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CONTENTS.

EDITORIAL SUMMARY.
COLONIAL ARCHITECTURE IN WESTERN MASSACHUSETTS.—III.
LETTER FROM CANADA.
" " CHICAGO.
DOMESTIC BOILER EXPLOSIONS.
EXCAVATIONS AT DELPHI.
SOCIETIES.
EXHIBITIONS.
NOTES AND CLIPPINGS.

ILLUSTRATIONS.

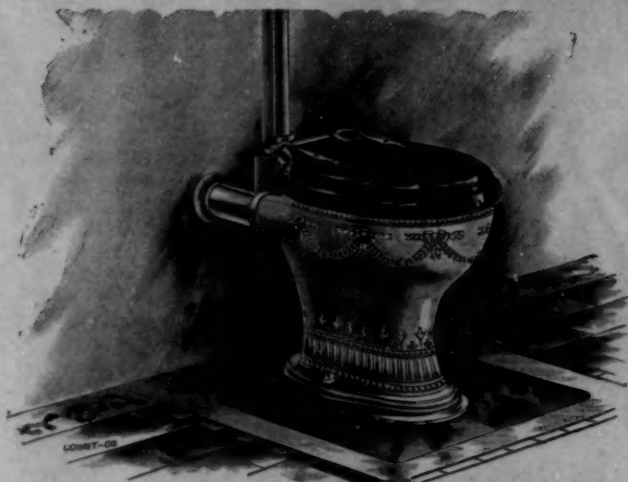
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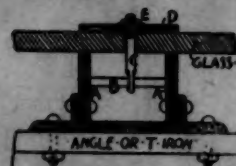
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VOL. XLVII.

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JANUARY 26, 1895.



SUMMARY:—

Chief Inspector Wade on the Ventilation of School-houses.— Forced Ventilation vs. Natural Ventilation.— The New England Cremation Society.— Dean Hodges on Cremation.— Monumental Memorials of the Dead.— The Work accomplished by the French Mutual Defence Association of Architects.— Anarchists tempted to proclaim their Independence of the United States.— The Competition for the Paris Fair Buildings.	37
COLONIAL ARCHITECTURE IN WESTERN MASSACHUSETTS.— III.	39
LETTER FROM CANADA.	41
LETTER FROM CHICAGO.	42
DOMESTIC BOILER EXPLOSIONS.	44
EXCAVATIONS AT DELPHI.	45
SOCIETIES.	46
ILLUSTRATIONS:—	
House at the Corner of Locust and Juniper Sts., Philadelphia, Pa.— First Church, Springfield, Mass.; First Church, Ware, Mass.; First Church, Northampton, Mass.; Court-house, Lenox, Mass.— Apartment-house, Cambridge, Mass.— Office-building, Hudson, Mass.— Myrtle Street Grammar School-house, Bowdoin District, Boston, Mass.— Women's Dormitory, Long Island, Boston Harbor, Mass.— Old Wrought-iron Fan-light Grilles, Baltimore, Md.	
Additional: "Surrey" and "Mowbray" Houses, Victoria Embankment, W. C., London, Eng.— Solicitors to the Supreme Court Library, Edinburgh, Scotland.— Interior of House, No. 1 Holland Park, W., London, Eng.— Old Wrought-iron Fan-light Grilles, Baltimore, Md.: Two Sheets.	47
EXHIBITIONS.	47
NOTES AND CLIPPINGS.	48

MR. RUFUS R. WADE, the Chief Inspector of Public Buildings, Factories and Workshops for the State of Massachusetts, who has had probably more influence than any other man in the country in securing fresh air for school-children, and has studied the existing systems of school ventilation, or rather, of school suffocation, with great care, recently delivered an address before the Massachusetts Teachers' Association, on the Ventilation of School Buildings, which, though short, and very general, is so sensible that every teacher, and still more, every school-committeeman, ought to read it. It is hardly necessary to say, to architects, that Chief Wade's examinations have shown him the generally unsatisfactory character of systems of school ventilation which depend for their motive power on heated flues, and he declares, repeatedly and earnestly, that, for producing a steady and reliable movement of the air through school-rooms, fans must be applied both to the inward and outward currents. Long experience with theatres and public halls has impressed this conviction firmly upon the minds of architects; but the whole matter of school ventilation has been, to a great extent, appropriated by certain influential mercantile concerns, who spend so many thousands of dollars in advertising, and in hiring travelling agents to introduce systems depending upon heat alone for motive force, that the average school-committeeman is quite unable to conceive how a meek little architect should have the audacity to question the excellence of such arrangements.

MOREOVER, architects know, what Mr. Wade does not mention, that, if fans are provided for ventilating public school-houses, the chances are that they will not be used. In a few of the largest cities, fan ventilation is regularly kept up in such buildings; but there are scores of school-houses, and similar structures, in the smaller towns, where fans have been provided, and, after a little public experimenting, have been quietly shut down, the school-committeemen, or, perhaps oftener, the janitors, chuckling in their sleeves at this praiseworthy piece of economy. Of course, the inlet and outlet shafts, being obstructed by the motionless fans, carry very little air, of any kind, but the drain on the coal-pile is diminished, and the bills for motive power to drive the fans are stopped, and the pride with which the committeemen point to these savings is quite undisturbed by any thoughts of the sacrifice of childish life and health by which they were

secured. For this reason, many architects advocate, before country school-boards, systems of ventilation which use only heat for motive power. They are quite aware of their inferiority to a fan-system that is used, but they know also that they will be better than a fan-system which is not used, and shape their advice accordingly. In one respect, however, architects will be very glad of Mr. Wade's support. We imagine that all members of the profession who have had anything to do with school-houses have had to fight long and bitterly against the plan, which is extensively adopted by the great school-ventilation contractors, of leading the foul air currents directly through the vaults, or, at least, through the school lavatories, before discharging it into the atmosphere. Mr. Wade says, mildly enough, it must be confessed, that "The air-ducts and flues used for the ventilation of the school-rooms should be separate from the appliances used for ventilating the sanitary rooms." We should be inclined to add to this that the connection of the school-rooms with the lavatory vaults, by means of the foul air conduits, although the current may flow generally, or even constantly, from the rooms toward the vaults, will bring certain death, by zymotic disease, to a larger or smaller proportion of the occupants of the building. If any teacher doubts this, let him sprinkle a spoonful of cologne-water on the floor at one corner of his school-room, and compare the rapidity with which the perfume penetrates, by diffusion, the atmosphere of the room, with a movement of five feet per second, which is as much as could be expected, under favorable circumstances, of the air in a horizontal or descending conduit, under the aspiration of a heated shaft. We do not quite agree with Chief Wade, that the teachers can do much directly to secure proper ventilation in their school-rooms, for, as a rule, the last person from whom a school-committeeman will endure advice is a teacher; but they can do something indirectly, by instructing the committeemen of the future in the laws of the flow and diffusion of gases, and the effects of zymotic poisons on the system; and, in case their turn should ever come to sit on the committeeman's throne, they may, perhaps, remember the dismal headaches, the fretting, nervous children, and the oft-recurring vacancies in the classes, which are associated with the average school-room, and be disposed to do their part toward securing a better state of things.

THE New England Cremation Society held a meeting the other day, which was rather remarkable as showing the difference in the sentiments with which cremation may be regarded. Concerning the sanitary advantages of cremation, as a means of disposing of dead bodies, there can be but one opinion; but this form of disposal has, in many places, been seized upon by a class of infidel radicals, with whom no decent person would wish to be associated on either side of the grave, and adopted as a sort of badge of fellowship with them, and it is not surprising that, under these circumstances, they have found few converts. The New England cremationists, on the other hand, have treated the subject as one with which it was possible to associate the deep and tender feeling which, notwithstanding the efforts of the radicals, still continue to attend the termination of mortal life. At the recent meeting, Dean Hodges, of the Episcopal Theological School, at Cambridge, made a remarkable address, in which he compared, most effectively, the modern cemetery, with its avenues and lots, its pauper reservation, and its confusion of hideous monuments, with the old churchyard, and beyond that, with the columbaria, sheltered and cared for, in which the Romans kept the ashes of their friends. As a spiritual rite, Dean Hodges thought that cremation was better fitted than burial to suggest thoughts of the liberation and purification of the soul, and thus to inspire consolation and hope in those bereaved; and he proposed that, with cremation, churches should again become the last resting-place of the ashes of the faithful; or, if not, that a special building should be erected for the purpose, adorned with whatever art could offer in honor of the dead.

DEAN HODGES'S address certainly conveys to architects something like inspiration. Without entirely sharing his opinion of the unattractiveness of modern cemeteries, there can be no doubt of the charm of the monuments and tablets with which the English churches are so richly furnished; and

a revival of the old custom, so modified as to remove the sanitary objections to it, might almost revolutionize our church architecture. At present, our churches are, as Mr. Fergusson would say, the least "phonetic" of all our buildings. A stranger, ignorant of the circumstance that certain denominations, at present, affect special styles of architecture, would find it almost impossible, on entering one of our ecclesiastical buildings, to say whether it was designed for a synagogue, a spiritualistic temple, a Unitarian meeting-house, a Roman Catholic, Episcopal, Methodist, Baptist, or Lutheran church; yet the building would probably, in every case, be furnished with glass and mural painting, sculpture, and similar means of addressing the mind, to an extent unknown in any other architectural object. The reason for this curious phenomenon is probably to be found in the zeal with which the designers of church decoration avoid anything like sentiment or expression. To them, the angels and saints who watch over a congregation of the faithful are things of pure convention, which are most suitably rendered by caricatures of mediæval figures, as devoid of interest to any but archaeologists as if they were portraits of Egyptian mummies. It would be too much to say that the revival of the custom of commemorating the dead in churches would immediately inspire life into all the details of ecclesiastical architecture; but it would do a good deal. To the sensitive and sympathetic Americans, a figure of a wry-necked angel, set up in memory of some favorite of the congregation, would have something shocking; and an effort would be made to bring the effigy into better keeping with the idea of the person to be commemorated. Even now, there are many evidences, among the memorial windows in our churches, and the gravestones in our cemeteries, of the effort to give expression to the feeling with which the departed one is regarded; and the fashion, with greater opportunity, would spread rapidly, until, as we believe, the best of our churches would be as full of sentiment as the English ones. Whether a revival of religious faith would accompany the development of respect for the departed remains to be seen, but it is certain that the two things have, in times past, always been associated together. Perhaps, if Dr. Hodges's ideas should appeal to the public as they deserve, it might be possible to promote the object which he has in view by establishing a modern form of the ancient Parentalia. It would not be a very violent perversion of the Thanksgiving holiday to devote the ecclesiastical part of it to a review, in the Thanksgiving sermon, of the virtues of the departed members of the church. Most people like to hear historical sermons of this sort, particularly when their own ancestors form the subject of the sermon, and a great deal of good might be done by the regular annual recurrence of such days of retrospect.

WHAT admirable institution, the French Mutual Defence Association of Architects, is approaching its tenth birthday, having been formally constituted on the twelfth day of June, 1885. Since its foundation, it has had a steady growth, but within the past year it has, for some reason, received an unusual number of accessions, and now has a membership of something like four hundred and fifty of the best and most noted architects in France. It is hardly necessary to repeat, what most of our readers know, that this association was formed under the general law of 1884, authorizing the establishment of professional syndicates, for the purpose of defending professional interests in the courts or otherwise, when attacked in the person of any of its members. This object has been pursued wisely and successfully. The usual course is, when a member applies for the assistance of the Association in securing redress for wrongs, to require him to lay all the papers before its Judiciary Committee, which then determines whether the controversy is purely personal, or is one involving the interests of the whole profession. In the latter case only does the Association grant assistance. Usually, an appeal is made directly to the parties, under the advice of the standing Judiciary Committee, which includes several lawyers of distinction. Often, an appeal from so high a source is sufficient to secure the settlement of the affair; but, if not, suit is brought, the Association paying all expenses, including counsel fees, and carrying the matter to a decision. If suit has already been brought, the Association will, in its discretion, carry it on appeal to higher courts. At the time of publication, last year, of an interesting little history of the operations of the Association, thirty-one suits had been undertaken by the

Association for its members. Seven of these, relating to the services of architects in connection with public buildings, which had been decided by the Prefectural Councils against the architects, were, by the intervention of the Association, and at its expense, carried on appeal to the Council of State, and judgment obtained in favor of the architects, reversing the decision of the inferior court. This may well be called a triumph of professional association, and it is a triumph which nothing but professional association could have secured. Few architects are rich enough to carry their cases, single-handed, to the highest court, although it is well known that the highest courts generally treat professional men with more fairness and consideration than the lower ones; and the consequence is that the unfortunate architects submit meekly to an adverse decision in many cases where, if they could afford the expense, they might, by appeal, not only secure a favorable one, but establish the law in such a way that the inferior courts would have to regulate their decisions thereafter in accordance with it, to the great advantage of all the architects who might subsequently be engaged in a similar controversy. By means of their Association, the French architects have been able not only to secure favorable decisions, but to establish favorable laws; and, in so doing, they have benefited the profession throughout the world.

ONE of the most curious developments in regard to the recent railroad strike is the story, which is circulating through the newspapers, to the effect that Debs, Sovereign and others of the anarchist leaders, while their followers were stopping trains and burning railroad property all over the West, actually considered the question of removing in a body to some State blessed with a Populist government, and there proclaiming their independence of the United States. The story goes that "an army" was promised them, to assist in carrying out their revolution by force; but that, on mature consideration, they decided to postpone action for a time.

WHILE most people will laugh at the preposterous conceit which could produce such notions, it cannot be denied that, even if the story is not true, it might easily become true; and it may not be many years before the activity of the reckless mischief-makers who now find the people of the United States so easy to trifle with will have to be suppressed with unsparing hand. If the "chiefs of Labor" really believe one-tenth of the bragging assertions which they are continually making in public, they must imagine themselves to have absolute control of a force far superior to anything that the decent and reasonable people can bring against them; and from the sense of possession of overwhelming force to the desire to use it is but a very short step. Moreover, people with stronger heads than those on the shoulders of either Debs or Sovereign, feeling themselves in control of great physical force, might easily be led by the treasonable ravings of such men as Waite, of Colorado, to imagine that nothing but the appearance of themselves, at the head of their army of dupes, would be necessary to expel the decent people from a large part of the United States, and set up there a Populist empire, with themselves as dictators. The antics of the Populist State officers in many parts of the West show that nothing but the lack of the necessary physical force would prevent them from keeping themselves in office, if necessary, by exterminating their adversaries; and Governor Lewelling and his militia, or Governor Waite and his force of brigands from the silver-mines, aided by a strong contingent of train-wreckers, under General Debs, might desolate the West before they could be finally suppressed.

THE great preliminary competition for the buildings for the Paris Exposition of 1900 has been decided, by the award of first prizes, of six thousand francs each, to MM. Girault, Hénard and Paulin; second prizes, of four thousand francs each, to MM. Larche and Nachon, Bernard and Cousin, Raulin and Gautier; third prizes, of two thousand francs each, to MM. Esquié, Rey and Tronchet, Blavette and Sortais; and premiums of one thousand francs each to MM. Baumier, Louvet and Varcollier, Messon and Destourbet, Hermant, Mesves, Thomas and de Tavernier. More than six hundred architects applied for instructions for the competition, but only one hundred and seven actually submitted drawings.

COLONIAL ARCHITECTURE IN WESTERN MASSACHUSETTS.¹—III.

First Church, West Springfield, 1702. Barber's Historical Collections, 1839.

this was but an incident; no sooner had he a roof over his head than he turned to his real and abiding work that combined civil and ecclesiastical structure—the “meeting-house.” Indeed, in some instances, the church proved the occasion for the town rather than the town for the church.

This is not the place for a discussion of Colonial history: suffice it to say, that never, in modern times, has the connection between Church and State been more complete and intimate than in the earlier Colonial days of Western New England, and that probably the ratio *per capita* of politics and religion to the population has never been equalled. The colonists had most of them left the old country because they were unable there to be as active as they wished in those pursuits, and they made the most of their opportunities when they had the chance. So they built their meeting-house at the first possible opportunity, and not content, quarrelled on doctrinal points, divided their parishes and built again;—hardly waited to get comfortable homes in one town before they emigrated to the more remote wilderness and built a fresh meeting-house, or held town-meetings and voted to tear down the existing structure and build a new and larger one more fitting the needs and dignity of the town.

As a result of all this activity in the past, there are few ecclesiastical structures standing now of an earlier date than the first of the century, and it is to the town and parish records, one and the same, that of the oldest meeting-

houses. According to the above authorities, the first church at Northampton, the second, in Massachusetts, was logs with a thatched roof, part of the sill to the upper the builders were to be paid its completion.

The first church at West and torn down in 1820, was 40 cut of it in “Barber's Histori-

FAR be it from me to claim for my forefathers who dwelt in these western hills and valleys greater zeal in religion than possessed the souls of their brethren nearer the coast, but the proportion of white spires and belfries to pilastered mansions and gambrel roofed houses is greater, I dare maintain, in Franklin and Hampshire than in Essex or Middlesex Counties, account for it as you will. To provide a shelter for himself and his family was, of course, from stern necessity the first duty of the colonist. But

thority, the first church by-the-bye, west of Lancaster, built of squared 9' 0" high from the lower part of the “rassens,” and £14 in work or corn for

Springfield, built in 1702 feet square. There is a cal Collection” which I

weather-vane, with the date of its erection cut in it, over which a copper weather-cock swung. The first church at Hatfield, built in 1668, was 30 feet square. The reason for building this last church—because the dwellers across the Connecticut found that the worry of leaving their homes on that side unprotected on Sunday distracted their attention from the services—throws a grim and significant light on the times. The first church at Deerfield was “of the bigness of Hatfield House,” and the first church at Springfield was a square one. These earlier churches were almost always built in the centre of the long wide street, and were entered from at least three sides and sometimes four.

From the ground dimensions given above, it is probable that nearly all had, like the West Springfield church, steep hipped roofs, and the records in many instances state that these roofs were “thatched,” but with what material is not quite clear.

In the next generation of churches, the square form disappeared and, as a natural consequence, the gable roof replaced the hip. The church was moved, in many cases, from the centre of the street into line with the dwellings on one side, and then the tower at the front appeared. Of this type of church, I know none better than the one still standing at Farmington, Conn., so near the Massachusetts line that it may be included here. The general plan of the church is still nearly square, the pulpit being on the long side of the church and the galleries continuing about three sides. There are three entrances, one in the tower, one at the opposite end and one on the side opposite the pulpit. The body of this church is absolutely plain save for the entrances, which have “fronts” like the older houses throughout the region. The tower is very simple too, but as it rises from among the surrounding elms it is very beautiful. The slender spire is carried by the eight columns which rise from the belfry-deck, and has been so firmly tied to them that 120 years of New England wind and storm have only succeeded in moving the whole

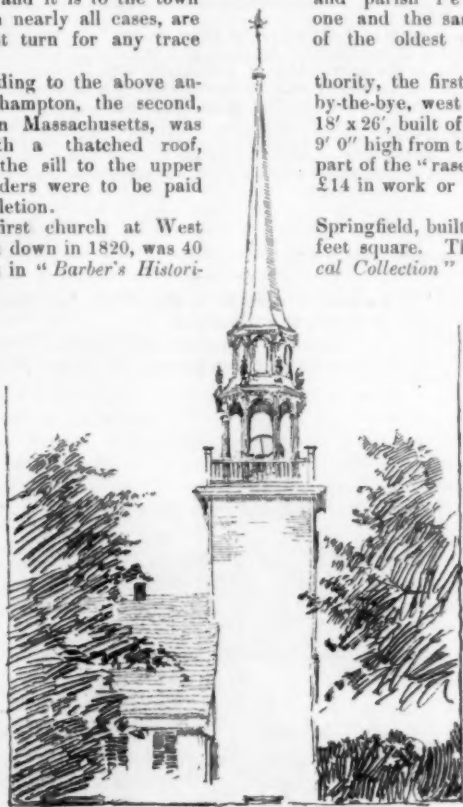


Ashfield, 1812.

tower four inches out of plumb. These same slender posts run down into the main body of the tower for at least 25 feet, braced and mortised, and pinned and strapped together, while the tower itself is anchored to the main body of the church by oak beams, 14 inches square, which run completely through the tower and nearly half way through the church. Investigation of the construction of the spire itself is an object-lesson in the thoroughness and care with which some, at least, of our forefathers did their work. Every stick of timber is marked at either end and the corresponding mark appears on the stick which joins it. Even the edges of the nail-holes in the wrought-iron straps and the heads of the clumsy hand-wrought nails are marked, so that the right nail should be without mishap driven into the right hole.

But this church is exceptionally well built, even the ridge-pole has only a sag of 1½ inches in the whole length of the church. Nearly one-half of the shingles and nearly all the clapboards now on the church were put there when the church was built, and the successive generations of white paint in some places have left a covering nearly ¾ of an inch thick. The frame is, of course, of oak. The central pole of the spire is a single white pine stick and all the timber is hewn. The church was built about 1750, and is similar to the one at Weathersfield, Conn.

Although, chronologically speaking, the present church at West Springfield can hardly be classed with the one at Farmington, it is not far removed from it in its general character, but the form has undergone some slight changes in that it is longer and narrower, and that the three entrances are all at the front. There is very little of interest in the main body of this church and the spire here is very like the one at Farmington—a little more elaborate in its design; similar, but hardly as good in its proportions. The bell in the tower



First Church, Farmington, Conn., 1750.

have re-drawn. John Allys, of Hatfield, was the architect, and, for its day, it was a very pretentious church, its extreme height being 92' 0", and its topmost point surmounted by a large sheet-iron

¹ Continued from No. 977, page 100.

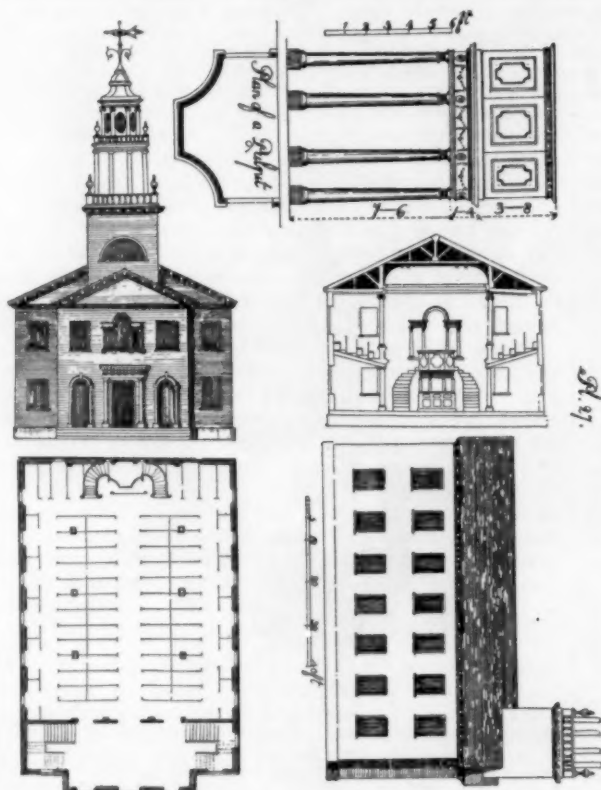
was re-cast from the one that was in the old building. The church was built in 1802, and up to that year the parish had used uninterruptedly the first church mentioned above, a period of 100 consecutive years, and the present one bids fair to certainly complete its own century of life.

In the little town of Ashfield, in 1812, was built the church which now does service as a town-hall. It was built by John Ames of the neighboring town of Buckland, and is said to have been a copy of the church in Northboro which Ames built there. He committed suicide before the church was completed, rumor says, because he feared he was going to lose money on the contract. The church stood, originally, at the top of a very long and steep hill, nearly half a mile from its present location and was moved bodily, spire and all, to the main street of the village.

Here there is a change from the earlier type noticeable in the spire, the tall and slender form having given place to the double-curved turret. The former shape seems to have been abandoned after 1800, and the more elaborate Renaissance tower takes its place.

I have re-drawn another plate from Benjamin's book which seems to have some bearing on this Ashfield church. The church which he illustrates suggests the one in Ashfield, both as to the design of the body of the church and the spire, so that it is possible that local authorities may be mistaken in assigning the design of the church to the Northboro' one.

Just about this time there was the same break in the Colonial work



From "Town and Country Builder's Assistant," A. Benjamin, 1797.

in this region in respect to the churches that occurs in domestic work, that is, the transition from the good work to the work which, while it is not distinctly bad, is not so good.

The three churches already mentioned make a reasonable use of the materials of which they are built. The wood mouldings, casings, architraves and pilasters are none of them wide enough to be unsubstantial, and are generally constructed with some appreciation of the fitness of things, but from this time on, more attention was paid to "correctness of style," I suppose, than to the legitimate use of materials.

The first church of Northampton [See Illustrations], begun in 1811 and finished in 1812, illustrates this very strikingly. It was designed and built by Captain Isaac Damon, a young man of twenty-eight, and was his first independent work. He had studied architecture with Ithiel Towne, of New York, and came to Northampton from that city to make the plans and direct the work. This church was undoubtedly the most elaborate of any which had been built in Western Massachusetts, and I know of none anywhere in the State which surpassed it. It was a large church holding 2,000 people, and was in thoroughly good repair in 1878, when it was burned. The church which it replaced, from the description which remains, must have been similar to that at Farmington, and on the completion of the new building, the following advertisement was published concerning the old church:

A BARGAIN.

The subscribers, being a Committee duly authorized for that purpose, offer for sale the

MEETING-HOUSE

now occupied as a place of Public Worship in Northampton. The frame is perfectly sound and firm, and many of the materials of which it is composed are as good as new. Any Town or Religious Society in the vicinity



First Church, West Springfield, 1802.

that may be in want of a good and commodious House of Worship, will find it much for their interest to call and examine this building. Its dimensions are 70' x 48'.

In various parts of the Country, Meeting Houses have been taken down and removed a considerable distance, and thereby an immense expense been saved to the purchasers. A gentleman well acquainted with this business, who is furnished with all the machinery necessary for this purpose, is now employed on the New Meeting House in this town, and may be conversed with, and, if necessary, may be engaged to accomplish the object. It will be ready for delivery as soon as the new Meeting House is completed, which will probably be by the first of November next. For terms, which will be found very easy and advantageous, apply to

JOSEPH COOK,
ABNER HUNT,
OLIVER POMEROY,
Committee.

NORTHAMPTON, January 8, 1812.

But no society seemed to care for a church at that time, so that eventually the old church was destroyed.

In 1818, the First Parish in Springfield appointed a building-committee to procure plans for a church having "a decent plain front,"



Blandford Church.

and appropriated \$15,000, together with what the old church would bring, for the building thereof. This appointment resulted in the engagement of Capt. Damon to build the meeting-house still standing

on Court Square in Springfield, a building [See Illustrations], perhaps, less interesting as well as smaller than its Northampton neighbor, but with an exceedingly good tower. The church is still used by the First Parish of Springfield, and it is fortunate that no attempts have been made to improve it externally during the last 70 years, except for an occasional coat of paint and re-gilding of the mammoth rooster at the top.

In Lenox, in 1814, a new meeting-house was built of the same general type as these later buildings, the main difference being in the arrangement of minor details and belfry, and in the same town, in 1813, the County Court-house [See Illustrations] was built. This is one of the very few brick buildings having any pretension to architectural design left to us. This, again, was designed and built by Capt. Isaac Damon, who spent a year in Lenox on the work. Among other very interesting papers which are now in the possession of Mrs. Smith, of Northampton, Capt. Damon's daughter, is a drawing of this Lenox Court-house, which, in its comparison with the building as it stands to-day, is interesting. Evidently, this was a preliminary sketch, for there were several changes made in the details of the building. The cupola is elaborated, the balustrade upon the roof is changed, and there are several other points of difference. The filling-in of one of the windows and the changing of the first-story window to a door were not contemplated on the original plan, but are later work.

Capt. Isaac Damon appears to have been the leading architect of Western Massachusetts from 1812 to 1840, his influence on public and ecclesiastical work being even greater than Benjamin's on domestic. He designed and built at least thirteen churches in this region and nearly all the town-halls and court-houses; his specialty, however, was bridges, and there are several of his drawings still preserved—rendered in a manner that indicates a most thorough training in draughtsmanship—of the old-fashioned bow-string truss wooden bridges. And of the bridges themselves there are still more left, nearly all those over the Connecticut from Charlestown, N. H., to Connecticut, a half dozen across the Penobscot, others over the Hudson, the Mohawk and the Ohio—in all, a quarter of a hundred were built by him, and a large number of them are still in use.

This elevation of a church is re-drawn from one of his original drawings: where this particular church was built—if in fact, it was built at all—I do not know. It resembles closely any one of a half dozen churches erected in Hampshire and Hampden Counties between 1820 and 1840.

The Congregational church at Ware [See Illustrations], though a little later, is strikingly like the preceding churches in general design and is a very late example of this "transitional" style, for most of the churches built as late as this (1826) were much more like the annexed elevation of Capt. Damon's work.

The churches which have been mentioned above, like the houses in previous numbers, I have chosen as being types which illustrate the changing phases of our Colonial work. There are other houses and buildings which have more historic interest, others that are conspicuous through some strongly-marked peculiarities, for there were architectural "freaks" one hundred years ago as there are to-day; but these have no connection with the general development and it is only with that that I have attempted to deal.

The bits of history which appear from time to time in connection with the building of meeting-house or school-house often have a more than local interest. The for the meeting-house 1762, shows that con-

those days, were apt to completion of their "Know all men by Thomas Dick of Pel-of Hampshire, In consideration of . . . covenant and agree to said town in the place now stands it being 18' 0" post. To cover fered boards and the shingles and to put up



Lenox, 1815.

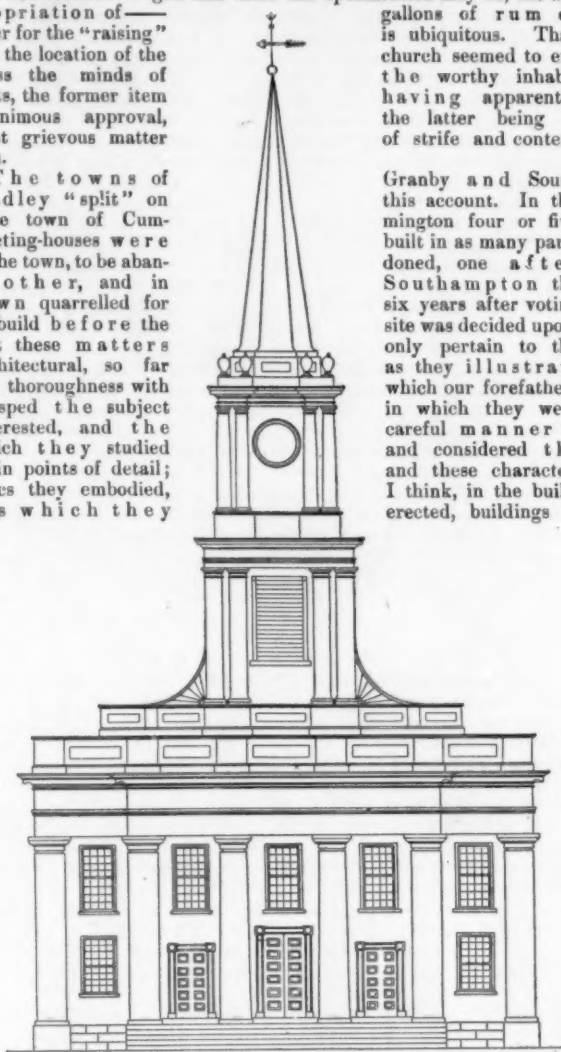
lay the lower floor with boards and sleepers or joist well supported and to complete the same workmanlike by the last day of September

next. Otherwise on failure thereof to pay said Treasurer 26d. for use of said proprietors.

Signed, THOMAS DICK.
N. B. The proprietors to find boards, nails, shingles and rum for the raising."—June, 1762.

All through the old records and town histories these contracts occur, and however slight and brief the specification may be, the appropriation of—cider for the "raising" and the location of the gross the minds of tants, the former item unanimous approval, most grievous matter tion.

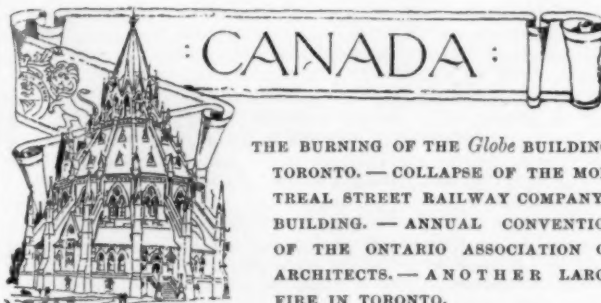
The towns of Hadley "split" on little town of Cum-meeting-houses were of the town, to be abandoned, and in town quarrelled for to build before the But these matters architectural, so far the thoroughness with grasped the subject interested, and the which they studied main points of detail; istics they embodied, ings which they



Elevation of Church, from Original Drawing. J. Damon, Architect. Whole height, 124 feet.

which the construction and material must in many cases have been experimental, but which stand to-day monuments to the soundness of their judgment.

GEO. C. GARDNER.



THE BURNING OF THE *Globe* BUILDING, TORONTO.—COLLAPSE OF THE MONTREAL STREET RAILWAY COMPANY'S BUILDING.—ANNUAL CONVENTION OF THE ONTARIO ASSOCIATION OF ARCHITECTS.—ANOTHER LARGE FIRE IN TORONTO.

ON the sixth of January, very early in the morning, Toronto was visited by the worst fire it has experienced since the disastrous conflagration that swept away wharves, boat-houses and freight-sheds ten years ago. This recent fire was in the heart of the city, and began in the basement of the building of the *Globe* newspaper. When discovered by a watchman, it had apparently assumed considerable proportions, for as he opened a door communicating with the basement, on the ground-floor, the volume of flame drove him back and rushing up the elevator-shaft and staircase soon ignited every floor, in a very few minutes bursting from every window. Being

Sunday morning, the building was fortunately empty, for so rapid was the work of destruction that few of the employes could have escaped had they been at work. The building proved, what it was all along known to be, a veritable fire-trap. It was originally three stories high, but about three years ago when the *Globe* took possession of it, two other floors were added and a big mansard roof. The walls were very thin, and all that was done to strengthen them was the erection of iron columns inside, to which the old walls were bolted midway between the floors, and these proved to be altogether too slight. In less than an hour the whole side of the building collapsed, killing one fireman and injuring five others, including the Chief of the Brigade. The firemen were at the scene in two minutes after the alarm had been sounded, although they were at first misled by the confused alarm sent in, as the watchman in his fright appears to have used the alarm-signal like a bell-handle, instead of being content with one pull. To the consternation of the brigade, it was found that the water would not reach above the third story, and, as through the parsimony of the City Council there was no steam-pump, every effort was made to take the hose to higher points, but to no purpose, and the fire burned away at its own pleasure. Those who witnessed the fall of the building said that the volume of flame that rose in the air to at least twice the height of the building was the grandest sight conceivable, a solid mass of smokeless flame, making all the neighborhood as bright as day. The next-door building to the south was completely gutted, while the flames leaped the streets to the north and west of the block, and on the north side destroyed a large restaurant-building, and on the west a great wholesale warehouse of seven stories, recently completed and occupied the week before. Had it not been for the fall of snow the day before, nothing could have saved all that portion of the city. Burning fragments fell thick on all the surrounding roofs far out of the reach of water (principally flat roofs of tar and gravel), but were quenched in the snow and did no harm. One small frame building was crushed by the fall of a wall, but the firemen were able to prevent the spread of the fire wherever their hose would reach, although they were powerless to stay the destruction of the building already afire on their arrival.

The fire teaches useful lessons, if any one in authority will be wise enough to learn them; lessons that should have been learned long ago and were learned by everybody else. The bad management of the water-works was brought into a strong light. The urgent requests made from time to time for a steam-pump, but always refused, were shown to be wise, but, more than all, the miserable system (if system it can be called) of inspection of plans for buildings to be constructed, and the wretched inefficiency of the Building Inspector's Department have been again demonstrated. In the building in question, in which a large number of employes were collected every day, the only precaution against fire was a small outside iron staircase; internal partitions were all of wood, even to the elevator-shaft and staircase; neither the value of the newspaper plant nor of human life entered into consideration with either proprietors or building inspectors. The fire-insurance companies fought shy of the building and would only take small risks, and so the inevitable happened and it has been wiped out.

The collapse of the Montreal Street Railway Company's building, in course of erection, is another catastrophe to be chronicled, and like the former was due probably to carelessness, but of another description, although it shows again incompetency in the inspection of buildings. This accident resulted in the death of three workmen, and the coroner's jury brought in a verdict against the architect, the contractor for the ironwork and the foreman in that contractor's employ. "We think that the collapse was due to the lack of reasonable precaution that should have been exercised in the construction of the said building" by the above men, and they added, "We cannot excuse them for their laxity in the performance of their duty. We recommend the civic authorities that they amend the regulations which relate to buildings in Montreal, in order that catastrophes may be avoided in future." Criminal proceedings have been taken against those implicated in the verdict, who, admitted to bail, await their trial.

The Ontario Association of Architects proposes to hold its annual convention in Toronto, on the 15th and 16th of January. According to the resolution carried at the last convention, one feature of this meeting will be the exhibition of drawings of members' work (prepared by Mr. Wright of the School of Practical Science as slides for his stereopticon) for the purpose of "eliciting an exchange of friendly criticism." Papers are to be read, principally by gentlemen who are not connected with the Association, but whose work bears upon the work of an architect, while only four short papers are to be read by members. This is a feature of considerable importance, and the Council have herein taken a very wise step. By this means, the value of the convention as an "educator" will be greatly enhanced and its usefulness considerably enlarged. One paper will be "Electricity applied to Buildings," by an electrical engineer; another "Sculpture, its Relation and Application to Architecture," by a sculptor who is, perhaps, the first in the Dominion. Improvements to the Act of Incorporation will form a part of the discussion.

Some twenty-four hours have elapsed since the above was written, and in that time we have had another and a still greater fire in this City of Toronto. The westerly course of the Sunday morning fire terminated against the side wall of a seven-story warehouse; the recent fire, hardly yet out, broke out in a five-story office-block barely

50 feet farther west. This was only completed about eighteen months ago, and therefore ought to have been fairly fire-resisting in its construction, but no sooner was the fire discovered than the whole building was enveloped in flame. In the top story lived the caretaker and his wife (who was an invalid) and her nurse. The invalid wife was in bed, and so rapid was the conflagration that she only had time to rush to the window and with the courage of despair throw herself down into the net held by the firemen below; the nurse and the husband lowered themselves, hand over hand, down a wire to the top of a telegraph pole, from whence they also dropped. The water-supply was no better than it had been five days before, and nothing could be done to save the building. At the rear of this building was a narrow lane. The fire soon ignited five warehouses in a block of about ten, and, demolishing these, leaped an eighty-foot street and began to destroy the warehouses opposite. The firemen were powerless to put out the fire in the buildings, where it had got a good hold before they were able to defend them, but they succeeded in saving those newly attacked and in thus arresting the terrible progress.

A really ludicrous incident, even in the midst of the terror, but for which no blame can be attached to the actors, the firemen, is worth recording. It has been mentioned that the City Council has always refused to purchase a steam-engine, trusting to its supposed-to-be-efficient water-system. A firm of engine-makers having exhibited their really excellent engine, with a view to getting the city to buy, kindly said that they would leave their engine in one of the city fire-halls and the firemen could test it themselves at their next great fire. It was not produced at the Sunday fire, but when the flames were found to be baffling the firemen's best efforts last night, some one be-thought himself of the "steamer," and it was promptly fetched to the scene of action. It was taken to a hydrant but no one understood how to get the boiler filled and, moreover, the wheels refused to go round. The experimenters came to the conclusion that it was frozen up, so the horses were rehitched and the engine taken to some mills not far off, where hot water and torches were obtained to thaw it out. Even then, the engineers could not find out how to fill the boiler, so the safety-valve was screwed off and water poured in through the steam-pipe till it showed in the gauge-glass. At last a fire was kindled, and in eight minutes the steam-gauge registered 60 pounds pressure. But by this time, the rain having begun to fall in torrents and the heroic work of the firemen beginning to have effect, it was decided to let the "steamer" go home. That no blame can be attached to any of the brigade for this ignorance in the manipulation of a "steamer" is not to be wondered at, for it must be remembered, as said above, a "steamer" is not numbered among their appliances. The general opinion is now that a "steamer" will be bought.

A singular sight after the fire was the front wall of the first building attacked, bereft of its ordinary supports, apparently fighting against the inevitable, and trying to keep itself intact. A steady wind was blowing, and for hours this "wall"—pierced with a dozen windows in a row, in the top story, and consisting more of a "void" than of a "wall," for the two stories below—swayed to and fro, threatening every minute to overreach the point of equilibrium. Its movements were very remarkable, not the least remarkable being the ripple-like tremor that passed from one end to the other, as in a drop-curtain affected by draughts. It succumbed about thirteen hours after the fire was out. The total loss occasioned by the two great fires is put down as about \$2,000,000, but the insurance amounts to only one-quarter (or even less) of that amount. It surprises one to read how little insurance was put upon both buildings and stocks, but it does show the value of proper inspection of buildings as executed in this case by the underwriters, who evidently regarded the buildings as dangerous risks, and refused to accept them for more than a trifle.



THE YEAR '94 BETTER THAN THE PREVIOUS ONE.—THE LAST OF THE VERY HIGH BUILDINGS.—THE TEMPLE OF MUSIC.—ST. MARTIN'S CATHOLIC CHURCH.—SUIT OVER THE PUBLIC LIBRARY FOUNDATION.—MONUMENT TO J. W. ROOT.—THE CENTRAL ART ASSOCIATION.—THE ARCHITECTURAL SKETCH-CLUB.—THE GOVERNMENT BUILDING.

WITH the beginning of a new year, we look back over the one just completed and find that, in spite of extreme financial depression, there has been an improvement in building interests over the year 1893. The local press, in its general review of different branches of trade, sums up the grand total of building-permits for ninety-three as 9,359 against the number 9,736 for the year just ended. The total of the frontage of the building of ninety-four as compared to ninety-three makes a better showing by over four thousand feet or nearly a mile, and while in ninety-four \$33,805,565 were put into building operations, in ninety-three only \$28,708,750 were devoted to a similar purpose.

Prominent among the large buildings of this year are the Marquette, the Champlain, the Fort Dearborn, the Reliance and the Temple of Music. These buildings were all erected on permits issued under the old ordinance, which did not restrict the height of a building to ten stories, as does the later one. They are probably the last structures to be erected with such permits and consequently the last of our very high buildings. Though nearing completion, these structures are hardly in a state to judge of their interiors, though their exteriors loom up in large enough proportions. The Marquette certainly promises much in the way of interior adornment, and if rumor can be relied upon, the names connected with this part of the work should be a guaranty of its excellence. Named for the famous French priest and explorer, Père Marquette, the central entrance-hall will draw from scenes in his life for the subjects of its decorative work. This decoration will consist of mosaics and bronze bas-reliefs, the mosaic-work being in charge of Louis H. Tiffany. Four mosaic pictures will adorn the front of the balcony which surrounds the hall, while between them, still in mosaics, are panels, with the coats-of-arm of Marquette and other early explorers, together with some of the arms and emblems of some of the Indian tribes. There is also being designed for this same hall, by Mr. Tiffany, a ceiling, which according to report is to be opalescent in character and of fine effect. M. Edward Kemeys, whose wild American animals on the bridges of the World's Fair will be remembered, and whose studies of American Indians are justly recognized as works of great excellence, will have charge of much of the bronze decoration. Over twenty heads of early Indian chiefs, explorers and missionaries will come from his hand to decorate in bas-relief the bronze elevator-screens. Two large bronze panels in relief will decorate, on either side, the entrance to this central hall. These are to be the work of Mr. MacNeil. The subjects will be Marquette and Joliet launching their canoes on the headwaters of the Wisconsin River, Marquette's discovery of the Mississippi, the third, some scene from the winter experience of 1674, which the French Father spent in Chicago, and the fourth, his burial at Point St. Ignace.

All this interior decoration will hardly be able to offset the absolute lack of any architectural features in the exterior. Built of dark terra-cotta and brick, the two outside walls loom up on high, almost unbroken by string-courses or any interruption to the ever-repeated rows of windows with the long piers between them, till the eye reaches the cornice, which is so far above the daily walks of men that most decorative attempts are wasted. There has been a little effort to break the general monotony of the façades by having some of the piers laid in alternate receding and projecting courses. An entrance on the east side would be expected to form an architectural feature, but instead of a thing of beauty, it certainly appears an almost unstudied creation, whose heavy, massive piers rise with neither cap nor base.

It is much to be regretted that in most of the recently erected high buildings, any attempt at architectural effect has been abandoned. The materials used are generally lighter in color than formerly, but no change or development is seen in the actual system of design. As engineering feats, they are, without doubt, very successful, but as architectural ones, they are woefully unstudied. There seems to be a hopeless settling down to the idea that a large office-building must be a huge box pierced with holes at regular intervals. There is no grouping of windows attempted, no relief from the rows and rows of stories, one placed over the other, and, in fact, the problem how to build a "sky-scraper" that may have some architectural features seems to have been practically abandoned, if we are to judge from many later results here. When ornamentation is introduced, it is often in the form of applied ironwork which has no *raison d'être*, if the question of its beauty be raised. There seems to have been, generally, no development on the lines of beauty of the essential architectural features. Occasionally there is erected a building when it has not been enough for the designer that four walls should rise heavenward, enclosing the required number of rooms, and containing on the surface enough apertures to light this same number of rooms. The Temple of Music is one of these exceptions, and it is a delight to look upon a building on which it has been thought necessary by the architects to spend enough time and thought to make of it a successful creation. In this structure, three shades of brick and terra-cotta have been selected with artistic feeling for the building material. These shades are very harmonious when taken together and separately are pleasing. Furthermore, no opportunity is lost to transform a moulding, a string-course, a cornice into something ornamental. Where columns are introduced, they have been carefully studied so as to become something effective, and in the entire façade of the building the architectural parts have been thought out with such care that the introduction of a feature like the well-designed balcony on one of the upper stories, becomes something which adds to the picturesqueness of the general effect rather than appearing as a merely trivial feature.

The structure known as the Fort Dearborn Building is hardly far enough along to be judged as a whole, the upper and lower stories being still in their winter coverings of wood; but in this building, at least, the grouping of the windows is more successful than in some of the other larger buildings and shows study.

A very curious building is that known as the Reliance, inasmuch as its two façades are composed of white vitrified terra-cotta. The effect is not so startling as it would seem, but, most assuredly, treated as the material is in this mammoth sky-scraper, it is possessed of few

charms. In our climate, it may, however, prove to be something of great value, and the belief that it will stand washing, if substantiated by practice, may make it a favorite material in our dirty city. It is certainly an interesting experiment, being probably the first building in the world built of such material. This is the structure before referred to in these letters, where the admirable method in the building-arrangement made it possible that the business of a large retail dry-goods store could be carried on in its lower stories while the fourteen upper ones were being constructed. It is the last building on which the late John W. Root left the stamp of his own individuality. The lower stories of Scotch granite are noticeable, and considering the amount of plate-glass required in them, are a most successful solving of a difficult problem, but it scarcely seems possible that the upper stories as they now stand were not materially changed from any design Mr. Root may have made for them. Very different in character are they from the good work which was done in the Masonic Temple, the Woman's Temple and the Rookery building.

A rather unusual church structure for this part of the country will be Saint Martin's Catholic church, which is about to be erected in the extreme southern part of the city. It is the intention to make it a pure type of German Gothic, which will be somewhat of a relief from the Chicago Gothic, which hath a prominent place here in our midst. If report speaketh truly, this church with its spire over 200 feet high, its ribbed and vaulted ceiling, the tracery of its chief façade, will be by far the richest specimen of ecclesiastical architecture in the city, and which, on its completion, will be most interesting to see. The church will have a frontage of nearly 100 by 175 feet, and, as mentioned above, will have a tower over 200 feet high. The foundation of the church proper is of concrete, steel beams and dimension stone, while the tower, which will in reality be separated from the church, though appearing to be part of it, will have a foundation varying somewhat in character. The material used will be buff Bedford stone. The plans were made in Germany in Mainz, and are being executed by a Chicago firm.

A good deal of interest has for the last month been taken in a suit being brought against the Public Library Directors, by the contractors for the foundations of the new building on the Lake Front. The suit was begun early in December and has just been decided in favor of the plaintiffs, allowing them the full amount of their claim, entirely to the surprise of the defence. The entire contract amounted to \$159,000, and of this all but \$24,717 was paid to the contractors. This amount was kept back by the Board on account of delays in a time contract. The contractors, on the other hand, maintained they were obliged to expend large sums of money in re-driving piles, which were first accepted by the architects but, later on, condemned by them. They furthermore claim \$16,000 for extra piling which the nature of the soil rendered necessary. All told, the claim of the contractors amounts to \$49,351. This claim was contested by the Library Board on the ground that the work was done under contract and that consequently no extras could be claimed.

As above stated, the jury returned a verdict in favor of the plaintiffs, and the defence has made an appeal for a new trial. One of the chief arguments used in this motion for a new trial suggests the fact that the directors are taking refuge in the "baby act." This argument is, that the verdict of the jury should be set aside, because the extra work was not authorized by law. The statutes do not authorize the Library Board or the Council to order work exceeding \$500 in amount without asking for bids in the regular way. This looks somewhat trifling, and the final outcome of the disagreement is awaited with interest by those not personally connected with the matter.

There has been erected in Graceland Cemetery, a monument to the memory of John W. Root. It is a simple Celtic cross, of Scotch granite, the design taken from the relics of the Druids in Argyllshire, Scotland, and said to closely resemble one known as Saint Martin's, at Iona. It is, at least, a cross of the well-known Celtic character. In the carving which decorates the stone, the old runic symbols of immortality are mingled with designs typical of the life and work of the man whose grave the stone marks. In the centre of the cross, curiously enough, on a smooth surface there is carved one of Mr. Root's architectural designs, an entrance-way, on which he was at work at the time of his death. The inscription at the base of the cross is carved in old English characters:

John Wellborn Root

Born January 10th, 1852.

Died January 15th, 1891.

There was started in our city last year an organization to be known as the Central Art Association. The Association had for its object, first, the dissemination of a certain amount of art education through the smaller Western towns where few examples of true art are seen or appreciated, and second, the patronage of typical American art, or, more especially, Western art. This second object has perhaps been emphasized by the president of the Association, Mr. Hamlin Garland, more than the first. It most assuredly seems a step in the right direction, and one which, if successfully carried out through the wide area of our "vast and glorious country," would surely give more interesting results than if Breton peasants or Normandy fishermen could be painted by every artist who happened to have had the misfortune to be born in America,

most anywhere between Eastport and Santa Barbara. As mentioned in last month's letter, as judged from a recent exhibition, American art is running riot with French methods, French subjects and French manner of treating these subjects. But here steps in the Central Art Association, and gives us an exhibition in one of the studios, of the works of five men from Indianapolis, and we blush for our provincialism that we thought no balm could be found in this Gilead, when we see this really fine group, full of spirit, strength, individuality, the work of men who both know how to paint and draw, who are advanced without being slavish imitators of artists who are supposed to be leaders in the highest art circles. Much of their originality lies in the fact that they are distinctly American; and what is better still, unblushingly local. The work of the Association in giving a wider art cultivation through the smaller towns consists of sending collections of pictures for exhibitions. In a recent circular published by the Association, the following statement is made:

"The Association has already put special exhibitions of American art in Memphis, La Crosse, Madison and Lincoln, and arrangements are nearly completed for Kansas City, Topeka and other interior towns where high-class exhibitions have been hitherto well-nigh impossible.

"In addition to this work we plan to give a series of Special Exhibitions, in Chicago, of progressive American painting and sculpture, and we ask herewith your support in our plans.

"This first exhibition has special significance. The history of this 'Indianapolis Group' exemplifies all the difficulties in the way of the development of a national art, and foreshadows its ultimate achievement. These men faced apparently hopeless conditions bravely. They were isolated from their fellow-artists, they were surrounded by apparently the most unpromising material, yet they set themselves to their thankless task right manfully, and this exhibition demonstrates the power of the artist's eye to find floods of color, graceful forms and interesting compositions everywhere."

A rather unusual and unique feature of the exhibition was the catalogue. Aside from the usual names of the artists and pictures, with their corresponding numbers, was a critical review of the merits of the works exhibited. This review was put in a shape to catch the unwary and ignorant public, and decoy it into a little knowledge before it was quite aware. The front page of the catalogue bears the title "Five Hoosier Painters: Being a Discussion of the Holiday Exhibit of the Indianapolis Group in Chicago, by the Critical Triumvirate." The Critical Triumvirate consists of a Novelist, Sculptor and Conservative Painter, and the "discussion" consists of a conversation by these three, a conversation critical one moment, jocular another, and dealing with facts the next.

In the early part of this month, the Architects' Sketch-club held the formal opening of its new home on Michigan Avenue, the event being combined with the sixth annual exhibition for the Clark competition. The members of the Illinois Chapter of the American Institute received invitations to be present, the chief event of the evening, aside from the awarding of the prizes, being a paper by Mr. Daniel H. Burnham on the "World's Fair." The subject for the competition was the façade of an Art-club House, and nearly seventy competitive designs were shown. The first prize, a gold medal, was awarded to Mr. Nelland Hirsch, of Cleveland, his façade being in the Doric style. The silver medal, the second prize, was given to Edwin R. Clark, of Lowell, Mass., his sketch being a Corinthian façade, while the third prize, the bronze medal, went to a Chicago man, Ernest F. Guilford, for a Spanish design in black-and-white. There was displayed this evening the large silver cup, which was given to Mr. Burnham at the New York architectural banquet, in recognition of what he accomplished in making the World's Fair the architectural success it was. As a fitting feature of the evening, the bronze bust of John W. Root, which was presented to the Club some time ago, was given a place of honor in the decoration of the Club-house. The gold medal, which last spring was awarded to Hugh M. G. Gardner of this city, for the most meritorious exhibit, was presented to that gentleman during the evening.

Matters have grown so bad in the Government building, that is, the Post-office and Custom-house, that a meeting of citizens has recently been called to talk the matter over and arrange for a delegation to be sent on to Washington to petition that an appropriation be not only made, but made quickly, so that a new building may be forthcoming. Mr. Burnham, President of the American Institute of Architects, was present at the meeting, and was asked to give his opinion on the probable cost and requirements of the proposed building. Postmaster Hessing made an interesting report showing the state which the present building was reduced to, and disclosed facts which were a surprise to a public which thought it knew the worst of the old shell which houses Uncle Sam's precious mail-bags and the 2,300 employés who handle the mail.

Mr. Hessing said, "There are times every day when it is a physical impossibility for the force engaged to do the work, because we have not sufficient working-space. I might be given a thousand more clerks and I could not put on another one in the building. When this building was constructed, Chicago had 400,000 inhabitants, and to-day it has 1,700,000, with the same working-space. It stands to reason one cannot get good service in this building. It is an utter impossibility, and if ever there was a time, it seems to me, that was opportune to press this matter, and if there ever was a crying need for a new building, it is to-day. The Health Department, shortly

after I took hold of the office, had the building inspected and condemned, but being a Government building nothing was done. Were the same conditions to exist in some of our great wholesale houses, the building would have not only been condemned, but no business would have been allowed to have been carried on there. Why also should the Government steal space from Jackson Street in which to accommodate its wagons? This difficulty can be remedied by concerted action and energetic proceedings on the part of yourselves." Mr. Hessing further added:

"You all know it [the Post-office] is a ruin. You all know that life is not safe in that building, but none of you know in what a wretched condition the building is, and none of you appreciate the cruelty to human beings which is practised by the Government in putting into the walls of the basement about four hundred employés. It has never had a ray of light or a breath of fresh air. When there is a heavy rain, men standing at the newspaper desks are working with human excrement floating around. There is not a day but what some poor clerk drops from sheer exhaustion. I have had at least a dozen physicians' certificates—yes, a great deal more than that number of physicians who said to me, 'Mr. Hessing, this man must be transferred from that department, or die.' There has been a large number of deaths attributed solely to the fact that men have been compelled to work in that basement. On the first floor, which you might say was fairly habitable, the light is so poor from October first to April first, that there never is a moment but what every possible light is put on. Our working-space is utterly inadequate. We are hampered, and it is nothing short of a miracle that the postal-service is as good as it is. If we had the proper facilities and a building such as we ought to have, the Government would save, at least, ten per cent for clerk hire.

"Between 4.30 and 7.30 in the afternoon, the volume of mail handled in this office is larger than in any other office in the world, except London. There are forty great big trucks driven up there to the building, waiting to dispatch their mail. We cannot do the work under the present circumstances. Not long ago, a firm sent in 500,000 circulars at 4.30 in the afternoon, and we couldn't get them out. You can imagine with what difficulties we have to contend. The sick-list at this office is unusually large and easily noticeable."

Mr. Burnham, being called upon, gave his ideas as to what the Government building should be, so as not only to provide for the present needs, but to be suitable twenty-five years hence. Mr. Burnham thought the building should be 130 feet high, as near as he had figured it out, covering practically the entire square, and if constructed as it should be, so that neither the interior nor exterior should be without dignity or ornamentation suitable to a building of its character, it would cost about \$7,000,000. He said it would be impossible to erect a building of the dimensions he gave for the amount appropriated in the McGann Bill, unless it were made extremely plain, both in its exterior and its finishings.

There was a general feeling at the meeting, that it would be wise to build such a structure as could be accomplished with the present appropriation, which should be sufficient for present needs, and let the future look out for itself.

As a result of this meeting, two resolutions were passed. One provided for a committee of five to go on to Washington to urge the importance of an appropriation and, in fact, to take all the necessary steps to secure the passage of the McGann Bill, which is the Bill whose passage means a new Government building. Another resolution was also passed, urging on Congress the support of the McGann Bill, and testifying to the belief that an appropriation of \$4,000,000 would be ample for the purpose. By the time of the publishing of this letter, the committee will be well at work in Washington.¹

DOMESTIC BOILER EXPLOSIONS.

WHEN a fallacy is once promulgated, its vitality is something amazing. Owing to our mediæval system of education, the average middle-class man knows nothing of physics, and is thus not in a position to express an opinion on the accuracy of any of the many marvellous theories of the universe and all that in them is, which are not infrequently thrust upon him by his daily paper.

The word electricity seems to have the same soothing effect on this class as the word Mesopotamia had for the old lady of the story. If a phenomenon is only said to be electrical, everything is considered to be explained, there being an inherent love of the marvellous in the common run of mankind, which makes a straightforward and simple explanation much less to its taste than a more involved and mysterious one; and when one of these occult explanations has once gained a fair degree of acceptance, its refutation may be compared to the labors of Sisyphus. The error may be clearly established by experiment, and for the moment its supporters are silenced or convinced; but a few months later the same old fallacy is again making the rounds of the papers, and the work of refutation has to be gone through again. One of the most persistent of these errors has been the theory that under certain conditions a safety-valve is useless on a boiler, owing to the alleged fact that it is possible to generate steam so quickly in an ordinary boiler that the valves would be unable to pass it and to prevent a very serious rise of pressure.

¹On January 21, the House of Representatives passed a bill appropriating \$4,000,000 to cover the "entire cost" of a new Government Building in Chicago.—Eds.

At the beginning of last year we republished a description of experiments made by the Manchester Steam Users' Association in 1867, which showed pretty conclusively that it was impossible to make a kitchen-boiler explode by heating it to redness and then turning in cold water. No arrangements were, however, made to measure the pressure developed in these experiments, though it was known that it did not exceed 35 lbs. per square inch, for which the safety-valve was loaded. In some later experiments made by the same Association on a Lancashire boiler, this omission was made good, and in this instance it was found that on turning water on the top of the red-hot flues of the boiler a pressure of 27 lbs. was reached. Naturally it was not possible to heat any large proportion of a large Lancashire boiler to redness, and hence the red-hot surfaces were small in comparison with the cubic capacity of the boiler. It was, therefore, only to be expected that higher pressures would be developed if the experiments were repeated on a kitchen-boiler, of which a large fraction of the whole surface could easily be made red-hot. This has now been done by Mr. R. D. Munro, the Chief Engineer to the Scottish Boiler Insurance and Engine Inspection Company, Limited, who has recently published a small volume¹ giving the results of his experiments, which fully confirm the view that it is impossible to make a boiler "explode" by raising it to a red heat and turning cold water onto it. It may be cracked or a side may open, but no explosion in the proper sense of the term takes place, a very small aperture being sufficient to pass all the steam generated.

For the purpose of these experiments, a wrought-iron cylindrical shell, about 20 feet long and 6 feet 6 inches diameter, was prepared and erected with its axis vertical. The boiler to be tested was placed inside this, so as to prevent damage being done if an explosion did occur. A furnace was fitted inside this shell, and over it was placed the boiler to be tested. The boilers experimented upon were taken from the general stock of the different makers, and were fair samples of the ordinary domestic boiler. As a preliminary, a series of experiments were made to determine the size of safety-valve necessary to prevent a rise of pressure above that corresponding to the load on the valve. With a so-called "boot" boiler, having a capacity of 14 gallons, and weighing 160 lbs., it was found that a dead-weight safety-valve $\frac{1}{2}$ inch in diameter was capable of passing all the steam which it was possible to generate. In making the experiments with the "red-hot" boiler, it was found that a suitable safety-valve was again effective in preventing any serious rise of pressure, even when fully three-quarters of the whole surface of the boiler was raised to a red heat.

In the first of these experiments the safety-valve was loaded to 10 lbs., and, on turning on the water, the pressure due to the steam generated by the hot surface arose to 12 lbs., after which it fell again to 6 lbs., which was that due to the head of water in the supply-pipe. The steam produced apparently cleared the boiler of water, but in a few seconds a second supply of water gained access to the boiler, sending the pressure up again to about 12 lbs., after which it fell below that due to the head. The "geyser" action again recurred, a larger supply of water reaching the plates than in the previous case, with the result that a pressure of 16 lbs. was indicated on the maximum gauges.

In a second experiment the valve was loaded to 20 lbs., the head in the supply-pipe being raised to 12 lbs. per square inch; and in this case the boiler was made nearly white-hot. On turning on the water the pressure rose to 44 lbs., but then fell steadily, and at the end of 22 seconds was below the safety-valve load. On withdrawing the fire, the boiler was found, considerably distorted, and a stay between the front and back plates was started. Very similar results were obtained on repeating the experiments on other boilers, and it was evident that the safety-valve, having a discharge area of but $\frac{1}{2}$ square inch, was too small for the work, though, of course, the conditions were much more unfavorable than they would be under any conceivable conditions in practice.

In the next series of experiments, the boilers were fitted with a safety-valve of double the diameter, and, at the same time, the supply-pipe was fitted with a non-return valve. The head causing flow into the boiler was 40 feet, or 18 lbs. per square inch. With this arrangement, the pressure never rose above that due to the valve loading, the valve being able to pass easily all the steam generated. The pressure, however, always rose to the safety-valve load, and thus there is a difference between these experiments and those made by the Manchester Steam Users' Association on a Lancashire boiler, where the pressure never rose above 27 lbs. per square inch. This, of course, is to be attributed to the much greater ratio which the heated surface bore to the internal volume.

To complete the experiments, the safety-valves were locked fast, and the boiler heated as before. On turning on the water, the pressure gradually rose up to a maximum of 118 lbs. per square inch, when a part of the boiler gave way. There was, however, no explosion, a weld simply opening and letting the steam out quietly. The experiment was then repeated with a second boiler, which failed at 90 lbs. per square inch. As before, there was no explosion, there being no reserve of highly-heated water to keep up the pressure, as is necessary for a true explosion to occur. The boilers were not even shifted on their beds.

These experiments seem to prove conclusively that a boiler explo-

sion cannot be caused by simply making it red-hot and turning water in. As Mr. Munro points out, in many towns a domestic boiler is quite as likely to run dry in summer as in winter, owing to the water-supply being intermittent; but he has only found one case of a domestic boiler exploding in summer, and that was proved not to be due to shortness of water. In winter such explosions are frequent, and, in view of all the experiments which have now been made, it can hardly be doubted that they arise simply and solely from the plugging of the outlets, and that a suitable safety-valve forms a perfect guaranty against danger. — *Engineering*.

EXCAVATIONS AT DELPHI.

HERE have been exhibited lately at the School of Fine Arts, in Paris, a collection of plaster casts and photographs of statuary found in excavating on the site of the ancient Greek town of Delphi, famous as the seat of the most important temple and oracle of Apollo. Later on, they are to be removed to the Louvre, where they will form the nucleus of a special collection, to be added to from time to time, as fresh examples are discovered. These recent discoveries are the result of the labors of the French School of Athens, and were made under the personal superintendence of M. Homolle, its director, assisted by MM. Convert, Bourguet, Perdizet, Millet and others.

The news of the exhibition recalls the efforts made on behalf of our own school at Athens, some years since, by Charles Eliot Norton of Cambridge and Prof. W. R. Ware of Columbia College, in conjunction with Professor D'Ooge of Ann Arbor, Director of the American School at Athens, when strong exertions were put forth to obtain permission from the Greek Government to make these very excavations. These gentlemen, unfortunately, were not successful, and the coveted privilege was obtained by France. Politics was said at the time to have entered into it somewhat, and correspondence and interviews with M. Tricoupsis, the Prime Minister, were of no avail. The truth is, however, that some years before, the Greek Government had in a measure committed itself to France, and there never was at any time strong probability of the desired permission being accorded to our representatives.

For many years it has been a much mooted question among scholars and archaeologists whether it were possible that a city so famous for the magnificent statuary that adorned its streets, its temples and its sanctuaries could so absolutely disappear from the face of the earth as to leave only broken remnants of marble scattered over the ground, and a few mutilated remains of statuary seen here and there in the gardens under the shadow of fig trees. It was at the beginning of the year 1891 when the French Minister of Public Instruction put this ever-recurring question to M. Homolle, who unhesitatingly affirmed his belief in the fact that the little village of Castri, on the site of the great city, covered incomparable art treasures, and he based his belief on developments resulting from researches made at different epochs by Otfried Müller, by MM. Wescher, Foucart, Hassoulie, Pomtow, and on his own personal observation after a careful study of the ground and the surrounding country.

It was then that the French Chamber, in proposing a commercial treaty with Greece, included a grant of 500,000*fr.* for excavations at Delphi. The treaty was accepted and ratified by the Greek Chamber. It is to the credit of the French Chamber that it had the courage and patriotism to make this disinterested appropriation — disinterested, because by a law of the land no statue or other work of art so discovered is permitted to leave Greek soil.

Delphi was about six miles inland from the Corinthian Gulf, in a rugged and romantic glen, surrounded by high hills and formidable rocks, closed-in on one side by the steep, wall-like cliffs of Mount Parnassus, and on the other by the irregular heights of Mount Cephissus. Between the two mountains flowed the Pleistis, and opposite, the town received the brooklet of the Castalian fountain, which rose in a deep gorge in the centre of the Parnassian cliff.

The site of the ancient town is now occupied by the village of Castri, and the natural features of the scene have been somewhat altered by the earthquake of 1879, though the main points of interest can still be distinguished, and where once stood an opulent, prosperous city, the great religious centre of antique civilization, are now only three or four hundred wretched little houses, plastered with white stucco.

A year was consumed in making arrangements to acquire rights to the land upon which a number of these houses stood, either on or near the sites of the more important edifices around the Temple of Apollo. The operation was a difficult one, notwithstanding the fact that more than 280,000*fr.* had been placed in the bank at Athens for the purpose of indemnifying the property-owners for the loss entailed. The ignorant, simple peasants, when offered checks on the bank for their property, flatly refused to accept them, nor would they permit the slightest preliminary work until they were paid in solid coin. "There's my land, there's my hand," said one old woman to the Director; "put your gold in my hand and you can take my land." They imagined, once the pick and the spade had started in to turn up the earth there would be disputes as to the extent of their property, and each purchase had to be absolutely settled before the workmen were permitted to begin. It was with the greatest difficulty on several occasions that bloodshed was avoided, and it required the greatest patience and tact on the part of M. Homolle.

¹ "Kitchen Boiler Explosions: Why they Occur and how to Prevent their Occurrence." R. D. Munro, M. E. Mech. E. London: Charles Griffin & Co., Limited. [Price 3*s.*]

It was in the month of October, 1892, that they finally began to dig in earnest, cutting a narrow road, laying tracks for a small steam railway, with which to carry off the rubbish. The results of the excavations at first were far from encouraging. On the site of the Temple of Apollo, around which it was naturally supposed would be discovered the most important of the statues and sculpture, scarcely anything was found worthy of attention.

The next year, however, working step by step, a new section of the Sacred Way was uncovered, connected with that previously discovered by M. Haussoulier, and they were rewarded by the finding of the basement of a semicircular monument in breccia and marble, where fragments, partly covered with inscriptions, lay on or in the ground. Besides these basements, there were several architectural pieces: enough of the semicircular monument to reconstruct it almost entirely; drums of Doric columns and cut stones of tufa from the Temple of Apollo; marble shafts of Doric columns of fine execution; and Ionic capitals of the fourth century; there were fragments of a figure seated, an archaic female statue draped, several fragments of statues or bas-reliefs, a Roman bust and portions of a bas-relief representing a female torso of elegant style. Various objects, such as a small bronze bracelet, a small votive bronze helmet, some Greek, Roman and Byzantine bronze and silver coin; an axe and stone hammer, and fragments of painted vases were also discovered.

Some sixty inscriptions were found, the majority belonging to the Alexandrine and Roman periods; a few are anterior to the fourth century, and some contemporary with the Roman Empire. They were acts of manumission, dedications, decrees of the City of Delphi, catalogues, accounts, an oracle and letters from foreign cities, emperors or Roman magistrates, one of which was in Latin. Among the more interesting texts was a metrical inscription relating to the miraculous birth of a long-awaited child, who came forth after a sacrifice to the gods and in conformity with an oracle; a Latin inscription regarding work required in the territory of Delphi, in consequence of inundations, and other things relating to the religious and civic life of the city.

In 1893 the excavations lasted from May 1 to November 15, no work being done in August and September. In the Spring was discovered the Treasury of the Athenians, and this name, given hypothetically at that time, was confirmed later on by direct proof — by Athenian decrees cut on the walls and fragments of the dedication of a monument cut in a step, containing the words "Athenai. Marath" (Athenian, Marathon). [It is known that the structure was in commemoration of, and erected with the spoils of, the battle of Marathon.] The structure — the remains of which are so numerous as almost to make a reconstruction possible — rested on a terrace, and was protected in the rear by a retaining-wall, built in alternating regular courses and polygonal masonry; it was of Doric style, and recalls, especially in the outlines of its capitals, the temples of Aegina and Olympia.

The walls of the Treasury were covered with inscriptions, Attic in great part, or relating to Athenians. Copies of all were made by MM. Couve and Bourguet. The Treasury was surrounded by three tufa structures — one above and two below it. Here must have been the Treasury of the Boeotians, and here, in fact, have been found the dedicatory inscriptions of several offerings consecrated by Boeotians or executed by Boeotian artists. Along the sustaining wall, still standing, but with broken feet, was an archaic Apollo, over two metres in height. It is a monument of capital importance for the history of Peloponnesian sculpture.

A few steps above the temple, along the Sacred Way, were two inscriptions of the fourth century, contemporary with the Sacred War. One contains the accounts of the years 353-342; the other the list of payments made by the Phocidians, in consequence of fines imposed upon them. A considerable space is void of monuments, both on the left of the Sacred Way, between the Treasury and the portico of the Athenians, and on the right, opposite this portico. The first site, covered with rocks, may be identified with the Sanctuary of Gê and the Muses, where doubtless was the stone whence the Sibyl prophesied and the rock seat of the primitive oracle, near which the Python perished.

Excavations were again started on March 27, 1894, resulting in many important discoveries. Most of them have been made between the Treasury of the Athenians and the Hellenicon, at the very foot of the wall. Above the wall, near the southwest corner of the Sanctuary, a trifle below and to the west of the Treasury of the Athenians, there remain the foundations of the Treasury of the Boeotians. As the lower strata of the soil are reached — a yellow or black earth, so compact as to have the consistency and aspect of undisturbed soil — great numbers of fragments of terra-cotta and bronze are found. The terra-cotta fragments — for, up to the present, very few even small objects have been found entire — are divided among the Mycenaean, geometric, proto-Corinthian and Corinthian styles.

The bronzes belong in the majority of cases to the category of sacred utensils, such as tripods, caldrons, cups, vases, etc., and the excessive humidity of the soil has usually much oxidized and damaged them. One piece has been found in perfect preservation and with fine patina; it is a bird, with human head, in the Oriental style, like those found near Lake Van, at Olympia and Mount Ptoos. No more complete and beautiful specimen of the type exists. Other pieces of this class of bronze are a lion, of Assyrian type, three griffin heads, such as decorated tripods; two small horses and an-

other small animal, a dog or a wolf. The human figure is represented by several statuettes. The earliest is a very primitive piece, recalling the flat terra-cotta *maquettes* and the dipylon type of face; another belongs to the series of archaic Apollos; an Athene, much oxidized, is a delicate work of the fourth or close of the fifth century.

The most important discoveries of the last few weeks belong to the domain of sculpture, justifying the confidence felt against quite a general scepticism. The discovery of the metopes of the Treasury of the Athenians was an archaeological event. These exquisite works of the Attic School, exactly dated as they are (c. 480 B. C.), fill a vacancy in the history of Greek art. Their intrinsic value, the comparisons they suggest, the conclusions they justify, make them a work of the first rank. This discovery is now supplemented by that of the caryatides and of a frieze which appears to be that of the Temple of Apollo itself. These new sculptures proceed from Attic workshops, and they lengthen this most interesting archaic period, whose history is now being reconstructed in great part for the first time. For it was the period when archaism was throwing off its last bonds, and when the artists, masters of the technique of their art, were seeking for that ideal of beauty attained by Phidias.

This frieze, on which a procession of chariots and horsemen was represented, might have served for the first sketches for the frieze of the Parthenon, which it antedates nearly a century. The action of the horses is grand, yet simple. The movement of the figures, dignified and supple, the whole conception big and masterly, the stiff, cramped tails of the animals being the only reminder of the traditions of the archaic period.

Among the statuary lately brought to light is a torso, probably the figure of some successful athlete in the Pythian games, and, above all, a superb Antinous in marble, perfect, save for the loss of the arms — a magnificent example of the sculptor's art.

The one discovery that, perhaps, has interested the general public more than any other has been the fragmentary inscribed hymns to Apollo, found at the Treasury of the Athenians. These have created much excitement throughout the cultured and musical world, because here for the first time was there given as a long piece of music, by which we could form some judgment of the musical genius of the Greeks. The poems in themselves are interesting, but the musical notation placed over each syllable is far more important. In these specimens there are two systems of notation dividing them into two series — a second method of division is furnished by the metre, which is sometimes Glyconian, sometimes Pæonian. The subject is always the same; these are hymns composed for the Delphic feasts, and are all in honor of Apollo. This hymn was sung three times at Athens in the public concerts of the Society of Lovers of Music, by the same quartet which had already given it before the Royal family of Greece and a crowded audience at the French Archæological School. The hymn has also been rendered in Paris, with great success and on a thoroughly scientific basis, under the supervision of M. Theodore Reinach, with the assistance of the best musical talent of Paris. — *New York Times*, Jan. 6, 1895.



ACADEMIC COUNCIL OF THE UNIVERSITY OF PENNSYLVANIA.

AT a meeting of the Academic Council of the University of Pennsylvania on Monday, January 14, Professor Laird of the Department of Architecture announced that Mr. Barr Ferree, a graduate of the University, had received the distinguished honor of an election as Honorary Corresponding Member of the Royal Institute of British Architects. The honor is the more noteworthy from the fact that only four Americans have, until now, received it, and none of these occupies the field as a writer which Mr. Ferree does. J. HARTLEY MERRICK, *Ass't Sec'y University of Pa.*

BEAUX-ARTS SOCIETY. — COMPETITION NO. 2.

THE plan of the Custom-house is to be rendered at a scale of $\frac{1}{16}$ inch instead of $\frac{1}{8}$ inch, and the façade at a scale of $\frac{1}{8}$ inch instead of $\frac{1}{16}$ inch. The scale of the section and of the detail remain unchanged. Special care should be given to the detail.

(Signed), COMMITTEE ON EDUCATION,
JOHN E. HOWE, *Secretary.*

BUFFALO CHAPTER OF THE AMERICAN INSTITUTE OF ARCHITECTS.

THE Buffalo Chapter of the American Institute of Architects have elected the following officers for the ensuing year:

J. H. Marling, *President*; R. A. Bethune, *First Vice-President*; Williams Lansing, *Second Vice-President*; Ulysses G. Orr, *Secretary*; D. E. Metzger, *Treasurer.*

AMERICAN INSTITUTE OF ARCHITECTS. — DIRECTORS' MEETING.

CHICAGO, ILL., January 8 and 9, 1895.

PRESIDENT BURNHAM in the Chair.

The Secretary reported the receipt of letters of acceptance from

the Honorary and Corresponding Members elected at the annual convention held in New York, in October.

Treasurer's report read, received and ordered to be placed on file.

The report of the Committee on Competition Code was received and adopted, and the Secretary was directed to print the same with the Schedule of Charges and on a separate sheet for general distribution. The Secretary was also directed to print with the Schedule of Charges, the following resolution, substantially as adopted at the annual convention:

Resolved, That the practice of soliciting patronage and furnishing sketches and work under terms other than as provided for in the adopted Schedule of Charges, is considered as unprofessional.

The Secretary was directed to correspond with the President of Grant Monument Association in regard to the return of plans of Bruno Schmitz, of Berlin, Germany, which have never been returned to him.

The Secretary was directed to prepare uniform stationary for the use of the Chapters of the Institute, and to furnish the same to the Chapters upon orders of the officers of the Chapters and at the expense of the Chapters.

Applications were received from Messrs. Charles T. Mathews of New York and Charles W. Hopkinson of Cleveland, and they were provisionally elected Fellows of the American Institute of Architects, subject to election by letter-ballot, which the Secretary was directed to issue.

The following Fellows, Vice-Presidents Geo. B. Post and W. S. Eames and Messrs. L. H. Sullivan and Thos. Hastings, were elected to serve with the President, D. H. Burnham, the Treasurer, S. A. Treat and the Secretary, Alfred Stone, as members of the *Executive Committee*.

The President appointed as members of the *Committee on Publication and Library*, Messrs. W. L. B. Jenney, R. W. Gibson, Henry Van Brunt, T. C. Link and Cass Gilbert.

As *Committee on Foreign Correspondence*, Messrs. R. M. Hunt, W. L. B. Jenney, R. S. Peabody, Henry Van Brunt and C. F. McKim.

As *Committee on Education*, Messrs. Henry Van Brunt, T. P. Chandler and A. W. Longfellow, and Profs. Wm. R. Ware and N. C. Ricker.

As *Committee on Uniform Contract*, Messrs. S. A. Treat, Alfred Stone and Geo. W. Rapp.

As *Committee on Fire Protection*, Messrs. T. M. Clark, Napoleon Le Brun and Alfred Stone.

As *Committee on Conservation of Public Buildings*, Mr. R. M. Upjohn and the Presidents of the several Chapters.

After the appointment of the Committees, the President urged the necessity of more active work on their part.

The ballots were opened, and the following were found to be elected Fellows of the American Institute of Architects:

Frank Miles Day, Philadelphia, Pa.; William B. Tuthill, Wm. C. Hough, Isaac Edward Ditmars, H. P. Fowler and Sam'l Booth Snook, New York, N. Y.; Frank L. Packard, Columbus, Ohio; Charles Edwards, Paterson, N. J., and Frank J. Schlotter, Evansville, Ind.

Several resignations were received and accepted.

The Secretary was directed to print the proceedings of the Twenty-ninth Annual Convention held in New York on October 15, 16 and 17, under the direction of the Committee on Publication and Library.

It was also voted that the Secretary be directed to print and distribute the following vote:

Resolved, That the practice on the part of an architect of publishing, or allowing to be published, advertisements of builders and manufacturers of building materials in connection with his designs is unprofessional.

The question as to the continuance of the arrangements now existing between the New York Chapter and the Institute for the joint occupation of the offices in the Welles Building, 15 Broadway, New York, was referred to Messrs. Hastings, R. W. Gibson and the Secretary.

The question of the relation of the Institute to the Chapters as affected by the amendments to the By-laws passed at the last annual convention was referred to Mr. W. W. Clay to present at the meeting of the Executive Committee in Chicago, to be held April 1, 1895, with suggestions regarding the election of members and the connection of the main body of the Institute with its Chapters, as far as membership is concerned, and the Executive Committee was directed to prepare necessary amendments to be acted upon at the next annual convention, which it was voted shall begin its sessions at St. Louis, September 15, 1895.

It was *Voted*: That, hereafter, the Treasurer be authorized to make arrangements for transportation of members to the annual convention, at reduced rates.

It was *Voted*: That each and every Chapter be requested to hold its annual meeting during the month of September, so that their annual reports can be placed in the hands of the Secretary on or before October 1, of each year.

The thanks of the Board of Directors were voted to the Illinois Chapter for the generous hospitality extended to the Board in giving a dinner in their honor on the evening of the 8th inst., and to the President for the use of his offices for the meeting of the Board and for other courtesies extended to them.

ALFRED STONE, Secretary.



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

HOUSE AT THE CORNER OF LOCUST AND JUNIPER STS., PHILADELPHIA, PA. MR. WILSON EYRE, JR., ARCHITECT, PHILADELPHIA, PA.

[Heliochrome issued with the International and Imperial Editions only.]

FIRST CHURCH, SPRINGFIELD, MASS.; FIRST CHURCH, WARE, MASS.; FIRST CHURCH, NORTHAMPTON, MASS.; COURT-HOUSE, LENOX, MASS. SKETCHED BY MR. G. C. GARDNER, ARCHITECT, SPRINGFIELD, MASS.

SEE article elsewhere in this issue on "Colonial Architecture in Western Massachusetts."

APARTMENT-HOUSE, FOR F. L. BEUNKE, ESQ., CAMBRIDGE, MASS. MR. W. A. NORRIS, ARCHITECT, CAMBRIDGE, MASS.

This building is arranged for occupancy by four families.

OFFICE-BUILDING, HUDSON, MASS. MR. PENN VARNEY, ARCHITECT, LYNN, MASS.

MYRTLE STREET GRAMMAR SCHOOL-HOUSE, BOWDOIN DISTRICT, BOSTON, MASS. MR. E. M. WHEELWRIGHT, CITY ARCHITECT, BOSTON, MASS.

WOMEN'S DORMITORY, LONG ISLAND, BOSTON HARBOR, MASS. MR. E. M. WHEELWRIGHT, CITY ARCHITECT, BOSTON, MASS.

OLD WROUGHT-IRON FAN-LIGHT GRILLES, BALTIMORE, MD. SKETCHED BY MR. J. APPLETON WILSON, ARCHITECT.

[Additional Illustrations in the International Edition.]

"SURREY" AND "MOWBRAY" HOUSES, VICTORIA EMBANKMENT, W. C., LONDON, ENG. MR. JOHN DUNN, ARCHITECT.

SOLICITORS TO THE SUPREME COURT LIBRARY, EDINBURGH, SCOTLAND. MR. JAMES B. DUNN, ARCHITECT.

INTERIOR IN THE HOUSE OF MR. VAL PRINSEP, R. A., NO. 1 HOLLAND PARK, W. LONDON, ENG. MR. PHILIP WEBB, ARCHITECT.

OLD WROUGHT-IRON FAN-LIGHT GRILLES, BALTIMORE, MD.: TWO SHEETS. SKETCHED BY MR. J. APPLETON WILSON, ARCHITECT, BALTIMORE, MD.



BOSTON, MASS. — Winter Exhibition, including Pictures loaned by Quincy A. Shaw; Paintings by Puvion de Chavannes; Ancient Chinese Buddhist Paintings; Line Engravings, Mezzotints, and Etchings by Rembrandt: at the Museum of Fine Arts.

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

Fifty-first Exhibition, Oil Paintings and Sculpture: at the Boston Art Club, January 18 to February 16.

Paintings by Theodore Wendel: at the St. Botolph Club, January 7 to 30.

Fourth Annual Exhibition of Oil-paintings and Sculptures: at the Unity Art Club, 711 Boylston St., January 22 to February 12.

Memorial Exhibition of Works by E. T. Billings: at 711 Boylston St. Water-colors and Oil Sketches by Herbert A. Olivier: at Doll & Richards' Gallery, 2 Park St., January 18 to 30.

CHICAGO, ILL. — Exhibition of the Chicago Palette Club and the Cosmopolitan Art Club: at the Art Institute, January 25 to February 17.

CINCINNATI, O. — Studies by Anton Mauve: at the Art Museum, January 9 to 28.

CLEVELAND, O. — First Annual Exhibition of the Cleveland Art Association: January 21 to February 22.

NEW YORK, N. Y. — Loan Exhibition: at the Metropolitan Museum of Art, New North Wing, opened November 5.

George Inness Memorial Exhibition: at the Galleries of the American Fine Arts Society, 215 West 57th Street, opened December 27.

Works by Claude Monet: at the Durand-Ruel Galleries, 389 Fifth Ave., January 12 to 27.

Etchings by D. Y. Cameron: at F. Keppel & Co.'s, 20 East 16th St.

Paintings of Japanese Subjects by Theodore Wores: at the Avery Art Galleries, 368 Fifth Ave., January 21 to February 2.

Twenty-eighth Annual Exhibition of the American Water-color Society: at the Academy of Design, opens February 4.

PHILADELPHIA, Pa. — *Sixty-fourth Annual Exhibition of the Pennsylvania Academy of Fine Arts:* opens December 17, closes February 23. The special exhibition of Architectural Drawings closes February 5.

PROVIDENCE, R. I. — *Architectural Drawings by Members of the R. I. Chapter, A. I. A.:* at the Art Club, January 23 to 30.

NOTES AND CLIPPINGS

FIRE LOSSES FOR THREE YEARS.—According to the table of losses below, compiled by the *Journal of Commerce and Commercial Bulletin* of New York, the year 1894 was better for insurance companies than either of the two preceding years. The severe losses at Louisville, Toledo, and at other points, coming during the closing days of December, caused a sinking feeling to permeate the breast of many an underwriter, but with few exceptions, it can be stated that there was a slight margin of profit in the business. The table is as follows:

	1892.	1893.	1894.
January....	\$12,564,000	\$17,958,400	\$10,568,400
February....	11,914,000	9,919,900	11,397,000
March.....	10,648,000	16,662,350	9,147,100
April.....	11,559,800	14,069,900	11,549,000
May.....	9,485,000	10,427,100	10,777,900
June.....	9,265,550	16,344,950	8,282,300
July.....	11,530,000	12,118,700	16,397,000
August.....	10,145,300	13,222,700	10,432,800
September..	7,879,800	10,508,700	10,149,900
October....	13,349,200	11,014,700	8,186,700
November...	12,008,700	11,493,000	12,135,800
December...	12,354,450	12,105,475	9,525,000
Totals...	\$132,704,700	\$156,445,875	\$127,450,000

THE DRY-DOCK AT PORT ORCHARD, WASH.—The second largest dry-dock in the world is now under construction at Port Orchard, in the State of Washington. A large tract of land on Puget Sound, sixteen miles from Seattle, has been bought for the purpose and the work of building is well under way. It is to be equipped with a timber and concrete dock, 675 feet long, with a floor-width of 67 feet. Its greatest width will be 130 feet and its depth 40 feet. The cost of construction will be \$608,000, and it is stipulated in the contract that the dock shall be completed within three years. The gate is the most interesting feature of the dock. The upper part is supplied with a water compartment provided with two 20-inch sluices, one of which opens into the sea and one into the dry-dock. The gate is closed by filling this compartment with water and sinking it, the water being admitted through two 20-inch valves. When the gate is to be raised or floated, this water is pumped out. The main deck is supplied with a boiler and engine to drive a centrifugal pump, capable of delivering 2,500 gallons per minute. The gate is handled by the aid of a capstan placed at the centre of the upper deck and worked by a vertical shaft from the engine on the lower deck. — *Boston Transcript.*

THE ESCURIAL AND VERSAILLES.—Spanish writers have termed the Escorial the eighth wonder of the world. It was erected by Philip II in the performance of a vow, and was meant to serve the threefold purpose of a palace, a monastery and a mausoleum or tomb. It was dedicated to St. Lawrence and built in the form of the gridiron on which the Saint was broiled. According to the computation of Los Santos, accepted as an authority by Prescott, it would take four days to go through all the rooms, the distance to be covered being 120 miles. He states that there are no less than 12,000 doors and windows in the building, that the weight of the keys amounted to 1,250 pounds, and that there were sixty-eight fountains in the halls or courts. The cost was six million of ducats. The founder of the Escorial was influenced by a religious motive, if a bigoted one. The founder of Versailles thought of nothing but his own personal gratification. He would not hear of completing the Louvre, which Colbert pressed upon him. He wanted something that should date from him and be exclusively associated with his name—something that should stand out in solitary grandeur apart from the capital, which did not afford breathing-room for the monarch whose emblem was the sun and his device "*L'etat: c'est moi.*" The site was the worst he could have chosen, and its disadvantages, from the nature of the soil and want of water, could only be overcome by enormous sacrifices of men and money. Hundreds of workmen, poisoned by the exhalations, were carried away and replaced at night. Of the 20,000 soldiers and 6,000 cavalry or artillery horses employed, very few were found fit for service when they were required for the war. A river, the Eure, was turned to supply the fountains and cascades. Voltaire computes the cost at 500 millions of livres, Mirabeau at 1,200 millions, J. B. Say at 900 millions; M. Henri Martin, making allowance for the altered value of money, sets down the cost of Versailles with its dependencies at 400 millions of francs, or 16 millions sterling. Both M. Baudrillard and M. Henri Martin seem to think that the nation has got value for its money, that Versailles is a monument of which they have reason to feel proud. "History lives in this

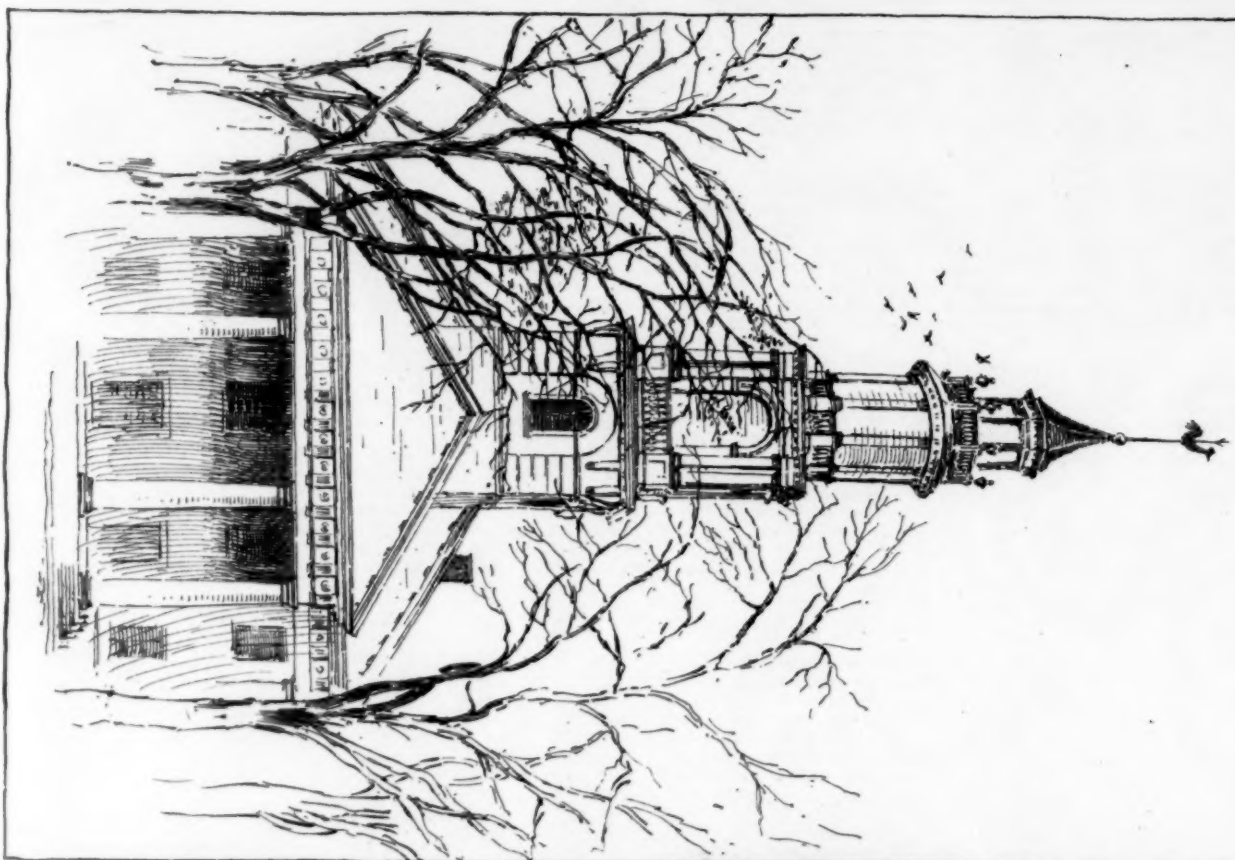
palace in these gardens; it gives life even to this mythology as a perpetual symbol. After all, is it not France which here shows herself to us brilliant, honored, powerful?" Considering the year the huge pile was completed, just after the revocation of the Edict of Nantes, we should say that it is rather overtaxed, persecuted, impoverished, depopulated France that is recalled and represented by Versailles. — *The Architect.*

ANTIQUE PATHOLOGICAL STATUETTES.—Some of the recently-discovered terra-cotta statuettes unearthed in the Hellenic cities, both of Greece and Asia Minor, are remarkable for their queer distortion. Art critics and archaeologists have been accustomed to attribute these to the imagination of the artist, but now they have attracted the attention of the medical men, who are showing that they represent, with great fidelity, diseased and deformed conditions, and furnish one more proof of the great accuracy of observation of the Greek artists as well as giving us an opportunity for the study of ancient deformities and monstrosities. The latest contribution to the subject is that of a French authority on craniology, who has made a close examination of the heads of the figurines in the Louvre Museum, and finds that they exhibit all the different kinds of cranial deformity known to modern times, both congenital and artificial. One, found to-day in many districts of France, is caused by compressing the skull from infancy by a peculiar kind of head-dress. Another, known to craniologists as skaphocephaly, or boat skull, presents the form of a boat turned keel upward, and is due to the growing together in early infancy of certain sutures, preventing the skull from developing transversely. All these deformities are faithfully represented in the figurines, and the treatment is plainly humorous, showing that the artists had no interest in making a scientific record of facts, but were simply caricaturing certain types that they met with constantly in daily life. — *N. Y. Times.*

THE KONISCOPE.—The koniscope, the invention of John Aitkin, is a useful instrument for roughly testing the purity of the atmosphere. It consists of a small metal tube about one and a half feet or two feet long, which is closed at the ends with pieces of glass, and is connected near one end to an air-pump, a stopcock near the other end admitting the air to be tested. All the shades of blue, from nearly pure white to a deep black blue, are attached alongside the tube for comparison. As the impurities of the air, or number of particles present, increase, the color seen through the tube deepens, a color just perceptible being given by 50,000 particles to the cubic centimetre, a very pale blue by 80,000, a pale blue by 500,000, a fine blue by 1,500,000, a deep blue by 2,500,000 and a very deep blue by 4,000,000. In making a sanitary inspection, the color given by pure air is determined first and is taken as the normal health color. In tracing the pollution of air by gas flames in a room 24 by 17 by 13 feet in size, Mr. Aitkin lighted three jets in the centre of the room, and in 35 seconds the products of combustion had reached one end of the room, causing a sudden deepening of color in the koniscope; in four minutes the deep blue color was obtained two feet from the ceiling, and in 30 minutes the impurity, nine feet from the floor was very great, the color being an intensely deep blue. — *Cincinnati Commercial-Gazette.*

AQUEDUCTS UNDER RIVERS.—The new sewer-main of Paris, which crosses from Clichy to Asnières underneath the Seine, was formally dedicated recently. It is the first portion of an enormous enterprise which will take away all the sewage of Paris from the waters of the Seine. The work was begun in 1889, and will require fourteen years or more to complete. The difficulties encountered, especially under the river proper, were many and took a long time to overcome. The river, forming its bed in remote times, upheaved the soil for a considerable depth. Crevices filled with alluvial matter, quicksands, calcareous rocks, conglomerates and very hard silex were met within a few feet of each other. The machinery employed is similar to that used in America with great success at the St. Clair tunnel. As quick as the hydraulic tunnelling-shield advanced, the huge iron rings forming the tube were adjusted. The length of the tunnel under the Seine is 1,543 feet; its diameter, 8 feet, 6 inches. Another highly interesting subaquatic structure is the Mersey tunnel, connecting Liverpool with Birkenhead. It is 10,660 feet long, 26 feet wide and nearly 20 feet high. The drainage is performed by a sewer as long as the tunnel itself, ending in a pit on either side, wherefrom the water is raised by pumps having a capacity of 6,000 gallons per minute. The ventilation is very effective; a duct connected with the main tunnel by slanting shafts leads to a large fan-wheel above, which draws all smoke, gas, etc., out of the tunnel, while at the same time fresh air is forced below. — *Cincinnati Commercial-Gazette.*

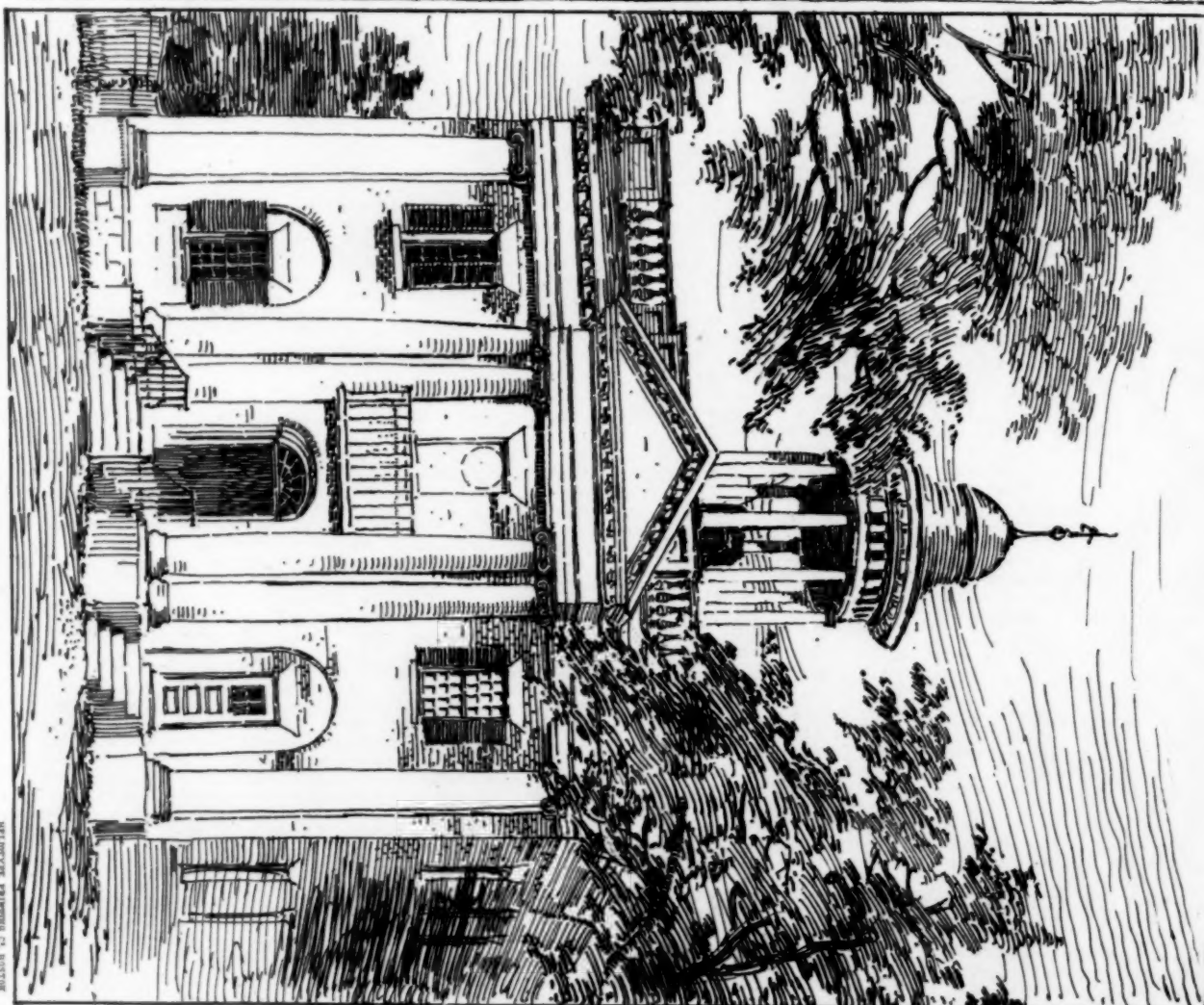
THE CIRCULAR NUISANCE. As a nuisance it would be difficult to match the circular. It comes by post, and at post-time most busy men have enough to do with their own correspondence. They do not want to be worried with some one's soap and some one's patent hair-curling pins warranted to turn the hair into the fashionable color. They do not want disinterested advice about their investments, for usually their money is invested, if they have any, and if they have none they don't want advice. Most of us, too, prefer to select our own charities without being reminded of commendable institutions on whose behalf we do not see the need of impoverishing those which have already taken our fancy. A public benefactor, on the ground that now is the time to mitigate suffering, suggests, in to-day's *Times*, that we should all send our circulars back to the sender unstamped. This would greatly increase the post-office revenue. He further proposes that since most men are too busy to do more than put them in the waste-paper basket, some firm might make a fortune by levying a small annual subscription, and undertaking to address and post them to the sender. If we thought that the sender could not devise some new means of annoyance, we should support the proposal most heartily. — *Pall-Mall Gazette.*



FIRST CHURCH, SPRINGFIELD, MASS., 1818.

COLONIAL ARCHITECTURE IN WESTERN MASSACHUSETTS.

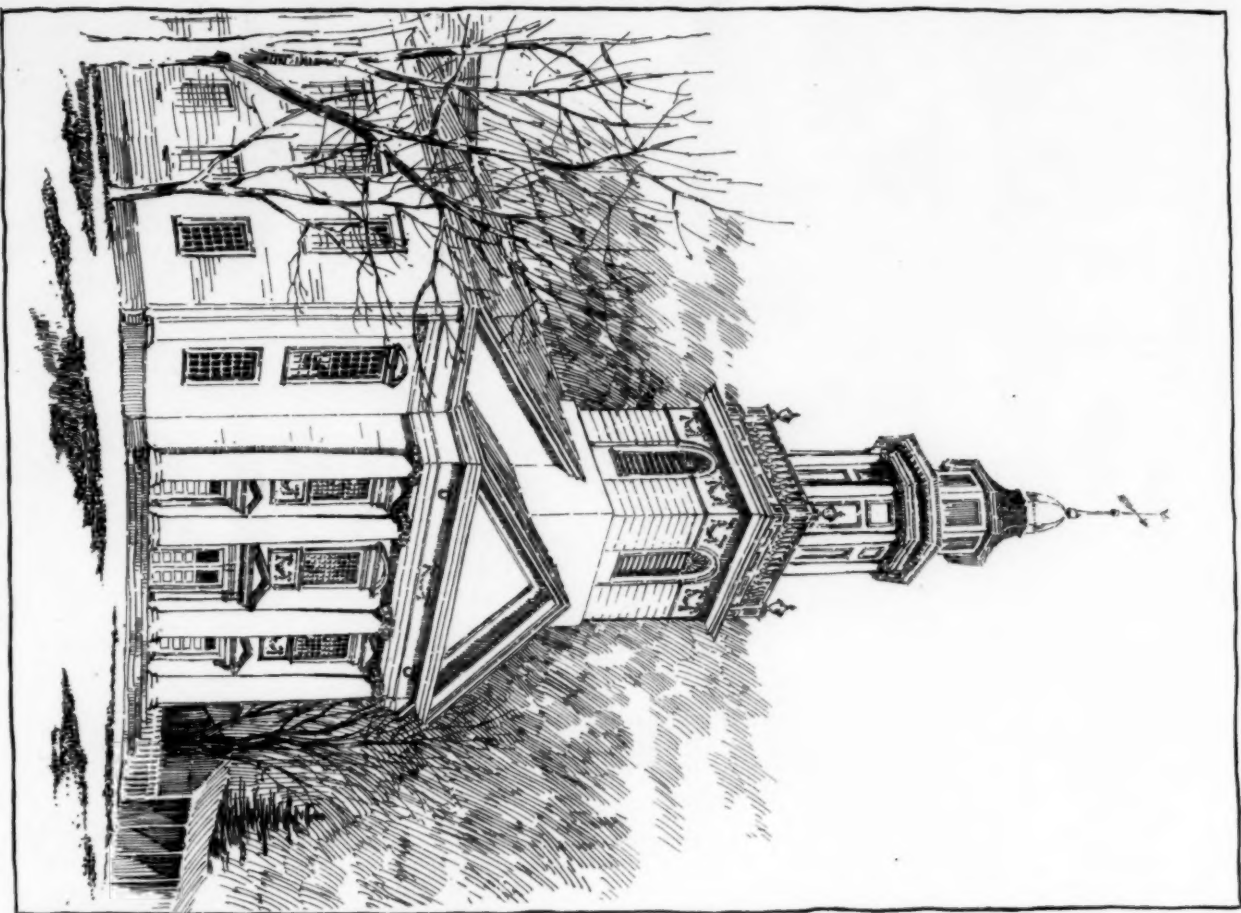
Sketched by G. C. GARDNER, Architect.



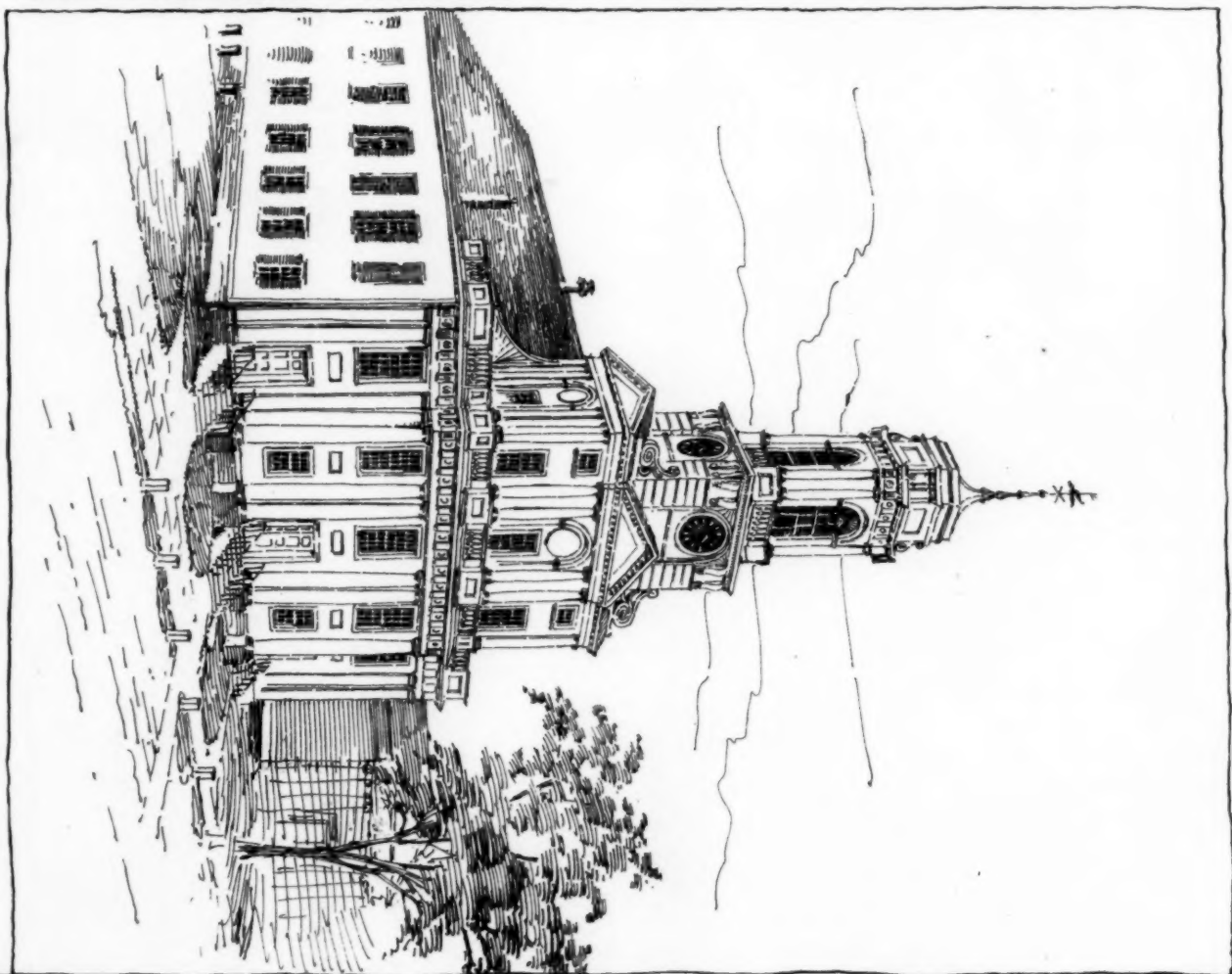
COURT HOUSE, LENOX, MASS., 1813.

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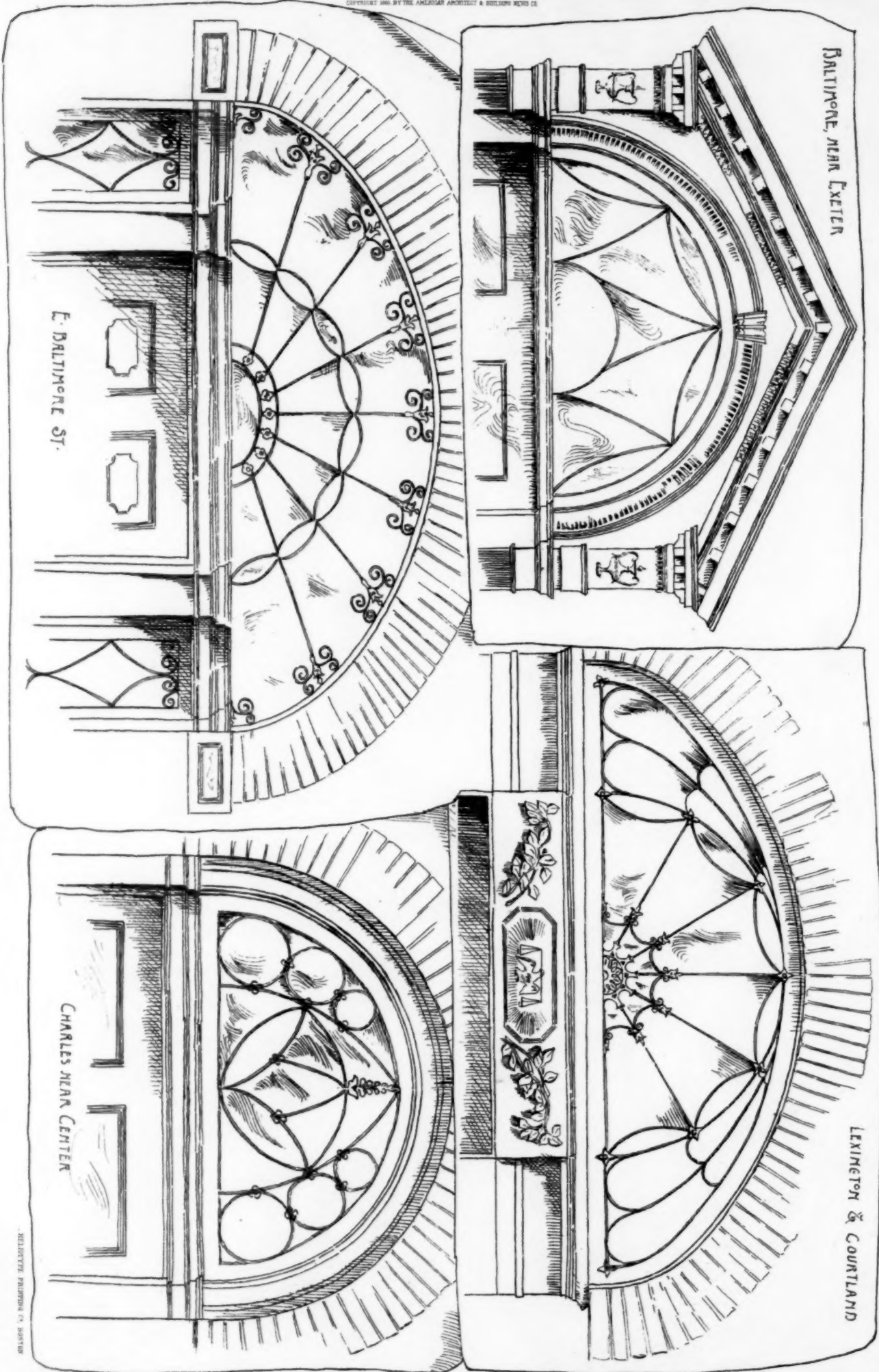


FIRST CHURCH, WARE, MASS., 1826.
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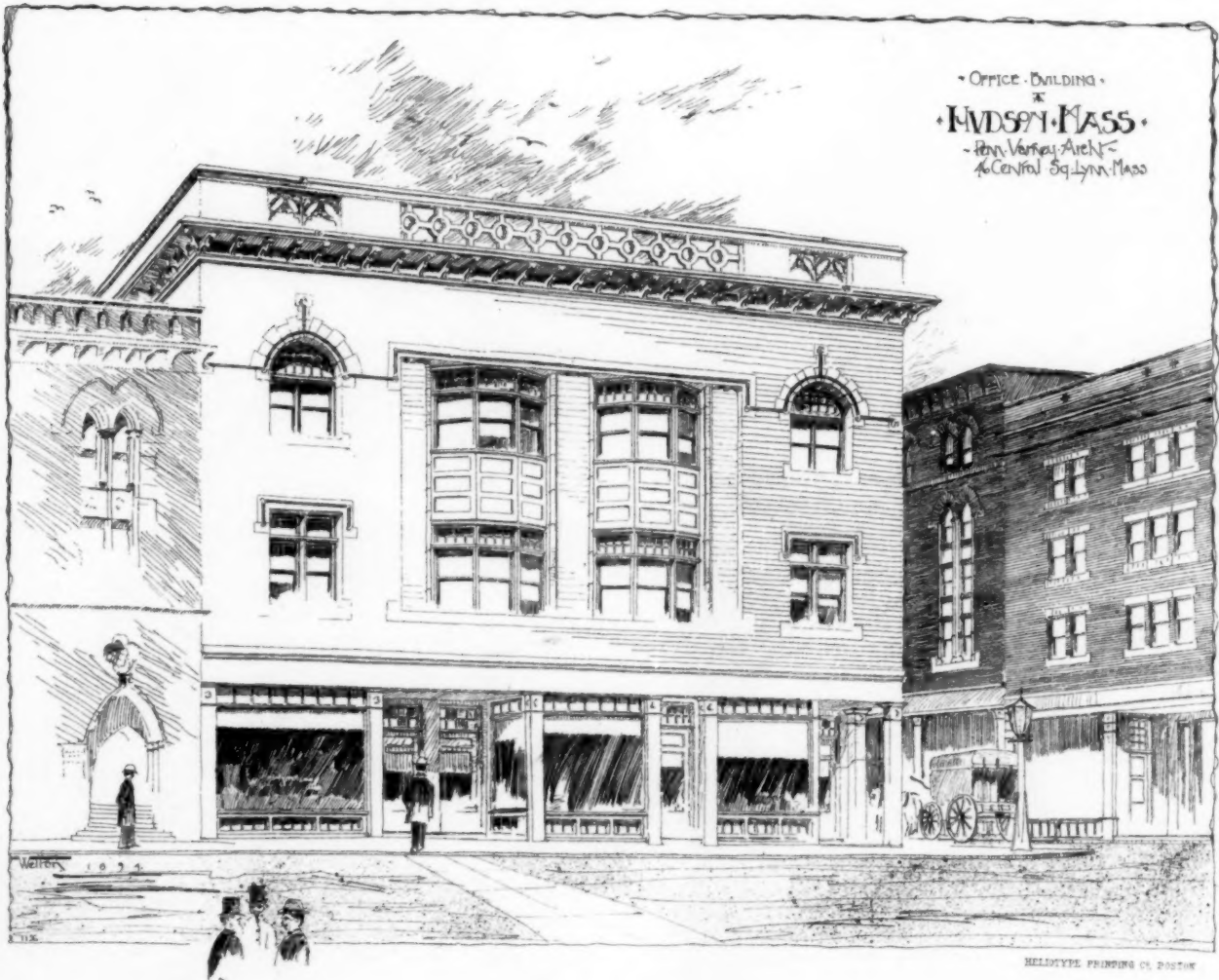
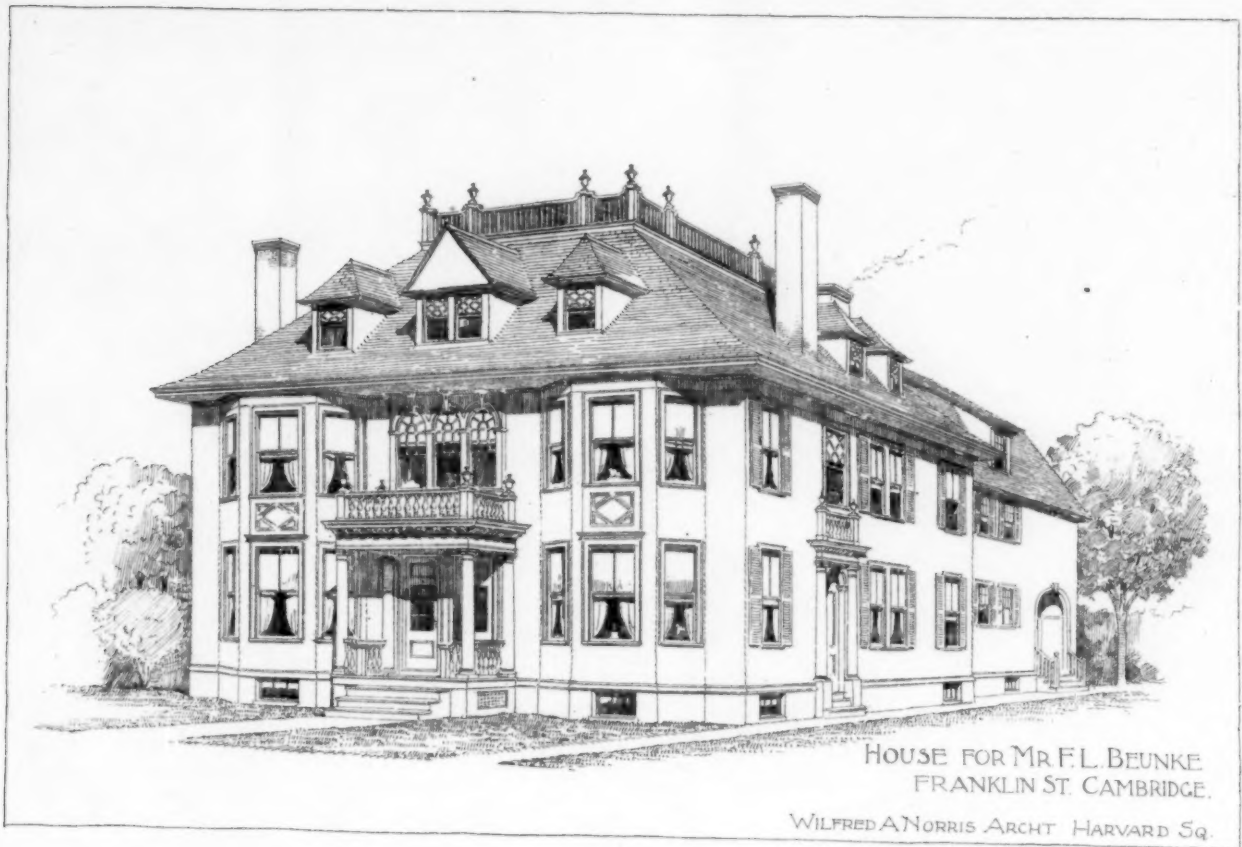


FIRST CHURCH, NORTHAMPTON, MASS., 1812.

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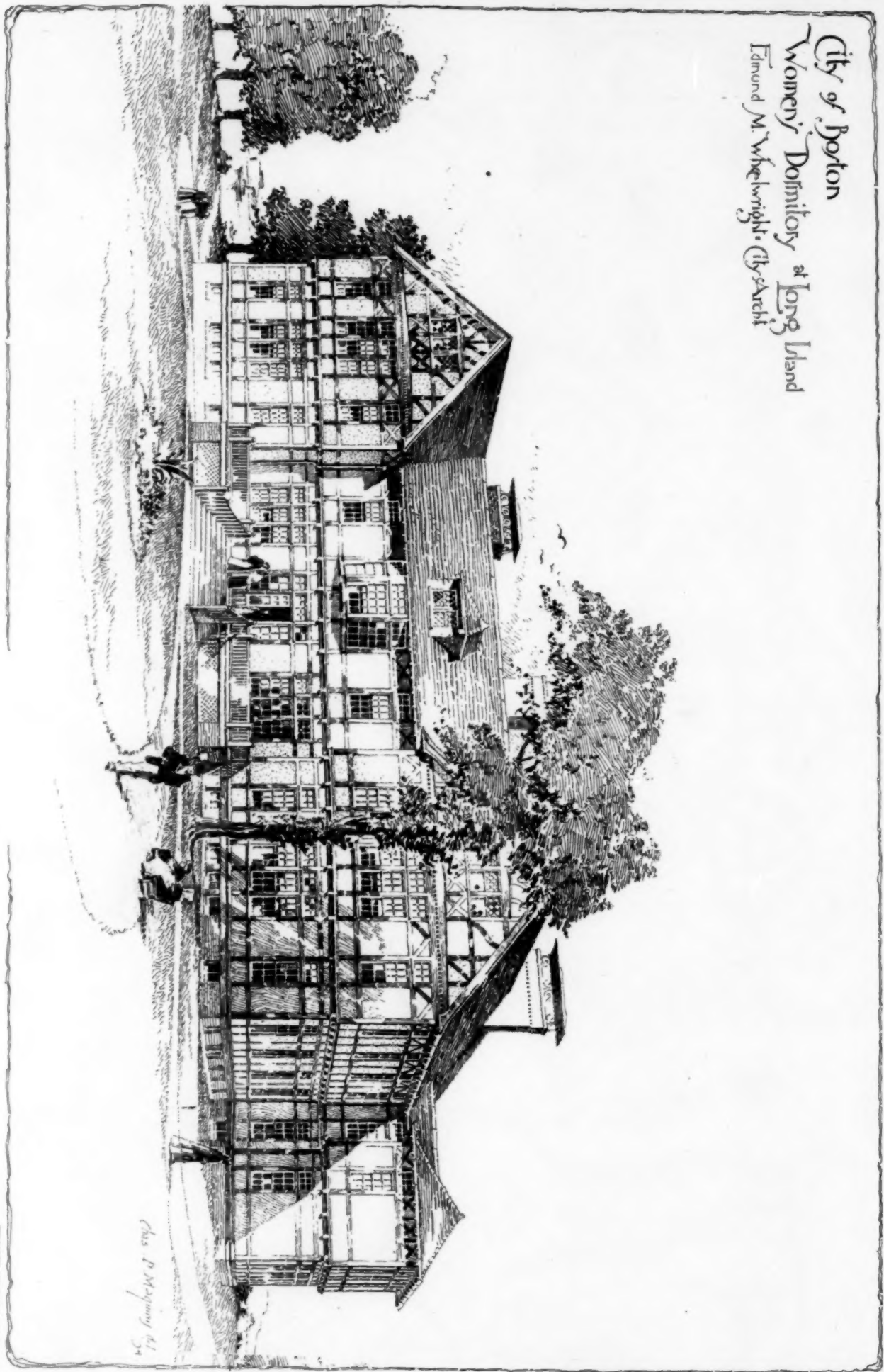


OLD WROUGHT-IRON FAN-LIGHT GRILLES, BALTIMORE, MD.

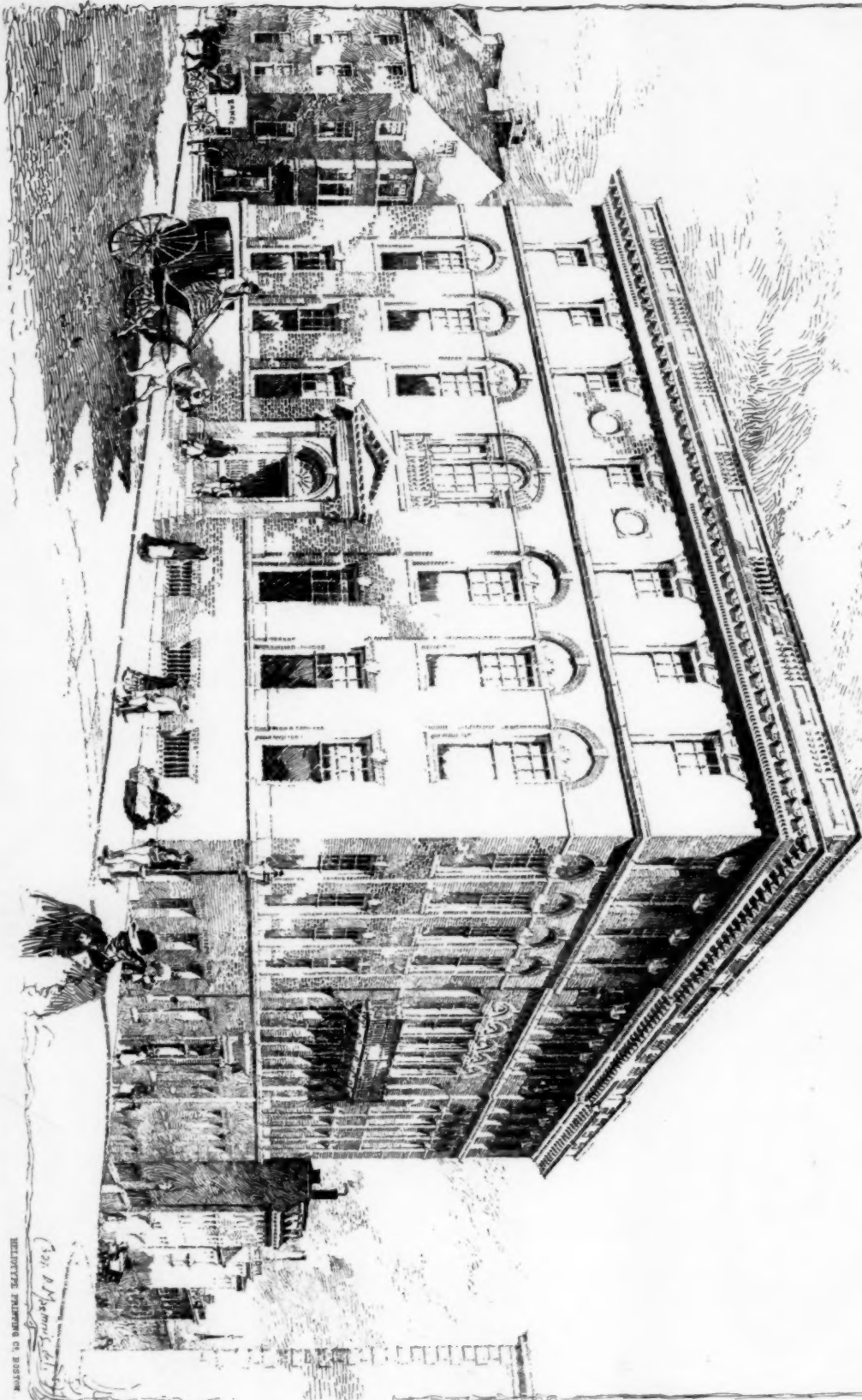


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City of Boston
Women's Dormitory at Long Island
Edmund M. Wheelwright, City Architect



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