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DECORATION

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CONSTRUCTION

BOSTON MASS.

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MARCH 12, 1898.



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THE Treasury Department has prepared a list of buildings now in process of construction for the United States Government which gives some curious statistics. Among other things, it appears that there are nineteen buildings in course of erection, but still unfinished, which were put in hand, by the order authorizing their construction, before the end of 1889. It is to be hoped that, under the new system which has just been inaugurated, the public building-work will go on at a more rapid rate than this, not only for the sake of architects, few of whom like to be tied for twenty years to a single piece of work, but of the public, which pays double price for buildings erected in this way, not only through the loss of interest on the money paid for the land and for the earlier portions of the work, but on account of the increased price which contractors necessarily demand, and receive, for work in which they may have a large amount of capital, borrowed at high rates of interest, locked-up for several years. Besides these nineteen lingering structures, the Government has fifty-nine buildings still immature, although varying in age, the cost of which, when completed, will amount to \$18,439,154. The largest building now under way is the Chicago Post-office, for which four million dollars have been appropriated; but the Washington Post-office, which is to cost a little over three millions, is not far behind. The mint at Philadelphia will cost two millions. The other buildings are comparatively small structures, costing half a million or less.

THE Committee on Science and Arts of the Franklin Institute, of Philadelphia, has issued a report, giving an account of some remarkable experiments, which show that cast-iron undergoes, with age, a remarkable change, increasing in tensile strength, often to a very great extent, as if certain internal strains, tending to cause brittleness, were gradually relieved. It has long been known that old castings were, as a rule, superior in tenacity to new ones, and in some tests made at the Woolwich Arsenal, in England, by firing some old and new cast-iron guns, of precisely similar pattern, with measured charges, until they burst, it was found that, of two guns which had been kept for six years before testing, one endured eight hundred discharges, and the other nearly twenty-six hundred, while of the new guns, which had been cast thirty days before, one burst at the seventy-second discharge, and the other at the eighty-fourth. This extraordinary superiority of old cast-iron has often been attributed to the better quality of the old metal; but the metallurgy of iron is so well understood now that it is

not likely that, in a manufacture of such importance as that of cannon, any valuable secrets of mixing metal would be forgotten in six years; and the Director of the Arsenal suggested a theory, which has now been fully confirmed, that age alone might account for the difference. The Committee of the Franklin Institute, acting on these surmises, devised a series of experiments, to ascertain not only whether time produced such effects upon cast-iron but whether they were the same with all varieties of metal, and in addition, to study the conditions under which such effects were produced or hastened. The most important discovery made in this way was that the effect of age could be produced in a short time on cast-iron by vibration, or repeated shocks, such as those which small articles receive by being rolled about together in the "tumbling-barrel" used in foundries for smoothing the rough edges of small castings, and that this effect might be an increase of a hundred per cent in the tensile strength of the piece to be tested. So far, no very important practical application of the new discovery has been made, but some Pennsylvania engineers have taken the precaution, in making specifications for iron castings, to stipulate that the test-bars, from which the quality of the metal is to be ascertained, shall not be subjected to shock in a tumbling-barrel, or to mechanical vibrations of any kind, before testing.

THE controversy in regard to the Pennsylvania State Capitol still goes on. A decision was rendered in the County Court, by consent of all parties, in favor of the Commission, so that an appeal might be taken without delay to the Supreme Court, and the case is now before the Supreme Court. The evidence has been of a rather amusing character, from the zeal with which some of the witnesses swore that a building with wooden stairs, wooden roof, covered with tarred felt, and supported by wooden trusses, and with matched pine partitions and elevator enclosures was practically fireproof; but the prospect that the Supreme Court will annul the proceedings of the Commission seems, even to the newspapers which attack those proceedings most vigorously, rather remote. In view of this, it is only fair to say that the public, and particularly the professional public, indignant at the Commission's violation of good faith towards architects, should be careful, in case of a decision in its favor by the Supreme Court, not to assume that the latter is engaged in a conspiracy with the Commission against honorable dealing. The question before the Court is not whether the Commission has behaved properly, but simply whether it has exceeded its discretion; and the law is, with reason, very reluctant to interfere with the discretionary powers of such bodies. It is evident that, if the acts of Commissions were subject to injunction, and judicial overhauling, for anything but the weightiest reasons, the public business would never be done, and courts understand this even better than laymen can. It may be claimed, although the claim does not seem to be expressly made in the case, that the Commissioners have wrongfully and wilfully neglected to take the steps necessary for carrying out their duties; but even here the law gives little comfort, holding, in substance, that public officers are presumed to do the best they can for the community that they represent, and that if the community does not take the trouble to elect wise men to office, it must put up with almost any conduct, short of obvious fraud, on the part of those to whom it chooses to delegate its powers.

IT seems that the bill before the New York Assembly, providing that cities of the first or second class may expend from twenty-five thousand to fifty thousand dollars annually in the purchase of works of art by "professional artists who are citizens of the United States, and who practise their profession in this country," is likely to pass. Its passage has been advocated by Mr. T. W. Wood, the president of the National Academy of Design, by Mr. J. Carroll Beckwith, Mr. J. G. Brown, Mr. John La Farge and others, and it will, perhaps, be of use to try the experiment, although we must confess that the result seems to us most likely to be the enrichment of the public buildings of Troy, Syracuse, Buffalo, Rochester and so on with ridiculous specimens of the work of members of "the gang" and their friends. Although the bill provides for selection by a jury of experts, it does not specify the qualifications of members of the jury; and one who observes the infrequency

with which persons of real standing in any business or profession are entrusted with public work in the smaller cities must regard the prospect of the weekly distribution of five hundred or a thousand dollars more of public money in quarters where, besides encouraging American art, it will "do the most good" politically, with a certain apprehension.

AMERICAN students who have been preparing themselves for study in German schools of science should take notice that the German Government has entered upon a policy which seems intended to lead to the total exclusion of foreigners from these schools. Already, as the *Philadelphia Telegraph* informs us, foreign-born students have been declared ineligible for admission to the great Technical High School of Berlin; and the Imperial Government is said to be endeavoring to influence those of Saxony, Bavaria and other States which possess, together with great universities, a certain independence of action, to join with Prussia in excluding foreign students. Whether this endeavor will be successful remains to be seen, but we trust that the great American technical schools will prepare themselves, if Germany closes its gates, to open theirs more widely than ever to the world. In many branches of technical science the United States can already furnish the best instruction, and the most interesting illustrations, to be found in the world, and if this fact were made more widely known, and, perhaps, our methods of instruction modified in some respects to suit the body of older and more experienced students who form the most brilliant part of a German University, multitudes of students, in case of their exclusion from Charlottenberg, Jena, Heidelberg, Leipsic and Dresden, would come here, to our advantage, as well as theirs; for all experience shows that a great cosmopolitan seat of learning, particularly of technical learning, is a fountain of honor and prosperity to the country which possesses it. Of course, in proposing that the United States should prepare to take the place in civilization which Germany seems about to abandon, we do not forget the great French schools of science, in which many Americans have been trained; but these do not cover so wide a range of special instruction as the German universities, and, for various reasons, partly political, and partly sentimental, multitudes of students, if shut out from Germany, would prefer America to France.

MR. WERTHEIMER, described as a "rich American," has bought four famous paintings by Fragonard, reputed to be the best works of that charming painter. These four pictures, according to M. Antony Wable, in *La Semaine des Constructeurs*, have a curious history. Fragonard was a native of Grasse, where he was born, in 1732. He studied painting in Paris, under Chardin and Boucher, and afterwards in Italy, where he made friends with Tiepolo. After some successful essays in the grand historical painting then fashionable, he was engaged to do some decorative work in the Château of Louveciennes, belonging to M^{me}. Dubarry. This, with similar work elsewhere, attracted the attention of the public, at the same time that it fixed his choice of a style; and he was accepted as the successor of Boucher in the light and artificial, but charming painting, characteristic of the latter part of the eighteenth century. On the outbreak of the Revolution, he left Paris for the comparative quiet of the South of France, and settled again in Grasse, where, among other things, he painted the four decorative panels which Mr. Wertheimer has just bought. These panels came by inheritance into possession of a citizen of Grasse, who has kept them until now, under such jealous guard that it has been very difficult for a stranger to obtain permission to see them. It appears, however, according to M. Wable, that their owner, ambitious of distinction, offered to sell them to the French Government, in consideration of a hundred thousand francs and a decoration. The Government agreed to the money payment, but refused to add the decoration; and the agent of Mr. Wertheimer seized the opportunity to offer an equivalent for it in American gold, and secured the treasures.

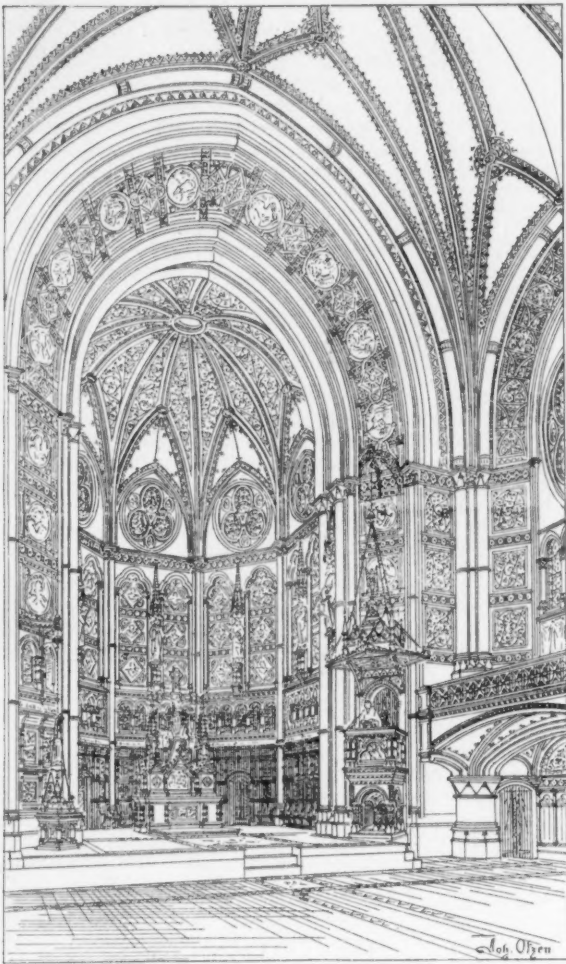
ANOTHER device for discrediting the profession of architecture has made its appearance, and we hope that members of the profession will deal so summarily with it that no more may be heard of it hereafter. Certain ornaments of the real-estate brokerage business, imagining that architects concern themselves with the sources from which their clients obtain funds for carrying out building-operations, and looking

in their own hearts, apparently, for information as to how an architect, if consulted in confidential matters of this sort, would probably conduct himself, have assumed that he would begin by looking around for a bribe to betray his client's interests, and have thought that it showed a commendable enterprise, and knowledge of the world, on their part, to be early in announcing themselves as ready to pay such bribes in return for the services of architects in luring unsuspecting customers to their door. We do not imagine that a single decent architect would treat the proposition which these men make with anything but contempt and disgust; but the fact that it has been made leads people in general to think that there may be architects who avail themselves of it, and hence to instil the poison of secret suspicion into the confidential relation which should always exist between the architect and his client; and the architects who value that confidential relation would do well to let it be known that they consider a proposition from a mortgage-broker to share commissions with them on business brought by them to his office, or to pay, directly or indirectly, any sort of bribe for their influence, as prima-facie evidence of his dishonorable and untrustworthy character, which it would be their duty to call to the attention of their clients in case they should find that the latter were disposed to enter into business relations with the broker or brokers in question.

AN invention already in part familiar in this country has been improved upon in France, and some interesting tests made. Many architects have used the Fitzgerald grate for boilers, in which the bars, which are fixed, and run at right angles with the axis of the boiler, are set like blind-slats, inclining upward away from the ash-door. The purpose of this arrangement is to catch the inward current of air from the ash-door, and utilize its momentum to deflect it upward through the coal; and it is found in France that the same disposition is particularly valuable in dealing with the simple form of forced draught obtained by directing a jet of steam into the ash-box. The air carried in by the steam-jet has a horizontal movement much more rapid than that which enters under natural draught, and the effort of the inclined grate-bars in utilizing its impulse is still greater; while the inclination of the blast acts as a safeguard against the danger sometimes incident to forced draught, that a strong jet of flame, blown through some thin place in the bed of coal, may be concentrated on a small portion of a boiler-plate, causing irregular expansion. In the French form of grate, a portion of the bars, toward the remote end of the grate, are inclined in a direction opposite to that of the others, so that a certain amount of counteracting current is produced, which serves to mix the hot gases, and promote complete combustion; and the bars are made thinner at the lower edge, so that the current of air through them may be slightly compressed on its passage, and expand again, producing a flame of fan-shaped section, which is considered to have certain advantages. According to the *Revue Industrielle*, an economy of coal of about twenty-two per cent has been realized by the use of a grate of this sort, in place of one of the old type, using a mixture of fine and nut coal, and with a forced draught so moderate as not to blow cinders over the bridge wall; measurements showing nearly nine pounds of water evaporated to the pound of coal with the new grate, while with the old grate only seven pounds could be evaporated.

A CORRESPONDENT of *La Construction Moderne* writes that he has been employed as expert by the owner of a burned building in determining the loss; that he has brought the expert representative of the insurance company to an agreement with him; and that the sum that they have agreed upon is seventy thousand francs more than might "very fairly" have been allowed, and he wishes to know what commission he is entitled to on the sum allowed. In reply, M. Ravon says that an agreement for the payment, to an expert, of a percentage on the sum recovered is illegal, for the same reason that a compact for the payment, to counsel, of a percentage of the proceeds of a suit is illegal, in that such an agreement tends to influence the judgment of the expert, and that compensation can only be based on the character and amount of service rendered. In this country, we believe that the law does not look so strictly at the possibility that payment by percentage may bias an expert's valuation; but it is well to remember that it will not regard such an arrangement favorably, and that a charge on some other basis is much to be preferred.

SIR JOHN MILLAIS AT BURLINGTON HOUSE.



Choir of the New Church of St. George, Berlin, Prussia. Prof. J. Otzen, Architect.
From *Deutsche Bauzeitung*.

CONSIDERABLE interest is attached to the Exhibition at the Royal Academy this year, since, for the second winter in succession, by a sad coincidence, it consists of the works of a recently deceased president. Last year the walls were fairly aglow with the exquisite creations of the facile and accomplished Lord Leighton; presenting to us at a glance "the growth of a mind singularly alive at starting to the beauty of form, sensitive to the language of line, and endowed with a sense of color cultivated to a point of excellence." On the present occasion the Exhibition is devoted to the works of Sir John Everett Millais, his successor in the Presidential chair.

Although it was his fate to be its President only six months — dying of cancer in August, 1896 — Millais was a child of the Royal Academy, having joined its classes at the age of eleven, the youngest student to enter its walls. Two years previously, he received the Silver Medal of the Society of Arts, which so astonished the Duke of Sussex, who presided, that he asked what he could do for the child of nine years old. "Give me leave to fish in the Round Pond at Kensington," he is said to have replied — a request at once granted. Extreme youth prevented his joining the Life School earlier, but in 1847 he gained the R. A. Gold Medal for a picture in oil, "The Young Men of the Tribe of Benjamin seizing their Brides."

His "Widow's Mite," at Westminster Hall, in 1847, has been cut in halves, one-half of the canvas remains in England the other is in America. "Elgiva," the first picture he sold, for £120, was the last of his pre-Pre-Raphaelite works. As showing his sentiments towards his Alma Mater, we may fittingly quote here the following words spoken by Millais, at the Academy Dinner, in May, 1895, the year before that which saw his election as President — and his death: "I love everything belonging to it — the casts I have drawn from as a boy, the books I have consulted in our library, the very benches I have sat on."

The 242 works exhibited embrace every phase of his art, from his drawings when a child of seven, to the portraits hung at Burlington House in May, 1896, in which we can see that the hand and eye of the master were losing their precision. The exhibition is thus rendered one of the most memorable ever held under the auspices of the Royal Academy, affording, as it does, the opportunity of judging the life-work of one who was certainly the greatest English painter of our day. The collection is enriched and rendered more complete

through the unwonted courtesy of the Trustees of the National Gallery, who have lent "The Yeoman of the Guard," from Trafalgar Square, and five other paintings from the Tate Gallery — also national. "Elgiva seized by Odo," 1847, to which we have alluded, is not exhibited, but in "Cymon and Iphigenia," of the same date, we have a specimen of Millais's "early" style, strongly suggestive of Frost and Etty, and not less characteristic of the period when "the pictures of the most popular artists displayed the same trivial and commonplace subjects, lacquered over with a thin gloss of artificial sentimentality."

Before painting the "Isabella," exhibited at the Academy in 1849, Millais had bid a final farewell to the illusions of conventionality, and, conjointly with Rossetti, Holman Hunt and others, had formed the Pre-Raphaelite Brotherhood, of whom, alas, the latter only survives. Their aim was "nothing more than a protest of sincerity against the fatuousness of conventional art." In this noble purpose they were wonderfully encouraged by the strenuous support of John Ruskin, "the man who first stirred the hearts of his generation with a thrill of divine discontent, who was the first to open the eyes of Englishmen to the beauty alike of Nature and of Art, — and to none did his words come as an inspiration more than to the little coterie of kindred minds."

It is difficult at this date to imagine the shower of abuse and derision with which the first two pictures of the Brotherhood were received — Millais's "Isabella" and "An Orsini and Colonna Faction Fight" by Holman Hunt. The two faults against which the student was seriously warned were a "too close following of the Old Masters and an absence of *chiar oscuro*." "He may be admired, but will fail to win those who know what is necessary to make up the present sum of truth, etc." So many of the late President's works have been engraved, that description is superfluous, save for the many who have not had the good fortune to see them in any form. The above-named picture illustrates that passage in Keats's poem describing the rage of the brothers on discovering the mutual love of Isabella and Lorenzo, who

"Could not long in the self-same mansion dwell,
Without some stir of heart — some malady.

These brethren having found by many signs
What love Lorenzo for their sister had,
And how she loved him too — each unconfiner
His bitter thoughts to other, well nigh mad
That he, the servant of their trade designs,
Should in their sister's love be blithe and glad
When 'twas their plan to coax her by degrees
To some high noble and his olive trees."

The composition, with all the simplicity of an old painter, presents two rows of persons, consisting of the family and dependants, seated at a long table, mostly all seen in profile. "Poor Isabel" looks down, and Lorenzo's approaching fate seems foreshadowed in the sadness of his expression, as he meekly hands her an orange on a plate. One brother, seated opposite to Isabella, shows by his vicious expression how gladly he would crush Lorenzo as he does the nut he cracks; while he spitefully aims a kick at the greyhound hanging its head on Isabella's lap; this latter circumstance gave the picture the name of "The Kick." There is excellent action, painting, and character in the several heads; well distinguished in age and sex; among which many are portraits, *e. g.*, Millais's father is seen wiping his mouth, D. G. Rossetti drains his glass at the end of the table. William Rossetti is the serving-man and the future Mrs. D. G. Rossetti is Isabella, on whose chair the initials P. R. B. are carved; a garden, seen beyond, adds lightness. Twelve years ago the painting was purchased by the Corporation of Liverpool, where it holds its place as one of the epoch-making pictures of the last fifty years. It finds many admirers in the present exhibition, being, as Holman Hunt said a few years since, "a wonderful picture for a youth of twenty to have produced."

To the same year belongs "Ferdinand lured by Ariel," in which the landscape is as fine as any Millais ever painted. Shortly afterwards the critics were, to say the least, startled, by the production of "Christ in the House of His Parents," better known as "The Carpenter's Shop," which title clearly describes the subject, though it was at first exhibited simply with the words in full of *Zech. xiii, 6*. We see on a bench, which fills the centre of the shop, a table being made by Joseph and the workmen, while in the front Mary is stooping over and trying to comfort her Son, aged about twelve, and looking much distressed at a wound in his hand caused by a nail piercing it; from within the house a youth is coming towards Him with a bowl of water.

We are amazed that this natural-looking picture when first exhibited should have been styled "a lamentable and revolting eccentricity," from which some recoiled in "loathing and disgust, while others regarded it as nothing less than a pictorial blasphemy." This was partly due, doubtless, to the fact that no head was surrounded by a halo, which would horrify many who would gaze at a canvas by an early Italian painter, and see nothing ludicrous in a broad gold ring around every head in it, suggesting to some irreverent critics "glorified quoits!"

To this "early" period belongs the quaint little "Portrait of Alderman Wyatt," printseller of Oxford and a great friend to the P. R. B. Nothing is left to the imagination — each piece of furniture

is minutely treated, a portrait of a lady hanging on the wall is carefully reproduced, besides the patterns on the old china bowls in a cabinet, while the brilliant flowers in the garden seen through a glass door appear to dispute the right of the sitter to be the chief object in the picture. At this time the artist had not acquired that skill in depicting little girls in which he became so famous, for Mrs. Wyatt's little grandchild is very wooden.

When "Ophelia" appeared, in 1852, the critics acknowledged that Millais's "powers of thought, execution and industry were undeniable," and that they saw already "the bursting of his self-imposed bonds." But he held fast to the good that was in the new art, and its influence on his art was abiding, although the poetry of his nature became more self-assertive and never perhaps to a greater extent than in this popular picture. The willow branch on which the hapless maid clambered has broken, and she floats awhile on the glassy stream borne up by her clothes, and chanting "snatches of an old tune as one incapable of her own distress," till she is drawn down by "her garments heavy with their drink." The finish is marvellous, the water-lily is botanically correct, the moss and the flowers mirrored as in a glass; while the entire situation befits the pathetic circumstances. Seen at a little distance, the picture becomes quite luminous. Miss Siddal (afterwards Mrs. D. G. Rossetti) was the Ophelia.

Few pictures are so well known, by means of countless engravings and photographs, as "The Huguenot." The dramatic intensity of the group, however, the passion of regret and apprehension, too deep for words, which form the true beauty of the picture, elude the engraver's skill to reproduce; while we miss the rich sheen of the marvellously painted violet coat, etc., and the varied tints of the weather-stained red brick wall, which, in the engraving, are of necessity wanting.

Of "Sir Isumbras at the Ford," 1857, for which Tom Taylor wrote a short Metrical Romance in Chaucerian English, — we can only note that Sandys caricatured the picture, introducing the chief spirits of the Brotherhood; and even Mr. Ruskin disapproved of it, writing "that it was not the Parnassian rock which Mr. Millais was ascending but the Tarpeian."

The wonderful decade, 1849-1858, reached its climax and crown with the "Vale of Rest," exhibited with the suggestive words "where the weary are at rest," which assist in revealing the death in life, the unquestioning renouncement, and submission to the inevitable of the conventual life. The world is shut out by the tall trees ranged against the purple clouds of the evening sky, and alone in this remote valley, we see in the foreground two nuns engaged in the unwomanly task of grave-digging. One of them, a young woman with her hands crossed on her knee, rests on a stone, and looks up at us; the other stands in the grave, and with a spade throws out the earth, the swollen veins in her hands and arms showing how very laborious it is. The picture is full of quiet pathos: "All the air a solemn stillness holds." The simple figure and action of the nun digging remind us of Millet.

In the breezy bit of incident-painting, with a glimpse of the sea — and almost a whiff of it — "The Northwest Passage," we see an old sailor at a table, on which is a map of the Arctic regions, listening intently, and with a far-away look in his eyes, to a lady seated on the floor, reading from a log-book in her lap. As the old salt hears the adventures and hairbreadth "scapes" of some Arctic explorer he strikes the table with his clenched fist and says, "It might be done, and England should do it." The sailor is true to life, being the portrait of Trelawny, the friend of Byron and Shelley.

Millais had not for some time produced a picture so carefully drawn and so dramatically treated as "The Romans leaving Britain," of 1865. After holding the island for four centuries, dangers at home necessitated the withdrawal of the Roman army, never to return. Mustering at Dorchester, all the southern troops had departed, save a few, whom we see embarking in galleys on the beach below. Many women followed their lovers down to the sea, but there they had to part. One of such partings is depicted on this large canvas, — 48' x 75' broad — which was painted in 1865. On a grassy slope to the right are seen two figures — a Roman soldier and a woman whom he holds in a tight embrace; he has thrown aside his helmet, and kneels with his head in her lap, his whole frame quivering with emotion. The woman is a tall, dark, handsome Briton, with something of the Celt in her features, which have a fierce rebellious expression, as of being badly treated by one she yet loves, while despair is in her eyes, and a forced submission in the closed red lips. Looking to the left, seaward, opposite the figures, we have a magnificent view of the crested waves rolling in towards the mighty chalk cliffs, hollowed out into many a bay — a correct representation of the Dorsetshire coast at Lulworth.

"Autumn Leaves" tells no particular story; there are four children — gentle and simple — heaping up withered leaves in a field for burning. The expression on the children's faces is perhaps a little forced, but the gorgeous tints in the twilight sky and the rich tones of the leaves render this one of the artist's finest works in regard to sentiment and color. It was painted in 1856, for a Mr. Eden, but when he got it home he was set against it by artists and critical friends, so he changed it for something else! Some twenty years after, he introduced himself to Millais at the Academy dinner, and confessed with shame what he had done.

In "Chill October," painted in 1870, there is no human life, simply Nature, and in a sorrowful mood. Pasted on the back of the

canvas is a sheet of paper on which Mr. Millais wrote as follows: "Chill October" was painted from a backwater of the Tay, just below Kinfauns, near Perth. The scene had impressed me for years before I painted it. The traveller between Perth and Dundee passes the spot where I stood. Danger on either side — the tide, which once carried away my platform, and the train, which threatened to blow my work into the river. I chose the subject for the sentiment it always conveyed to my mind, and I am happy to think that the transcript touched the public in like manner, although many of my friends at the time were at a loss to understand what I saw to paint in such a scene. I made no sketch for it, but painted every touch from Nature, on the canvas itself, under irritating trials of wind and rain. The only studio work was in connection with the effect. John Everett Millais — 18th May, 1882." Lord Armstrong is the owner of the picture, for which he paid £3,225 — the size is 55" x 73".

We must pass by numerous landscapes, such as "Over the Hills and Far away," a view near Birnam, towards the valley of the Tay, 52" x 74"; "The Fringe of the Moor," an upland field edged with broom and bracken, through which a footpath leads to heather-covered hills beyond; "Murthly Moss" and "Murthly Water"; the fairy-like "Dew-drenched Furze," etc. These are all situated in or near Perthshire, fishing in whose waters was Millais's chief pastime for many years, and to which the world is indebted for many of those charming landscapes so refreshing to the eye; for the late President was a thorough Englishman, loving no country so well as the land of his birth, so that in Great Britain, north or south, he found the majority of his subjects.

In 1883 appeared the first of a charming series of girl children, in which we mark his wonderful skill in painting English skin in early youth. For "My First Sermon" his eldest daughter sat; and finding they made good models, Millais often called on his children to sit to him.

His fame as a portrait-painter was made in 1869, by his exquisite portrait of Miss Nina Lehmann, a little fair-haired child seated on a stool. The same young lady was afterwards painted as "Lady Campbell," in 1889.

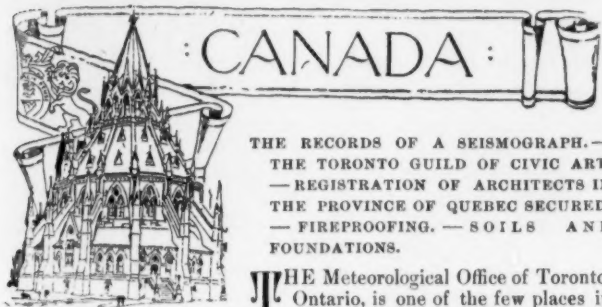
During the next twenty-five years the "English Velasquez," as Millais was not inaptly called, painted numerous portraits of distinguished men and women, though declining to execute a half-length under £1,000 and requiring two years in which to finish it. Among these, the three-quarter length of "Cardinal Newman" is a masterpiece, as regards the skilful management of the rose-colored gown and cape, and the excellent delineation of the thoughtful countenance, and the hands, between which the Cardinal holds his biretta on his knees.

In the matter of prices — for the "Huguenot" Millais received £150, and was glad to get another £50; but for "The Princes in the Tower" — far from being one of his best — £4,000 was paid. (Reynolds's prices ranged from £25 to £500, less than half of what Millais was paid for some portraits.) His "Speak, Speak," was bought by the Chantrey Fund, for £2,000. Mr. Millais was elected A. R. A. in 1853, and married the same year Mrs. Ruskin (Euphemia Chalmers, daughter of Mr. G. Gray, of Perth), by whom he had several children. Lady Millais died quite recently, a short time after her eldest son, second Baronet. Millais was the first English artist to receive a baronetcy on account of his art.

"A prodigy in childhood, as a youth the most prominent leader in a movement which worked wonders in the practice of art, a member of the Academy when some of his contemporaries were still in the schools, Millais was one of the few men whose works appeal to us from the level of the great ancient masters. Add to his fine endowments a noble physical presence and a genial manner that never tired, and we have the elements of that success which, by merely growing, assured its own magnificence."

The following story, too good to be omitted, was told by Sir John Millais to a friend: "I was seated at dinner one evening beside a pretty, gushing girl to whom I had not been introduced. She fired into conversation directly she had finished her soup, and, it being May, with the inevitable question, 'I suppose you've been to the Academy?' I replied that I had. 'And did you notice the Millais? Didn't you think they were awful daubs? I can't imagine how such things ever got hung!' She was going on gayly in the same strain, while I sat silent, when suddenly the amused smiles of those around her and the significant hush brought her to a sudden stop. She colored rather painfully, and whispered to me in a frightened voice, 'For heaven's sake, what have I done? Do tell me.' 'Not now,' I replied, 'finish your dinner in peace. I'll tell you by and by.' She did so rather miserably, trying to extract from me what the matter was; and when dessert came I filled her glass with champagne and told her to gulp it down while I counted three. She obeyed without protest, and I took the opportunity, when she couldn't speak, to say, 'Well! I am Millais. But let us be friends.'"

TUNNEL FROM EUROPE TO AFRICA. — M. Berlier, the well-known engineer, has laid before the Governments of Spain and Morocco a project for the construction of a tunnel under the Straits of Gibraltar. The execution of this plan would have immense economic consequences, so that its fate will be followed with interest. M. Berlier is the inventor of a new method of subterranean boring. — *N. Y. Tribune.*



THE RECORDS OF A SEISMOGRAPH.—
THE TORONTO GUILD OF CIVIC ART.
—REGISTRATION OF ARCHITECTS IN
THE PROVINCE OF QUEBEC SECURED.
—FIREPROOFING.—SOILS AND
FOUNDATIONS.

THE Meteorological Office of Toronto, Ontario, is one of the few places in the world that at present possesses an instrument for the recording of earthquakes. It was purchased last year on the recommendation of the chairman of the Seismological Committee of the British Association and, according to Professor Stupart of the Toronto Observatory, is a very valuable addition to the outfit of his department, affording not only an immense amount of interest at present, but one likely, in the near future, to prove of great value in obtaining information regarding the interior of the earth. It has been already amply proved that an earthquake shock causes a vibration that may be felt thousands of miles away, and if the instrument employed to record it is sufficiently sensitive even "earth-tremors" will affect it. When the British Association was in Toronto last autumn, Professor Milne, of the Isle of Wight, England, gave a very interesting lecture on the subject of earthquakes, and the new instrument arrived in time to be put on view at the lecture, Professor Milne explaining its construction and uses to the audience. Mr. Stupart, at a meeting of the Canadian Institute in Toronto, recently, read some very interesting notes on seismic disturbances which I think it will be of value to report. He stated that "since starting the instrument we have recorded eleven very decided quakes and nine small earth-tremors; many others may have been lost in the air-current disturbances. The most marked of the eleven was the first, which occurred in Borneo. The next in order of importance occurred on December 19th, when earthquakes were reported both from Bermuda and Italy. Next came one on December 28th, followed by a larger one on December 29th, and both were also recorded by Professor Milne on the Isle of Wight. I sent him our trace and he sent me a print of his. In writing me a few days ago, Professor Milne said, 'These are the first comparisons in the world's survey. You know that the shock of December 29th broke two West India cables. It was officially reported from Berne on December 31st. I was able to tell the foreign and colonial offices that it occurred two days earlier, viz., December 29th, at about 11.30 A. M., Greenwich time. You should show your Government the importance of this seismic survey in locating places dangerous for a Pacific cable, and as a means of determining what broke the cable.' The earthquake in question occurred in San Domingo, at 11.29 Greenwich mean time, and caused great destruction of property; it was recorded on the Toronto instrument $3\frac{1}{2}$ minutes later and in the Isle of Wight 8 minutes later than in Toronto. An important series of shocks were registered on January 17th, beginning at 12.25-3.55 A. M. Earth-tremors were recorded January 19th at 8 P. M., January 20th at 5.40 P. M. and January 24th beginning at 7.45 P. M., and this latter was particularly well marked, but as yet I have not learned where the earthquake was. Unfortunately the earthquake in Asia Minor, at the beginning of February, occurred during a violent air-tremor storm, and while I am nearly certain our instrument was affected, I cannot state it positively."

To turn from such a momentous subject as the record of earthquakes, and to touch upon matters connected with art is a very abrupt change, but must be pardoned in a letter of limited length. The Toronto Guild of Civic Art was inaugurated a few months ago, with a view to keeping an eye on the means of beautifying the city, and offering advice in the matter of laying-out parks, location of statues, landscape-gardening, etc., and it has recently undertaken its first practical work in connection with the decoration of the new Court-house and Municipal Building, which, after some fifteen years since its conception, is approaching completion. The Advisory Board is composed of influential men of all kinds of occupations—architects and artists, barristers, university professors, a senator and others. A meeting was held a short time ago at the studio of Mr. G. A. Reid, to confer with him on the decorative subjects he has been commissioned to execute on the walls of the Court-house. This, being a public building of considerable importance, gives the Guild a capital opportunity for the exercise of its functions, which will undoubtedly be most beneficial to the city.

At the same time the citizens are groaning considerably over the cost of this same building, which, like a hungry elephant, has a terribly capacious maw, and its keepers are continually asking for further supplies with which to satisfy it, although the architect's name is not Oliver Twist. Starting out with the intention of erecting a court-house at the cost of about half or three-quarters of a million of dollars, the appropriations have already risen to considerably over two millions, and now another hundred thousand dollars is asked for, for the completion and finishing. It has been pointed out that an amount equal to this latter sum has been expended in lawsuits, debentures and insurance, so what the actual cost, to the city,

of this temple of justice and municipal affairs will foot up to by the time it is completed and furnished, no one dares estimate with any degree of assurance. Several lessons might be learned from this work: it affords an example of the value of contract-work over day-work; there have been splendid opportunities for the moralist to get in his teachings; every step in the progress of its affairs has been replete with jealousies, slanders, libels, exhibitions of temper, nigardliness, and bullyings sufficient to supply a volume of sermons on the text of charity.

The Ontario Association of Architects held its annual meeting as usual, in January, in Toronto. The attendance was small, but that is to be accounted for easily enough. It was not to be expected that country members would retain their interest in the objects of the Association after the repeated rebuffs given to it by the legislature of the Province, and the inability of the Association to get its amended act passed through the local House; but these misadventures and the fact that the Association is still strong enough to hold an annual convention go to prove the sterling quality of the earnest members of the profession, who, despite disappointments and treachery, still cling to the hope of ultimate success, and continue to labor in the good work that will ultimately so greatly benefit the public at large. The very fact that the Quebec Association has obtained already, through its local House, the desired legislation—giving encouragement to the original members of the original association—ought to have so encouraged the outside members that they should have flocked to this recent convention; but that they did not would seem to show that they regard the Association as a means of satisfying personal and selfish desires, and are themselves indifferent to the real objects and care less for the safety of the public. The terrible disaster at London, Ontario, has been a recent example that goes to show the necessity of having only qualified men to practise as architects, and the act passed by the legislature of Illinois shows that others besides architects of the Provinces of Ontario and Quebec have felt, and do feel, the necessity of such measures as these men have so long struggled for.

It will be interesting to record what it is that the Quebec architects have obtained from their legislature. The Bill was assented to on January 15th. Notice that the organization of the Council of the Architects of the Province of Quebec is completed shall be published, and "after the expiration of six months from the publication no person can take or make use of the name of architect, either singly or in connection with any other word, name, title, or designation, giving it to be understood that he is an architect under this Act, unless he is registered under this act as a member of the said Association." A fine of \$25 is to be imposed for a first offence and \$100 for every subsequent offence, and the act is to come into force on the day of its sanction. This success gained by the Province of Quebec Association is a great triumph for the Ontario Association, the original and mother organization, and it is doubtful now if the local House of Ontario can longer withhold from them the desired amendment to their act. A new House will meet this spring, and it is to be hoped will be composed of more enlightened men than its predecessor.

The Ontario Association has chosen for its president for the ensuing year an exceedingly worthy man, Mr. S. H. Townsend, one of the prime movers and originators of the Association, and the original secretary, a man who has, in his position as member of the Council, to which he was elected when he resigned the secretaryship, been of great value—a hard worker, not easily discouraged. He takes up the reins at a time when energy and the personal "grit" of the president of such an association are necessary factors: a president without such qualities would ruin the society, at this critical stage of its existence. He has before him the work of arousing the interest of backsliding members, mobilizing them, and bringing them into action. The Bill must be brought up before the new parliament, and must have a strong backing, and all this has to be provided—energy, unity, and determination must bring success.

Several very interesting papers were read at the convention. Mr. Burke read one dealing with fireproof construction, particularly as to the effect of limes and cements and of various paints on iron and steel constructions. He described very fully a number of tests that had been applied to fireproofing material and showed how very necessary it is to know the chemical properties of paints used on iron and steel, and also of limestones placed against iron or steel, some cements, limes and paints having very serious effects upon the metal, while others do not. The paper and the discussion that followed seem to point out that "fireproofing" is a science still in its infancy, and that it must remain to a great degree a matter of theory until time shall show how the very numerous buildings erected in recent years of iron or steel, in conjunction with stone facing and so on, have stood or are standing the effects of time. At the same time, we cannot but look with considerable alarm at the possibility of the failure of any "sky-scrapers," through the deteriorating effects of lime or paint that may not have been properly tested before using, such effects taking place where they cannot possibly be seen until at last sudden collapse, with, perhaps, serious loss of life, takes place.

Mr. A. F. Wickson's paper dealt with the strength of various soils for foundations, the dangers and difficulties to be met with in filled-in areas, etc. Here is a subject about which every one has had some experience, but the conditions vary so much that it is apparently impossible to lay down any fixed rules. Mr. Wickson, however, pointed out that the data in text-books on the subject were far behind

the times. Facilities for making tests did not exist then as they do now: science has advanced so greatly in the last few years that tests upon such scientific lines and bases as the present time admits should be made again for publication. The paper lead to an interesting discussion, during which those who took part in it gave their experiences with difficulties they have met with, describing the means taken to obviate them and the results after some years had elapsed. Mr. H. B. Gordon followed with a paper on "Wooden Posts and Beams," the chief point being a resolution, which was discussed, and carried unanimously, requesting that the Ontario Government provide funds for the purpose of making careful and complete tests of the building-materials of the Province in common use, that exact information may be obtained as to strength and durability, the absence of all such accurate knowledge necessitating a haphazard method of construction, which is at once wasteful, dangerous and unscientific.

BOOKS AND PAPERS

THE author of this work is a trained professional engineer, who, after several years of active practice, in which he had met with various business problems which older engineers could not solve for him because of their lack of legal knowledge, and lawyers could not solve because of their lack of engineering knowledge, decided that there was a place in the world for specialists possessing a knowledge of both law and engineering, and resolved to become such a specialist. He, therefore, entered the Harvard Law School, where he completed the three years' course, graduating with the degree of LL. B., and devoting himself particularly, in his reading, to the law affecting the art of construction, those who practise that art, and those who employ them. During this time, and subsequently, he delivered annual courses of lectures on the subject of Engineering Law to the students of engineering at the University, and these lectures form the basis of the book before us.

The author has endeavored successfully to adapt his work to the wants of architects, as well as engineers, and, although architects will smile a little at being told that the book is intended to "assist them in successfully undertaking contract-work," this does not prevent it from treating most of the difficulties that they are likely to encounter in their practice in a manner very well suited to their needs; and, in a book of a thousand pages, there is room to treat them at reasonable length. One of the most important and valuable chapters, to contractors, as well as to engineers and architects, is that relating to contracts for public work. Most architects know, some of them through bitter experience, that public corporations cannot be held liable for the promises or agreements of their officials beyond the scope of their authority, but few of them are aware of the strictness with which this principle is maintained by the courts. Not only must a contractor, at his peril, ascertain whether the Mayor, or Selectmen, or County Commissioners, or School Committees, or Highway Committees, or Commissioners of Public Works, have been authorized, by a clear and unmistakable vote, passed at a legal meeting of the corporate body, or its legal representatives, to make a contract for the work which he is asked to do, but he must find out whether the charter of the corporation, which, as its organic law, is paramount to any action, however regularly taken, of its constituted authorities, permits it to enter into such contracts. Moreover, if a fixed appropriation has been made to pay the cost of the work, the contractor must not only know the amount of the appropriation, but must keep the cost, including that of all extra work that may be ordered by the corporate authorities, even in strict accordance with the provisions of the contract relating to extra work, within the appropriation, or he cannot recover payment, the courts holding that a city or town is not liable, in such cases, for any excess of cost beyond the appropriation, no matter what may have been the solemnity and regularity with which the contractor was ordered to do the extra work. In one case cited, money was appropriated by a town to build and furnish a town-hall. A number of citizens agreed to guarantee the furnishing of the hall if the Town Committee would spend the whole of the appropriation on the building itself, and the committee accordingly made a contract for the building alone, at a price equal to the full amount of the appropriation. The contractor completed the building according to his contract, and did extra work in addition; but the courts of Vermont held that he could recover nothing for his extra work, and for what he did under his contract he could recover only what would remain from the appropriation after deducting a sufficient sum to pay for furnishing the building; on the ground that the Committee exceeded its authority in contracting to spend the whole of the appropriation on the building alone, and that the contractor ought to have known this. In the same way, if the constitution of the State, or the charter of any town or city, or any statute of the State, provides a limit of indebtedness which public corporations are authorized to incur, appropriations involving the transgression of this limit are so far void, and do not bind the corporate body; and, as the courts hold that a contractor

¹"Engineering and Architectural Jurisprudence": A Presentation of the Law of Construction for Engineers, Architects, Contractors, Builders, Public Officers and Attorneys-at-Law. By John Cassan Wait, M. C. E., LL. B., New York: John Wiley & Sons. London: Chapman & Hall, 1898. \$6.50.

has "no excuse" for not knowing the debt limit, he has only himself to blame if he is ruined by trusting to the representations, or the solemn acts, of the constituted authorities.

Another matter, which interests engineers more than architects, is that of the liability of sureties. The experience of most architects is that contractors of skill and responsibility will not give sureties except for public work, where they are usually required by law; but, supposing them to be given, it is important to know that very little is necessary to discharge them from their responsibility. "A surety," Mr. Wait tells us, "is bound in the manner and to the extent provided in the obligation, and no further," and "A variation or alteration made in the contract by the parties thereto without the surety's consent is fatal to his obligations. It is not necessary that he should sustain injury in consequence of the change . . . if a change is made without his consent it is fatal to his liability, even if the change is for the benefit of the surety." If payments are made to the contractor without reference to the time or terms of payment fixed by the contract, or in excess of the instalments stipulated, the surety is discharged, as he is entitled to the benefit of the security which the owner would have from making payments only as stipulated in the contract; and, where interim payments are to be made on the estimates of the architect, it has been held that the surety was discharged by payment without such estimates, or in excess of them. It is hardly necessary to say that any material change in the plan of a building without the consent of the surety releases him, but the change need not be very radical. In one case, steam-heat was substituted for stoves for warming, and a gravel roof for a tin roof; in another "sliding-doors between hall and parlor," and a "bath-room," were added by interlineation in the specifications; and, in a third, the arrangement of the closets was changed, \$221 was added to the cost of the plastering, and a "bulkhead for sewer connections" was added; and in each case the surety was held to be released.

We do not wish to borrow from Mr. Wait's book more than is necessary to give an idea of the thoroughness, and the comprehension of the needs of the profession to which he addresses himself, which characterize it; but one bit of advice that he gives is of such extreme importance that it cannot be too often or too strongly impressed upon the minds of architects and engineers. Speaking of their decisions and certificates, he warns them to make these brief, and not to add to them explanations, proofs, arguments or defences of any kind. Of course, the professional man should do his best, by reference to notes, measurements and careful estimates, to justify his decisions to himself, but his certificate or award should represent conclusions simply, without mentioning points of law, circumstances or facts, except so far as the contract may require these to be stated. For an architect or engineer to attempt to justify or explain his certificate is to open the door to controversy, and perhaps to the setting aside of the award; for, if a mistake of law appears on the face of the award, the conclusion from it may be impeached, while the same award, given without explanation or argument, could not be assailed. In point of fact, engineers and architects are under no obligation to decide questions submitted to them in accordance with legal principles. So long as they make their award honestly, in accordance with the facts as they understand them, and "according to equity and good conscience," it is presumed that the parties have agreed to accept their view of the law as well as of the facts, and their decision will be upheld, on the ground, as stated by one court, that "The referees are a law unto themselves, and may decide according to their own notions of justice, and without giving any reasons therefor."

This little book,² which appeared during the past summer, is an enlargement of a smaller work by the same author, published in 1893, entitled "Notes on the Testing and Use of Hydraulic Cement." It aims to give to the user of cement a clear idea of the character and properties of the material, and of the methods of testing its qualities, and it succeeds admirably in its aim. The difference between the various kinds of cement is clearly set forth, an outline given of the methods of manufacture, and of the chemical theory of hardening and setting, while two-thirds of the book is devoted to a description and discussion of the methods of testing cements and mortars. The chemical theory appears to us the least satisfactory portion, and it is hardly made perfectly clear and tangible to readers who are unacquainted with the researches of Le Chatelier, Candlot and others, who in recent years have contributed so much to the elucidation of the scientific questions involved. The best part of the book, and, as already stated, its major part, is that treating of the methods of testing of cement. This portion is brought down to date and contains the results of the most recent investigations, and can be heartily commended to all users of the material. The proper testing of cement, so as to secure uniform results, is one of the burning questions in the field of engineering materials, and among the many, often arbitrary, tests and methods which have been proposed, and, in view of the discordant results to which they lead in the hands of different operators, the architect or engineer who has not made a special study of this question must often feel entirely at a loss as to what he should require in his specifications. Professor Spalding's book makes clear the object and methods of execution of the various

²"Hydraulic Cement, its Properties, Testing and Use." By Frederick P. Spalding, Assistant-professor of Civil Engineering at Cornell University, N. Y. Wiley & Sons, 1898, D. 261 pp.

tests, and shows the elements which may lead to discordant results. Its study will aid the reader materially to form clear and definite ideas upon the subject. We regret that the valuable list of references contained in the former smaller work of the author has not been brought down to date and incorporated in this book.



CINCINNATI CHAPTER, AMERICAN INSTITUTE OF ARCHITECTS.

THE Cincinnati Chapter of the American Institute of Architects, at last regular meeting, held March 1st, discussed the subject of The Engineer and the Architect. The local members of the engineering profession and others interested were invited to attend the meeting, and after partaking of a good dinner the Chapter and their visitors listened to an able address, on the subject under consideration, by Major M. D. Burke, civil engineer. This was followed by a general discussion, Mr. Totten, the local representative of the Carnegie Steel Company, explaining many interesting points in connection with the manufacture of structural steel, also the care with which chemical analysis and physical tests are made by his company; others explained the nature of mill-inspection, the process of Bower-Barffing, the rolling of plates, riveting, etc. The discussion brought out the fact that chemical analysis in practice is not as reliable or certain a test as the physical, though the former, to be sure, has its value; and Mr. Burke told of a case where three chemists made three very different analyses from pieces and borings of the same ingot of steel, and these three analyses, with the facts, were presented by a leading steel manufacturer before a meeting of the National Association of Mechanical Engineers, with the remark that this proved conclusively that "Ananias was the father of chemistry." The Cincinnati Chapter, for some months past, has been holding these joint meetings, at each taking up some practical subject and having as its guests the leading local men in the particular branch under discussion. Two meetings were devoted to paints, one to plumbing and one to electricity. The next meeting will discuss terra cotta, and Mr. Joiner, of the Indianapolis Terra-Cotta Company, will read a paper on this subject, and, as he has been connected with this industry for thirty years or more, we anticipate something of special interest. We are promised other practical papers by outsiders for several succeeding meetings, and expect to intersperse these occasionally with papers on more purely architectural or professional subjects by our own members, and in this way we hope to make the Chapter an educational factor and our meetings also pleasant, social affairs.

Another idea the Chapter is about to put into practice is to visit some local manufactory in the building or allied lines monthly, and so, on the 10th of this month, we intend to inspect the works of the National White Lead Company, by courteous invitation of the manager, Mr. C. E. Goshorn. A. W. HAYWARD, Secretary.

DETROIT ARCHITECTURAL SKETCH-CLUB.

On Monday evening, February 21st, Mr. H. J. Maxwell Grylls spoke on Roman Architecture, the third paper of the series on the History of Architecture, at the Museum of Art, before a well-attended and appreciative audience. It was well illustrated by stereopticon views and drawings by members of the Club.

The interested public are greatly pleased with these lectures and take advantage of the opportunities offered.

The next paper will be given by Mr. James E. Scripps, on the History of Gothic Architecture, March 7th.

ALEX. BLUMBERG, Secretary.



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

PRIVATE ART GALLERY OF CHARLES OLNEY, ESQ., CLEVELAND, O. MESSRS. COBURN & BARNUM, ARCHITECTS, CLEVELAND, O.

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

ANOTHER VIEW OF THE SAME BUILDING.

COMPETITIVE DESIGN FOR CHURCH OF THE MESSIAH, RHINEBECK, N. Y. MESSRS. STEPHENSON & GREENE, ARCHITECTS, NEW YORK, N. Y.

THE ground-plan consists of a nave with a transeptal aisle, a guild-room, chancel and tower. The principal entrance is through the tower, the tower vestibule having a ceiling carried by heavy exposed beams. Part of the tower is thrown into the

church by an arch, and both forms an artistic feature and is useful as a place for the font to stand, and also affords extra aisle space near the entrance, which is always desirable. From this space stairs lead to the second floor of the tower, used as a gallery opening into the church with a wide and effective arch.

The church has an exposed timber roof with decoratively wrought trusses with arched and curved braces. A richly-moulded arch separates the church from the chancel, and there is another arch between chancel and sacarium. At the back of the chancel is a large mullioned window. On one side of the chancel is space for a large organ, and on the other is a door to the robing-room.

The seating affords space for 300 persons, while the tower gallery seats forty-five, and the Sunday-school room when thrown into the church will seat over 100 more, so that the total accommodation for special occasions would be about 450.

The Sunday-school room is 23' x 32', and is shut off from the church by doors, glazed with leaded glass, hung to drop through the floor, and when open leaves nothing between church and Sunday-school room except a row of columns. In the gable of this room are three stained-glass windows from the old building.

COMPETITIVE DESIGN FOR TOWN-HALL, WAXAHACHIE, TEX. MESSRS. SILVIN & PASCO, ARCHITECTS, DALLAS, TEX.

PUBLIC SCHOOL FOR THE TOWNS OF HARRISON AND RYE, N. Y. MESSRS. MCILVAINE & TUCKER, ARCHITECTS, NEW YORK, N. Y.

This building is presented to the townships by J. E. Parsons, Esq., of New York City.

CHÂTEAU DE CIVET, FRANCE.

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

CHÂTEAU DE CIVET, NORTH OF FRANCE.

INTERIOR OF THE CHURCH OF STA. MARIA, BELEM, PORTUGAL.

This plate is copied from *Oesterr. Monatschrift f. d. öffentl. Bau-dienst.*

OLD HÔTEL, BEAUNE, FRANCE.

This plate is copied from Baron Taylor's "*Voyages pittoresques.*"

[Additional Illustrations in the International Edition.]

OFFICE-BUILDING OF THE POMERANIA MORTGAGE BANK, 35 BEHRENSTRASSE, BERLIN, GER. HERREN WITTLING & GUKLDNER, ARCHITECTS.

[Gelatine Print.]

This fine bank building was erected between 1895 and 1897. The façades are of a fine-grained, white Silesia sandstone, over a basement of granite. The main entrance-door is of bronze. In the rear façades the architectural framework is also of white sandstone, with the intervening wall-spaces of white enameled brick. The interior of the building is as thoroughly fireproof as can be made, the floors being vaulted between steel girders, wood being used only for decorative purposes. The roof, supported by steel trusses, is covered with sheet-copper.

The façades, showing an impressive Italian Renaissance architecture of a distinct severity of style relieved by numerous heraldic decorations, a composition in which the influence of Herr Paul Wallot, the architect of the German Parliament Palace, is easily traced, are the work of Herr Wilhelm Haupt. The sculptured figures and designs of the exterior were executed after models by Herr A. Vogel, a Berlin sculptor. The interior is handsomely finished throughout, the decorations culminating in a fine fresco-painting by Herr Wuerbel, which embellishes the ceiling of the main staircase. Notable, too, among the interior work, are the objects of hammered-copper by Herr G. Lind.

The large safe-deposit vault, situated in the basement, contains 3,500 individual steel safes, for the use of depositors. The first floor is given up to the banking-room, as usual, there being two vaults on this floor for storing valuables; in the second story are rooms for the bookkeepers and clerks of the banking department, while the third floor is set apart for the mortgage department. Elevators and stairways afford ample communication between the different floors.

ENTRANCE TO THE SAME BUILDING.

[Gelatine Print.]

OFFICE-BUILDING OF THE "IMMOBILIEN-VERKEHRS-BANK," 51 MARKGRAFENSTRASSE, BERLIN, GER.

[Gelatine Print.]

This building, being adjacent to the Pomerania Bank, described

above, is the work of the same firm of architects, and was erected about the same time (1896-97) and of similar materials. The treatment of the façade, although differing in many details from that of the corner building, shows the same general agreement in the principal lines. Taken in its entirety, the whole pile produces a fine effect of dignified monumentality and repose.

THE STAIRCASE: "HARTPURY," GLOUCESTERSHIRE, ENG. MR. E. G. DAWBER, ARCHITECT.

THE HALL: "HARTPURY."

THE DRAWING-ROOM: "HARTPURY."

THE BILLIARD-ROOM: "HARTPURY."



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

A CORRECTED "CORRECTION."

NEW YORK, N. Y., March 8, 1898.

TO THE EDITORS OF THE AMERICAN ARCHITECT:—

Dear Sirs,—I am in receipt of yours of March 3d, also of the copy of the *American Architect* of the 5th, in which I note the correction you have inserted under the head of Illustrations.

The firm of Du Fais & Canfield has not been in existence for eight years, and Mr. Canfield had no more to do with the house of which you printed the plate than had Messrs. Howard & Cauldwell.

Yours very truly, JOHN DU FAIS.



WREN'S ORANGERY AT KENSINGTON.—But undoubtedly the most beautiful portion of the whole group of buildings [the Kensington Palace buildings] which are to be put in order and opened to the public, is the Orangery, a long garden-house which was built by Sir Christopher Wren towards the end of his life, and which bears Queen Anne's monogram. It is in red brick, and, so far as the south front and the ends are concerned, is in admirable preservation; but the exquisite interior has been the victim not of neglect but of chronic outrage; for, as the little garden between this and the palace has been found a convenient place on which to put up the glasshouses, frames and potting-sheds necessary for the park gardeners, what more natural, to the official eye, than that the Orangery close by should be pressed into the same service? Accordingly, at some time or another, which cannot have been very many years ago, more than half the beautiful high oak panelling of this building was torn down and has disappeared, the gardeners' stands have been let into the walls, and there the daily work has proceeded, with no thought that it was a daily desecration. Mr. Akers-Douglas and Mr. Brett are going to put a stop to this, and the Orangery will be henceforth dedicated to the public service in a fashion somewhat more in harmony with its original design. The panelling, as we have said, has disappeared from the north wall, and there appears to be no hope of getting it back again, so that there is nothing to be done except to copy what remains of the original and to cover the wall with new work. Fortunately, it is not beyond the skill of a modern wood-carver to work from Wren's models as well as Wren's own men could do. When that is done, and when the floor has been relaid—whether in concrete or oak appears to be not yet decided—this will be one of the loveliest buildings of the late Renaissance period to be found in England. It is proposed, we believe, to put it to no active use, but to make it just a resting-place and a refuge from the weather for any visitors to the gardens. But, that the impression may be complete, it will be positively necessary to remove the greenhouses to another quarter, perhaps to the neighboring meadow, where they would be fairly out of sight, and the ground on which they stand must then revert to its original intention and be laid out in walks and flowerbeds.—*London Times*.

LAYING MASONRY IN FREEZING WEATHER.—The *Technical Rundschau* in a recent number discusses the difficulties attending bricklaying in the winter time. Usually brick-mason work is suspended when the temperature falls to about 28 degrees Fahr. If work is to be carried on at a temperature lower than 26 degrees, it is well to mix the mortar with warm water and to warm the brick over a light coal fire. Foundations can be built in cold weather with comparatively little risk if the finished parts are immediately covered with sand. The lime, before using, should be covered with sand and the brick protected by boards or straw. Special care is required when cement-mortar is used, which in fresh brick-work is destroyed already at from 24 to 26 degrees. This difficulty is overcome by adding salts to the mortar, thus lowering its freezing point. An addition of 2 per cent of salt proved quite satisfactory. At Saint Jares a bridge was built, using mortar containing alum, at a temperature of from 14 to 5 degrees. Ammonia soda, obtained on a large scale in the Solvay process of making soda, is an

excellent substance to add to mortar for lowering the freezing-point of the latter. For this purpose four pounds of this salt is dissolved in five quarts of water, the solution to be kept at a temperature of 80 degrees. For use it is diluted with equal parts of water and added to the mortar according to the temperature. The bricklayers, when working with mortar thus prepared, should wear rubber gloves. For fronts the use of salts is not to be advised, on account of the efflorescence which is sure to appear when warm weather sets in. Ordinary lime-mortar may be used without danger down to a temperature of 22 degrees, if the lime is slaked in the mortar-box and is mixed with sand and worked while hot. In Norway unslaked lime is always used during the winter, and Norwegian builders claim that walls built in winter are stronger than those put up in the summer. They build walls at temperatures as low as 13 degrees below zero.—*The Clay Worker*.

LONDON BRIDGE.—When was the bridge built? It is impossible to say. It was not there A. D. 61, when Queen Boadicea's troops sacked the city and murdered the people. It was there when Allectus led his troops out to fight the Roman legions. It was there very early in the Roman occupation, as is proved by the quantities of Roman coins of the four centuries of their tenure found in the bed of the river on the side of the old bridge. It is also proved by the fact that Southwark was a settlement of the wealthier class, who could not have lived in a place absolutely without supplies, had there been no bridge. We may take any time we please for the construction of the bridge, so long as it is quite early—say, before the second century. The Britons themselves were quite unable to construct a bridge of any kind unless in the primitive methods observed at Post Bridge and Two Bridges, on Dartmoor, by a slab of stone laid across two boulders. The work, therefore, was certainly undertaken by Roman engineers. We have, in the next place, to inquire what kind of bridge was built at that time by the Romans. They built bridges of wood and of stone; many of these stone bridges still remain, in other cases the pieces of hewn stone still remain. The bridge over the Thames, however, was of wood. This is proved by the fact that, had it been of the solid Roman construction in stone, the piers would be still remaining; also by the fact that London had to be contented with a wooden bridge till the year 1176, when the first bridge of stone was commenced. Considerations as to the comparative insignificance of London in the first century, as to the absence of stone in the neighborhood, and as to the plentiful supply of the best wood in the world from the forests north of the city, confirm the theory that the bridge was built of wood. We have only, therefore, to learn how Roman engineers built bridges of wood elsewhere, in order to know how they built a bridge of wood over the Thames.—*Sir Walter Besant in the Pall Mall Magazine*.

THE LION OF KEOS.—There are lions and lions, but the Lion of Ioul is the Lion of Hellas, says Prof. J. Irving Manatt in the *March Atlantic*. The lions on guard above the gate of Mycenæ may be older, but they have lost their heads, and therewith their main majesty. The lion sentinel over Leonidas's grave at Thermopylæ disappeared ages ago, though we still possess the inscription written for it by Simonides:—

"Of beasts the bravest I, of mortals he,
Upon this mound of stone now watched by me."

The Lion of Charoneia commemorates a great and definite event, but he has been broken to pieces. Better luck has attended the Lion of Keos. Couched here on his flank on the living rock, with reverted head, twenty-eight feet from tip to tail, every feature perfect, full of life and majesty, one can hardly think of him as a mere image made with hands. He looks rather as if in some prehistoric age—the colossus of his kind—he might have lain down here alive, and turned to stone, possibly after clearing the island of its first occupants. For there is a myth handed down to us by an old writer that Keos was originally inhabited by the nymphs until they were scared away by a lion and fled to Karystos, leaving to the "jumping-off place" the name of Lion Point. At all events, the monument and the myth make a perfect fit: our lion is the very beast to strike terror into nymphs or any other unwelcome neighbors.

FIRE-INSURANCE BADGES.—An able article in the *Daily Mail* recently called attention to the leaden medallions or badges of the different fire-offices which may be observed on numerous old houses in London. In past times it was the custom when a householder insured his premises to nail up in a conspicuous place—usually on the brick-work between the first-floor windows—one of these badges, which bore the device of the office from which it emanated. When the insurance ceased by non-payment of premiums the device was at once removed; but this custom gradually became abandoned, and many of the badges remain to this day. In the old times each fire-office kept its own extinguishing apparatus, but would on no account use it for any houses but those of its own customers, and these badges were the distinguishing marks—many bearing the device of the "Sun," others that of the "Royal" (a crown), etc. It is amusing to note that the "Sun" badge has in certain foreign countries been mistaken occasionally for a religious emblem, and the natives have been seen kneeling before it. The first fire-office in London seems to have been founded during the year which followed the great fire—1667.—*Chambers's Journal*.

A GLASS WHICH STOPS HEAT.—Germany has a method of producing glass which will transmit light freely but not heat. A plate of the material, four-tenths of an inch thick, containing 28 per cent of iron in the form described as ferrous chloride, allowed only 4.06 per cent of radiant heat to pass through it, while another plate of equal thickness, and containing quite as much iron in the shape of ferric chloride, permitted 11.2 per cent to pass. The chemical distinction is very small, but the effect is said to be marked. A thinner slab of this glass allowed less than 1 per cent of the heat of gas flames to pass, although transmitting 12 per cent of heat from sunlight. Ordinary window-glass, on the other hand, lets some 86 per cent of the heat through.—*Invention*.

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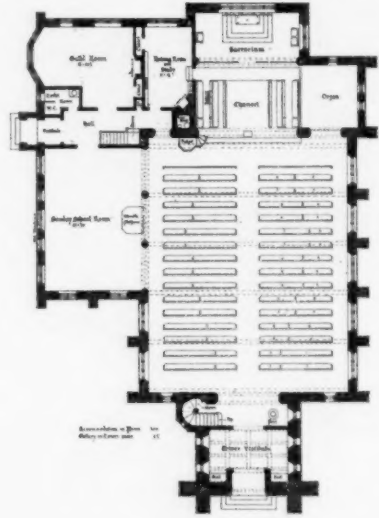
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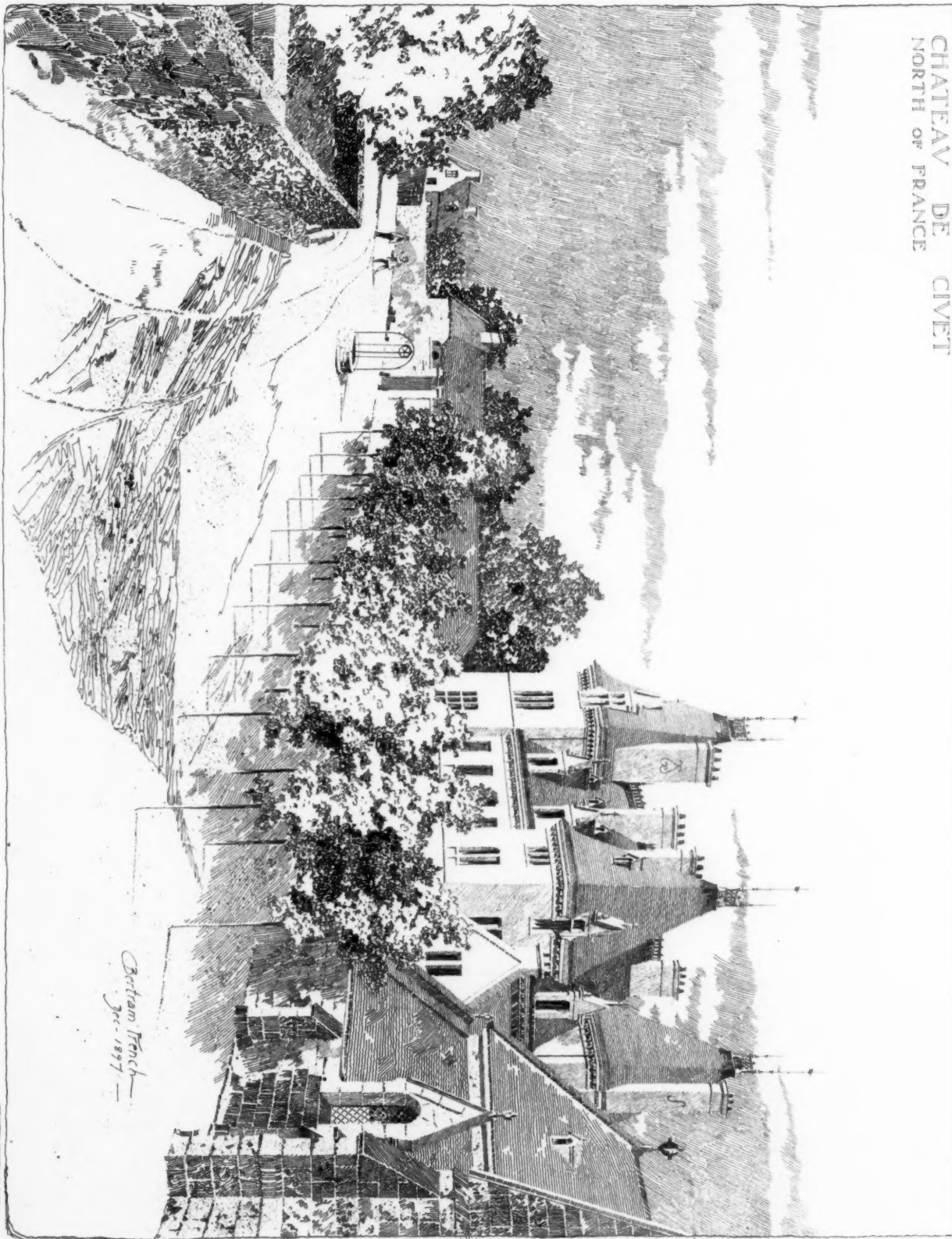
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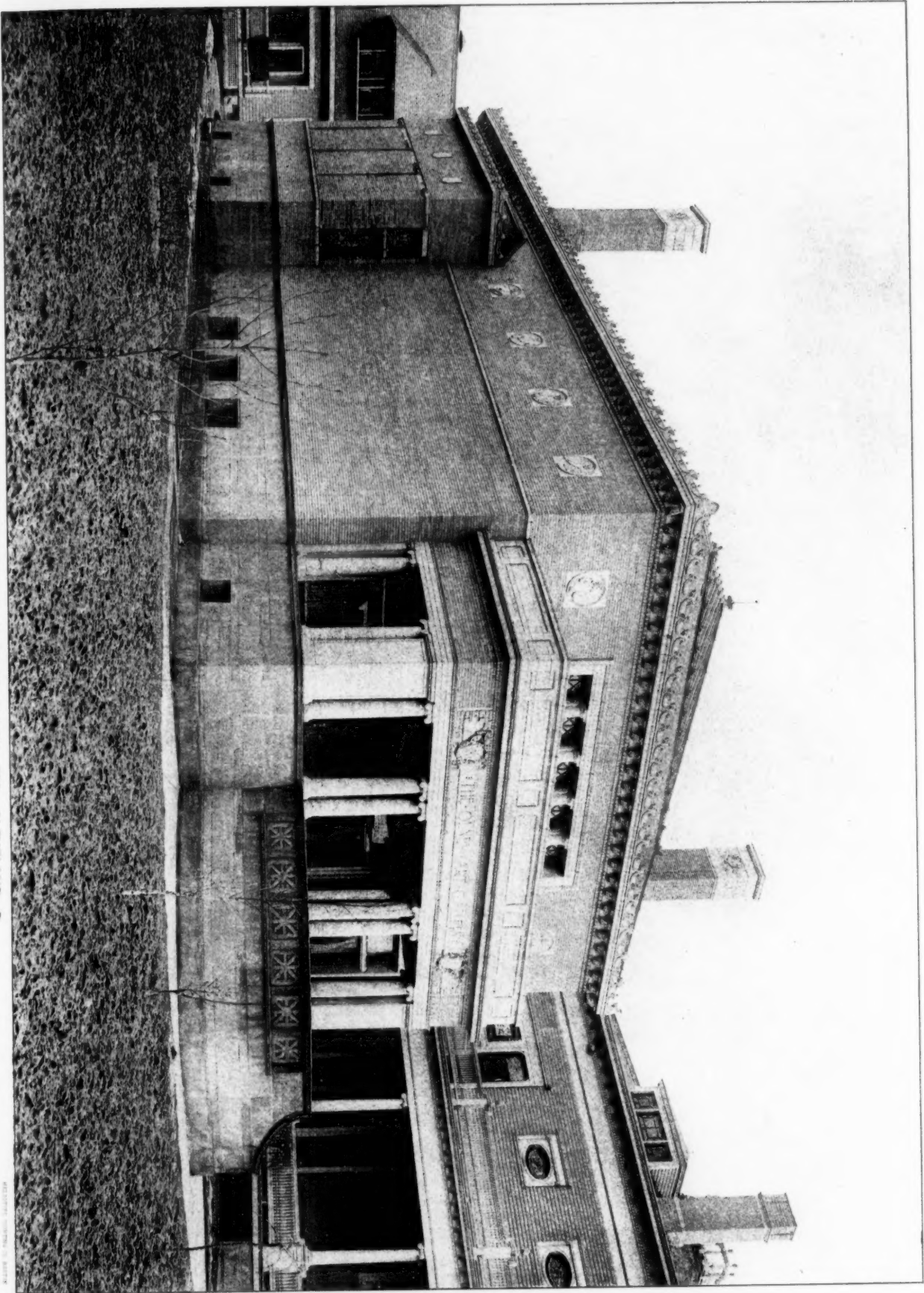
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