

THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. LXVIII.

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No. 1279.

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

JUNE 30, 1900.

WASHINGTON, D. C.



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A VERY important decision was given recently by the Supreme Court of the United States in a case where a mistake had been made in an estimate. The charter of the City of Rochester, N. Y., provides that no bidder for public work shall have the right to withdraw or cancel his bid before the contract is awarded. The Moffett-Hodgkins & Clarke Company submitted a bid for the construction of water-works; but, after the bid was handed in, discovered that an error had been made in filling out the blanks, so that its bid was about sixty-four thousand dollars less than it had intended. As the charter precluded the direct withdrawal of the bid, the Company appealed to the United States Circuit Court, which granted a decree, declaring the bid to be rescinded. The case was carried to the United States Court of Appeals, which reversed the decision; and was then appealed to the Supreme Court, which has now unanimously affirmed the original decision. The Court held that, unless the city would permit the bid to be amended, so as to conform to the intention of the party making it, the latter was entitled to rescind it, on the ground of the mistake. It was claimed for the city that the Company, through its employé, was negligent in making the mistake; but the Court held that the negligence was not sufficient to preclude the Company from obtaining relief on the ground of mistakes which were honestly made.

KANSAS CITY is more independent than Chicago in labor matters. A week or two ago, the Building Trades' Council of that city, acting, apparently, on the usual principle of giving as much wanton annoyance as possible, and knowing that the approaching political convention would make their action particularly inconvenient, ordered a general strike of all building trades. Unfortunately for the authority of the Council, the unions composing the general organization, as a rule, coolly ignored the order, and kept at work as usual. Worse than that, the men, agreeing with their employers that the "sympathetic strike" habit of the managers of the Council was an unmitigated nuisance to all parties concerned, met, and, by a unanimous vote, declared the Council dissolved; so that Kansas City is now without means of compelling the President of the United States to enroll himself as a bricklayer before being allowed to exercise official courtesies in that place; or of exhibiting to the pitying spectator troops of barefooted and hungry women and children, such as are now to be seen in Chicago, as witnesses to the selfishness of their reckless and insolent leaders.

THE New York Tenement-house Commission has issued a circular, asking architects, builders, landlords and tenants, and other persons having any knowledge of the subject, for answers to a certain set of questions set forth in the circular.

The questions relate to the familiar points of the proper size of light-shafts and areas; the ventilation and lighting of halls; the provision of common bath-rooms, and so on, and are well adapted to elicit valuable information, the presumption being that more attention will be paid to the observations of those who can fortify them by experience than to those whose acquaintance with such matters is only theoretical.

TAXPAYERS in large cities, who have to meet the bills for engineering, construction and maintenance in connection with water-supply, will note with interest the result of the tests made in New York and Philadelphia, to determine how much, if any, of the water collected and distributed at such vast expense was wasted. In New York, the investigation demonstrated that at least two-thirds of the water brought into the city leaked away through the street-mains, without reaching the consumers at all; and, in Philadelphia, the proportion of leakage is at least as great, and is probably somewhat larger. This means, of course, that by keeping the mains tight, and avoiding leakage, the reservoirs, aqueducts and street-pipes might have been one-third their present size, with the same results to consumers, and at least two-thirds of the money spent in constructing them has been wasted. In the case of New York, this must already amount to forty or fifty million dollars, while the annual cost of bringing water from the Croton River to saturate the soil under the streets must amount to a large sum; so that the person who can show how to save all this waste, by inventing a joint for large water-pipes which will not leak, should be sure of ample reward.

THE Capitol of the State of South Carolina, at Columbia, is to be completed, nearly according to the original designs. It will be remembered that this was the principal work of the late John R. Niernsée, of Baltimore, and it is curious to read that when the building was begun, less than two generations ago, it was intended to be the finest and most costly capitol in the Union, as befitted the pride of the then rich and prosperous State of South Carolina. Now, although South Carolina seems, in comparison with some of the Middle and Northern States, hardly more than a "geographical expression," money has been raised, and the blocks of granite and marble, which have been lying on the ground for nearly fifty years, are to be set in their places. The building suffered much during the occupation of Columbia by Sherman's troops during the Civil War, the soldiers, or, more probably, the camp-followers, destroying statuary and decorations to the value, as estimated by the architects in 1865, of eight hundred thousand dollars. Besides this malicious vandalism, the building was used as a target by Sherman's artillery on the approach of his army from Lexington, and was hit ten times, six of the balls leaving marks on the outside, which are not to be disturbed.

A CERTAIN tumult has been raised in the minds of the people interested in the buildings of Harvard College by the consideration of the design for a fence with which it is proposed to surround the marvellous group of samples by which the University has sought, apparently, to illustrate all known styles of architectural art. It seems a little queer to talk about "harmony" between a fence and the Neo-Grec-Romanesque-Queen Anne-Puginesque-Elizabethan-Richardsonian-Victoria Gothic-Anglo-Hellenic-Colonial conglomeration of buildings in and about the College Yard, but it has been discovered by certain persons that a plain fence of iron pickets, like the regulation public-school enclosure, is the most "harmonious" barrier that can be put between the sacred precincts of the University and the Cambridge small boy; while others think that it would be quite as "harmonious," and more dignified, to have the enclosure consist in part of a brick wall, limited to a height of perhaps forty inches, so as not to obstruct the view of the College Yard from the street, with iron fencing above. It is suggested that in this way, by carrying up the brick walling at intervals to the top of the fence, spaces would be obtained for the display of memorial sculpture, which could hardly be inserted with advantage in an iron paling. The growth of artistic sensitiveness has been so rapid in and about Boston of late, especially since the adoption, in the Shaw memorial, of the delicious idea of building a monument around

the trunk of a living tree, that we shall be quite prepared, when the time comes for the decoration of the College Yard with sculpture, to see the statues aesthetically suspended from the limbs of the elms which form the chief ornament of that enclosure; so that a provision for bas-reliefs in the fence surrounding it seems to us unnecessary; but, independent of this consideration, we agree with those who would like to have a low brick wall form a portion of the fence. The need of "harmony" between any of the buildings and the fence is much less than that of harmony among the buildings themselves, and as these are mostly of brick, an enclosing wall of the same material would do a great deal to "bring them together," and soften the effect of incongruity and want of thought which is now almost painfully felt in viewing the group of college structures.

ARATHER doubtful scheme is under consideration in New York, for building an artificial island in the harbor, accessible both to vessels and to the New Jersey railroads, and intended to serve, like the Chicago and St. Louis stock-yards, as a "freight clearing-house," where ocean steamers can unload, and have the goods that they bring transferred immediately to the trains by which they are to be carried to their destination, just as cattle are transferred in the stock-yards, which are open to all railroads on equal terms. The origin of the movement is said to be the excessive wharfage charges on the mainland, and the advantages which might be gained by arranging docks and railway tracks in more convenient relation to each other than they now are in New York and New Jersey.

NOTWITHSTANDING what might be gained in this way, quite as much would, apparently, be lost by transferring the ocean-freight business to an artificial island. If it were desirable to build docks at a distance from New York, Staten Island, which could easily be connected by railroad with the mainland, is available, without obstructing the harbor with new constructions; but it remains to be proved that it would be either convenient or profitable to send steamers there, rather than to the city. Boston has, or could have, with a little energy on the part of the railroads, a remarkably convenient system, by which steamers and trains can lie alongside each other in the very heart of the city, within a ten or fifteen minutes' journey from the Custom-house, and the banks and shipping-offices of State Street, but this has not done very much to increase the commerce of the port. In the case of New York, it is not pretended that a distant island would be a desirable landing-place for passengers, or a convenient location for shipping-offices, and the promoters of the new scheme say that the express steamships, which carry most of the first-class passengers and the mails, would use their present docks in the city. As all the great lines maintain a freight as well as a passenger service, this would obviously involve keeping up a double set of docks, sheds, offices, baggage-rooms and so on, at an expense which the advantage to be gained would not justify, while the railroads, if they must choose between laying tracks to an island clearing-house for tramp steamers, or to the docks of the great express lines, would certainly choose the latter. As the project must be approved by the military authorities of the United States, as well as by the State Government of New Jersey, it will, at least, be thoroughly considered, and some months are likely to pass before any decision is reached.

THE editors of the *Deutsche Bauzeitung* ask from their readers an answer to a question of great importance to us, as well as to German architects and householders. In a certain dwelling-house, the ends of the first-floor beams are found to be badly rotted; they are brown, marked with transverse cracks, and can be crumbled with the fingers. The ceiling is sheathed with boarding on the underside of the beams, and whitewashed on the boarding; between the beams is a filling of coke-ashes, and a wood floor is laid on top. The sheathing of the ceiling, on the removal of the whitewash, shows signs of dry-rot, and some of the sheathing-boards, when removed, show on the upper side the gray, lathery plates of the dry-rot fungus. No one can doubt the character of the disease from which the floor suffers, but opinions do not agree as to the remedy. One opinion is that the whole floor is infected, and that the beams, sheathing and flooring should be removed. On the other hand, the middle portion of the beams appears sound, and there is no sign of rot in the flooring, and

it would be much less expensive, if it were safe, to remove the infected sheathing, cut off the rotten ends of the beams, and support the remaining portion by iron girders; and the editors of the *Deutsche Bauzeitung* ask their readers to say what they think about the matter.

FOR our dry climate, architects would undoubtedly advise supporting the beams with an iron girder at each end, and cutting off the rotten portion in the wall, removing at the same time the sheathing of the ceiling, which most American architects would advise leaving off entirely, in order to give free access of air to the beams. It is well known that a free circulation of air will check incipient dry-rot, and timbers which have mycelium threads through them will last many years if the growth of the fungus is checked; while new, fresh timber, set into the recesses in a stone wall from which rotten timber had been removed, would almost certainly be infected, without delay, by the spores or mycelium threads remaining in the stonework. It is said that mycelium threads have been known to run for some distance through the concrete of a cellar floor, to reach a piece of fresh timber, and the pores of a damp stone wall would afford them an excellent opportunity for shelter and development. Most architects, probably, have found that a new timber, set in the place of a rotten one removed, is almost always quickly infected; so that it would be unadvisable to put fresh beams in place of the old; and, if the middle portions of the old beams were still capable of carrying a load, our architects would probably, on general principles, arrange to have them do so until the necessity for further operations were demonstrated. As problems of this kind are of constant occurrence in architectural practice, it is a pity that some method cannot be devised for checking incipient dry-rot with sufficient certainty to enable architects to use it with confidence. Every one knows that creosoting, or Burnettizing, or Kyanizing, will, to a great extent, prevent the development of rot in wood; but all these processes, to be of any use, must be applied before the timber is utilized for building; and no method is known, or, at least, practised, for destroying the fungus in place. It is possible that formic aldehyde vapor might penetrate the wood deeply enough to accomplish a result, which a mere external application of creosote or corrosive sublimate is incapable of reaching, and some student of applied chemistry might do worse than investigate the subject.

THE great Chicago strike has practically ended in the complete defeat of the Building Trades' Council, which has lost its most powerful constituents by withdrawal, and will, apparently, soon cease to exist. The Bricklayers' Union, which President McKinley was compelled to join before the Council magnates would allow him to go through the ceremony of laying the corner-stone of the new Federal Building, was the first which voted to withdraw, on the ground of the inability of the Council to bring about a settlement of the strike; and it immediately followed this action by the appointment of a committee of arbitration, to meet the corresponding committee of the Contractors' Association, and arrange a two-year agreement, under which the members of the union will be given such work as is available for them. The Structural Ironworkers', Plumbers', Gasfitters' and Plasterers' Unions have for some time contemplated withdrawal from the Council, but have hesitated to take the first step in opposition to what was, not long ago, a great and cruel tyranny. Now, however, that the Bricklayers' Union, the strongest and most influential member of the Council, has set the example, the smaller bodies are not likely to delay long in putting themselves again in the way of earning an honest living. It is hardly necessary to point out that, through this action, the contractors have gained, indirectly, all that they contended for. They demanded the abolition of the system of sympathetic strikes, and the body which was in the habit of ordering and managing them is, by the action of its own members, crippled, if not dead; they demanded the right to make contracts with the individual trades, binding on both parties, on what is known as the Boston system, without interference from the Council; and the unions, after renouncing their allegiance to the Council, have themselves begun to come forward to make such contracts. Following the dissolution of the Kansas City Building Trades' Council, the collapse of that of Chicago affords encouraging evidence that the voice of common-sense is at last making itself heard among the Western mechanics.

A DAY IN PROVENCE.—I.



Eleventh-century Door, Aix Cathedral.

DURING the first weeks of the tour of the Summer School of Architecture, we had been looking forward to the architectural treasures of the Rhône valley, and, while pushing our bicycles over the long mountain grades of the Riviera, had often comforted ourselves with thoughts of the level country ahead. The eastern edge of the great plains of the Camargues, however, is quite broken by rocky hills and ravines; so, as we journeyed from Marseilles in the afternoon train, stopping at all the little stations of a branch

the environs of Aix harmonize with the tradition of this most ancient Roman settlement of Gaul, the resting-place of the legions of Marius



Fifteenth-century Door, Aix Cathedral.

and Cæsar. But the baths, palaces and temples of Aquæ Sextiæ, visited by consuls and patricians as early as the second century before Christ, were destroyed by the Saracens in the eighth century, and the modern city gives little evidence of its former splendor. Aix-en-Provence is, however, a most interesting town. Its broad boulevards shaded by dense screens of foliage, its numerous fountains, statues, and large modern buildings indicate that the former



The Cloisters: Aix Cathedral.

road, our approach to Aix was varied by numerous tunnels leading to the long curved viaduct over the River Arc.

On either side, the deep green valleys, the water-worn rocky hills, and even the gray house-tops of occasional villages seemed to tell of the ancient character of the land. Far older in appearance than the fertile plain of northern Italy or the mountains of the Riviera,

capital of Provence is to-day deeply interested in progressive municipal government.

Taking our bicycles from the train, and seeing that no repairs were needed, we soon wheeled into the shadows under the leafy covering of the magnificent Cours Mirabeau, and at last, among the larger houses of the northern side, found the Hôtel Nègre Coste.

In the early morning, after paying for a table d'hôte dinner, a bed, and a good breakfast the moderate sum of six and one-half francs each, we oiled bearings and made all ready for the fifty-mile ride before us. Deciding that we had not time to visit the paintings and antiquities of the Museum, or the modern buildings of the Ecole Nationale des Arts-et-Métiers, we bumped along the rough stones of the older streets, passing the colonnade of the Palais de Justice and the memorial obelisk fountain in the Place des Prêcheurs. At the upper end of the Place we stopped to examine the Dominican church of Sainte Marie Madeleine, attracted by M. Révoil's bold Renaissance design for the façade. Thence by devious ways we went on, past the prisons and corn-market, to the Hôtel de Ville and belfry. Only the narrow end of the Hôtel de Ville faces the public square, and this side gives little idea of the real extent of the building. Its modern additions somewhat disturb the original design; but its three stories certainly show Renaissance details that in general character are far more Italian than French. Close to the corner rises the belfry, erected 150 years earlier than its seventeenth-century neighbor—a plain mass of stonework that is varied only by the archway and heavy cornice, although the plain walls are a little softened by the Gothic decorations and old clock-face, and relieved by the curious wrought-iron railings and bell-spire. During our tour in the Rhône valley we noticed many bell-towers resembling this open structure at Aix; but some were far richer in detail, with wrought-iron work showing great variety in design.

Coming at last to the square in front of the Cathedral, we placed our wheels against the walls of the Académie, and began our search for architectural traditions. No better example of changes in the development of French mediaeval architecture could be chosen than that offered by the two entrance-doors of the Cathedral of Saint-Sauveur. The southern door opening into the nave of the eleventh-century church has the Romanesque corner columns, raised circular arch, and carved horizontal mouldings of the earliest Provençal type—a development from local Roman monuments and Eastern churches. On the other hand are found in the decorations of the central portal all the elements of northern Gothic work. Its deeply recessed and moulded archway, flanked by strong, yet richly decorated, buttresses, its canopies, statues and double doors of curiously carved woodwork, show the elaborate treatment of the latter part of the fifteenth century.

The interior of the church, moreover, has a similar variation in style. Of the three naves the southern is by far the most interesting to the architectural student, because of its simple treatment of pointed stone vaults and arches. Near the middle of the old nave the usual

Provençal vault design is varied by the introduction of a ribbed octagonal dome that rests, with the help of conical trumpets, upon four large circular arches—a unique arrangement, entirely in keeping with the rest of the roof, yet serving to enlarge and emphasize

the central part of the nave after the fashion of the domical Byzantine churches of the East. Opening off this nave is the octagonal room or baptistery, still retaining its sixth-century form, and possessing eight antique marble and granite columns that originally came from a pagan temple erected to Apollo on the same site.

But the gem of the whole is the little Romanesque cloister placed on the south side of the church and surrounded by the walls of the Archbishop's Palace. This is one of the most interesting examples of monastic architecture in this part of France, since within its small area a great variety of carved capitals, piers, twisted and coupled columns, and arch decorations is still in fairly perfect condition. Last summer the arches of one side required

the assistance of wooden supports, but it is to be hoped that all necessity for temporary braces will soon be removed and the whole arcade properly restored.

Returning from the Cathedral to the new part of the town by way of the Boulevard Notre-Dame, we skirted the walls and gardens of the city "thermal establishment," which dates from the baths constructed in 124 n. c. by the Roman consul Sextius Calvinus. However, as little of the original structure now remains, and water at 97 degrees temperature did not seem inviting on a warm July morning, we continued our way to the Place de la Rotonde, to see by daylight the fine fountain we had passed the night before when entering the city. Placed at the centre of a large open circle formed at the junction of three boulevards and two streets, the Fontaine de la Rotonde has within its huge ninety-foot basin a generous play of water, that in this region of brilliant sunshine is particularly refreshing to eye and ear. Crouching lions, boys and swans, dolphins and conventional ornament help to vary the regular lines of the three huge basins. The top is finished by three standing figures, Justice, Art and Agriculture. These face the three principal avenues, but seem small in scale for such a conspicuous position.

Taking the boulevard to the right of the fountain, we were soon riding over the national route to Nîmes, having first a stiff climb out of the valley of the Arc. At the top of the hill we found ourselves at the beginning of one of the long straight runs common to the great first-class roads of



Fontaine de la Rotonde, Aix.



Hotel de Ville and Belfry, Aix.

France. For seven long miles we rode up and down hill, over a dazzling white surface and without shelter from the intensely hot sun. Fortunately, the two-mile coast down to the railroad crossing diminished the labor; but, after we reached the rising grade,

there was little respite until we came to the bend in the road at La Pile.

Dismounting in the shade of the trees around the Fontaine d'Armeux, we drank as freely as we dared from the carved water-spout, thrust arms and heads into the dark waters of the great stone washing-basin, and tried to cool off by lying on the grass and watching farm life about the solitary house on the other side of the road. And what a welcome relief to our burned eyes the green shadows and cool water afforded after the blinding sunlight of the roadway! No more fatiguing work can be found than the monotonous pedalling along such a great national road. We therefore were in a position to appreciate the task of the helmeted postman who stopped to deliver a letter at the farm-house, and then courageously pegged away in the heat and sunlight. After our short rest we passed into the sunlight again, and the distance to St. Cannat was quickly covered. But we stopped in the village streets only a short time, to look at the ancient tower of the church, and to examine several interesting though half-destroyed fragments of Renaissance houses, possibly the remains of a château of the Bishops of Marseilles. The doorways and window mouldings of these buildings seemed unusually weather-worn and battered, probably on account of the exclusive use of soft stone for the façades. Taking the right fork of the road at the centre of the village, we rode some three miles farther on, continually ascending over barren, rolling hill-tops, until we reached the summit and looked down into a narrow valley where the gray roofs of Lambesc were surrounded by a green wall of trees.

Though the "Guide Joanne" states that Greeks from Marseilles established a prosperous market here, that Lambesc was a thriving town in the sixth century and had its own lords in the Middle Ages, at present the nearest railway is eight miles away; and all traffic and communication are carried on by the great roads alone. We expected to find interesting buildings in this town, and we were not disappointed. It proved to be a rambling place, built on the slope of the hillside and divided, after the fashion of most of these old southern cities, into old and new quarters. In the upper part of the lower section rises the ancient clock-tower, bearing an iron belfry even more elaborate than that seen at Aix. Many very old houses line the narrow side-streets, the Renaissance houses apparently predominating in the section we visited. But we were searching for the dome of the church that we had seen from the hills, and did not stop to examine the tower details.

The church is placed on the north side of an irregular square surrounded by high houses, and has a broad, uninteresting Renaissance façade, decorated with engaged columns and horizontal entablatures. The interior is overloaded with pilasters, but as a whole is dignified and sombre in aspect because of the dark color of the stone and the method of top-lighting through the windows of the central dome. The details of both exterior and interior suggest Italian influence throughout. The fact that the town was almost completely destroyed in the wars of the thirteenth century may account for the absence of older details in the body of the building. The most attractive part, however, is the Gothic spire that rises on the west side of the nave from the fortress-like walls of what seem to be the remains of a Romanesque church. Because of its bold shadows and graceful window decorations, this fragment is crisp and vigorous, especially when compared with the cold details of the rest of the building.

A little later, while seated at a café table, drinking a bottle of "limonade," we were much amused by the arrival of the steam omnibus from Cavaillon—a huge vehicle that with infinite labor puffed and rattled up the stiff grade of the main street. When we passed the noisy apparatus on our quiet bicycles, although it had stopped to discharge passengers, it still kept up an infernal racket, to which every one on board seemed entirely oblivious. From several incidents of this sort, we at last came to the conclusion that French countrymen have an innate love for machinery, the utility and convenience of the apparatus having little to do with the question.—E. B. Homer, in the *Technology Review*.

[To be continued.]

SPECIFICATION FOR IRON AND STEEL WORK IN BUILDINGS.

THE caption of the specification, as usual, should state the character of the work and for what building operation it is to be employed, giving, of course, the location, for whom it is to be erected, the name and business address of the architect, as well as the date upon which the specification is executed. This information is usual with any specification, and its arrangement is a matter of individual judgment. The specification may then proceed somewhat as follows, exceptions being duly noted or elaborations made where particular conditions require:—

General Conditions.—The general conditions, as stated in the principal specification, and forming a part of the stipulated contract, shall apply to the execution of all work described under this heading, unless especially excepted, it being understood that all such exceptions refer only to the clause to which they relate.

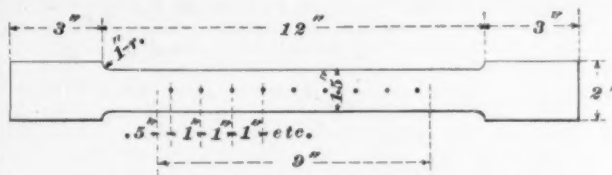
Description.—The steel-frame structure of the building shown on the plans is to provide support for eighteen floors as well as the roof, and is to be braced against lateral movement by sway-rods located in the several bays indicated on the drawing.

All built-up sections, which include columns, girders, and trusses, shall be composed of rolled-steel sections securely riveted together; likewise, the beams and channels used in the floor-construction, as well as the sway-rods, shall be of rolled steel, all of which material is to possess such properties and fulfil the requirements of such tests as will be hereafter stipulated.

Extent of Contract.—The contractor is to provide and erect in place the entire structural framework as indicated by the framing plans, of such material and workmanship as herein specified, or if not specified to the entire satisfaction of the architect or his representative.

Material.—All structural steel to be used throughout the structure shall be of either the Open Hearth or Bessemer process, duly tested and inspected at the place of manufacture, prior to shipment.

The tensile strength, limit of elasticity, and ductility, shall be determined from standard test-pieces cut from the rolled shapes, or plates. The shape of the standard test-pieces for sheared plates, or rolled shapes, shall conform to the following figure. The test-pieces for other material shall be planed, or turned parallel, throughout their length, and the elongation shall be measured on an original length of eight inches unless the finished material is five-sixteenths or



Piece to be of the same thickness as plate

less in thickness, in which case the elongation shall be measured in a length equal to sixteen times the thickness; or in rounds, five-eighths inch or less in diameter, in a length equal to eight times the diameter of the test-section. Two test-pieces shall be taken from each melt or blow of finished material, one for bending and one for testing.

The test-pieces in every case shall be subjected to the same processes as the material used in the structure. If the material is used as it comes from the rolls then the test-pieces shall not be subjected to any annealing or similar process; but if the material is treated after leaving the rolls the test-pieces shall undergo like processes.

Every finished piece of steel and every bar of steel for pins or rivets shall be stamped with the "blow" or "melt" number in such a manner as will be clearly discernible.

All finished rolled sections must be free from injurious seams or cracks and have a workmanlike finish.

The steel to be used in the structure shall not contain more than .10 per cent of phosphorus.

The steel used for rivets shall have an ultimate strength of 48,000 to 58,000 pounds per square inch; elastic limit not less than one-half the ultimate strength; elongation, 26 per cent; bending test, 180 degrees flat on itself without fracture on outside of bent portion.

The columns, girders, beams, angles, and all rolled shapes and plates shall have an ultimate strength of 60,000 to 68,000 pounds per square inch; elastic limit not less than one-half the ultimate strength; elongation, 22 per cent; bending test, 180 degrees, to a diameter equal to the thickness of the piece, without fracture on the outside of the bent portion.

All pins used in connections shall be of medium steel fulfilling the requirements of ultimate strength, elastic limit and bending test as above specified, excepting that the elongation shall be decreased 5 per cent, and that all test-pieces shall be cut at a depth of one inch from the surface of finished material where practicable.

The material for the sway-rods shall also be of medium steel of the quality as heretofore mentioned. Full-size tests of these rods shall be required to show not less than 10 per cent elongation in the body of the bar, and a unit tensile strength not less than 55,000 pounds. Two-thirds at least of the bars so tested shall break in the body.

The cast-iron used in conjunction with the steel structure shall be of tough gray iron, clean casting, and free from injurious cold-shuts and blow-holes, also excessive warping, or defects produced by misplaced or floating cores. The patterns, to which the castings must be true, shall be of such a design that internal strains due to improper distribution of the metal are not likely, and ample fillets shall be provided at all angles. Test-bars of the metal, 1 inch square, loaded in the middle between supports 12 inches apart, shall sustain 2,500 pounds or over, and a deflection of .15 inch shall take place before rupture.

Drawings.—The contractor shall furnish all the necessary shop-drawings, templates and patterns, and all the measurements he may require at the site shall be taken by him at his own expense. The shop-drawings, which shall show in detail all connections and features of the construction, shall be submitted to the architect or his engineer for approval, and any changes or additions required by him shall be made before the work proceeds.

Inspection.—The contractor shall furnish to the architect or his inspector all facilities for the proper inspection of the material and workmanship, and shall allow him free access to any part of the works in which any portion of the material is made.

All test-pieces of the several kinds of material to be used in the structure shall be furnished and prepared by the contractor, free of charge. Where full-size members are required for testing, they shall be provided, and if when tested they fail to fulfil the requirements of the specification, they shall be at the loss of the contractor; but if upon testing they prove to be satisfactory, the owner will pay the cost less the value of material as scrap.

No work shall be delivered unless approved by the architect or his inspector and any damage in shipment will be made good by the contractor.

Painting. — Before shipment all work shall be cleaned thoroughly from loose scale or rust, and given one good coat of pure boiled linseed-oil, well worked into all joints and open spaces. Finished surfaces shall be completely covered with white-lead and tallow.

During assembling all abutting surfaces shall be painted before being bolted or riveted together, and parts not accessible after erection shall have three coats of paint.

After erection the structure shall be given two good stiff coats of paint mixed in pure linseed-oil, the paint to be of a good quality oxide-of-iron, subjected to the approval of the architect or his engineer.

Live-load. — Besides the dead-load, or the weight of the materials, the steel structure shall be required to sustain a live-load of 50 pounds per square foot upon all floors except those used for public assembly; upon these floors, which are designated on the plans, a live-load of 80 pounds per square foot shall obtain.

Column Bases. — Cast iron column bases shall be provided, and set in the basement on piers built to receive them, for the purpose of spreading the bearing of the steel columns. They shall be provided with upper and lower flanges, ribbed between, so that the unit compressive stress of 13,000 pounds is not exceeded, nor a unit fibre-stress of 5,000 pounds under transverse stress. The ribs shall, however, in no case be less than one and one-eighth inch in thickness. The lower flange must be reinforced around the outside edge by a rim of the same thickness, and of a height equal to the thickness of the flange.

The bases are to comply in quality of metal with that specified, and must be faced, either by milling or planing, upon both the top and bottom flanges, the surfaces being parallel.

All holes in the upper flange for connecting the columns shall be drilled; those in the lower flange for the anchor-bolts or for grouting may be cored.

In setting these bases great care must be exercised, as the architect, upon inspection, will condemn those that are not level, or are out of alignment more than one-sixteenth inch and varying more than one-eighth inch from the required grade. In setting the bases they shall be supported on wooden wedges and grouted with Portland-cement poured through the holes left for that purpose in the lower flange. The grouting shall be composed of equal parts of Portland-cement and sand, mixed together in a box with enough water so that the mixture will just flow. The grouting must be used immediately upon mixing.

Columns. — The columns shall be designed to carry the full live-load upon the floor above and 50 per cent of the stipulated live-load accruing from the other superimposed floors, and shall also be required to sustain any stress from sway or wind bracing that may be transmitted to them. They shall be composed of Z-bars and plates and shall be so proportioned that the unit compressive stress shall not exceed 12,000 pounds for columns whose lengths are under 50 radii of gyration; for columns of greater length than this, the direct unit compressive-stress shall not exceed the value obtained by the formula $15,000 - 57 \frac{l}{r}$, where l equals the length of the column in inches and r the least radius of gyration.

In no case shall any column be used having a greater length than 150 radii of gyration, or forty-five times the least dimension of the column. If the column is required to sustain a transverse stress due to eccentric loading, it shall be proportioned so that the combined direct compressive-stress and the fibre-stress due to bending does not exceed more than twenty-five per cent, the allowable stress from the direct load on the column.

The feet of the columns in the basement are to be provided with a 1-inch steel-plate base, secured by means of angles and web-plates, riveted to the columns. The rivets through the base-plate are to be properly countersunk, and bolt-holes are to be provided for securing the steel column to the cast-iron base.

The base of the basement columns, as well as all abutting ends of other columns, are to be milled or planed, the finished surfaces in all cases being perpendicular to the axis of the column. The operation of finishing must be accomplished after all the shop-riveting and other work upon the column has been completed. The length of the finished column must be within one-thirty-secondth inch of that required, and the distance from the axis to the centre-line of holes for beam and other connections must not vary more than one-sixteenth inch.

The connections between the tiers of columns are to be riveted, the joints being composed of angle-clips upon two sides, at the lower end of one column and the upper end of the other, between which angles is to be placed a base-plate of $\frac{7}{8}$ -inch steel-plate. In the connection there is also to be used, upon the other two sides, vertical splice-plates, $\frac{3}{4}$ inch thick, of the same width as the column, and extending at least twenty inches each side of the junction. The column splice is to be made about three feet above the top of the floor-beams.

The floor-beams are to be connected to the columns by means of bent plate-brackets, which shall be provided for both the top and bottom flanges of the beams. The bottom bracket shall be riveted to the column in the shop, and be reinforced under the centre-line of each girder or beam by angle-brackets also riveted to the column, filling-pieces being used where required. The bent plate-bracket connecting the upper flange of the beams to the column shall be riveted to the beams, and after they are in place holes shall be drilled in the column to suit those in the vertical leg of the bracket. In all cases this shall be done in order that the reaction at the ends of the beams is entirely taken up by the nether bracket.

The connections for the sway-braces shall be such as to realize 20 per cent more than the assumed strength of the rod, and shall be so designed that the stress on the rod is transmitted to the column centrally, so that there shall be no tendency to turn the column on its axis.

Where built-up or compound girders connect to a column they shall, besides being riveted to the column through the end stiffeners, rest upon and be riveted to a triangular bracket composed of a gusset-plate at least five-sixteenths of an inch thick, reinforced with angles upon both sides. All such gusset-plates, angles and knees must be of steel, and all bending is to be done across the fibre of the metal while hot, the finished pieces to show no sign of checks, cracks, or flaws of any character likely to affect the full strength of the metal.

Filling-pieces, with rivet-holes drilled to suit, must be provided wherever required to pack up solidly back of angles, knees, or braces.

In reducing the weight of the columns from tier to tier as the load decreases towards the top, the thickness of the rolled sections shall be reduced wherever practicable, instead of their dimensions, so that the beam-and-girder connections may be more conveniently made, and be of uniform design throughout.

The rivets in the connections are to be proportioned to withstand the vertical shear produced by the beam-and-girder reaction, and also any shear produced by the stress on the stay-rods or wind-bracing.

The pitch of the rivets for a distance of 2 feet from the base or connections is not to exceed 3 inches, and the pitch throughout the intermediate length of the column shall not be more than sixteen times the thickness of the thinnest outside plate or member connected, and in no case more than six inches. All other limitations are as specified under the heading "Riveting."

In setting the columns they must be plumb and have a true bearing; no shimming or wedging will be allowed. If they are found otherwise the architect or his inspector shall stop the work until the defect is remedied.

Girders. — All plate or riveted girders are to be proportioned to sustain, besides the dead-load, the total live-load upon the floor-system which they support. The depth of the girders shall be one-sixteenth of the span, except where the head-room is limited, in which case the depth of the girder may be designed to suit; but it shall be determined that the minimum deflection under full load shall not be more than one-thirtieth of an inch for each foot of span.

The safe unit fibre-stress in the flanges shall not exceed 15,000 pounds, and the safe unit shearing-stress in the web shall not be greater than 12,000 pounds.

In resisting bending or transverse stress the flanges alone shall be considered, and in long girders where splices occur in the flange-angles such splices shall break joints and occur as far as possible from the point of greatest bending-moment. The splice in the lower flange must in all cases be of sufficient strength to realize the resistance of the net section of the flange-angles.

The flange-area to resist bending shall be considered as the net section, all rivet-holes being deducted, and the flange-area required shall be proportioned by the formula: —

$$A = \frac{M}{SD}$$

Where A equals the net flange-area required, M the bending-moment in foot-pounds, S the safe unit fibre-stress of the material, and D the depth of the girder in feet, considered from the centre-of-gravity of the flanges.

The web-plate shall be proportioned to resist the greatest shear, and its thickness shall be determined by the formula: —

$$T = \frac{S_1}{D_1 \times S}$$

Where T equals the thickness of the web-plate in inches, S equals the allowable unit shearing-stress in pounds, S_1 equals the greatest vertical shear in pounds on the girder, and D_1 equals the net depth of the web-plate in inches — i. e., the actual depth minus the aggregate diameter of the rivet-holes in a vertical line at the point of greatest vertical shear. In no case, however, shall the thickness of the web-plate be less than five-sixteenths of an inch. Where the girder is unsupported against lateral deflection, and the span exceeds twenty times the width of the top flange, the area in the flanges shall be increased by the formula: —

$$A_1 = A \left(1 + \frac{(l/w)^2}{5,000} \right)$$

Where A_1 equals the gross area required in the top flange, the girder being unsupported laterally; A the gross area required in the top

flange, the girder being supported laterally; l the length of the span in inches, and w the width of the flange, likewise in inches.

If flange-plates are necessary to provide sufficient flange-area, they shall, where possible, have the same combined net sectional area as the flange-angles. This being impossible, the flange-angles shall be of the heaviest section rolled. Where one flange-plate is used it shall extend the entire length of the girder. If, however, two or more flange-plates are necessary, all but the one adjacent to the flange-angles shall extend each side of the centre only as far as is required to resist the bending-moment.

The length of such plates, where the girder is uniformly loaded, shall be determined by the following formula:—

$$L_1 = 2 + L \sqrt{\frac{A_1}{A}}$$

Where L_1 equals the required length in feet of the plate in question, symmetrically arranged about the centre of the span; L the length of the girder in feet between the centres of the supports, A_1 the total net area, in square inches, of all the plates from the outside of the flange, including the one in question; and A equals the total net area of the flange, likewise in square inches.

Stiffeners of steel angles adjacent and upon opposite sides of the web-plate shall be provided and held by rivets through the web-plate. Such stiffeners shall be used on all girders where the distance between the flange-angles exceeds seventy times the thickness of the web, and in no case shall angle-stiffeners be omitted from the bearing ends of the girder, and under points at which concentrated loads are applied.

Where stiffeners occur throughout the length of the girder they shall be spaced at a distance apart equal to the depth of the girder, provided such a distance does not exceed five feet.

All stiffeners are to be placed over fillers or packing pieces, and their ends shall butt tightly against the under side of the horizontal leg of the flange-angles.

The angles used for stiffness shall not be less in size than $2\frac{1}{2}'' \times 2\frac{3}{4}'' \times \frac{1}{4}''$, and where they occur at the abutments and under concentrated loads, shall be proportioned to sustain the full vertical load or reaction occurring at these points.

Where the web is spliced, which shall only be done when the length is such that it cannot be rolled in one piece, the junction shall be made as near as possible at a point where the shear changes signs, and preferably under a stiffener.

Sufficient rivets must be placed at a pitch of 3 inches through the ends of all flange-plates, to equal in resistance that of the net section of the plate; the intermediate rivets to be placed at the maximum allowable pitch.

Enough rivets shall be placed through the flange-angles and web so that the aggregate resistance of all the rivets between the ends of the girder and any panel point shall equal the sum of the increments of the longitudinal stress accruing from the load between the abutment and the point considered. In no case, however, shall the maximum allowable pitch be exceeded.

An ample number of rivets shall be placed through all stiffeners so that their resistance will equal the vertical shear upon the girder at the point where they are located, the maximum allowable pitch not being exceeded.

A bearing-plate, $\frac{3}{4}$ to 1 inch in thickness, shall be riveted to the bottom flange of the girder at the bearings, with countersunk rivets, and similar plates shall be provided where any columns or secondary girders bear upon the upper flange.

All supports or brackets for floor-beams shall be amply reinforced and so designed that the full loads the beams are capable of sustaining shall be realized.

Beams.—The floor-beams are to be proportioned to sustain the full live and dead load upon the floor, and when fully loaded the extreme fibres shall not be subjected to a unit-stress of over fifteen thousand pounds, and in no case shall their depth in inches be less than one-half the span in feet. Where two or more rolled-steel beams occur side by side, cast-iron or pressed-steel separators shall be placed between, and through-bolts provided. For all separators between beams 10 inches in depth and under, one $\frac{3}{4}$ inch diameter bolt shall be furnished; for those over 10 inches in depth two bolts of the same diameter shall be provided. These separators must be placed at a distance not farther apart than 8 feet, and must be placed at each and every connection or bearing, and they must accurately fit the web and flanges of the beams composing the girder.

Any holes necessary for ties between the floor-beams, to take the thrust of the floor-construction, shall be placed by the contractor, the ties, however, to be provided by the erector of the floor-construction.

Rivets.—All rivets to be of mild steel of the quality as before specified. The allowable unit-stress for rivets under shear shall not exceed 9,000 pounds, and the allowable bearing-stress 18,000 pounds.

No rivets are to be used in tension, nor are they to be so proportioned in any connection as to be subjected to bending. An excess of 25% shall be allowed in proportioning all connections or joints in which field-rivets are to be used.

The holes for shop-rivets in metal five-eighths of an inch in thickness or less, may be punched or drilled, but they must not be more than one-sixteenth of an inch larger than the diameter of the rivet. Where the plates are over five-eighths of an inch in thickness the holes for the shop-rivets shall be punched $\frac{1}{8}$ inch smaller in diameter than the rivet, and reamed to the required size. In plates over one inch in thick-

ness, however, all rivet-holes shall be drilled. All holes for field-riveting shall be accurately drilled to a templet while the connecting parts are temporarily placed together.

The maximum pitch of rivets in the direction of the strain shall be 6 inches, though in no case shall it exceed sixteen times the thickness of the thinnest outside plate or rolled section riveted, nor more than thirty times the thickness in a direction at right angles to the strain. The minimum pitch must not be less than three and one-half times the diameter of the rivet. The grip shall in no case be more than four times the diameter of the rivet.

The distance from the end of a plate or rolled section to the centre line of rivets shall never be less than the thickness of the plate plus one-half the diameter of the rivet plus one-half inch, while the distance from the side of a plate or rolled section shall not be less than the thickness of the plate plus one-half the diameter of the rivet plus $\frac{1}{8}$ inch.

In addition to being milled straight, all members wherein the rivet-holes are punched must be sent to the rolls and straightened before they are assembled.

Should the alignment of the rivet-holes be imperfect, they must be reamed, and in no case shall a drift-pin be used as a swage to bring the holes together.

The rivet-heads must be of hemispherical shape, and of a uniform size for the same size rivet throughout the work. They must be full and neatly finished throughout the work, and concentric with the rivet-hole.

All rivets when driven must completely fill the holes, the heads being in full contact with the surface, or countersunk when so required.

Wherever possible all rivets shall be machine-driven, either steam, hydraulic or pneumatic, and in any case the machine must be capable of holding on to the rivet when upsetting is completed.

When shearing strains are to be transmitted by bolts, the holes must be reamed parallel, and the bolts turned to a driving fit.

Pins.—All pins for sway-bracing shall be of the material heretofore specified and shall be proportioned to withstand both the bending and shearing stresses.

The allowable unit stress on the extreme fibres due to bending on the pin shall not exceed 18,000 pounds, the bending-moment in all cases being considered between the centre of bearings of the strained members.

Ample bearing shall be provided for all members connected by the pins, and the allowable unit bearing-stress shall not exceed that for riveted members.

Sway-rods.—The sway-rods shall be of the quality of material heretofore specified, and they shall not be subjected to a greater unit tensile-stress than 18,000 pounds.

The rods must be perfectly straight, and the loop or eye must be in line with the centre of the rod, and be formed from the bar; no welds in the body of the bar will be allowed.

Turn-buckles of sufficient size to realize the full strength of the normal section must be provided for each sway-rod, and where possible shall be located not more than three feet above the floor-beams in the tier which they connect. MAURICE M. SLOAN.



WASHINGTON ARCHITECTURAL CLUB.

THE annual meeting of the Washington Architectural Club was held in the club-rooms at the "Octagon" on June 2d. The following officers were chosen to serve during the ensuing year: *President*, Theo. F. Laist; *Secretary*, Percy Ash; *Treasurer*, Carl F. Grieshaber; *Directors*, E. A. Crane, Arthur B. Heaton, Waddy B. Wood, Elwyn Green; *Delegates to the Fine-Arts Association*, Messrs. Wheaton, Baker and Donn; *Alternates*, Messrs. Marsh, Peter and W. W. Stevens. PERCY ASH, *Secretary*.



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

A COMPETITIVE DESIGN FOR YALE COLLEGE MEMORIAL BUILDING, NEW HAVEN, CONN. MR. R. H. ROBERTSON, ARCHITECT, NEW YORK, N. Y.

SECTIONS OF THE SAME GROUP.

LES ALISCAMPS [CEMETERY] AND THE RAMPARTS, ARLES, FRANCE.

CLOISTER ANGLE AND WEST FRONT OF THE CATHEDRAL, AIX, BOUCHES-DU-RHÔNE, FRANCE.

SEE "A Day in Provence," elsewhere in this issue.

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

PROPOSED CHURCH, NEWCASTLE-UPON-TYNE, ENG.

This plate is copied from the *Building News*.

[Additional Illustrations in the International Edition.]

THE LIBRARY: HOUSE OF WILLIAM R. GARRISON, ESQ., TUXEDO PARK, N. Y. MR. W. A. BATES, ARCHITECT, NEW YORK, N. Y.

[Gelatine Print.]

ANGEL MODELLED BY MR. WILLIAM COUPER, SCULPTOR, FOR HIS MOTHER'S GRAVE.

The figure measures 8 feet to top of the wings.

METALWORK, — VII: NO. 137 WASHINGTON PLACE, NEW YORK, N. Y.

RYLANDS LIBRARY, MANCHESTER, ENG. MR. BASIL CHAMPNEYS, ARCHITECT.

THE STAIRCASE OF THE SAME.

A LARGE COMMITTEE-ROOM IN THE SAME.



CARTHAGE TO-DAY. — A railway now runs to Carthage from Tunis, but perhaps genuine familiarity with the country and its atmosphere is attained better by a carriage drive over the excellent French road. The fields are aflame just now with scarlet poppies, and local effects are given by an occasional square white tomb, heavily domed, with perhaps a single date-palm near by, or an Arab sitting mercifully but precariously rearward upon his patient donkey, whose omnipresent woes never rise to the dignity of real sorrows. The summer palace of the Bey may be visited but superficially. A walk through the courtyards is allowed, and one may glance at the thickly latticed windows, from which not impossibly dark eyes may peep, themselves unseen; but one may not stand still within the precincts, far less seat himself for protracted study of the forbidden. Not on the direct road to Carthage, but easily reached during the same drive, is the museum at Bardo, opened in 1888 in the old harem adjoining the Bey's public palace, and full of most interesting results of recent North African excavating. Catalogues can hardly keep pace with discovery and addition, so that of many beautiful things a verbal description by the intelligent attendant comprises all available information. Especially rich in mosaics, the museum contains room after room filled with fine examples of wall and floor decoration, those found in Suza (Hadrumetum) generally in a better state of preservation than the Carthage remains. "The Triumph of Neptune" is the largest example, and one of the finest in the world. Another of the Suza mosaics shows Virgil, seated, with an open volume upon his knee, in which appear the first two lines of the "Æneid." These ancient dwellers by the sea would seem to have pleased themselves by reproducing with their bits of colored stone many familiar scenes; and so "fishing," with men and boats and nets, a "seashore banquet," quite elaborately worked out, the "chase," with dogs, hunters and flying game, appear. In 1897 a very large pavement design was discovered near Zaihrun, representing the signs of the zodiac in a circle, surrounded by the seven days of the week. In addition to the earlier mosaics, there are many exhibiting Christian designs. But mosaics by no means comprise the chief wealth of the museum. Hundreds of Punic lamps of earthenware are gathered, showing simple but graceful forms and decoration, weird masks with ingenious varieties of contortion in the features, tear-vials and water-jars of immemorial antiquity, and fine bits of sculpture, showing diaphanous drapery over lovely limbs. Three most charming statues have been recently excavated together at Carthage, perhaps the most beautiful at Bardo. The central figure in this exquisite group is thought to be a Ceres, and is more perfect than the others, one of which is provisionally named a danseuse. A few fine relics in gold and silver are shown, and altogether the Musée Alaoui would be an enthralling spot for months of study. — *Mabel Loomis Todd in N. Y. Evening Post.*

DEVELOPING POSITIVES BY DAYLIGHT. — "Prof. F. E. Nipher has recently made an interesting study of the development of photographic plates," says the *Electrical World and Engineer*, "which seem to indicate the passing of the dark-room in the near future. Any plate on which an impression has been made in the camera may be developed into either a positive or into a negative, the former in a light room, the latter in a dark-room. The experiments of Professor Nipher appear to show that what are usually called over-exposed plates yield the best positives and short-exposed the best negatives. A plate which will take a sunlit street scene in a second or less may be exposed for four hours if desired, or for one minute, and may be developed in the light of an incandescence lamp 5 inches or 6 inches to 2 feet or 3 feet distant, with superb results. If the picture fogs, it needs more light. The same is

true with Röntgen-ray pictures. A positive and a negative picture necessarily implies a zero picture, and Professor Nipher is now endeavoring to fix the illumination of a plate in the developer, in order that a zero plate may result for various exposures. This is what the photographers call a fogged plate. They have always supposed that if too much light in a dark-room gave a fogged picture in which nothing develops, that a still lighter dark-room would give more fog. The experiments of Professor Nipher, however, show that it gives less, and that the positive in the light room is just as clear and beautiful as the negative in the dark-room. It follows that if a similarly satisfactory solution of the printing can be effected, so that a positive can be printed from a positive plate, the dark-room will be eliminated from photography."

SAWDEUST BRIQUETTES FOR HEATING. — In Austria a new form of fuel, invented by Joseph Fialla, is reported to have been introduced with promising results. It consists of sawdust briquettes, for use for domestic heating purposes. The dust is heated to dryness and then to the point where the tarry elements begin to exude. These are used as the consolidating matter, the hot sawdust passing on steam-heated tables to a press which forms them into briquettes, 5" x 3" x 1½", weighing about ½ pound. It is said that they give 4 per cent of ash and that their heating power is equivalent to that of lignite. The press used in Mr. Fialla's factory makes 19 bricks per minute, and with 300 days of work has a capacity of 8,000,000 briquettes per year. Experiments have shown that the cost of manufacture is 16 cents per 1,000, while the selling price is \$1 per 1,000. — *Metal Worker.*

BRONZE TABLETS IN THE OSTIAN MARSHES. — The eminent Italian archaeologist, Signor Constantino Maes, has submitted a memorial to the Government in which he affirms that three thousand bronze tables, constituting the records of Rome from its foundation to the time of Vespasian, are buried in the marsh at Ostia, near Rome, having been carried to Ostia after being rescued from the fire which devoured the Capitol in the year 69 of the Christian era. Signor Maes proposed to the Government that the marsh should be completely drained in order to recover this invaluable historic treasure. A commission will be appointed to investigate the matter. Some years ago Signor Maes announced that if excavations were made an obelisk would be found behind the church at Ostia. The excavations were made and the obelisk recovered. — *Boston Transcript.*

RUSKIN HALL, OXFORD. — The new workingman's college at Oxford, Ruskin Hall, is exhibiting symptoms of sturdy vitality and growth. One of the special objects of the institution is instruction in the broad lines of English history, especially of the origin and development of political and social institutions, and it is noteworthy that the project is receiving the support of some of the chief trades-union leaders. The central hall at Oxford contains accommodation for twenty-five residents, and since the opening there has been no vacancy without many applications for admission. The men are all genuine artisans; they come from all parts of the country; they stay a week, a month, six months, or a year, according to circumstances. They devote their whole time to study, to the management of their hostel, and to amusement. There are no expenses for domestic service; each resident has certain household duties assigned to him. Thus it has been found possible to provide excellent sleeping accommodation, sufficiency of food, and the use of a room as study and library, at the cost of £25 a year; tuition costing an additional £6 per annum. In some respects the system is a revival of the medieval life of the university. Related to the central hall at Oxford there are coming into existence local halls in some of the large cities — for instance, Manchester, Birkenhead, and Birmingham; and classes are conducted all over the country by correspondence. The aim of the founders is not to encourage students to enter commercial or professional life, but rather to fit themselves for a wider and better influence over their fellows. The object of the teaching is not so much the provision of an intellectual training as instruction in the elements of national life. An effort is being made to raise funds for the establishment of a similar workingman's college in the United States. — *N. Y. Evening Post.*

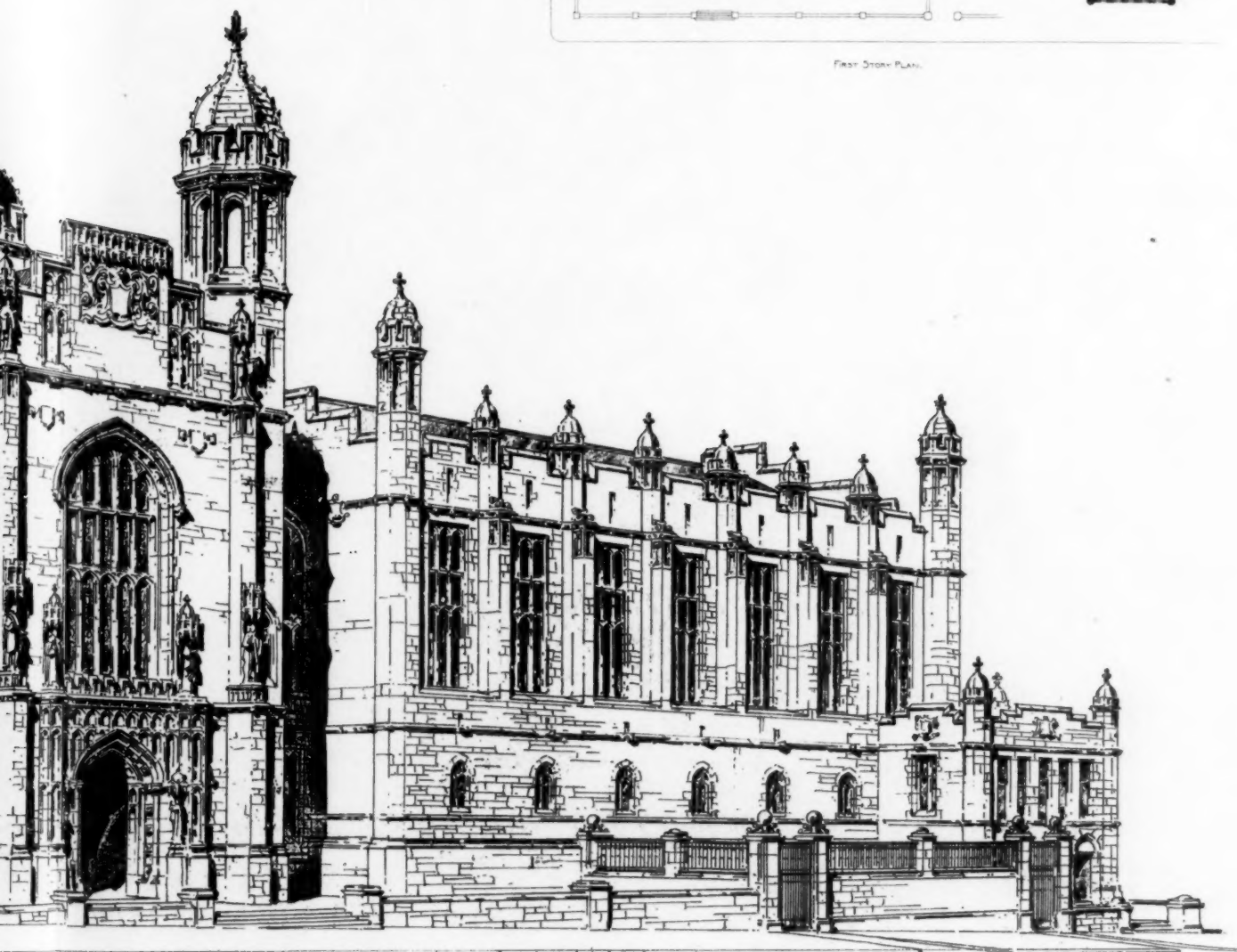
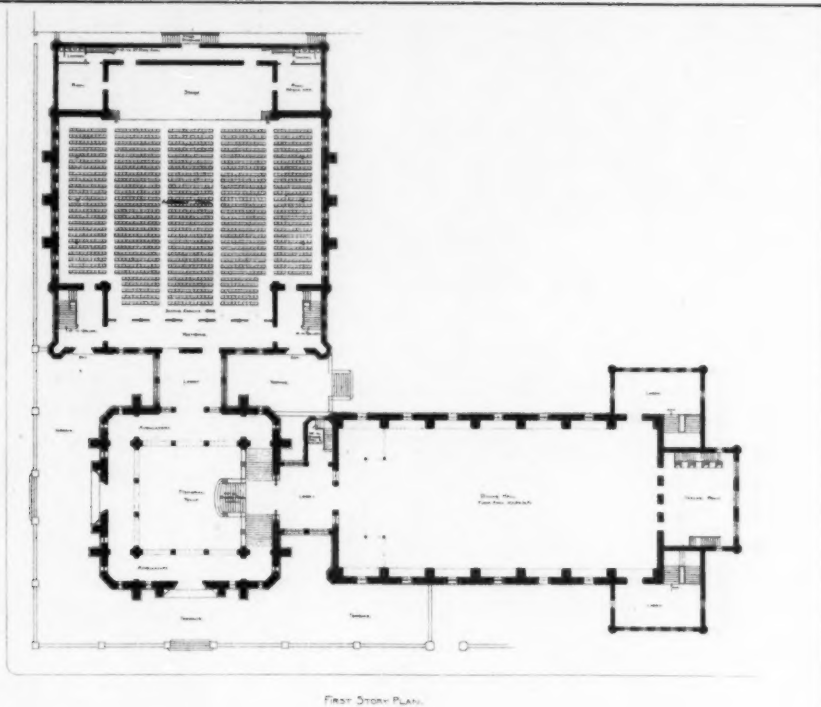
THE PROPER LENGTH OF A VACATION. — How long a summer vacation should one take? is a question discussed recently at the annual general meeting of the English bar. At present the law vacation in England extends from August 12 to November 1, a period of about ten weeks. At the meeting, one lawyer moved that the vacation begin August 1, instead of August 12, arguing that for the purpose of work one week in October was worth more than a fortnight in August, while for the purpose of a holiday one week in August was worth more than a fortnight in October. Another lawyer offered an amendment that the length of the vacation be reduced from ten to six weeks, saying that there was no reason why the profession of the law should have so much longer vacation than any other liberal and learned profession. The Solicitor-General, Sir Edward Clarke, seconded the amendment, stating that the vacation at present is much too long, and that the length of the vacation was no real advantage to any man in the profession, while it was a serious hindrance to public business and a serious interference with the effective discharge by the courts of their public duties. There was no man, he claimed, however hardly worked in any position, who could not get in six weeks of a well-spent vacation all the rest and refreshment of body and mind that a holiday could give. A man enjoyed the holiday, of course, after the sixth week, but all the real good had been obtained by that time. This theory was vigorously combated. The Solicitor-General showed, too, that, exclusive of the 52 Sundays, there were 112 or 114 working days in this year 1900 when the judges were not in court. In New York the summer vacation extends from July 1 to October 1, and there are many broken days. The English lawyers voted to have the vacation begin earlier, but did not interfere with its closing. — *Exchange.*



PERSPECTIVE VIEW

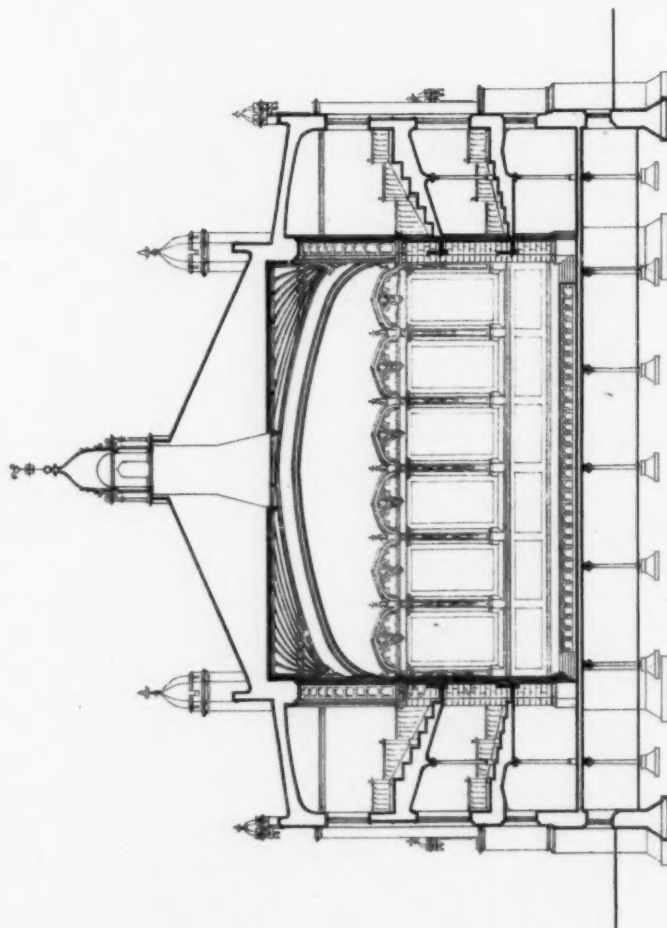
A COMPETITIVE DESIGN FOR YALE COLLEGE

R. H. ROBERT

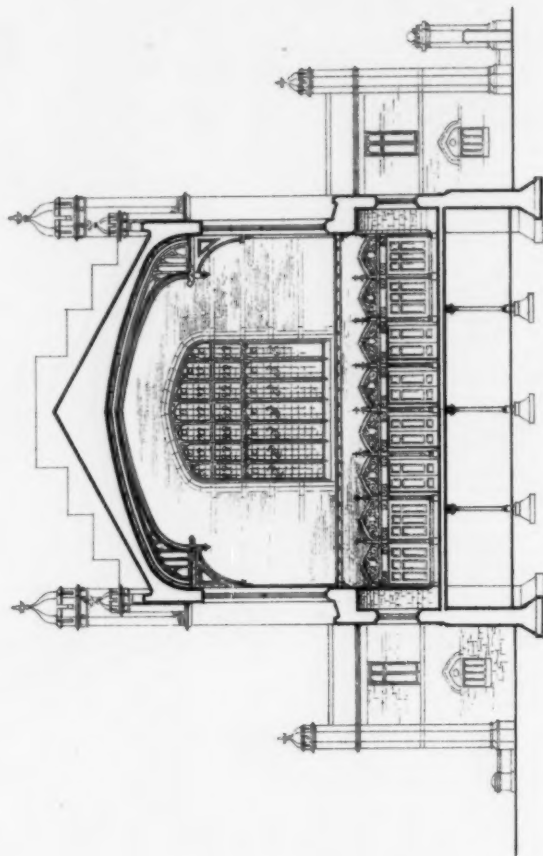


View from North East.

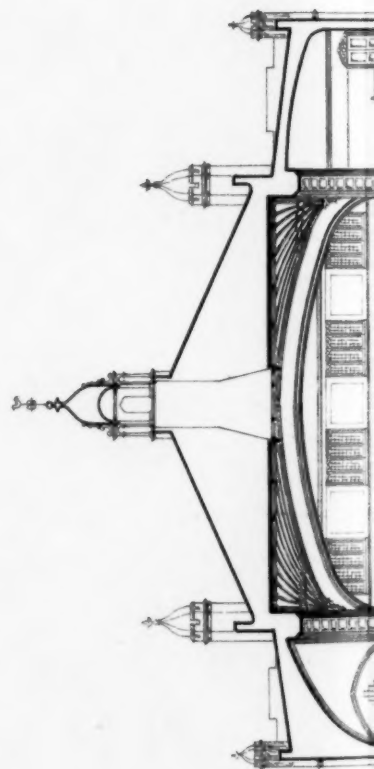
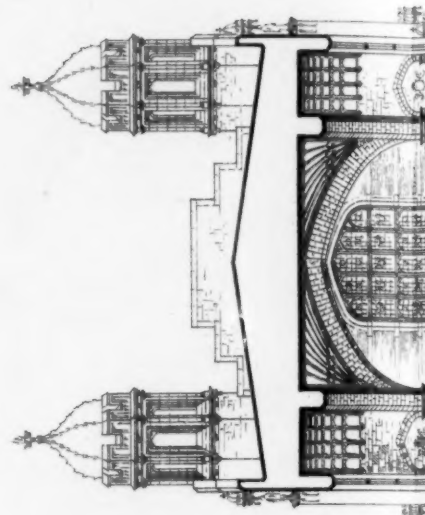
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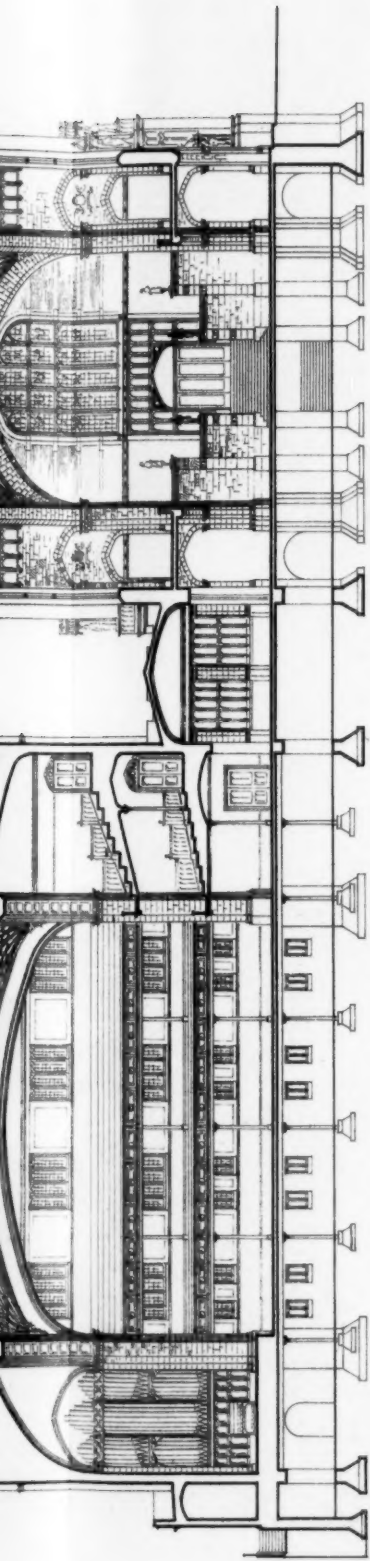


TRANSVERSE SECTION THRO' ASSEMBLY HALL.



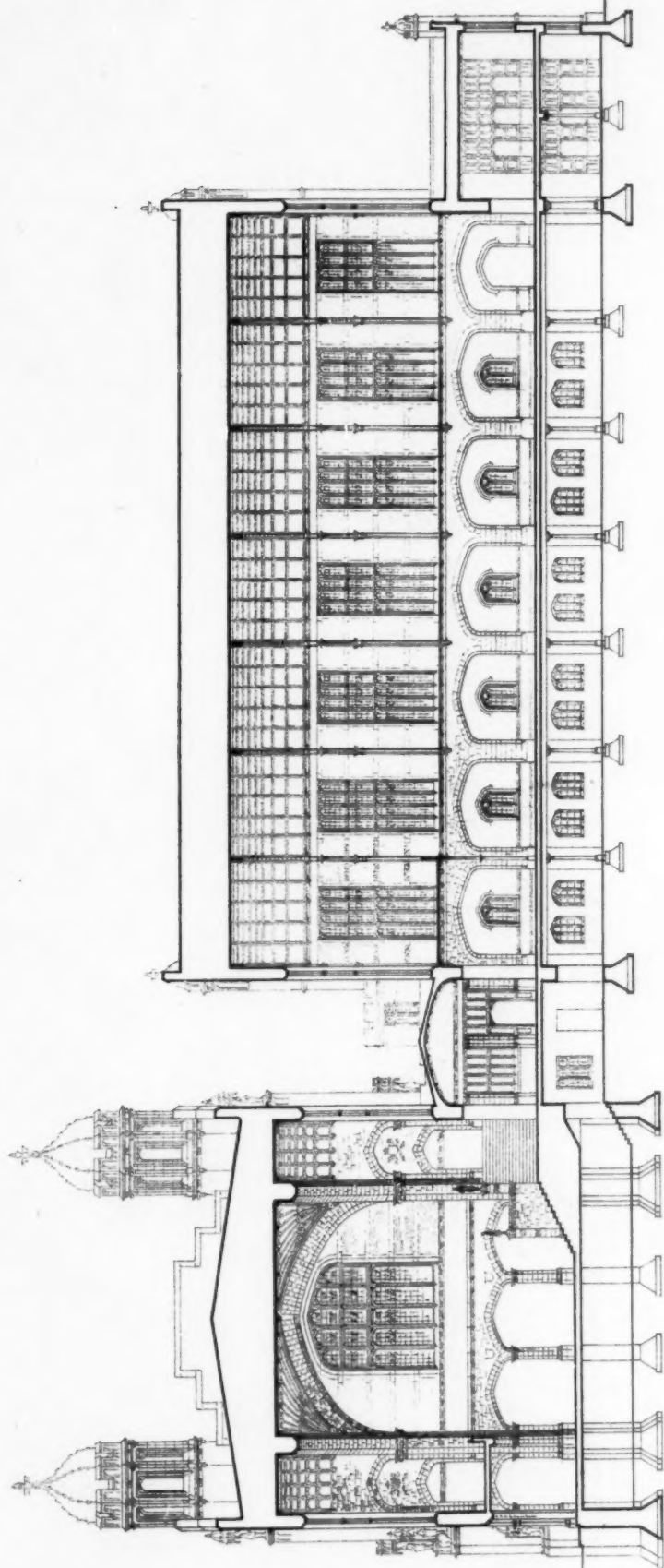
TRANSVERSE SECTION THRO' DINING HALL.





SECTION THIRD ASSEMBLY HALL

SECTION THIRD MEMORIAL TOWER



SECTION OF MEMORIAL TOWER

LONGITUDINAL SECTION OF DINING ROOM

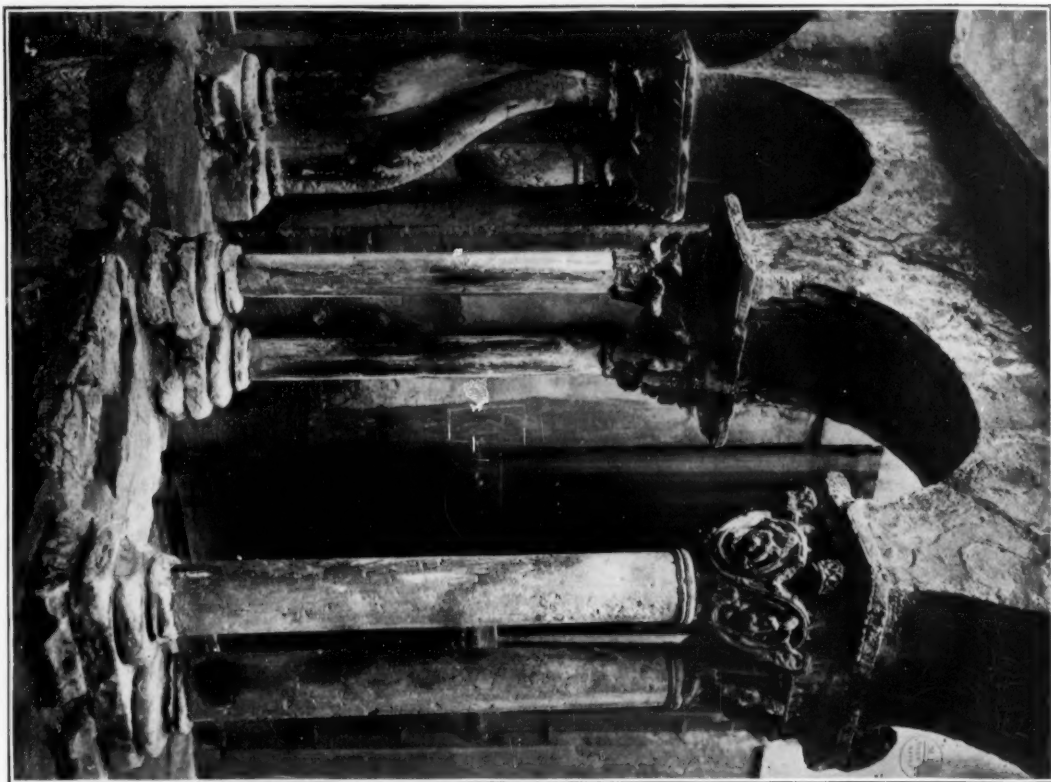
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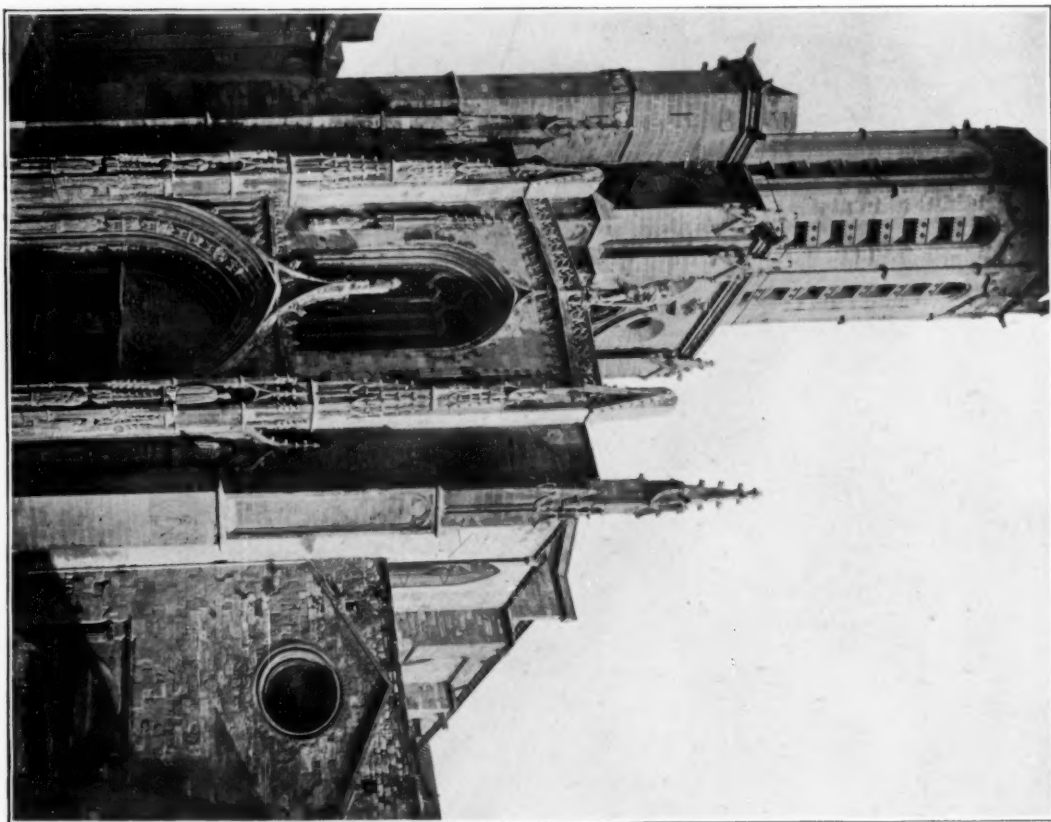
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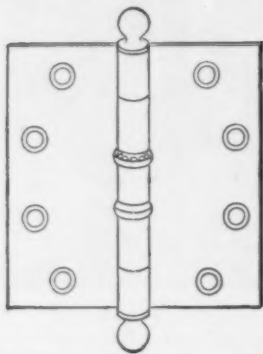
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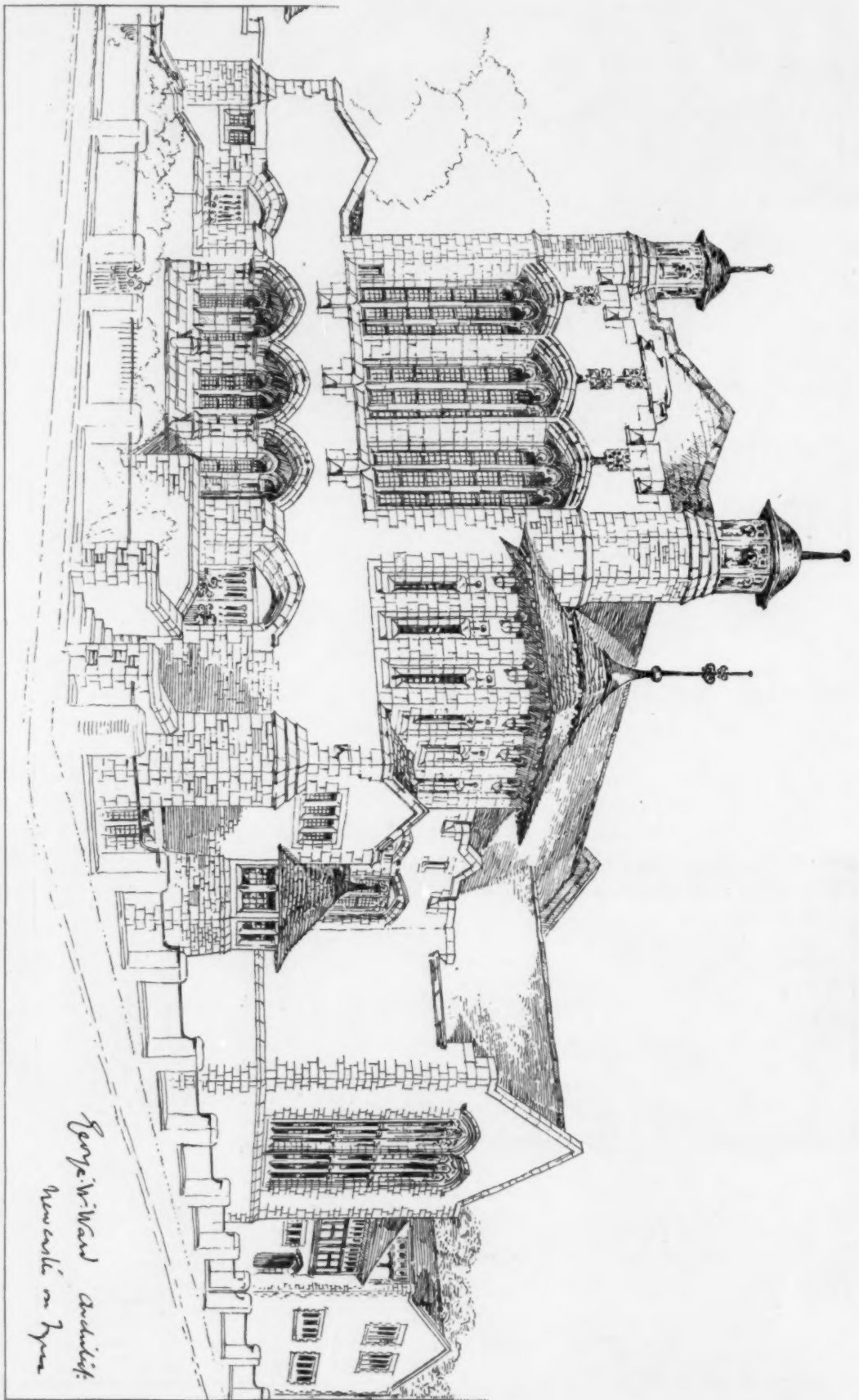
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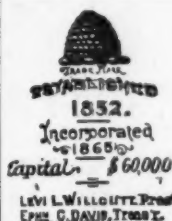
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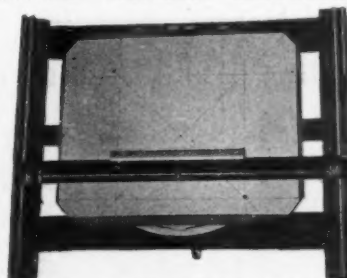
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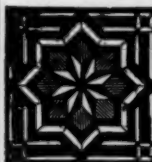
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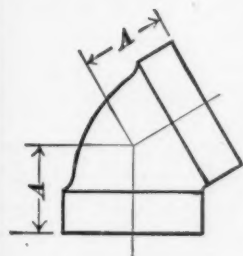
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Advance Subscription Rates:

Regular Edition, \$6.00 per year ; six months,	\$ 3.50
International Edition, per year in advance,	16.00
" quarterly "	18.00

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

**Address all business correspondence to
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BUILDING INTELLIGENCE.

(Reported for The American Architect and Building News.)

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

ADVANCE RUMORS.

Appleton, Wis.—Ferry & Clas, 419 Broadway, Milwaukee, have drawn plans for Peter Thorne for a \$10,000 frame residence.

Atlanta, Ga.—The Merritts Avenue Methodist Society will erect a church to cost about \$25,000.

Baltimore, Md.—The Building Commission has selected the plans prepared by Hornblower & Marshall, of Washington, D. C., for the \$1,300,000 United States Custom-house to be built here.

Birmingham, Ala.—The Hotel Cynthia Co. will be incorporated with a capital stock of \$150,000 to build a ten-story hotel at 2d Ave. and 20th St.

Bremen, Ind.—P. E. Dietrich will erect a \$7,000 pressed brick, slate roofed residence, after the plans of H. F. Frazier, of Nappanee.

Buffalo, N. Y.—Architects Green & Wicks have prepared plans for extensive alterations to the Hayden Building on Main and Seneca Sts. The first floor will be remodelled into a bank and the upper stories will be fitted up for office; cost, about \$70,000.

Butte, Mont.—Kern & Nickel, architects, have drawn plans for the new Puyallup Building. It will

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(Advance Rumors Continued.)

ing plans for a new high-school building, to cost about \$75,000.

Milwaukee, Wis.—Architect Kraum has prepared designs for a \$75,000 building to be erected on 3d St., for Peter Pinter.

The A. J. Lindemann & Hoverson Co. will erect a plant at 1st and Russell Aves., to manufacture store parts. There will be a foundry, 70' x 250', and other buildings; cost, \$40,000.

Neenah, Wis.—F. J. Senebner will erect a \$7,000 frame residence, 47' x 54', after the plans of Ferry & Clas, of Milwaukee.

Newport, R. I.—The plans of Architect Edwin T. Banning have been accepted for the new Y. M. C. A. Building. The plan includes three connecting structures, occupying the entire Mary St. side of the lot, with a frontage of 183 feet. The main administration building is in the centre, recessed from the street about 30 feet, with a gymnasium on the west end of the front and an auditorium building on the east, the two last-named being on the street line. It is proposed that the buildings be of red brick. The general treatment architecturally will be of the Ionic-Colonial order.

New York, N. Y.—R. S. Townsend, architect, 29 E. 19th St., is drawing plans for a \$160,000 brick, stone, iron and steel hotel to be built at 132-134 W. 47th St., for the Mohawk Realty Co.

Oelwein, Ia.—Netcott & Donnan, architects, Independence, have plans for a store, office and flat building for Hanson Bros. and others. It will be two-story, 54' x 140', of brick, costing \$17,000.

Omaha, Neb.—Turnbull & Jones, of Elgin, Ill., have prepared plans for the Calvary Baptist Society for a new church. It will be a brick structure, to cost about \$40,000.

Henry Voss has prepared plans for a bottling works for the South Omaha Brewing Co. It will be two-story and basement, 50' x 70', with gravel roof; cost, \$8,000.

Richmond, Va.—Noland & Baskerville, Chamber of Commerce, have designed a \$25,000 four-story brick building, 50' x 100', to be erected for the Virginia Mechanics' Institute. W. J. Whitehurst, president.

Pensacola, Fla.—W. A. Staples, Indianapolis, Ind., is preparing plans for a \$100,000 six-story brick and steel business building to be erected for a stock company in which J. H. Partridge is interested.

Rochester, N. H.—A new high-school building, to cost \$30,000, is to be erected here.

Schenectady, N. Y.—Architects Frost, Briggs & Chamberlain have nearly completed plans for a residence to be erected for E. D. Priest. It will be Colonial in style, containing 13 rooms and all modern improvements.

Schullburg, Wis.—Architects Van Ryn & De Gelleke, Milwaukee, are preparing plans for a stone public school building, to cost \$25,000.

Shrewsbury, Mass.—H. J. Stone has the contract to erect a private residence for Miss Mary L. Norcross, after plans by Chapin & Topanellian, architects.

Spokane, Wash.—C. Ferris White, architect, has prepared plans for a five-story store and office building, 50' x 80', for L. N. Peyton. It will be of Kansas City pressed brick, granite trimmings, tin roof. The building is to connect with "The Peyton" and is part of the building which will cost complete \$250,000.

Springfield, Mass.—The plans of Architect G. Wood Taylor have been accepted for the new Armory St. School-building. It will be built of red brick, with either brownstone or limestone trimmings, and terra-cotta will be used in the ornamentation. It is to be 75' x 184', and it will be two stories high.

St. Louis, Mo.—The Standard Club contemplates erecting a \$25,000 addition to their club-house at 329 Lindell Boulevard.

St. Paul, Minn.—The Hamm Brewing Co. have plans for additions to be made to their plant on E. Minnehaha St. A three-story brick and stone stock house will be included among the improvements; cost complete, \$75,000.

Hermann Kreitz & Co., architects, have plans for a building to be erected on Cedar St., between 3d and 4th, by W. P. Davidson, for the use of the Minnesota Type Foundry Co. It will be a brick structure, 40' x 80', four stories in height; cost, \$18,000.

W. T. Towner, Germania Life Building, is preparing plans for a \$20,000 stone residence to be erected for D. Tomlinson.

Tacoma, Wash.—G. W. Ballard has prepared plans for a school-building to be erected at N. 10th and Prospect Sts. It will be a brick structure, 70' x 90', and three stories high; cost, \$20,000.

Architect J. A. Russell has furnished plans for the addition to the Emerson School, to cost \$10,000.

Topeka, Kan.—The Sisters of St. Joseph, of Wichita, will erect a hospital to cost about \$12,000, on a plot of land donated by C. J. Devlin, president of the Mount Carmel Coal Co.

Valley Junction, Ia.—Architects Proudfoot & Bird, Des Moines, will furnish plans for a two-story brick and stone store building for Herman Roaz; cost, \$7,000.

Webster, Mass.—Chapin & Topanellian, architects, have plans for improvements in the house of Geo. R. Marble. There will be a new system of electric-lighting, pipes for gas, new plumbing, hardwood floors, fireplaces and mantels.

Worcester, Mass.—Architect John P. Kingston has furnished plans for a storage warehouse to be erected for the Worcester Storage Co. on Gold St. It will be brick, three stories in height, covering an area of 3,500 feet.

W. H. Harvey, architect, has plans for a parsonage for the Swedish Lutheran Church, to be built on Laurel Hill, size 32' x 38', two stories and basement.

Architect John P. Kingston has furnished plans for a three-story frame apartment-house for C. D. Lee.

Architect John P. Kingston has drawn plans for a three-family house to be erected at the rear of 44 Bellevue St., for John McGrath. It will be frame, two and one-half stories, 26' x 41'. McDermott Bros. have taken out a permit to build the proposed new block for the Ancient Order of Hibernians. Barker & Nourse, architects. It will be of brick, 55' x 118', estimated cost, \$40,000.

ALTERATIONS AND ADDITIONS.

Brooklyn, N. Y.—Fort Greene Pl., nr. Hanson Pl., interior alterations & repairs; \$6,000; o. Long Island R. Co., L. I. City; a. J. G. Glover, 186 Remsen St.

New York, N. Y.—Southern Boulevard, cor. Decatur Ave., alterations, additional story & one-sty addition, 50' x 90'; \$15,000; o. T. J. Gleason; a. C. A. Millner, 81 E. 125th St.

Division St., No. 15, three-sty extension, 12' 6" x 26'; \$8,000; o. I. D. Schlachetzky, 69 Division St.; a. M. Bernstein, 245 Broadway.

W. Forty-eighth St., No. 8, three-sty extension, 9' 8" x 21' 10"; \$10,000; o. Edw. L. Burrill, 16 Broad St.; a. W. H. Symonds, 23 W. 24th St.

Sixth Ave., Nos. 258-262, and W. Seventeenth St., Nos. 56-62, one-sty extension, 32' x 45'; \$25,000; o. J. J. Astor, 23 W. 26th St.; a. A. M. Napier, 25 W. 26th St.

One Hundred and Sixty-seventh St., cor. Boston Road, four-sty extension, change of partitions & interior alterations; \$10,000; o. & b. J. T. Barry, 1129 Boston Road; a. Neville & Bagge, 217 W. 125th St.

APARTMENT-HOUSES.

Brooklyn, N. Y.—President St., 100' w 9th Ave., 3 four-sty bk. flats, 40' 6" x 79' 9"; steam; \$75,000; o. L. Bonet, 487 Fourth St.; b. W. Higginson, 21 Park Row, N. Y.

Cambridge, Mass.—Kirkland, Baldwin and Myrtle Sts., three-sty fr., bk. & iron apartments & stores, 50' x 56'; \$12,000; o. Edward Monahan; b. C. F. Dooley & C. Crowdis; a. Geo. Fogarty.

New York, N. Y.—Madison Ave., cor. 95th St., seven-sty bk. flat, 95' x 125' 8", plastered slate roof; \$250,000; o. M. B. Haupt & Son, St. Nicholas Ave. & 119th St.; a. H. B. Mulliken, 289 Fourth Ave.

Ninety-seventh St., nr. West End Ave., seven-sty bk. & st. apart., 60' x 90'; \$90,000; o. Adam Nathan, 33 W. 99th St.; a. Geo. Fred. Pelham, 303 Fifth Ave.

One Hundred and First St., nr. Lexington Ave., 4 five-sty bk. & st. flats, 25' x 80'; \$60,000; o. Cusack & Sevestre, 160 E. 55th St.; a. A. Sevestre, 153 Prospect Pl., Brooklyn.

Caldwell Ave., nr. 161st St., 4 four-sty bk. flats, 25' x 85'; \$100,000; o. Frank Fichtler, 887 Jackson Ave.; a. Moore & Landsiedel, 148th St. & 3d Ave.

Ninety-seventh St., nr. West End Ave., seven-sty bk. & st. flat, 60' x 90'; \$90,000; o. A. N. Brown, 33 W. 99th St.; a. G. F. Pelham, 303 Fifth Ave.

One Hundred and Seventeenth St., nr. 5th Ave., 2 five-sty & base. bk. & st. flats, 27' 19' 3" x 100'; \$40,000; o. Ralph L. Reed, 1123 Broadway; a. L. C. Maurer, 1123 Broadway.

Lenox Ave., cor. 116th St., seven-sty bk. & st. flat & store, 50' 11" x 120'; \$205,000; o. Rothschild & Kallmann, 109 E. 81st St.; a. G. F. Pelham, 303 Fifth Ave.

Eighty-ninth St., nr. Columbus Ave., 4 five-sty bk. & st. flats, 27' x 87', 28' x 87' & 20' x 83'; \$115,000; o. & b. Chas. W. Lindsley, 181 Broadway; a. Geo. Fred. Pelham, 303 Fifth Ave.

Twenty-first St., nr. 7th Ave., seven-sty bk. apart., 58' 2" x 97' 4"; \$90,000; o. Ray & Robertson, 302 E. 120th St.; a. Neville & Bagge, 217 W. 125th St.

Madison Ave., cor. 61st St., ten-sty st. apart., 99' x 100'; \$600,000; o. Fred'k. Habermann, 22 E. 62d St.; a. Horgan & Slattery, 1 Madison Ave.

One Hundred and Thirty-second St., nr. Amsterdam Ave., five-sty bk. & st. flat, 25' x 87'; \$75,000; o. John Boardman, Jr., 220 Broadway; a. Neville & Bagge, 217 W. 125th St.

CHURCHES.

Findlay, O.—One-sty st. church, 80' x 145', tile roof; \$45,000; o. First Presbyterian Church; a. Kramer & Harpster.

Toledo, Ia.—One-sty bk. & st. church, 82' x 115', slate roof, furnace; \$25,000; o. M. E. Society; a. Turnbull & Jones, Elgin, Ill.

Toledo, O.—One-sty & base. st. church, 69' x 174', slate roof; \$50,000; o. Sacred Heart Society; a. C. A. Brehmer, South Bend, Ind.

Wapakoneta, O.—Bk. church, slate roof, steam; \$35,000; o. German Evangelical Society; a. R. chards, McCarty & Bulford, Columbus.

Waterloo, Ia.—Bk. & st. church, 60' x 148', slate roof; \$30,000; o. Rev. Cooney; a. Murphy & Ralston.

EDUCATIONAL.

Boston, Mass.—Huntington and Rogers Aves. and Drisko St., three-sty bk. medical & dental college, 33' x 128' & 78' x 181' & 124', flat roof, steam; \$125,000; o. Trustees Tufts College; a. J. Ph. Rinn; not let.

Brooklyn, N. Y.—Ryerson St., nr. De Kalb Ave., two-sty & base. bk. school, 40' x 80'; \$20,000; o. N. Hefley, 444 Greene Ave.; a. J. McNevin, 1554 Forty-ninth St.

Chicago, Ill.—Ashland Ave. and Cypress St., two-sty & base. girl's high school & convent, 614' x 98', comp. roof, steam; \$25,000; o. Sisters of the Annunciation; a. Martin Carr.

Fredericktown, Mo.—Three-sty bk. dormitory, 57' x 68', tin roof, steam; \$10,000; o. Marvin Collegiate Institute; a. Matthews & Clark.

Germanstown, Pa.—E. Chelten Ave., three-sty bk. & rough cast college building, 60' x 148' 2"; \$25,000; o. St. Vincent's Seminary; b. Wm. R. Dougherty.

Linden, O.—Two-sty & base. school, 54' x 75', slate roof, furnace; \$12,000; o. Board of Education; a. D. Kiebel, Columbus.

Marshall, Mich.—Two-sty & base. bk. & st. high school, slate roof, steam; \$22,000; o. Board of Education; a. W. A. Otis.

Martinsville, Ind.—Two-sty bk. school, 82' x 87', shingle roof, furnace; \$12,500; o. School Board; a. J. W. Gaddis, Vincennes.

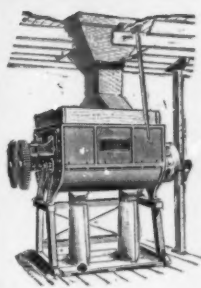
Philadelphia, Pa.—N. Mascher St., nr. Diamond St., three-sty & attic parochial school, 90' 4" x 137'; \$70,000; o. St. Bonifacius Catholic Society, Rev. Fr. Weigle, pastor; b. Thos. Rielly; a. Henry D. Daget.

Shullsburg, Wis.—Two-sty st. school, 75' x 125', shingle roof, furnace; \$25,000; o. School Board; a. Van Ryn & De Gelleke.

Sing Sing, N. Y.—Two-sty bk. gymnasium & dormitory, 50' x 75'; \$10,000; o. Mt. Pleasant Military Academy; a. H. S. Minnerly, Tarrytown.

St. Joseph, Mo.—Two-sty bk. school, 87' x 92',

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FACTORIES.

Bellefonte, Ill.—Four-sty bk. vinegar factory, 85' x 104', rubberoid roof, steam; \$60,000; o. Adam Gintz; a. Fred W. Wolf.

Brooklyn, N. Y.—Stockholm St., nr. Central Ave., two-sty bk. factory, 33' 8" x 90', gravel roof, steam heat; \$8,000; o. H. Ficker & Co., 1208 Greene Ave.; a. B. Finkenseiper, 93 Broadway.

Imlay St., cor. William St., two-sty bk. machine shop, 62' 6" x 62' 6", gravel roof, steam heat; \$10,000; o. J. McNeill, 677 Carroll St.; a. C. M. Detlefsen, 6 Sullivan St.

Jay St., cor. Johnson St., two-sty & cellar bk. factory, 57' x 90', gravel roof, steam; \$11,000; o. W. Haedrich, 115 Sands St.; a. J. G. Glover, 186 Remsen St.

Columbus, O.—Four-sty bk. factory, 80' x 250', comp. roof, steam; \$20,000; o. Monarch Vehicle Co.; a. W. T. Mills. Seven-sty bk. shoe-factory, 40' x 110', comp. roof, steam; \$50,000; o. Wolf Bros.; a. H. A. Linthwaite.

Dallas, Tex.—Six-sty & base. implement house, 100' x 100', gravel roof, steam heat; \$45,000; o. Mansur Tibbets Implement Co.; a. J. Kieley Gordon Co.

Evansville, Ind.—Four-sty bk. factory, 70' x 130', gravel roof, steam; \$150,000; o. Evansville Woollen Mills Co.; a. Harris & Shapell.

New York, N. Y.—Twenty-fifth St., nr. 11th Ave., four-sty & base. bk. factory, 96' x 250', asphalt & gravel roof; \$165,000; o. Conley Felt Co., 2 Dominick St.; a. Schickel & Dittmars, 111 Fifth Ave. Bank St., Nos. 112-116, four-sty bk. & st. factory & storage, 74' 9" x 91' 9"; \$45,000; o. Confectioners Mfg. Co., 51 Sixth Ave.; a. R. Moeller, 959 E. 165th St.

Philadelphia, Pa.—Trenton and Erie Aves., three-sty bk. & yellow pine factory, 90' x 220'; \$28,000; o. Geo. Schlichter Jute Cordage Co.; b. John J. Plancher.

South Bend, Ind.—One to three-sty bk. factory buildings, three 60' x 80', one 70' x 270', four 80' x 200', gravel or comp. roof, steam; \$200,000; o. Singer Mfg. Co.; a. Parker & Austin.

HOTELS.

Marlin, Tex.—Four-sty & base. st. & bk. hotel, tin or slate roof, steam; \$50,000; o. M. Levy; a. Herbert & Allen.

New York, N. Y.—W. Forty-seventh St., Nos. 132-134, nine-sty & base. bk. & st. hotel, 37' 6" x 90'; \$160,000; o. Mohawk Realty Co., 56 Pine St.; a. R. S. Townsend, 29 E. 19th St.

HOUSES.

Appleton, Wis.—Two-sty fr. dwell., 51' x 56', shingle roof, furnace; \$8,000; o. Peter Thorne; a. Ferry & Clas.

Boston, Mass.—Poplar St., Nos. 86-88, 2 three-sty bk. dwells, 18' x 20' x 38', flat roofs; \$15,000; o. & b. Wm. White; a. F. A. Norcross.

Chambers St., No. 152, three-sty bk. dwell., 13' x 18' x 55', flat roof; \$7,000; o. & b. Rubin Solomon; a. C. A. Halstrom.

Haslem St., nr. Greenwood St., 24-sty fr. dwell., 32' x 50', pitch roof, hot water; \$6,000; o. a. & b. J. S. McLean.

Brooklyn, N. Y.—Albany Road, cor. Marlborough Road, two-sty & attic fr. dwell., 39' 10" x 46' 2", shingle roof, steam; \$8,000; o. Dean Alvord; a. J. J. Pettit, 186 Remsen St.

Coney Island Ave., nr. Avenue D, 4 three-sty bk. stores & dwells, 20' x 55'; \$24,000; o. John Burchill and A. L. Taylor, Avenue C & E 16th St.; a. A. W. Pierce, 1127 Flatbush Ave.

Bushwick Ave., nr. Linden St., two-sty & attic bk. dwell., 38' x 43', slate roof; \$8,000; o. P. P. Huberty, 31 Covert St.; a. Ulrich J. Huberty, 911 Broadway.

First St., nr. West Prospect Park, 3 four-sty & base. bk. dwells, 21' 8" x 49', steam heat; \$39,000; o. a. & b. P. F. Delaney, 115 Underhill Ave.

Cambridge, Mass.—Fallen St., No. 13, 24-sty st. bk. & fr. dwell., 42' x 45', combination heat; \$11,000; o. Theo. W. Richards; a. Warren, Smith & Biscoe.

Chicago, Ill.—Washington Ave., three-sty bk. dwell., 34' x 50', comp. roof, hot water; \$12,000; o. F. H. Walter; a. Thomas McCall.

Columbus, O.—Third Ave., two-sty bk. dwell., 30' x 36', slate roof, furnace; \$38,000; o. M. Lawrence; a. W. T. Mills.

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Philadelphia, Pa. — Van Pelt St., below Locust St., 3 two-st'y bk., yellow pine & steel stables, 22' x 75'; \$18,000; o., Nathan Trotter, Frank T. Patterson, J. H. Catherwood; b., Armstrong & Printzenhoff.

Sayville, L. I., N. Y. — Two-st'y fr. stable, 40' x 120'; \$10,000; o., H. Hollins, 15 Wall St., N. Y. City; a., I. H. Greene.

STORES.

Boston, Mass. — Tremont St., cor. Walpole St., bk. store building, 33' x 68', flat roof; \$7,500; o., Powers, Good & Muldoon; a. & b., J. C. Spillane.

Brooklyn, N. Y. — Fifth Ave., cor. 15th St., three-st'y bk. store & dwell., 20' x 70'; \$16,000; o., W. Wharton, 64th St., nr. 4th Ave.; a., T. Bennett, 148 Fifty-third St.

Chicago, Ill. — West Side, three-st'y & base, bk. store & flats, 33' x 88', gravel roof, hot water; \$12,000; a., John Klucina.

New York, N. Y. — First Ave., cor. 94th St., five-st'y bk. store & flats, 95' x 100' 8"; \$50,000; o., Adam Happel, 138 W. 119th St.; a., J. Kastner & Sons, 1133 Broadway.

W. Thirteenth St., Nos. 105-107, six-st'y & base, bk. store & flats, 55' x 75', plastic slate roof; \$40,000; o., Sheppard, Knapp & Co.; a., Geo. H. Van Auken, 30 E. 14th St.

Philadelphia, Pa. — N. Eighth St., Nos. 15-21, five-st'y bk. & terra-cotta front store building, 72' 5 1/2" x 147' 7 1/2"; \$50,000; o., M. H. Messerschert; b., Doyle & Doak.

N. Eighth St., No. 139, four-st'y bk. & iron front store building, 17' 4" x 61' 9"; \$10,000; o., Sullivan Bros.; b., Chas. McCaul.

WAREHOUSES.

New York, N. Y. — E. Ninth St., No. 36, six-st'y bk. warehouse, 25' x 85', slag roof; \$20,000; o., Jacob Korn, 924 Madison Ave.; a., Louis Korn, 37 Maiden Lane.

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(Houses Continued.)

E. Broad St., three-st'y bk. dwell., tile roof, hot water; \$20,000; o., W. S. Rodgers; a., H. A. Linthwaite.

East Houghton, Mich. — Two-st'y fr. Colonial dwell., 30' x 38', shingle roof, hot water; \$6,000; o., Joseph Hodgson; a., H. T. Liebert.

Germantown, Pa. — Sharpnack St., bet. Emlen & Jefferson Sts., 58 three-st'y bk. dwells., 16' x 62'; \$230,000; o., Solomon Greenberg.

Laurium, Mich. — Two-st'y fr. dwell., 30' x 60', shingle roof, hot water; \$15,000; o., M. Daniels; a., Charlton, Gilbert & De Mar.

Neeah, Wis. — Two-st'y fr. dwell., 47' x 54', shingle roof, hot water; \$10,000; o., F. J. Sensenbner; a., Ferry & Clas, Milwaukee.

New York, N. Y. — Fifth Ave., No. 967, five-st'y & base, bk. dwell., 50' 11" x 69' 7"; \$200,000; o., J. & J. Farley, 2025 Broadway; a., Freeman & Thain, 287 W. 70th St.

Anthony Ave., cor. Bush St., three-st'y fr. dwell., 25' x 83' 6"; \$7,500; o., G. D. Kingston, Travers St.; a., G. H. Budlong, 132 Park Ave.

Philadelphia, Pa. — Germantown Ave., ab. Indiana Ave., 14 three-st'y bk. stores & dwells., 16' x 55' & two 20' x 34'; \$80,000; o., John Loughran.

Baltimore Ave., nr. 44th St., 6 three-st'y bk. dwells., 16' 4" x 57', mansard roofs; \$27,000; o., C. W. Macfarlane.

Chestnut St., nr. 37th St., 2 three-st'y bk. dwells., 18' x 65', 20' x 80'; \$27,000; o., John C. Hancock; b., Frank S. Riggs; a., Charles Balderston.

Toledo, O. — Three-st'y bk. st. & terra-cotta dwell., 50' x 103', metal roof, hot water; o., Edward Ford; a., George S. Mills.

BUILDING INTELLIGENCE.

(Houses Continued.)

Upper Montclair, N. J. — N. Mountain Ave., 2 1/2-st'y fr. dwell., 30' x 35'; \$5,000; o., Chas. M. Anderson; a., Chris. Myers, 361 Broadway.

Wilkesburg, Pa. — North Ave. and Hay St., three-st'y bk. dwell., 35' x 38', slate roof, steam; \$7,000; o., David Marrie; a., L. A. Raisig.

OFFICE-BUILDINGS.

Brooklyn, N. Y. — Broadway, cor. Bedford Ave., five-st'y bk. bank & office building, 40' x 95', copper roof, steam; \$75,000; o., Nassau Trust Co., 101 Broadway; a., Johnson & Helmle, 220 S. 8th St.

Marinetta, Wis. — Two-st'y bk. & st. bank building, 98' x 112', comp. roof, steam; \$25,000; a., Ferry & Clas, Broadway, Milwaukee.

Milwaukee, Wis. — W. Water St., four-st'y bk. & st. office & store building, 33' x 90', shingle roof, steam; \$15,000; o., H. A. Adler; a., F. H. Mueller & Co.

New York, N. Y. — Wall St., nr. William St., eight-st'y bk. office building, 58' x 143' 5", asphalt & tile roof; \$850,000; o., Atlantic Mutual Ins. Co., 49 Wall St.; a., Clinton & Russell, 32 Nassau St.

Philadelphia, Pa. — Germantown Ave. and Oxford St., three-st'y bk. & steel office building, 20' x 44'; \$6,000; o., Reiger & Grete; b., Philip Halbach.

South Bend, Ind. — Three-st'y st. bank building, 40' x 90', tin roof, steam; \$25,000; o., St. Joseph's County Savings Bank; a., Parker & Austin.

PUBLIC BUILDINGS.

Ithaca, Mich. — Two-st'y bk. & st. court-house, 70' x 112', comp. roof, steam; \$40,000; o., Gratiot County; a., C. Allen, Jackson.



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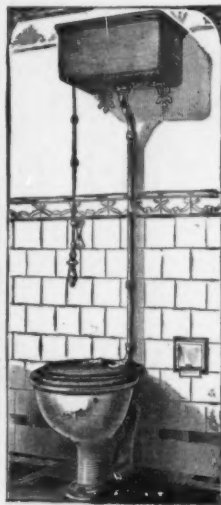
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Sealed proposals will be received until July 2d, for alterations and additions to the Smith's Villa school-house. E. D. WIGTON, ehm. 1279

HIGH SCHOOL.

[At New Prague, Minn.]
Sealed proposals will be received until July 13th, for the erection of a high-school building. JOHN PROSHEK, pres. 1279

ASYLUM.

[At Decatur, Ill.]
Sealed bids will be received until August 9th, for the erection of the asylum building for Adams County. CUNO KIBELE, architect. 1281

Treasury Department, Office Supervising Architect, Washington, D. C., June 20, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 18th day of July, 1900, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Post-office, Monmouth, Illinois, in accordance with the drawings and specification, copies of which may be had at this office, or the office of the Postmaster at Monmouth, Ill., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1280

Treasury Department, Office Supervising Architect, Washington, D. C., June 19th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on

PROPOSALS.

the 17th day of July, 1900, and then opened, for the construction (except heating apparatus, electric wiring and conduits) of the U. S. Post-office building at Streator, Illinois, in accordance with the drawings and specification, which will be furnished at the discretion of the Supervising Architect on application at this office or at the office of the Postmaster, Streator, Ill. JAMES KNOX TAYLOR, Supervising Architect. 1279

Treasury Department, Office Supervising Architect, Washington, D. C., June 14, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 9th day of July, 1900, and then opened, for the completion (except heating apparatus, electric wiring and conduits) of the U. S. Post-office Building at New Brighton, Pa., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Postmaster at New Brighton, Pa., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1279

Treasury Department, Office of the Supervising Architect, Washington, D. C., June 13th, 1900. Sealed proposals will be received at this office until 2 o'clock P. M. on the 2d day of July, 1900, and then opened, for the construction and placing of new boilers for the U. S. Treasury Building, Washington, D. C., in accordance with drawings and specification, which will be furnished at the discretion of the Supervising Architect upon application at this office. JAMES KNOX TAYLOR, Supervising Architect. 1279

Sealed proposals will be received at the office of the Light-house Engineer until 12 o'clock M., July 7, 1900, and then opened, for furnishing the material and labor of all kinds necessary for the delivery, erection and completion of the Hog Island Shoal Light-house, R. I., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to D. P. Heap, Lieut. Colonel, Corps of Engineers, U. S. A. 1279

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PROPOSALS.**SCHOOL-HOUSE.**

[At Oxford, Ia.]
Sealed bids will be received by the School Board until July 2d, for the erection of a school-house. GEO. W. SIES. 1279

COURT-HOUSE.

[At Burlington, Kan.]
Sealed bids will be received until July 6, for the erection of a court-house for Coffey County. W. M. PALEN, county clerk. 1280

FIREPROOFING.

[At Washington, D. C.]
Sealed proposals for fireproof floor, ceiling and roof construction, and for electric hoists, will be received until July 5, 1900, at U. S. Engineer Office, 735 N. Capitol St., Washington, D. C. JOHN STEPHEN SEWELL, lieutenant, engineers. 1279

OFFICERS' QUARTERS.

[At West Point, N. Y.]
Sealed proposals, in triplicate, will be received here until July 5, for construction of two officers' quarters, as per plans in this office. Address Q. M., U. S. M. A. 1279



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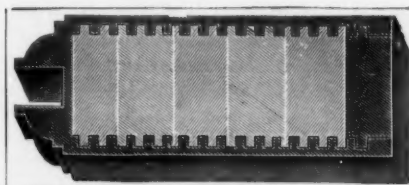
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SECTION 6. It is unprofessional to advertise in any other way than by a notice giving name, address, profession, and office hours, and special branch (if such) of practice.

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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.

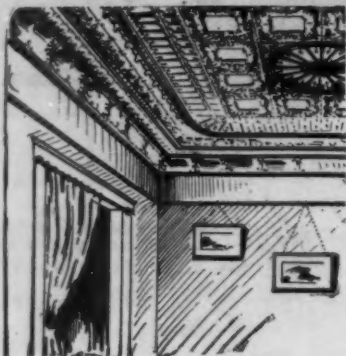
SECTION 12. The American Institute of Architects' "schedule of charges" represents minimum rates for full, faithful and competent service. It is the duty of every architect to charge higher rates whenever the demand for his services will justify the increase, rather than to accept work to which he cannot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

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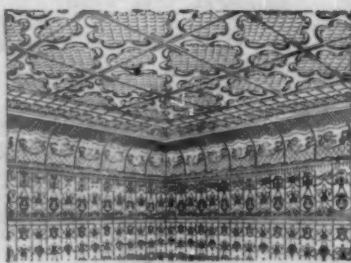
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