOTT, Chief of Bureau. 1207

PROPOSALS.

PAVING. [At Washington, D. C.]

Office of the Commissioners of the District of Columbia. Sealed proposals will be received at this office **until 12 o'clock noon Saturday, March 4, 1899**, for paving B Street, northwest, from 9th to 12th Streets, with vitrified blocks. Form of proposal, specifications and all necessa y information can be obtained at the office of the Engineer Commissioner, D. C. JOHN B. WIGHT, JOHN W. ROSS, LANSING H. BEACH, Commissioners. 1208

QUARRYING AND CRUSHING STONE. [At Washington, D. C.]

Office of the Commissioners, District of Columbia, Washington. Sealed proposals will be received at this office **until 12 o'clock noon on Saturday, March 4, 1899**, for quarrying and crushing stone. Blank form of proposal, specifications and all necessary information may be obtained at the office of the Engineer Commissioner, D. C. JOHN B. WIGHT, JOHN W. ROSS, LANSING H. BEACH, Commissioners, D. C. 1208

SCHOOL-BUILDING. [At Flandreau, S. D.]

Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received **until February 23, 1899**, for furnishing and delivering the necessary materials and labor required in the construction of one brick school and assembly building at the Indian school, Flandreau, S. D. W. A. JONES, commissioner. 1207

CEMENT AND BROKEN STONE. [At Savannah, Ga.

Bids are wanted **February 21** at the U. S. Engineer Office for cement and broken stone, delivered at Tybee Island, Ga. CASSIUS E. GILLETTE, Capt. Engrs. 1207

OPERA-HOUSE. [At Columbus, Ga.]

Bids will be received **until April 1** for erecting a brick and stone opera-house for Springer Bros., of Columbus. It is estimated to cost $25,000. 1207

COUNTY BUILDING. [At Detroit, Mich.]

Sealed proposals will be received at the office of County Clerk of Wayne County, in the City-hall, Detroit, Mich., **until eleven (11) o'clock A. M., local time, Thursday, February 23, 1899**, for the marble and scagliola work, iron, steel, metal and mason work, furring and plastering, carpenter-work, painting and glazing of the new Wayne County Building, Detroit, Mich., in accordance with plans and specifications prepared by John Scott & Co., architects, and on file only at the office of the architects, 67 Moffat Block, Detroit, Mich., and the office of the Building Committee, corner of Randolph and East Congress Streets.

Proposals will be made on blanks furnished, and addressed to the Committee on Site and Buildings and Board of County Auditors, Wayne County, Mich. A certified check of five (5) per cent of the amount of the proposal submitted, made payable to the order of Walter H. Coots, Chairman, must accompany each proposal, to guarantee that the successful bidder will enter into contract with the County, and furnish the necessary bonds. The right to reject any or all proposals, or to accept any proposal deemed for the best interests of the county reserved. Committeee on Site and Buildings, by WALTER H. COOTS, Chairman. Board of County Auditors by LOU BURT, Chairman. 1208

CEMENT AND BROKEN STONE. [At Tybee Island, Ga.]

U. S. Engineer Office, Savannah, Ga. Sealed proposals for Portland cement and broken stone, delivered at Tybee Island, Ga., will be received here **until February 21, 1899**. CASSIUS E. GILLETTE, Captain Engineers. 1207

COURT-HOUSE. [At Leesville, La.]

Plans and specifications will be received **until March 27** by the police jury of Vernon parish for the erection of a Court-house to cost $15,000. E. E. SMART, President. 1208

ADDITION TO COURT-HOUSE. [At Aberdeen, S. D.]

Bids will be received **until March 8** by the County Auditor for building an addition to the Court-house. 1208

LIGHT FIXTURES. [At Savannah, Ga.]

Treasury Department, Washington, D. C. Sealed proposals will be received here **until February 17, 1899**, for manufacturing and placing in position in complete working order in the U. S. Court-house and Post-office, Savannah, Ga., certain con bination gas and electric light fixtures. W. B. HOWELL, assistant secretary. 1207

BARRACKS AND BOILER-HOUSE. [At San Francisco, Cal.]

Proposals will be received at the Bureau of Navigation, Navy Department, **until the 15th day of March, 1899**, for the construction of a barracks and boiler-house for the U. S. Naval Training-station, on Yerba Buena Island, San Francisco, Cal. A. S. CROWNINSHIELD, Chief of Bureau of Navigation, Navy Department. 1208

RESIDENCE. [At Lawrence, Kan.]

Department of the Interior, Office of Indian Affairs, Washington, D. C. Sealed proposals will be received **until February 20, 1899**, for furnishing and delivering the necessary materials and labor required in the construction and completion of one frame residence for the superintendent of Haskell Institute, Lawrence, Kan. W. A. JONES, Commissioner. 1207

BROKEN STONE, ETC. [At Fort Hamilton, N. Y.]

Bids are wanted **March 1** at the U. S. Engineer Office for the delivery of broken stone, sand and cement at Fort Hamilton, N. Y. 1207

Professional Ethics.

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

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

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

*

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

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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.

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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.

BUILDING MATERIALS.

Reported for the American Architect and Building News.

BRICK.—₱ M.	New York. (*Wholesale Prices.*)	Boston. (*Wholesale Prices.*)	Chicago. (*Prices to Builders and Contractors.*)	Philadelphia. (*Prices to Builders and Contractors.*)
Common: *Cargo afloat.*			Building 4 50	In Yard.
Pale	3 75 @ 4 00	Domestic Com.	sewer add 1.00	Sq. Hard 8 00 @ 9 00
Jersey	5 50 @ 6 00	8 50 @ 9 50	hollow, add 1.25	" @ 7 00
Long Island	5 62½ @ 5 75	Domestic Face	Enam. Imp. Bk.	Salmon @ 5 50
Up River	@ 6 50	18 00 @ 25 00	125 00 @ 145 00	Sq. " @ 5 50
Haverstraw Bay 2d	6 00 @ 6 50	Philadelphia	Enam. Domes.	Light Stretchers
" 1st	@	35 00 @ 40 00	70 00 @ 85 00	9 00 @ 11 00
Hollow	@ 7 00	10 00 @ 11 00	Select Red Sand-Mold...10 00	Medium "
Fronts:	@		St. Louis Hyd'lic Press..27 00	@ 12 00
Croton, Brown	@ 12 00	Phila. mould	Collinsville, do 22 00	Red "
" dark	@ 12 00	50 00 @ 80 00	Findlay, do 22 00	@ 12 00
" red	@ 12 00	Enamelled B'k.	Chicago, do assorted shades	Dark "
Chicago pressed		Imported	16 00 @ 20 00	@ 12 00
" Moulded		Enam. (edge)	Chicago, do Brown..24 00	Pressed
Baltimore	37 00 @ 41 00	105 00 @ 120 00	Chicago, do Red Roman..24 00	@ 17 00
Philadelphia	19 00 @ 21 00	" (edge & end.)	Chicago, do Br'n Roman..27 00	Paving
Trenton	17 50 @ 18 50	120 00 @ 135 00	Bushnell Buff 25 00	11 00 @ 13 0
Milwaukee		Domestic.		Second " @ 12 "
Moulded:		Enam. (edge)		Third " @ 10 00
Red Pressed	@ 29 00	90 00 @ 100 00		
Buff "	@ 27 00	" (edge & end.)		Dom. @ 85
Moulded Red & Buff	45 00 @ 70 00	110 00 @ 115 00		@ 85
Enamelled: *Imp.*				
Enamelled (edge)	85 00 @ 100 00			
Enamelled (edge and end)	90 00 @ 110 00			
CEMENT, LIME, etc. (₱ *cask.*)				
Rosendale Cement	65 @ 75	5 00 @ 1 00	*Not sold.*	1 30 @ 1 50
Louisville "		@	75 @ 1 00	S.H.Fa'l 20 @ 1 50
Utica, Akron, Buffalo, Milw'kee.	*Not sold.*	@	75 @ 1 00	@
Portland, Eng. (Gibbs)	2 25 @ 2 50		2 50 @ 2 60	2 85 @ 3 15
" " (K. B. & S.)	2 50 @ 3 00		2 50 @ 2 60	2 30 @ 2 60
" " (Black Cross)	2 25 @ 2 50	@	2 50 @ 2 60	2 85 @ 3 15
" " (Burnham)	2 50 @ 2 50	2 20 @ 2 50	2 50 @ 2 60	2 75 @ 2 85
" " (White's)	2 65 @ 3 00	@	2 50 @ 2 60	Belg'n 2 10 @ 2 40
" French (Lafarge)	3 60 @ 3 75	@ 5 00	3 75 @ 4 25	Hemmoor
" Ger. (Alsen)	2 90 @ 3 25	2 75 @ 3 00	2 90 @ 3 20	2 50 @ 2 75
" " (Fewer)	2 25 @ 2 40	B'ks, Shoobridge & Co.,	@	2 75 @ 2 85
" " (Vorwohler)	2 50 @ 2 90	English 2 30	@	Josson
" " (Lagerdofer)	@	2 75 @ 3 00	2 60 @ 2 90	2 60 @ 2 75
" " (Dyckerhoff)	2 75 @ 3 00		3 10 @ 3 30	3 00 @ 3 25
" " (Hanover)	2 50 @ 3 00	@	2 75 @ 2 90	2 75 @ 2 85
" " Stettin, (Anchor)	2 35 @ 2 45	3 50 @ 4 00	2 85 @ 3 00	B. Egl. 2 50 @ 2 75
Roman	2 75 @ 3 00	@ 7 00	2 75 @ 3 25	3 00 @ 3 50
Keene's coarse	4 25 @ 4 75	8 00 @ 9 00	6 00 @ 7 00	6 50 @ 7 00
" superfine	@ 6 50		9 00 @ 10 00	8 00 @ 9 00
Lime:				
Lime of Teil	@ 4 00	@	*Not sold.*	White Lime ₱ bush
Hydraulic Lime	@ 1 45		45 @ 55	25 @ 30
Chicago Lime in bulk	St. John @		45 @ 55	White Mash
Wisconsin Lime			*Not sold.*	1 25 @ 1 50
Rockland and Rockport, (Com.)	70 @ 75	@ 90	*Not sold.*	1 00 @ 1 00
Rockland, finish	80 @ 85	@ 95	1 00 bulk, 75c.	
Kelley Island Lime, finish	@	@	*Not sold.*	*Not sold.*
State, Com. cargo rates	@ 65	*Not sold.*	*Not sold.*	*Not sold.*
State, finishing	@ 75	*Not sold.*	1 65 @ 1 75	1 50 @ 2 25
Plaster-of-Paris (calcined)	1 30 @ 1 40	1 85 @ 2 00	1 75 @ 1 90	1 75 @ 2 50
" (casting)	@ 1 60	@ 2 25	12 @ 20	20 @
Hair (cattle) ₱ bush	14 @ 16	25 @ 30	20 @ 25	20 @
" (Goat)	17 @ 19	@ 30	1 00 00 1 25	
Sand, ₱ load	1 00 @ 1 25	1 00 @ 1 75		