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MISSING

CANADIAN ARCHITECT AND BUILDER.

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—THE—
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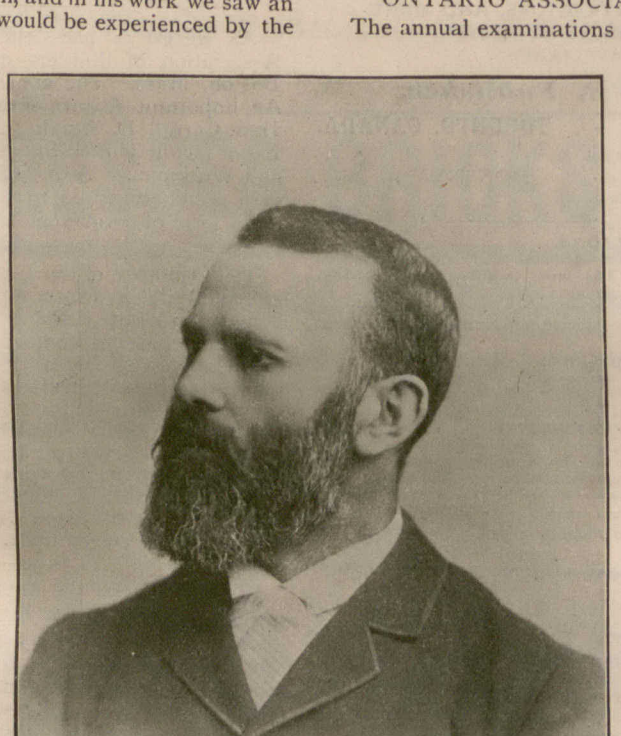
AS we go to press the annual convention of the National Association of Builders of the United States is being held at Boston, Mass. The convention will continue for three days. An important feature of the programme is an address by the Hon. Carroll D. Wright, Commissioner for the Department of Labor for the United States, on "The Relations of the Employer and Workman." A discussion will follow the address, with the view of taking action toward the improvement of the Association's form of permanent arbitration.

THIS number of the CANADIAN ARCHITECT AND BUILDER is largely devoted to a report of the proceedings of the annual convention of the Ontario Association of Architects. Notwithstanding that the number of our pages has been increased it has been found necessary to hold over the publication of several interesting papers read at the convention. In point of interest the meeting was unquestionably one of the best in the history of the Association. The proposal to form a collection of photographs at the School of Science of the work of Canadian architects, and submit the work represented by the photographs to the criticism of the members of the Association, should serve to awaken interest in the Association and increase the attendance at future conventions.

WE wish to call the attention of our readers, especially the students, to the new "Students' Department," which will be found henceforth in every issue of this journal. It is our intention to devote this space to the use and advantage of students, although the "Intercommunication Column" will be open to all readers. This column with the questions and answers given this month, speaks for itself, and we invite the co-operation of all able to supply the required information, to make this a valuable department. Questions will be published in the next issue after they are received, and all answers received in the following issue, but when a question is received requiring *an immediate* answer, we will endeavor to supply it in the first issue. We invite additional answers to those given this month. This department will contain a large amount of information, which it will be well for students to keep on file. In this department this month will be found particulars of another competition for students. To students in the employ of architects who are subscribers to the CANADIAN ARCHITECT AND BUILDER, the MONTHLY EDITION of this journal will be delivered postage free for ONE DOLLAR per year. The order for subscription must be accompanied by one dollar and the certificate of the architect in whose office the student is employed. This offer is made with the object of enabling every student to have in his own possession, and accessible when required, the information supplied through this and other departments, and that none may be debarred from entering our students' competitions.

AS will be seen in the report of the proceedings of the Ontario Association of Architects, the CANADIAN ARCHITECT AND BUILDER comes in for some rather rough handling for an editorial note in the issue of November, 1893, which was read in the Convention and which will be found reprinted in the report of proceedings where read. The burden of the strictures upon the comment in question was that it was not proper criticism. Why it should be so classed is hard to say. There was nothing underhanded in the statement, nor was it unbacked by argument, although from the nature of the passage in which the question was treated—a brief editorial note—it was necessary that the argument should be terse and suggestive rather than explanatory. The President of the Association was quite right in repudiating the note as an Association utterance, and might very properly have gone farther and ruled the introduction and discussion of the subject out of order at the outset, for the CANADIAN ARCHITECT AND BUILDER is not published by the

Association, but we think he cannot have caught the meaning of the article when he denounced it as unfair criticism because, as he said, it condemned the Canadian Building at the World's Fair, without stating the reasons for such condemnation, and questioned (as he said) the capability of a Government architect to design work before he has had an opportunity of showing what he can do. As to the first point, it is only necessary to say that the article was not about the World's Fair Building, but about a proposed Governor General's mansion, and the doubtful capability of the Public Works Department to deal with a problem of that kind. That the Canadian Building at the World's Fair is an acknowledged failure was pointed to as a case in point to illustrate the inelasticity of the Department. But it was not the intention of the CANADIAN ARCHITECT AND BUILDER to rest the argument on this example; indeed we were somewhat surprised to find the Association speaking of the building as if the ability of the Department to design were to be tested by this result. In doing so they were—though we may be sure they had not that intention—making a reflection upon the Department more severe than the CANADIAN ARCHITECT AND BUILDER had implied in its note. We had not at all intended to convey the idea that the chief architect's own ability to design was represented by this building. In speaking of the "departmental designer" of the World's Fair pavilion we supposed we were alluding to a subordinate to whom had been intrusted the carrying out of the plan, and in his work we saw an indication of the difficulty which would be experienced by the Department in carrying out the innumerable and unfamiliar details of a large and ornate domestic building. Here is the point. It is not new, and it is not untrue. Whether or not the genius of Mr. Fuller would enable him to surmount the difficulties of the situation is properly a question to consider beforehand, and it was eminently the business of the CANADIAN ARCHITECT AND BUILDER, being as the President said, the only architectural paper in Canada, to raise the question upon the first suggestion that there might be a new residence built for the Governor General. Of Mr. Fuller's talent and ability there is fortunately for the country no question. It has been shown not only in the Parliament Buildings at Ottawa —which were, however, designed when he was a private architect —but in the numerous Dominion buildings which have been built under his control all over the country, and of which the new drill shed now being finished in Toronto is a striking and successful example. We may congratulate ourselves upon the certainty that while Mr. Fuller is the Government Architect the public buildings, small and large, which are scattered over the country and do so much to form the public taste and to influence the prevailing manner of building, will have a merit that will make them an influence for good. But, as was said in the editorial note in question, the forte of his office is organization to secure the thorough design and execution of the types of public buildings which are thus constantly multiplied. Each may be a new case but is referable to a type, and so easily and quickly handled by a band of subordinates trained to that end. Domestic work, and particularly an elaborate piece of domestic work such as the Governor General's residence ought to be, would find the tradition and organization of the office unprepared for it, and we think it is most likely not going too far to say that there would be something in the old training to be overcome as well as something new to be added to it, and could the Chief Architect find time to enter into all this personally? A private architect on the other hand—one carefully chosen by competition, of course—would be more able to give his undivided personal attention to the work; and what assistance he employed would be accustomed to dealing with problems similar in kind. That is the case as stated by the CANADIAN ARCHITECT AND BUILDER. Whether the view taken is right or not may be open to question, but not its fairness nor our right to take it. The article was perhaps too epigrammatic, and so has appeared to have more edge to it than it really had, and has given offence which we regret, but we cannot help fancying that the chief architect himself would be the first to admit that if under the conditions in which a public architect does his work, he succeeds in doing domestic work better than that of the best private architect that can be selected, it will be a great triumph.



MR. EDMUND BURKE,
President Ontario Association of Architects.

MR. EDMUND BURKE.

WE present herewith a portrait of Mr. Edmund Burke, the newly-elected President of the Ontario Association of Architects. Mr. Burke is well qualified to fill this important office with credit to himself and the Association. As a member of the Council for several years, he manifested the deepest interest in the welfare of the Association and performed such valuable service in its behalf as entitle him to the honor which has now been conferred upon him.

Mr. Burke, who is now in middle life, is a native of the Emerald Isle, but has spent the greater part of his life in Toronto, receiving his education at the public schools and Upper Canada College, in that city. On leaving college he entered upon the study of architecture in the office of Messrs. Gundry & Langley, and subsequently, upon the death of Mr. Gundry, formed a partnership with Mr. Langley, which continued until August, 1892, when he assumed the business of the late W. G. Storm. Among the notable buildings with the designing of which his name stands identified, are: McMaster University, Jarvis Street Baptist Church, Trinity Methodist Church, Walmer Road Baptist Church, the warehouse of Messrs. John Macdonald & Co., Union Loan and Building and Loan office buildings, and the residence of Messrs. Robt. Simpson, Henry Darling and D. E. Thomson.

ONTARIO ASSOCIATION OF ARCHITECTS.

The annual examinations of the Association will be held at the School of Practical Science, Toronto, on Tuesday, March 6th, and will continue until Saturday, March 10th.

There will be a public Association lecture at the School of Practical Science on the evening of Thursday, March 8th, beginning at 8.30. The lecturer will be Mr. Grant Helliwell and the subject "Architectural Styles in Use To-day." The lecture will be illustrated by means of the electric light magic lantern of the School of Practical Science, under the management of Mr. Wright. The public are invited to be present.

HAMILTON.

(Correspondence of the CANADIAN ARCHITECT AND BUILDER.)

The inaugural meeting of the Arts and Crafts Association of Hamilton, Ont., was held in the Art School on the 17th ultimo. About 50 active working members were present. Mr. S. John Ireland, principal of the Hamilton Art School, was elected president. The three vice-presidents are each chairman of sub sections: Mr. Stark Jordan, "Fine Arts;" Mr. John S. Gordon, "Craftsmen;" Miss W. A. Edwards, "Architecure," Miss Baine, Sec.-Treas., with others form a Council. A strong Probation Committee is appointed, who will decide what to admit or reject from entering the exhibitions; they will also superintend the arrangement of exhibits.

The aims and objects of the society are:—

(*a*) To facilitate the exhibiting of fine art work, architecture and handicraft, done by members of the Association, who shall be residents in or natives of Hamilton or its immediate vicinity, and thereby cultivate the public taste for fine art and the products of the crafts which depend on some display of artistic skill to become saleable.

(*b*) To bring selections of the best works of artists, architects and craftsmen, prominently before the public notice so that some of such works at least may find purchasers, which, if left to individual enterprise, would remain unsold.

(*c*) To bring the works of young artists and craftsmen before the notice of those requiring skilled labor.

(*d*) To encourage individual effort among art workers to produce better work, by associating the name of every worker with his or her work, particularly with factory-produced articles which bear the direct impress of the individual thought, skill, or taste of one or more workers, as well as the name of the firm producing such articles.

(*e*) To admit work of other artists, not resident in Hamilton, as long as there is space for the same without overcrowding local work; this is intended to prevent, somewhat, the members of the Association from becoming narrow minded or purely local in their ideas. No distinction will be made between so-called professionals and amateurs.

(*f*) To purchase works of art with any profits derived from exhibitions, after all expenses incurred in holding such are paid, the work so purchased to form a nucleus of a collection for a public art gallery, such purchases to be located temporarily by the couucil of this association.

(*g*) To hold exhibitions of Hamilton work in other places in Ontario, where such exhibitions are deemed advisable by at least two-thirds of the members of the association.

(*h*) To further cultivate artistic taste, patrons will be enrolled as well as working members by paying $5 per annum or $25 for a life patronage, the money so obtained to be expended in the purchase of works of art to form the nucleus of an art gallery. The first exhibition will be held early in May next.

The partnership existing between Messrs. W. B. Malcolm, of Toronto, and E. Bowler, of St. Johns, Que., under the name of the Dominion Sanitary Pottery Co., has been renewed.

STUDENTS' DEPARTMENT.

NOTICE TO STUDENTS.

To students in the employ of architects who are subscribers to the CANADIAN ARCHITECT AND BUILDER the MONTHLY EDITION of this journal will be delivered postage free for ONE DLOAR per year. This offer does not apply to draughtsmen whose term of studentship has expired.

The order for subscription must be accompanied by one dollar and the certificate of the architect in whose office the student is employed. This offer is made with the object of enabling every student to have in his own possession and accessible when required the information supplied through this and other Departments, and to enter our competitions.

"CANADIAN ARCHITECT AND BUILDER" COMPETITION.

The publisher of the CANADIAN ARCHITECT AND BUILDER invites competitive designs for a Drug Store, situated at the corner of a street, to cost not more than $3,000. *In this competition a new departure will be made in awarding the premiums.* A selection will be made of six or eight designs, which will be published together and all students employed in the offices of architects in Canada will be invited to vote on them, filling up a form for this purpose which will be supplied in our advertisement pages. Every vote must be accompanied by a short written reason for the choice made, and each voter must give the name of his employer. The design receiving the highest number of votes, with good and practical reasons, will be awarded the first premium, and so on.

This competition is restricted to students who are at present subscribers to the CANADIAN ARCHITECT AND BUILDER, or who shall become subscribers previous to the close of this competition, in accordance with the notice printed above regarding special subscription price to students.

The store is to be placed at the sunny corner of the street, built on the street lines and having a frontage of 22 feet. The Drug Store *itself* is to be 25 feet deep. Over the store is to be provided a residence of two stories and attic for the druggist.

Drawings are required of a front elevation to ¼" scale and a plan of the store to a reduced scale, drawn below the elevation. Each competitor must give a short, concise description of his design, and he is left free to include any conveniences of arrangement that may suggest themselves as suitable for the purpose of the building. The first considerations should be convenience and architectural effect.

The first premium will be $15.00, and the second $5, the third, one year's subscription to the CANADIAN ARCHITECT AND BUILDER.

Drawings must be made on sheets of heavy white paper or bristol board 7x14 inches in size (the seven inches being the bottom of the sheet), and must be sufficiently coarse to allow of their being reduced to *one-half* the above size. Drawings must be made in *firm strong lines* with *pen* and *black ink*. *No color or brush work will be allowed.* Each drawing must be marked with the *nom de plume* of its author, and the author's name and full address enclosed in a sealed envelope bearing the *nom de plume* outside, must be sent in with the drawing.

Drawings must reach the office of the CANADIAN ARCHITECT AND BUILDER, 107 Confederation Life Building, Toronto, not later than the 7th day of March, 1894.

All designs will be returned to the authors within a reasonable time after the competition is decided.

Students entering this competition must be careful to comply with all of the above conditions.

All practising architects are debarred from this competition.

TORONTO ARCHITECTURAL CLUB.

WE have received through Mr. Fred. P Kelley, who was the Secretary of the Toronto Architectural Club, a letter from the T-square Club of Philadelphia, which is endeavoring to form a permanent organization for the purpose of holding annually or as often as possible, exhibitions of the work of the various architectural sketch clubs in America.

Accompanying the letter is a copy of a suggested constitution for the proposed organization, the government of which is to be vested in a Board of Representatives composed of one member from each club in good standing. An executive committee selected by the Board, is to have full power to direct the entire work, interests, and all legislation governing the exhibitions, not provided for by the constitution. Any architectural sketch club to be eligible to membership on payment of $10.00, and membership to be maintained by payment of a pro rata tax of 25 cents on its membership. The drawings for the exhibitions to include those receiving special mention at the individual club competitions, and can be exhibited but once. The drawings to be judged by a jury consisting of an architect, artist and sculptor, who are to be non-members, and one gold and one silver medal to be awarded to the clubs whose work shall be adjudged to be the best and second best respectively. The writer of the letter requests the co-operation of the Toronto Club for the carrying out of the scheme.

In fowarding to us the letter Mr. Kelley suggests that we should bring it before the eyes of those interested, in the hope of reviving interest in Architectural Club matters in Toronto, in view of the fact that not a few of the former members of the Club who were away in the United States and England, have returned, and the possibility that they might be induced to renew their interest in the Club, and assist in its re-organization. We very gladly give the matter publicity, in the hope that this result may follow.

INTERCOMMUNICATION COLUMN.

This column is intended to aff rd a means of correspondence for students, builders, and all our readers desiring information they cannot otherwise obtain. Questions for which an immediate reply is required should be marked "Urgent." Names and addresses of correspondents must be sent with their communications, but these may be signed with initials or otherwise for publ cation.

QUESTIONS.

[1.] Will some reader kindly tell me in what book I can find good examples of Elizabethan details? A. C. B.

[2.] Opinions seem to vary as to the advisability of constructing hollow walls for houses. I should be glad of any authentic information on the subject? Yours, H. W.

[3.] I am very glad to hear of the proposed Intercommunication Column. It will prove an immense boon to many of us. I have a question to ask which will be of interest to a number of students. I want an unbiassed opinion about going up for the O. A. A. examinations. I do not want to go up for them unless it is absolutely necessary to pass them before I can set up for myself in the province. Kindly let me have an answer at once, as I believe the next examinations are coming off soon. STUDENT X.

[4.] As I understand your Intercommunication Column is open to builders as well as all your other readers, I should like to ask a question. The architect of a building just finished has given me a final certificate for my work on it. The owner says he intends to hold the certificate for six months at least to ascertain the soundness of the work. The contract does not state definitely anything about the time for final payment. I want the money, and don't see why I should wait, as the architect has passed it. Has the owner any right to keep me waiting? BUILDER.

[5.] I am serving under a written agreement with an architect, which is supposed to bind me to him for three years, during which time I get no pay. We had a good deal of work for the first year but have had none for the last three months, and I have nothing to do but kick my heels. As the prospect for the spring does not look promising I have asked him to let me go, that I may go somewhere where I shall see more work, for I am anxious to learn, but he says he will not free me at present. If necessary can I get free by invoking the aid of the law?—QUEBECER.

[6] I should like to get the opinion of fellow students in country places as to forming a club, of say a dozen members, who would unite for the purpose of subscribing to about four leading architectural papers to be circulated among them. I would make the following suggestions: A dozen of us might pay enough for four papers. Someone would act as secretary and buy the papers and start them out to four members. Each member keep each paper three days and send it on; the last man to return it to the secretary, who would be allowed to keep the papers as payment for his services, or they might be sold and the price realized go towards reducing the expenses for the next year.—G.

[7.] Can any one tell me of a way to mount tracings on drawing paper, so that they can be rolled up without injury?—JACK.

[8.] What is the simplest way of telling good cement from bad? In the country we are very much in the power of the builders in this respect, and I have sometimes been badly treated.—ARCHITECT.

REPLIES.

[3.] STUDENT X.—The probability is that by the time you want to set up for yourself the present O. A. A. Act will have been so amended that it will be necessary for you to pass the examinations and you would very much regret, then, not having passed. Under any circumstances you would never regret having been examined. An examination is an excellent goal towards which studies may be directed, and it enables a student to ascertain how much he really knows. We would strongly advise you not to lose the opportunity that is now presented.—ED. "INT. COL."

[2.] In reply to "H. W." I have made it a practice, whenever the expenses would admit of hollow walls, to use them, and though I have often heard objections made to their use, I have never found any disadvantage arise from their use in my work. —N. G. M.

[6.] The suggestion by "G" is a good one, and we would commend it to his fellow students. We shall be glad to help in the formation of such a "Club" if we hear from others about it. —ED. "INT. COL."

ONTARIO ASSOCIATION OF ARCHITECTS.

THE fifth annual convention of the Ontario Association of Architects was held at the School of Practical Science, Queen's Park, Toronto, on Tuesday and Wednesday, January the 16th and 17th. The first session was called for 2 p.m. on Tuesday afternoon, and shortly after that hour the following members had assembled:

David G. Baxter, Stratford; G. R. Harper, Toronto; H. B. Gordon, Toronto; J. W. Power, Kingston; Thomas Kennedy, Barrie; A. E. Paull, Toronto; F. Darling, Toronto; W. A. Edwards, Hamilton; D. B. Dick (President), Toronto; J. Gemmell, Toronto; W. R. Gregg, Toronto; G. W. Gouinlock, Toronto; W. R. Billings, Ottawa; Mark Hall, Toronto; M. B. Aylsworth, Toronto; R. W. Gambier-Bousfield, Toronto; J. W. Gray, Toronto; S. G. Curry, Port Hope; S. G. Kinsey, Port Elgin; E. Burke, Toronto; S. H. Townsend, Toronto; E. B. Jarvis, Toronto; and W. A. Langton (Registrar), Toronto.

The President called the convention to order at 3 o'clock, and the minutes of the last convention were then read and confirmed.

The President then read his address as follows:—

PRESIDENT'S ADDRESS.

We are now assembled in the fourth convention since the incorporation of the association. This convention marks a critical period in its history, the most critical in fact, which has yet been reached. The past year has been one of great depression in business throughout the world. The United States have passed through a financial crisis of almost unexampled duration if not of unparalleled severity, and the effects of it have been felt in Canada in almost every department of business. This is a kind of reciprocity which no tariff wall, however high, can keep from coming into operation. There has been a universal cry of "hard times." Less money than usual has been available for building purposes. Consequently fewer buildings have been erected, and there has been less work for architects to do. The last similar period of depression occurred after the financial panic of 1873. That flurry was of shorter duration, and its effects on building were not so disastrous, for several reasons. The cost of building was much lower then than it is now. Buildings were fewer in proportion to population, and those who had money to invest exercised a judicious foresight, and took advantage of the low prices to make provision for the needs of the future. The case is different now. Owing to the advance in wages and the increase in the price of materials, the cost of building has increased enormously. But rents have not increased in the same proportion. The cities, too, are more built up in proportion to population. There is therefore not the same inducement offered to those who are in a position to command money, to invest it in buildings. In Toronto these circumstances are aggravated by the fact that she was suffering from a period of severe depression, following naturally on the cessation of the boom which had been going on for some years previously. This is a local matter, but I may be permitted to mention it in consideration of the fact that so large a proportion of the members of the association reside in Toronto. But the depression has been felt in all parts of the country. The decrease in the amount for which building permits have issued in the cities and towns is conclusive evidence of this. And it is probable that the depression has affected, to a greater or less extent, the business of almost every member of the association. In times of prosperity, even a busy man will give more freely, both of his time and means for the advancement of his profession, or any other object that appeals to his public spirit, than he will be likely to do when he is anxious, and perhaps harassed about his own private affairs. It would therefore be too much to expect that this association should not have suffered somewhat from the general depression.

There are also special circumstances connected with the association itself which make this a critical period in its history—circumstances which may have a grave bearing on its future, and which therefore demand our most earnest consideration. I refer especially to the question of the amending of our act of incorporation, and the present position of that question. We did not propose to ask for much—only the elimination of that one little word "Registered." But under the circumstances even that little proved to be too much. Observe, however, that the boon was not refused; because as soon as it became apparent that "discretion was the better part of valour," the bill was withdrawn. One important factor in bringing about this result was the fact that—notwithstanding the accusations that have been freely made against us of an extreme desire to be exclusive—we, unfortunately, got into bad company. We could not, however, help ourselves in this, and were not to blame for it. "Misfortune makes strange bedfellows," and so we found ourselves, however unwillingly on our part, classed with druggists, undertakers and (save the mark) milkmen—all of whom came asking for special privileges. We need not concern ourselves with the justice or otherwise of the demands of these different bodies. But the result was, as the Premier informed us at an interview with the Cabinet, at which we were most courteously received, that the temper of the House at that time, was such, that any proposal which seemed even to point in the direction of increasing the number of close corporations would certainly be voted down. Under these circumstances the only course open to us was to withdraw the bill for the time being. To have persevered and pushed it to a decision would have been to court disaster. Had we done so, and the bill been rejected by, as it is probable, a very large majority, there would have been no hope of its being favourably considered for years to come. Members of the House who had once placed themselves publicly on record as opposed to the granting of our petition, would feel themselves not only free, but bound to oppose it on the next occasion on which it might be brought forward. We should thus have been now in a much less hopeful position than that in which we stand to-day. Practically we are very much in the same position as at the date of the last convention. We have undoubtedlymade some friends. So far as I know we have made no enemies, and we have gained a great deal of experience that will be useful in the future. The work that was done last winter has not been thrown away. A good deal of it will not have to be done over again, but rather supplemented by further efforts on the same lines. We have no reason to feel hopeless or even discouraged. When we consider how many similar associations in different countries have failed in their efforts to obtain such legislation as we have been striving after, it seems as if we were perhaps too sanguine in hoping that we should reach our goal at the very first attempt. You are doubtless all aware that the Quebec Association stands in precisely the same position as we do in regard to this question, the work "Registered" having been inserted by the Government in their act in the same way as it was in ours.

A great deal of work was done last winter, not only by the council or the Toronto members of the association, but by many members in different parts of the Province. The work should not be confined to the time when the legislature is in session; it should be going on all the time. Each member of the association should keep it on his mind, and whenever an opportunity offers, he should take advantage of it to set before influential persons in the community, and more especially members present or prospective of the Legislative Assembly, correct views of what our objects and aims are. This can best be done by those who are personally acquainted with the persons whom they wish to influence. Each member should therefore make it his business to persuade the representative of his own district in the House that the granting of our request would be in the public interest. It is only in this way that the desired end can be attained. It is not the members of the Ministry who have to be convinced that our claims are just, but the people and their representatives. This question has been discussed until you are so familiar with the arguments pro and con, that it would only weary you were I to enlarge upon them now. We should not, however, allow ourselves to talk or feel as if this were the sole end and object of our existence as an association. It is only one of our objects. Indeed it is not properly in itself an object at all, but only the means to an end.

It is declared in the original constitution that the objects of the association are "To unite in fellowship the architects of the province of Ontario, to combine their efforts so as to promote the artistic, scientific and practical efficiency of the profession, and to cultivate and encourage the study of kindred arts," as well to obtain legislation. What has the association done to promote these objects? It has certainly done a great deal to accomplish the first named, that of uniting the architects of the province. Before the organization of the association, the architects of the Province were practically unknown to each other. Those who lived in the same place might happen to be acquainted with each other just as other residents might; but if so it was only by chance, and as individuals, not as brother architects. No one could depend upon getting any advice or assistance in a professional difficulty, from any other architect unless he could claim it on the ground of personal friendship, and it is to be feared that professional rivalry was much more frequent than professional friendship. Such a thing as generous emulation was not to be expected. There was no feeling of esprit de corps because there was nothing to call it into existence. There was no rallying point. Each man fought his own battle for his own hand, but not, it is to be hoped, without endeavouring so far as lay in his power to elevate the character of architectural design, and the tone of professional life in his district. But there could not be the same stimulus to exertion in this direction when each man felt himself entirely alone, as there should be now when each can regard himself as one of a large brotherhood, all of whom are striving to advance a common cause and are united in the bond of a common sympathy. A man can carry himself with more confidence when he feels that in any just cause, he has the influence of practically the whole of his profession in the province at his back.

There is something too in the mere feeling of association that compels a man to put forth all his power, and so to do better work than he could do without this stimulating influence. "Iron sharpeneth iron, so a man sharpeneth the countenance of his friend." There is more in this than perhaps may appear at the first glance. Even if it is somewhat indefinable, it is there. If it were not so why should it be a fact that in all ages, men whose avocations and tastes were similar have sought to associate themselves together in guilds, or companies, or societies? What but this was the origin of Freemasonry, of the old trade guilds, of associations of artists, whether painters, sculptors or musicians? It is by no means solely to advance their material interests that legal and medical practitioners associate themselves together, but also for mutual encouragement and assistance in the advancement of their respective sciences.

An association can make its influence felt in a way that would be impossible for the same number of separate individuals, even if it were possible to get them to combine on occasion for a special purpose. The very machinery for calling them together would be wanting. Take for instance the question of the proper regulation of competitions. The influence of this association has been most distinctly and beneficially felt in regard to this. It is not too much to hope that the Conditions of Competition prepared by this association will soon be the conditions of every competition taking place in the province. All that is required to bring about this result is that the members should be loyal to each other. A gratifying instance of the good which has already been done was the case of the competition for new legislative buildings for British Columbia, when the council of this association was requested by the government of that province to select and send out two experts to assist them in deciding on the respective merits of the different designs submitted, which duty was, I believe, satisfactorily accomplished by our representatives.

It may be necessary on occasion for this association to watch the course of legislation and perhaps to offer active interference; and to do this effectively an association must be so strong as to be able to speak authoritatively on behalf of those whom it professes to represent. It must also be possessed of the sinews of war; and for this reason it is most desirable that the surplus which has been accumulated should not be trenched upon for ordinary purposes to the extent of one dollar more than circumstances render absolutely unavoidable. Again, builders and tradesmen of all sorts are banded together for mutual protection, and where the relations are so intimate as between the builders and the architects, it is impossible but that cases must frequently arise in which negotiation between the two bodies becomes necessary. How are these negotiations to be carried on if the architects are not associated together as well as the builders? The principal reason, however, why we should maintain and seek to strengthen the association is, as it appears to my mind, that it enables us to do something to advance the cause of architectural education. If we cannot do much directly, we can do a great deal indirectly. If we can do nothing more than organize and conduct a complete system of examinations, it be well worth while to have the association even for that purpose alone. If this association is seen to be doing all it can do, that fact will bring to the notice of those who have more in their power, the urgent need for more being done in this direction. After all it is the young who will derive the most benefit from any increase of facilities for architectural education, and it is one of the functions of this association to make such arrangements as will induce or compel the young men to take advantage of them. I venture to say that unless there is a strong association which recognizes as one of the principal reasons for its existence, the duty of promoting the cause of architectural education, no complete or thoroughly comprehensive scheme will ever be formulated by any educational or other body. It is said that a work well begun is half ended. Our most hearty gratitude is therefore due to the legislature of this province, and especially to the Hon. Minister of Education, for that admirable beginning which has been made in this very School of Practical Science in which we are now assembled. Although the number of students taking the architectural course is not so large as we could desire, it is gratifying to see that the number is increasing. There were twelve students during the last session, and seven of these were in the first year, as compared with three in the third; it shows that the number is increasing. There were also a few special students taking partial courses.

It may be said without exaggeration that, with the single exception perhaps of pure literature, there is no calling for which it is so difficult completely to train a student as that of architecture. I mean so to train him that he will be competent immediately to begin practice for himself. The reason is this, that the art of architecture consists in *building beautifully*, not in making even good designs on paper; and no school ever had or will have the

opportunity to erect year by year complete buildings merely to teach students how it is done. It is different with other professions. Take medicine for instance. In that case the student does in the hospital under experienced men, precisely the same work that he will afterwards have to do on his own responsibility. A large part of the students' education must necessarily be obtained in an architect's office, and one of the chief practical difficulties is to combine the school and the office education in such a space of time as students can be got to give to it; which should precede the other is an open question, on both sides of which much may be said. It appears to me that the true solution of the difficulty is to have the two carried on simultaneously, and I do not think that the difficulties in the way of this are insuperable.

The tendency of the age is to do away with a regular apprenticeship, or to make the period of it too short to thoroughly train a youth. How many of the younger mechanics for instance, have served a regular apprenticeship, or have thoroughly learned their trades? Seven years used to be thought not too long a time to serve in learning a trade or business. Has the average youth now-a-days the capacity to learn as much in two or three years as the youth of a former generation could in seven? No! but he is content with a much more superficial training. Whatever may be the reason for it, I think it is a fact that the sons of our well-to-do people often reach almost to manhood before completing their ordinary school education or beginning the special training for their future business or profession, and that without having taken a university course. The result is that an attempt is made to cram altogether too much into a short time, which is not true education. It neither trains the mind for its future work, nor furnishes it with a permanent store of knowledge. There will be scope enough for the energies of this association in endeavouring to overcome these difficulties, and so to send forth our young men well fitted for their arduous life work.

The principal architectural event of the year has been the World's Fair. It has been an architectural event to a greater degree than any previous international exhibition. The erection of the buildings has excited far more interest in the architectural world than on any former occasion. It was known that a number of the best architects in the country were pitted against each other, not in competition as we are accustomed to see it, but in generous rivalry, under circumstances calculated to make each endeavour to surpass, if possible, his best previous achievements. The plan adopted for securing variety with harmony and a high standard of architectural design, and that in the shortest possible time, was a bold one, and has been amply justified by its success. You all know the story—how a staff of executive officers was appointed with a construction bureau under one chief who was responsible for the construction of all the buildings—how a number of architects were invited to co-operate with them and each other, and with the landscape gradening artists, in designing the different buildings; how they all met together and determined the general ground plan and the main features that were to characterize it: Court of Honour, lagoons, buildings, terraces, bridges, fountains, statuary—how they decided on the architectural style, and adopted a modulus of height for all the principal buildings; how the work was apportioned amongst them, and each went his own way to study out his design; how they met again in conference, each bringing his sketches with him; how the work of each was submitted to the friendly criticism of all until the designs were finally approved of; how they separated again each to work out his design in detail; how, in less than two years from the time when the first spadeful of soil was turned up, some 600 acres of waste and desolate sand marsh were converted into a veritable garden of delight; how the artistic dream of the enthusiastic co-workers became a reality, as the colossal buildings rose by the magic of modern skill and science, and the White City stood on the shores of lake Michigan ready to receive all the nations of the world, and to brave their criticism. It was a magnificent feat, and Chicago has good reason to be proud of it. It speaks volumes, too, for the high sense of public duty, and the self-abnegation of the local artists, that out of the six buildings surrounding the Court of Honour, only one, and that one of the smallest, was reserved for a Chicago architect.

The Centennial Exhibition at Philadelphia, in 1876, has often been spoken of as the beginning of a new era in American art. The Columbian Exhibition of 1893 will be equally far-reaching in its educational influence. It is not too much to say that millions have, for the first time in their lives, been brought face to face with real architecture, and under such favourable circumstances that even the dullest imagination could not fail to be impressed. The eyes of many a visitor must have been opened to the true character of the abortions that do duty for architecture in his own particular locality; and recollections of what was seen at the World's Fair may prevent the perpetration of at least some others like them in the future. An exhibition of views and a discussion on this subject are to form one of the features of this convention. I shall not therefore take up your time by enlarging upon it now.

Another interesting event which has taken place during the year, illustrates the advance which the art of architecture has made on this side of the Atlantic within the last generation. I refer to the presentation by the R. I. B. A. of the Royal gold medal to Mr. R. M. Hunt. This is the first instance in which the medal has been awarded to any but a European. When Fergusson wrote his History of Modern Architecture, that of the United States was hardly considered worthy of notice at all—so little, indeed, that even in that voluminous work, his criticism of the architecture of the whole of North America, from New York to Salt Lake City, occupied only six pages of letter-press. The history was published in 1862, and the following sentences convey a fair idea of the author's opinion of the state of American architecture at that time:—"The perfection of art in an American's eyes would be attained by the invention of a self-acting machine which should produce plans of cities, and designs for Gothic churches or Classic municipal buildings at so much per foot super, and so save all further trouble or thought." "Notwithstanding the defects of their system, the Americans have lately shown a great desire to display their wealth in architectural magnificence, and to rival the old world in this respect; and have produced some very showy buildings, but certainly not one which can be seriously commended as an artistic design, and still less any one which can be quoted as a well thought out expression of a mind imbued with architectural taste and knowledge." Were he writing that history now, one would be curious to see what he would have to say about American architecture. There would of course be criticism some of it no doubt severe, but it would be admitted that there was something worthy of criticism. This great change is chiefly due to the efforts of a band of capable and well trained men, of whom Mr. Hunt is one of the foremost, who have for years been stamping their individuality on the architecture of their country. These men are fortunate in that most of them have been in the zenith of their powers at that period in the development of their country when vast opportunities were afforded for the exercise of architectural talent. Several of these men have proved themselves equal to the occasion, and none more conspicuously so than Mr. Hunt. We are all less or more familiar with his works, and perhaps more particularly with that which has brought him most prominently into the eye of the public, the Administration Building at the Chicago exhibition; and there will be no difference of opinion that Mr. Hunt has fairly earned the high honour which has been conferred upon him. It is gratifying to observe from the whole tone of the proceedings at the presentation ceremony, that Mr. Hunt was not regarded as in any sense provincial, but as a man of high artistic attainments who could meet on equal terms the leading architects of the world, and hold his own amongst them.

It is of special interest to us to note that while Mr. Hunt is undoubtedly gifted with the natural faculty for design, he has also had unusually good opportunities for cultivating it, and of these he has taken full advantage. It happens not infrequently, especially in this country, that a young man will enter an architect's office, without having previously made any special study of subjects bearing on the profession, and after spending three or four years in the office, will start in practice on his own account, being enabled to do so through the influence of unwise friends who can put work in his way. In such a case the chances are that he will never do anything worth looking at, or worthy of being perpetuated in enduring materials. Mr. Hunt's training was very different, as the result is also. An American by birth, he received first a good general education, partly in his native country and partly in Europe. He then spent some time in the office of an architect in Geneva, and afterwards went to Paris, where he studied under an eminent architect and entered the Ecole des Beaux Arts, where he studied for some years. After leaving it, he travelled for a time, seeing the best architectural examples of Europe, Asia Minor and Egypt. Returning to Paris, he was employed for a time under his former master in making the drawings and details for the Pavillion de la Bibliotheque of the Louvre. About ten years were thus spent in study and preparatory work, after which he returned to America, where he first spent six months in assisting the late Thomas U. Walter at the Capitol at Washington, after which he went to New York and began practice on his own account. He was by that time about twenty-eight years of age. Unfortunately few young men who have to earn their own living have either the opportunity or the disposition to pursue such a course of training and preparation as Mr. Hunt did. If it were otherwise, a greater number might rise to something like the eminence in their profession which he has attained.

It appears strange, and is certainly lamentable, that when such men as this are to be found in the country, the United States government should not take advantage of their skill and talent in the erection of their public buildings. These are the last to which an American would call the attention of a foreigner as typical examples of the best architecture of the day. This is not because they are cheap, for they are said to cost almost exactly double what the same buildings would cost if erected by private persons. It is also said that the cost for architectural service amounts also to almost exactly double what the fees would amount to if the work were done by private architects. This is startling but not surprising under the system that has hitherto been followed. One supervising architect, employed at a salary utterly inadequate to procure the services of a first-rate man, has been expected, with the assistance of an army of clerks—drawing clerks, tracing clerks, computing clerks, and so on—to design and supervise every year buildings costing many millions of dollars, and to see to the expenditure of millions more in repairs. It is physically impossible that any man could be found equal to such a task. Chiefly through the efforts of the American Institute of Architects, a bill has now been passed, providing that in future the design and construction of important public buildings will be entrusted to capable architects in private practice. The necessity for the change is illustrated by the condition of the Chicago post office, which was erected only a few years ago, but which a competent board of experts has now declared to be so unsafe that it is liable to fall at any moment on the heads of its occupants. It may be mentioned here that the principle which has now been adopted by the United States government has to some extent been put in practice by our own Dominion government. And it would no doubt be followed to a still greater extent if the development of the country were such as to require the erection of public buildings at such a rate as to outstrip the capacity of the Department of Public Works.

Another interesting architectural event during the year was the Congress of Architects in connection with the World's Fair. The advisory board consisted of leading architects from the United States, England, France, Germany, Italy, Spain, Hungary, and even Japan. This was the first world's congress of the kind that ever was held. While the attendance was not, apparently, as large as might have been desired; it cannot but have had a beneficial effect in broadening the views and enlarging the artistic sympathies of those who took part in it; and the sphere of its influence will be vastly increased by the publication of the full report of its proceedings. If it had not been for the existence of architectural societies in all parts of the civilized world, the labor of getting up such a congress, and reaching the representative men amongst all the scattered units of the profession, would have been so enormous, that probably it would never have been attempted.

During last year a committee of the council have considered the advisability of adopting a tariff of fees. You will observe that their report does not enter into the general question of the desirability of having a tariff or not, but merely deals with that of the expediency of adopting one at this particular time. Much may be said on both sides of the question, and look at it would be well for members to take it into their consideration, and look at it from every point of view so that they may be prepared to deal wisely with it when it comes up at a future time. A tariff is generally desired with the idea that it can be used as a lever to keep the rate of fees up to the scale fixed by the tariff. That is one side. The other is that it can also be used to keep the rate down to the tariff scale. No tariff can provide for every contingency, and cases constantly arise in which the tariff apparently applies, but yet in which the scale of remuneration fixed by it would be utterly inadequate. Many cases may arise in which an architect may fairly consider his services worth more than the tariff rates, cases for instance in which he has made a special study of some particular class of buildings, which does not often occur in the course of ordinary practice, say, by way of example, theatres. It is obvious that the services of an expert would be worth more to one building a theatre than those of an architect who had never designed a theatre before; and yet in the face of a hard and fast tariff it might be difficult for the expert to obtain that higher remuneration to which his greater skill would fairly entitle him. This aspect of the question should at least be taken into consideration. In this connection I commend to your attention the report in the CANADIAN ARCHITECT AND BUILDER for October last, of the banquet of the Quebec Association of Architects, on which occasion two of the members of the government were present as guests, and gave entirely opposite advice on this question. The Attorney-General congratulated the association on having no tariff, and strongly advised them never to have one; while his confrere, the Commissioner of Public Works, on the other hand, was equally positive that they ought to have one, and promised the assistance of the government in carrying it through.

There is one other matter to which I should like to refer. During the last session of the Ontario Legislature an act was passed entitled "An act to facilitate the enforcement of the just rights of wage earners and sub-contractors." This act is an amendment to the Mechanics' Lien Act and contains some provisions which it is necessary for architects to bear in mind in case of having to do with a contractor whose solvency or honesty is doubtful. Under the act as it stood previously to this amendment, every one who did any work about a building, including sub-contractors, sub-sub-contractors, mechanics, labourers, and supply men of all sorts, had the right of lien on the building and land on which it stood unless he signed an agreement to the contrary. Under the amendment no such an agreement is valid. The wage earners' claim to the extent of 30 days wages is given

priority over all other claims, and any device adopted by owner or contractor in order to defeat that priority is declared to be null and void. The owner, however, is entitled under the act to retain for 30 days after the completion of the work, or delivery of the materials, an amount equal to 15% of the value when it is less than $1,000, 12½% when from $1,000 to $5,000, and 10% when over $5,000. He is also entitled to pay any just claims for wages or materials, and to charge the amounts to the contractor, provided he can pay the claim without reducing the amount of the drawback below the amount of the above named percentage, but he must notify the contractor of such payment within 3 days. Further, he is entitled to refuse payment to a contractor of any amount exceeding $100 unless the contractor leaves with him an affidavit or statutory declaration that all wages have been paid up to and including the 14th day previously. If the owner makes any payment without getting such an affidavit, he does so at his own risk, and is still liable for unpaid wages. In the event of a contractor failing to complete his contract, the drawback cannot be used to complete the work, so long as any wages are unpaid. Strictly speaking, an architect is not safe under this act in giving a certificate for $100 or upwards at any time without demanding from the contractor such an affidavit as has been described. Practically it would be impossible to carry on business on these terms, because, notwithstanding that it is the law, any respectable contractor would consider himself insulted if asked to bring such an affidavit whenever he came for a certificate. The law throws the responsibility on the owner, but as he may know nothing whatever either about the law in the matter or the financial standing of the contractor, he will naturally look to his architect to protect him in such a case. The moral therefore is, to have if possible nothing to do with doubtful contractors, but if one should happen to get involved with any such, then not to be too delicate to demand the necessary affidavit. If this course were constantly pursued by all architects, their offices would soon be relieved from the unwelcome presence of the shady contractor—the man who from education and habit is incapable of doing good honest work, but whom a short sighted owner will sometimes insist should "get a chance to tender," with the result that a few dollars are saved in the amount of the contract, and hundreds perhaps lost in the quality of the work. It is simply impossible with any amount of supervision to get the same standard of workmanship from a man whose aim is constantly to increase his profits by scamping his work, as from a man who honestly tries to live up to his agreement, or who at least values his reputation and future business connection more than the immediate gain of a few dollars. This is a point which it is difficult to get some owners to recognize, and if this act helps to open the eyes of such to the risks they run in insisting on the employment of doubtful contractors, it will certainly save many an architect from much unnecessary worry and trouble, whether or not it benefits the class in whose interests it has been framed. I may mention incidentally that under this act an architect has also the right of lien, but curiously enough, some of the United States courts have held that he only has that right if he supervises the erection of the building as well as prepares the plans and specifications.

Now, gentlemen, I shall not detain you longer from the business of the Convention, which is the one occasion in each year on which we can meet together to exchange views and opinions, and stimulate each other to do what in us lies to raise the standard of architectural practice in this province. It is a matter for regret that every member of the Association cannot be present with us. I am sure, however, that those who are absent regret this as much as we who are present do. I trust that the fifth year of the Incorporated Association will see us growing in unanimity and strength, and so prove that the labor which has been expended in organizing and building it up will not have been spent in vain.

The conclusion of the address was received with loud and prolonged applause.

The Treasurer, Mr. Edmund Burke, then read his report as follows :—

THE TREASURER IN ACCOUNT WITH THE ONTARIO ASSOCIATION OF ARCHITECTS.

1893. *Dr.*

Jan. 1	To balance from 1892		$2,285 35
	" Cheque from Registrar, collections, fees, prior to February 2nd, 1893		225 25
	" Interest on Registrar's bank deposit		4 02
	" Library fines		1 75
	" Members' fees after February 2nd		346 00
	" Students' registration fees		42 00
	" Students' examination fees		23 00
	" Students' examination papers sold		50
	" Transfer student's articles		1 00
	" Weber Printing Co., refund, over pay		4 00
Dec. 31	" Bank interest		80 65
			$3,013 52
	To balance forward to 1894	$1,930 50	

1893. *Cr.*

By W. A. Langton, one year's salary as Librarian		$ 100 00
" " " " " Registrar		200 00
" " " disbursements		71 71
" " " refund, overcheque		25 00
" R. M. Williams, engrossing minutes		6 50
" Nelson R. Butcher, typewriting, re legislation		8 65
" W. G. McWilliams, fees		50 00
" Curry & Gunther, solicitors' fees " "		64 68
" Travelling and hotel expenses, members of Council		91 25
" Examiners' fees		150 00
" W. J. Graham, attendant at Examination Hall		10 00
" Webber Printing Co		20 00
" Curry Bros., printing examination papers		25 00
" " " list of members		17 00
" " " by-laws		28 00
" C. H. Mortimer, printing account, April, 1892, to July, 1893		109 25
" " " pamphlets re stone tests		57 00
" " " circular re annual fees		1 35
" " " subscription CANADIAN ARCHITECT for 3 English architectural societies		7 50
" Hart & Riddell, stationery		20 65
" Brown Brothers, binding		1 25
" Refund portion of fee to non-practising member		3 00
" St. Lawrence Foundry, for columns for testing		12 34
" Reid & Co., for timbers for testing		2 89
Balance on hand		$1,083 02
		1,930 50
		$3,013 62

EDMUND BURKE,
Treasurer O. A. A.

We have examined the books, vouchers, etc,, of the Association, and certify that the above is a correct statement thereof.

(Signed) HENRY LANGLEY, JOHN GEMMELL } Auditors.

NOTE—

The income for 1892, excluding bank interest, was	$1,199 10
And the expenditure	1,152 81
The income for 1893, excluding bank interest, was	643 50
And the expenditure	1,083 02

On motion by Mr. Burke, seconded by Mr. Gray, the report of the Treasurer was adopted.

The Registrar and Librarian, Mr. W. A. Langton, then read the following report :—

REPORT OF THE REGISTRAR AND LIBRARIAN AT THE ANNUAL MEETING ON JANUARY 16TH, 1894.

Members.

The following is the state of the roll of membership of the Association :—

Membership on January 1st, 1893—		
Resident members	62	
Non-resident members	71	
Total		133
Registrations during 1893—		
Resident members	3	
Non-resident members	3	
Total		6
Membership on January 1st, 1894		139
Of these there were—		
In good standing		50
Honorary		1
In arrears for 1893		61
" " " " and 1892		18
" " " " " " and 1891		9
		139

Students.

There are 87 students on the list. Of these many have gone away for study or in search of work. Some are I think engaged in other pursuits, but I have received no communication from them renouncing their connection with the Association.

Classified according to the examination required from them the roll of students is subdivided thus :—

For first intermediate examination	13
" second intermediate examination	26
" final examination	48
	87

At the examinations of this year there were 19 candidates, classified as foliows :—

First intermediate examination	5
Second intermediate examination	8
Final examination	6
	19
Of these the following members passed :—	
First intermediate examination	2
Second intermediate examination	3
Final examination	2
	7
The following were conditioned :—	
First intermediate	1
Second intermediate	1
Final examination	2
	4

These four came up for examination in September, and all passed but one of the candidates for the final examination. Thus, of the 19 candidates for examination in this year 10 have passed, and of these there are three thus made eligible for registration as members of the Association.

The register for students seeking employment, which was opened at the office of the Registrar in 1892, has been little used by students. Architects on the other hand have often made enquiries about draughtsmen, and some of the students who did give their names to the Registrar have thus procured employment.

Proceedings of the Council.

Besides the meeting on the day after convention for the purpose of electing officers and dealing with matters referred by the convention to the Council, the Council met on May 2nd to consider the report of the examiners, and on June 1st, to consider the report of the legislation committee.

Matters dealt with at these meetings, other than administrative details, were as follows :—

Copies of the Conditions of Competition approved by the convention of 1892 were ordered to be printed, and five copies sent to each member.

The fees for 1893 were fixed, as desired by the convention, according to a a graded schedule based upon the plan defined in the president's address at the convention. This schedule was afterwards reduced as stated below.

The following gentlemen were appointed examiners for 1893, and after the examinations were re appointed for 1894 : Messrs. C. H. C. Wright, S. G. Curry, S. H. Townsend, R. W. Gambier-Bousfield, F. Darling and E. Burke.

As Mr. F. J. Rastrick proposed to retire from the Association upon the completion of his period of service as a member of the Council, it was thought proper to ask him to become an honorary member of the Association.

The principal work of the Council was the endeavor to procure an amendment to the Act of Incorporation such as would make the title Architect the exclusive right of members of the Association in place of the title Registered Architect. The Toronto members of the Council had been appointed by the Council as a committee to procure legislation amending the Act, and were called the Legislation Committee. At the meeting of the Council on Feb. 9th, the following non-resident members were added to the legislation committee : Messrs. Jas. Adams, F. J. Alexander, Jas. Balfour, F. Bartlett, A. Bell, Jos. Connolly, T. Cuthbertson, John Day, J. C. Forster, Fred. Henry, John Kay, Thos. Kennedy, J. W. Kenney, J. Z. Long, J. A. Maycock, A. A. Post, Jos. Powell, Jos. W. Power, F. J. Rastrick, W. Stewart, A. White and J. L. Wilson. By letter and circular the president and local members of the legislation committee communicated with the non-resident

members so as to secure concerted action. The committee in Toronto held 11 meetings and were assisted by the solicitor of the Association and the solicitor who had successfully assisted the Provincial Land Surveyors in procuring legislation in the previous year. The bill of amendment was finally withdrawn on May 16th by the advice of its principal supporters in the House. A meeting of the Council was called on June 1st, and the action of the committee in withdrawing the bill was endorsed by the Council.

It was decided at this meeting to keep the cost of the working of the Association as low as possible and to reduce the rate of fees until the time when the question of legislation could be brought up again.

A second schedule of fees was drafted and sent out on June 13th along with the President's circular letter dated June 6th, in which was given an account of the work of the legislation committee and the decision of the Council with regard to fees.

It was intended to introduce, when the Bill amending the Act was in committee, an amendment to the Act providing for the election of the President of the Association by the convention, as desired by the convention of 1893. Failure to accomplish this amendment was involved in the withdrawal of the Bill.

The Library.

The number of loans made from the library during 1893 has been 152, or five less than in 1892. Of the borrowers 41 were architects and 111 students.

All of which is respectfully submitted.

W. A. LANGTON,
Registrar and Librarian.

The Registrar, after reading his report, said that at the last convention instructions had been given the Council to push the question of having customs dues collected properly upon plans coming in from foreign countries. In pursuance of that instruction the Toronto members of the Council had been directed to confer with the Manufacturers' Association (a deputation of which body had been of assistance at Ottawa before on a similar occasion and had promised assistance again), as to organizing another deputation to go to Ottawa. The Council had sought and secured an appointment with that Association, but the proposed meeting was adjourned for the purpose of attending the funeral of the late W. H. Howland. Since then it had not been possible to have another meeting, and the matter was consequently referred to the new Council. Another question was the fixing of a tariff of fees, alluded to by the President, which was brought up in the Council. A committee consisting of the President and Messrs. Townsend and Darling had considered the question and presented a report at the Council meeting that morning, which might be appended to the Registrar's report. The following is the report as read :—

The committee appointed to "consider the advisability of adopting a tariff of fees," beg to report that, having given the subject careful consideration, they are of opinion that at the present time—when the Association has been working for and is looking forward to an important amendment to the Act of Incorporation—it would be inexpedient to do anything that might have a tendency to increase the difficulties in the way of obtaining that amendment. There is no doubt that the principal difficulty in the way of obtaining the desired amendment is the feeling prevailing amongst a large number of members of the Legislative Assembly that the Association is of the nature of a Trades Union, and as the ultimate object of these organizations is almost invariably the increase of the rate of wages, your committee are satisfied that if the Association were at this time to adopt a tariff, it would be misinterpreted as a move in the same direction. If we had once obtained the amendment to the Act for which we are seeking, the question would naturally come up as a logical consequence of the enlarged powers which that amendment would confer, and could then be dealt with effectively without injury to the Association. In the meantime, there is no need for any uncertainty as to what is a fair scale of charges, because the tariffs which have been adopted by almost all associations of architects in this country and in Europe are practically identical, and have again and again been recognized by courts of law as proper and reasonable and as a fair basis on which to settle disputed accounts. Any tariff which we might adopt would undoubtedly be similar in its provisions, as it would be useless to attempt to obtain sanction to a tariff higher than that of all similar bodies, and assuredly the members of this Association would not desire that it should be lower. The scale of charges thus fixed is accessible to all architects and can be as readily appealed to as if formally adopted by the Association. The Architectural Guild of Toronto some time ago prepared and adopted a tariff on the above basis, and copies of it can be procured by any member of the Association on payment of a nominal charge. An excellent plan is for individual members or firms to have the scale of charges printed in some convenient form, as for instance on a corner of their letter paper, where clients could not fail to see it, or elsewhere as they might deem expedient. In conclusion, your committee desire to remind the members that any tariff which the Association may adopt must be sanctioned by the Government, and it will be necessary to show that the proposed tariff is in harmony with the custom and the precedent of our ordinary practice. It is therefore apparent that in the meantime it is of the utmost consequence that all members of the Association should conform their practice to the universally recognized existing tariff.

S. H. TOWNSEND.
FRANK DARLING.
D. B. DICK.

On motion by Mr. Townsend, seconded by Mr. Gouinlock, the report of the Registrar was received and adopted.

DISCUSSION.

Mr. Gambier Bousfield asked if something could not be done by the Association to bring and keep itself more prominently before the public from year to year? Between the annual meetings the public heard nothing of the Association. He would suggest occasional meetings at which papers could be read, and reports of which would appear in the press, and in that way the public would not be allowed to lose sight of the fact that such a body was in existence working for the advantage of the community in general.

Mr. Aylsworth said he could not remember having seen during the year any reference to the Association in the public press, but he had observed a reference to the Architects' Guild of Toronto. That body, he believed, had been asked to select representatives on the Technical School Board. He had no doubt the members of the Guild—of which he was not himself a member—had the interests of the Association at heart, and he thought if a similar case occurred again, it would help the Association if the Guild would turn over to it a matter of that kind, by which means the Association would be brought into prominence and become better known to the public. The Guild had been longer in existence and had a handier name, and he had the impression that in the minds of the public throughout the province it was more prominent than the Association. If such a case should arise during the year it was in the power of the Guild to do something for the Association in that way.

Mr. Gregg thought Mr. Bousfield's suggestion was in line with his own of a year ago, regarding the formation of chapters or branches of the Association. He thought the lack of such a branch in Toronto was apparent, and that such a matter as that regarding the appointment of representatives to the Technical School Board, referred to by Mr. Aylsworth, should go before that branch, as the Association as a whole was probably a better body to appoint those representatives than the Guild.

The President said that so far as he could recollect the matter of the appointment of the representatives on the Technical School Board was the only instance for a number of years in which the Guild had been brought before public notice, and he thought that had been allowed to remain in the Guild's hands to avoid making any change. It had been the policy of the Guild not to interfere with matters that were within the province of the Association. He thought he could safely say that since the Association had been in existence, with the exception of the instance mentioned, no mention had been made in the newspapers of the Guild. In regard to Mr. Gregg's suggestion as to chapters, there would be no difficulty in establishing one in Toronto, but there might be in other parts of the province, and he would like to hear from some of the outside members regarding that.

Mr. Billings (Ottawa,) said that Ottawa was supposed to have an Institute now, but they had never had more than five or six meetings, and he believed the secretary of four or five years ago was still secretary. He could not say whether it had been properly run, but it was not a success. There were not more than one or two other cities outside Toronto that had as many architects as Ottawa, and if it could not be made a success there it could hardly be expected elsewhere. They had had one or two pretty good meetings—one when Mr. Curry came down to explain the working of the Association, but as a general thing there was a great deal of apathy. Even when members did attend they didn't know what they came for. There was nothing to do except to sit down and smoke and read a paper. Even in a large Association like the present, there were but few architects who could find in their experience anything sufficiently novel on which to spend their time and give a paper to the Association. However that might be in Toronto, he felt sure that in Ottawa if meetings were held only when some member had a paper of sufficient novelty and interest to hold the attention of those present, the meetings would not be very numerous.

There was a matter to which, although at present he might be slightly out of order, he desired to draw attention, as it had a bearing upon Ottawa architects. There had appeared in the CANADIAN ARCHITECT AND BUILDER, a paper published in Toronto, the following article :—

"Lord Aberdeen's request for an addition to Rideau Hall has excited comments from the daily press varying according to the political bias of the paper. One paper is for leaving Rideau Hall as it is and forcing our Governor Generals to conform their manner of living to the ideas of our farmers who, the leader writer asserts, are coming to the front in public affairs and will be found on the side of a policy of 'democratic simplicity'. Another paper is for pulling down Rideau Hall and replacing it by a 'respectable looking mansion.' It is, as it has turned out, a pity that this course was not adopted at first, for according to the figures quoted, Rideau Hall, which cost $82,000 to purchase, has cost $553,000 for repairs and alterations. Whether the need of $15,000 worth of more room is sufficient provocation to pull down what has been done and build the respectable looking mansion now, is a question. It would not be an exact response to the request of the Earl, who has not asked for a new mansion bye and bye, but for a few more rooms now. It hardly seems likely that the old Hall with its additions will be pulled down before it has had a life reasonably proportioned to the money which has been spent upon it. When the time does come for it to be replaced it is to be hoped that some steps will be taken to have the work well designed. It is not the class of building that is likely to be well handled by the Public Works Department. The forte of the Chief Architect's office is in its organization for the multiplication of buildings of a similar class. An order for such an unprecedented and (unless the farmer forbids) elaborate piece of work as a new residence for the Governor General would sweep the office like a cyclone. The pavilion representing Canada at the World's Fair has already proved too much for the elasticity of the departmental designer. If a new residence for the Governor-General should get into the hands which produced that work, it is impossible to avoid the conviction that however capacious the mansion might be it would not be 'respectable looking.'"

The portion to which he more particularly called attention was that in which it stated "It is not a class of work that is likely to be well handled by the Public Works Department, etc." Certainly that was not complimentary. He felt sure that no person who sneered in that manner at so distinguished an architect as Mr. Fuller was a member of the Association, or even an architect of this or any other province. The paper in question was supposed to be the organ of the Association, and he did not think the organ of the Association should make statements of that character, and he wished to call attention to the way in

which it was edited. He did not think there was in the mind of any member of the Association any question as to Mr Fuller's ability. In adverting to this matter he desired to say that he was acting entirely upon his own responsibility, and not at the wish or suggestion of any member of the staff reflected upon. He would like to hear the opinions of members of the Association in regard to this question.

Mr. Aylsworth said that after what had been said regarding the establishment of chapters in places outside of Toronto, it was hardly to be expected that it could be done elsewhere. He thought in Toronto the Council might take the place of the suggested chapter and hold meetings whenever occasion offered, which would be noticed in the papers and have the desired effect, while the Guild might still afford the means of social and mutual improvement. It might be a matter of consideration whether some means could not be found by which the Guild would be incorporated with the Association in such a way as to take the place of a local chapter.

The President thought one reason why Mr. Aylsworth's suggestion had not been acted upon was the fact, that the time of the council had hitherto been so fully taken up by the matter of legislation that no time was left for anything else, but he thought the present an opportune time for taking it up, and if possible carrying it into effect. So far as the Guild was concerned, he looked upon that organization as having to a certain extent fulfilled its design, though he would not say it had survived its usefulness. The Association of Architects was largely the outcome of ideas expressed in the Guild. He thought if the Guild was maintained it should be simply as a social organization. The difficulty in regard to the appointment of representatives to the Technical School might be got over by having a meeting of the Council of the Association in Toronto, as it would be a little difficult for the Association as a whole to select those representatives for the Toronto Technical School. In regard to the matter brought up by Mr. Billings, he felt sure all present would regard the publication of such sentiments with regret. It had been said the paper in question was the organ of the Association. There was no other paper which it could make its organ. He would venture to say on behalf of the Association that as an Association they entirely repudiated the publication of the paragraph referred to.

Mr. Gregg said that in order to keep the matter of the formation of branches before the Association he would move that during the coming year the Council consider the advisability of calling occasional meetings of the Toronto members, or of forming a branch in Toronto.

Mr. Burke said that while the wisdom of continuing any discussion of the subject introduced by Mr. Billings might be doubtful, he would point out that all the buildings at the World's Fair on which there was any room for criticism had been very severely criticized. He did not see himself that there was any particular venom in the paragraph referred to; it was written in just the same spirit as the criticism of the other buildings. He did not think it was well to be too thin skinned, for criticism was a good thing sometimes.

Mr. Darling thought Mr. Fuller would not object to any criticism of a work he had executed, but the paragraph referred to was not of that character, but rather an insinuation against his ability to do something for which he had not even had the opportunity of submitting a design.

The President agreed that no one should object to fair criticism, but as had been pointed out by Mr. Darling, the paragraph in question was not a criticism; it did not point out what the defects were, which was the first function of a criticism.

Mr. Bousfield, reverting to the original subject under discussion, suggested the advisability of endeavoring to give a little more publicity to the doings of the Association. The results of the examinations and similar matters might be inserted in the daily press.

Mr. Gouinlock coincided with Mr. Bousfield's views, and thought the meetings of the Council should form the subject of paragraphs in the newspapers.

Mr. Gregg read his motion as follows: "That the Council consider the advisability of calling occasional meetings of the Toronto members for encouraging the formation of a local branch.

Mr. Bousfield seconded the motion.

Mr. Power expressed an apprehension that such a course as was suggested might have a detrimental effect on the Association as a whole.

Mr. Gregg thought the motion was quite harmless; the Council had a majority of outside members, and if they foresaw any danger of hurting outside places the matter would certainly be allowed to drop. He did not think it was going too far to ask the Council to consider the matter, and it put the whole question off for another year.

Mr. Billings thought such occasional meetings as had been suggested might be held by the Association as a whole in Toronto, and any outside members who happened to be here or within reach might avail themselves of them.

Mr. Power described the "Institute of Building Arts" carried on under the auspices of the Illinois Chapter of the Association of Architects in Chicago. They had a large flat which was sustained in this way. The floor space was rented to manufacturers and others having building appliances for sale, who made a display there. This brought in a revenues ufficient to pay the rent of the flat. They had monthly meetings at this room, at which architects from other places could drop in, and a special meeting every three months. He thought a similar arrangement ought to be feasible in Toronto, and would be beneficial to both the architects and those making the display.

Mr. Curry called attention to the difficulty there was even in Toronto in getting members to attend a meeting, pointing to the small attendance at the Convention as an illustration. If the members themselves would not do something to help along it was no use calling upon the Council to call meetings. The Guild which had been spoken of had had very strict rules to prevent this lack of attendance, to which it owed very largely its success. If a reasonable attendance could be depended upon, such meetings as suggested would be all very well, but it was no use attempting it if out of the forty men in Toronto only four or five attended. A man who had spent some hours, perhaps days, in preparing a paper to be read at such a meeting, would think it a very poor return for his labor to have to read it to an empty room. There was too much of a feeling abroad among the members that somebody else should do something to make a success of these meetings. If anything was to be expected it must be through individual action. If it could be shown that there was any desire on the part of members to attend such meetings, as suggested, the resolution was a good thing, if not, nothing could be expected from it.

The President, in order to meet Mr. Power's objection, suggested that the resolution be amended by saying, "Occasional meetings of the members in Toronto," instead of occasional meetings of the Toronto members.

Mr. Gregg expressed his willingness to make the amendment, and the resolution, so amended, was carried.

Mr. Gregg then read the following paper:—

ESTIMATING THE COST OF BUILDINGS FROM CALCULATION OF THEIR CUBICAL CONTENTS.

An architect often finds it necessary to estimate the cost of a proposed building before more than an outline sketch has been prepared and before specifications have been written.

In such a case he naturally brings to mind a building of the same class, which has already been erected, and of which he knows the exact cost. If such a one can be thought of, and if it is of the same general dimensions, he has simply to make allowance for changes that may have taken place in the prices of labor and materials, and has little trouble in arriving at the required estimate. If, however, the building which seems most suitable for the purpose is somewhat larger or smaller than the one proposed, he finds that by taking its cubical bulk or contents and that of the proposed building as a ratio, he may find the proportionate cost with a great deal of certainty, especially if the difference in size is not great. This experience has led to a system, more or less common, of keeping, for reference, a record of the cost per cubic foot of buildings which have been erected, or upon which tenders have been received, and such a record, although often an imperfect guide, is worth the small amount of trouble required in its preparation, and with the entries made from time to time its value will increase.

Within the past few days I have seen a few of the Toronto architects and they have kindly compared notes with me upon this subject and contributed some information used in this paper, which is written with the object of leading to a further interchange of ideas in the discussion which should follow.

I would recommend the following simple method of keeping a record of cubic contents and cost, and would say that the information an architect has of this kind from his own buildings is the best for him, as it is probable that no other architect is quite similar in his style of work and finish.

A book or a number of sheets of paper should he ruled in suitable widths for the following columns: 1st, date, (year); 2nd, name of building, (or owner); 3rd, where erected; 4th, short description; 5th, cubical contents in feet; 6th, cost of building; 7th, cost per cubic foot; 8th, remarks. The kinds of buildings should be classified so that prices of one class may be seen and compared at a glance in one column. Examples were here shown similar to the following:

Date	Name.	Where Built.	Description.	Cubic Feet	Cost $ c.	Cts. per c. ft.	Remarks.
.....	.....	.....	.....	.....	.... .	...	.....
.....	.....	.....	.....	.....	.... ..	...	.....
.....	.....	.....	.....	.....	.... ..	...	.....
.....	.....	.....	.....	.....	.... ..	...	.....
.....	.....	.....	.....	.....	.... ..	...	.....

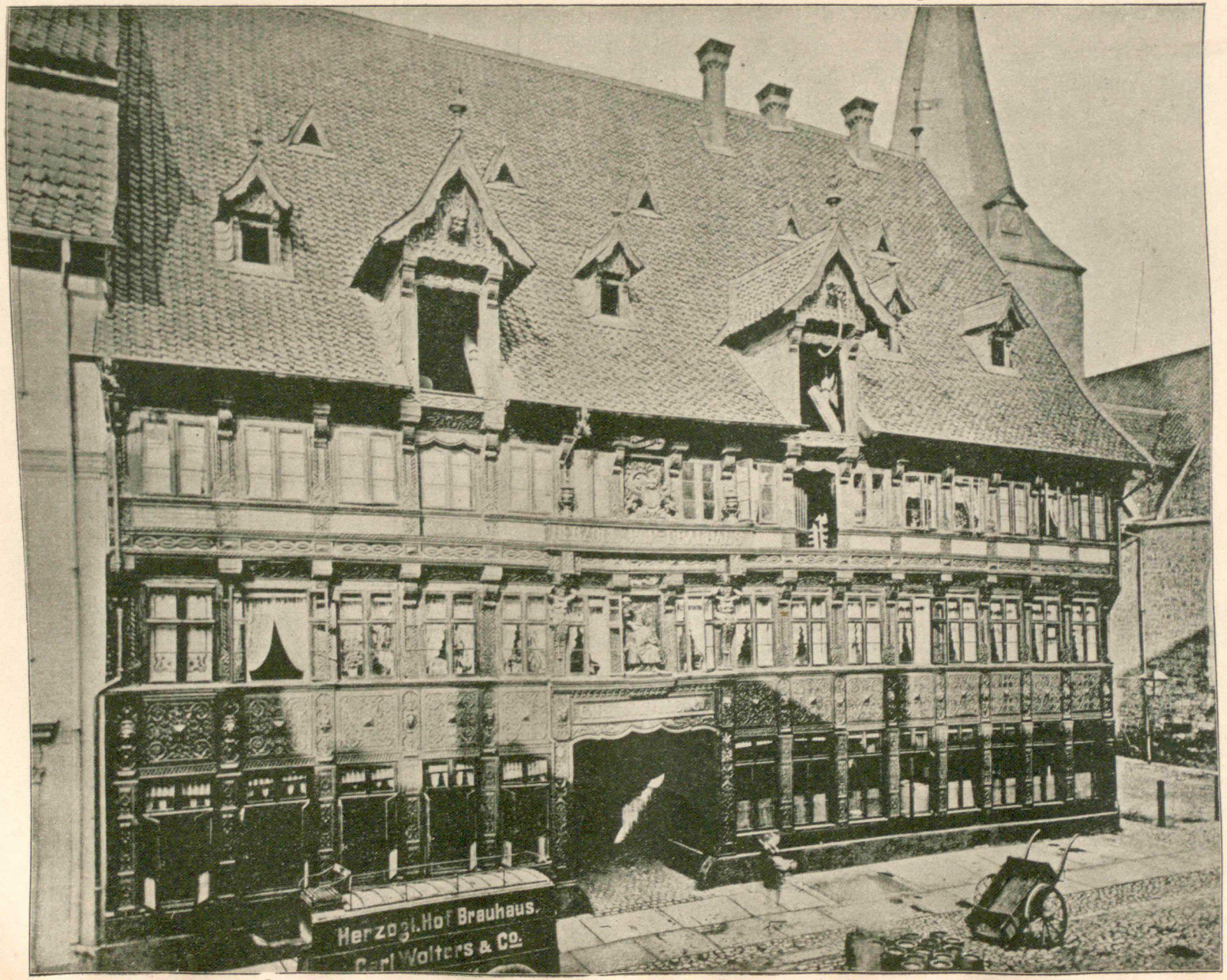
(— — — — — 13 IN. — — — — —)

In computing the cubical contents the rule most commonly used is to measure the building as a whole or in parts from the bottom of the footings to a point half way up the slope of roof, this being done in parts where there are different heights of roofs, towers, etc. In measuring brick or stone buildings, light wooden porticos or verandas are usually omitted. There should be a uniform system of omitting or including such items as heating, mantels, grates and tiles, electric wiring, or of noting two rates, one omitting and the other including these.

Supposing that cubing our public schools would give nearly uniform results, I saw Mr. C. H. Bishop, the Superintendent of Toronto School Buildings, and he kindly made out a list of the cost of twelve buildings recently erected with the rate per cubic foot, and this varied by half and quarter cents all the way from 5 to 7½ cents, the variation not being governed by the number of class rooms. This shows that the system is not perfect, and that for very correct results, other methods must be used.

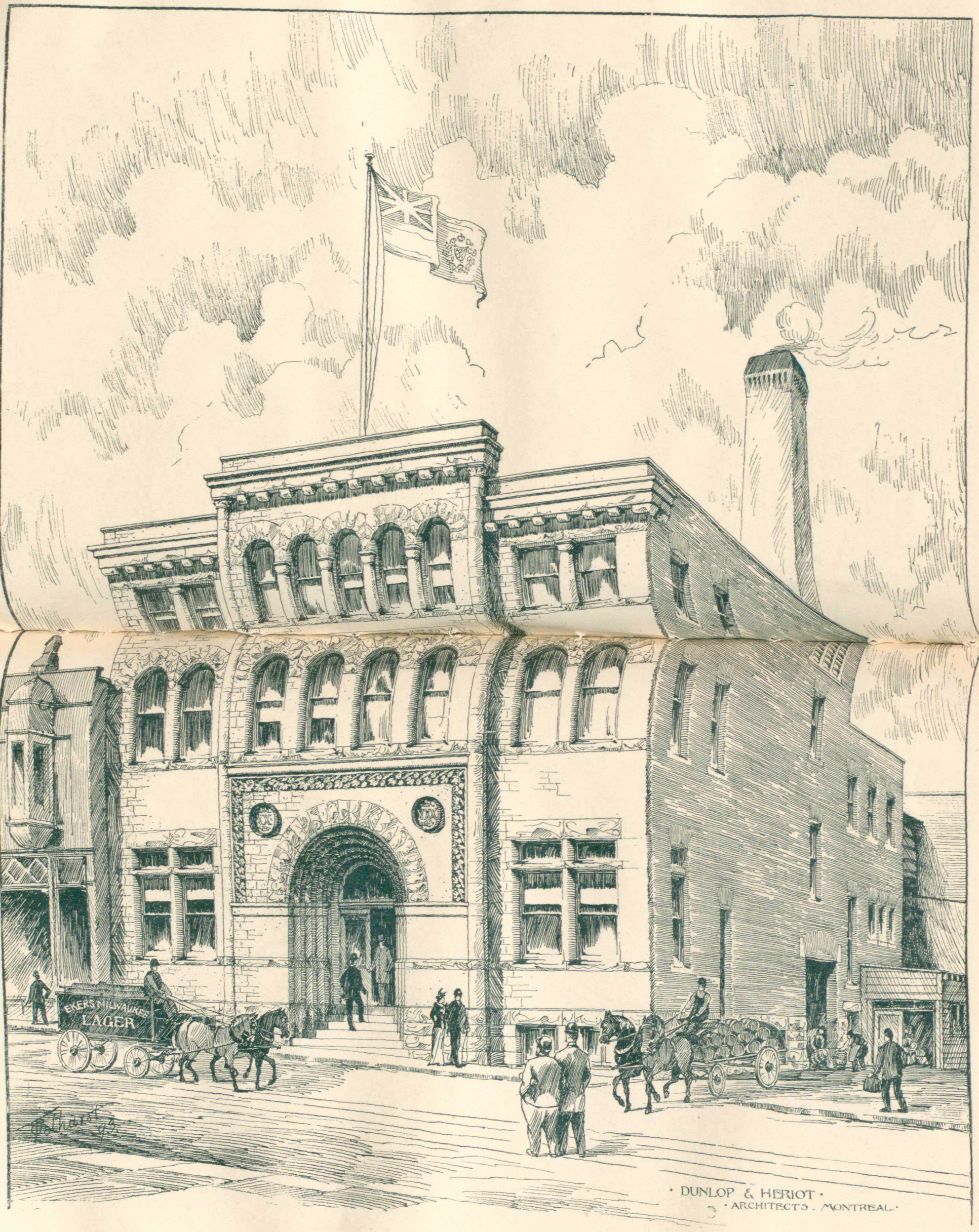
I shall close with a list of the most common classes of buildings, giving a price for each per cubic foot, simply as an opinion which may be altered upon further observation. It is intended for Toronto, and is probably higher than in other places in Ontario.

Plain stables, brick, not including complete iron fittings - - 7c.
Plain brick dwellings, detached or semi-detached, pine finish, furnaces and mantels - - - - - - - - - 8c.
Detached brick dwellings with plain stone trimmings, hardwood finish on ground floor, hot water heating and mantels - - - 10c.

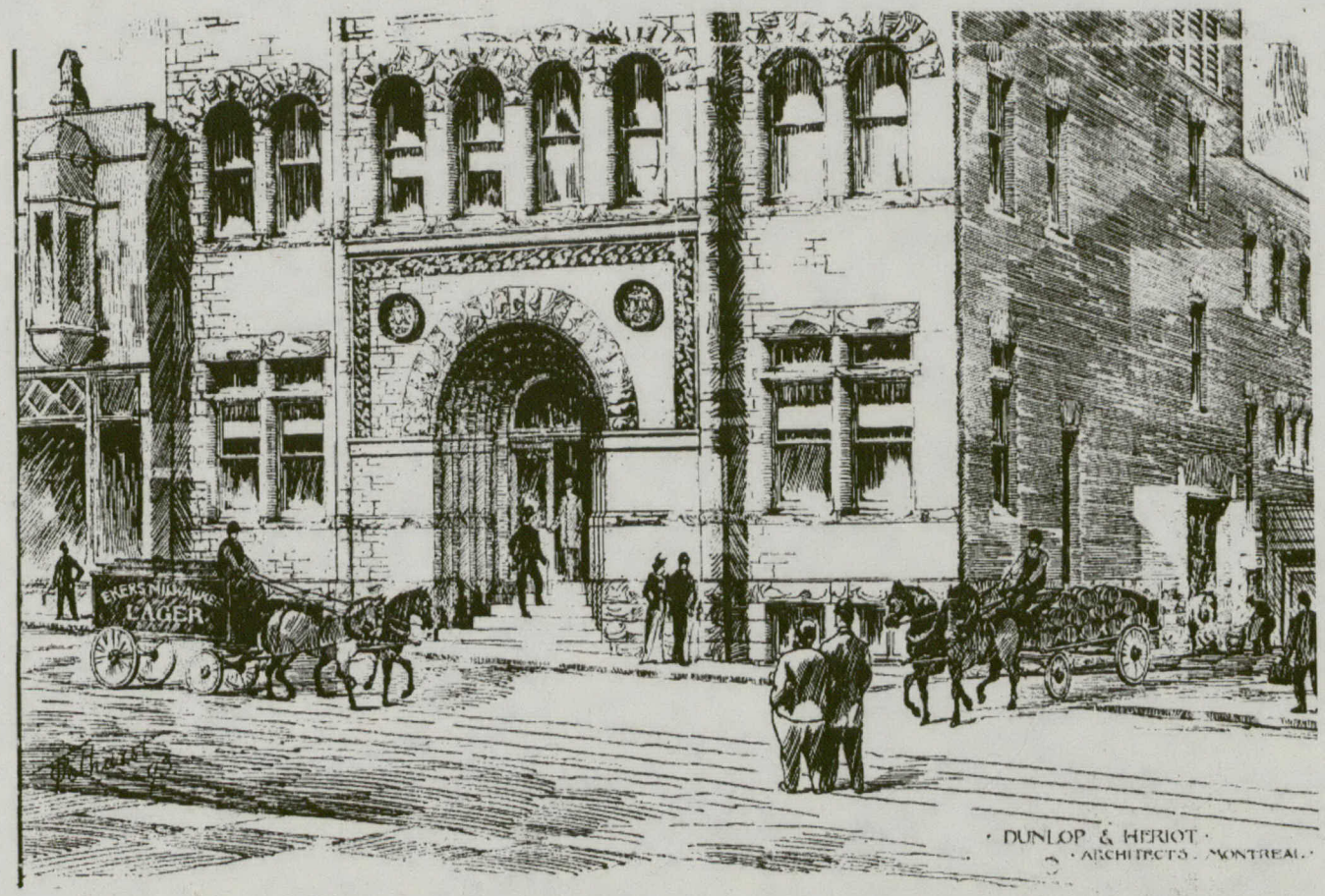


OLD HOUSE, BRUNSWICK, GERMANY.

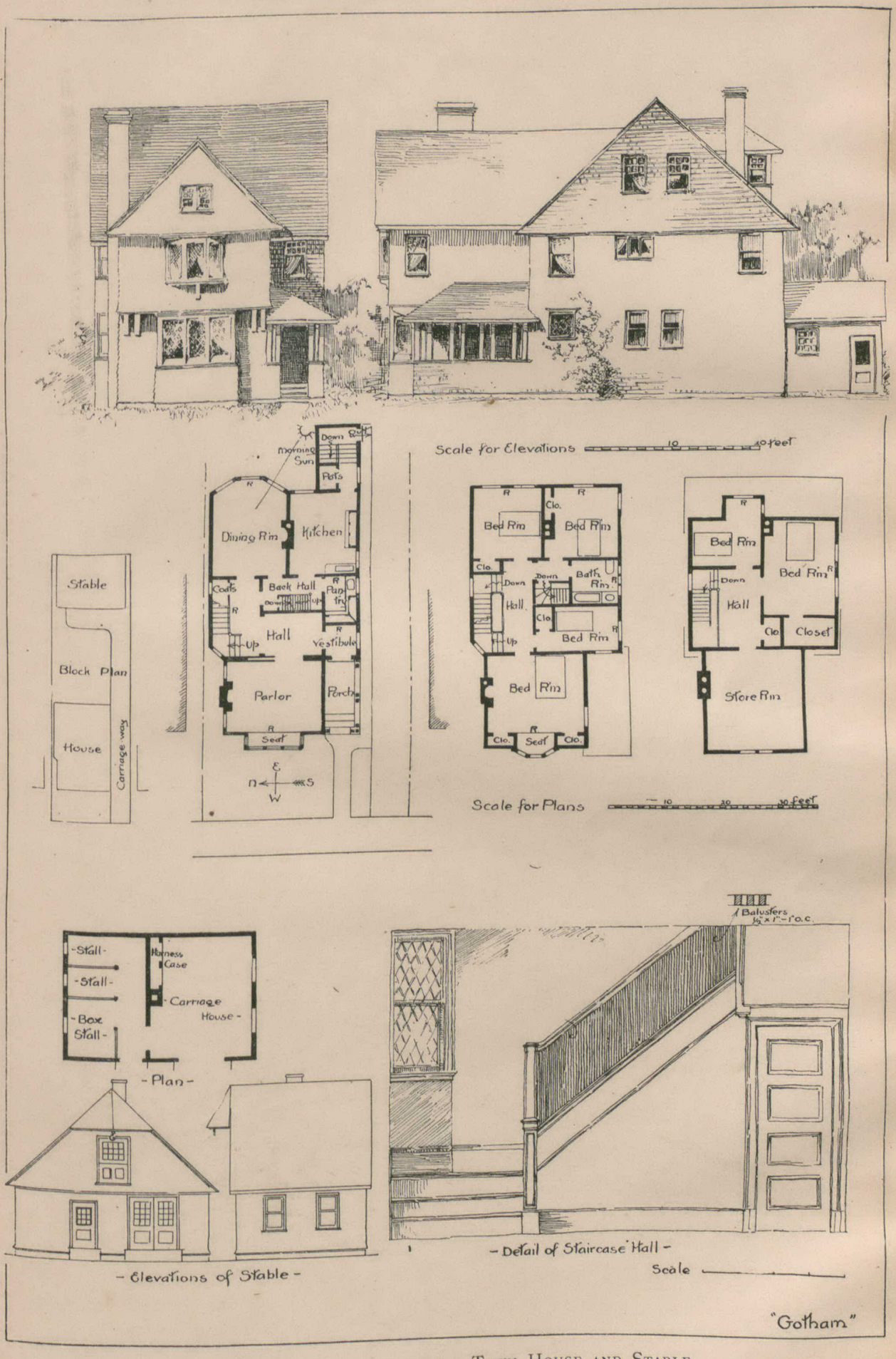
STATION AT DUDSWELL JUNCTION P.Q.
ON THE QUEBEC CENTRAL R.R.



EKER'S BREWERY, MONTREAL, QUE.



EKER'S BREWERY, MONTREAL, QUE.



C. A. & B. COMPETITION FOR A TOWN HOUSE AND STABLE.

DESIGN SUBMITTED BY "GOTHAM" (MR. A. E. WELLS),—AWARDED SECOND POSITION.

Detached dwellings, brick or stone, with more elaborate cut stone work, hardwood finish throughout, best plumbing fixtures, hot water or steam heating, elaborate mantels, electric wiring, etc.	15c.
School houses, brick, including furnace heating	6½c.
Churches, plain brick, furnaces and pews included	7½c.
Churches, stone, steam heated, including pews and electric wiring	9½c.
Shops, with dwellings over, plain brick	7c.
Foundries or warehouses with earth floor, one story	3c.
Plain one story warehouse, floored	4c.
Wholesale warehouses, five or six story, brick fronts, with cut stone dressings, heated, office only finished	6½c.
Plain brick office buildings, heated	9½c.
Bank buildings, brick, with cut stone dressing, 2 fronts (on corner)	20c.
Hospitals, brick, steam heating included	8½c.

Mr. Burke said he was unable to agree with Mr. Gregg's opinion that cubing is not much use and is rather inclined to be incorrect. He thought in practice it was found to be just as correct as the builder's estimate, and that the very difference in the cubing of schools showed it. Probably the reason for the great margin in the different schools was to be found in the builder's estimates, not in the principle of cubing.

Mr. Gregg said he looked at the question as it came before an architect in connection with preliminary sketches. The architect is given an order for a building and wants to give an estimate of the cost. How was the architect to know that in that particular case the builders would go away down below the value?

Mr. Jarvis thought from his experience that Mr. Gregg was pretty nearly right.

Mr. Bousfield thought another column might with advantage be added to what was already given by Mr. Gregg. That was the cost per head for schools or churches. Hospitals, too, were very often tabulated at so much per bed. All these were important helps for getting at the actual cost of a building, because, as Mr. Gregg had said, every building varies considerably. Hospitals must of necessity vary according to their character, whether for general purposes, for children, or for infectious diseases. All were regulated according to certain hygienic rules, some requiring more air space than others, and so on. The information that hospitals cost so much per cubic foot gave very little guide to anyone else unless it was known what class of hospital it was, and the cost per bed as well as per cubic foot. Then, with regard to bow windows, cupolas and that sort of thing, they were very easily overlooked in estimating by the cubic foot. In carrying out a design such things were frequently added, and they knocked all calculations by the cubic foot on the head, because they are in themselves expensive additions. His experience had been that everything of that kind had to be very carefully calculated.

Mr. Gregg quite agreed with Mr. Bousfield; he thought every oriel window, tower, etc., should be taken. He thought the ideal way of finding the cubic contents was to find out exactly what amount of space taken out of the atmosphere was filled by the building. He had heard a story of the origin of the word Eureka to the following effect: A man who had been seeking to find the cubical contents of his body was taking a bath one day, and noticed that when he entered the bath the water rose to a certain height. It struck him then that if he measured the size of the bath between the point the water had been at before he got in and the point to which it rose he would be able to arrive at the cubical contents of his own body, and he was so delighted at his discovery that he jumped out of the bath and ran naked through the streets, shouting, "Eureka." (Laughter). If that plan could be adopted with a building it would give it with exactitude; it had to be done somewhat roughly, but the nearer you could get to exactitude the better.

Mr. Townsend disagreed with Mr. Gregg on the same point taken by Mr. Burke. He thought the cubic contents based upon a building of the same sort was far more likely to be right than a builder's estimate. In a case in court not long ago the Judge had taken his cubic contents in preference to the builder's estimate. He thought Mr. Gregg's suggestion that architects should confer together on this point a very valuable one, for if they could agree upon some uniform method in their calculations of cubical contents it would be very helpful.

Mr. Jarvis said the class of work an architect did varied so much that the accurate way to find out what your own work would cost was to refer back. Some architects could get work done cheaper than others, who were regarded by builders as pernicketty, and that for that reason charged 30 per cent. more when working under them. Each man therefore was the best judge, as to the cubical contents, of the cost.

Mr. Gregg said that was exactly what he had found in comparing notes with a few architects, and it seemed to him that it would be quite impossible to make a table of the cost of buildings in Toronto based on the prices given by a number of architects, and that was why he had closed his paper in the way it did. His object in giving the prices was not as a guide, but merely as a beginning or essay for each class mentioned.

Mr. Gouinlock supposed the prices given by Mr. Gregg would be altered according to the varying prices of the building trades.

Mr. Gregg said his figures were principally based upon the prices of the last three or four years.

Mr. Gouinlock said he had made a calculation of one or two buildings, and he found only a cent per cubic foot on factory buildings and half a cent per cubic foot on residences of difference between Mr. Gregg's figures and the cost of work actually done this year.

Mr. Aylsworth interpreted Mr. Gregg's tables to be more as a suggestion that each architect might utilize in his own way, and as such he thought it very useful, but he did not think it was adapted to be used as a hard and fast rule. It might, as had been suggested, be used in law courts, but he thought that would depend to a very large extent on the amount of confidence the presiding judge had in the architect's ability. He did not understand it was intended as a rule for all to adopt, but each architect in his own practice could make it very useful and valuable.

The President said he thought the members were very much indebted to Mr. Gregg or his paper. There was no question about the value of the method of arriving at an approximation by cubing. He did not think, however, that Mr. Gregg intended the figures he had given to be sent forth for the guidance of architects as an infallible rule. He supposed most of those present used the cubing system more or less, and he thought it was really valuable if used with proper discretion, but it ought to be used with a great deal of care, because it was very easy to get different results from different systems. Each man must work out his own system, and by keeping a record of the cost of his own buildings he would be enabled to get better results. A point to be borne in mind was that the comparative size of a building made a great difference in regard to the cost, especially in the case of buildings which may be divided into large or small rooms, schools for example. There would be a great difference between a school divided into rooms holding say twenty pupils and one divided into rooms holding fifty. The same would apply to dwellings. He thought the members were very much indebted to Mr. Gregg for his valuable contribution. (Hear, Hear.)

The convention adjourned at 5 o'clock p. m., until 10 o'clock on Wednesday morning.

SECOND DAY.

The proceedings of the convention were resumed at 10:30 on Wednesday, when Mr. Gambier Bousfield spoke from notes on the subject of "The Construction of Shop Fronts During the Next Decade." A problem was being presented to architects, (an extension of the old question of the architecture of the shop front), which required considerable study and was a field worthy of earnest consideration by the profession. The requirements of trade necessitated in a good many branches the exhibition of wares and stock on every floor. The show window was not now confined to the ground floor, but every floor had to present a show window to the street. All the space that could possibly be spared from the necessities of construction was required for an area of glass on every floor, so that it would seem as if the only construction admissible was that of iron or steel and glass —the lightest and most economical as regards space. He did not think, judging from many buildings recently constructed in the city, that construction generally tended in the direction of economizing space. Buildings such as the Court House, Athletic Club, the Drill Hall, the Freehold Loan Offices and others were of very heavy construction, and the area occupied by the walls and piers very much limited the floor space within and the window space in the walls. No doubt some buildings required such massive construction; window space was not the absolute requisite that it is in shop fronts; but while we were practising such heavy construction the lighter kinds were likely to be overlooked. So far as existing examples were concerned, and there were many in the city to-day, there seemed to be but two methods of arranging such shop fronts of several stories as he was discussing. The general way was the rectangular method —upright and horizontal beams—and the other was a semi-circular arch thrown over the second story window. The problem that presents itself is how to adapt architecture to these requirements of trade. Formerly this question concerned only the ground floor; now every floor has to be similarly treated. Must we forever follow the lines of the Romananesque or be confined by way of variety to the round arch? Would it not be worth while to attempt some departure from these, which are becoming stereotyped forms, and in danger of endless repetition? The difficulties in the way of the application of gothic principles were well known; the point he wished to bring out was the necessity, not of adopting any period of architecture as a fixed rule for shop fronts, but of modifying the art to suit the requirements of the times.

Mr. Burke thought the problem presented by Mr. Bousfield's paper was one of the most difficult with which the architect had to contend, the combining of proper architecture with what was demanded by the requirements of modern trade; in fact it seemed to him an almost hopeless task if one desired to follow ancient models. He thought from the business standpoint the Chicago men had solved it as nearly as it was possible to do, having resolved their supports into simply iron stanchions with sufficient masonry to protect the iron from damage in case of fire. His experience with proprietors of retail establishments led him to almost dread any attempted solution of a problem of that kind. He had introduced one little window on Yonge St., which had pleased the proprietor very much, because it afforded the public a view into the basement as well as the ground floor, so that they could see the merchant's wares in the cellar. This

proprietor had told him that the basement was more valuable than the first floor, owing to the predilection of customers to go prowling down below rather than to go up, expecting to get bargains in the cellar that they would not find on the first floor.

Mr. Townsend said there was one point in the paper which he was inclined, though not very strongly, to object to. He referred to the suggestion that an attempt should be made to follow existing examples in work of this kind. He thought if the architect would look at the question more as a business problem, more as a practical question of putting up a building which, while it should not be positively ugly, would at the same time properly fulfil the requirements of the situation, he would arrive at better results on the whole than could be obtained by any attempt to work in a style that was formulated or that grew out of a different set of conditions.

Mr. Simpson asked if the difficulty Mr. Bousfield found was in the fact that business men wanted to make a show of their goods on windows above the ground floor. If it was desirable to get the lights above the ground floor as large as possible he thought it must be only because the architect's taste ran in that way. If it was desired to have the openings above the ground floor as large as possible it would be better to choose a style which lent itself to that treatment. If business men did not require to show their goods above the ground floor, and he could not see why they should, he did not think there should be much difficulty in getting sufficient light for displaying his goods in almost any style.

Mr. Langton said it seemed very much as if for commercial buildings pure and simple this was the problem of iron construction. It is being worked out in the United States by the aid of iron, but not as a problem in iron design. If the entire building is to be devoted to one purpose, and that a purpose requiring abundance of light, while as is usual the exterior wall area is so small that none can be well spared, he thought the architect would be judicious and would act most in the interests of his client if he seriously considered the question as an occasion for designing in iron. Where the upper part of the building was devoted to another purpose, such as offices, where very large windows are a discomfort rather than a gain, the problem became a complicated one for which he was not prepared on the spur of the moment to offer a solution; but he thought it probable that an artistic result would be obtained by continuing up the line of the slender supports in the lower storey and making the wall surface above by material and construction to be obviously only a filling in to reduce the window space.

Mr. Gregg thought the problem being discussed was a very old one. The practice of building thick glass fronts on the ground floor with a heavier building above was so old that it had almost come to be accepted, although architects could never agree that it was pleasing and right. We became accustomed to it in a one story building, and then it had come into Toronto in two story buildings. The Walker building was a very curious affair. The supports were probably fifty feet apart, and the space between light glass windows with partitions. Whether there was a support behind the divisions could not be seen, and what was presented to the eye was a very heavy stone front supported by two storys of plate glass. Of course that could not be accepted as high art, although it might be tolerated as what was demanded by the commercial requirements of to-day. The question was, if buildings of that sort were to be put up, should there be stone above the glass at all? Should not the same construction be carried through to the roof? He had seen an office building in Ottawa that he thought was a success in one way. Every office in the building had a plate glass bow window; the bow windows were carried up to the roof. It might not be pure architecture, but it had a pleasing effect, far more so than a building having glass below and stone above.

Mr. Bousfield said that some of those present did not seem to have quite understood him. Mr. Simpson seemed to think he was referring to a simple series of shop fronts on the ground floor. He thought everyone must have observed the increasing number of buildings on Yonge, King, Bay and Front streets, the proprietors of which were trying to expose their wares to view on every floor, making every floor a shop front. Mr. Gregg seemed to think the problem very old. Now he was not attempting at all to deal with the ground floor story of plate glass. But the whole front of the building was gradually becoming a front of plate glass, and probably iron, on account of the small space the latter occupied. Mr. Burke thought it was almost a hopeless problem to make it anything really architectural, and Mr. Townsend thought he meant that they should restrict themselves to these different styles. The problem was before them, and he thought if the architects did not attempt to solve it no one else would, and it was a nice problem for them as professional men to work out something which would be more really architectural than the everlasting horizontal lines that prevailed. He noticed that in some of the buildings where shop fronts were carried up only two floors, with the rest solid, they had arranged it by having a large central arch with two piers, one on each side, and then the arch above carrying the span over the whole. That plan and the horizontal lines seemed to be the only ideas at present being utilized. It would no doubt take a long time to work out the desired object, but unless the attempt was made, everyone who had a shop front built would stick to the straight lines or the one great central arch. He did not agree with Mr. Townsend that in a commercial building it was almost impossible to work out anything really architectural, and he thought it their duty as architects to make every building as architectural as they could, and if limited to certain forms of construction they should endeavor to make those forms as presentable and as architectural as possible.

Mr. Townsend thought Mr. Bousfield had not quite caught his idea; what he had tried to express was not that a building should not be architecturally correct, but that it was not well to try and compress modern requirements into forms that were the outgrowth of ancient requirements.

Mr. Burke thought he too had been misapprehended by Mr. Bousfield. What he had referred to in his discussion was the attempt to combine modern requirements with what are considered the best models of ancient architecture. With regard to the wall space above, he thought the only satisfactory way of treating it was by using the arch which was now to be seen in so many buildings, but the difficulty about the arch was that its haunches obstructed the light on that floor, and made it not nearly so valuable, although he thought it looked more correct constructionally.

Mr. Gemmell asked if the objection to the heavy front borne on a front of plate glass below had any force beyond a sentimental feeling? Did not the plate glass with the reflections of light and color look almost as solid as polished granite? He thought the attempt to get over the difficulty by the use of the arch was very much the weaker plan.

Mr. Belcher said the question at issue had been a source of perplexity to architects for the last thirty-five or forty years—the choice between art and the requirements of the businesses for which the stores were intended. Efforts had been made both in the old country and here to avoid this semblance of want of support in the upper storys, which he thought up to the present had been rather overdone. He feared that the requirements of trade would render difficult for a long time any satisfactory solution of the problem. He thought the large arch referred to did to some extent overcome the difficulty. In the old country the effort of the architect had been to make the supports as apparent as possible and to as much as possible avoid all sham, a course which he thought ought to be adhered to. He thought a building should be of such a character as to indicate the purpose for which it was intended.

Mr. Billings thought there was too much anxiety to make ancient examples fit modern requirements. He thought that was a matter of no consequence. If there was a problem to start with, it was far better to start de novo.

Mr. Paull said he supposed Mr. Bousfield when referring to buildings on Bay Street and King Street had in his mind the building on King Street opposite the Cathedral and one below Wellington on Bay Street. He did not remember any others where there was so much plate glass. It did seem to him that there was too much plate glass for the amount of iron built into the structure.

Mr. Bousfield said those were the buildings to which he referred, Oak Hall and a building on Bay Street.

Mr. Gregg said that in arranging for one Convention the proposition had been made that architects should submit photographs of their own work for criticism, and sit and listen to the criticism of them. That proposition had not been carried out. He would ask if it was right to bring up the name of a practising architect. He thought it was not. In the case of the Walker building the architect had passed away, and it was a perfectly legitimate subject of criticism.

Mr. Paull differed from Mr. Gregg on the point stated. And as to the Walker building, while the architect of the first building had passed away, the designer of the second was living.

Mr. Gregg replied that that was doubtless true, but that no doubt the architect of the second building was given an order for the replica of the first.

Mr. Townsend thought if the criticism was fair and honest it did the man whose building was criticised more good than anyone else. He would regard it as a compliment that any person should think his work good enough to stand criticism, and there was nothing he liked better than to go over his work and find where his mistakes had been made.

Mr. Gregg asked for a ruling of the question raised by him. The Association had yesterday repudiated something that approached a criticism of a government office, and he thought the present question was similar.

Mr. Paull remarked that the cases were not at all parallel. In the one case the architect had erected his work, and it had become public property, while in the other not only had he not erected the work, but it had not even been determined that the building should be erected, and the criticism was as to the architect's ability to erect such a building.

Mr. Simpson agreed in the proposition that it was not right to criticize a man's work and mention his name.

The President said it had always been admitted among themselves that one of the advantages to be gained by association was the comparison and criticism in a fair spirit of the work done by architects. Where criticism took the shape of pointing out what one man thought might have been accomplished in a better way than the one adopted he thought that was fair criticism, and he did not think anyone could object to having his buildings mentioned and his name as the architect. As Mr.

Paull had said, when a building was erected it became in a certain sense public property. It abstracted from the public a certain amount of the free light of heaven, and that being so it should justify its existence by being as beautiful as possible. He really did not think any exception could be taken to any of the comments that had been made that morning on any of the buildings referred to. It was very different with the so-called criticism which had yesterday been rebuked by Mr. Billings, which he did not think was criticism, but rather a sneer. He thought it was not well to be too sensitive about this matter of criticism where the criticism was fair and honest.

Mr. Gregg acknowledged his willingness to accept the ruling of the Chair, but pointed out that in the article referred to by Mr. Billings there was a distinction drawn, and he understood that under the ruling if the Association desired to spend half an hour in criticising the Canadian Building at the World's Fair they were quite free to do so.

The President replied that certainly if any member had any suggestion to make for the improvement of the Canadian or any other World's Fair building there was no objection. In regard to the question directly under discussion, it was certainly one of the most suggestive that could be brought before the Convention, and though an old problem, there were very few instances of its having been satisfactorily solved. He thought it might be laid down as an axiom that everything an architect handled should be treated architecturally. Unfortunately that had not always been recognized, but if ever architecture was to become again a living art it must be recognized. The difficulty in the past had been that generally shop fronts had been confined to the ground floor only, all the rest of the building being devoted to entirely different purposes, and treated in an entirely different manner. He remembered a building in Glasgow of which the ground floor front was plate glass with, for the period at which it was built, very slight supports, and the whole upper portion in the Scottish Baronial style, of a most massive character, with projecting gables, corbels and turrets, and everything calculated to give the upper part a very heavy appearance. Had it been cut off at the first story, or viewed from a window on the opposite side of the street in such a way that the lower floor was not seen, it might have been a thoroughly satisfactory design, but as it existed it was certainly antagonistic to all ideas of architectural propriety. He thought the most satisfactory treatment for these mixed buildings, where the fronts were narrow, was that pointed out by Mr. Burke, the large semicircular arch. It satisfied the eye, but the weak point was the apparent want of sufficient abutments. Where there were buildings on each side, that was not so noticeable. If it was desired to follow ancient models, plenty could be found in Italy. In the case of the Scaligeri tombs at Verona everybody could see that if it were not for the iron rods which keep the arches from spreading, they would all tumble to pieces, yet even Ruskin does not object to them. So that when the end piers were made to look as solid in design and material as possible, and the tie rod rather accentuated than concealed, it did not appear to be an objectionable method of construction. Another treatment he had observed was the making of the front like a frame, the support on each side carried up and the whole of the inside filled up with light iron and glass. He had seen some instances of that treatment which he thought were quite successful. Architects were very often denounced for not producing a new style, and if a new style was to be introduced he thought this problem was one of the fields in which it could be worked out. A few years ago the system had been adopted of building fronts entirely of iron. There were two objections to that. One was that the repetition of the parts necessary to secure cheapness became monotonous, and there was also always difficulty in attaining really artistic effects in such an intractable material as cast iron. The other objection was the danger in the event of fire, so he thought the front of the future would be on what might be called the American system, of steel or iron construction with the material encased in terra cotta or other non-combustible material. Instead of regarding it as a disadvantage that merchants at the present time called for plate glass in all their fronts, he thought it quite an advantage, because it removed the difficulty of having to provide much light below and less light above.

Mr. Langton, referring to the question which had been raised in regard to the criticism in the CANADIAN ARCHITECT AND BUILDER said the question had been cropping up at intervals, and he thought it was a very unfortunate thing. It was a matter in regard to which he would not say anything, but it had been said that the Association repudiated any criticism such as had been referred to as appearing in the CANADIAN ARCHITECT AND BUILDER, and that seemed to imply that that journal was to be muzzled because it was the organ of the Association. He did not speak with regard to the particular criticism complained of at all, and he had no doubt Mr. Mortimer would take in good part any criticism of that paragraph on the part of the Convention. But to say that the CANADIAN ARCHITECT AND BUILDER should never criticize any work done by members of the Association, seemed to him to be placing a muzzle upon the utterances of that paper in a way which was unworthy of the Association. The journal in question was the organ of the Association only in in the sense that their announcements were published in it, and also with regard to any question of policy, such as that of making only members of the Association entitled to term themselves "architects," it was to be expected that the CANADIAN ARCHITECT AND BUILDER should concur. But if it should go out in the report that the fact that the paper was the organ of the Association had the effect of muzzling it entirely, and restraining it from indulging in any criticism of the work of members of the Association, he thought the result could not be one that was desirable. As to Mr. Fuller, he did not think there was an architect in the Association or in Canada who had not the greatest respect for his design, whatever he might think of the Canadian World's Fair Building. It was to be remembered that Mr. Fuller's reputation was not one that was yet to be achieved. Nothing that could be said could have the slightest effect upon his reputation, which was already established not by his past work only, but by work in progress at the present time, such, for instance, as the Toronto Armory Building, which all would acknowledge was a very fine piece of work. It was not a a question of Mr. Fuller's reputation, but of a particular building. In the course of collecting material for the lecture upon the World's Fair Buildings which he was about to deliver, he had come across in an article by Mr. Van Brunt, a passage in which the United States Building at the World's Fair was criticized in very much the same terms as had been used in regard to the Canadian Building. The CANADIAN ARCHITECT AND BUILDER had said, as he understood it, that the function of the department to which Mr. Fuller belonged was to make designs for public buildings and carry them out in great quantity, and that the carrying out of such buildings as the World's Fair Building or a residence for the Governor-General was an innovation on their line of work, and an interruption to its regular course. He thought that was a fair enough view to take.

The President said the question was very simple. The CANADIAN ARCHITECT AND BUILDER or any individaul had a perfect right to criticize fairly any building. He held that the article complained of was not fair criticism, and he thought the majority of those in the Convention would agree with him, but none of them would object to fair criticism from any quarter.

Mr. Power, while agreeing with the President that the paragraph complained of was not fair criticism, thought it would be a great pity to say anything which would convey to the editor of the CANADIAN ARCHITECT AND BUILDER the idea that it was not at perfect liberty to criticize the work of members of the Association.

Mr. Billings said he had felt it his duty to call attention to the way in which the paper in question was edited, and he did not think he had said anything not justified by the facts. There was no desire to muzzle the CANADIAN ARCHITECT AND BUILDER. What he had said was independent of anyone else. He felt quite sure Mr. Fuller would be quite willing to receive criticism at the hands of the CANADIAN ARCHITECT AND BUILDER or anybody else, so long as it was fair criticism.

Mr. Paull said he had seen very little criticism in the CANADIAN ARCHITECT AND BUILDER which he thought could could be taken objection to, and in support of Mr. Mortimer he might say that two of the most prominent buildings in England had been the subject of very severe criticism, the Exhibition Building and the Houses of Parliament.

Mr. Gouinlock was in accord with the views expressed of the unfairness of the article complained of, and had thought at the time it was published that it was most severe. He was very glad Mr. Billings had brought it before the Convention.

Mr. Townsend proposed to offer a resolution to the following effect, "That while this meeting condemns anything in the shape of unjust or venemous criticism, it is the policy of the Association to court fair criticism upon any and all architectural work."

Mr. Gregg took a point of order; the question had been ruled on in most explicit terms, and therefore the question was settled, and there was no necessity to pass any resolution.

The President said Mr. Gregg had said practically what he was about to say himself. (Applause.) He did not think that under the circumstances any motion on the subject was in order.

Mr. Townsend said his only object in offering the resolution was to close the discussion, and he had much pleasure in withdrawing it.

Mr. Wright, of the School of Practical Science, then exhibited to the Convention, by the aid of the fine electric light lantern used in the School, a collection of views of the World's Fair buildings kindly loaned by Mr. A. W. Croil for the purpose. The plan of the grounds and of the various buildings was explained by Mr. Langton as the views were exhibited.

At the conclusion of Mr. Langton's exhibition of views of the World's Fair Buildings the following discussion took place:

Mr. Burke:—The ground has been so fully covered by Mr. Langton that I haven't very much to say. I suppose one of the points of this exhibition is that it is the first exhibition which has been so rich in architectural art—a successful effort to produce a complete architectural symposium on a large scale. The buildings at other exhibitions were mainly buildings merely for the purpose of housing the exhibits, and of course, as Mr. Langton had already said, one of the reasons of the success of the

World's Fair Buildings has been the unity of the composition, and also that while the architects were rivals in a sense, yet it was a generous rivalry which produced harmony on account of the agreement as to scale, etc. I think one of the lessons gained there was that the classic style is capable of very grand effects when entered into as this scheme was entered into. I suppose that other styles of architecture could have been made as effective, but I think a greater time than was at disposal would have been necessary for the solution of the problem. Of course the architects who were chosen to design these buildings were men who had studied the classic, nearly all of them I think, at the French school, and they were familiar with the proportions and forms, and I think it was only for that reason they were able to produce the designs so rapidly and with such good effect. Of course if we entered into the study of detail there were many defects, but as said by Mr. Langton, the general effect was very satisfactory. Of course these buildings should be regarded simply as plaster models to a full sized scale of what these men could do if they had time. Of course the plaster model as a rule is very considerably modified when the finished work is produced. I think another lesson to be gained from the Exhibition is the value of sculpture. It has really been the first instance of the complete introduction of sculpture as an accessory in America. Mr. Montgomery Schuyler, who has already been quoted, has put the thing into very concise form when he ascribes the success of the Exhibition to three things—first, Unity; second, Magnitude; and third, Illusion. Unity, in the first place, enabling so many minds to produce effective buildings, because they were working all to the same scale. Magnitude, as Mr. Langton has so well shown, in the long vistas of these buildings, especially the Manufacturers' Building. Speaking of the magnitude, he tells a story of a Chicago man—not an architect, I am happy to say—who wanted the Manufacturers' Building taken down and placed on the lake front and re-erected, the reason that he gave being that it was "the biggest thing on earth." Without regard to the setting of the building as it was at present, he wanted it planked down on the lake front as a monument of the greatness of Chicago, regardless of the effect it gained from its setting and position in relation to the other buildings. I think another lesson is to be gained from the illusive effect. It has been a grand architectural scene provided for the enjoyment of the people. It was, as Schuyler says, Turneresque in effect—such a combination of views as Turner would have delighted in. I think there will be great danger in the future of uneducated architects endeavoring to reproduce some of these buildings on a small scale, the result of which would no doubt be failure. Perhaps men who have not seen the place at all or gained any conception of the surroundings, will see a photograph of some building and repeat it on a small scale, and be surprised that the effect he will get will not be anything like what it was in the original. I think if a taste for the careful study of classic architecture has been engendered by the examples set before the architects of the world it will be a grand step in advance, and will prove a wonderful help to the advancement of the profession.

Mr. Townsend:—I have been asked to make a few remarks as to the scale of the buildings, and I shall try to do so as shortly as possible. Mr. Montgomery Schuyler, in one of his admirable articles upon the Architecture of the World's Fair Buildings, says: "That it is a final censure upon the treatment of a piece of architecture which aims at overpowering the spectator by its size, *that it does not look its size*; as is the current and accepted criticism upon St. Peters;" and although I do not follow him in all his conclusions I fully agree with him in this. It is plain that one of the chief sources, if not *the* chief source of effect, or means of impressing the observer, at the disposal of the designers, lay in the magnitude of the buildings they were called upon to design, but I do not think the fullest advantage was taken of their unprecedented opportunities in this particular. It is true that the buildings were impressive by their size; a building over a third of a mile in length by half that in width could hardly fail to impress observers by its size; but I will venture to say that very few of the visitors to the Fair fully realized what those dimensions really mean. Few Torontonians, for instance, when looking at the Manufacturers' Building, realized that if placed upon the corner of King and Yonge Streets, it would about cover the parallelogram enclosed by Yonge, King, Church and Shuter Streets, and that all the buildings between Yonge and Church Streets from King right up to Bloor might be stowed away inside and still leave several millions of cubic feet to spare. Still fewer realized that the space between the water and the buildings on each side of the Court of Honor is about three times the width of Yonge Street.

We have seen,—Mr. Langton has pointed out,—that the landscape plan of the grounds, with its Grand Canal open at one end to the lake and crossed by lesser canals at right angles, presented a problem which could only be properly solved by a somewhat symmetrical treatment aiming at a general unity and, that, to secure this, two limiting conditions were agreed to—the adoption of the Classic style and of a module of 25 feet for width of bay and 60 feet in height of cornice. I think that it is generally agreed that the scale fixed by this module was admirably carried out. With hardly an exception the relative values of the buildings, their details and accessories were adjusted with marked skill. So cleverly indeed was this managed, that the discrepancy between the apparent sizes of the buildings and their actual dimensions was not brought home to the observer until he got inside and began to seek for the cause of the seemingly diminutive character of the exhibits, and of the innumerable expedients resorted to by the exhibitors with a view of overcoming the dwarfing effects of their surroundings.

I may be wrong, and I am not conceited enough to claim, that, in the merely cursory glance I have been able to give the subject I have found a means of attaining a result not reached by the united efforts of a board, composed of the most noted architects in the United States, but I cannot help thinking that still better results would have followed the adoption of a smaller module.

Just how much the module would bear reducing could only be arrived at by careful study and comparison with other buildings, and I have not given the subject sufficient study to be prepared with an opinion as present. But a reduction of 10 feet in height of the cornice line, while it would not have reduced the accommodation of the buildings in the slightest degree, would, if the figures given in the Official Guides are correct, have resulted in a saving of nearly three quarters of a million dollars in the buildings on the Court of Honor alone, and in my estimation would have materially assisted in the development of the magnitude of the buildings and intensified the impression made by it; by a still further repetition of the unit, i. e., the 29 bays on each half of the side of the Manufacturers' Building would be increased to 34; the 24 bays on each side of the Peristyle to 26, and so on, while the reduction in the size of the bays themselves would have been noticeable, only, in the apparently increased scale of the surrounding objects.

Mr. Gemmell:—The task was allotted to me of saying something of the impression made by the work of the Commissioner of the World's Fair, and I have taken the trouble to write something on that subject, which I will read:

I am expected to give some idea of the completed work—the effect of all the enterprise, labor and millions of money commanding the skill of the best men representing architecture in this generation of the United States—was the result such as they could congratulate themselves on as artists knowing good and evil?

To satisfy the average citizen of their own country was comparatively an easy task, he having too often been taught to admire as architecture the big, the brilliant and the costly in preference to the refined and true. But to attract the cultured of the old countries wanted a stronger and more subtle magnet, for to these the pilgrimage meant so much more of time and money, and to them art had ever dawned in the East.

My lodging determined that the 59th gate was my entrance to the World's Fair. I would like to have examined my copper plate ticket, but was hurried on by the stream of humanity and found myself in a by-street of the White City, devoted to State buildings and those of Foreign Governments, the prevailing impression of which was wonder at the luxuriant costly way in which they were doing their tenting of a few short months Brazil, now fighting over their inheritance, was here like a prodigal wasting her substance in a far country. The rich pile carpets on her staircases were worn in places right through by the countless feet that thronged up and down all day long.

A large number of the State buildings exhibited what some time ago was the general characteristic of American architecture, the original and picturesqueness at all cost But many others were fine examples derived from the proper study of architecture, and this not confined to the older States; the New York and the Colorado Buildings were in the same Italian Villa style, and I liked the latter the best of the two. There also lingers in my memory the quaint California Building and the Roman Villa of Vermont—the former for its striking and dignified effect, gained by such simple means as massive wall spaces, deep reveals and red tile roof and heavy eaves. The Roman Villa rivetted the attention by its quiet taste, with its open court and fountains bespeaking a delightful home life under a clear sky and balmy climate, which must have required may years of peace and plenty to foster and enjoy it. The ancients evidently were not always at war and fighting, as we are apt to gather from our histories.

I noticed also the French Pavillion, somewhat coarse I thought on the exterior for that artistic nation, but with a beautiful shady court, having colonnade all around and steps down to the garden, embellished with bronze statuary and refreshing pool of running water.

The German Building, a mediæval Town Hall, striking and picturesque; although you liked it you could not get over it that there was something barbarous about its outlines and definite color decorations. The interior I heard afterwards was a series of old art revivals that I should not have missed.

In my first day's walks I occasionally caught glimpses of cornices, pillars and perhaps a corner tower in the distance of pure white, and of grander proportions than those around me, which gave hint that I was not in the heart of the city of which I had heard so much. I did also see the Art Gallery with its stretch of water in front reflecting as pure refined a building as ever adorned the Acropolis of Athens. But you had to fix your gaze on it and its immediate surroundings, there being much in the vicinity out of harmony with its extraordinary dignity and repose. The approach from the water was very impressive. By a flight of many steps, with noble lions pedestalled to right and left, you reached the heroic statue of Minerva which marked the centre of the main door.

It was on the second day that I found myself on a bridge across a canal that led into the basin, the one with the great bears on it, and I do not think in all the Fair there was a more favored point of view, one that gave the picture in so many varied, everchanging and beautiful perspectives, as you endeavored to survey the whole. The clear blue waters of the lake had been let into a grand basin and

wide canals running into it, the margins of all parapeted as if in solid stone. Graceful bridges whose piers and abutments looked very real, statuary of men and animals, not at random, but marking a landing stage or the approaches to a bridge; broad smooth ways, steps and terracing, exotic plants in urns, accented balustrade and parapets For beauty the surface of the water had aquatic birds, plants, and gondolas for use, noiseless launches driven hither and thither by stored electricity with the speed and ease of fishes. The grand basin was indeed a happy thought. By it you were constrained to take the perspective at a proper distance, with always a beautiful foreground. Such would not have been the case with a stretch of ground dotted by a restless populace, however finely it might have been laid out. Around the basin at magnificent distances rose the buildings you have heard spoken of in detail. Describe the impression made by these, I cannot. I could tell you what you all know, that here the dry bones of our studies in the "orders" of Greece and Rome were made to live in the most graceful fashion and form a fitting enclosure for the greatest spaces man has ever protected from the elements, and added to this such embellishments of tower and dome as wrought out by later times On this solid basis the buildings rose as one harmonious whole, with no jarring rivalry of men and styles. All this and much more would fail to give you an idea of this scene—a panorama conceived and carried out as genius only can.

If armies in times of peace require their reviews and parades, what a necessary field-day was here for architecture, to keep our ideals pure and high in our utilitarian age! Let me suggest to the authors of the World's Fair, the grand basin itself as a symbol of their work. Viewed at the Administration end, all is life and movement—the figures around the gilded dome, the splashing fountains and terraces of water, Father Time and the Amazons on McMonnies Barque, tritons, horses and dolphins, all in a fever of activity. The opposite end, the task accomplished—the golden goddess, well pleased, looks neither to the right nor left, ready to receive the deserved homage of the nations, and behind her the stately peristyle, albeit of no use but to render the precincts of the lovely Court of Honor sacred from sight of aught unseemly, or only seen softened through the vistas of those beautiful columns.

Take it all in all, we ne'er shall look upon it's like again. I would go further and say, that the world in all time has never had such another aggregation of great buildings with the opportunity of disposing them to give grandeur of effect. Whatever may be said elsewhere of incongruity around the grand basin, where the sway of of the commissioners reigned supreme, let the eye roam as it will there was nothing to startle as out of harmony with the whole. Could this ever be said of any square in Europe, ancient or modern?

What a pity it was only for so brief a season. Perhaps! But I have gazed on Paris, Venice, Rome; I do not expect to see them again; the impression of the White City is none the less real because I cannot see it again. Is the glory of its architects to be disparaged because it was built of perishable material? Was not also Athens, Rome, Carthage? The City of Alexandria and its great library perished by fire, so also did the beautiful peristyle.

Mr. Gouinlock:—I have been asked to speak on the materials used in the erection of the World's Fair Buildings, but it unfortunately happens that it is a subject to which I have given little attention, yet though I feel particularly ill-qualified to treat of the question, I am willing to make the attempt, feeling that however dismally I myself may fail in imparting any knowledge of the subject, my efforts will be the means of bringing out a fund of valuable information from others more capable and better posted. That each one of this magnificent cluster of buildings had to be designed to suit exactly the special purpose to which it was to be devoted, and that, therefore, such constructional material had to be selected as would amply sustain any strain it might be called upon to bear, was a matter of course.

That the buildings ought to be individually handsome in appearance was equally a matter of course, and that they should present collectively a grand spectacular effect was evidently aimed at, with what wonderful success no one who did not pay a visit to the Fair can even faintly realize.

But, while the buildings had to be strong and beautiful, it was not desired that they should be lasting. Had they been required for the enjoyment of posterity, no doubt the architects who devised the scheme would have preferred stone and marble, but in this case of course, there was no more need for such expensive material than there would be for a theatrical scene; effect and not durability being the object.

The trusses and frames were therefore erected in such reliable if prosaic materials as iron, steel and wood, apparently elaborate work of engineering rather than architecture, of science, than of art.

But now art with her fairy wand, or rather "staff," appears, and the labyrinth of dry facts has become an enchanted city of surpassing loveliness to be enjoyed for a day and to be remembered only in dreams. The composition known as "staff," invented for the express uses of the Paris Exhibition, is composed of plaster and hemp or other fibrous material, and being quite flexible, can be easily secured by nails or other ways, but the extraordinary extent to which it was used in the Fair Buildings, sculpture, etc., and the wonderful success with which it was employed, leads one to regard it as among the possibilities of the future.

Whether it could be used with advantage in works intended to endure is one of the many phases of this question of World's Fair material upon which I am unable to venture an opinion.

Mr. Gambier Bousfield moved a vote of thanks to Mr. Langton for his very interesting talk on the subject of the World's Fair Buildings, which had been such as to enable those who were not at the World's Fair to gain such impressions of the huge scale upon which it was carried out as they could not have obtained in any other way. The remarks of the other gentlemen who had taken part in the discussion he thought were also very helpful. It seemed to him a matter of regret that such a group of buildings could not have been maintained permanently, but at the same time there was reason to be thankful that there remained in other places groups of buildings of a more enduring character to serve as exhibitions of the wonders of architecture to the present day. Such were the sites of Athens, ruined as they were, and Rome and London. But although the buildings of the World's Fair were to be removed, the lessons to be learned from them would remain forever.

The President said Mr. Langton and the other gentlemen who had taken part in the discussion were to be thanked for the trouble they had taken and congratulated for the pleasure they had afforded. The best general description of the impressions produced by the Fair that had come under his notice was probably in the grounds of the Fair itself. He had met a gentleman there one day bubbling over with enthusiasm and almost as full of liquor, who, steadying himself as he gazed on its wonders, burst forth with the exclamation, "Must all this glory vanish?"

After lunch, which was served in the building, a paper was read by Mr. A. P. Coleman, of the School of Practical Science, on "Rocks," a synopsis of which will appear in our March issue.

Mr. Darling moved that a vote of thanks be accorded to Mr. Coleman for the highly instructive aud interesting paper he had just read. The only thing to be regretted about it was, that it did not continue longer.

Mr. Power said he had great pleasure in seconding the motion; he thought every one present had been delighted. He hoped members would not fail to send specimens that might come in their way to Prof. Coleman.

The president said he had much pleasure in conveying the thanks of the Association to Prof. Coleman for the very excellent paper with which he had favored them. It was sometimes said that gratitude consisted in a lively sense of favors to come. That could not be said in this case, however, as it was not the first time they had been entertained by Prof. Coleman.

Mr. Power then read a paper entitled "Some Points on Building," the publication of which is necessarily deferred.

This was followed by a paper from Mr. Simpson, on "The Architect," which will be printed in a later issue.

Mr. Burke said that one text which might be taken from the standpoint of the committee that had prepared the programme was the fact that Mr. Simpson was one of the younger members of the Association who had kindly come to their aid and prepared this very interesting paper. There had always been considerable difficulty in inducing the younger members to take part. He had been assured by Mr. Simpson that he had himself derived very great benefit and pleasure in the course of preparing the paper. Mr. Burke thought the Association owed a debt of gratitude to Mr. Simpson for thus coming forward and assisting to make the programme interesting.

Mr. Gouinlock suggested that the council endeavor to get resident and non-resident architects to send in photographs of what they considered their best work to be exhibited at the next convention and submitted to criticism. He thought the more criticism they were submitted to, especially the younger members, the better.

The President thought the suggestion a good one, and well calculated to have a tendency to improve the tone of architectural design.

Mr. Bousfield added that if anyone had any special work, such as railway stations, that they should send it in, with the reasons for special features designated.

Mr. Darling agreed in thinking the suggestion a good one. He thought that an atmosphere of criticism was wholesome, and the meetings would be more interesting and profitable if there was something of the sort. It had been tried at the Guild. Nobody felt at all the worse for it there, and the Guild as a whole was much the better.

Mr. Helliwell then read a paper on "Current Styles," which was illustrated by magic lantern views given by Mr. Wright, of the School of Practical Science. This paper will also be published in a future issue.

At the conclusion of Mr. Helliwell's paper Mr. Gray said it must be very evident that nothing had lent greater interest or given greater practical value to the convention than the magic lantern exhibitions so kindly given by Mr. Wright. He had therefore much pleasure in moving a very hearty vote of thanks to Mr Wright for his many courtesies and the beautiful exhibitions of views he had given. (Applause).

The President said the sentiments expressed by Mr. Gray must be shared by everyone present, and he felt great pleasure in tendering the thanks of the Association to Mr. Wright.

A vote of thanks to Mr. Helliwell for his paper was then carried on the motion of Mr. Belcher, seconded by Mr. Edwards.

The Association then proceeded to the election of members of the Council. The gentlemen elected were Mr. Thomas

Fuller, Ottawa, Mr. H. B. Gordon, Toronto, and Mr. J. Gemmell, Toronto.

The following votes of thanks were then proposed and carried:

To the Hon. The Minister of Education, for the use of the room in which the Convention was held.

To the Auditors, for their labors in auditing the accounts.

To the President, for the able address presented by him this year.

Mr. Langley and Mr. Gregg were then appointed Auditors for the year.

The President then declared the Convention for 1894 adjourned.

THE DINNER.

The annual dinner was tendered, as usual, by the resident to the non-resident members, at Webb's restaurant, and at the social board a few hours were pleasantly spent.

Among the guests were Professors Galbraith and Coleman, Messrs. C. H. C. Wright and T. R. Rosebrugh, of the School of Practical Science.

A few informal toasts were proposed and honored. Mr. Burke in proposing "The Profession," referred to the efforts which had been put forth to obtain legislation by which the word "Registered" would no longer qualify the word "Architect" in the Architects' Act. He urged the members to stand by the Association and the objects it was seeking to attain. While there was reason to deplore the apathy of some of the members, the excellent character of the meeting which had just come to a close, was a subject for congratulation. The main object of the Association should be the education of the rising generation of architects.

Mr. Curry, in responding, referring to the difficulties in the way of the Association, said that it was well to have obstacles to overcome, necessitating the putting forth of effort. Those qualified by education should alone be allowed to call themselves "Architects." The civilization of the present day demanded proof of competency on the part of both the professions and the trades. The Association should be maintained whether the desired legislation is secured or not, on account of the benefits resulting from the better acquaintanceship of the architects themselves and the removal of petty jealousies.

Mr. Langton proposed a toast to "The School of Practical Science," and took occasion to express appreciation of the advantages derived by the Association from contact with the School.

Prof. Galbraith, in reply, referred to the Geological and Architectural departments of the School, and said that as a school they were sufficiently interested in architecture to wish that the profession might be made a close corporation. Only by this means could the standard of professional work be maintained, which formerly was done by the guilds.

Prof. Coleman said the world was full of artists, good bad and indifferent, but the public was placed under no obligation to look at their work. With architecture it was different. The work of the architect is exposed to view on the public thoroughfares, not temporarily, but for a period of many years. It must be looked at. Nothing so affects for good or bad the taste of everybody, therefore the government should as far as possible impose such conditions as would prevent the erection of architectural abortions.

Mr. C. H. C. Wright stated that the Association had been a benefit to the School. As yet they had only a poor collection of photographs representing the architecture of the province, and he would be pleased therefore if the members of the Association would send him photos, drawings, etc., from which lantern slides could be made and a permanent collection formed. Where required these photos and drawings would be returned to their owners after being retained for a few days at the school.

Mr. Rosebrugh, Lecturer in Electricity, also responded briefly to the toast.

Mr. Jarvis remarked that as there was only here and there a young man with the qualifications of a successful architect, he hoped the Architectural Department at the School of Science would endeavor to discourage those students who had no natural aptitude for the profession.

Mr. Gouinlock in suitable terms proposed "Our Guests."

Mr. Power in responding adverted to the success of the Convention just held, and urged effort on the part of those present to increase the membership of the Association.

Mr. Belcher responded with a song.

Mr. Billings thanked the Association for having elected his chief, Mr. Fuller, to a position on the Council.

Messrs. Edwards, of Hamilton, and Kinsey, of Port Elgin, commented upon the fact that while some outside members had come long distances to attend the Convention, many of the members resident in Toronto were conspicuous by their absence.

Mr. Kennedy, of Barrie, replied briefly.

Mr. Burke expressed his pleasure at seeing present the first graduate under the Architects' Act, Mr. Baxter, of Stratford.

Mr. Baxter, in reply, said that for 99 per cent. of what he knew about architecture he had to thank the Association, and he strongly urged upon architectural students the advantage to be derived from submitting themselves for examination. The Association, he was sorry to say, was not as well known as it should be throughout Western Ontario. He was sorry also that there were no other members from west of Stratford present.

Mr. Curry, in responding to "The Council," congratulated that body upon the election of three such capable men as had that day been added to their number. For himself, he had been connected with the Association in an official capacity ever since its organization, and now for the first time found himself in the position of a private member.

The health of the retiring President, Mr. D. B. Dick, was enthusiastically received, accompanied by expressions of appreciation of the ability and faithfulness with which as President he had served the interests of the Association.

Mr. Dick, in reply, said that he had done his best for the Association, especially in connection with the examination of students. As a means of awakening a greater interest in the Association and a wider knowledge of its objects, he hoped that the new Council would arrange for a series of lectures to which the public should be invited.

The toast to "The Press" was acknowledged by Mr. C. H. Mortimer, of THE CANADIAN ARCHITECT AND BUILDER, and "The Ladies," by Messrs. Connolly, Jarvis and Sproatt.

At intervals, during the proceedings of the evening, songs were sung by Messrs. Gouinlock, Connolly and Belcher.

A great deal of amusement was afforded also by the clever ventriloquil performances of Mr. Simpson.

BUILDING MATERIALS IN THE NORTHWEST.

BELLEVILLE, ONT., Feb. 9th, 1894.

Editor CANADIAN ARCHITECT AND BUILDER.

SIR,—Circumstances have given me an opportunity to visit the North West Territory and examine the building materials in that part, which may be interesting to many of the readers of the CANADIAN ARCHITECT AND BUILDER.

During the past year I have been under a contract with the Dominion Government to build a post office at Calgary, which placed me in a position to notice and examine the resources in that part of the country in the way of material for building purposes.

What will strike a visitor to Calgary as being marvelous is the solid appearance of the buildings erected there, for stores, banks, hotels and the new public building. The reason for this is, they are built with a sandstone found in abundance in that locality, very easily worked to any design, and which gives the whole structure a solid substantial appearance, and the use of which the Department of Public Works has not been slow to encourage. Although no improved appliances have been introduced into the quarries, I have seen some large stones quarried. My men quarried a stone of the following dimensions: 18 ft. long, 8 ft. wide and 3 ft. thick. When first quarried the stone is very soft, of a buff color, with a green tint, but soon hardens by exposure. I have seen tombstones and monuments worked out of this stone, to designs which give an excellent appearance. The lime is white, and the quality is equal to any I have used in Ontario. There is also slate used for roofing, of a very good quality, brought from New Westminster, B. C. Lumber, lath, etc., is furnished at about the same prices as in many parts of Ontario.

I have no doubt, that with such materials in abundance, in a few years some of our best monuments of architecture will be found in the Alberta districts. I also believe a great future is in store for that part of the country, with its coal mines to be found all over for hundreds of miles, also iron beds, water in abundance, and the lands of the best. Just now the demand is limited for the materials I have named, but with better railway facilities it will be sure to increase, and in a few years that country will be better known and appreciated.

I do not write this to induce mechanics to go there; that is not the class wanted, but men used to agricultural pursuits cannot fail to do well. But, my object in sending these few lines is to inform your numerous subscribers what that part of our great country produces in our line of business.

Yours, etc.

WALTER ALFORD,
Contractor, etc., Belleville, Ont.

COMPETITION.

THE competition for designs for a library and museum for the city of Milwaukee, Wis., has been decided in favor of Messrs. H. C. Koch & Co., of Milwaukee. Seventy-four designs were submitted, from which Prof. Ware, the expert, selceted five as the most suitable, and of these five the committee gave Messrs. Koch & Co.'s first place. Messrs. Gordon & Helliwell, of Toronto, were among the competitors in this competition.

PUBLICATIONS.

We are indebted to the Potsdam Red Sandstone Co., of Potsdam, N. Y., for a copy of their artistically designed and lithographed calender for 1894.

The Cosmopolitan for February introduces a famous European author to its readers—Valdes of Madrid, and the artist Marold, of Paris, well known as a French illustrator.

Mr. Fred. P. Spalding, assistant Professor of Civil Engineering in Cornell University, is the author of a work of 100 pages, which has just reached our table, entitled "Notes on the Testing and Use of Hydraulic Cement." Price, $1.00, bound in cloth.

Encouraged by the compliments bestowed upon their calendar of 1893, the B. Greening Wire Company, of Hamilton, Ont., have issued a handsome and serviceable calendar for the present year. It is printed in four colors, the blank spaces being filled with illustrations of the manufactures of the company, and on the back, are given a number of reference tables.

ILLUSTRATIONS.

C. A. & B. COMPETITION FOR A TOWN HOUSE AND STABLE—DESIGN SUBMITTED BY "GOTHAM" (MR. A. E. WELLS) AWARDED FIRST POSITION.

This design is for a house of frame construction on a foundation of stone. By the arrangement of the lot, light and air are obtained on three sides of the house. The dining-room is benefited by the morning sun, and the kitchen has cross ventilation. Serving pantry and bath room have abundant light; and the position of plumbing fixtures on both floors renders possible a simple and cheap system of plumbing. The detail of stair case hall indicates the general character of the interior wood-work. The exterior of the house shows walls and roofs hung with shingles. Leaded glass, such as is indicated on the front elevation, besides being a pleasing external feature, might be made to contribute to charming interior effects. The stable is in construction, similar to the house. The accommodation here required has been provided for and this adjunct of the house made as simple and unobtrusive as possible.

OLD HOUSE AT BRUNSWICK, GERMANY.

RAILWAY STATION AT DUDDSWELL JUNCTION.—STRICKLAND & SYMONS, ARCHITECTS.

BREWERY BUILDING, MONTREAL.—DUNLOP & HERIOT, ARCHITECTS.

THE CONSTRUCTION OF HARDWOOD DOORS.

In constructing the modern hardwood door, a series of operations are gone through by the joiner which are extremely interesting and of value to those who desire to know something of the method of construction employed in completing this now universal detail, writes Owen B. Maginnis in the *Building Monthly*. These operations embody a number of systems of proceeding, each aiding to a final end, and are as follows:—The first process is to glue the cores or grounds together. These generally consist of kiln-dried white or yellow pine, say 1½ inches thick for a 1¾ inch veneered door, the veneers being ⅛ of an inch thick. The cores are generally got out full enough to allow for facing and thicknessing on the jointer and in the planer. The number of pieces in the cores depends on the desired width of the stile or rail, as, for instance, a 6-inch would require a ¾ inch band of the necessary hardwood, ash, oak or walnut, as specified, and four 2¾ inch pieces of pine. In glueing these cores together they are carefully jointed with the plane and scratched, then heated in the hot box and at once glued, being pressed tightly together with large handscrews, in order to squeeze out the superfluous glue and close the joints.

In making joints in veneered work, the surface of the joint must in all cases be (a little shaving) hollow, for the purpose of allowing the outer arises to come close together. Of course, all the cores should be long enough to make the necessary height, as 7 ft. 9 in. long for a 7 ft. 4 in. door, and so on as needed, always allowing enough to round over the bottom ends, so that the veneer will not be torn off when moving the door. When the glue is set the surfaces are scraped off clean, and they are faced up perfectly out of wind of the jointer and afterwards tried up true with the try plane. This being done the stiles and rails, which are built up in the same manner, are brought to the planer or planing machine and there thicknessed. The stuff cores are then brought back to the bench, where they are surfaced as before with the try plane (to remove all lumps) and scratched with the scratch plane to form a keying for the veneer. All knot holes or flaws which might be liable to cause a defect in the veneer are carefully filled up to ensure good veneering. This being done, it is usual to prepare the veneer after it has been ripped to its necessary width and crosscut to its length—that is, the different pieces for the stiles, rails, muntins, etc. It is usually prepared by smoothing the poor side (being very careful that it is entirely free from spots or shakes, little knots or other flaws) and scratching it thoroughly to ensure a firm keying for the glue. All the pieces (which generally run from ⅛ thick up to ½) are placed between strips edgeways in the hot box, and allowed to become thoroughly impregnated with the heat, so as to keep the glue from cooling, besides opening the pores of the wood to admit it. While the veneers are in the box the cores are placed (the stiles first, in pairs) on the glueing horses and the big handscrews set ready for applying, keeping the jambs wide enough apart to take in two pairs of 2 inch stiles, or eight inches, or six inches, for one pair of 3 inch, and so on as required. When the veneers are sufficiently heated the flat faces of the cores are glued both sides and turned up on their edges (hardwood strip side up) slightly apart, and the veneers are dropped between.

Be sure, however, to have the points of the grain up, to have the grain running up, and to have the grain so that they will pair alike. This should always be done before placing the veneers in the box. Having placed the cores of the stiles on the edges to which the hardwood strips are affixed, the woodworker takes his veneer and, after carefully matching the grains, places them grain points up with the scratched side towards the glued faces of the cores resting on the horses, so that the edges of the veneers and cores will come fair. He will then place a veneer on each of the right and left outer surfaces of the cores. Having done this, he places a crawl or piece of 1¼-inch stuff on each outside to press the outer veneers against their ground, and takes the big hand screws which have been set to span the combined width of the cores and veneers. He places one at either end about two inches from the end spaces, the rest eight or ten inches apart, applying each screw from opposite sides. He screws the inner throat screw till it grips on the edge, and then turns the outer lever screw solidly down on the crawls, thus pressing the surfaces tightly together and forcing the glue into the scratches, at the same time driving out that which is superfluous. Before the screws are permanently screwed tight, the whole mass is turned up to see that the veneers completely cover the whole width of the surfaces and if they do not they must be driven to their places with a block, taking care not to bruise or break the edges. Be certain, too, that the screws are all ight and the veneers pressed to a perfectly close joint. It is best for two to veneer, for one can regulate the veneers while the other is applying the screws, and both can act together on the screws afterwards, giving more power. The glued stiles or mullions are then left in the screws about five hours to allow the glue to set. Let me here impress the fact that the stuff must in all cases be thoroughly heated, and the glue perfect glue (about one-third water and two-thirds glue) laid on quickly with a large soft brush from a large pot, also that the operation be rapidly done before the stuff has time to cool. The crawls must be only the exact width of the stuff and no wider. It is advisable that the jaws of the hand screws be also wide enough to reach across the width.

SHAVINGS.

In wrought iron, such as railings, grilles, etc., perhaps no paint is so effective as a perfectly dull black.

It is reported that the Stanstead Granite Company have disposed of nearly $40,000 of stock, under their new charter.

The Record Foundry and Machine Company, of Moncton, N. B., are about to engage in the manufacture of iron and steel bridges.

Messrs. Edmund Burke and S. H. Townsend have been appointed to represent the Toronto Architectural Guild on the Toronto Technical School Board.

The Sanitary Association of Hamilton, Ont., is urging upon the Mayor and Council of that city, the necessity of employing an inspector of plumbing.

On the 21st of January, the new First Presbyterian church lately erected at the corner of Dufferin and Park avenues, London, Ont., was opened with appropriate ceremonies. The building is of red pressed brick, and cost about $25,000.

Mr. John Sykes, of Oshawa, is handling largely British Columbia shingles, and expresses the opinion that an increased trade can be done in the manufacture of doors, sash and blinds.

Mr. R. J. Davidson, upon severing his connection, extending over a period of twenty years, with Thackery's plaining mill at Ottawa, was waited on by a number of contractors, builders and employees of the mill, and presented with an engrossed address and a handsome gold watch.

We learn from the Metal Worker, that Messrs. Merchant & Co., of Philadelphia, have recovered heavy damages against a contractor for having used ventilators which were claimed to be infringements on their Star patents, in the Lincoln, Neb., Hospital for the Insane, where it was specified that the Star ventilator should be used.

The new building of the Toronto Athletic Club was formally opened last month, and was visited by several thousand citizens. It is excellently adapted in all its appointments, for the purposes of recreation and physical improvement. The cost of the building approaches $100,000. Mr. E. J. Lennox was the architect.

In an action brought against the city of Toronto recently, by one Harman, for injuries received in falling from a scaffold while working at the city swimming baths, the defence entered by the City was, that as the plaintiff had built the scaffold himself, he alone was responsible for his injuries. The defence was upheld by the court, and a verdict given in favor of the city.

The British Columbia Shingle Mannfacturers' Association has been formed to regulate prices, and otherwise promote the interests of its members. A local paper states that shingle bolts cost $4.00 to $4.50 per cord, that it costs $1.30 per thousand to produce shingles, and that the very lowest price at which shingles can be put on board cars at Vancouver, is $1.50 per thousand.

Mr. Peter Redpath, the well-known philanthropist, of Montreal, died in that city, on the 2nd inst., at the age of 73 years. Mr. Redpath donated to McGill University, in 1880, the Peter Redpath Museum, and in 1891, the Peter Redpath Library Building. He also gave $20,000 as an endowment to a chair of natural philosophy, and $10,000 for expenses and improvements to the Museum, besides over three thousand volumes, comprising the Peter Redpath collection of historical books.

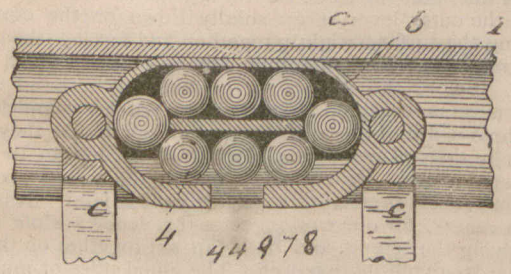
Mr. Chas. Baillargé, City Engineer of Quebec, has an interesting article in a recent number of the Engineering Record, on the "Fall of the Louisville and Jeffersonville Bridge," a subject which has largely engaged attention of late in the columns of the American engineering press. In the article reference is made to the circumstances connected with the landslide at Quebec several years ago, an illustration of which was kindly furnished to this journal by Mr. Baillargé, at the time of the occurrence.

Alexander Potter, C.E., Assoc. M. Can. Soc. C. E., 137 Broadway, New York city, has been awarded second prize of $500 for the best design of a new system of waterworks for Evansville, Ind., a city of 80,000 inhabitants. Twenty-two plans were submitted by engineers from all parts of the United States. Mr. Potter, who is a Canadian, began his engineering studies under City Engineer Keating at Halifax in 1883, and was the youngest competitor, having graduated at Lehigh University in 1890 at the age of 24.

A great deal of interest has been aroused by the discovery in Toronto of what is alleged to be a picture painted in oil by Raphael when twelve years of age. The subject of the picture is the Mosque Della Grande. On the back of the canvas there are three inscriptions, which read as follows:—"Painted at Urbino by Raphael, when aged twelve years, being the interior of the Mosque Della Grande." "Taken from Holyrood in 1688 by Lord Russell." "To the Lady Arabella Russell in the year of our Lord 1739 (or 1789)." Below the last inscription is the single word "Raphael." The existence of the inscriptions was revealed by the picture falling out of its frame, the frame having previously covered the writing. The picture is 22 inches wide and 26 inches deep, and is owned by Miss Annie Lackie, 58 Shaftesbury ave.

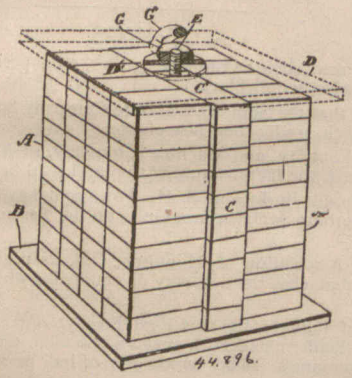
RECENT CANADIAN PATENTS.

A patent No. 44,917, has been granted to James Thomas McCabe, of Toronto, Ont., for a travelling hanger for doors, curtains, etc., the principal features of which are: the combination of a track composed of a tube having a longitudinal slot formed therein, and bearing surfaces arranged on



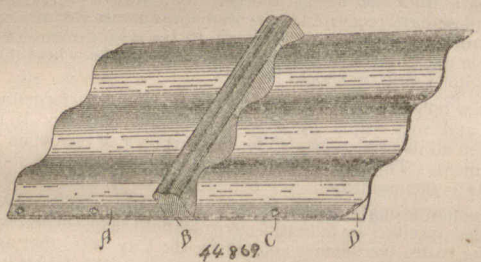
each side of the slot, bearing balls running upon the surfaces, a carriage supported by said bearing balls, a depending arm from the carriage, and means for detaching the depending arm to the object to be supported. An illustration of the device is given herewith.

Thomas Parker, John E. Wright, Francis F. Stuart and Alexander M. Colquhoun, of Toronto, Ont., have been granted a Canadian patent, No. 44,896, for a shipping device for bricks and similar articles, consisting of a top and bottom board, central bolt passing through a central opening



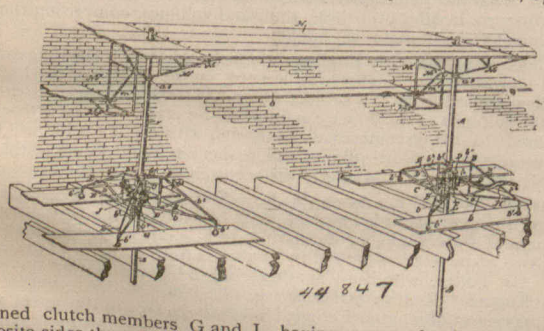
within the pile of bricks—a ring or clevis nut G_1 screwed on to the top of the bolt and top and bottom washers D_1 and B_1, surrounding the bolt and situated between the nut G, and the head of the bolt respectively, as shown in the accompanying illustration.

Hugh Silver, of Lindsay, Ont., was on the 11th of December last, granted a Canadian patent, No. 44,869, for a wood wall covering, which consists of the combination with a wall or similarly substantially flat



surface, W, of sheets of veneer, A, corrugated in line with the grain thereof, and having some of the bottoms of the corrugations nailed to wall, and a moulding B, whose under surface fits the corrugation, set over the joint between the sheets, as per illustration.

A Canadian patent, No. 44,847, for a builder's scaffold, was granted on December the 9th last, to John Elzear Ennis, of Duluth, Minn. The invention consists of a combination with a main frame or support, of a shaft movable vertically in frame, a platform bracket supported on the upper end of the shaft to turn thereon, and a clutch mechanism located within the main frame, engaging the shaft; in combination with the shaft A, of the lifting mechanism, consisting of yoke C, lever D, pivoted therein, oppositely



inclined clutch members G and J, having screw shanks projected from opposite sides thereof, link arms E and E_1, screw nuts F, and detachable weights; the combination with the shaft A, and the bracket Mx, supported thereon, consisting of an upper section M, a downwardly extending portion M, and an outwardly extending section M_2, the plates P, having concaved portions adapted to fit the bearing bars of the said bracket, and upwardly projecting lugs P_1, and the planks held on the said plates P, as shown in illustration.

The second edition of the December World's Fair Cosmopolitan brings the total up to the extraordinary figure of 400,000 copies, an unprecedented result in the history of magazines.

USEFUL HINTS.

The paint on the outside of a brick wall 30 feet in length and 20 feet in height of a warehouse in New York came off after a year's exposure; in another year the hard bricks of which the wall was built began to crumble. The cause, which for some time was a mystery, was eventually found to be a large quantity of salt in burlap bags stored behind the walls. Although thick boards intervened at places the salt had thoroughly impregnated and destroyed the solid brick wall, and therefore the oil and paint.

GOLD LACQUER.—For making gold lacquer for metals, the following formulas are recommended: 1. shellac, 100 parts; alcohol, 895 parts; boric acid, 5 parts; picric acid, enough to color. 2. dragon's blood, 7½ parts; gamboge, 40 parts; mastic, 30 parts; sheellac, 30 parts; elemi, 7½ parts; sandal-wood, 20 parts; sandarac, 20 parts; venice turpentine, 15 parts; alcohol, 850 parts. 3. shellac, 120 parts; gamboge, 30 parts; mastic, 30 parts; sandarac, 60 parts; aloes, 10 parts; venice turpentine, alcohol, 750 parts.

An experiment with two bars of iron separated by a layer of charcoal and subjected to an electric current of fifty-five amperes at two and a half volts has resulted in one bar, the cathode, being converted into steel on the side next the charcoal, while the other bar, the anode, remained unaffected. This was after three hours of heating under the current, and is one of a series of experiments carried out recently by M. Garnier, which are likely to lead to better understanding of the principles underlying the process of converting iron into steel.

TO MOUNT PHOTOGRAPHS WITHOUT BUCKLING.—The satisfactory mounting of photographs is a troublesome operation, and the following suggestion from a contributor to the *Outlook* may be of assistance to amateurs: I have found a method by which a photograph or engraving can be mounted on the thinest paper without curling or wrinkling. If the picture is a photograph it should be ironed out smooth with a hot iron and then trimmed. Mix a little gum-arabic in hot water, so as to make a rather thick mucilage. Place the picture on the page in position and mark just inside the corners. Remove the picture and take some of the mucilage on a ruling-pen and draw a heavy line of mucilage from one point to another, so as to make a line of mucilage all around the place where the picture is to be. As soon as the mucilage is sticky, put the picture in place, and a book over it to keep it flat. When dry, you will have a smooth mount that will not curl.

WEIGHT OF MATERIALS.—According to an American exchange, roof boards weigh about three pounds per superficial foot. Terra-cotta tiling weighs from 25 to 35 pounds per square foot. Hollow tile for five-inch partition weighs from 22 to 25 pounds per superficial foot. Lath and plastering, two-coat work, weighs from 9 to 12 pounds per superficial foot. The weight of a superficial foot of brick work, eight inches thick, including mortar, is from 83 to 87 pounds. An iron roof 100 feet wide, with a rise of one-third pitch, will weigh from 10 to 15 pounds per superficial foot. One hundred pounds per square foot, distributed uniformly over a surface of a bridge, is a safe working standard. The weight per square foot of roof tiling, set in iron or between wood rafters ready for slating is about 12 lbs. A fireproof floor, constructed of iron beams and four-inch brick arches, will weigh from 65 to 75 pounds per superficial foot. The safe and proper bearing of a joist, timber and girders supporting a floor should not exceed ten tons on brick walls and fourteen tons on good stone walls. A fireproof floor constructed of iron beams and of iron arches made of No. 18 iron, and filled in on top with concrete or slag and cement, will weigh about the same as brick work four inches thick. Fireproof floor made the same as above, with the introduction of hollow tile arches, instead of brick, concrete or slag, will weigh from 12 to 55 pounds, according to the thickness of the arch, running from 4 to 16 inches.

LEAKAGE OF AIR.—The porosity of walls and the vast amount of leakage around door and window frames are seldom appreciated, says Carpentry and Building, by those who talk of stagnant air. Experiments with ordinary windows have made evident a leakage of eight cubic feet per minute while the passage of air through apparently tight walls has been frequently shown by experiment. In one instance a room supplied with hot air from an ordinary hot air furnace was tightly closed. The fire place was stopped up, windows were packed with rubber molding and the door shut. The wood work was sheltered and the brick work oiled. A measurement of the air volume entering showed that it was nearly equal to that when the doors were open. If the air entered it was obvious that it must escape somewhere. A second experiment was made after five coats of paint had been put on the walls and ceiling and three coats on the floor. Still the air entered through the register in large quantities, in fact its volume was only 20 per cent. less than in the former case. Such wholesale leakage readily explains the cause of low temperatures in exposed rooms on windy days, for the outside pressure exceeds that within and the cold air actually leaks through the walls. Surprise is sometimes expressed that in many instances no vent flues are provided when the blower system is installed. This is particularly true of manufactories, offices and stores. Nevertheless, a volume of air sufficient to change the entire cubic contents once in 10 to 12 minutes is frequently supplied in such buildings and escapes only through walls and crevices.

PRESSURE OF ARCH STONES.—The result of investigations on the pressure of arch-stones on a center is, says the National Builder, that the center should be combined in such a manner as to withstand as advantageously as possible the effort of the stones to slide upon their beds. Experiment has shown that hard stones have not any tendency to slide on the bed until it is elevated to about 36°; and it has also shown that when the stone is set in fresh mortar it does not begin to slide until the bed is elevated to an angle of from 34° to 36°. Voussoirs of soft stone, absorbent of moisture, have been raised to an angle of 45° without sliding, when the center of gravity did not fall without their base. Reasoning from these experiments, and assuming 32° as the limiting angle of resistance, the conclusion would be arrived at that the center did not require to commence until the arch stones had reached that angle; and in the Pont du Gard, and the arch of Cestius at Rome, the corbels on which the centers were supported remain at from 25° to 28° above the springing. Beyond 32° the weight on the center goes on increasing as it approaches the keystone; but in practice it is safe to consider the whole weight of the stone as resting on the center, when a vertical line drawn through its center of gravity falls without the lower bed of the stone; and the amount of error is not great, and is on the safe side, if this is taken to be the case when the bed of stone exceeds 60°. But to make this observation more accurate, we quote Mr. Tredgold's words. He says: "When the depth of the arch stone is nearly double its thickness, the whole of its weight may be considered to rest upon the center, at the joint which makes an angle of about 60° with the horizon. If the length be less than twice the thickness, it may be considered to rest wholly upon the center when the angle is below 60°, and if the length exceed twice the thickness the angle will be considerably above 60° before the whole weight will press on the center.

PAGES

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