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CONTENTS.

THE Reports of the Illinois State Board of Examiners of Architects are always interesting, as giving the experience of the oldest body of the kind in this country. The membership of the Board of Examiners has not changed since the last Report, and our readers do not need to be told that it has always afforded the highest guarantees of professional knowledge and integrity. It is rather surprising to find that, notwithstanding the prosperity of building-interests in the West for the past year, the number of licenses of architects revoked during the year considerably exceeds the number issued; so that, apparently, the number of architects licensed to practise in Illinois is considerably less now than it was a year ago. To give the exact figures, forty-three architects were deprived of their licenses during the year, forty-two for non-payment of their renewal fee of ten dollars, and one, after trial before the Board, for dishonest practices in his business. During the same period thirty-four candidates for licenses were examined, sixteen of whom were rejected, while the remaining eighteen received certificates of qualification, entitling them to a license on payment of the prescribed fee, which is, we believe, fifteen dollars for the first year. It would appear from the Report, however, that twelve out of the eighteen candidates who passed the examination successfully failed to apply for the license to which they were entitled, so that the net result of the year's proceedings seems to be a loss of thirty-seven from the number of licensed architects in the State, without counting the additional loss from deaths, which the Report does not mention.

SUPPOSING an average rate of mortality among the licensed architects of twenty-two per thousand, which is probably an underestimate, we should have sixteen deaths among the seven hundred and twenty architects who held licenses at the beginning of the year. This, added to the net loss of thirty-seven from forfeiture of licenses, would make a total net loss of fifty-three, or about eight per cent of the whole number of licensed architects in the State; so that, if the same number of licenses should be revoked or abandoned every year, in thirteen years there would not be a single architect authorized to practise in the State. It would be interesting to hear the explanation which the profession in Illinois would give of this phenomenon, which has a serious interest for the architects of other States in which license bills have been brought forward. The Illinois Board of Examiners has certainly done its part to uphold the character of the profession. Not only has it rejected nearly half of the candidates applying for license, who failed to show, on examination, the necessary qualifications, but it has tried four licensed architects, three for dishonest practices, and one for recklessness and incompetence. It is fair to say that in only one case out of the four was the penalty of revocation of the license imposed; and, as dishonest practices, as well as recklessness and incompetence, on the part of architects are punishable by the ordinary courts, it does not appear that the machinery of a State Commission is necessary to reach them; but, of course, the Commission, where it exists, has no alternative but to perform the duties imposed upon it.

A VERY important question has been raised in Pennsylvania over the right of the authorities of a museum of fine-arts to sell objects bequeathed to it without provision for such sale. It seems that, in the summer of 1898, when, as we are told, the newspaper "censors," which, we suppose, means the reporters, were away, or had their attention diverted by the Spanish War, the Directors of the Pennsylvania Academy of the Fine-Arts "took advantage of the opportunity" to send off to an auction-room in New York certain works which had been bequeathed to it, where they were sold. Now, the "censors" seem to have nothing else to distract their attention, and, the loss having been discovered, the son of the donor of the works sold has brought an action in the courts against the Directors of the Academy for wrongfully selling objects which they were, by an implied contract, bound to keep. The law of bequests and inheritances is so intricate that it is impossible to guess, particularly without knowing the exact language of the bequest, what the judgment of the court will be; but it would certainly be a misfortune to the public to have it decided that objects simply bequeathed to such an institution cannot be sold. Every museum, probably, particularly in this country, possesses various objects which could, with advantage to the public, be exchanged for others of more artistic or educational value. To pile them in the cellar, to make room for better things, can hardly be considered a better fulfilment of the intent of the giver than to exchange them for works of greater interest; yet, if they cannot be sold or exchanged, there is no alternative; and, in order to prevent even their cellars from being filled up with objects which are of no value for the purposes of the museum, although they might be greatly prized for other purposes, the directors of such institutions will be obliged to offend their would-be benefactors, and deprive themselves of valuable possessions, by rejecting all bequests in which, as is usual in such cases, a few works of the first class are associated with many that are spurious, or valueless for museum purposes, and which it would be an injustice to accept, with the knowledge that they must be kept hidden in a store-room.

THE Park Commissioner of New York has made public the expert report on the condition of the Central Park, prepared by such competent authorities as Dr. Britton, Director of the New York Botanical Garden; Mr. J. A. Pettigrew, Superintendent of the Boston Park Department; Professor Fernow, and Mr. Samuel Parsons. It will be remembered that the last-named called attention, some time ago, to the impoverishment of the soil in the Central Park, and the necessity for doing something to restore it; and this view is confirmed by the other experts, who, however, advise, in addition to the enriching and renewal of the soil, extensive thinning-out of the trees, which are in many places far too thickly planted; and, in general, the removal of pines, hemlocks and other conifers, which, as they say, cannot endure the smoky air of cities. They recommend also the removal of the exotic shrubs which, with the propensity for making the most of all available space characteristic of amateurs, have been, under a succession of Park Commissioners, crowded into the glades and other open spaces in the woodland. The original intention was to have these occupied only by grass, and the restoration of them to conformity with the first design will do much for the beauty of the Park.

THE bay-window question has always been an important one in Boston building-matters, and it is a satisfaction to see some progress made in reducing it to definite terms. Long ago, the inhabitants of the town which clings perhaps least of all American communities to symmetry and stateliness developed a disposition to project excrescences, in the shape of bay-windows, over the streets, high enough to be out of the way of passers-by, but still within the boundaries of the public provision of light and air. After a time, the City Government undertook to control this encroachment, by requiring a special license from the Board of Aldermen for projecting bays, but no regular rule was followed in granting such licenses, and it

has been common for many years to project bays over "alleys" sixteen feet wide. Naturally, if the proprietors of the houses at the ends of a block choose to build out bays on each side of the narrow alley which admits air and light to the interior of the block, they can materially affect the comfort of their neighbors, and the new ordinance, prohibiting the construction of any new bay-window over a street thirty feet or less in width, comes none too soon. Over streets wider than this bays may be projected by permission of the Building Commissioner, but not to a greater distance than three feet from the street-line.

IT has always been a question with experts whether the so-called "fireproof" factory buildings, made with iron and brick, which are so common in England, were entirely commendable. The amount of inflammable material collected in nearly all factories, particularly those for textile fabrics, is so enormous that, when thoroughly kindled, no known materials can be relied upon to resist such a conflagration as may be caused. Several recent instances of the destruction of factory buildings of this sort in England have brought the subject more prominently before the public, and the newspapers have made various comments upon it, more or less sensible. The English mills are by no means what our architects would call exemplary specimens of fireproof construction. In one of the most recent cases, the columns seem to have been of cast-iron, without any attempt at protection. Any American architect would assure a client at once that such columns were less fireproof than posts of wood; and it is not improbable that conditions existed in other details which would not be approved here; but no architect or insurance man in this country would think of claiming that a building could be made with steel floors and columns, either of cast-iron or steel, which could resist a fire fed by four or five stories of oily cotton or woollen goods in storage or in process of manufacture, filling an area of perhaps two or three acres on each floor. Here, a thorough installation of automatic sprinklers in each story would be thought indispensable, and would probably prevent extensive conflagrations for an indefinite period, but sprinklers do not seem to be popular in England, one of the mills burned having the curious substitute of a pond on the roof, which was covered twelve inches deep with water. Naturally, when the iron columns gave way, the roof sank, and the water poured off on the ground.

AS these mill buildings of iron and brick are very costly, the insurance loss on them is large, and underwriters, as well as architects, are beginning to doubt whether the system ought not to be radically changed, making factories where a vast open floor-space is indispensable of a light and cheap construction, and reserving fireproof materials for buildings in which the spaces can be restricted within the limits which experience has shown to be compatible with safety. Some of our readers, in discussing this subject, will think of the factory-building at Barcelona, designed by Mr. Rafael Guastavino, which, although very large, has no iron in it, being constructed entirely of burnt-clay tiles, on the system which has, in this country, become identified with Mr. Guastavino's name. It is evident that such a structure would resist fire far better than one depending for its strength upon steel beams, and the system has already been applied to covering such large areas that it seems as if it would answer for any mill. It is, of course, conceivable that even the clay tiles might be melted by such a conflagration as that afforded by a burning-mill, but, until they melted, they would stay in place, where steel beams would long before have softened and sagged, letting the floor supported by them fall, and admitting the fire to the story above. With such adaptation as any architect could easily devise, there seems to be no reason why this construction should not be suitable for any factory use; and, without desiring to advertise Mr. Guastavino's business, as a manufacturer of such materials, and contractor for the use of them in construction, we should be glad to see a trial made in this country, for factory purposes, of a system so logical and inexpensive, and so favorably known to architects in general.

THE London *Builder* observes that within the past few years, and especially within the last year, there has been a very large increase in pauperism in England, and that there are during the present winter more English workmen unemployed than at any time for nearly a generation. The fact that this should be the case when wages have continually risen, and are now at the highest point ever reached, while the hours of labor have steadily decreased, and are now shorter than ever before, deserves the attentive consideration of economists. The labor advocates, since they abandoned the idea that it was beneficial to the morals or intellect of workingmen to spend eight hours of every day in idleness, have claimed that, by reducing the length of the working day, they furnished employment to men who would otherwise be unemployed; and the fact that, with the shortest working day ever known, there are more workingmen unemployed than ever before, while, with wages at their highest point, an unprecedented number of paupers are dependent upon charity, at least suggests some weakness in their theories.

THE explanation of this is, perhaps, that the leaders whom the workingmen trust are, no doubt sincerely, misled by the ridiculous cant about "Capital" and "Labor" which has so long been imposed upon the world by people who ought to know better. The theory of those economists, at least as it is understood by the workingmen, is that a vast amount of "gold," "wrung from the loins of labor," is "hoarded up" somewhere by the capitalists, and can only be extorted from their "greed" by combination, legislative enactment, and manœuvres of various kinds. It is hardly possible to conceive of anything further from the truth. Very few millionaires carry more than a few dollars in their pockets, and with the exception of these, and, possibly, a watch and chain, and a ring or two, they possess nothing except some records, which, by custom, are regarded as showing that they are entitled to live in certain houses, or to say who else shall live in them, and to share in the profits of certain enterprises, provided there are any profits. If industrial enterprises should cease to be profitable, and tenants should stop bidding against each other for the privilege of living in houses not occupied by their owners, every trace of capital, in this country, at least, would vanish, and the capitalist, with nothing left but the roof over his head, would have to fight, in common with the workingman, for the human flesh which would form, for all except farmers and fishermen, the only available nourishment. Even the best friends of labor must confess that the leaders of the workingmen have for many years, and particularly in England, been doing their best to bring about just this state of things, by wanton attempts to injure, on the pretext of extorting new concessions, the industries upon which their own living depended; by increasing the labor-cost of manufactured goods subject to sharp foreign competition, through eight-hour laws avowedly intended to serve no other purpose than to increase such cost; and by deliberately reducing the efficiency of workingmen, in order to increase the number to be paid for accomplishing a given result; and they have so far succeeded in their efforts that the country in which they have displayed their greatest activity shows, at the moment when, according to their standards, they have achieved the most triumphant victory, an increase in pauperism which startles even the English themselves.

MR. EDWARD ATKINSON is reported to have said that a general eight-hour working-day, which the labor-orators hold up as the goal of their efforts, would lead to general starvation; and it is not difficult to see how this may be true. So far from Capital being a fierce and bloated giant, stuffed with gold-pieces which it is the workingman's duty to let out by violence, capital is nothing without labor, just as labor is nothing without capital; and the more labor can do, by efficiency, punctuality and intelligence, to increase the profits of capital legitimately employed, the better it will serve its own interest. No one, in this country, objects to high wages. On the contrary, the highly-paid workmen of this country, by their superior intelligence and interest in their work, have made the labor cost of American manufactures the lowest in the world, at the same time that the men themselves, by their superior purchasing power, have contributed enormously to the prosperity of American industries in general, including that by which they were themselves supported. This is the proper state of things for this country, and everything that contributes to efficiency and precision in business promotes it, encourages other enterprises, and justifies high wages in all; while attempts to injure employers, to distress their customers, to reduce the efficiency of workmen, and to prevent other people, who might themselves be customers, from getting a living, lead straight to hopeless and universal misery.

THE ARCHITECTURAL DEVELOPMENT OF LONDON.[1]

PREFATORY NOTE.

IT is difficult adequately to express the deep feelings of appreciation with which I regard the high honor that has been conferred upon me by the invitation of the American Institute of Architects to address this important Convention on such a question as the planning and general architectural development of London, the Capital City of the British Empire.

During last September, it was my good fortune to be able to visit Washington, and I was then profoundly impressed with the dignity of the Federal City. The view of the Capitol from Pennsylvania Avenue towards the end of the day was one of the finest sights I have ever seen, and I felt instinctively that those who had been entrusted with the planning and arrangement of the city had fittingly prepared it for the great part that it is destined to play in the councils of the nations. It was also my privilege to be able to visit the Congressional Library and to study the models and plans therein displayed for the further architectural development and embellishment of the Capitol, the White House, and their surroundings. These designs and models convinced me that the architects and sculptors of to-day appointed by Congress for the conception of this great scheme have not only followed loyally in the steps of L'Enfant, but have developed and perfected his ideas with a breadth of grasp that calls forth our warmest feelings of admiration. There can be no doubt that when this monumental scheme has been carried into execution, Washington will become one of the fairest cities of the world.

It is an interesting coincidence that while Washington is thus preparing for itself a more glorious dress, Westminster happens to be similarly engaged. The old rookeries and slums which now obstruct and confuse the western view of Barry's masterpiece are to be swept away, and the gray towers of the Mother of Parliaments are to stand isolated on the river-bank, flanked on either side by the majestic curve of the Thames Embankment.

This simultaneous manifestation of public interest in the architectural surroundings of the supreme halls of council of the two great divisions of the English-speaking race seems almost to possess special significance, and perhaps we shall not be too sanguine if we permit ourselves to see in this event some indication of a general desire that, in future, differences of opinion may be resolved in the calm and serene atmosphere of the deliberative assembly, and that the attention of our respective national councillors may be solely concentrated upon the peaceful development of the human race.

The architectural development of Washington will, however, be placed before you by far abler pens than mine. The task that has fallen to my lot is sufficiently difficult. I have been asked to indicate the chief causes which have contributed to the present shape and configuration of London, and in this connection it is important to bear in mind that London had not the advantage of the conscious deliberate scheme of planning that fell to the lot of Washington. The city is the unconscious outcome of natural requirements and conditions. It is, perhaps, a standing example of the practical working of the laws of least resistance, and, therefore, though it can lay its claim to the close attention of the student of the picturesque, its beauty is largely accidental. I propose in this paper to indicate the chief causes which have operated in the formation of the London of to-day; that great city which, with its suburbs, houses a population approaching six million souls.

The geographical distribution of the city, or the County, as greater London is now known, is a flat river-basin in which the river takes a circuitous course from west to east. The existence of this river has not only determined the original site of London, but it has also operated to mark out the line of general growth and the direction of the main streets. On both north and south, some distance from the river on either side, are ranges of low hills, and it is chiefly between these two ranges that London has grown, though on the southern side the hills have long ago been built over and the city has passed far beyond them. In order to obtain a clear idea of how London has grown, it is, perhaps, desirable to classify its history into certain distinct stages. These stages seem to fall naturally under the following heads: —

1. The birth of Westminster.
2. The birth of London.
3. The junction of Westminster and London.
4. The mediæval city.
5. London's lost opportunity.
6. The northern boulevard.
7. The works of the ducal landlords and of the Prince Regent.
8. The works of the democratic councils.
9. Future London.

1. *The Birth of Westminster.* — If the student of London's history will take a map, he will be struck by a long straight road running from the extreme northwest corner of the map to Hyde Park, and he will also be struck by another road, not perhaps quite as straight, but forming, evidently, a main highway from the centre of South London to the eastern edge of the map. He will probably surmise that these roads, known by the names of Edgeware Road and Peckham Road respectively, have some connection, and his surmise will be accurate, for these two roads were originally one and were known by the name of the Watling Street, connecting the south coast of England near Ramsgate with the northern districts of the county.

It was not possible to cross the River Thames near its mouth, owing to its depth, but about the spot where the Abbey of Westminster now stands the river spread its course over many miles of marshes, and when the tide went out it became comparatively easy to cross the river on foot. In the midst of these great marshes was a small hill known as "Tot Hill," and it is probable that on this little hill were arranged some buildings to rest man and beast on their journey to the north. On this spot the Romans also erected some buildings, but later on the spot fell into disuse, owing, probably, to the construction of a bridge across the river lower down and the diversion of the ancient Watling Street across the new bridge. For some centuries after this, it is probable that Westminster was nothing more than a waste, but during Saxon times it seems to have been regarded as a suitable spot for the residence of the kings. The Saxon King Edgar is supposed to have displayed a great interest in this district, and to have founded the present Abbey, endowing it with a great manor. Whether the Danish King Canute and his sons lived here or not is uncertain, but it is clear that King Edward the Confessor was devoted to Westminster, that he lived there himself and that he built a great church on the spot. Though this king died nearly a thousand years ago, his tomb still remains in the central chapel of the present Abbey, and his shrine is still visited annually by devoted Roman Catholic pilgrims. From this date continual works were in progress, developing and extending the Abbey and its precincts. The kings also enlarged and beautified their palaces, and the present Westminster Hall, built, in 1398, by Richard II, occupies the site of a previous building by William Rufus in 1090. It would seem almost a natural development that the seat of the sovereign power should become also the place of judgment, and this was the case. It is only within our own times that the law courts have been removed from Westminster.

2. *The Birth of London.* — The earliest written reference to the existence of London was made in the year of our Lord 61, when the Roman historian Tacitus informs us that it was a place of comparatively large population. Although the note of Tacitus is the first written reference to London, legend says that the Trinobantes had a settlement on the present site of London years before the Roman invasion, and it is reasonable to suppose that this was so. Archæologists incline to the view that the name London was originally spelt "Llyndin," which means the Lake Fort. It has already been explained that the greater part of the site of present London was so near the river-level that at high tides the river spread out over these low-lying lands and took the form of a lake. About the site of the present London Bridge, however, the land was of a higher altitude, and beyond the reach of the highest tides. The effect of this change of configuration was at once to produce a navigable river and also to ensure dry land at the side eminently suited for the construction of wharves and houses. Such a position was almost ideal for the settlement of merchants in those days when the only law was the sword. This spot was bounded on the south by the River Thames, on the west by a smaller tidal tributary known as the Fleet, on the east by marshes, difficult to cross, and on the north by dense forests. Here, then, was a site for a city from which merchants could reach through their ships the whole of the then known world, and yet upon which their goods could be stored in comparative safety and security. The river which washed its shores was too deep to ford, but a ferry probably existed from the very early times. The exact date when the ferry was replaced by a permanent bridge is not known, but when the foundations of the present London Bridge were excavated in the early part of last century, numerous coins were found in good preservation bearing the effigies of the Roman Emperors, Constantius and his sons, Crispus and Constantine, and with the syllable "P. Lon." as mint-mark.

This indicates not only that London was at that period (309 A. D.) important enough to be the seat of a mint, but also gives ground for the view that these coins in some form or other commemorated the construction of the bridge. This view is supported by the fact that evidences of Roman occupation have been traced along the line of the southern access to the bridge. During the early years of the Roman occupation London was known by the name of "Londonium," but towards the end of the Roman occupation the name was changed to "Augusta." It is clear that the construction of the bridge would have tended to divert the line of the old Westminster ford, and this is what actually seems to have happened. The old road passing down Edgeware Road, and known as Watling Street, was diverted at the Tyburn, or about the present site of the Marble Arch. From this spot a new Watling Street was made to London Bridge and this new road seems to have been the origin of the present street called Holborn. It entered the city at Newgate and thence sought the bridge. The Romans had another road from the bridge that went northwards. It occupied, approximately, the site of the present Bishopsgate Street. From this a branch road to the right went to Colchester, an ancient Roman camp in Essex. In the early years of the Roman occupation a wall round the city was not considered necessary, but later on, about the middle of the fourth century, a wall was built surrounding the whole city. This wall enclosed an area of about three square miles. There were two land-gates, three water-gates and a gate to the bridge.

It is very difficult to say what happened after the Roman legions were recalled to Rome. Deprived of their natural protectors, the

[1] A paper by Mr. Owen Fleming, A. R. I. B. A., read at the Thirty-sixth Convention of the American Institute of Architects.

merchants must have felt their energies sapped. At all events, it seems clear that there was an interval of many years during which London was gradually deserted. Walls became ruins, grass grew again in the streets, and it was not until late in the Saxon period that it once again regained its traditional importance, and, henceforward, was recognized as the capital city.

3. *The Junction of London and Westminster.* — It is clear that between the King's stronghold of Westminster with its adjacent powerful Abbey, and the great commercial city of London frequent communication was necessary, and the line of this communication naturally followed the curve of the river. This road became known by the name of the Strand. On the borders of this street were grouped various communities who found the position convenient. The sites between the Strand and the river were used for the palaces of the great nobles. Essex Street marks the site of the town-house of the famous Earl of Essex; the adjoining land was the property of the powerful Duke of Norfolk; Somerset House, the Savoy, the home of the Cecils, Northampton House (afterwards Northumberland House), and other great palaces linked London with Westminster on the river-bank, while farther north there were many settlements of monks and lawyers. The Knights Templars settled on a site south of that portion of the Strand nearest the city of London, and this portion was known by the name of Fleet Street. It crossed the River Fleet by a bridge and entered London by the ancient Roman "Lud Gate." At its other end the Strand was connected with Westminster by what is now known as Whitehall, and this district was, even in the mediæval times, an aristocratic place of residence.

4. *The Mediæval City.* — Throughout the reigns of the mediæval kings London grew in wealth and importance. It did not spread very far, but the walls that the Romans had built were slightly enlarged. Within the walls, however, the city was continually becoming more picturesque. The great conventual buildings of St. Paul's, which legend affirms occupied the site of a Roman temple, were demolished in the early part of the fourteenth century, and in their place rose the magnificent Gothic cathedral with a spire rising to the extraordinary height of 520 feet. In the reign of Henry II an eager citizen, Fitz Stephen by name, gives us some idea of the beauties of the city. He tells us of the large number of churches in the city, which in his day were already 126 in number, and describes the houses, with their overhanging gables, and the line of booths in the streets. At this date the Tower of London had been well advanced, and away from the main streets Fitz Stephen tells us that there were many houses well furnished with trees, spacious and beautiful.

The Londoners of those days seem to have lived a merry life, and we hear later of such magnificent pageants as the triumphal entry of Henry V after the Battle of Agincourt, welcomed by the wonderful chorus of the priests, which even now seems of impressive grandeur.

London was also the scene of stirring political events. It was a Lord Mayor of London who struck down the sturdy Kentish peasant Wat Tyler, and later on Sir Thomas Wyatt marched through London, in insurrection against Queen Mary. This was the beginning of sad times for London, and the memory of the burnings of noble divines and others, culminating with the martyrdom of the Bishop of London in 1555, and a year later of the Archbishop of Canterbury himself, made an impression that is even yet vivid in the minds of Londoners.

5. *London's Lost Opportunity.* — The era of the Renaissance brought sadness to London. The growth of the city was even in those days causing alarm, and it is interesting to read the proclamation on this question issued by Queen Elizabeth in the year 1580.

"The Queen's Majesty, perceiving the state of the City of London and the suburbs and confines thereof to increase daily by access of people to inhabit in the same, in such ample sort, as thereby many inconveniences are seen already, but many greater of necessity to follow: —

"For remedy whereof, as time may now serve, until by some further good order to be had in Parliament, or otherwise, the same may be remedied; Her Majesty, by good and deliberate advice of Her Council, and being also thereto moved by the considerate opinions of the Lord Mayor, Aldermen and other, the grave wise men in and about the city, doth charge and strictly command all manner of persons of what quality soever they be, to desist and forbear from any new buildings of any house or tenement within three miles of the gates of the said City of London, to serve for habitation or lodging for any person, where no former house had been known to have been in the memory of such as are now living; and, also, to forbear from letting, or setting, or suffering, any more families than one only to be placed, or to inhabit from henceforth in any one house that heretofore had been inhabited.

"Given at Nonesuch, the seventh day of July, 1580, in the two and twentieth year of Her Majesty's reign."

King James followed the example of Queen Elizabeth, and forbade the building of houses in the suburbs; but this artificial prevention of natural expansion had its inevitable result. The houses within the city walls crowded more and more closely together, and it is not surprising that such overcrowding, coupled with the absence of sanitary regulations, resulted in a considerable amount of sickness. The visitation increased in virulence and ultimately took the form of the plague. There are, probably, few persons who have not shuddered at the thought of this great city at the time of the plague. All business ceased, the streets were deserted, and the grim silence was only broken by the rumbling wheels of the death-cart and the hoarse cry echoing through the empty streets, "Bring out your dead." There was no time for ceremonial burying. Great pits were dug round the city, and the bodies were tipped into them from the carts pell-mell without coffins or even grave-clothes.

Soon, to the horrors of pestilence were to be added the horrors of war. The citizens of London supported Parliament in its long contest with the Sovereign, and it was from a window in Whitehall that King Charles I walked to the scaffold.

The terrors of the plague and of the war were, however, from an architectural point-of-view, perhaps of less importance than the great disaster of the fire in 1666. There have been other fires more extensive in character perhaps than this, but probably the destruction of rare and precious objects has never been equalled. In five days London lost her magnificent Cathedral, the Exchange, the Custom-house, the beautiful halls of city companies, and numerous churches and chapels stored with rich vestments and priceless ornaments. In all, 396 acres of houses, 400 streets, 13,200 dwellings, 89 churches besides chapels, and four of the city gates were destroyed.

But if London had lost what could never be replaced, here was a unique opportunity for the reconstruction of the city on a monumental plan, and the great architect of the day, Sir Christopher Wren, rose to the occasion and produced such a plan. It was, perhaps, the first scheme on a large scale for the design of a city, and it is well worth the closest study. Wren was handicapped by the lines of the old streets that had not been burned, but he utilized these as the basis of his plan. The old Leadenhall Street was to be carried straight through to the "Lud Gate," passing the Royal Exchange, which was arranged to be the centre of a scheme of radiating streets similar to those around the Capitol at Washington. St. Paul's was placed majestically fronting the wide "place" formed by the junction of Leadenhall Street with a new street of equal width nearly parallel to the river. The river itself was embanked with a spacious quay the whole way from the Temple to the Tower, and in front of London Bridge was created a great circus from which again streets radiated in all directions. It is melancholy to have to record the fact that this great scheme was brushed on one side by the haste of the commercial interests to begin rebuilding, and by the unwillingness of the citizens to coöperate for the common good. London thus lost an opportunity that will never recur.

6. *The Great Northern Boulevard.* — As might have been expected, the edicts of Queen Elizabeth and King James against the extension of the city were set aside by the catastrophes of the days of King Charles. The geographical situation which had first marked out the site of London as eminently suited for commerce continued to exist, and with the development of civilization in Europe and Asia, London continued to form the centre of attraction for great numbers of people. The city spread far beyond the ancient walls. The space between the Strand and the ancient Watling Street, or Holborn, became filled with houses. Even this extension was insufficient, and the city spread still farther northward. Traffic increased, and it became clear that some further means of communication was required in the north. This was carried out in the reign of George II by the construction of a series of roads beginning at the old "Moor Gate," passing to Islington, descending the Pentonville Hill and running past the church of St. Marylebone to the village of Paddington. This road was designed on a far more liberal scale than any of the mediæval roads, and although its width has been allowed to be encroached upon here and there, speaking generally, the road maintains the characteristics of a boulevard and it is likely that it will continue to do so.

7. *The Works of the Ducal Landlords and the Prince Regent.* — Towards the end of the eighteenth century the number of the rich citizens of London had materially increased. Moreover, the rapid advancement of learning, the increased attention given to the fine-arts, and the general desire for more healthful habitations, caused a continually increasing demand for dwelling-houses of a more stately character than those which had previously been found sufficient. The result of this movement was to bring into the building-market the large estates and manors of the dukes and other nobles to the north and south of the old Holborn and its westward continuation of Oxford Street. Whatever political view may be taken of the question of large leasehold estates, architects are bound to chronicle with gratitude the liberal way in which these estates were laid out. The usual plan was to form a large open square, to plant trees and shrubs therein, and to arrange the houses facing upon the road surrounding the square. Frequently the whole of these houses were designed with a view to their architectural symmetry and there is something very attractive about these great London squares which still are favorite residential quarters. It is a matter of regret that this system of forming squares has not been followed in recent building of estates.

At the beginning of the nineteenth century, a combination of circumstances arose that materially altered the aspect of West London. The then Prince Regent (afterwards George IV) was in power, and exerted his influence to carry through a scheme of rebuilding that in those days might fairly lay claim to the title of majestic. The Prince Regent's palace was then known as Carlton House, occupying the "place" now existing between the Athenæum and the United Service Clubs in Pall Mall. In the northwest of London were some large open farms which had previously formed part of the lands of one of the houses of Henry VIII. The leases of the farms were falling in, and the Prince Regent conceived the idea of connecting a broad street from his palace of Carlton House to these farm-lands (now Regent's Park) which were to contain a country house for him. The

architectural opportunity thus afforded was a great one, and the Prince Regent was fortunate in finding an architect, Mr. John Nash, who designed the whole scheme. Americans who visit London are familiar with Nash's fine achievement. The skilful way in which the lower part of Regent Street (as the new street was called) was placed at right angles to the Palace and connected with the upper part of the street by a majestic quadrant, the circuses which cunningly disguise the crossings of the new street with Piccadilly and with Oxford Street, the way in which the spire of All Souls' Church was brought forward to mask the awkward sweep into Portland Place, the fine semicircular treatment where Portland Place enters the Park, the width of the new streets and the dignified designs for that period of the buildings fronting the streets, form a striking tribute to Nash's genius. He was also far-sighted enough to foresee the possibilities of forming the present Trafalgar Square, and he did this by driving Pall Mall through until it reached the top of the present square. The whole improvement was a great one, though perhaps its savor is rather too artificial and reminiscent of the dandyism of Beau Brummel to be altogether in accord with modern taste; yet it is right to give this work a foremost place in the architectural development of London. It is a curious instance of the irony of human life that the Prince Regent's proposed residence in the Park was never built, that financial considerations caused the demolition of his palace of Carlton House, and that the fine colonnade that Nash built along Regent Street to shelter the exquisites of the day has been swept away by an unsympathetic posterity.

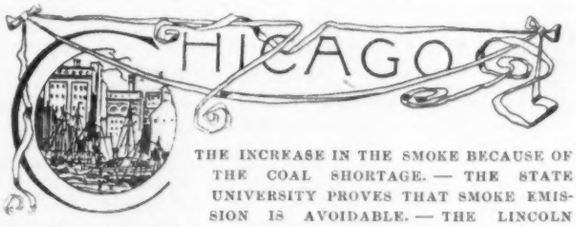
8. *The Works of the Democratic Councils.* — If London in the eighteenth century was dominated by the aristocrats, the London of the nineteenth century passed from under their sway, and gradually became more and more democratic in its government and in its ideals. One reason for this change was the development of free political institutions all over the country, another was the growth of the more purely commercial instinct, and perhaps a third reason is to be found in the extraordinarily rapid growth of the population. The ancient cities of London and Westminster were no more than islands in a great sea. North, south, east and west, the city was spreading in an all-devouring fashion. Railways and tramways were introduced and helped in this development. Some form of common government became necessary for the whole agglomeration. Government Commissioners who were first appointed were found unequal to the need, and they were succeeded by an indirectly elected council which governed London for many years, but which was in turn supplanted by a council elected directly by the people. Even this government was held to be insufficient for the occasion, and its energies have recently been aided by the creation of numerous subordinate cities and boroughs who have each their own mayor, aldermen and councillors, and who are each entrusted with a considerable amount of local autonomy. The work of these nineteenth-century councils in the further development of the planning of London is set forth in a most lucid manner by Mr. Percy Edwards in his "*History of London Street Improvements.*" Mr. Edwards tells us how, during the century, new lines of traffic have been opened and streets widened in all directions. The most notable of these improvements have been (*a*) The embanking of the Thames, and (*b*) the junction of Holborn with the Strand. The Thames Embankment had long been a public ideal. It was unfitting that a city of the magnitude of London should be intersected by acres of offensive mud-banks, and between the years 1865 and 1875, three-and-a-half miles of these mud-banks were embanked by a road generally 100 feet wide at a cost of nearly $12,500,000. Between this road and the city beautiful gardens were laid out, and the crowds that throng this thoroughfare on fine summer evenings, and listen to the municipal bands playing in the municipal gardens, form some evidence of the way in which this great work is appreciated by the people of London.

The junction of Holborn with the Strand is now in progress. It is an improvement of the highest architectural importance, and will profoundly affect the future of the city. On referring to the map of London, the observer cannot but be struck with the insufficiency of through lines of communication from north to south. The ancient Edgeware Road forms one such thoroughfare, Regent Street another, but between Regent Street and the great North Road of the Romans, now represented by the Kingsland Road, there is no really adequate north and south thoroughfare. It will be seen, however, that the means of making such a thoroughfare exist. On the north there is the line of streets beginning at Southampton Row and continuing to Hampstead, while, at the south, Waterloo Road forms a similar beginning of a series of streets running to the far south. The essential object was to connect these two detached lines of traffic, and this has been effected by the new avenue now in course of construction. Many plans for this avenue were laid before the London County Council, and it is pleasant to be able to record the fact that the scheme which met with universal approval and consequent adoption was based upon a scheme submitted by the Royal Institute of British Architects. The new street will be 100 feet wide, or 10 feet wider than Regent Street. At its southern end it bifurcates into the form of a crescent. The arms of the crescent are each 100 feet wide, and the Strand, which forms its base, has been widened to an even greater width, thus preserving for all time the two fine Renaissance churches occupying the centre of the Strand. The motives of the Institute in making this plan were manifold. They perceived the architectural objections to making the side view of St. Mary's Church steeple the objective of the street vista, as was at one time proposed, and they desired to afford the opportunity for the creation of a new architectural objective worthy of the unique occasion. This can be provided on the island-site axial with the new street.

They also foresaw that the traffic from north to south crossing the vast traffic from east to west along the Strand would constitute a serious problem. The new street is therefore designed to enable the northern traffic to ascend by the western arm of the crescent, while the southern traffic descends by the eastern arm. They foresaw that if some such scheme as this were not carried through, a most serious attack would be likely to develop against Waterloo Bridge, owing to its inadequate width. This bridge is not only the most beautiful of London bridges, but its position in the centre of the great arc of the river with the background of Somerset House and the dome of St. Paul's in the far distance constitutes perhaps one of the finest architectural views in the world. Unfortunately, Waterloo Bridge was designed for a bygone generation, and is much too narrow to carry the traffic of the main line of communication between North and South London. The solution of this difficulty is thought by the Institute to lie in the construction of a new bridge across the Thames between the Waterloo and Blackfriars bridges, and the advantage of the accepted design for the Holborn to Strand Street is that the construction of a new bridge to take the southern traffic becomes the almost inevitable corollary to the scheme.

9. *Future London.* — It would not seem that any very useful purpose would be served by indicating the lines upon which future London will develop. It must be largely a matter of conjecture, and though certain improvements are clearly only a matter of time, notably, perhaps, the continuation of the Mall into Trafalgar Square and the consequent widening of Whitehall, yet it is probable that the process in the future will be, as in the past, the outcome of immediate necessity. London still owns very many square miles of dreary squalor and misery, and the conversion of this great area into a beautiful city is indeed a Herculean task. Probably many centuries will have passed away before the poverty of London becomes only a matter of history. Still, it is remarkable what rapid strides in the obliteration of the slums are being made. During the last fifty years whole districts of insanitary property have been swept out of existence and have been replaced by new and healthy dwellings designed with care and thought. There is a public-school every few hundred yards, and public baths, gymnasia, libraries, museums and art-galleries are to be found even in the poorest districts. The younger generations are far better equipped than were their fathers to take up the question of civic organization and to carry forward the movement for better and brighter homes.

Whether London has reached the limit of her population? Whether this extraordinary city is destined still to enlarge her boundaries? Whether the growth in power and influence of the great Western world is destined to divert commercial energy into new channels? These are questions too great for us. It may be that London will be forced to yield its place as the foremost city of the world to its younger and perhaps more energetic competitor, New York City. If this be the destiny of fate, I am sure that there is no city to whom London would more willingly yield the preëminence and rejoice in so doing. At the same time it is necessary to state that London possesses vast stores of latent power and her unrivalled geographical position still remains unchanged, and that, at the beginning of this twentieth century of her history, she is sufficiently confident of her commercial future to embark on schemes of commercial development which will involve an expenditure of hundreds of millions of dollars. Whatever may be the fate that the future has in store for London, however, the past will always remain her own, and I shall be content if this too brief and disconnected sketch succeed in awakening in the mind of the young American citizen some interest, if not some affection, for a city that is after all his alma mater.



THE INCREASE IN THE SMOKE BECAUSE OF THE COAL SHORTAGE. — THE STATE UNIVERSITY PROVES THAT SMOKE EMISSION IS AVOIDABLE. — THE LINCOLN HOTEL FIRE. — THE RECORD OF RECENT BUILDING FATALITIES. — THE QUALITY OF THE NEW WORK. — THE MICHIGAN AVENUE BUILDINGS. — THE CHICAGO TEACHERS' COLLEGE. — MANUAL-TRAINING SCHOOL AT EVANSTON. — THE CLOCK FOR CHICAGO UNIVERSITY. — THE ARTS AND CRAFTS EXHIBITION.

CHICAGO is enveloped in a pall of smoke, so dense that it is hard to tell whether much building, or any other affairs for that matter, is going on or not. Always smoky and dirty, this winter, with its enforced use of bituminous coal, it is outdoing any picture which its worst enemy could draw of it. It is certainly very distressing, and in the midst of clouds of smoke rolling over us from every direction, it seems much like a farce to read each morning in the papers that inspector so-and-so had served final notice on such and such a firm and that a fine of fifty or twenty-five dollars had been imposed. Actually, however, there has been an awakening to the enormity of our sin of filth, and this year the officials are trying to enforce the ordinances. The time of awakening was, however, unfortunate, to say

the least. This last month Professor Breckenridge, of our State University, has lectured before the National Association of Stationary Engineers and took the occasion to reiterate the well-known fact, that the making of so much smoke was not only unnecessary, but a wasteful use of fuel. His lecture was illustrated by stereopticon views and for two hours he held his audience's attention on this very vital question to Chicago. Professor Breckenridge said: "At the State University we are continually testing every known grade of Illinois coal, from the best to the poorest. It is a great step forward for me to be able to declare to you to-night that we have proved beyond a shadow of doubt that Illinois coal, I care not how cheap it is, may be burned under your boilers in Chicago, without the emission of any smoke whatever. Men who deny this fact are either wilfully attempting to evade their duties or else prefer to remain in ignorance of the truth. We have a mechanical-engineering department at the University that is open to every citizen of the State for inspection. It is surely worth while for any manufacturer at all interested in this subject to come down to us for a day or send a skilled representative to investigate the claims we make. We will guarantee to convince any honest investigator in twenty-four hours of the truth of this claim."

He dealt with the subject in a scientific way, presenting the chemical action involved in the whole process of combustion, and discussed the good and bad points of all the various smoke-consuming devices. Alderman Werno, Chairman of the Judiciary Committee, and Peter B. Wight, Secretary of the Municipal Art League, addressed the meeting. If all this smoke can be prevented, it certainly is more discouraging than ever that Chicago should be so ruined by it, as it undoubtedly is. Most people love dirt, prefer it to cleanliness, it would seem, and as for having any regard for their neighbors' taste for the opposite, that is something beyond their conception, and they will always make a mess if permitted, in the air, on the street, in their homes and around them. The clean cities of the world are those where people are not allowed to be dirty. Cleanliness may become second nature, but so strong in most human beings is the original nature which loves easy disorder and dirt, that it seems as if Mother Eve must have thrown the core of that apple down on the clean lawn or walk and so started the trouble at the very beginning.

Though we *look* as if we were on fire most of the time, the real thing does occasionally occur, as known by the clanging of bells and the death-list afterwards.

The responsibility of another cruel list of fatalities resulting from a fire has been added to Mr. Koilbassa's already long list of neglected opportunities, in the matter of enforcing the building-laws. With the partial burning of the small Lincoln Hotel, on Madison Street, the astonishing conditions were brought to light that its fourteen victims were burned and suffocated like rats in a box, in rooms without windows or skylights, whose only ventilation was obtained through a transom over their one door. This state of affairs was known at the Building Department, but the officials maintain they did not know that they had the right to practically close the hotel till such alterations were made in conformity to the law. The list of disasters resulting from lack of proper building-inspection which have occurred during Mr. Koilbassa's term of office is rather startling. It begins with January 12, 1901, and continues up to the present date: —

"West Side Turner Hall. Fire panic. Repairs ordered and inspectors failed to see work done. Five killed, forty-two injured.

"Building collapsed on Larrabee Street. Had been condemned. Inspector failed to see order carried out. One killed, six injured.

"Building 31 Concord Place, collapsed. Inspector failed to inspect building. Three injured.

"Seats in circus, Fifty-Fifth Street, fall. Alleged that the Building Department had failed to inspect them. Fourteen injured.

"Grand-stand in Normal-school grounds. Inspectors alleged to have permitted use of bad lumber. No permit issued. Seventeen injured.

"Building 603 Milwaukee Avenue, collapsed. Had been condemned but, as alleged, inspectors failed to see work was done. Five injured.

"Roof collapsed on Congress Street. It is alleged that no inspection was made. Five injured.

"Roof on power-house, University, Chicago, collapsed. Never had been inspected, as alleged. One killed, four injured.

"Wall of building at 176 Forty-Seventh Street fell. Repairs ordered. Inspectors alleged to have failed to see order carried out. Six injured.

"Monterey Apartments. Wall fell. Faulty construction. One killed.

"Galbraith Building. Tank fell through roof. Alleged that no inspection was had. Five injured.

"St. Luke's Sanitarium fire. Repairs ordered. Inspector alleged to have failed to see order carried out. Eleven killed, nine injured.

"Building on Black-hawk condemned, and collapsed before order was carried out. Two killed, two injured.

"Glucose Sugar Refinery fire. Was considered fire-trap. Alleged that no order for repairs was made. Ten killed, five injured.

"Floor collapsed at Paddington Apartment Building. Inspector 'too busy' to see work properly done. One killed.

"Grand-stand, Marshall Field, fell. Order to repair never carried out. One killed, fifteen injured.

"Lincoln Hotel fire. Fourteen killed, five injured.

"Total: Forty-seven killed, 147 injured."

The investigation started a month or two ago has naturally been continued and has resulted in the Building Commissioner sending in his resignation. That it will be accepted seems a foregone conclusion to any sane man whose life is not dedicated to politics.

Affairs in building-circles continue through the winter much the same as during the late fall and summer. The extremely high price of building discourages the erection of many residences and structures of a similar nature. This is also true of all flats and dwelling-houses built for sale, while almost all other branches and classes of work show large figures. In heavy buildings, stores, office, storage and wholesale buildings the total is very exceptionally great, and probably has never before been equalled here. A few of this class of buildings are now completed, but others, such as the huge First National Bank Building and the Lake Shore Passenger Station, are well under way, while still others are only just on the architects' boards. As one sees the work in the centre of the city and dodges around the various barricades it seems very much like the busy period previous to the World's Fair. As a matter of fact, however, the money being expended in new buildings and in the additions to existing sky-scrapers is very far in excess of any previous record. From the illustrations and descriptions and evidences already before our eyes it is greatly to be feared that, while remarkable as engineering-feats, these buildings will contribute very little or nothing to the fine architecture of the city or the artistic work of the country.

One of the buildings still on the boards is a fine hotel to be erected on the site of the old Leland House, which of late years has been known as the Stratford Hotel. The idea is to erect a hotel, not as large as the Waldorf-Astoria, but one of a similar character, at a cost of three millions of dollars. This will be another fine structure added to those which already are on or will soon be on the lower part of Michigan Avenue, presenting a stretch of building of quite exceptional character. This group starts at the northern extremity at Randolph Street, with the Public Library; next is the Montgomery Ward Building, with the additions to be built on it; while the Athletic Club Building and some modern commercial buildings fill the next block. The small old buildings in the adjoining block have not yet been replaced, but with this small break in the procession the fine buildings are either there already or are soon to be erected. The gas-companies' block at Adams brings us to the second start, with the Art Institute, just across the way, at the beginning of the present Lake Front Park. On the west side of the street the Pullman Building, the new building for the Central Church, the Thomas Orchestra and the University of Chicago, the Standard Office-building, the new hotel already mentioned, the Karpen Building, the Victoria Hotel, the Chicago Club, the Fine-Arts Building, the Auditorium Hotel, the Auditorium Annex and the New Annex, to follow at the south of the present Annex, will make as fine a group of buildings as seen in any city, if properly handled.

Mr. Mundie, City-school Architect, has just published plans for a large Normal-school Building, to be erected at Englewood on the site of the old Cook County Normal-school and to be known as Chicago Teachers' College. The design for the building is considered by the Board of Education to be one of the best, both as to exterior and interior, that it has ever had. Three hundred and twenty-five thousand dollars has been appropriated by the Board of Education for this building, where the graduates from high-schools, who want to make teaching their profession shall congregate. The building will have 185 feet front by 236 feet in depth, will be four stories and will be constructed in rectangular form around a large central court. Sixteen hundred students can be accommodated in it. Care is taken that every branch taught in the public-school shall have its department here; consequently there are planned class-rooms, lecture-halls and laboratories and thoroughly equipped departments for manual training, domestic science, and commercial training. There will also be a large library, an auditorium, and assembly study-halls.

A very unique little school-structure completed in Evanston within the last year is that devoted entirely to manual training and domestic science. It is a low one-storied structure of light buff brick and buff Bedford-stone, Classic in feeling. The exterior though very simple is pleasing. The manual-training room is large and sunny with plenty of space for work-benches, lathes, etc. It is only in the kitchen that any architectural flights have been indulged in. The result is charming, though one questions the wisdom of part of the treatment for a kitchen, as not only are the colors very delicate, but some of the material perishable. The color-scheme is all blue-and-white. A bright blue denim, unlacquered and unpainted, covers the walls up to the plate-moulding, which is at the height of the ordinary picture-moulding. The woodwork is all white. The cupboards, with their pretty blue-and-white china, have leaded-glass doors. Behind the range white tiles replace the denim, which of course would be impossible behind a kitchen range, while a white-tile refrigerator presents another pleasing alternation in the blue-and-white color-scheme. Occasional plates in the plate-rail or a large plaque against the denim are used as ornamental features. These and a large brass Holland milk-jug on top of a white utensil-closet, simple blue-and-white crash curtains at the windows, all serve to make up a very charming room. Of course demonstration-tables, working-tables, with individual gas-ranges, and all the working appliances are of the latest and most approved style. Equipment and building were all the gift of two public-spirited citizens of Evanston to the public-schools.

One of the visible results of the work in our Chicago Manual-training School will be a very large clock, destined for the tower of

one of the new buildings of the Chicago University. The clock is a decidedly interesting piece of work. All the designing, drawing, blue-print making, pattern-making, casting and machine-work have been done by the young men of the school. The 350 parts, each made by a separate student, together weigh over 4,000 pounds. This gives some idea of the size of the undertaking. The clock has three distinct movements, one for striking the chimes, one for time, and one for striking the hour. The time part of the clock will be an eight-day movement, while the chimes and the striking will have to be wound each day; consequently there might be ground for the hope that these might be mercifully forgotten sometimes. The dial-plate will measure 25 feet in diameter. A smaller clock, similar in plan, has been already completed by the school, destined for the proposed Crerar Library.

It is decidedly noticeable, while cultivating the artistic, how much attention is being paid here now to the purely practical. All the manual-training schools, all the domestic-science schools, tend to this sort of thing, and with all this thought given to the practical, it is curious to note how much thought is given, in all kinds of building, to the practical side. Marshall Field's huge retail-store is an example of this sort of thing. As mentioned before, this is a mammoth building, with almost no architectural pretensions whatever, but viewed from its practical side it is extremely interesting. When one realizes that, at this Christmas time, the individuals on the pay-roll of this firm number 8,000, one can see that there must be a good deal of thought given to the practical management and arrangement. Aside from all the toilet-rooms, waiting-rooms and lunch-rooms for the customers, there are dressing-rooms for the girls, housekeeper's store-room, noonday rest-room, with piano and books, gymnasium with all the most approved appliances, duplicates of all of these for the men and boys; besides a library, school-room for the little boys, and a hospital-room for both clerks and customers, containing all the most approved hospital appointments. The clerks' dining-room and kitchen is quite a sight in itself. All through this part of the building an even more rigid simplicity of finish is noticeable, but everything is planned on the most approved hygienic and sanitary methods.

As a connecting-link between high art and the severely practical we have the Arts and Crafts Society, more or less always with us. The Society has just now held its annual exhibition. It seemed to have less material than usual and was rather disappointing in nature, with no great mark of improvement noticeable. Some good specimens of jewelry were shown — enamels and precious stones combined with gold and silver. One of the heavy pieces of furniture was presumably not one of those exhibited before, but so similar as to make no different impression. Some good photographs from the Deerfield community, some quaint cross-stitch embroidery of old sampler style, some well-woven rag rugs and baskets made an attractive group. All these things had a certain charm, but with the exception of the jewelry mentioned, could have been seen at almost any church bazaar in a community where artistic instincts were alive. Much of the decorated china was *too* good. It was of the style used for so much of the stencilled goods, and was so well done that it would have been hard to distinguish it from the machine excellence. It had, moreover, lost most of its original character.

The Moravian-tile people had a small exhibit of their always interesting tile, which was the only feature of the exhibition closely allied to architecture.

The Art Institute students have founded a society which they call Arts-Crafts. One would have thought they might have selected a name whose difference from the old society might have been something more distinctive than the hyphen. It will be interesting to see at the first exhibition of the society what art-training will have done for its members, in distinction to what has been accomplished by those who have departed from school-traditions.

FOUNDATIONS BY MEANS OF MECHANICAL COMPRESSION OF THE SOIL.

THE question of the foundations of a work of art, or of any building whatsoever, is always an important as well as a delicate one. Above all, it assumes a particular gravity when it is required to erect buildings upon unstable lands, such as one often finds in valleys upon the banks of rivers, or upon made-up sites, such as frequently occur in large towns where the earth has been dug over and changed frequently. It was in a similar case to the latter that M. Dulac, an engineer, after having bought some land at Montreuil-sous-Bois (north of France), and who intended erecting a large works upon the site, thought out and applied the process of mechanical perforation, now being exploited by the Société Anonyme Actuelle des Fondations par Compression Mécanique du Sol. The land had been previously worked as quarries, and afterwards filled-in, to a depth varying from 8 to 16 metres (8.749 to 17.498 yards) with quarry refuse and waste material. The sight of the neighboring works and buildings, full as they were of cracks and crevices, was sufficient to cause the liveliest apprehensions to arise. To erect buildings on pile-work, or to sink foundations for the same on this heterogeneous mass by the ordinary methods, would have cost such a large amount, and presented so much danger, that the idea had to be abandoned. After considerable thought, M. Dulac hit upon a simple, economical and practical method, whereby the necessary resistance could be obtained without risking in any way the lives of the men employed on the work. The implements used consisted essentially of a steam pile-driver, and stamps of a peculiar form. Stamp No. 1, called the "perforating" stamp, took the form of an elongated steel-cone, and weighed 1,500 kilos (1 ton 9½ cwt.). Stamp No. 2, called the "tamper," took the form of a pointed cylinder, and also weighed 1,500 kilos. Stamp No. 3, called the "proving" stamp, was in the form of a conical shaft, and weighed 1,000 kilos (about 19½ cwt.), but, unlike Stamps Nos. 1 and 2, it was suspended from the point. With such an outfit it is easy to judge the manner of proceeding with the work. The first thing necessary was to calculate the resistance offered by the land upon which the work was being conducted; the resistance obtainable being known, the difference would represent the amount of force required. The resistance of the soil is tested by means of Stamp No. 3, or the "proving" stamp. It is evident that, the greater the resistance of the soil, the smaller will the sinking-power of the stamp become, that is to say, the compressive-power of the stamp and the resistance of the earth will be inversely proportional. One can, however, always measure the amount of compression after each thrust, and it is then easy to deduct the resistive force. If the weight of the stamp is 1,000 kilos (19½ cwt.), and the depth of the fall 10 metres (10.9 yards), the force developed will be equal to 10,000 kilogrammetres, that is 10,000 kilogrammes (about 9¾ tons) per metre of compression; or for 1 metre (39.3 inches) the resistance is 10,000 kilos; for .10 metre (3.9 inches) the resistance is 100,000 kilos; for .01 metre (about ⅓ inch) the resistance is 1,000 kilos. The surface of the stamp coming in contact with the earth being equivalent to Om ² 3,000, the resistance per square centimetre (about .39 of a square inch) will be for 1 metre $= \frac{10000}{3000} =$ 3.3 kilos (about 7 pounds); for .10 metre $= \frac{100000}{3000} = 33.3$ kilos (about 70 pounds); and for .01 metre $= \frac{1000000}{3000} = 333.3$ kilos (about 6½ cwt.).

In making these calculations the following must, however, be taken into account: 1. The friction of molecules of sand, clay, etc., one against the other. 2. The resistance to compression of the air retained between these molecules. 3. Force lost through vibration, etc. Admitting these, at least 50 per cent must be deducted from the above figures before the coefficient of security is obtained. The calculation of the resistance having been made, the work of making the foundations may be commenced; and if the depth of the foundation does not exceed a few metres, Stamp No. 2, or the "tamper," may be employed in order to bore a hole of from 1½ to 2 metres in depth (from about 4 feet 10 inches to 6 feet 6 inches). Into this boring, hard materials, such as slag, pebbles, or concrete, mixed with slaked lime, are shovelled between each thrust of the stamp. The materials thus tamped down penetrate into the ground in a lateral direction, and compress the lower strata to a depth of 1, 2, and even 3 metres (3⅓, 6½, 9⅔ feet). This process is continued until the cavity is completely filled up; then the "proving" stamp No. 3 is brought into use, its compressive-power permitting of the calculation of the exact resistance obtained, and serving as an indicator of the time when the operation may be concluded. The above process is chiefly employed in cases where, there being an initial resistance of from 1 to 3 kilos (2.2 pounds to 6½ pounds), it is desired to raise it to from 5 to 8 kilos (11 pounds to 17½ pounds). In cases where a greater resistance is required, it is necessary to sink deeper borings, and for this Stamp No. 1, or the "perforating" stamp, must be employed. This stamp has a diameter of 70 centimetres (about 27 inches), and sinks a hole having a diameter of about 80 centimetres (about 30 inches). The weight being 1,500 kilos (1 ton 9½ cwt.), and falling from a height which is always increasing, it will be easily seen that the force exerted is considerable. When the boring is of the required depth, the hole is filled up with concrete, and compressed by means of the "tamper," or Stamp No. 2. When the hole is quite filled, and the greatest resistance attained, a monolith will have been formed, which will give an enormous lateral as well as vertical resistance, far superior to any hand-tamping, and not so liable to slips or cracks, since during the compression the concrete is driven into the walls of the pit, thus forming stays or branches. — *Stone Trades Journal.*

THE EMBELLISHMENT OF PUBLIC BUILDINGS.

PRESIDENT CANTOR, Superintendent Stewart, of the Bureau of Buildings, and Dr. Gould, the City Chamberlain, met the Architectural League at their regular meeting January 6 and discussed the embellishment of Public Buildings with an enthusiastic and appreciative audience.

The League had as its guests a number of members of the Municipal Art Society and the Society of Mural Painters, and the discussion was participated in by both painters and architects, who pleaded with the city officials for a greater recognition of art in the public buildings of the city.

Mr. Cantor was particularly responsive and said that he courted the advice of the members of the artistic professions in working out the many problems of municipal art that came under his control. Mr. Cantor said that his door would always swing in to architects and artists offering advice or suggestions.

The speech of the evening was made by Mr. Charles Lamb, who complained bitterly that a request made to the city to appropriate but five per cent of the total expenditure for the Carnegie libraries for purposes of mural painting had received no consideration at the hands of the municipal authorities. No progress had been made towards the appointment of a municipal commission to prepare a comprehensive scheme for the future improvement of the city. The public looked towards this enlightened administration to set an example to its successors by recognizing the importance of æsthetics in our public buildings. The proposition to decorate the City-hall and the Hall of Records had been ignored by the Board of Aldermen. Millions of dollars are being spent for education through books, while the placing upon the walls of our public buildings of even a simple decoration illustrating some great event in our local or national history would be of greater value in instilling patriotism and good citizenship in the rising generation than could be accomplished by any expenditure in any other line.

Mr. Cantor stated that he believed that efforts would be made by this administration to use the $50,000 allowed by the charter for purposes of municipal art during the coming year, and he also promised to use his influence towards the appointment of the permanent commission referred to by Mr. Lamb.

Mr. Cantor further recommended that the League should petition the Legislature to enact mandamus legislation providing for an annual expenditure for purposes of municipal embellishment.

The support of the administration was also pledged by Superintendent Stewart and Chamberlain Gould as far as it was in their power, and the meeting broke up after the unanimous passage of a resolution promising the enthusiastic support of the League to Mayor Low's administration in all their efforts to beautify the city.

The architects generally appreciated, particularly, the presence of Superintendent Stewart, with whom they come in almost daily contact, and as an expression of their satisfaction at Mr. Stewart's course in the conduct of his Bureau, the courtesies of the League have been extended to Mr. Stewart during his term of office.

ILLUSTRATIONS

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

CONGREGATIONAL CHURCH, WHITINSVILLE, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, BOSTON, MASS.

NORMAN STREET SCHOOL-HOUSE, BOSTON, MASS. MESSRS. EVERETT & MEAD, ARCHITECTS, BOSTON, MASS.

PLAN OF THE SAME.

HOUSE OF BENJAMIN KIMBALL, ESQ., PARK LANE, JAMAICA PLAIN, BOSTON, MASS.

Additional Illustrations in the International Edition.

SOUTHEAST VIEW: CONGREGATIONAL CHURCH, WHITINSVILLE, MASS.

HÔTEL DE VILLE, TOURS, FRANCE: FRONTON OF THE CHIEF FACADE. M. V. LALOUX, ARCHITECT.

PAVILION ROOF OF THE SAME BUILDING.

THIS and the preceding plate are reproduced from *l'Architecture*.

HOUSE OF H. C. WHEELER, ESQ., 69 ROBESON ST., JAMAICA PLAIN, BOSTON, MASS. MR. A. H. DODD, ARCHITECT.

NOTES AND CLIPPINGS

ERICSSON STATUE AWARD. — The Municipal Art Commission of New York has approved the design of J. S. Hartley, sculptor, for a substitute statue of John Ericsson on Battery Park. The new statue will show Ericsson with a model of the "*Monitor*" in his left hand and a roll of drawings in his right. The present statue is also the work of Mr. Hartley, and the change is being made at his request, and at his expense, in deference to the many adverse criticisms made on the statue when it was first set up twelve years ago. The new statue will be of bronze, like the old, but it will stand on a more suitable site. It is ready now for casting and will be in place by July. — *Exchange.*

IMPROVEMENT OF FRENCH DWELLINGS. — The activity of coöperative societies calls attention to one of the most encouraging phases of the modern housing-movement, the beneficial results attending the treatment of the subject as a business problem. That the final solution of the question must be sought along these lines rather than through the large employers on the one hand, or philanthropic efforts on the other, is a proposition that needs but to be stated. There is, however, in this connection a danger that needs to be carefully avoided. If building-societies attempt to make their funds invested in sanitary buildings earn the same dividends as private capital invested in real-estate in similar neighborhoods, they will be pressed constantly to perpetuate evil conditions. Georges Picot, one of the leaders of the housing-movement, in the discussion on the question of limiting the dividends of building-societies, before the last congress for cheap dwellings, pointed out that precisely in those districts where there is the greatest congestion and where the conditions are worst, investments earn the highest dividends. Obviously, building-societies which hold the conditions up to a proper sanitary standard cannot hope to meet these rates without advancing the price of rent, and by doing this they must to a large extent defeat the purpose for which they exist. — *Willard E. Hotchkiss, in Municipal Affairs.*

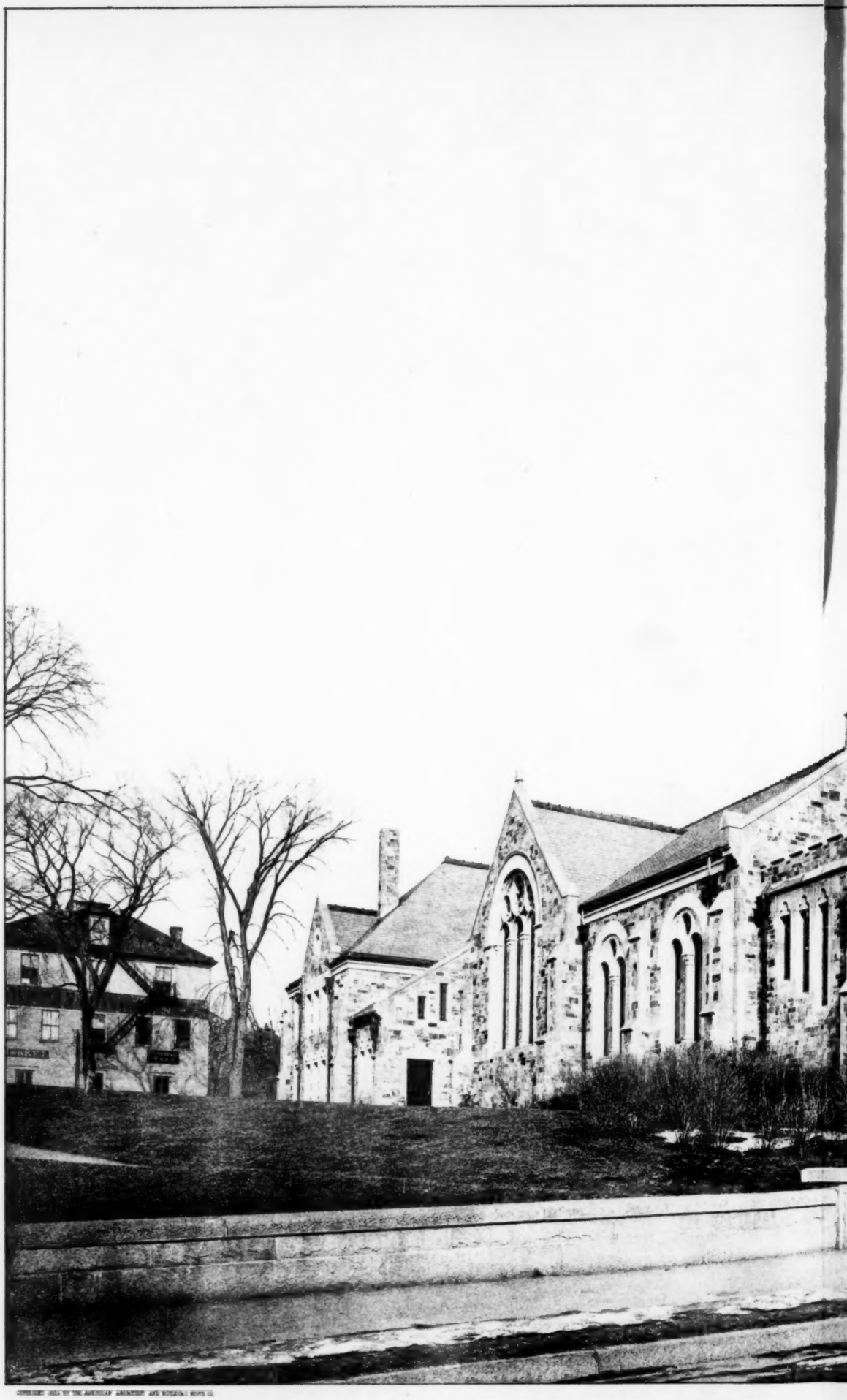
TRADES-UNIONISM AND THE LAW. — The trades-unions seem to have been having a very bad time in the law-courts lately. The Taff Vâle case affected them seriously. The immunity they have enjoyed so many years for what should have been actionable wrongs has been taken away. At the last Trades-union Congress it was solemnly resolved that the law on this point must be altered. But the only alteration which would give them immunity for actions against themselves would deprive them of all recognition of any kind. But if they are thinking of an alteration in the law, they will find in the case of Read *vs.* the Friendly Society of Operative Stonemasons something to parley over. The plaintiff in this case apprenticed himself to a firm of stonemasons at Ipswich. It was not contended that either he or they had not a perfect right to enter into this contract. Nevertheless, the Friendly Society of Operative Stonemasons took umbrage. One of the Society's rules was as follows: Apprentices. — "Boys entering the trade shall not work more than three months without being legally bound apprentices, and in no case to be more than sixteen years of age, except masters' sons and step-sons." Now the plaintiff in this case was a mason's son, and both he and his employers considered the rule did not apply to him. But the Friendly Society took a different view, and requested the employers to dismiss their apprentice, and in default of such dismissal threatened to call out all the men. The employers yielded, and discharged their would-be apprentice, who, in his turn, promptly brought an action against the Friendly Society for preventing him from learning his business. The County Court judge, before whom the action was at first tried, decided in favor of the trade-union; but his decision was upset by the Court of Appeal, and the case was then carried to the Divisional Court, where the three judges were also against the first verdict; and in the end to the final Court of Appeal, in the House of Lords, which has decided in favor of the plantiff, and given him a verdict for £50 damages. The Court of Appeal held that the plaintiff had acquired a legal right to be trained as a stonemason if he wanted to; that the Society by intimidating his employers deprived him of the right, and that their action was quite unwarrantable. The whole of the case is most fully reported in the *Times* of November 5, and will be of far-reaching consequences. It is now held by the highest tribunal in the land that a threat on the part of a trade-union to call out the men because some one obnoxious to the union is employed on any particular job is an unwarrantable interference with the liberty of the subject and that the union so acting is liable to heavy damages. Actions of this kind have very frequently taken place in the past without any unpleasant consequences to the union who have issued the boycotting order, but in future it is probable that the case of Read *vs.* the Society of Operative Stonemasons will tend to make union officials pause before proceeding to extremities. The case is so important that it cannot be too widely known or clearly understood in all its bearings. — *Stone Trades Journal.*

BISMARCK STATUES. — The number of Bismarck monuments of all kinds in Germany and other European countries now exceeds 300 by one. — *N. Y. Evening Post.*

ABOUT THE PARK STREET CHURCH. — An examination of the timbers and masonry of Park Street Church edifice has been made, and everything has been found solid and substantial. There is absolutely no sign of decay. The building, which is only ninety years old, is considered good for 200 years more. It is understood that the examination was made at the request of certain persons who have in view the possible purchase of the property for the Historical Society. A member of the finance committee of the church when asked about the matter said he should have to decline to mention the names of the persons who had requested the examination. He believed that there are sufficient numbers of New England people interested in the old landmark to contribute for its preservation. When the Park Street Church Society goes to its new house of worship, wherever that may be, it will be conducted on precisely the same general lines as to-day. The poor man and the rich man will be equal and welcome at the church. Dr. Withrow says: "We have always had the rich and poor, and, if anything, have fewer very rich men to-day than ever. Nearly every one who attends the church pays rent for the pews or seats, but those unable to pay are welcome, and always will be." — *Boston Transcript.*

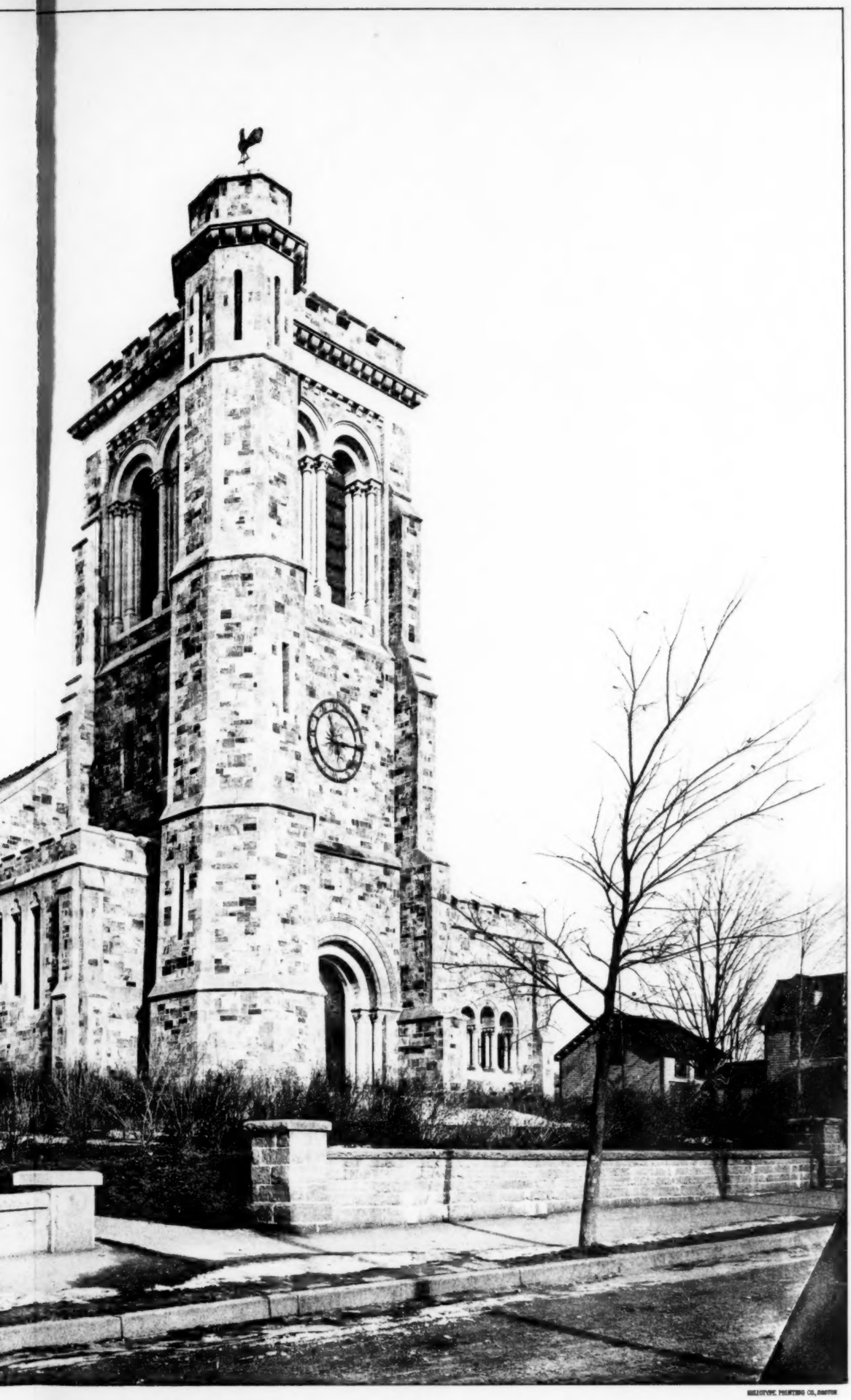
AN OLD TREE IN BAVARIA. — The California sequoias are not the only trees now living that were already growing in the time of Christ. Sütter's new book on the largest and oldest trees of Bavaria describes one that is 2,000 years old. — *Exchange.*

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



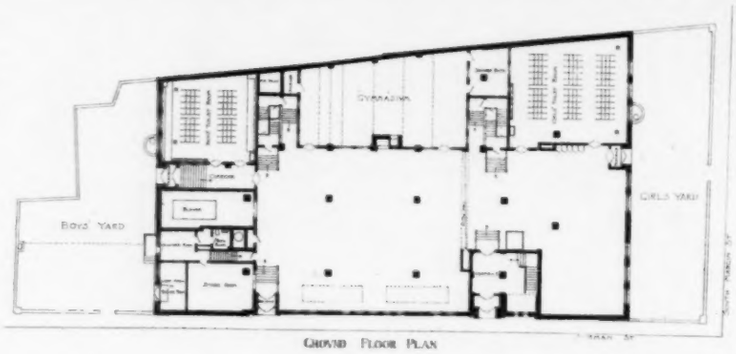
CONGREGATIONAL CHURCH,

SHEPLEY, RUTAN & COOLI

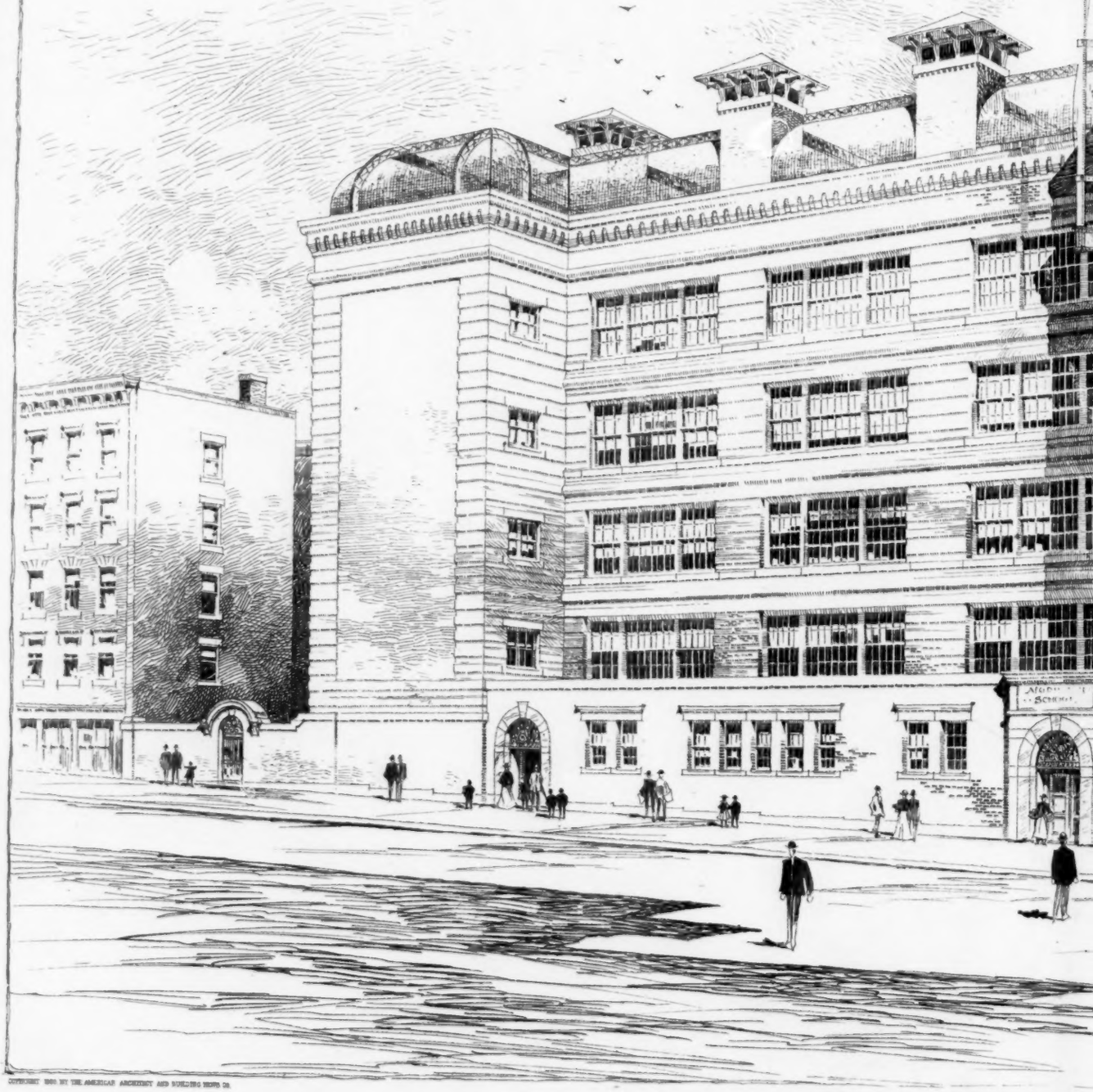


CHURCH, WHITINSVILLE, MASS.
N & COOLIDGE, ARCHITECTS.

The American Architect
Jan. 10, 1903.
No. 1411.

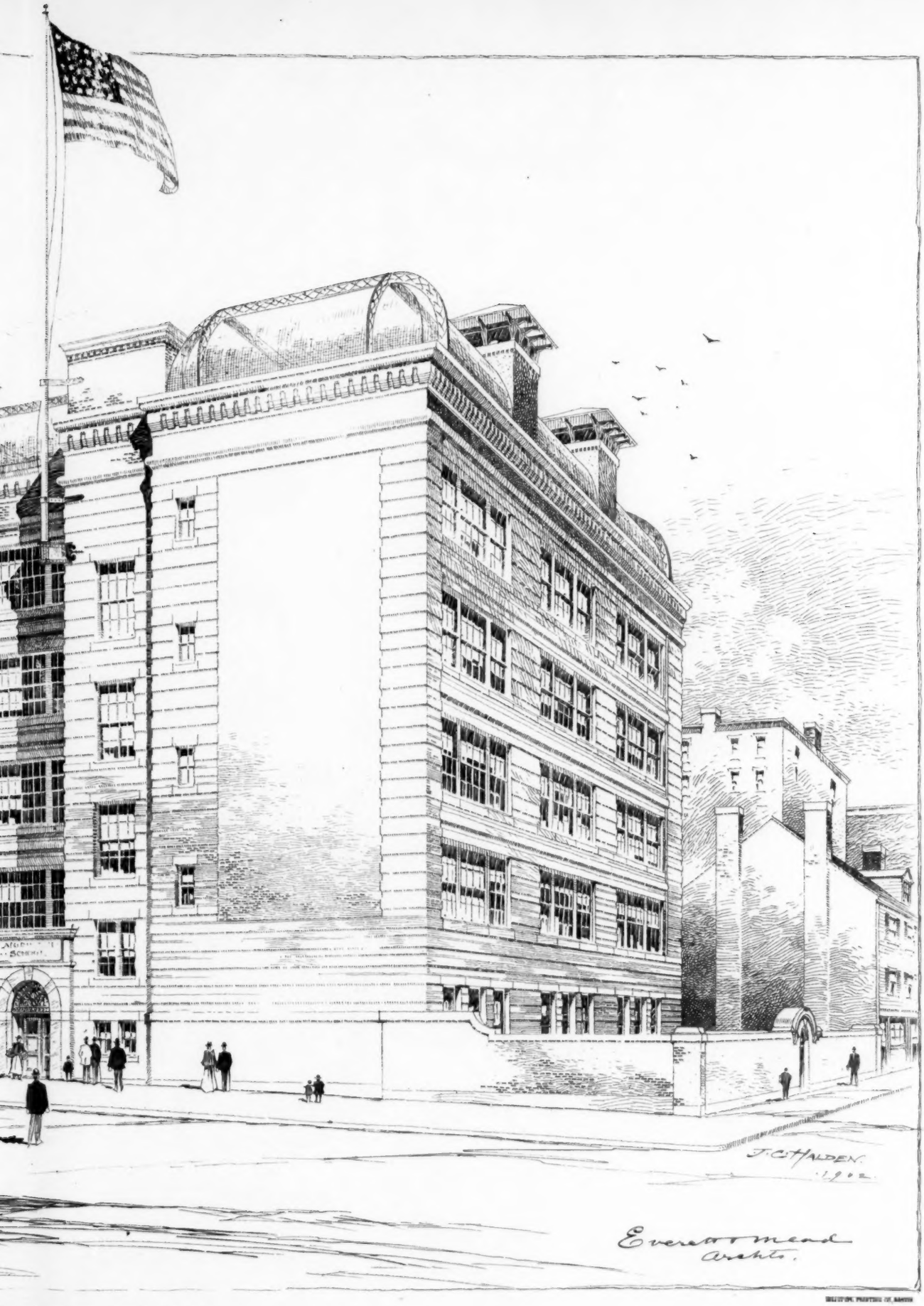


GROUND FLOOR PLAN



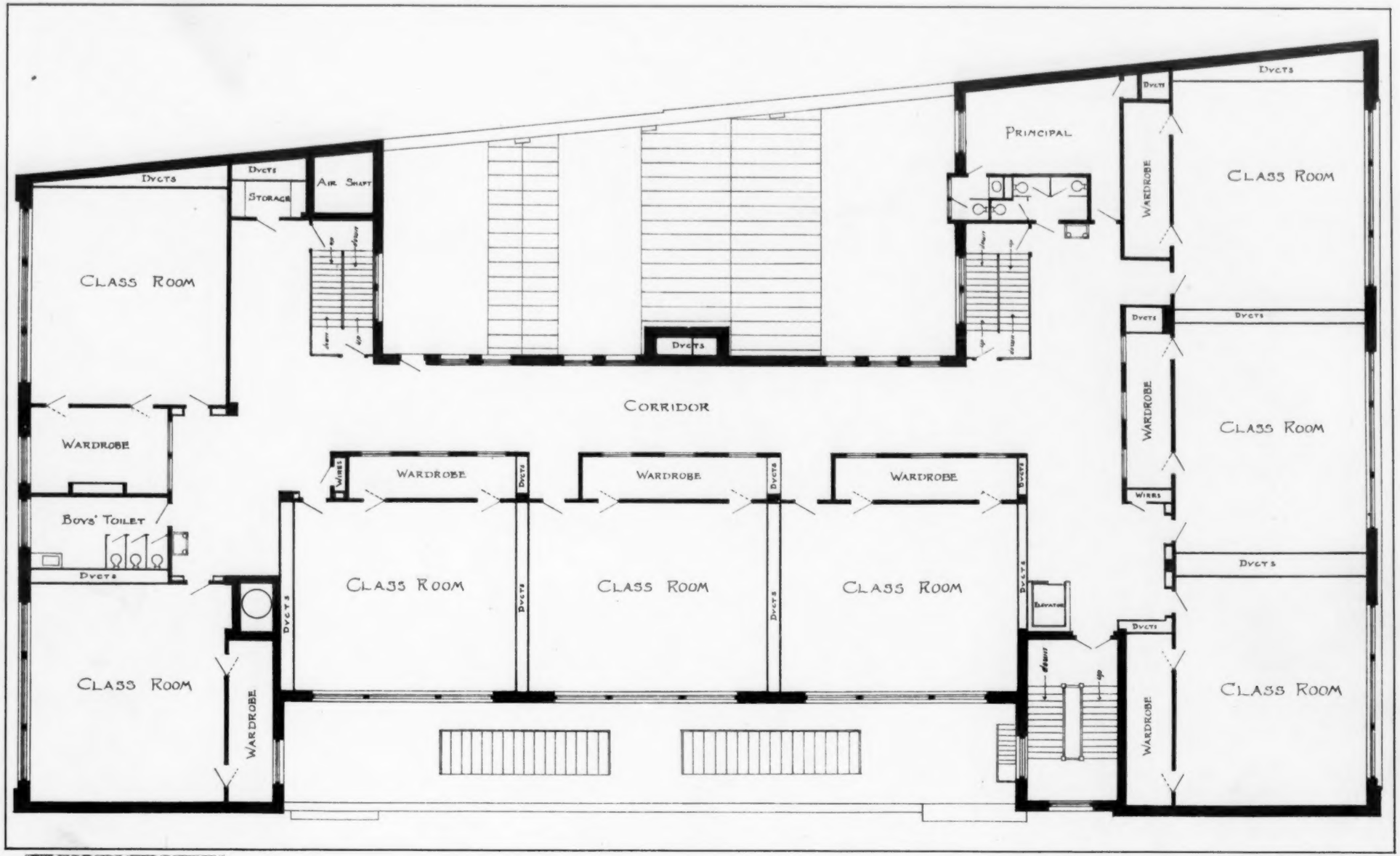
THE NORMAN STREET SCHOOL-HO

EVERETT & MEAD, ARCH



CHOOL-HOUSE, BOSTON, MASS.
MEAD, ARCHITECTS.

The American Architect
Jan. 10, 1903.
No. 1411.



FIRST-FLOOR PLAN: NORMAN STREET SCHOOL-HOUSE, BOSTON, MASS.

EVERETT & MEAD, ARCHITECTS.

The American Architect
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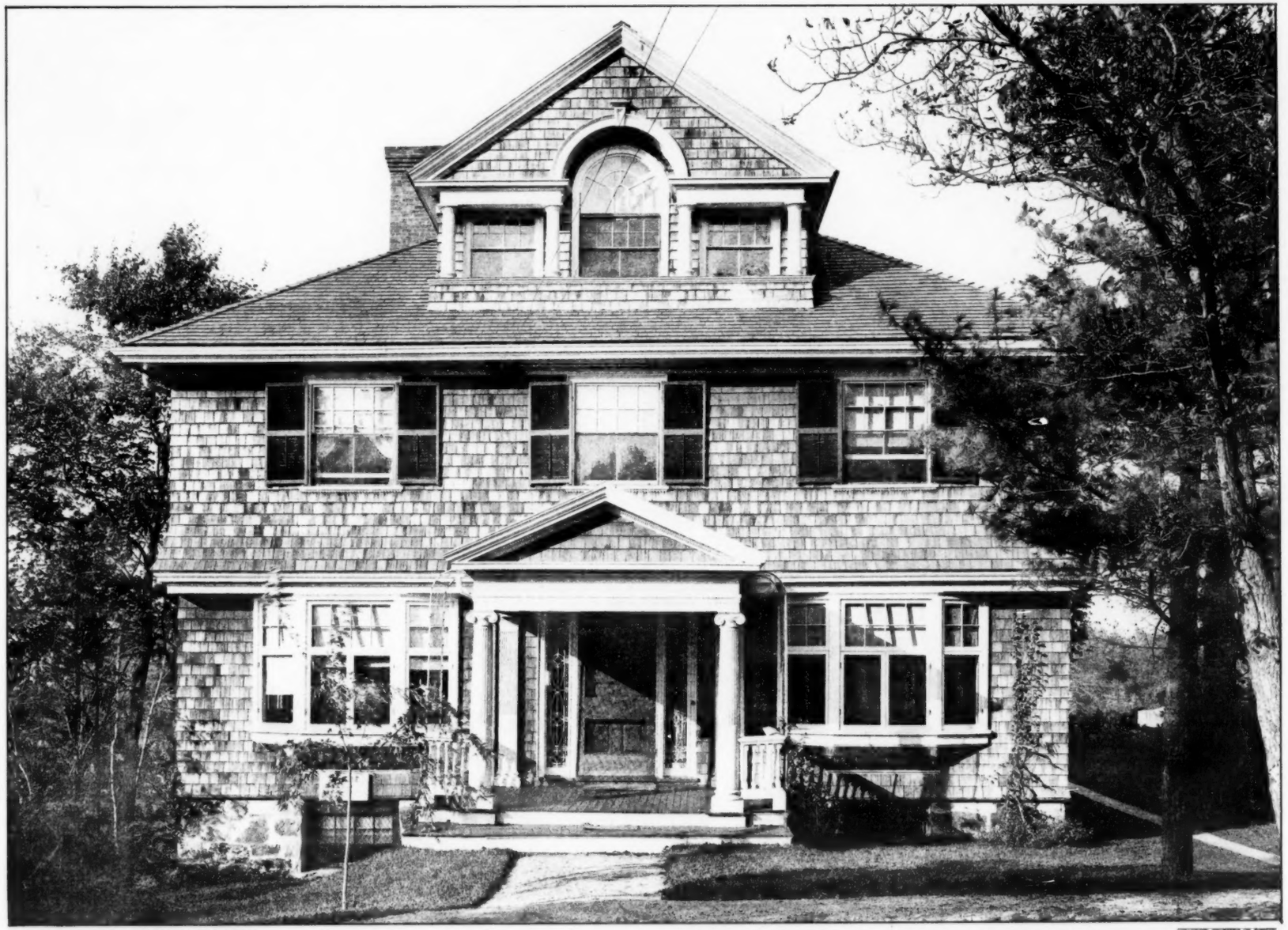

HOUSE OF BENJAMIN KIMBALL, ESQ., PARK LANE, JAMAICA PLAIN, MASS.
A. H. DODD, ARCHITECT.

The American Architect and Building News

A WEEKLY JOURNAL OF CONSTRUCTIVE AND DECORATIVE ART

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Topographical Index of Advertisers.

[*For pagination, see Alphabetical Index on Cover 2.*]

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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.

Atlanta, Ga.—Plans by Collier, Brown & Walker have been submitted for a six-story apartment-house for Geo. P. Howard. The building will be erected on Peachtree and Pine Sts., and cost $200,000.

Baltimore, Md.—Jackson C. Gott, 218 N. Charles St., has been commissioned by A. A. Brager to prepare plans for a residence he is to erect on Eutaw Pl. and Laurens St. It will be three stories high, and cost about $50,000.

Birmingham, Ala.—The congregation of the 11th Ave. Methodist Church is to erect a $30,000 edifice. Joe Trimby is reported to have secured the contract for erecting the First Baptist Church, for $50,000.

Boonville, Ind.—The Grand Jury of Warwick Co. recommends the erection of a $40,000 court-house.

Boston, Mass.—A $60,000 warehouse is to be built on the Boston Wharf Co.'s land at Congress and Stillings Sts., South Boston. It will be five stories high. The general dimensions will be 121 by 83 feet.

Bowling Green, Ky.—At an early date the Louisville & Nashville Railroad Co. will spend $300,000 in this city for railroad improvements. They will consist of a thoroughly modern brick and stone depot, and much new siding and yard facilities.

Braddock, Pa.—Several Philadelphia architects will prepare competitive plans for a handsome new church to be erected here for St. Michale's Slavonic congregation; cost, $50,000.

Bradford, Pa.—The I. O. O. F. Bldg., which was burned December 23, valued at $70,000, will be rebuilt.

Brookline, Mass.—Plans have been drawn for a brick and stone three-story block of apartments to be erected on Beacon St., for Edmund C. Eastman. The ground measurement of the block will be 103 by 60 feet, and there will be nine apartments. The cost above the land will approximate $60,000. The architect is Benjamin Fox.

Bryn Mawr, Pa.—John Sweatt, of Boston, Mass., is stated to have secured the contract for erecting Rockefeller Hall at Bryn Mawr College; probable cost, $250,000. Architects, Cope & Stewardson, 320 Walnut St.

Buffalo, N. Y.—Plans for a large factory have been filed by the International Steam Pump Co., successor of the Snow Pump Co. The building will be 534 by 110 feet, doubling the capacity of the plant and costing $110,000.

Niederpruem, Gibbs & Schaaf Co., 804 D. S. Morgan Building, have received the contract for the construction and equipment of the cold-storage building at the Almshouse, for $27,876.

BUILDING INTELLIGENCE.

(*Advance Rumors Continued.*)

Chicago, Ill.—L. Stanford Hall has drawn plans for a church for the Norwegian Baptist congregation at Wrightwood and N. Spaulding Aves. to cost approximately $25,000.

Plans have been made by Robert S. Smith, 185 Dearborn St., for an apartment-house to be erected at Nos. 5223 to 5225 Madison Ave. by Jas. W. Eastland. Designs show a three-story building, 50' x 84', to contain 6 eight-room apartments. Cost, $25,000.

Huehl & Schmid have drawn plans for a four-story apartment-house, 58' x 70', to be built on the west side of Kenmore Ave., south of Buena Ave., for H. J. Peet. Cost, $25,000.

Henry L. Newhouse, 4630 Prairie Ave., has prepared plans for a residence for S. L. Marks at 4726 Greenwood Ave., to cost $45,000.

Huehl & Schmid, 163 Randolph St., have drawn plans for a masonic temple to be erected at 6732 Wentworth Ave., to cost about $60,000.

Cincinnati, O.—A permit has been given for a fifteen-story brick building to be erected at 4th and Vine Sts. by the Ingalls Realty Co. Cost, $400,000.

It is stated that a $50,000 building, 72' x 140', will be erected at the Zoological Garden.

Cleveland, O.—At the last meeting of the synod of the Greek Catholic Church of North America, which was held in New York City, it was decided to locate the cathedral of the church in this city, and remove the headquarters from San Francisco, where they are now located. An admirable site has been purchased on Starkweather Ave. It was land owned by the St. Joseph's Convent of the Roman Catholic church, and is a tract of land consisting of ten acres. A million and a half dollars will be spent in the building of the cathedral. A theological seminary and the bishop's residence will also form a part in the plans under contemplation.

Colorado Springs, Col.—The Santa Fe R. R. Co. is reported interested in the erection of a hotel here, to cost about $100,000.

Columbus, O.—The Trustees of the Ohio State University at a meeting on December 26 decided to

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

erect at once the Physics Building and the Engineering, each to cost $80,000.

Cranston, R. I.—The State is spending nearly a quarter of a million dollars on the Hospital for the Insane at this place; already $130,000 has been used up, and at the last session of the General Assembly another $102,000 was made available to complete the work begun several months ago. Even when the available $232,000 is gone the enterprise will be far from final completion. In time every one of the old-fashioned, undesirable stone and wood structures that lack the modern conveniences, the necessary room and modern sanitary features, will be torn down and replaced by roofs outlined in the general plan. In the first direction of this plan the quarter-million has gone, and a big showing is the result. The four new roofs include: First, a ward building for the accommodation of 75 patients; second, an associate dining-room building; third, a kitchen and service building, and, fourth, a boiler-house. When more money is forthcoming a much-needed administration building will loom up on the main thoroughfare of the Howard penal and charity village, and on either side of it additional ward buildings of a pattern similar to that recently built are scheduled.

Denver, Col.—It is reported that Philip F. A. Ryan will erect a $25,000 business building on Colfax Ave.

Duluth, Minn.—The Board of Public Works has begun preliminaries for the paving of E. Superior St. next year. Among the materials which will be considered are asphalt, tar macadam and asphalt macadam.

Erie, Pa.—A new hotel and theatre will probably be erected on 12th and State Sts., to cost $150,000. M. M. Gloichman, 89 Euclid Ave., Cleveland, O., has drawn plans.

Fairfield, Ia.—A number of new buildings will be erected for Parson's College. Architect H. K. Holsman, 153 La Salle St., Chicago, is preparing plans for seven structures of brick, stone and iron, to cost about $120,000. There will be a library, lecture hall, chapel, gymnasium, power-house, etc. Chicago builders will be asked to estimate.

Lincoln, Neb.—The Cudahy Packing Co. will erect in the spring a $60,000 building on its plot at 8th and M Sts.

Long Island City, N. Y.—Plans have been filed with the Department of Buildings for a temporary structure 50 by 100 feet, which will be erected on the site of the burned terminal station of the Long Island Railroad. It is stated that the company will erect a fine terminal station after the Pennsylvania Railroad new tunnel from Jersey City to Long Island City has been completed. In the meantime a temporary structure will meet all requirements until the permanent building is finished.

ouisville, Ky.—Dodd & Cobb, 600 Equitable Building, have completed plans for buildings for the Louisville Theological Seminary, to cost $165,000. At present only the dormitory wing will be erected at a cost of $45,000.

Melrose, Mass.—Andrew Carnegie has given $25,000 to this city for a public library building, and it will be erected on the old High School lot on Emerson St. The building which is to be two stories high, will be constructed of brick with stone trimmings and will be similar to the new Carnegie Public Library now being completed at Schenectady, N. Y. There will also be a small art gallery on the second floor.

Memphis, Tenn.—The Memphis Warehouse Co., chartered under the laws of Maine, with a capital stock of $100,000 and privilege of increasing same to $1,000,000, recently acquired a tract of 60 acres of land in South Memphis, on the Union Belt Railway, of which George Gould is the backer. The plans for the buildings were ace pted several weeks ago, and the contracts will be let at once. The building will cover several acres and will be the

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

largest of its kind in the South. The plant will be modern in every respect, and thoroughly equipped.

Middletown, Conn.—The proposed new science building at Wesleyan University is to be erected by the munificence of Charles Scott and Charles Scott, Jr., of Philadelphia, in memory of John Bell Scott, '81, chaplain in the navy, who died from disease contracted at Santiago. It will be located on the south side of Cross St., at the corner of College Pl. It will have a front on Cross St. of 100 feet, a depth, for the main building, of 45 feet, with an extension of about 28 x 45 feet in the rear. The lecture-room is o be located in this extension, on the second floor, and lighted in part from overhead. The building will have a well lighted basement and three stories, except in the extension, where there will be but two floors above the basement. The basement and first floor will be devoted chiefly to rooms adapted for advanced laboratory work, the main lecture-room, apparatus-room and library will be on the second floor, and the elementary laboratory and a smaller lecture-room on the third floor. The building is to be of light brick, trimmed with Indiana limestone. The architect is Charles A. Rich, of New York.

Newport News, Va.—A silk mill, to cost over $100,000, is to be erected at this place. This plant will be built by the Liberty Silk Co., which operates plants in New York State, it being capitalized at $600,000. It has New York City offices at 546 W. 57th St. Announcements are yet to be made as to size and character of the plant.

New York, N. Y.—Morton F. Plant, son of Henry B. Plant, will erect a handsome residence at the southeast corner of 5th Ave. and 52d St., opposite the Vanderbilt mansion, on a plot 50′ x 100, negotiations for the sale of which to Mr. Plant have practically been concluded. For this plot Mr. Plant pays about $350,000, and the mansion which he will build will represent a further outlay of $400,000.

Niagara Falls, N. Y.—Announcement is made that Charles Crosby, of Pittsburgh, has organized the Clifton Hotel Co. with a capital stock of $500,000, to rebuild the Clifton House on the Canadian side at Niagara Falls. Preliminary drawings of the new hostelry have been made by Architects Rutan & Russell of Pittsburgh. The building will be of Colonial design, with a large porch, supported by massive pillars. It will be of brick and stone, 150′ x 200′, and will contain 200 rooms.

Norfolk, Conn.—Preliminary sketches have been drawn by S. G. Taylor, 24 E. 23d St., for a two-story stone house, 70′ x 50′, with a kitchen "L," 20′ x 30′, for Major Fassitt. The estimated cost is $20,000.

Oxford, N. S.—The Oxford Woollen Mills Co. has increased its capital from $100,000 to $150,000, and will erect an additional plant.

Philadelphia, Pa.—Field & Medary, 1414 S. Penn Sq., are about to let contract for extensive improvements to the residence of Samuel S. Laird on Fisher's Lane, Germantown. Work to be started soon.

A home for orphan girls, daughters of Free Masons of Pennsylvania, is to be erected at Broad St. and Bristol Ave. by William L. Elkins, at a cost of more than $500,000. Plans for the new buildings have already been completed by Horace Trumbauer, and work on them will be started as soon as the weather will permit. There will be a Central Administration Building, three stories high, and dormitories to the north and south, connected by wings with the central building. The gift, which is expected to amount to $1,000,000, is the largest ever made to any fraternal organization in the world, and the institution, which Mr. Elkins purposes to found and endow, will be without a counterpart anywhere.

Plainfield, N. J.—It is said that over $1,000,000 will be spent by a New York syndicate, headed by Herbert M. Taylor, in establishing a model settlement in the western section of this city. Four blocks will be devoted to the purpose, and the com-

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

pany will install its own water, electric power and light supplies, as well as a central steam-heating apparatus, which will supply all houses to be erected. The minimum cost of the dwellings is to be $10,000 each.

Port Gamble, Wash.—Boone & Corner, architects, of Seattle, have plans for a $20,000 hotel to be erected by the Puget Mill Co.

Providence, R. I.—A building permit was granted recently to Fred A. Weeks for the erection of a five-story brick building at 167 Richmond St., to be used for manufacturing purposes. The building is to be 55 feet by 70. The architects are Colwell & Gould, and the construction will be in charge of Lewis J. Pierce.

Red Wing, Minn.—The trustees of the Sheldon Estate have decided to invest $55,000 of the bequest in the erection of an auditorium for the city.

Siluria, Ala.—The Siluria Cotton Mills Co., with a capital of $250,000, has been organized under the laws of Delaware, and will build at once a large plant at this place, on the line of the Louisville & Nashville Railroad. Fine print goods, 64′ x 64′, will be made. The company owns 950 acres of land, which is well equipped with springs and creek water. W. B. Smith, Whaley & Co., of Columbia, S. C., and Boston, Mass., have been engaged as engineers of construction. The mills will be completed by the first of July next. Forty-five or fifty houses will be built by the company for the employés, who will number about 200.

Somerville, Mass.—A woman's club-house is one of the possibilities of the future. There are several woman's clubs in the city which meet regularly for business and entertainment in different halls and churches. The leading clubs are the Heptorean and its auxiliary, and the Somerville Daughters of Maine Club. The combined membership of these three organizations is probably about 700, which includes a majority of the prominent society women in the city. It has recently been suggested that all the local woman's clubs join forces and build a club-house with a large hall and a sufficient number of rooms to be used as separate headquarters by the several organizations. Eight out of ten of the leading club women favor the project.

At a recent meeting of the School Board these recommendations were made: The erection of a new Latin school building, addition to the English high school, addition to the Bingham School, a new primary school-building on the old stand-pipe lot on Belmont St., addition of four rooms to the new Brown School and an addition of two rooms to the Hanscom School.

Springfield, Mass.—Smith & Wesson are planning to build another large factory in the spring which will be an addition to the one now nearing completion. The factory will be 75 x 36 feet, four stories.

St. Louis, Mo.—One of the handsome residences recently designed for the western part of the city is that for Mr. Albert B. Lambert, president of the Lambert pharmacal company, which will be located on a lot fronting 160 feet on the south side of Hortense Pl., immediately west of Euclid Ave. The building was designed by George W. Helmuth, architect, and ground was broken recently. The plans show a building after the Colonial style, three stories high, to be built of red stock brick, with stone trimmings, and with a circular porch and veranda, the latter being supported by Corinthian columns. The building will be 58 feet in width and 70 feet 10 inches in depth. Work will be pushed on the structure as fast as possible and it is the intention of the architect to have it ready for occupancy about the 1st of next October.

The site for the German building, which will be a reproduction of the castle of Marienberg on the Nogat, was allotted at the Fair grounds recently. The ceremonies were impressive. The castle, of which the building is to be a replica, was the seat of the German knights, who civilized the Slav country and existed until 1525, when Prince Albrecht, then grand master, joined the Lutheran Church.

The Mercantile Trust Co. reports having closed

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

the transaction covering the sale of the half block in North St. Louis fronting 300 feet on Madison St. and extending from 1st to 2d Sts., and adjoining the Mound City Coffin Co., for the account of Mrs. Rose A. Bambrick, for $35,000, the purchaser being Henry Westerbeck, who will establish an independent can factory on the property. Work on the building, which will cost over $50,000, will be commenced at once. It will be modern in all respects. The site has excellent railroad facilities and the factory will be a valuable acquisition to this district, which is showing remarkable activity in a manufacturing way.

A new post-office structure, representing an investment of a half million dollars, will be reared in the vicinity of the Union Station. Several sites have been offered, and as soon as the preliminaries have been completed work of construction will begin.

St. Paul, Minn.—The St. Paul Foundry Co. will make improvements and additions to its plant on Como Ave. aggregating $50,000 in value. The building will cost $25,000 and the machinery which will be installed, $25,000 more.

The Board of Public Works ordered paving to cost $56,000. It will include asphalt, and some Kettle River sandstone.

Turners Falls, Mass.—Considerable building is planned at this place in the near future. Contractors have been figuring on the new shop for the Clark Machine Co., the contract for which is to be let very soon. An addition will be built at the Turners Falls cotton mill in the spring, and the Keith Paper Co. is planning to erect a stock-house next season. In addition to these jobs the Turners Falls Co. is getting ready to enlarge the canal next season.

Walkerville, Ont.—Cram, Goodhue & Ferguson, of Boston, have been selected as architects of a stone and brick memorial church edifice to be erected here.

Washington, D. C.—Architects Totten & Rogers are making competitive plans for a handsome $300,000 memorial continental hall to be erected at 17th and C Sts., for the Daughters of the American Revolution.

West Somerville, Mass.—A brick four-story mercantile building will be erected for Henderson Brothers near the foot of Russell St., by Coburn & Co., of Melrose. The building, which will measure 150 by 160 feet, will be completed for occupancy by April 1, 1903.

BUILDING INTELLIGENCE.

(Advance Rumors Continued.)

Wilmette, Ill.—A private residence and stable will be erected here for Viola S. Vanderkloot. Designs by Architect J. E. O. Pridmore, 126 State St., Chicago, show a two-story building, 50′ x 50′, to be built of stone and concrete and to cost $18,000. The interior will be elaborately finished in hardwood and heated by steam.

Worcester, Mass.—The City Council has passed an order authorizing a ten years' loan of $100,000 to build a new central police station.

York, Neb.—There is agitation for the erection of a new Burlington depot.

ALTERATIONS AND ADDITIONS.

New York, N. Y.—*Fifty-ninth St.*, nr. 3d Ave., addition to a six-story bk. store; $125,000; o., L. G. Bloomingdale and another, 21 E. 63d St.; a., Buchman & Fox, 11 E. 59th St.

APARTMENT-HOUSES.

Mason City, Ia.—Three-st'y bk. apart., 100′ x 103′, slate roof, steam; $60,000; o., H. P. Kuh; a., Dieman & Fiske.

New York, N. Y.—*Sixty-sixth St.*, s w cor. Central Park West, nine-st'y bk. apart., 100′ 5″ x 115′; $500,000; o., George Daily and J. A. Carlson; a., Neville & Bagge.

One Hundred and Forty-first St., nr. 7th Ave., six-st'y bk. flat, 86′ 11″ x 100′; $80,000; o., P. Eisell; a., H. T. Howell.

EDUCATIONAL

Boston, Mass.—*Huntington Ave.*, cor. Kenwood Road, Roxbury, two st'y bk. & st. school, 50′ x 150′; $130,000; o., City; a., Wheelwright & Haven; c., Stephen Brennan.

New York, N. Y.—*Elizabeth St.*, nr. Spring & Mott Sts., five-st'y bk. school, 74′ x 150′ x 186′; $250,000; o., City; a., C. B. J. Snyder.

HOUSES.

Appleton, Wis.—Two-st'y fr. dwell., 28′ x 48′, hot water; $5,000; o., J. D. O'Leary; a., Philip Dean.

Canby, Minn.—Two-st'y attic & base. dwell., 32′ x 48′, hot water; $10,000; o., John Swanson; a., Omeyer & Thori.

Melrose, Minn.—Two-st'y attic & base. fr. dwell., hot water; $7,000; o., P. A. Hilbert; a., Omeyer & Thori.

New York, N. Y.—*Terrace View Ave.*, nr. Kingsbridge Ave., two-st'y fr. dwell., 25′ x 40′; $6,500; o., R. C. Harvey; a., G. W. Scandle.

LIBRARIES.

New York, N. Y.—*E. One Hundred and Twenty-fifth St., Nos.* 224-226, three-st'y bk. library building, 50′ x 75′; $65,000; o., New York Public Library; a., McKim, Mead & White.

TENEMENT-HOUSES.

New York, N. Y.—*E. Fiftieth St., Nos.* 316-320, six-st'y bk. tenement, 55′ 6″ x 86′ 5″; $40,000; o., B. Levy; a., Horenburger & Straub.

PROPOSALS.

PAVING. [At Zanesville, O.]
Bids are wanted **January 17** for furnishing material and improving by paving with vitrified brick on a portion of Hall Ave. CHAS. W. McSHANE, City Clk. 1411

BUILDING, PLUMBING, ETC. [At Danville, Ky.]
Bids will be received **January 20** by Bldg. Com. of Bd. of Comrs. of Kentucky Institution for the Deaf, for erecting two dormitories, power building and steam plant, including plumbing, gas-piping, sewers, etc., for said institution. Dittoe & Wisenall, archts., 75-76 Blymyer Bldg., Cincinnati, O. B. O. RODES, Chmn. 1411

FILTERS, CEMENT, ETC. [At Washington, D. C.]
Office Washington Aqueduct, 2,728 Pennsylvania Ave., Washington, D. C. Sealed proposals for filters, pure water reservoir and appurtenances, and cement will be received here **until 12 M. January 28, 1903.** Information on application. A. M. MILLER, Lt. Col. Engrs. 1412

GRADING, DRAINING, ETC. [At Cleveland, O.]
Bids are wanted **January 29** for grading, draining, curbing and paving with brick on portions of numerous streets. CHAS. P. SALEN, Dir. of Pub. Wks. 1412

HEATING. [At Creston, Ia.]
Bids are wanted **January 27** for furnishing and installing the low-pressure steam heating apparatus, etc., for the U. S. Post-office at Creston. Jas. Knox Taylor, Superv. Archt., Treas. Dept., Washington, D. C. 1412

PLUMBING FIXTURES. [At Fort Fremont, S. C.]
Bids are wanted **January 24** for installing plumbing fixtures, etc., in public buildings at this post. Address CHAS. L. FISHER, Q. M. 1412

VENTILATING. [At Chicago, Ill.]
Bids are wanted **January 26** for the ventilating system of the Post-office, Court-house, etc.; bids will also be received at the same time for an elevator system in said building. Address Henry Ives Cobb, archt., Chicago Bldg., Treas. Dept., Washington, D. C. 1412

LIBRARY. [At Geneseo, N. Y.]
Proposals for the construction, electric lighting, plumbing, gaspiping and heating of a library building at the State Normal School will be received by Charles R. Skinner, State superintendent of public instruction, Albany, **until January 30.** 1413

CHURCH. [At Scotchbridge, O.]
Bids will be received **January 31** by the Trustees of the U. P. Church for furnishing material and erecting a church. R. S. DAVIDSON, Sec'y. 1413

PROPOSALS.

STEWARD'S QUARTERS. [At Fort Wadsworth, N. Y.]

Sealed proposals for building one set of brick hospital steward's quarters here will be received **until February 2, 1903.** Information furnished on application. Work to commence on building April 1, 1903. LIEUT. GEO. L. HICKS, JR., Q. M. 1413

Treasury Department, Office Supervising Architect, Washington, D. C., December 23, 1902. Sealed proposals will be received at this office until 2 o'clock P. M. on the 27th day of January, 1903, and then opened, for furnishing the low pressure steam heating apparatus, etc., complete in place, for the U. S. Postoffice at Creston, Iowa, in accordance with drawings and specification, copies of which may be had at this office or at the office of the Superintendent at Creston, Iowa, at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 1411

SCHOOL. [At Bloomer, Wis.]

The undersigned hereby gives notice that sealed proposals for the erection of a two-story, eight-room, solid brick school-house, including all labor and material, will be received by the Board of Education at Bloomer, Wis., **until the 20th day of January, 1903.** All bids must be in strict accordance with the plans and specifications, prepared by A. E. Parkinson, architect, of Sparta, Wis., which may be seen at the office of R. Cottington, Bloomer, Wis., First National Bank, Chippewa Falls, Wis., and A. E. Parkinson, architect, Sparta, Wis. ROBERT COTTINGTON, President Board of Education. 1411

OFFICE-BUILDING. [At Flint, Mich.]

Bids will be received **until January 20** for the erection of a three-story store and office building for the Supreme Div Knights of the Loyal Guard, Flint, Mich. Work will include pressed brick, structural iron and steel, steam heating, electric wiring and plumbing. 1411

HOSPITAL. [At Chickamauga Park, Ga.]

Bids will be received **until January 22** for constructing, plumbing, heating and gas-piping brick hospital building at Chickamauga Park, Ga. H. J. SLOCUM, Chattanooga, Tenn., quartermaster. 1411

POWER PLANT. [At Richmond, Va.]

Bids are wanted for the construction of a complete power plant for the $180,000 cell building at the State Penitentiary, now in course of construction. P. Thornton Marye, Newport News, architect. 1411

HOSPITAL. [At Dayton, O.]

Bids will be received **until February 1** for the construction of a $30,000 two-story brick and stone hospital building for the Frank Jefferson Patterson Memorial. Plans by Architect Chas. Insco Williams, Callahan Building. 1412

CODE OF PRACTICE

FOR SUB-ESTIMATING AND SUB-CONTRACTING

Adopted by the Master Builders' Association of the City of Boston, Aug. 2, 1894.

ARTICLE I.

Obligation of Principal Contractor to Sub-Contractor.

A principal contractor is under obligation to treat upon an equal basis all estimates which he "receives" prior to putting in his own bid. Estimates must be considered as "received" when they come into a principal contractor's possession, either by his direct solicitation or by being accepted by him. *The opening of a bid, knowing it to be such, constitutes receipt of the same.*

A principal contractor is under no obligation to use a bid which he has not solicited, accepted, or received, but if he does not wish to use the estimate of a sub-bidder he should decline it, if proffered personally, or should return it unopened if sent to him by mail or otherwise. The retention of a bid should be construed as a receipt of the same.

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A principal contractor, when making up his estimate, is not entitled to receive bids from sub-contractors if he is at the same time making himself their competitor by figuring their portion of the contemplated work. It is legitimate for a principal contractor to figure all portions of work, depending upon no one for what are usually known as sub-estimates, but it is not legitimate for him to receive bids from others for sub-work if he is himself figuring those portions independently.

ARTICLE II.

Award of Sub-Contracts.

The principal contractor having been awarded a general contract should immediately award the sub-contracts to the lowest bidder in each branch.

ARTICLE III.

Penalty for not Awarding Contract to Lowest Sub-Bidder.

A principal contractor failing to award a sub-contract to the lowest sub-bidder to whom he is under obligation as previously provided should be liable to pay damages to the said lowest bidder, in amount not less than ten per cent of the amount of the estimate.

Payment of such damages will not relieve the principal contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

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ARTICLE V.

Payments to Sub-Contractors.

Unless the contracts made with sub-contractors otherwise provide, payments during the progress of the work should be made by the principal contractor to the sub-contractors upon the same basis of payment, in relation to amount of work performed, as is prescribed in the contract made by the principal contractor with the owner.

Final payment to a sub-contractor should be considered as *due* at the expiration of thirty days after the completion of his work and its approval by the architect or owner, unless otherwise provided by the sub-contract or agreement.

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ARTICLE VII.

Obligation of Sub-Contractor to Principal Contractor.

Should a sub-contractor refuse to contract at the amount of the estimate he has given to a principal contractor who has used the said estimate in good faith, he then should be liable to the said principal contractor for damages in amount not less than the difference between the amount of the estimate which was submitted by him and the amount at which the principal contractor may be obliged to contract the work.

Payment of such damages will not relieve the sub-contractor from liability to discipline under provisions of Article X of the By-Laws of this Association.

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ARTICLE X.

Bids to Architects or Owners.

When bids for separate departments of work on a building are solicited by the architect or the owner, they should be submitted with the understanding that they are direct estimates, for which direct contracts are to be made by the owner with the lowest bidder, and no other disposition of such bids should be permitted without consent of the bidder submitting the same.

Sub-bids should be given only to the principal contractors who are estimating the work in question, and should not be left with architects or owners for the inspection and information of principal contractors. Sub-contractors must understand that bids thus left with architects or owners are in great danger of losing their confidential character, and that if they so leave them they cannot claim protection or redress under the first article of this Code.

SUGGESTIONS.

Members of this Association having sub-contracts to let, or material to buy, should, as far as may be consistent with business principles, deal only with members of the Association, or at all events give their fellow-members an opportunity to compete, and ther give them the preference, other things being equal.

All bidders should take cognizance of the danger they may be subjected to through the practice, so prevalent in some architects' offices, of making change. in plans or specifications, or in both, during the progress of estimating. Correction of this pernicious practice can only be obtained through refusal by contractors to estimate under such conditions.

A true copy.

Attest: WM. H. SAYWARD,
Secretary, M. B. A.

Professional Ethics.

The following . . .

. . . CODE OF ETHICS . . .

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

ADOPTED BY THE SOCIETY, FEBRUARY 1

. . 1895. . .

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

[*See Alphabetical Index on Cover 2 for Pagination.*]

CLASSIFIED ADVERTISEMENTS.

[Advertisers can be indexed only under a single head free of charge.]