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ARCHITECTURE

ENGINEERING

DECORATION

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CONSTRUCTION

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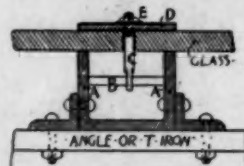
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THE AMERICAN ARCHITECT AND BUILDING NEWS.

VOL. XLVI.

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NOVEMBER 24, 1894.



SUMMARY:—

The Report of the United States Strike Commission on the Chicago Strike.—Some Anomalies contained in it.—The Opinion of Attorney-General Olney on the Action of the Receiver of the Reading R. R. in the Matter of Labor.—Annual Report of the Forestry Division of the Department of Agriculture.—The Possibilities of Re-Forestation.—The Tenement-house Inquiry in New York.	77
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WE received some time ago, through official kindness, an advance copy of the long-expected Report of the United States Strike Commission on the great Chicago strike of last summer, with a request not to make use of it until a certain date. That date having arrived, we are glad of the opportunity to lay before our readers some of the interesting statements and conclusions which we find in it; premising, however, that we do not agree with all the conclusions, and that some of them do not appear to us justified by the statements of fact. The Commission, in its investigation, began by inquiring into the condition of affairs at Pullman before and during the strike, and gives an interesting picture of the great industrial city. In this picture, the Commission represents the town of Pullman as a piece of soulless mechanism, by which dollars are pitilessly extracted from "Labor," to add to the dividends of "Capital." The rents charged for the houses are, it says, twenty-five per cent higher than those for which the same accommodation can be hired elsewhere, but the men, although nominally not required to live in the houses owned by the Company, do not, practically, feel at liberty to live elsewhere, because they think that, if work slackens, the Company will discharge first the men who do not occupy its houses.

NO doubt, a system by which a great corporation extracted twenty-five per cent more rent for its houses than they were worth, by refusing to hire any man who did not live in them, would be oppressive; and the Commission is, perhaps, right in presenting the apprehensions of the men as a basis for condemning the Pullman system on theoretical grounds; but the facts, as gleaned at intervals from other parts of the Report, by no means bear out the repulsive picture which imagination has suggested. Whatever the Company's tenants may have thought, and told the Commissioners, the pay-rolls show, as the Report itself informs us, that a large number of the best, and best-paid, workmen in the shops live outside of the town, and do not suffer any harm at the hands of the Company in consequence. In the same way, the Commissioners offer us a doleful description of the "attractive church and parsonage," which are often not occupied, "because the rental required to be paid is higher than any church society is willing to pay to obtain the gospel privileges to be thereby secured"; as if the Pullman Company were to blame for depriving its employes of "gospel privileges" by building too handsome a church, or declining to rent it for whatever sum the worshippers chose to pay; and they speak in a melancholy vein of the "tasteful library of books," selected and cared for by the Company, for the use of which three dollars a year is

charged. But this is not the worst of the ways in which anxiety to make out a case against the Pullman theory has obscured the statement of the Pullman facts. Farther on, the Report says that the Company collected its rents, not by deducting the amount from the wages paid, which is forbidden by law in Illinois, but by making payment in two checks, one being to the amount of rent due, and the other for the balance. These checks pass through the local bank, which is also the rent-collector, and the tenant is credited with a payment on his rent, and the balance over is given him in cash. All this, it must be acknowledged, sounds harsh, unfeeling, and characteristic of "the air of business strictly maintained there," and it is with some surprise that we find, in an insignificant paragraph on page 33, that "At the time of the strike about \$70,000 of unpaid rents had accumulated. It is fair to say "that this accumulation of unpaid rent was due to leniency on "the part of the Company toward those who could not pay the "rent and support their families. Neither have any actual "evictions taken place. The Company has held these matters "in abeyance pending wage reductions and strike difficulties." Thus, this soulless corporation, while "strictly maintaining" the "air of business" which so displeases the Commission, had already given, for it can never hope to collect the arrears of rent, seventy thousand dollars to its poorer and more burdened men at the time of the strike, and, notwithstanding the provocation of what it considered an unjustifiable revolt of its men at the instigation of designing outsiders, had not, at the date of the Report, turned anybody out of its houses, rent or no rent. While, as we have repeatedly said, we disapprove of the principle of industrial paternalism of the Pullman sort, believing that it is, in the long run, better for men to be turned into the street as soon as their rent falls into arrears, we cannot see what reason the employes of the Pullman Company have to complain of what we do not hesitate to call the noble forbearance and generosity of the Company under very trying circumstances. It is a pleasure to discover from the Report that the employes, in a great degree, responded to the good intentions of the Company. As soon as the strike was declared, three hundred of the striking men volunteered to guard the Company's property, and did guard it, so faithfully that no violence or destruction took place there, and it was not until nearly two months later, when riots were raging all around, that a military force was called in as a precaution, to strengthen the volunteer defence. "Such dignified, manly and conservative conduct, in the midst of excitement and threatened starvation is," as the Commissioners truly say, "worthy of the highest type of American citizenship"; and we are quite sure that the experiences of the strike have left in the minds of the managers of the Pullman Company, as well as of their men, nearly all of whom, we believe, are again at work in the shops, a mutual regard which it will take years to obscure.

ATTORNEY-GENERAL OLNEY, who was last summer the object of unmeasured abuse from labor agitators and Socialist newspapers, because of the wise and timely precautions which he advised at the time of the Debs-Sovereign railway strike, has proved himself a true friend of labor by interfering in behalf of the employes of the Reading Railroad, as wisely and effectively as he did last year in behalf of the innocent people whose lives and property were endangered by the Debs antics. It seems that the policy of the Reading Railroad has always been to discourage unionism among its men, and, a few weeks ago, eleven men who had joined the Brotherhood of Railroad Trainmen were called before the Superintendent, and notified that they would be discharged unless they abandoned their membership in the Brotherhood. The officers of the Brotherhood remonstrated, and the receiver of the railroad, who is also President of the Company, replied, saying that it was the fixed policy of the Company not to allow its employes to connect themselves with organizations which might make claims upon them incompatible with their duties to their employers, and he did not intend to depart from it.

AS the receiver is an officer of the United States Court, Mr. Olney, as Attorney-General, was not only entitled, but probably felt himself bound, to make some statement of the view which the law department of the Administration

would take of this question, particularly as the controversy has taken the form of a suit before the Circuit Court; and he has written a letter to Judge Dallas, the presiding justice of the Court, pointing out that, as the railroad has been taken out of the hands of the Company, and is operated by the receiver, as servant of the Court, the past policy of the Company is a matter of no particular consequence, the relations between the road and its men being a matter for the Court to settle according to its own judgment, without regard to precedents set by a corporation which has no longer any control over the road or its employes. Taking this view, he thinks that, on general principles, to deny to railroad employes the right, which is enjoyed by other citizens, of belonging to such associations as they like, so long as their object is not wrong, will make them feel themselves unjustly treated, and tend to increase, rather than diminish, disaffection and discontent. Examining the constitution of the Brotherhood, he finds that it contemplates nothing illegal, while most of its objects are commendable; and the denial of the right to join it is based on no legal objection. As to the main questions involved, — whether it is undesirable for the employes of a railroad in the hands of a Court to belong to an organization of this sort, Mr. Olney says decidedly that it seems to him advantageous for all parties to have the men organized under a rational and conservative plan. To say nothing of the insurance against accident and misfortune, which is one of the chief objects of such associations, and is particularly necessary in so hazardous an employment, he thinks that such organization among the men tends to promote mutual respect between employers and employed, and to lead to concessions, and amicable adjustment of differences, and he reminds Judge Dallas that, in the present case, the Court is not only the standing arbitrator between its receiver and the men whom he employs, but has the power to enforce its decisions; and expresses his belief that, by recognizing, under such favorable auspices, the principle of hearing and arbitrating disputes between employers and employed, it will conciliate the latter, by showing them that there is not one law for one class of citizens, and another for another class, and will "preserve for the law, and the judiciary by which it is administered, that general respect and confidence which have always been a marked characteristic of our institutions."

WE are always glad to welcome the Annual Report of the Chief of the Forestry Division of the Department of Agriculture. Professor Fernow is so earnest, and so thoroughly master of his subject, that his essays on it would always be interesting; but he possesses, in addition, an effective manner of presenting his conclusions which adds greatly to the value of his writings. In the present instance, our attention is at once attracted by a map, which shows in a most graphic manner the distribution of the small remaining area of forest land in the United States; and we believe that few people will look at this map without being startled into the idea that it is high time to look out for the preservation of such forests as are left to us, and to provide for planting new ones. This map shows us, for example, that in three States only — Maine, New Hampshire and Arkansas — does the forest area amount to more than sixty per cent of the whole territory; that a person travelling directly westward, from the end of Cape Cod to the Pacific Ocean, would not traverse a single State possessing more than thirty per cent of forest land; that a man might travel from the frontier of British America to the boundary of Mexico through States none of them possessing ten per cent of wooded area; and that, west of Minnesota and Iowa, there is a tract nearly as large as Europe, exclusive of Russia, which is destitute of any forests of commercial value. If this area were desert, there would be some excuse for its timberless condition, but it includes Kansas, Oklahoma, Nebraska and the two Dakotas, which have been, and are still, the richest wheat-raising parts of the continent. To devote a part of this rich ground to the raising of trees would be of incalculable value to the rest, through the more equable and moist climate which the forest would bring, and there seems to be absolutely no reason, except the expense, why this should not be done. Few persons realize that only eighteen per cent of the surface of the United States is improved, eighty-two per cent being still wild land; and even the Atlantic Coast country, which has been settled for nearly three hundred years, and is often supposed to be "over-populated," and "exhausted," still has sixty-five per cent of unimproved land. A good deal of this is wooded, but the forests on

it have been so plundered, burnt over and ruined that it will be generations before valuable forests of marketable timber can take the place of the wretched "scrub" which now covers it.

IN view of the rapid disappearance of the valuable timber of the United States, the next question is, how to replace it.

In the Eastern States, as Professor Fernow tells us, public opinion is slowly awaking to the importance of the subject, and some movement in regard to it has been made, either by the State authorities, or by private Forestry Associations, in Maine, New Hampshire, New York, New Jersey, Pennsylvania and Wisconsin. Farther West, progress in the matter has been backward, rather than forward. California has, for political reasons, as we are told, abolished its Forestry Commission, after eight years of valuable service; and Colorado has virtually done the same, by refusing any appropriation to pay the salary of its Forest Commissioner, and the expenses of his work. This interesting piece of administrative economy deserves to be noted in connection with what the German forestry statistics show of the value of land on which timber can be intelligently grown. Since the inauguration in Germany of the principle, first introduced by Frederick the Great, of submitting the State forests to rational regulation, the Prussian Government has had frequent occasion to buy new land, over which to extend its woodland property. As a rule, the land purchased has been waste territory, either entirely devastated, or spoiled by denudation on the American plan; yet, so valuable is land considered in Germany on which a crop of timber can, with care, be raised eighty or a hundred years hence, that after deducting the value of what standing wood there may be on it, which is always reckoned separately, the land alone brings, in lots of ten thousand to fifty thousand acres, from twenty to eighty dollars an acre. It is hardly necessary to say that such prices as these would make the mouths of owners of wild lands in Colorado, or New Hampshire, or Massachusetts, or Connecticut, or Pennsylvania, water. In Massachusetts, for example, thousands upon thousands of acres of ground, which once produced the finest white-pine timber in the world, and are still covered luxuriantly with second-growth pine, mingled with oak, are said to be valued by the assessors at five cents an acre, and could be bought for not very much more than that; yet clear white-pine timber, such as was cut from those lands a hundred years ago, sells now in Boston for sixty dollars a thousand feet, or at the rate of about one hundred dollars for the product of a single tree of the old-fashioned sort. In Germany, where the white pine was introduced from the United States eighty or ninety years ago, the plantations are said to yield annually fifty thousand feet of timber per acre. This would be worth in Boston, if of as good quality as formerly, at least two thousand dollars a year, — a tolerably good interest on an investment of five cents. But this is not all. The City of Frankfort has a forest of American white pine of seven acres. It does not allow any cutting of the timber, but rents the privilege of collecting seed from the trees. For the last eighteen years, this privilege has been sold, at an average rent of one hundred and fifteen dollars a year. It is well known that pine trees do not seed every year, and three out of the eighteen seasons have been barren, but, as compensation for this, the seed-privilege in one year was sold for five hundred dollars, much of the seed being exported to the United States.

A PUBLIC hearing was held in New York the other day, on the subject of fires in tenement-houses, which was quite remarkable for the number of distinguished citizens present. Mayor-elect Strong, Mr. Richard Watson Gilder, Dr. Cyrus Edson, Mr. W. Bayard Cutting, President Bayles of the Health Department, Mr. Brentano, Fire-Commissioner Robbins, Chief-Engineer Bonner, Mr. F. C. Moore, of the Continental Insurance Company, and many others, assembled to learn what could best be done to keep people from being burned to death in tenement-houses. Mr. Brentano, who has kept a record of the loss of life from fires, said that, within the last ten years, two hundred and seventy-six persons had died in this way, of whom two hundred and fifty-six had been killed in tenement-house fires; and Chief Bonner made the startling declaration that in eleven months, from July 31, 1893, to June 30, 1894, there were 2,415 fires in tenement-houses in New York, of which seventy-six were maliciously set, while forty-one more were supposed to be incendiary.

THE VICAR'S CLOSE, AT WELLS.



Looking down the Close, Wells.

TURN to the left out of the market-place of the old town of Wells, and a few yards beyond the "Mitre" and the "Swan" in Sadler Street, bring one before an old gate-tower, which looks grimly down upon the narrow street. Under its blackened archway, known as the "Dean's Eye," goes the road into the Cathedral Close, and one sees across the level green the great front of the Cathedral Church of St. Andrew. In tier upon tier above the doors stand sculptured princes and prelates in their canopied niches, deep shadows behind them; square towers flank the front, their lacy parapets and tapering crocketed pinnacles cut against the sky. The cathedral is seen almost in elevation, a suggestion only of the north side being visible. Under a row of noble trees, just by, are benches where one falls into the way of resting a while to study the picture, when going to and from the town.

Joining the cathedral front on the right, a stretch of ancient wall at the back of the cloisters, almost unbroken except for an odd small window or two close under the eaves, is a good foil to the elaborate ornament of the front, the whole effect of which is, after all, not restful.

Leftward, a charmingly broken line of walls and roofs frames in the picture; nearest are the battlements and graceful corner turrets of the Deanery, to which a high battlemented wall, crowned with fine masses of ivy, joins the gate-lodge. This has a handsome oriel hanging above the great pointed gateway. Beyond is another stretch of high stone wall reaching to the Archdeanery buildings. Across the back of the picture swings the "Chain-Gate" gallery, leading from the Close Hall to the north transept, and over this hardly more than the parapet of the Chapter-house can be seen.

This one point of view gives us a rarely complete and beautiful ensemble of mediæval church buildings. Good judges maintain that a more perfect impression of the best Gothic art is not to be had in all England.

What the critics have further said as to the great west front being a mere screen and in no way an honest expression of the Cathedral's plan, becomes apparent as one follows along the north side towards the Chain Gate, for the western towers are seen to project much beyond the walls, so exaggerating the apparent width of the church, and there is no suggestion of the real roof-lines in the square treatment of the upper part of the front.

In contrast with this, the simple dignity of outline, breadth of wall mass, and reserve of ornament in the north porch are peculiarly pleasing. It is Early English at its very best. The same feeling is recognized in the transepts.

In the Chain Gate, on the other hand, one has the matured excellence of the Perpendicular, as yet giving no sign of the decadence of taste which followed all too soon. In this beautiful gallery we see the skilled hand of de Beckington, at its best.

Pupil and friend of William of Wykeham, Thomas de Beckington had learned the arts of architecture under that great master, of whose college at Oxford he was also a Fellow. During his incumbency of the bishopric of Bath and Wells, 1443 to 1465, he added several beautiful monuments to the cathedral establishment. The Chain Gate is the most notable of his works. The Palace Gate bears his arms carved upon the great boss which ties the ribs of the vaulted roof over the archway. He also built the gate-tower called the "Dean's Eye," giving into the green from Sadler Street, and the "Bishop's Eye," a narrow passage out of the northeast corner of the market-place into the Cathedral Close. The best of his many benefactions to the town was the beautiful old fountain, which

formerly stood in the market-place, now long since gone to ruin and removed, but fortunately still known through an old print, of which one may find copies in the book-shops. He made a conduit to run from the great Spring of St. Andrew's Well in the palace grounds, and gave to his loyal townsmen the priceless boon of a good water-supply.

There is a curious old deed extant, in which the good Bishop confirms to the Master, Brethren and Burgesses of the City of Wells this right forever, on the sole condition that they yearly repair to his tomb in the Cathedral, there to pray for his soul and the souls of the faithful departed, further granting to the supplicants an indulgence of forty days for so doing. The crystal water still sparkles from a later font in the heart of the ancient town, but I fear the prayers for the generous donor have been long since forgotten. De Beckington designed as well as carried out the construction of all his architectural work.

I have sketched his rebus, the "beck in tun," from a panel above the Bishop's Eye, and one finds his arms over the Chain Gate, and carved here and there upon soffit, or chimney, or belfry. Wherever his sign manual appears, are found the most charming bits of design carried out in immortal stone.

He united great statesmanship to his artistic skill and churchman's power, presenting a combination of several orders of genius to which the times and his high career gave opportunity for a development quite remarkable to us specializing moderns.

The Chain-Gate gallery was obviously intended to connect more intimately the Close buildings with the Cathedral and the Chapter-house, but the mere gain of a covered passageway, even in the rude winters of the Mendip country, would scarcely warrant so costly a structure, and so daring an encroachment upon the architectural unities of the Cathedral. Behind its apparent purpose was hid the love of mystery and the jealous exclusiveness of the mediæval priest. Safe from prying eyes the Prebendaries and Chantry priests passed by the long corridor above the roadway to chapter and to mass. A tall flattened arch swings over the drive. The footways on either side are carried through smaller vaulted openings, looking into the middle passage, about elbow height, through pretty arcades.

Over the central arch is a handsome triple group consisting of a canopied niche of rich detail, to hold statue, between two transom windows, the three members under a single arch and label. The several bays of the second story curtains similar groups of openings. The bays are defined by slender pilaster-like members running up to the parapet. The latter is panelled. There is also an interesting panel treatment of the lower story of the bay cut by the roadway arches. Above are the usual pinnacles and crocketed finials. These were fallen into a dangerous state of ruin in Pugin's time, but have since been thoroughly restored. The moulded and carved work is in freestone, and the arrises of the stones are rounded off, and in places nearly the whole form of the members lost, by the actions of time and weather.

To the left, just through the Chain Gate, a gloomy arch opens into the Vicar's Close. From under its dark shadow, one looks in upon a peaceful scene; a quadrangle closed-in by low, stone houses, and filled with flowers and sunshine, blessed silence and the loveliness of age. The Close is almost a rectangle, 436 feet long, but tapering from a width of 65 feet, by the gate-house, to 56 feet at the chapel, which stands across the north end. Down the sides are forty-two little stone houses, each having a tall, graceful cut-stone chimney rising above the front wall, and each having before it a pretty little garden, walled-in from the gravelled roadway which fills the middle space.

During a sunny month of September which I passed there, it was very beautiful and picturesque. Glorious masses of Virginia-creeper were reddening against the walls amid rich, dark surfaces of ivy. The ancient walls are covered here and there with brilliant patches of lichens in yellow and gray-green.

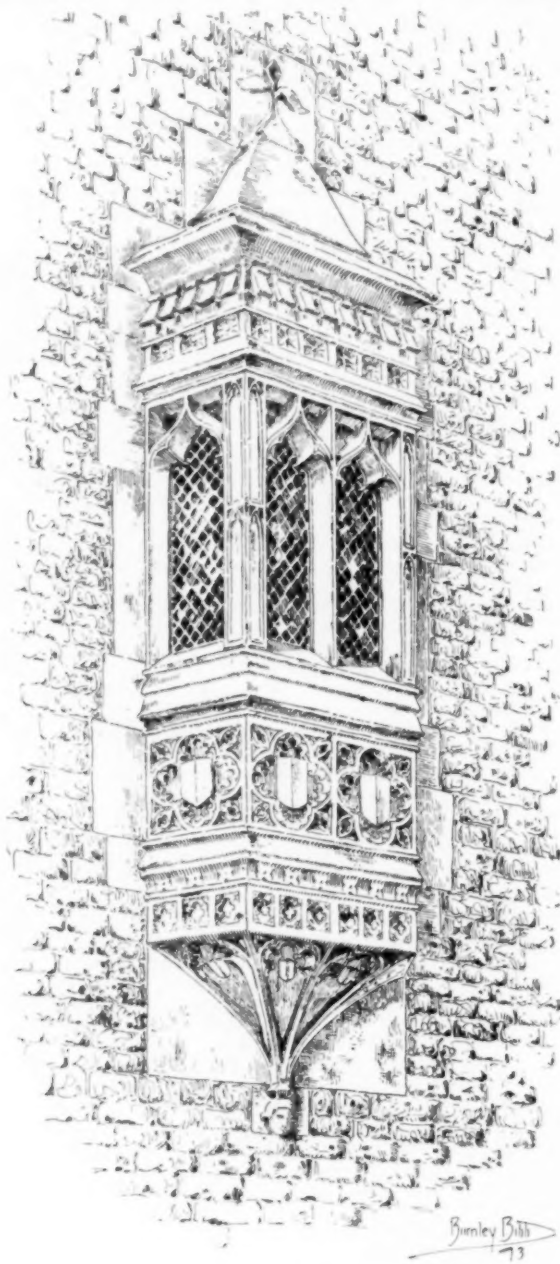
In the narrow, tracery-headed windows swing diamond-paned leaded casements. Several of the old gate-porches remain. The wall is ramped up to them on both sides. They are built of cut stonework. The heavy wooden door hangs in a pointed arch chamfered on the edge of the opening. In each spandrel is a carved rose. The top swells out into a pretty cornice with crenellated upper member. The vines clamber up over the old gates and hang down tendrils across them.

There were originally thirteen of the vicar's chorals; they were increased to the present number of houses in Beckington's time, but again reduced to twenty by Elizabeth. The present houses belong partly to these gentlemen, who are now merely lay-singers appointed to the office, and partly to other members of the Cathedral establishment. Several of the little dwellings have been carefully restored to their original appearance. Many, unfortunately, have lost their old forms under Georgian bay-windows and door-hoods, and even stucco has desecrated the ancient stones.

In the olden time, the vicar's chorals were in holy orders. Joceline ordained the first of them in the year 1237. Their duty was to relieve the canons in chanting the musical portions of the mass, and as their number increased, they received lands and houses from Bishop de Hulle.

Ralph of Shrewsbury erected for them a new college, and the hall—under whose arched gateway we now enter the Close—contains a library, a "kitching" and a common room. There are some fine old black-oak napkin panels to be seen in the hall, and on

a shield of stone in the wall are cut the arms of the See of Wells and the name "Ricous Pomeroy." The two oriels were probably added in the same period, but the two-light lancet mullion and transom window is part of Ralph of Shrewsbury's original design. The oriel on the street-wall of the house east of the gate is richer than these, and I found it very graceful in shape and ornament. I give a drawing of it here as a fair example of the cut stonework of the time. A fellow to it hangs on the west gable of the house next the Archdeaconry. A long flight of well-worn stone steps leading to the hall above and to the Chain-Gate gallery starts under the high pointed arch in the gate-house tower. Over this is a small muniment-room, eight feet square, fitted with oaken presses for the keeping of documents. A circular stair from the hall gives



An Oriel.

access to a room over the muniment-room, which is reached from this apartment down another small, winding stair in the turret on the side of the square tower.

De Beckington's will, after providing for a number of bequests, left a balance to be expended by his executors "*in pios usos*." The executors were Richard Swan, Precentor of Wells and Rector of Yelverton, Hugh Sugar, LL. D., also known as Norris, the Treasurer of Wells, and John Pope, or Talbot, D. D., Prebendary of St. Decuman's and Rector of Shyre. They, each, received a sum of twenty pounds for their services. They expended the bulk of the good bishop's money in repairs and additions to the Vicar's Close. Their arms are emblazoned upon the chimney panels, Swan's being, in heraldic phraseology, "a fesse between three swans"; Sugar's, "a large old-style 'H' and three loaves of sugar," Norris's, "a chevron

between two roses, in chief, and a talbot in base." The panels over these bear the arms of Bath and Wells. These chimneys are all that remain of the original structure of many of the houses, which have been extensively modernized. One or two have been restored properly, but it is a pity that the ordinance which empowers the

John Pope or Talbot.



Richard Swan.



Hugh Sugar.



The Arms of the de Beckington Executors.

bishop and principals to require a uniform retention of the old design should not be enforced.

The doors opened into a room of thirteen by twenty feet, low-studded and paved with flags. The ceiling showed two large cross-beams. There was a great fireplace by the door, a two-light mullioned window in the front wall beside it, a similar opening in the rear wall, and a small loophole, for observation, by the door. In an offset at the back, a square staircase led to the upper story. This was in one room with an open roof. The rafters and tie-beams were simply chamfered. A small wood cornice, in miniature battlements, was carried round at the spring of the rafters, about eight feet from the floor. There were four mullioned two-light windows. The room was lofty and pleasing. It was the sleeping-room of the vicar in occupancy.

Modern ideas have made these dormitories low and stuffy by adding a plaster ceiling.

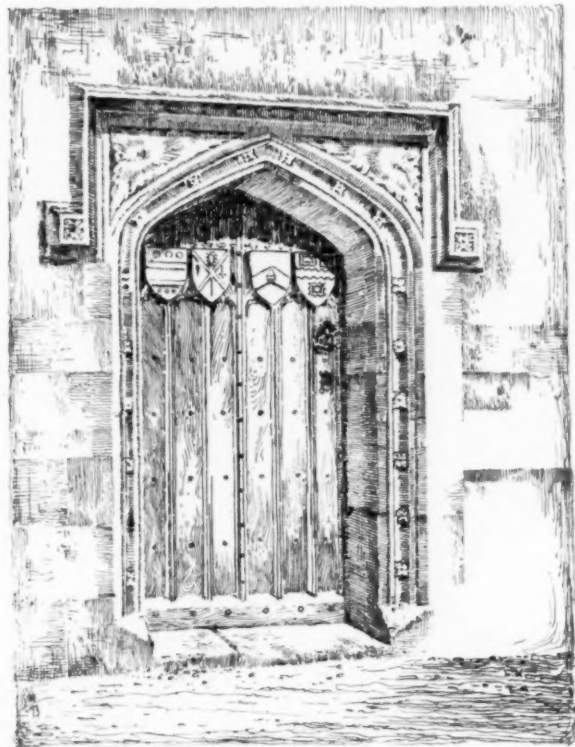
In one of the restored houses I found a most charming mediæval interior. The plan is kept as described above, except that two of the little houses have been joined by a door in the party-wall. It is an artist's home. Going in under the old gate-porch, one passes through a small garden full of roses. Cast about here and there in the grass are some bits of carved Gothic stonework picked up at odd times from Somerset ruins. The massive door opens into a paved hall with walls of bare stone and heavy-beamed ceiling of blackened oak boards. In the broad fireplace one might pile great logs. The room is furnished with some oaken benches and chests, and tables and heavy chairs of Gothic style, a quaint lectern and a bit of old tapestry. The light is dim, and brown shadows lurk mysterious in the corners. The slight variations in color, and the irregular network of the jointings of the stones in the wall have a good effect. In the studio above, one finds the open wood roof very interesting. There is a wide three-light window with a broad ledge for books, paint-boxes and brushes. Portfolios stand along the floor against the wall, and there are stacks of water-color drawings and old prints about on the chairs and tables. There are examples from earlier schools of English aquarellists and rare architectural books. The host is himself an accomplished mediævalist, and his own pen and pencil drawings from the beautiful Gothic halls and churches of Somersetshire are not the least of his treasures. He knows Exmoor by heart, and from hours of patient study with pencil and brush has brought away the rugged outlines of lonely tors and the glories of the heather on a windy moor, with the cloud-rack wreathing across the misty skies.

There is a charming view from his study-window south, and down the Close, across the pretty gardens. The dark mass of the Cathedral shows above the roof and battlements of the gate-house, the delicate perforated parapet of the octagonal Chapter-house lifts its eight crocketed pinnacles, a glimpse is had of the tracery of one of its glorious decorated windows, and above is the long straight back of the Cathedral roof; the ridge-line lacks that lacy airiness given by the intricate "*faitage*" of good French Gothic. Over all, the great central tower looks down into the quiet Close. One sees the splendid traceries of its tall perpendicular windows against the light. Slender, vertical members refine the bulk of its square mass. The flowering pinnacles and openwork parapet fret the sky-line. The rooks are always flying in and out up there, and their scolding comes harsh upon the silence. Sunshine is bathing in soft light the old walls which time has painted in grays and velvet blacks, brightened here and there by a wash of green, or a brilliant dash of red and yellow, where a field of lichen has spread upon the ancient stones.

Nothing could be more deliciously, restfully satisfying in color, and when one has felt and loved the beautiful reserve and completeness of this, there is a certain unavoidable shock in the sight of hard lines of black against white marble, bands of fleshy red checker-work of multicolored stones, disks of green and lines of gold, and the splendor of mosaic glowing upon outer walls, as when one comes from England to look upon, say, the Florentine Duomo or Giotto's Campanile, under the staring blue of an Italian sky. With what a sense of relief the eye wanders to the exquisite little Bigallo,

across the way, and rests upon its monotone of dingy gray. In the first newness of impression, one fails to grasp the exquisiteness of the Italian work. In time one may almost grow to think there is none beside it.

The very heart of our quiet little Close is in its Chapel. The lower story of this charming little building is ascribed to Bishop Ralph of Shrewsbury, the windows of the Chapel being unmistakably of his time. Their traceries are very graceful. The door is set-in under a window-head. The whole stone casing of the door was removed from its former place in the middle of the west end, according to Pugin, who claims to have found its old place in the west wall. I have given a drawing of the door which is worth study.



Door of Chapel, Vicar's Close, Wells.

The little shields at the heads of its panels bear various heraldic devices. The third from the left has the arms of Bishop Nicholas Bubwith, 1407 A. D., the same we find on his chantry in the nave of the Cathedral, and in one of the painted quarrels of the Chapel windows. The upper part, where the windows are all square-headed, and the parapet above them showing three richly-treated canopied niches, correspond to the style of work in de Beckington's palace gate. The niches are elaborately designed and have small buttresses, pinnacles, and crockets in a style of Gothic which Mr. Ruskin has condemned most severely.

De Beckington's arms are carved upon the shield on the side of the pretty little bell-turret; "argent on a fesse azure, between, in chief, three stags' heads caboshed, gules, attired, or; and in base three pheons, two and one, sable; a mitre labelled of the fourth."

Architects, at least, must be sorry that heraldry has quite fallen into disuse, or never had a being in our own country. We have not quite given up the forms which were devised in the old work to carry armorial emblazonments. They are too important a feature of decorative architecture to be dispensed with. But they are becoming meaningless. The personality, the bit of human history they wrote upon the walls of the old houses, when they bore upon their faces the quarterings of the master, are lost to our modern buildings.

What a pleasure one takes in Swan's stately birds, and in Pope's little talbot upon the chimney panels of the vicar's dwellings. The little dog is sculptured in a realistic way, with one forefoot lifted, the long flapping ears pointed forward, and the taper tail almost wagging. He is almost a peer, as an architectural dog, of that famous small animal who sits by the tent-flap of the shepherd in one of Giotto's reliefs on the base of his glorious tower. Mr. Ruskin put him on the screen once for the boys in one of his lectures, and the intent ears and curling tail of the puppy drew a hearty and irrepressible cheer.

The interior of the Chapel is very interesting. The tall wood screen, just inside the door, is very richly carved in an openwork member along the top. The handsome three-light, east window, which was blocked up in Pugin's time, is restored and has some beautiful glass. Under it is a small stone altar with a canopied niche on either side, now empty. The front of the altar has tall, narrow

panels with tracery heads. Two similar stone tables in either corner of the chancel were formerly used for the sacred vessels of the mass.

The mural decorations are incised in the plaster from designs by Mr. Henry Sumner, the nephew of the Rev. Mr. Gibson, the present Principal of Wells Theological College. The figures painted in metallic lustres above the dado by the screen are also his work. The Chapel has a splendid wood ceiling in four large panels, subdivided into four smaller compartments, which are again made up of four smaller ones. The beams are very richly moulded, and at their intersections are wooden bosses boldly carved in strong relief. The beams are held on moulded brackets, and there are carved ornaments of elaborate leafage in the angles of the timbers.

The room above the chapel, a small library, has also a fine wood roof. This room is reached by a winding stair from the Chapel. The Chapel is now used entirely by the Theological College.

West of the Chapel is a very interesting house, with its gable to the Close. The great, two-storied, four-light window has been well restored. The shields in the stone panelling bear the arms of Bishop de Beckington, the See of Wells, and of Bath and Wells conjointly; the last quarterings are the arms of Bishop Stillington, who succeeded de Beckington in 1466.

The Close suffered very little from the spoilers and iconoclasts of the Reformation. Elizabeth granted a charter of incorporation to the "Principals, Seniors and Vicar's Choral of the choir in the Cathedral Church of St. Andrew at Wells," with a seal. Their number was fixed at not less than fourteen, nor over twenty.

In later years, and especially in the early part of our own century, the buildings have suffered much from abuse and dilapidation. The Chapel was in disuse and full of rubbish in the year 1840.

There was a "malting-house" in the gate-house, a shop-front under the beautiful oriel of our drawing. "Many of the houses were modernized with common sash windows, bastard Italian doors, and plain parapets." Some of them have come back to their first beauty. Let us hope that good taste and intelligence will gradually bring back to the old Close the glory of its Gothic birth.

The life of the Close is not out of keeping with its antiquity of aspect. Its inhabitants are, for the most part, clerical. The College masters, one or two prebendaries and the vicar's choral reside here, and all the Theological College men must have chambers within the gates. A crowd of young men in Oxford and Cambridge gowns fill the court of a morning, rushing off to prayers in the Palace Chapel, streaming back to breakfast, and afterward to their lectures in the Archdeaconry. Here the College has splendid quarters in a new and very beautiful building, which, I believe, is the work of Mr. Freeman. They come quietly through the Close again, at noon, to prayers in their little chapel before dinner, after which there is great bustle of getting away to the cricket-field in white flannels, or off in knickerbockers and with golfing bags to the links on the top of the Milton Hill. Silence reigns throughout the Close in the evening, and one sees in every house the reading-lamps alight and a student bending over his books. At ten, they quietly assemble in the Chapel for night prayers. The old painted windows gleam like jewels. Through an open casement come the voices of the young hierophants singing their evening hymn, and one may see them standing with earnest faces turned towards the chancel. There are about thirty-five. Quarters are assigned them in the Close, where they have limited messes, but each must have his own sitting-room for study. Many live comfortably enough, and are pretty well cared for by the landladies who lease the little houses from the vicars. I was courteously bidden to a midday dinner with the Senior Mess, and enjoyed the meal in excellent company, later going over the links with a "foursome" and seeing my first golf. The view of Wells from Milton Hill is very fine. The great gray mass of the Cathedral rises from the meadows like a great weather-beaten crag, with the Close, the Deanery, the Cloisters and the other church houses clustering under the shadow of its walls, and beyond, the gardens and towers of the Bishop's Palace within the moat, and a long line of red-roofed houses of the town straggling away westward to where St. Cuthbert's Minster lifts its noble belfry.

The landscape is very lovely. The meadows, stretching away green and fresh to the hills, are dotted with trees and groups of farm buildings. Beyond, Dulcot and Dynder lift a bald and stony ridge. Away over the green plain, the old tower-crowned Tor of Glastonbury stands against the sky, reminding one of Avalon and the Arthurian legends.

In the near foreground the fields slope down from the hill, and there are groups of noble oaks and elms in those full bosky masses and graceful spread of branches which are peculiarly characteristic of the English trees. Westward, the eye may follow the swelling backs of the Mendips away toward the glowing evening sky, across the silver gleam of Bristol Channel, into the purple distance where lies Wales.

A. B. BIBB.

THE FRESCOS IN THE HOUSES OF PARLIAMENT, LONDON. — Mr. Herbert Gladstone has been taking advice concerning the deterioration of the frescoes in the British Houses of Parliament, the efflorescence upon those painted by the water-glass process having almost entirely obscured them. It is proposed to obtain a report from some expert, such as Professor Church of the Royal Academy, as to whether or no the decay can be arrested. — *N. Y. Evening Post*.

ARCHITECTURE AT THE UNIVERSITY OF ILLINOIS.

ON November 15, the University of Illinois installed Dr. A. S. Draper, late Superintendent of Public Instruction of New York State, as President, and also dedicated a new building to the uses of the College of Engineering, which includes the departments of mechanical, civil, electrical and municipal engineering, and architecture. At the dedicatory exercises, the address in behalf of the educational interests was delivered by President Adams, of the University of Wisconsin; that in behalf of the architectural interests by Mr. D. H. Burnham, Chicago, President of the American Institute of Architects; while the well-known civil engineer, Gen. William Sooy Smith, of Chicago, spoke for the engineers.

The University of Illinois is one of the rapidly growing educational institutions of the Central States. It was founded in 1868 upon the proceeds of the United States land grant, and now has an instructional force of seventy, and eight hundred students. The Institution is divided into four colleges: Agriculture, Engineering, Literature, Science. Only three institutions in the United States have more students in engineering. The School of Architecture is the largest in the country.

The new Engineering Hall is the handsomest of the group of six principal University buildings. The building has a front of two hundred feet, with wings at either end seventy-six feet deep, while the central portion extends back one hundred and forty feet. It is four stories in height. The first story is of Cleveland sandstone, and the remainder is of buff pressed brick, with terra-cotta trimmings. The roof is of slate with large skylights. The mill system of construction is employed throughout. Plate-glass windows and Washington fir and polished oak, with other finishings in keeping, make the interior very attractive. Steam heat, mechanical ventilation, gas and electric lights will be used. The building cost \$160,000.

The architect of the building was Mr. G. W. Bullard, of Tacoma, Wash., a graduate of the School of Architecture of the University of Illinois. A principal prize of \$1,000 was offered for the best design, and a second thousand dollars was divided between the second, third and fourth best designs. The award was made by a committee of the Board of Trustees, consisting of an architect, a civil engineer, and a business man, with N. Clifford Ricker, Professor of Architecture, as consulting architect.

In the planning of the building, the greatest thought and care have been given to the arrangement of the rooms for the purposes of instruction. Lecture-rooms, draughting-rooms, seminary-rooms, studies, offices, cabinet and filing-rooms, and library have been planned for their especial purposes. The furniture also has been designed to meet the requirements of modern engineering instruction. Large space has been given to cabinet and wall cases, and ample provision has been made for filing pamphlets, drawings, photographs, models, specimens, etc. The masonry laboratory of the Department of Civil Engineering has two large rooms in this building. The

laboratories of Mechanical Engineering, Electrical Engineering and Applied Mechanics are in other buildings.

Adjoining is presented a perspective of the building, and also a floor-plan of the fourth floor, which is devoted exclusively to the department of Architecture.

At the exercises connected with the laying of the corner-stone, Ira O. Baker, Professor of Civil Engineering, read an historical sketch of the College of Engineering. The paper has not been published, but we are permitted to make the following extract. After tracing the growth of the Mechanical Department, the Professor said:

"The first instruction that had any direct relationship to archi-

ecture was given in the fall term of 1872, and consisted mainly of artistic picture-making, and not much of that. The first real instruction in architectural subjects began in the fall of 1873, when the present incumbent of the chair of architecture, Professor N. Clifford Ricker, was placed in charge of the department. He immediately arranged a four years' course of instruction

designed to prepare students for the profession of architecture. At that time there were but two colleges giving instruction in architecture, and at present there are only eight, but the University of Illinois has more architectural students than any two of them.

"Time does not permit an adequate account of the self-sacrificing and earnest efforts of Professor Ricker in building up this department, but there is one fact which the occasion demands should be made public, that a modest man may have the honor justly due him. I have already said that Professor S. W. Robinson and the mechanical department deserve credit for the establishment of the first distinctly educational shop in the United States. To Professor Ricker may be given the honor of introducing into this country the

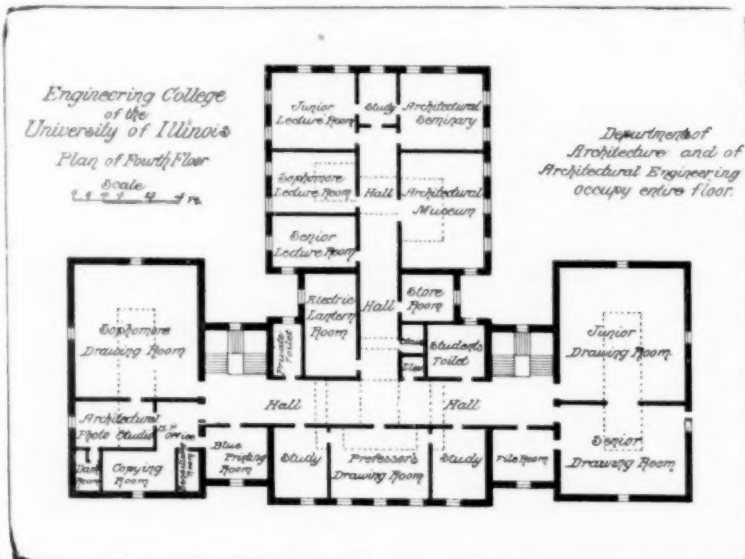
so-called Russian system of shop-practice.

"Professor Robinson's system consisted in setting a student to make some part or the whole of a machine. The system which Professor Ricker introduced consisted of a graded series of exercises, in which the student learns the uses of different tools in succession. In the first system, part of the attention is directed to the training of the student, and part to the making of a machine; in the second, the whole attention is given to training the student. The latter system is now employed in all school-shops in America, except one. Dr. Runkle, of the Massachusetts Institute of Technology, Boston, is credited with having introduced the Russian system of shop-practice in America, a distinction he certainly never claimed for himself, and which unquestionably belongs to Professor Ricker, of the University of Illinois.

"The architectural department of this institution is preëminent in another important particular. The fundamental idea of the course is that the architect should be first, a safe and economical builder, second, a man of business capacity and, third, an artistic designer. Nearly all the architectural schools in the world consider artistic design of the first importance, and many of them entirely ignore matters of construction. Our course is planned to help a



ENGINEERING HALL.



young architect in the whole round of his duties, and is not confined to one of the subordinate branches of his future employment.

"A distinguished American architect, himself both an artist and a constructor, says that only one-twentieth of his time is devoted to artistic design, while nineteen-twentieths are given to construction, business affairs, and office detail. The pronounced success of our architectural graduates proves that they have been well prepared for their chosen profession. I prophesy that when the evolution of the collegiate architectural course shall have been as fully worked out as is that of the civil and the mechanical engineering courses, it will be found that the University of Illinois has again been a pioneer, and marked the pathway in which others follow."



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

THE DANIEL PEIRCE HOUSE, PORTSMOUTH, N. H.

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

This house was built in 1799.

THE HOUSES [RESTORED] IN THE VICAR'S CLOSE, WELLS, ENG. SKETCHED BY MR. A. B. BIBB, ARCHITECT, WASHINGTON, D. C.

THE CHAPEL, OUTSIDE AND INSIDE, WELLS CATHEDRAL, WELLS, ENG. SKETCHED BY MR. A. B. BIBB, ARCHITECT, WASHINGTON, D. C.

SEE article elsewhere in this issue.

THE COLLEGE ARMS HOTEL, DE LAND, FLA. MR. G. T. PEARSON, ARCHITECT, PHILADELPHIA, PA.

[Additional Illustrations in the International Edition.]

CENTRAL ENTRANCE TO THE NEW UNION STATION, BOSTON, MASS. MESSRS. SHEPLEY, RUTAN & COOLIDGE, ARCHITECTS, BOSTON, MASS.

[Gelatin Print.]

THE ACADEMY OF DESIGN, NEW YORK, N. Y. MR. P. B. WIGHT, ARCHITECT, CHICAGO, ILL.

[Gelatin Print.]

BECAUSE the Metropolitan Life Insurance Company has recently acquired all of the square bounded by Madison Ave., 24th St., Fourth Ave. and 23d St., with the exception of a single lot, and proposes to at once enlarge its palatial building now at the corner of Madison Ave. and 23d St., and ultimately to cover the whole block, it has seemed to us proper to make a record in our pages of this building, before it is too late. This record might have been made before, since the building was a new one at the time this journal was founded, but it was no longer a novelty at the time when it became possible for us to use the gelatin printing process.

DESIGN FOR A VILLAGE CHURCH. MR. F. C. EDIS, ARCHITECT.

This plate is copied from *The Builder*.

THE RAILWAY-STATION, DUSSELDORF, GERMANY.

This plate is copied from *Zeitschrift für Bauwesen*.

PLAN OF THE SAME.

QUEEN'S HALL, LANGHAM PLACE, LONDON, ENG.: DOORWAY. MR. T. E. KNIGHTLEY, ARCHITECT.

PRESBYTERIAN CHURCH OF ENGLAND, BROMLEY, KENT, ENG. MR. JOHN C. T. MURRAY, ARCHITECT.

THESE buildings, now in course of erection, on the east side of Freeland Road, near the junction of Upper Park Road, occupy a site 150 feet deep by 70 feet frontage, and when finished will form one of the most convenient and complete blocks of buildings recently erected for the Presbyterian Church of England. The buildings include a church, lecture-hall, vestry, class-rooms, etc., and have been admirably planned and arranged to meet the varied requirements of church work. The plan of the church is cruciform and consists of nave, aisles and transepts, with seating for over 700 worshippers—547 in the area and 174 in the galleries, which are in the transepts

and at the west end of nave. The choir and organ are in the north transept gallery. Immediately in rear of the church is a lecture-hall, to hold about 240, and so arranged that it may easily be divided by folding partitions into separate class-rooms for Sunday-school purposes. There are also on the ground-floor a session-house, vestry and lavatories, and on the first floor a large class-room and a ladies' or "Dorcas" room with lavatory attached. In the basement are a kitchen and heating-chamber. The whole of the exterior walls and the interior of the church are faced with red brick with Douglton stone dressings. The roof has steel principals and purlins and is covered with green slates, and the woodwork of the interior is of pitch-pine. Solid wood-block flooring throughout the ground-floor for church, hall and passages. The spire measures 118 feet from ground to vane.



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

SAMPLES WANTED.

UNIVERSITY OF CALIFORNIA, BERKELEY, CAL.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I am anxious to have samples of various materials, patents, etc., used in architectural work, from different firms.

It seems to me that it will be an advertisement for business men, and students will become familiar with what is in the market.

Will you kindly tell me what to do? Yours respectfully,

B. R. MAYBECK.

[We are glad to assist our correspondent by making known his needs and desires.—EDS. AMERICAN ARCHITECT.]

A QUESTION OF CHARGES.

NEW YORK, N. Y., November 9, 1894.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—A asks B to make plans, specifications and details, (without superintendence) for a house. Two houses are built at the same time from the same design for \$8,500 each, B making a new set of floor-plans only, for the second house, this being necessitated by reversing the floor-plans, one house facing north and the other south. Besides the one set of details, B furnishes A with four sets for specification and scale drawings complete. The architect's fee has not been alluded to by either party. In your opinion, what is a fair charge for B's services? Respectfully yours, X. Y. Z.

[We should think that \$500 would be a fair charge. The custom is to charge for drawings and specifications, without superintendence, three-and-one-half per cent on the cost, for buildings costing \$10,000 or more; and most architects charge as much for work on an \$8,500 house as for one costing \$10,000. Although a Massachusetts Court has decided, in a case where ten or twelve similar buildings were erected from the same plans, that the architect was entitled to a fee of five per cent on the cost of the whole, the old New York architects, in such cases, where no supervision was required, used to make the regular charge on the cost of the first house, and one per cent on the cost of the duplicates. In the present case, the plans had to be re-drawn for the second house, so that something more than this would be fairly payable.—EDS. AMERICAN ARCHITECT.]



BOSTON, MASS.—Exhibition of Millet's "Sower" and other Paintings loaned by Quincy A. Shaw, also, the Works of Adolf Menzel and Drawings by John Trumbull: at the Museum of Fine Arts.

Pastels by J. Appleton Brown: at Doll & Richards, 2 Park St., closes November 28.

Pictures by Joseph Lindon Smith: at the St. Botolph Club, opens November 26.

Water-colors by Sears Gallagher: at Foster Bros., 164 Boylston Street, closes December 1.

Exhibition of Pictures of New England Life by New England Painters: at Jordan, Marsh & Co.'s, opens November 27.

CHICAGO, ILL.—Seventh Annual Exhibition of American Oil paintings and Sculpture: at the Art Institute, October 29 to December 17.

Water-color Exhibition: at F. Keppel & Co.'s, 1 Van Buren Street.

NEW YORK, N. Y.—Loan Exhibition of Portraits of Women: at the National Academy of Design, November 1 to 24.

Loan Exhibition: at the Metropolitan Museum of Art, New North Wing opened November 5.

Ehrich Collection of Old Masters; also, Group Exhibition by American Painters—William M. Chase, J. Alden Weir, Childé Hassam and others: at the Galleries of the American Fine Arts Society, 215 West 57th Street.

Zschille Collection of Arms and Armor: at Tiffany & Co.'s, Union Square.

Exhibition of Early Printed Books from the Bruce Collection: at the Grolier Club, November 9 to 24.

Drawings by "Life" Artists: at "Life" Building, 19 West 31st Street, closes December 1.

Illustrations of Shakespeare, by Edwin A. Abbey: at F. Keppel & Co.'s, 29 East 16th Street, closes December 7.

PHILADELPHIA, PA. — *Sixth Annual Exhibition of the Art Club of Philadelphia:* opens November 19, closes December 16.

NOTES AND CLIPPINGS

EFFECT OF ILLUMINANTS ON THE ATMOSPHERE.—The following table shows the oxygen consumed, the carbonic acid produced, and the air vitiated by the combustion of certain bodies burnt, according to a circular issued by an American electric illumination company at Cleveland, so as to give the light of twelve standard sperm candles, each burning at the rate of one hundred twenty grains an hour:

Burnt to give light of 12 candles, equal to 120 grains an hour.	Cubic feet of oxygen consumed.	Cubic feet of air consumed.	Cubic feet of carbonic acid produced.	Cubic feet of air vitiated.	Heat produced in one pound of water raised to 10° F.
Cannel gas.....	3.30	16.50	2.01	217.50	195.0
Common gas.....	5.45	17.25	3.21	348.25	278.6
Sperm oil.....	4.75	23.75	3.33	356.75	233.5
Kerosene.....	4.45	22.30	3.54	376.30	332.6
Paraffin.....	6.81	34.05	4.50	484.05	361.9
Camphine.....	6.65	33.25	4.77	510.25	325.1
Sperm candles.....	7.57	37.85	5.77	614.85	351.7
Wax.....	8.41	42.05	5.90	632.25	383.1
Stearic.....	8.82	44.10	6.25	669.10	374.7
Tallow.....	12.00	60.00	8.73	933.00	305.4
Incandescent electric-light.....					13.8

The advantages of the incandescent light as above stated are:—It has, practically, no effect on the temperature of a room; it is absolutely free from noxious qualities of gas or oil, which can only be prejudicial to health; it consumes no oxygen whatever. In fact, it combines the maximum of light with absolutely no impurities.—*Invention.*

VITRUVIUS.—The history of Vitruvius is known only by what he casually says of himself in his treatise. He is noticed only by two ancient writers—by Pliny, who enumerates him among the writers from whose works he compiled, and by Frontinus, in his treatise on aqueducts, "*De Aqueductibus*," who mentions him as the inventor of the Quinarian measure. Neither the time nor the place of his birth is known, but he is generally supposed to have been born at Formia (Mola di Gaeta), in Campania, from several inscriptions relating to the Vitruvia family which have been found there. As he dedicated his work to the Emperor Augustus when he was already old, and as it was written before the theatres of Marcellus and Balbus were built, which was in the year 13 B. C. (for when Vitruvius wrote, the theatre of Pompey was the only stone theatre in Rome), it follows that he must have been born about 80 B. C., or a little earlier. From what he says in the prefaces to his third and sixth books, it would seem that he was not very successful in his profession; he executed only one public work that is mentioned, a basilica at Fanum. He was, however, at the time that he wrote one of the superintendents of the engines of war, the others being Marcus Aurelius, P. Numisius and Cn. Cornelius, a place which he had obtained through the recommendation of the emperor's sister, and it was on account of this appointment, as he himself says, that he dedicated his work to the emperor. He states that he had received a good education, and was fond of literary and philosophic subjects, that riches were no object with him, and that he was possessed of very little, but that he hoped to acquire a reputation with posterity for the treatise he was then writing. He mentions, in the preface to his seventh book, the architectural writers to whom he was chiefly indebted for information, namely, Agatharcus, Democritus and Anaxagoras, Silenus, Theodorus, Ctesiphon and Metagenes, Phileos, Ictinus and Carpin, Theodorus Phocæus, Philo, Hermogenes, Argellias and Satyrus and Phyeutes. He mentions also many other writers who wrote upon subjects more or less bearing upon architecture.—*The Architect.*

THE END OF THE SCIARRA CASE.—Don Maffeo, Prince Sciarra, after defending for two years a suit of the Italian Government against him for an alleged violation of the law in the sale of his gallery of paintings, has been condemned, finally, to pay a fine of \$300. The case of the Government was based on an edict issued at the commencement of the century, and countersigned by Cardinal Pacca, which prohibited the sale of paintings and art-objects from galleries of great Roman families when the Pope's permission had not been obtained. The Government's contention was that the art treasures of great private galleries were, in reality, held by their owners as trustees; but the tribunal of Ancona, in condemning Prince Sciarra to a mere fine for contravention, upsets the Italian Government's theory, and, at the same time, pleases impoverished Italian noblemen and eager art-collectors.—*N. Y. Times*, November 6.

"FAKED" WOODS.—"Treated birch," says a Philadelphia builder, "becomes mahogany of rare beauty, and 'soaked' maple goes into all 'ebony' pianos now. So cleverly is the 'fake' wood 'weighted' that nothing short of borings will prove the deception. Maple mahogany is soaked through to a depth of four inches, and will polish even better than the genuine wood."—*N. Y. Tribune.*

THE COPPER WEEPING-WILLOW AT CHATSWORTH.—In the world-famed gardens of Chatsworth, the most beautiful seat owned by the duke of Devonshire, is an artificial weeping-willow. It is made of copper, and so dexterously fashioned that at a distance it resembles a real tree. Visitors are generally attracted under its branches, when the guide steals off to a secret tap which, on being turned, causes a tiny spray of water to burst from every branch and twig of the tree. Another glory of Chatsworth gardens is the magnificent conservatory of iron and glass covering an acre of ground, which suggested the idea for the 1851 exhibition building of glass in Hyde Park.—*Detroit Journal.*

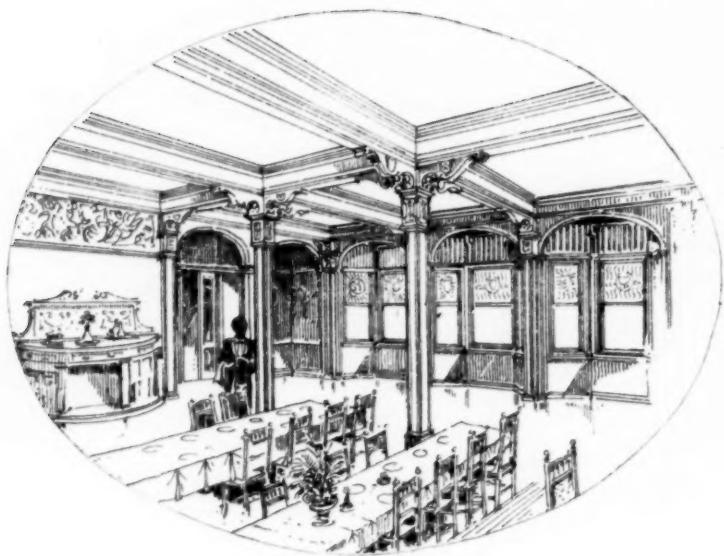
A BRIDGE 636 FEET HIGH.—The highest bridge of any kind in the world is the Loe River viaduct, on the Antofagasta Railway, in Bolivia, South America. The place where this highest railway structure has been erected is over the Melo Rapids, in the Upper Andes, and is between the two sides of a cañon, which is situated 10,000 feet above the level of the Pacific. Counting from the surface of the stream to the level of the rails, this celebrated bridge is exactly 636½ feet in height. The length of the principal span is eighty feet, and the distance between abutments (total length of bridge) is 802 feet. The largest column is 314 feet 2 inches long, and the batter of the pier what is known to bridge-builders as "one in three." The gauge of the road is two feet six inches, and trains cross the bridge at a speed of thirty miles an hour.—*Cincinnati Commercial-Gazette.*

LAYING A GAS-MAIN BY AID OF LOCOMOTION.—Contractor Stanton, of Chicago, who has charge of the work of laying the International Gas-main across the Detroit River, intends to do it on a new and original plan, which, if successful, will save the expenditure of a large amount of money. At the foot of Orleans Street a ditch has been dug twenty feet deep, beginning at the water's edge and sloping back to the surface of Franklin Street. At the bottom of the ditch is a plank trough, and in it is 600 feet of the pipe. At the river end is a conical head, in which is a large iron ring. A cable will be attached to this and taken across the river, where it will be made fast to three Grand Trunk Railway locomotives, which will pull it across as fast as new lengths of pipe are attached on the American shore. The clamps on the joints will weigh about 1,000 pounds each, and are for the purpose of holding the pipe at the bottom of the river.—*New York Times.*

MILBANK PENITENTIARY.—Milbank Penitentiary was the first building of its kind, and under the incentive of a great and noble idea Parliament poured out money upon it very freely. "Every part of the prison, visible or invisible, is a mine of building wealth. Hidden amongst its hundreds of cells, its length of corridor and passage, beneath its acres of roof, are, without exaggeration, miles of lead piping, hundreds of tons of iron, immense iron girders, gates in dozens—some of wrought iron, some of cast—flag-stones without end, ship-loads of timber, millions of bricks. When the old place comes to be pulled down, the curious inquirer may perhaps understand why it was that it cost half a million of money." Every cell in the place—and there are about 1,000 of them—cost £500—enough to build a nice little suburban villa. The cost of the new prison at Wormwood Scrubs is reckoned to be £84 5s. per cell.—*Churchman.*

THE MINES OF SOAP.—The wonderful natural soap mines at Owen's Lake, California, are accounted for by the following theory, which has been advanced by a well-known Western scientist: The water of the lake contains a strong solution of both borax and soda. In the water a curious specimen of grub breed by millions. These grubs go through their various transformations, and finally emerge as short-winged, heavy-bodied flies, very fat and oily. They live but a few days, dying and falling into the lake in such numbers as to be frequently washed ashore in layers more than a foot thick. The oily substance of the dead flies blends with the alkali of the borax and soda, and the result is a layer of pure soap, corresponding in thickness to the drift strata of the dead flies, a foot deep of the flies making a layer of soap nearly an inch thick. These strata, repeated year after year, have formed the celebrated "Soap Banks of Owen's Lake," where a large force of men have been constantly employed for a number of years.—*Cincinnati Commercial-Gazette.*

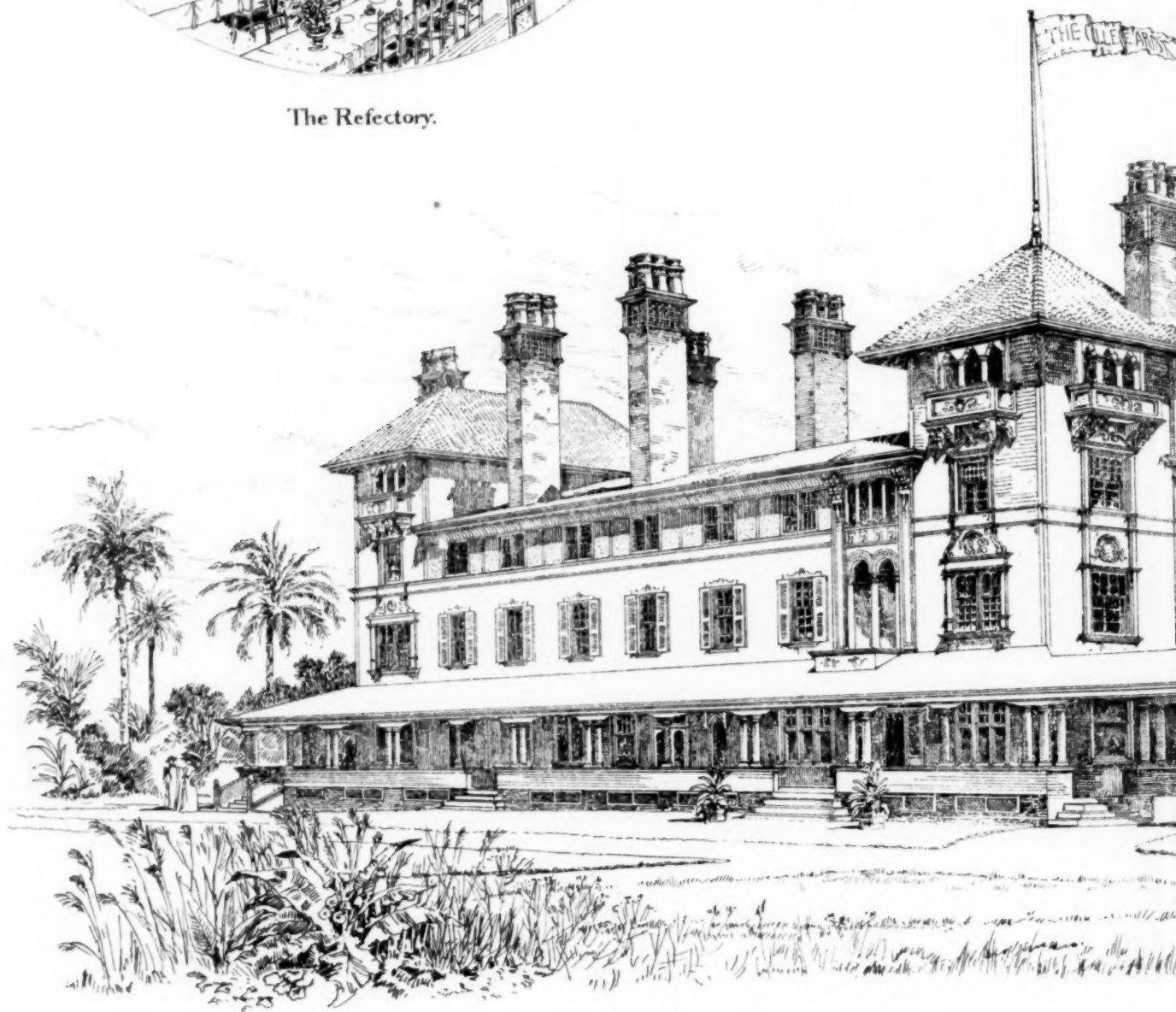
IN MEMORY OF DUBAN.—A memorial of Jacques-Felix Duban, the architect, has been set up in the vestibule of the theatre which contains Delaroche's painting of the great artists of Europe in the Ecole des Beaux-Arts, Paris. It consists of a pedestal of white marble, designed by M. Bernier, and a bronze bust, sculptured by M. Eugène Guillaume. There is especial appropriateness in having a memorial of Duban in the school, for he was associated with the buildings during his whole career as an architect. Soon after his return from Italy, in which he studied as a winner of the Prix-de-Rome, he was appointed about 1830 as inspector on the works of the school. From 1832, he was the architect. It was under his direction the covered court, the theatre, the library, etc., were constructed. In 1858, he began the works on the part facing the Quai, including the Salle Melpomène. To his ability the school owes the remarkable attractiveness of its numerous buildings, and it was fitting that future generations of students should be able to realize the appearance of an artist who was so thoughtful about their Alma Mater.—*The Architect.*



The Refectory.

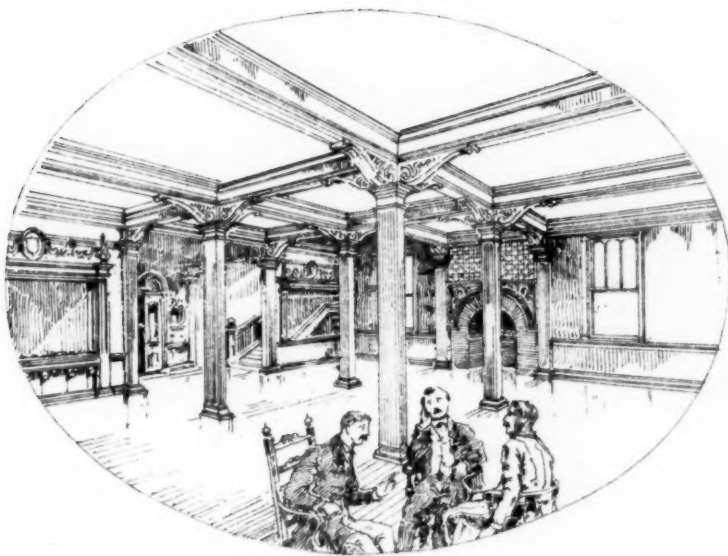
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Geo. T. Pearson, Architect, P.

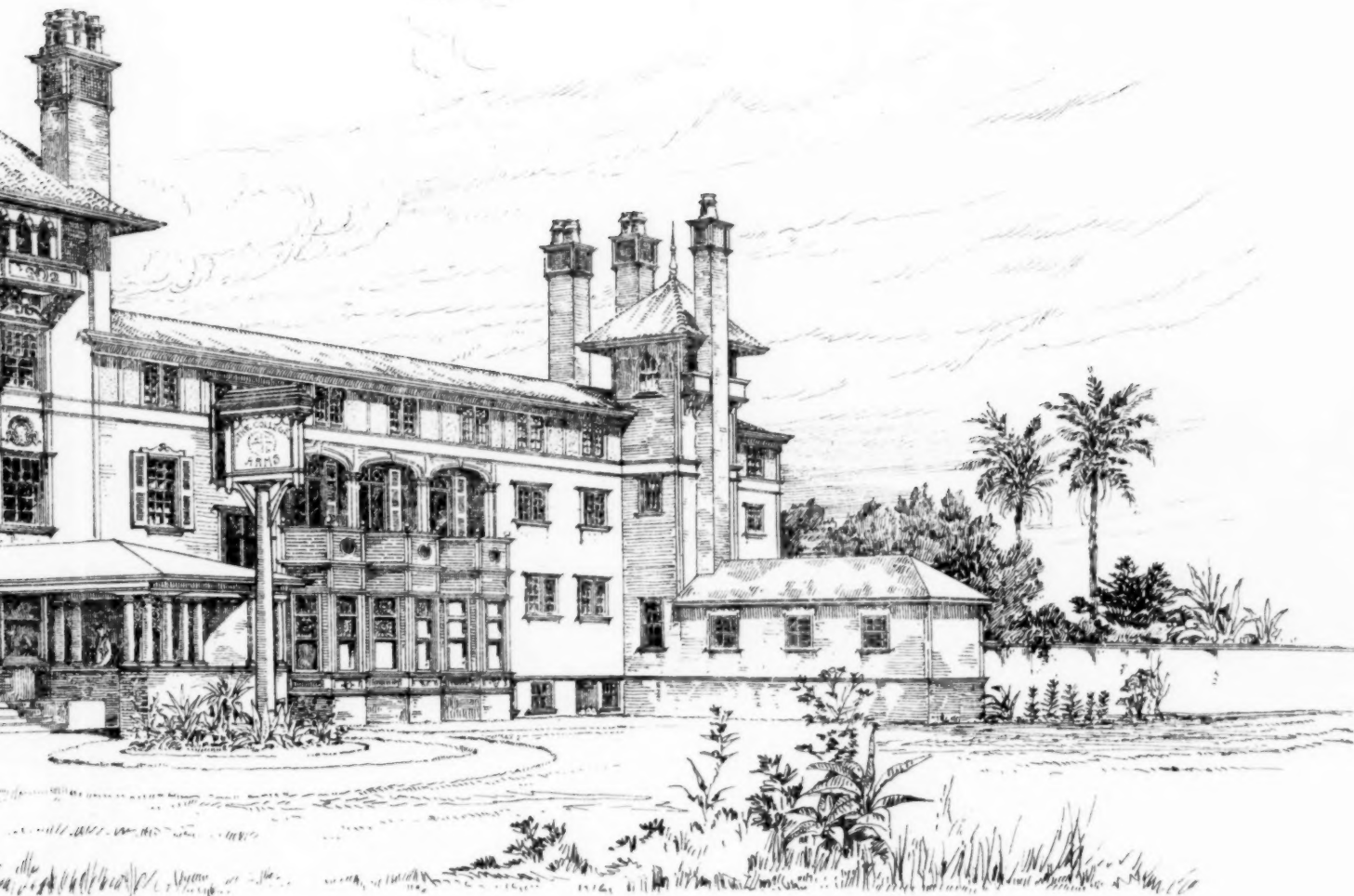


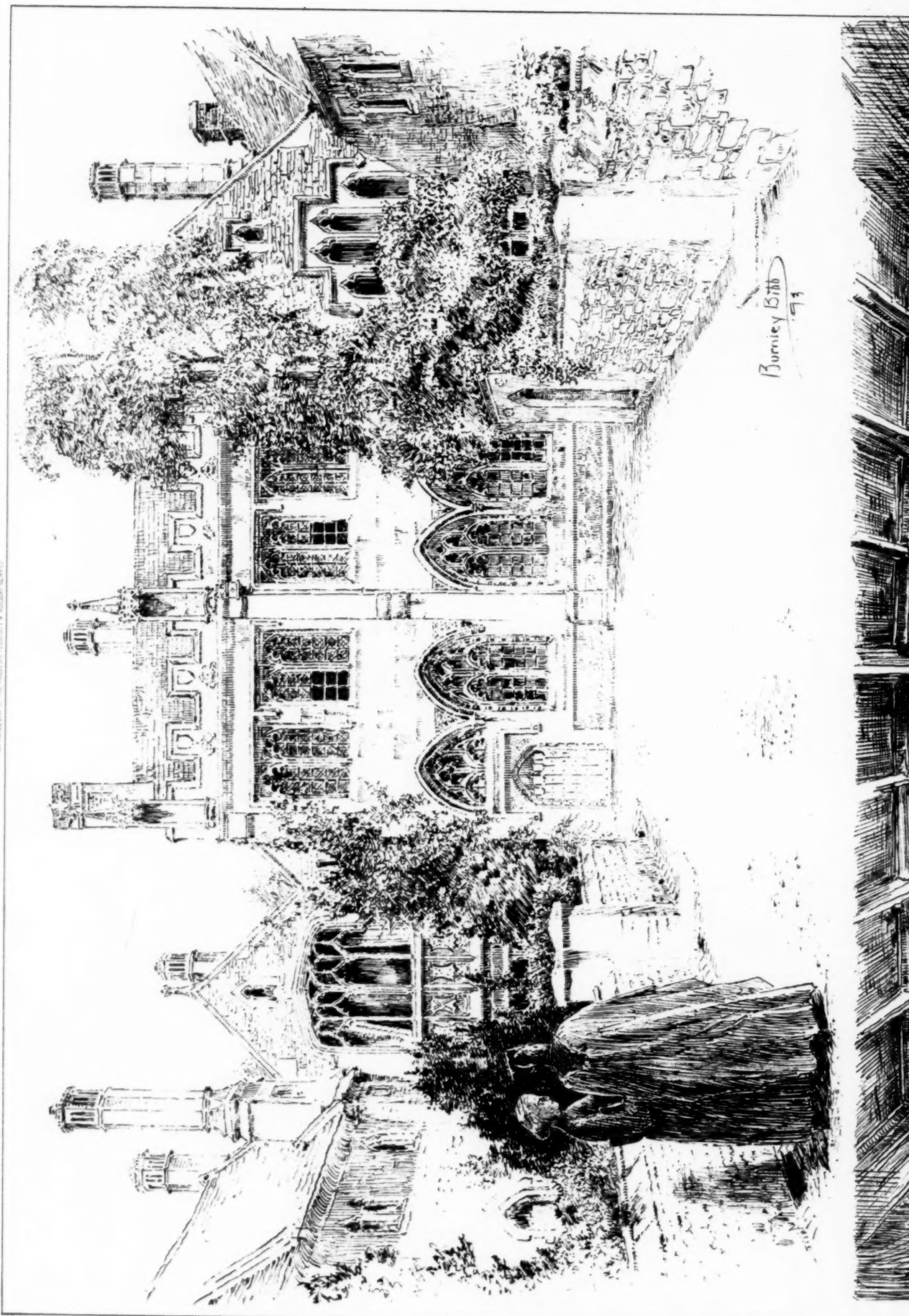
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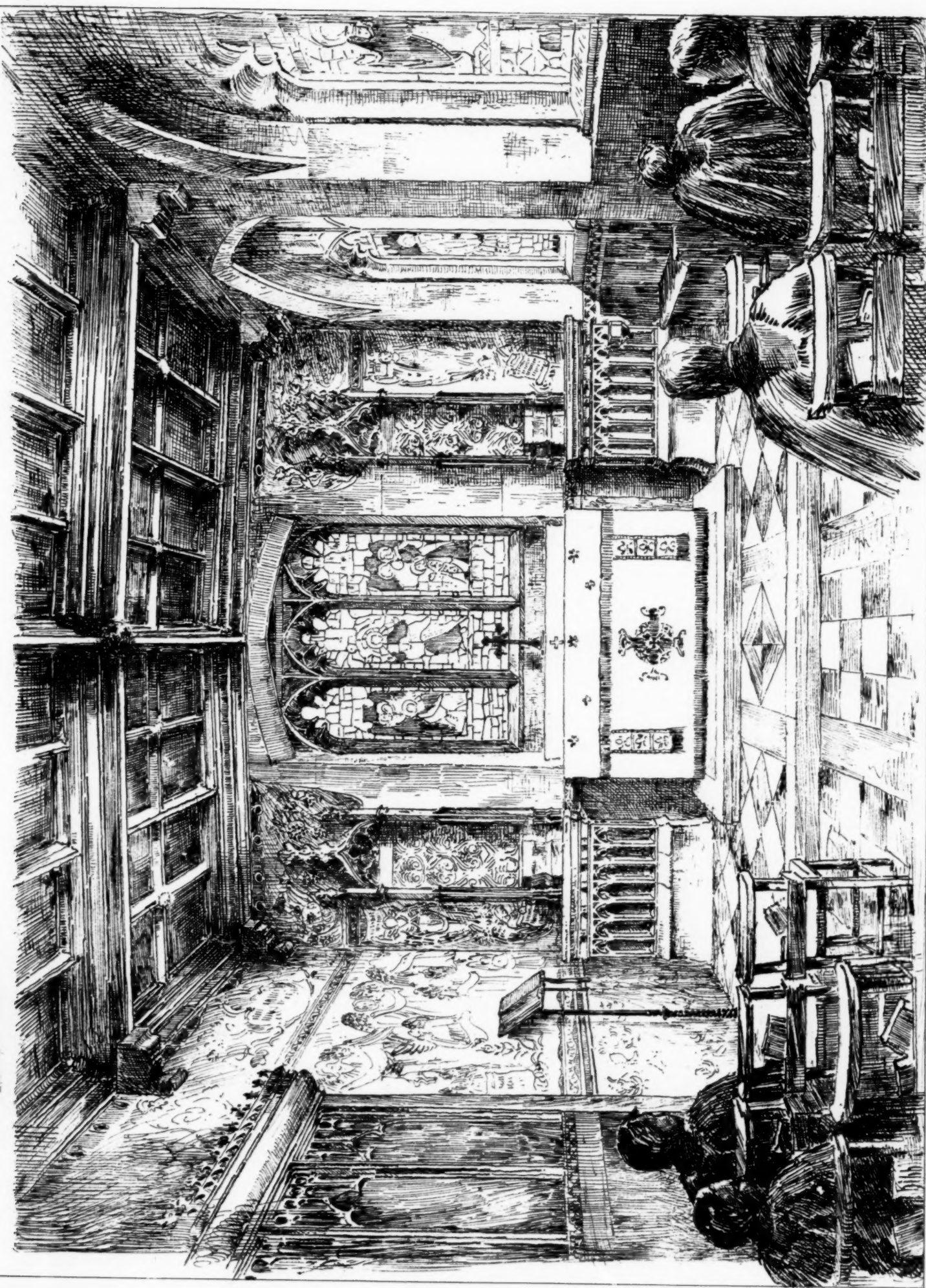
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The Office Hall.

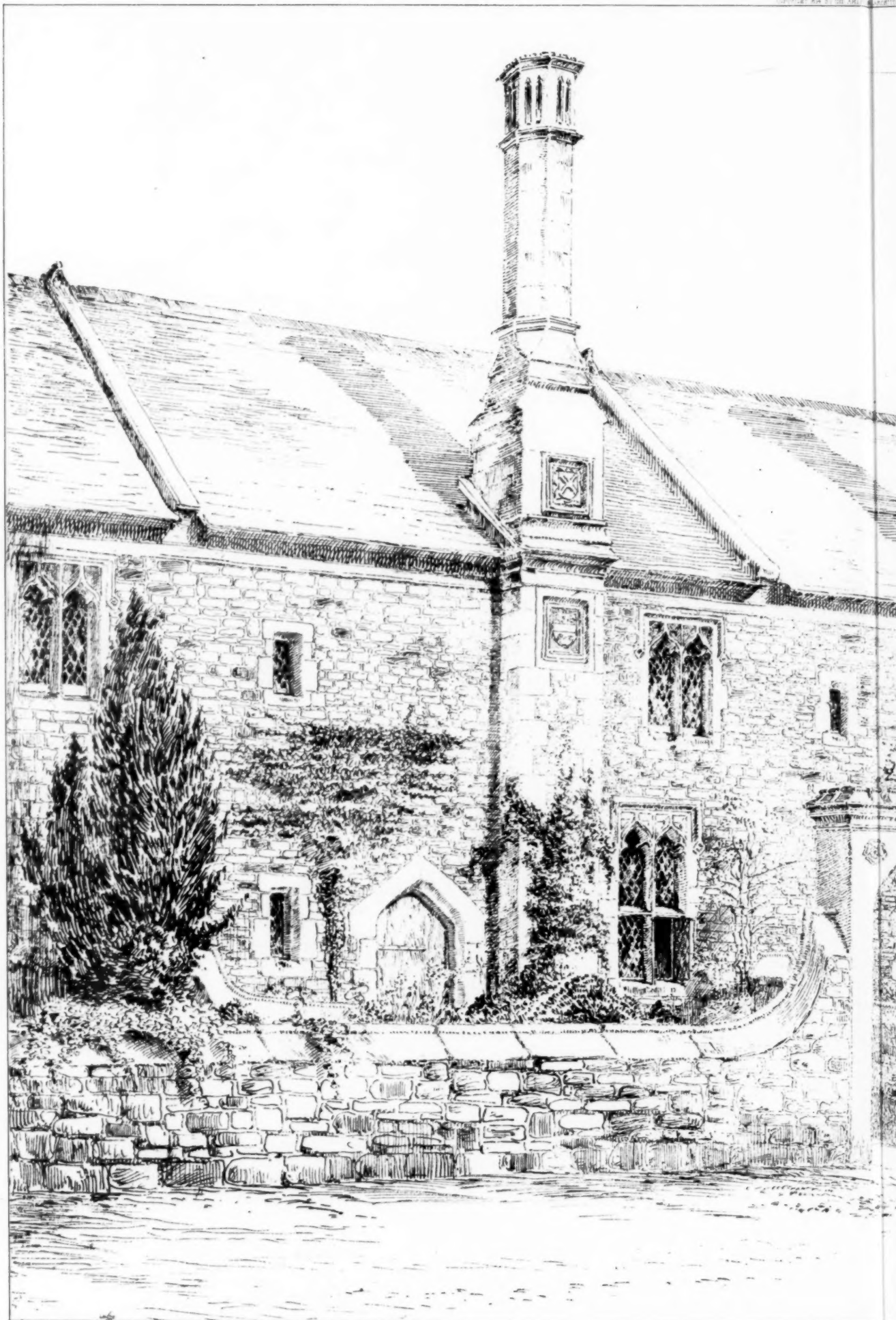






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