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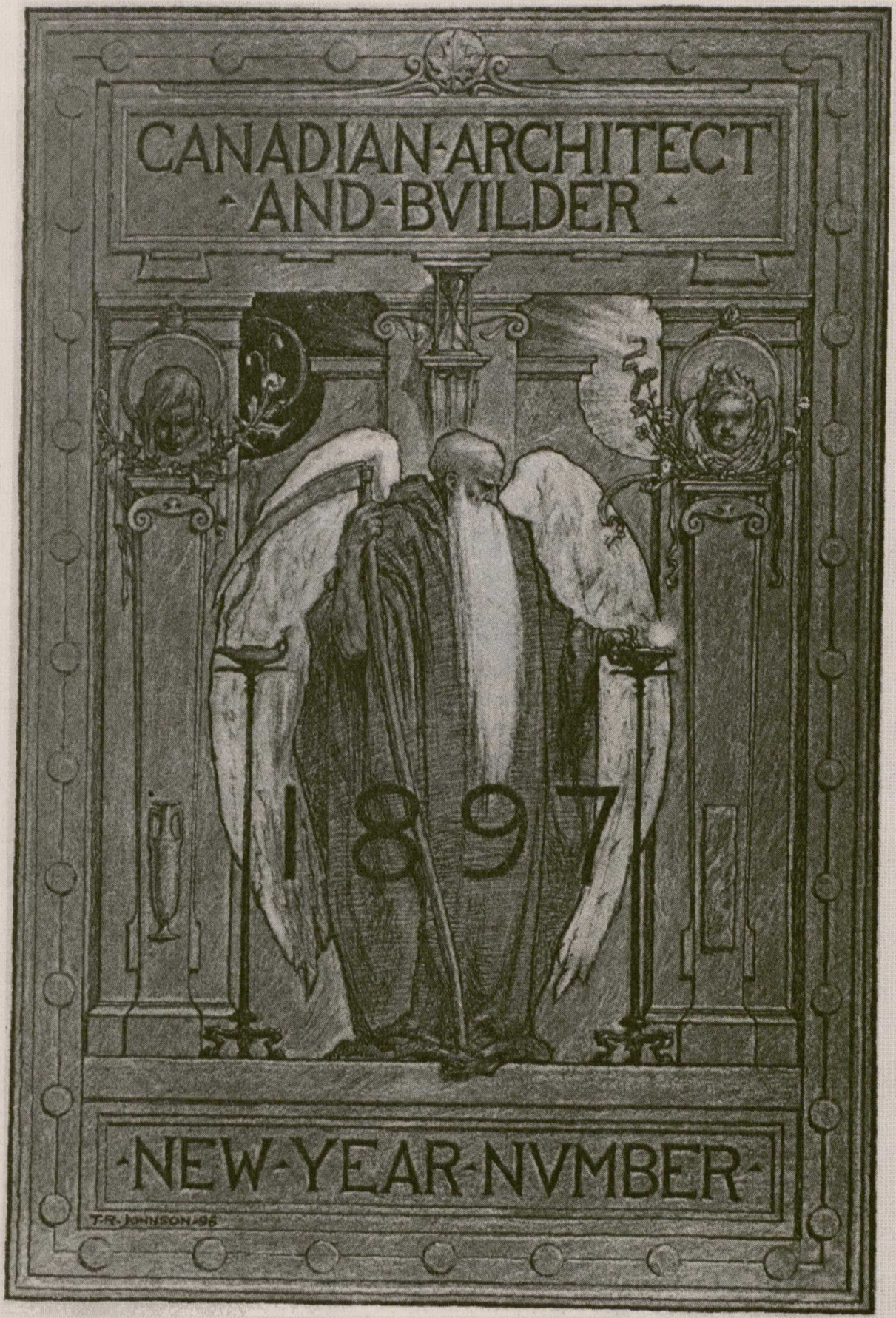
INDEX

ILLUSTRATIONS.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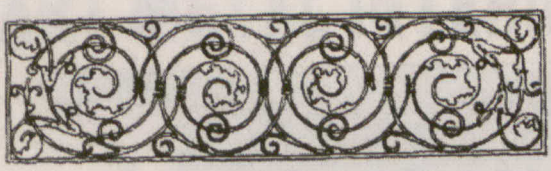
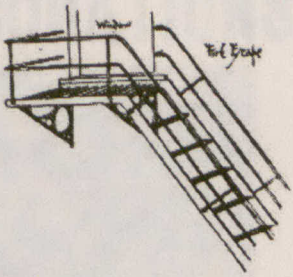
VOL. X.—NO. 1. JANUARY, 1897 PRICE 20 CENTS $2.00 PER YEAR.

INDEX TO ADVERTISEMENTS

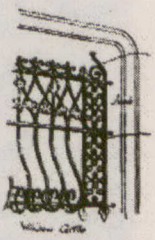
In the "Canadian Architect and Builder."

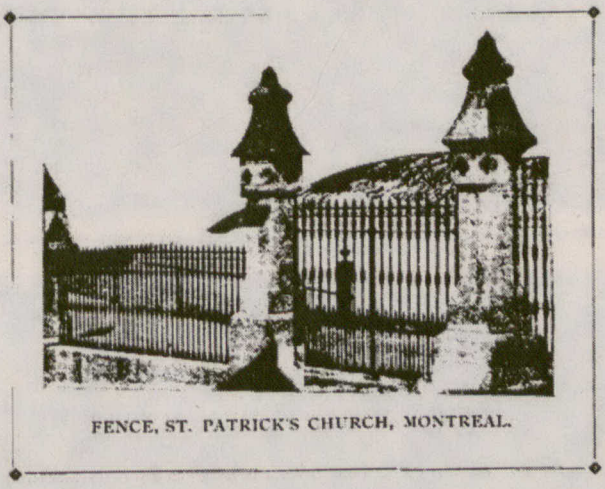


Wrought Iron Panel



Architectural Iron Work





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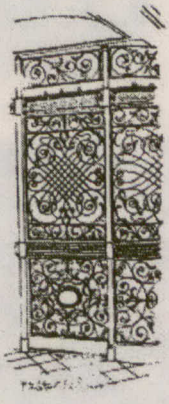

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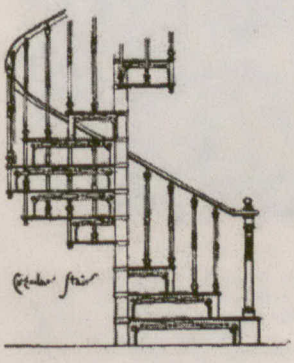

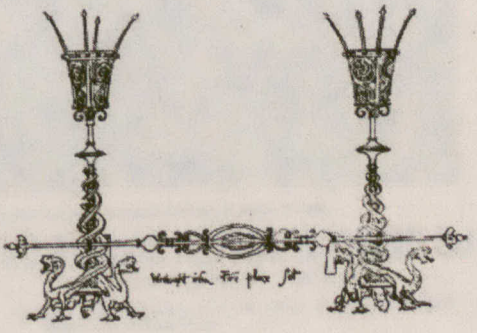

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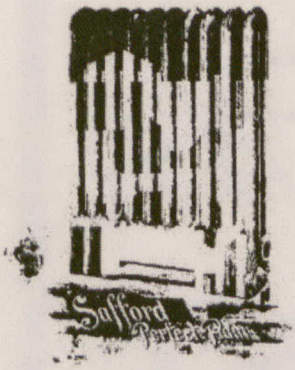

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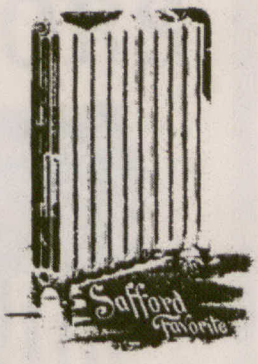

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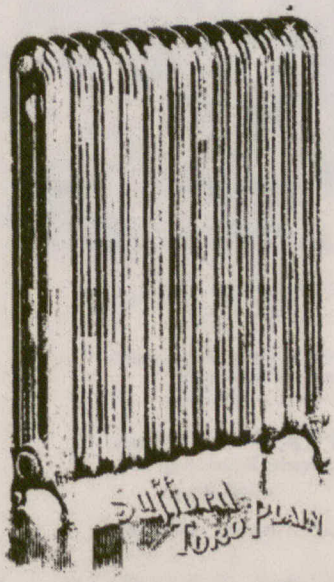

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(Price of this Number, 35 Cents)

VOL. X.—NO. 1. JANUARY, 1897 { PRICE 20 CENTS $2.00 PER YEAR.

—THE—

CANADIAN ARCHITECT AND BUILDER,

A Monthly Journal of Modern Constructive Methods,

(With a Weekly Intermediate Edition—The CANADIAN CONTRACT RECORD).

PUBLISHED ON THE THIRD THURSDAY IN EACH MONTH IN THE INTEREST OF

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ADVERTISEMENTS.

Prices for advertisements sent promptly on application. Orders for advertisemnets should reach the office of publication not later than the 12th day of the month, and changes of advertisements not later than the 5th day of the month.

EDITOR'S ANNOUNCEMENTS.

Contributions of value to the persons in whose interest this journal is published, are cordially invited. Subscribers are also requested to forward newspaper clippings or written items of interest from their respective localities.

Subscribers who may change their address should give prompt notice of same. In doing so, give both old and new address. Notify the publisher of any irregularity in delivery of paper.

To Our Readers.

IN presenting this, the fourth New Year Number of the ARCHITECT AND BUILDER to our readers, a word of explanation seems necessary. After the contents of this number were arranged, it was learned that an earlier date than usual had been decided upon for the annual convention of the Ontario Association of Architects. It seemed highly desirable that the proceedings of this convention should appear in this number. In order that this might be accomplished it was necessary to defer publication of our annual Building Review and a number of other articles which were designed to have a place in these pages. For the reason mentioned there is scarcely the variety of contents that we could desire, but it is believed that the interesting character of the proceedings of the O. A. A. Convention will in a measure compensate for this. We take this opportunity of thanking those who have assisted us in any way during the year '96, as well as in the production of this number. In this connection we are indebted for our frontispiece design to Mr. T. R. Johnston, of New York, formerly of Toronto. The work itself witnesses to the skill of its author. We ask the kindly co-operation of our readers during 1897, and trust the year may prove a happy and prosperous one to all.

The O. A. A.

THE pressure upon our space forbids more than brief mention of the work accomplished by the O. A. A. at the annual convention held in Toronto last week. Two or three points, however, may be emphasized: One is, that those members who between the conventions are heard to complain that the control of the Association is too much in the hands of the Toronto members, were conspicuous by their absence from and lack of interest in the convention. Several of the Toronto members were re-elected to the Council in spite of their earnestly expressed wishes to withdraw, because we presume it was felt that it would not be safe at this somewhat critical juncture to entrust the Association's welfare in the hands of men who had shown but a lukewarm interest in its affairs. The decision to permit Chapters to be formed in Toronto and other cities, seems to be a step calculated to awaken interest in architectural matters throughout the province, and one which should bring added strength to the Association. The suggestion made by the President, in his address, that it would be desirable to classify the members of the Association into Fellows and Associates, with appropriate titles, is one which it was wisely decided to take no action upon at the present time. Other matters of vital interest to the welfare and usefulness of the Association should have precedence and receive the most careful thought and attention during the present year. The Association expressed in no uncertain language its opinion that unless the government take action to render the Ontario Architects' Act workable, it should ask to be released of the responsibility and expense of conducting students' examinations. By voluntarily establishing a Department of Architecture in connection with the School of Practical Science, the Minister of Education recognized the need for the proper education of architects in the future. The architects of Ontario have given every possible assistance to make this Department of Architecture a success. What assistance have they received in return from the Minister of Education and the government? It may confidently be stated that without the co-operation of the architects of the province the Department of Architecture cannot achieve a satisfactory measure of success, and in future that assistance can only be depended on in the event of the Architects' Act being amended in the manner proposed. The architects are tired of spending effort to no purpose for the object of protecting the public against the blunders of incompetent "architects" in the future, and are still more tired of being asked by the government to make bricks without straw.

REASONS FOR A DOMINION ASSOCIATION OF ARCHITECTS.

By Chas. Baillairge, Past President P. Q. A. A.

AND why not, as with the Canadian Association of Engineers? "In union there is strength"—there has always been—and hence the proverb, "United we stand, divided we fall." This is true of every calling in life, of every trade, profession, industry.

The Association wants a tariff; but will any government frame one which will be accepted by every separate province, even if it be expedient to have one? Not at all. To command respect such a tariff must be universal, so to say; it must be a natural or spontaneous one as they have in France, in England. Nor need it in any way be legislated on to be abided by, but be of general consensus. It must be customary, and custom in the end becomes law; for, on what are all our laws founded, but on common requirements.

The Association has a tariff founded or based on charges current throughout Europe, the United States of America, and among all civilized nations; nor would this have any the more the force of law if declared valid by governmental or legislative action of any kind.

This question was debated at our annual meeting at the Florence, Quebec, some two or three years ago, with several members of our Province of Quebec legislators present when, as will be remembered, while the then Premier Taillon seemed to favor government action in the premises, Attorney General Casgrain advanced most pertinent reasons to the contrary.

Our charges are not disputed, that the writer is aware; and as it behooves him, maybe, to show that such is the case, he may say that in no less than thirteen separate cases, of expropriation of properties for the St. Charles branch of the Intercolonial railway, and where there could have been no understanding between the several clients as to fees to be paid for the varied services, (hundreds of dollars in each case), he charged and was paid the regular fee of $3 per hour—say at the rate of $15 for a legal day of 5 hours, or from 10 to 4 with an hour off for lunch; there never was any dispute, never a word about his charges, though mostly from $30 to $50 per diem, due to double or treble the number of hours work during the 24 hours, as the writer has done during all his long career and only feels the better now and livelier for the extra time put in.

Suppose now we had a tariff, and in special cases where our time is worth $5 to $10 an hour, as when dealing with important arbitration cases, where hundreds of thousands are at stake, or in reporting on some subject where long experience has rendered our services invaluable—suppose, I say, that in such a case no agreement has been made, no understanding arrived at as to the renumeration to be received, then if the tariff were legal or binding, the client could say: Sir, you cannot charge me more than such a figure, and we would be forced to abide thereby—this is where the disadvantage of a tariff comes in; while, as said before, on important cases the man of great experience may charge his $100 fee or $100 or more per diem, as the writer has often done and been paid without a murmur, as in the case of the Sherbrooke water works, in the calculation of the water power of the Montmorency Falls, as Shanley and Parent charged $300 each for a less than 3 days report in 1883 on the tenders for the new Loretto main; as many architects have done in like cases; as a lawyer will do, a la Osler, $200 a day where a million or even half that is at stake.

Believe me, gentlemen of the profession, Attorney General Casgrain was right in this respect, and so say I with my 50 years experience of the professional and industrial world.

The architect's and engineer's ordinary charge of 5% on cost of structure is not too high. On the contrary, in very many cases, it is hardly remunerative, and seems to have been founded, so to say, on, or assimilated to, the rate of interest on capital; while in many cases this 5% would not begin to pay an engineer in the designing of a complicated piece of machinery, as a pumping engine or a printing press, or an architect in the designing of a pulpit, a reredos, an altar or a tabernacle, or where a whole structure is a mass of intricate composition, as with Perrault & Venne's chapel of the Sacred Heart, Taylor's gem of the Diocesan College of Theology, where every detail, to the tiniest molding, each finial and crocket and even to the roof slating, bears the impress of the artist's handiwork.

Again, this 5% may be too high and is not charged where, for instance, a series of stores or dwelling houses are all built to one and the same design; since plans alone and specifications are taken at 2½ per cent. and this percentage or a portion of it saved the proprietor or client.

Then upon due consideration, I say, let the tariff be—it will become venerable with age and have the force of law without any of the concomitant disadvantages of its legal surroundings.

This 5% tariff has evidently not been arrived at without due consideration, and is certainly founded in practice; for in the case of the new Quebec water works, put in by the writer in 1883 and which have cost just half a million dollars, which at 5% would have given the engineer $25,000. The writer made a study of the figure of 5% by entering in a journal every hour devoted to the work, as taken upon surveys, general and detail drawings, specifications, estimates, reports on, calling tenders, preparing blank forms, superintending work, and these added and put down at the aforesaid $3 per hour, amounted to within a mere fraction of what the same would come to at the usual 5% on the outlay.

There is another and just as important matter—may be more so, for consideration—when a Dominion Association would be better able to bring about the needful legislation or obtain reform—I mean, a simple justice, which now we have not, and why? Because lawyers are generally law makers, and while taking care of themselves in this respect, and of notaries, and the medical profession on appeal to them by the latter or to the legislature or parliament, have ignored and left out architects and engineers, who, it will hardly be credited, have not, under our laws, the right to go into the witness box and testify in their own cases.

This is a matter of the most glaring inequality or denial of justice. If, for instance, through the client's fault, or conveyance of wrong information in the premises, the notary has to draw up new papers for the same thing, the lawyer to plead the same case in another or still another court, he will take care to be paid for all he does, and can, on his own testimony, convince the court that he is right; or the physician, that he treated his patient for a complication of two or more diseases—while, with the architect, he may be and often is called on, after one design has been made to proprietor's instructions, and though it pleases him in every way, to cut down and absolutely do his work over again to suit his client's purse, who will, on completion of the building, only pay his 5% on cost of structure as erected, and leave the poor architect unremunerated for his first or preliminary set of plans, knowing, as he does, that the architect cannot be heard in court in his own behalf.

The writer called the attention of those present at last yearly meeting of the Association to this important matter, and has had occasion in a recently published pamphlet of his, delivered free to architects for their information, to cite a special case of the kind where, after having planned for a certain institution a $50,000 aqueduct to supply two adjacent villages, and finding that these suburban districts would not pay for water such a figure as would materially relieve the institution in its cost for interest on capital expended, reduced its scheme to the supply of only its own precincts thereby paying the engineer his percentage on only $25,000, with not a cent for his six weeks' work devoted to the larger scheme, and when calling on his lawyer to sue for his 2½% on first series of plans, quantities and estimates, was met with the discouraging reminder that he could not go into court to prove his own case, and that the proprietors would of course be sure to put their case before the court in a way to secure judgment.

Now, is this not a subject for federal legislation, and if it is, or even if only of local import, would not the asking for it be enhanced if coming from all the architects of Canada, united into one general association, rather than from merely a provincial body?

Again, is not some legislation imperative the better to define the responsibilities of architects, proprietors and builders? Where is the justice of rendering the architect responsible for ten years in case a building should fall and kill some one or subject its owner to the cost of reconstructing it, when so many things may have happened in ten years to bring about a failure of the structure or of a portion thereof, and the architect or builder may be in no way to blame. Why this picking out of the architect or engineer? Why select him for punishment? Why hold him up to the vengeance of the law? and if he does kill his man or ruin him; in what, pray thee, is he more guilty than the lawyer, who, through his negligence or ignorance, loses his client's case and throws him on the charity of the world; in what more guilty than the apothecary who deals out poison in mistake for medicine; the medical man who, as happens every day, kills his patient or shortens his career on earth by mistaking one "algia" or "itis" for another.

These are vital questions of the utmost importance to the architect, and never will any change likely be brought about except by the combined efforts of all the professionals of the Dominion to amend the laws governing such matters.

Another reform to be advocated, and which should be made general in Canada, as it is in England and France, is the enacting of a general association of the profession, that quantities be not taken out by the architect himself who plans and superintends any work, but by a so-called "quantity surveyor," or (by whatever name to be designated) some one outside of the firm which designs and specifies the work to be performed. No architect should, except for his own personal use, and to guide him in keeping within the amount allowed for the building, whatever it may be, take out his own quantities and sell them to any intending tenderer. The fact of doing so is not necessarily wrong, as the quantities may be correct and lead to no difficulty or injustice to any one concerned: the proprietor, the contractor or the architect himself; but quantities very often are either in excess or in deficit, and if so, are necessarily detrimental to the proprietor if high or exaggerated, to the contractor if the contrary.

If the quantities be short, the contractor looks to the architect for indemnification, and as the latter can generally ill afford to come against himself to make good the deficiency and does not

like to make his error known by billing the proprietor for it, who is not legally, though may be morally bound to do the needful towards the builder; he, the architect, to save himself, is tempted to and does, almost of necessity, make it up to the contractor by exaggerating extras or additions, minimizing deductions for works omitted, allowing the contractor to skimp the work or portions of it, winking at defects or faulty materials, and even in thinning out the walls, curtailing the projection of outside cornices of wood or stone, the girth of inner plaster ones, making molded and ornamental work less salient and thus less effective, and accepting two coats paint instead of three, and in other ways not readily to be detected by the proprietor, who rarely, if ever, goes to the trouble of verifying such details, not generally affecting the style of work, the distribution of the building or the comfort of the tenants.

This is no imaginary case, an architect having had to refund to a contractor a sum of several thousand dollars covering a deficit of over half a million in the quantity or number of bricks in a certain building, and which would likely have been double the amount, had not all the walls, in anticipation of such a claim against the architect been, so it is said, made thinner by from 4 to 7 inches, to help diminish the absolute deficit.

Nor should any contractor be allowed to be or act as his own architect, no more than a notary is allowed to draw up his own deeds or those affecting his nearer relations. This it is which gives rise to the often repeated assertion that such and such a work or building does not look as well, as effective as it did on the paper. How often has the writer not seen work shirked or skimped in this way, where the detail drawings not being made in advance and signed as a binding portion of the contract; these details made to look effective on the general drawings, as in designing the roof or vaulting of a church for instance, where moldings and groinings to be effective must be salient and carving deeply cut, are made to look so in advance by deep shades and shadows cast, and are found in execution to be entirely wanting in these particulars.

Nothing but a general association of interests throughout the Dominion is likely to bring about reform under this head, and render country curates and even city ones awake to the true economy of always emloying an architect to oversee the work of another architect when acting as his own contractor.

But for self improvement and advancement is a general association of the profession pertinent. See how it is now with the associations in the provinces. The general meetings are held successively and alternately: For the Province of Quebec, in Montreal and Quebec city; for Ontario, in Toronto and may be some other prominent city or two of that province. This is not sufficient; the thing becomes monotonous, and architects lose all interest in thus either meeting continuously in the same city, or alternately in only two cities of the province.

The field of enquiry and observation must needs be developed. Look at the Royal Society of Canada. Interest in it and its assemblages is flagging. Members do not attend, except those residing in Ottawa, where the society, with a single exception (once at Montreal) holds its yearly meetings. Nor is this just to outsiders who year after year have to pay their way to and from the capital, and their living expenses while there.

A general association would have a choice of all Canadian cities of sufficient importance to warrant a displacement. In addition to Toronto, Montreal and Quebec, we should then have Halifax to look to, Hamilton, Winnipeg, St. John, N. B., Victoria, B. C., and other cities. The society might also some day, or now and then, visit the more noted cities of the United States, as New York, Washington, Boston, Chicago, Philadelphia, St. Louis, New Orleans, etc.

Look at the British Association for the Advancement of Science. If this assemblage of the wisdom of a nation finds it to its advantage to cross the Atlantic to Canada as it did some years ago to Toronto, I believe, next year to Montreal; surely we who have seen less of the world would benefit by migration now and again.

See the many scientific, professional, architectural, engineering associations of the United States, how they are constantly travelling on invitation from place to place; how, in each city they visit, they are taken hold of, wined and dined and driven around to see everything respectively of interest to each.

But this must not happen so often to one and the same place as to wear one's welcome out. Montreal cannot without taxing itself too heavily and too often, receive the architects of the rest of the Dominion every two years as at present. Much less can poor Quebec afford to follow suit in such hospitality, but let the thing occur once in five or ten years, and after such an interval there is something new to see, then does the reception become an event, a pleasure, and the expense comparatively trifling.

Cities like Quebec and Hamilton can hardly have enough of novelty in less than 5 to 10 years to warrant a return to them on a mission of self advancement; nor can even Toronto or Montreal in one or two years, offer inducements enough to the profession to go about and visit the few really interesting structures that may spring up in so short a time, while after a period of several years, all monotony is dispelled, old scenes are almost forgotten, and the scenery and buildings put on a novel and attractive aspect.

Great benefit is to be thus had by becoming acquainted with others of the same profession, the mind is developed, new ideas are imbibed, taken hold of, modified and improved on.

The Royal Society has at last come to understand this, and meets in Halifax next year to celebrate the 400th anniversary of the discovery of North America by the brothers John and Sebastian Cabot, when a monument will be erected as nearly as known on or near the very land fall of these hardy explorers and navigators. New blood is wanted all the time, new scenes, new climes to revel in so to say, as with the botanist, the geologist, the seeker after other forms of fauna.

The London Surveyor, a paper devoted to the interests of municipal and county engineers and architects is alive to this necessity of association on an extended scale, and in every one of its weekly or monthly issues are given portraits and biographies of its associates, views of buildings and engineering works completed, views of the town halls or municipal buildings of all the cities visited in turn, accounts of receptions, balls and dinners tendered to the visitors, with full details of all the proceedings and descriptions of all the points and objects of interest the members of the convention are called on to examine, enjoy and become acquainted with.

Hardly a day passes but what the writer receives some invitation to attend a conversazione of the kind in some city or other of the neighboring republic, and this is what so forcibly reminds him of the advantages of such visits and meetings.

The writer cannot be suspected of any other interest than that of the Association in thus advocating its extension from the Atlantic to the Pacific; since he has pretty nearly been about the world and does now but advocate for others what he has found of advantage to himself.

It must not be all work and no recreation. Our human nature could not, cannot stand it. These social gatherings, when made subservient to one's material interests, are not only of advantage to us all, but indispensable, so to say, in these days of rapid advancement in so many sciences, professions, industries and manufactures, and even in the very and varied modes of conveyance, in palace cars and stately floating palaces, on the way, is there much to be admired, much to learn.

A GROUP OF WINNIPEG ARCHITECTS.

We are pleased to be able to present herewith portraits and brief sketches of several of the most prominent architects of Winnipeg. Mr. S. Frank Peters is already well known in Eastern Canada, as is also Mr. Geo. Browne, who for several years has made annual visits to Ontario. If the movement for the formation of a Dominion Association of Architects should assume tangible form, we may entertain the expectation of being privileged to make the personal acquaintance of all these gentlemen in the near future. Meanwhile the ARCHITECT AND BUILDER is striving to bring the architects of the Dominion into closer relationship.

CHAS. H. WHEELER

was born fifty years ago in Lutterworth, county of Leicester, England, where he was educated at the grammar school and by the Vicar of the parish. He decided to adopt the profession of architecture, and began his calling by mastering the rudiments, having

MR. CHAS. H. WHEELER.

first served a technical course at the carpenter's bench, and in turn on the bricklayer's scaffold, at practical painting, and at the banker of the stonemason. He also learned the art of pattern-making at the Coventry Engine and Art Metal Works, and subsequently was student and clerk of works under two eminent London architects. Mr. Wheeler has carried out many important works in London, the provinces, and on the continent of Europe. He took up his residence in the North-west in the spring of 1882, since which time he has been actively engaged. He gained the Holy Trinity competition over sixty competitors from all parts of America. Besides building this handsome church he has carried out over two hundred and seventy other works in Manitoba and North-west Territories, including the Home for Incurables, Portage la Prairie; Merchants' bank, Brandon; Moosomin Methodist church, Queen's Hotel, Moosomin; High School, Port Arthur; Jail, Portage la

Prairie, and in Winnipeg the Deaf and Dumb Institute, Senator Sanford's warehouse, G. F. & J. Galt's warehouse, George D. Wood & Co.'s warehouse ; Maxwell & Co.'s warehouse, James Robertson & Co.'s warehouse, Baskerville & Co.'s warehouse ; Regina Anglican church ; Morden Methodist church ; Euclid schools, the residences of F. H. Mathewson and E. F. Stephenson.

Mr. Wheeler takes great interest in music, and has gained considerable repute as a vocalist and choir-trainer, musician and critic. Two of Mr. Wheeler's sons are following the profession of architecture, one in St. Paul, Minn., the other in his father's office.

MR. S. FRANK PETERS,

has been practising his profession in Winnipeg about four-and-a-half years, having removed there from Toronto in July, 1892. Mr. Peters is the eldest son of the late Samuel Peters, C. E., of London, Ont., in which city the subject of this sketch was brought up and educated, although born in England. He studied architecture with the late William Irving, architect, of Toronto, at the same time taking up the course of civil engineering in Toronto University, and subsequently travelled extensively, in the interests of his profession, in the United States and Canada. He commenced active practise in London, Ont., in 1872, and continued there till he removed to Toronto, early in 1891, from which place he went to Winnipeg, as above stated.

MR. S. FRANK PETERS.

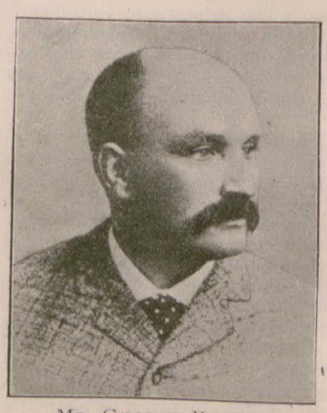
While residing in London, Mr. Peters was connected with the 7th Fusiliers of that city, and commanded a company of that regiment during the North-west rebellion of 1885, and received injuries in that campaign which resulted in the loss of an arm.

MR. GEORGE BROWNE

was born in Montreal and is the youngest son of the late George Browne, of that city, who was for many years a prominent architect and extensive owner of real estate. Mr. Brown is of English and Irish ancestry. After leaving the Montreal high school Mr. Browne entered his father's office, and at the age of eighteen went to New York, where he studied in the office of Mr. Russell Sturgis, who was at that time one of the leading architects of the Empire city. At the end of three years he visited Europe, where he remained for three years-and-a-half, studying the different styles of architecture in England, Ireland, France, Italy and Switzerland. He took a course at South Kensington school of art, and was awarded prizes at the international competition in the class for design.

In 1879 he went to Manitoba and entered for a homestead and pre-emption of 320 acres in the Tiger Hills district south of Holland, which was then a wild and unsettled country. After undergoing for some years the hardships and privations of a pioneer life, he came to Winnipeg and resumed the practice of his profession.

Mr. Browne's ability as an architect is evidenced in the buildings he has erected in Winnipeg, among which may be mentioned : The Massey building ; Miller, Morse & Co.'s building ; the City market, which was won in competition ; the Granite curling rink, which has a clear span of 95 × 200 feet ; the buildings on the ten farms for Sir John Lister Kaye, Bart ; Maple Shade, the private residence of Mr. Geo. H. Strevel ; the Strevel terrace ; the residences of Mr. T. J.



MR. GEORGE BROWNE.

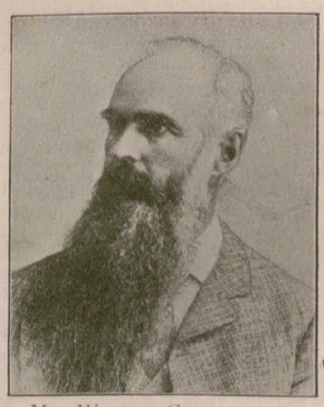
McBride, R. H. Agur, R. H. Bryce, J. C. Gordon and the one occupied by Hugh John Macdonald, M. P.

MR. WALTER CHESTERTON

was born at Kensington, London, England, in the year 1845. He was educated at private schools, and studied at South Kensington School of Art. He was articled to Messrs. Waller & Son, Lyall street, Belgrave square, London, with whom he remained nine years. In 1871 he came to Canada and commenced practice at Ottawa, where he built the post office, custom and inland revenue office building for the Dominion government, and St. George's church, in addition to various private residences and business premises, besides taking professional charge of the erection of the Ottawa branch of the Bank of Montreal, St. Andrew's Church and the Collegiate Institute for Montreal architects.

When the Royal Canadian Academy of Arts was instituted, Mr. Chesterton was nominated by Lord Lorne associate architect, entitling him to the title of A. R. C. A.

He removed to Winnipeg in 1881, soon afterwards being joined by Mr. McNichol, of Scotland, and practised under the firm name of Chesterton & McNichol, but for the past seven years has been alone. The principal public buildings he has erected are the jail for the eastern judicial district, reformatory for boys, Brandon; public school, Regina ; the public schools of Fort Rouge and Stonewall, now in course of erection ;



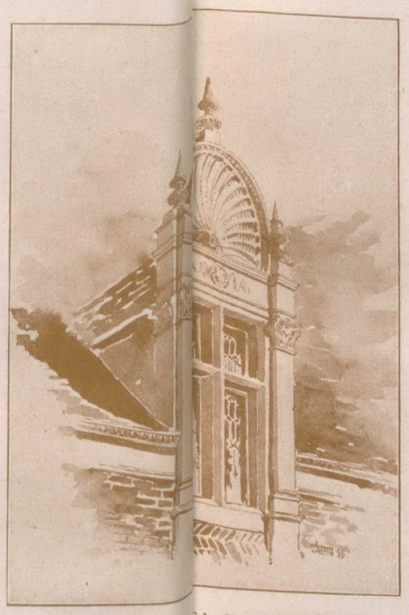
MR. WALTER CHESTERTON.

officers' quarters, Fort Rouge, and St. Mary's church, Virden. Among the private residences may be mentioned those of A. W. Ross, M. P., Fort Rouge ; J. Stewart Tupper and Ernest Stewart, Assiniboine street, and many other business premises and private dwellings in town and country.

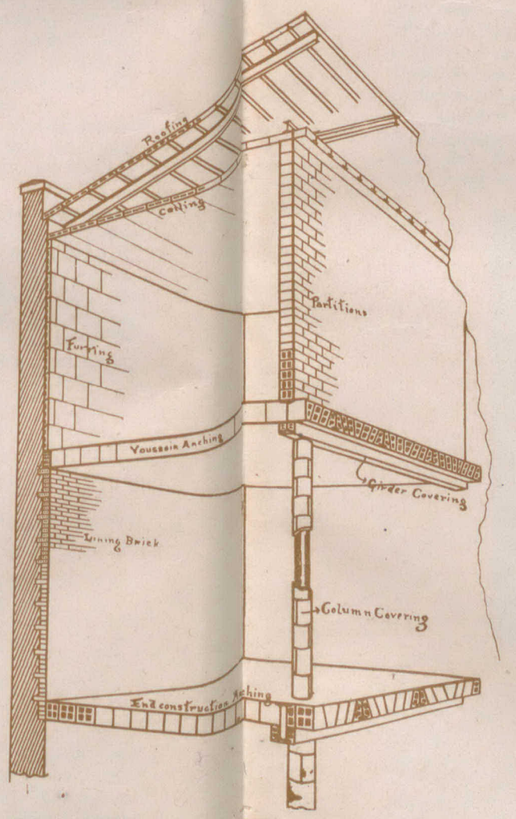
MR. H. S. GRIFFITH,

who is a son of Rev. G. S. Griffith, of Adley Rectory, was born in Oxfordshire, England, in 1865. He was articled from 1882 to 1885 to Messrs. Webb & Tubbs,

TERRA COTTA MANTEL.



TERRA COTTA DORMER.



POROUS TERRA COTTA FIREPROOFING.

HARDWOOD MANTEL AND BOOK-CASE.

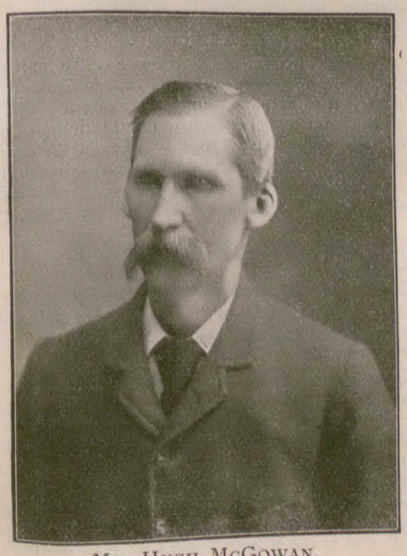
architects, Reading, and as draughtsman in 1886, to Mr. T. H. Watson, District Surveyor, London. He came to Winnipeg in the spring of 1887 and found employment in the Northern Pacific engineer's office, and subsequently in the Land Titles office. He began practice as an architect in 1893, and has erected a con-

MR. H. S. GRIFFITH.

siderable number of buildings for commercial and residential purposes, among which may be mentioned the wholesale warehouse of Mr. Thos. Ryan and the residence of Mr. G. H. Shaw, chief passenger agent of the C. P. R.

MR. HUGH MCGOWAN

was born of Scottish parents near the city of St. Thomas, Ont. After having learned the trade of carpenter and stair builder, he removed to Flint, Mich., where he studied architecture and sanitary engineering, particularly those branches which should form part of the education of an architect, viz., heating, plumbing and ventilation. Having lost his health through overwork, Mr. McGowan emigrated to the Canadian Northwest in the hope of being benefitted by the change of



MR. HUGH MCGOWAN.

climate. Soon after arriving there, he opened an office for the practice of architecture in Winnipeg, of which city he has now been a resident for sixteen years. Mr. McGowan has successfully carried out commissions for the Provincial Government of Manitoba, the Winnipeg and Morden School Boards, as well as many private citizens, and is architect for the Board of Directors of the Winnipeg General Hospital.

Messrs. S. H. Townsend and J. Gemmell, two Toronto architects, left last week for Baltimore, en route to the Southern States. They propose spending some weeks on a bicycle tour, viewing the scenery and architecture.

ILLUSTRATIONS.

RESIDENCE AT OTTAWA.—E. L. HORWOOD, ARCHITECT.

SUMMER RESIDENCE.—R. FINDLAY, ARCHITECT, MONTREAL.

RESIDENCE, ROSEDALE, TORONTO.—DICK & WICKSON, ARCHITECTS.

THE "TEMPLE BUILDING," BAY STREET, TORONTO.—GEO. W. GOUINLOCK, ARCHITECT.

HOLY TRINITY CHURCH, WINNIPEG, MANITOBA.—CHAS. H. WHEELER, ARCHITECT.

Between the years 1860 and 1870 settlement began to be formed around the Hudson's Bay trading post known as Fort Garry. In the year 1871 this settlement became incorporated as the City of Winnipeg. At that time the nearest church to Fort Garry was St. John's Cathedral, a plain edifice about two miles off. It is typical of the great hold which church-going had upon the minds of the early pioneers to be told that settlers would walk or drive 10 miles or more, taking their lunch with them to be present at the services at St. Johns.

About the year 1868 the parish of Holy Trinity was formally created and organized, thus acquiring the proud destinction of being the first church established in the city, one of its wardens being the late Lieut.-Governor Sir John C. Schultz. A primitive frame edifice was built at the corner of Portage avenue and Main street, which lasted until the year 1875 when it was determined to erect a larger and more pretentious structure ; this also was of framed wood. The present rector, the Ven. Archdeacon Fortin, assumed charge of the parish this same year.

In 1883 plans were received from all parts of America in competition for a new church to be placed in a new position on the corner of Donald and Graham streets. After considerable discussion the design prepared by Chas. H. Wheeler, an English architect, was unanimously adopted. The work commenced immediately, and on the 25th day of July, 1884, the church was opened by the Primate of Canada in the presence of a large gathering of the clergy and laity. Such, in brief, is the historical development of Holy Trinity church.

The structure itself is built of solid stone throughout, is cruciform on plan and gothic in style. There are no galleries. The roof, being of hammer beam construction, spans the whole auditorium ; the preacher, therefore, can be easily seen from all parts of the building.

The total length of nave and chancel is 150 feet clear, the width of nave 56 feet, width of chancel 25 feet.

There are two transepts, a commodious organ chamber in which has been erected a large organ containing 42 stops. The three vestries form an architectural feature in the south-east side, with a small stone tower and spire ; the main tower with spire on the west front remains to be finished ; a temporary bell structure somewhat disfigures the view from this point. Rockland slates have been used, and the whole of the windows contain stained glass.

The main walls of the church are built of Stoney Mountain limestone, from a picked strata of a bluish-grey tint, the dressings and buttresses of Selkirk limestone, and all the apexes, bases, crosses, labels, etc., are worked in Ohio stone, which the severity of our winters has sobered down, and is now in harmony with the colors of the native limestone.

The roof inside is a marked feature of the design, being open timbered and having delicately cut tracery to the spandrils and panels. The pulpit, chancel and sanctuary stalls and choir seats are in oak and walnut, handsomely carved ; the nave pews are framed in American yellow pine and walnut.

There are handsome polished brass upright gas standards, and specially designed wrought iron grille work for the altar and chancel rails. Belgium black marble columns adorn the arches of organ chamber and the big chancel arch. Ohio columns with carved capitals are placed under the posts of the hammer beams.

The church seats eleven hundred adults comfortably. Its total cost was between sixty and seventy thousand dollars.

CANADIAN PARLIAMENT BUILDINGS, OTTAWA.—MESSRS. FULLER & JONES, AND STENT & LAVER, ARCHITECTS.

WE have pleasure in presenting as one of the chief features of this New Year Number, illustrations of the Parliament and Departmental Buildings at Ottawa. These illustrations are reproductions to a reduced scale of large and beautiful photographs, kindly placed at our disposal by the Minister of Public Works and the Chief Architect of the Department, Mr. Fuller, who, by the way, is also one of the architects of the buildings. To the latter gentleman we are also indebted for a copy of a report presented to Parliament in 1876, by the then Chief Eengineer of Public Works, the late Mr. John Page, containing a brief account of the principal events connected with the construction of the buildings.

It is learned from this report that the first direct action which appears to have been taken towards fixing on a place for the permanent seat of government, was on the 24th March, 1857, when resolutions were passed by the House of Assembly to the following effect :—

That the sum of two hundred and twenty-five thousand pounds be appropriated for the purpose of providing for the necessary buildings ; and that an address be presented to Her Majesty, praying Her to select "some one place as the permanent seat of government in Canada."

A despatch from the Colonial Secretary, dated 31st December, 1857, conveying Her Majesty's selection of Ottawa as the seat of government, was communicated to both branches of the Legislature, on the 16th March, 1858.

The place having been thus chosen, and the site of the buildings fixed upon, the Department of Pubiic Works issued a notice, dated 17th May, 1859, inviting architects to prepare and submit designs for parliament buildings, and for the public departments, by the 1st day of August following, and stating that the structures "are proposed to be

built in a plain substantial style of architecture, of coursed hammer-dressed masonry, &c."

"All information as to the sites of the buildings, their size, number of rooms, &c., necessary for the preparation of the plans, can be obtained at the office of the department."

This notice resulted in sixteen designs for parliament buildings being submitted, by fourteen different competitors; and seven designs for departmental buildings by six different competitors; the whole of which were exhibited, and afterwards examined by gentlemen deemed competent to judge of their comparative merits.

His Excellency the Governor General in Council approved the recommendation, awarding the premiums as follows:

Parliament building: 1st, Fuller & Jones; 2nd, Stent & Laver.

Departmental building: 1st, Stent & Laver; 2nd, Fuller & Jones.

Governor's residence: 1st, Cumberland & Storm; 2nd, Fuller & Jones.

These gentlemen were subsequently instructed by the department to make certain alterations in their plans, with a view to their better adaptation to the purposes contemplated; they were also requested to have these changes made, and specifications of the works prepared, by the 15th of October following.

On the 8th of September, public notice was given, that tenders for the construction of the buildings would be received until the 1st day of November, and that the plans and specifications could be seen at Quebec, Ottawa and Toronto, on and after the 15th October. The time, however, was extended to the 15th November, when twenty-one tenders were received for the parliament buildings, and twenty-nine for the departmental buildings.

The tender of Thomas McGreevy was accepted, for the bulk sum of $348,500 for the construction of the parliament buildings; and a contract was entered into with him on the 7th December, 1859, for their completion by the 1st day of July, 1862.

About the same time the construction of the departmental buildings was awarded to Messrs. Jones, Haycock & Clarke, at the bulk sum of $278,810, and the time fixed by the contract for their completion, was th 1st February, 1862.

The architects who received the first premiums were, on the 29th November, 1859, appointed to superintend the execution of the works connected with the respective buildings, at a commission of about five per cent. upon the contract sum.

No adequate provision having been made for heating and ventilation in the accepted plans, a notice was issued on the 14th November, 1859, calling upon competent parties willing to undertake this service, to tender for its performance, on or before the 30th December, and to submit the details of the system which they proposed to adopt, as also to guarantee its efficient working, for a period of ten years after completion.

In accordance with this notice nine tenders were received, and on the 28th January, 1860, the work was awarded to Charles Garth, at the bulk sum of $61,285. This was understood to include the furnishing and fitting up of the whole of the apparatus necessary for the heating and ventilation of all the buildings, except certain alterations as to the mode of warming the wings of the parliament buildings.

The building contractors commenced operations on the 20th December, and were principally occupied, during the winter of 1859-60, in the excavation of foundations, preparing materials, and making arrangements for carrying on the works in the ensuing spring.

The masonry was commenced on the parliament buildings on the 25th April, 1860, and in June the foundations of the main central tower were laid. On the eastern block for the departments building operations began on the 2nd April, and the works were then generally proceeded with.

On Saturday, the 1st September, 1860, H.R.H. the Prince of Wales laid the corner-stone of the pier immediately under the north-east angle pillar of the legislative council chamber; and in the early part of December building operations were generally stopped for the season.

About this time it became necessary to obtain more ample information in regard to the expenditure on, and management of, the works, than was in possession of the department. With this object in view, an order in council was passed on the 18th December, 1860, authorizing the chief engineer to be sent to Ottawa, for the purpose of reporting fully on all matters connected with the general character, superintendence, and progress of the works, &c., &c., from the commencement up to that period.

A detailed report was submitted by that officer on the 20th April, 1861, recommending certain changes to be made, by which the works could be resumed under a different system of management and supervision.

During the season of 1861 they were continued agreeably to the suggestions contained in the report above referred to, until the 1st of October, when the appropriation having been exhausted, they were suspended by order of the hon. the commissioner.

The Hon. H. H. Killaly was, on the 21st September 1861, instructed to proceed to Ottawa and ascertain what arrangements could be made to protect the buildings during the ensuing winter, and to report generally upon their condition and the best mode of settling with the contractors for works which had been performed, &c.

That gentleman accordingly submitted a report, dated 12th November, 1861, embodying his views upon these matters, and accompanied by a progress estimate, showing, in detail, the amount which he considered should be paid to the contractors for the various items of work, &c., done by them up to the 1st October, 1861, at rates and prices fixed by him. On the 11th and 12th March, 1862, he sent estimates of the work done during the months of October and November, 1861; and on the 16th April, 1862, another report was furnished by him, which contained a summary of his previous estimates, together with an estimate of the probable cost of completing the buildings.

In 1862, the sum of $188,344.30 was appropriated, under the head of "unprovided items," for the previous year, and a further sum of $500,000 was granted by the legislature towards the construction of the buildings.

The contractors urging a settlement for the works they had performed, and alleging certain claims for their suspension, a commission was appointed, under the great seal of the province, on the 21st June, 1862, to enquire into all matters connected with the construction of the buildings and management of the works, so far as they had then been proceeded with, and to advise the government as to the best method of carrying them on in future; and also to supply an estimate of the probable cost of their completion.

The gentlemen forming this commission had a re-measurement made of the whole of the works, and examined a large number of witnesses as to their past management, value of labor and materials, and other matters connected with the subject.

At this time there had been paid to Mr. Thomas McGreevy, for work performed, the sum of $483,163.95, and to Messrs. Jones, Haycock & Co., the sum of $511,391.54.

On the 29th January, 1863, the report of the commission was submitted to the government, containing, amongst other matters, a recommendation that the works remaining to be done should be offered to the original contractors, at a schedule of prices fixed by them (the commissioners).

This proposition having been acceded to by the government, and after considerable discussion, agreed to by the contractors, on the 18th April, 1863, contracts were entered into with Thomas McGreevy, for the completion of the parliament buildings; and with Messrs. Jones, Haycock & Clarke, for the completion of the departmental buildings, at a schedule of prices to be applied to the different classes and items of work.

Under this arrangement, the claims alleged by the contractors as arising out of the first contracts, were left in abeyance.

Before the new contracts were entered into, the specifications were, however revised; and it was deemed advisable, that instead of paying the architects by commission, as formerly, they should be paid fixed salaries.

In carrying out this system, Mr. Thomas Fuller and Mr. Charles Baillairge, were appointed joint architects for all the buildings; and in accordance with the provisions of the new contracts, a general superintendent was also appointed.

The architects formerly in charge of the buildings, preferred certain claims against the government, for matters arising out of their supervision under the first contract.

The works were proceeded with, and considerable progress made in the season of 1863. During the session of this year, the sum of $100,000 was granted towards construction.

In May, 1864, it was deemed advisable that the chief engineer should proceed to Ottawa, and assume control of the works, in order that questions connected with them might be determined on the spot, and thereby avoid the delay caused by reference to the department, then at Quebec. The method of furnishing supplies of gas and water, &c., was then decided, and the necessary works for these objects commenced.

During this season (1864), all the branches of work connected with the buildings were urged forward as rapidly as circumstances would permit. In the estimates for this year, a further sum of $400,000 was appropriated towards their completion.

The contractors having repeatedly requested a settlement of the claims alleged by them to have arisen out of their first contract, and the architects having also applied for a settlement in connection with their supervision, it was decided in October, 1864, to refer these matters to special arbitration.

For this purpose the government appointed one arbitrator, the claimants another, and these two selected a third. These three gentlemen formed a board, before which the several cases were argued by counsel, and evidence produced by the respective parties. The arbitrators, after a searching enquiry into the various matters brought before them, awarded to Messrs. Jones, Haycock & Clarke, in connection with their contract for the departmental buildings, on the 8th day of March, 1866, the sum of $88,176, and for costs the sum of $2,203.

In the cases of the architects, the arbitrators awarded on the 2nd day of July, 1866, to Messrs. Fuller & Jones, the sum of $5,064, and $181 for costs; and to Messrs. Stent & Laver, the sum or $6,931, and $200 for costs.

In May, 1865, the services or Mr. C. Baillairge, one of the architects, were dispensed with.

In May, 1865, it was decided that the public departments should be moved to Ottawa, in the fall of the year, and the contractors were notified to make every exertion to have the buildings ready for their reception by that time.

The clearing and grading of the grounds was then proceeded with, and the formation of roads to the different blocks of buildings urged forward. By the month of October, the buildings were sufficiently advanced to permit of their occupation by the several departments to which they had been allotted, and the roads were partially made. About this time the removal of the government took place.

The wings and central portion of the parliament buildings were also in such a state of forwardness as to admit of a number of the offices being occupied, and of the library being placed in the building.

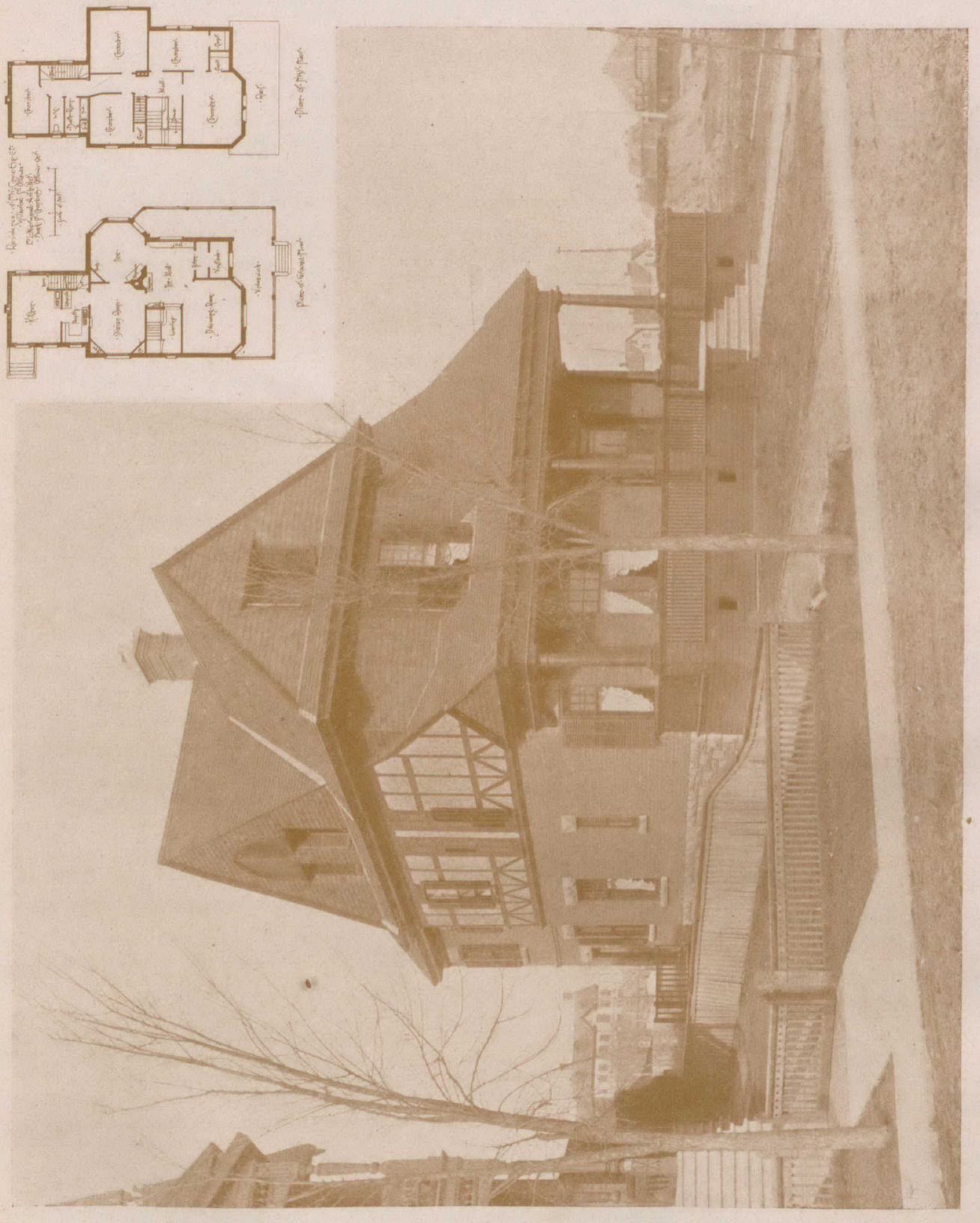
This year the legislature granted a further sum of $300,000 toward the completion of the works.

In May, 1866, the claims preferred by Thomas McGreevy, for matters arising out of his first contract for the construction of the parliament buildings, were, by mutual consent, referred to the sole arbitration of the chief engineer, who, after hearing and considering the evidence produced, awarded to the claimant, on the 12th day of November, 1866, the sum of $61,785.

The two chambers and other rooms necessary for the accommodation of the legislature were so far completed as to admit of a session being opened on the 8th of June, 1866, during which the sum of $500,000 was granted towards the buildings.

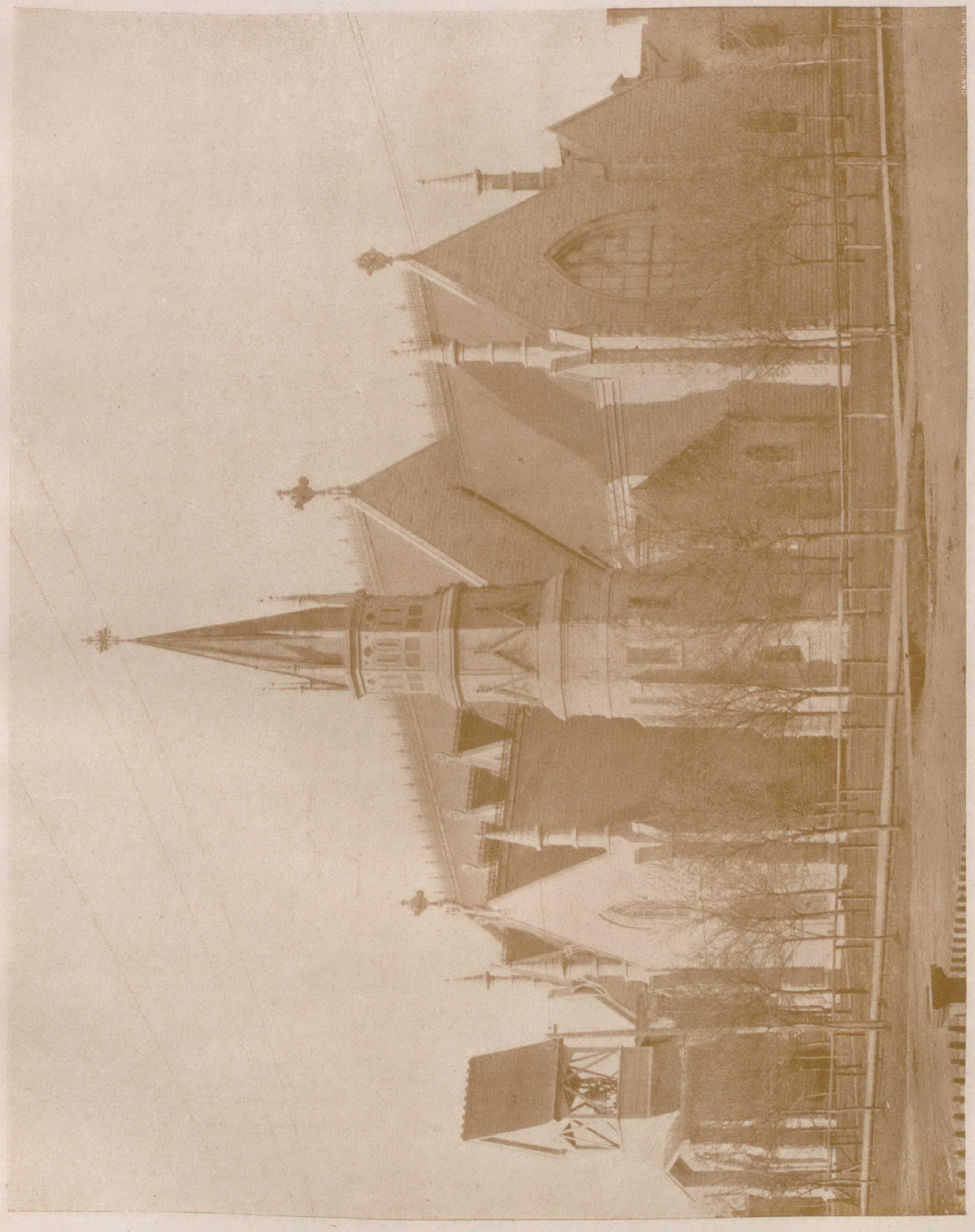
In November, 1866, permission was given to Thomas McGreevy to transfer his contract for the completion of the public buildings to Robert H. McGreevy.

In the fall of this year the departmental buildings were completed, and in March, 1867, a settlement in full was made with the contractors for all work performed under or connected with the new or second



RESIDENCE AT OTTAWA.

E. L. HORWOOD, ARCHITECT.



HOLY TRINITY CHURCH, WINNIPEG.

CHAS. H. WHEELER, ARCHITECT.

contract, which, in the aggregate amounted to the sum of $436,199.72.

In February, 1867, authority was granted to make certain alterations in the legislative assembly chamber, for the accommodation of the increased number of members forming the House of Commons under the confederation of the provinces. These works are now completed.

The departmental buildings having been finished, and the works on the parliament buildings well advanced, the staff was considerably reduced in the spring of 1867, and in the month of May, the services of Mr. Thomas Fuller, architect, were dispensed with.

The site chosen for the buildings is in the centre of the city of Ottawa, about a mile below the Chaudiere Falls, on a prominent rocky point jutting out into the Ottawa River, at an elevation considerably higher than the city and lands in the vicinity. On the eastern side it is flanked by a deep ravine, in which are situated the combined locks of the Rideau Canal. The north side is bold and precipitous, and on the western side the ground slopes quickly toward the south-west and diminishes in width. On the southern or lowest side, it is, for a distance of 1,750 feet, bounded by Wellington street, which is one of the principal streets of the city, and descends in a westerly direction towards the falls.

The point is of an irregular shape, 1,050 feet wide at the centre, and contains an area of fully 29 acres. It was formerly known as Barrack Hill, and is a part of the ordnance lands conceded to the province.

The buildings are placed so as to form three sides of a quadrangle, measuring from north to south 600 feet, from east to west 700 feet, and containing an area of over 9½ acres.

The parliament building is on the north side of the square, upon which it has a frontage of 472 feet. It faces toward the south, and its extreme depth at the centre is 370 feet, covering an area of about 82,886 superficial feet, or about 1 9-10 acres.

The departmental buildings form the east and west sides of the square: they are of a rectangular shape, having both quadrangle and southern fronts, the line of the latter being 100 feet north of Wellington street.

The eastern block has a frontage on the square of 319 feet, and 245 feet on the south. It covers an area of 41,840 superficial feet, or fully nineteen-twentieths of an acre.

The western block has a frontage towards the south of 277 feet, and on the quadrangle of 220 feet, with an area of 32,276 feet superficial, equal to about seventeen-twentieths of an acre. Thus the total area covered by all the buildings is about 3 7-10 acres.

The parliament building is on the highest part of the ground, and its basement floors are about 159 feet above the ordinary summer water level of the Ottawa River. Those of the eastern and western blocks are respectively 135 feet 3 inches and 142 feet 3 inches over the same datum.

A continuous carriage road has been made all round the square, and extended northward at both ends of the parliament building towards the Speaker's towers, and also along the southern fronts of the departmental buildings.

The entrances to the grounds are opposite Elgin and Metcalf streets. From these points the roads incline gently to within a short distance of the parliament building, where they ascend by a steeper grade to the level of a wide terrace, which has been formed along the southern front of that structure.

The square has been graded to a gradual rise from the road which runs parallel with Wellington street up to the foot of the terrace, and to a plane corresponding to the levels of the eastern and western blocks.

All the buildings are constructed in what may be termed the pointed gothic style of architecture, and from the bold, broken outline they present—their numerous towers, high pitched, variegated slate roofs, pierced by dormers and surmounted by ornamental wrought iron cresting and terminals, together with the quaintness of the carved figures, combine to produce an imposing and picturesque effect.

The outer facing of the walls is principally composed of a light colored, compact sandstone, obtained from the Township of Nepean, at a distance of about 12 miles from the city. The dressings, stairs, gablets, pinnacles, &c., are chiefly of a greyish colored freestone, from the State of Ohio, and the relieving arches over the door and window openings are of a reddish sandstone, from Potsdam, in the northern part of New York State. The slates are generally of a dark color, with bands of a lighter hue placed at intervals. They are obtained in the State of Vermont.

The foundations and interior portions of the walls are of limestone, quarried in the vicinity. The division walls and lining of the external walls are chiefly of brick, manufactured either at Ottawa or at other places in the province.

The marble used in the buildings was principally obtained from Arnprior and other places on the Ottawa River.

The valley of the Ottawa also supplied the timber used in the construction, with the exception of the oak, which had to be brought from other parts of the province.

The total of the amounts expended on the buildings from 1st May, 1859, to 1st July, 1866, was $2,723,981.58, less $157,788.34 for furniture and fuel. These figures are, of course, exclusive of the cost of the Langevin Block.

The mode of heating adopted throughout the buildings is by steam produced in boilers, situated near the centres of the respective blocks, and applied generally on what is termed the "Vault System."

This may be briefly described as consisting of a series of ducts for the admission of external air, over which are constructed, in the interior of the buildings, vaults for steam pipes leading from the boilers. The air enters these vaults through the perforated coverings of the ducts, is heated by coils of pipes, and subsequently passes through openings in the top of the vaults, into the various rooms, etc. On this system the two legislative chambers and the central portion of the parliament buildings are heated, with the exception of the main vestibule, and the rooms immediately over it. These, together with both the wings, are heated by direct radiation from steam coils, placed in the corridors and various apartments. The other two blocks of buildings are also heated on the Vault System, except a few rooms, where it was considered expedient to place coils for the purpose of heating by direct radiation. In this manner the attics are also warmed.

Two modes have been adopted for the ventilation of the chambers, one termed the "upward system" and the other the "downward system."

The latter provides for drawing off the vitiated air near the floor, through perforated gratings, in the risers of the platforms, on which the members seats are placed. These gratings open into spaces between the arches under the floors of the houses, which are connected at several places with foul air ducts running around the chambers in the basement passages. These ducts are all joined at the north-east and north-west angles of the respective houses, and from thence extended, so as to enter the main extracting shaft, at a level of 7 feet over the boiler house floor.

The air in the shaft being rarefied by the heat of the iron smoke pipes, an upward draught is created, by which the foul air is rapidly extracted through the ducts from the chambers, and escapes through the side openings formed near the top.

The "upward system" may be described as consisting chiefly of a series of small ventiducts, arranged along the ceiling, and leading to others at the sides, of larger capacity, with openings into the ventilating shafts, situated at the north end of the chambers.

The two systems above mentioned are in effective operation in both chambers. In the House of Commons, there is, however, additional means of upward ventilation provided, by the insertion of cast iron perforated gratings in eight of the centre panels of the ceilings over the galleries. These communicate with large ventiducts leading to the shafts, and constructed under the roof on each side of the chamber.

The main drains from all the buildings discharge into the Ottawa River at three points, at the northern base of the hill. They are sunk so as to drain the respective boiler houses, which, as previously stated, are 10 feet below the level of the basement floors. This unavoidably entailed deep cuttings in rock of irregular strata and difficult of excavation. The upper portions of the trenches were, however, used as a channel for the cold air ducts.

As the best means of supplying the buildings with water, appeared to be by pumping from the river in their immediate vicinity, it was decided, after a careful examination of the locality, that the most advantageous site for the necessary work would be on the river edge in the rear of the library, where the point stands furthest out into the current, and the purest water would most likely be obtained. The cliff being at almost all parts steep to the waters' edge, except at one place, where there was a small surface of flat rock, at a level of about 9 feet above low water, this was selected as the best position for the engine house. The pumps are driven by steam power.

From the engine house the rising main, 6 inches diameter, is carried obliquely up the face of the hill, in a trench averaging over 5 feet in depth, to the top, where it curves and runs nearly straight to the west end of the parliament buildings. It is then carried into a room in the basement of the north-west angle tower, where there is an arrangement of valves, curved pipes, etc., by which the supply to the several blocks is regulated.

The tanks are situated in the six angle towers, as high as the roofs will permit. They are 16 feet diameter at top, 15½ feet at bottom, and 9½ feet high, except the main receiving tank, which is 10½ feet. As each tank is capable of holding about 12,500 gallons, their aggregate capacity is over 75,000 gallons.

PROVINCE OF QUEBEC ASSOCIATION OF ARCHITECTS.

OFFICERS FOR 1896.

PRESIDENT	A. T. TAYLOR, F.R.I.B.A., Montreal.
1ST VICE-PRESIDENT	J. F. PEACHY, Quebec.
2ND VICE-PRESIDENT	A. RAZA, Montreal.
SECRETARY	J. VENNE, Montreal.
TREASURER	E. MAXWELL, Montreal.

COUNCIL:

A. C. HUTCHISON	Montreal.
JAS. NELSON	Montreal.
J. WRIGHT	Montreal.
ROBT. FINDLAY	Montreal.
CHAS. BAILLAIRGE	Quebec.
F. H. BERLINGUET	Quebec.

AUDITORS—G. E. TANGUAY and H. C. NELSON, Montreal.

TORONTO BUILDERS' EXCHANGE.

THE annual meeting of the Toronto Builders' Exchange was held in the offices of the Exchange, No. 8 Victoria street, on Monday, the 18th inst. The meeting was well attended, there being most of the leading builders and supply merchants present. The Finance Committee's report showed the finances to be in a satisfactory condition. The reports of the directors and the Legislation Committee were received and adopted. The following officers were elected for the current year: President, Mr. John Aldridge; First Vice-President, Thos. Cannon, jun.; Second Vice-President, John B. Vick; Treasurer, D. Williams; Directors, Jas. Crang, Wm. Booth, Jas. Wickett, Geo. Henry, J. M. Gander; Auditors, Messrs. George Clay and Frederick Holmes.

The Beamsville Paving and Pressed Brick Co., Ltd., have applied for incorporation, to continue and extend the business carried on since 1870 by Messrs. Tallman & Son. The proposed capital stock of the company is $50,000, divided into 500 shares of $100 each.

THE EVOLUTION OF ARCHITECTURE IN NORTHWEST CANADA.

By Chas. H. Wheeler.

ARCHITECTURE in Northwest Canada, particularly alluding to Manitoba and the adjacent territory, has undoubtedly passed its 'happy stage,' has gone through its teens, and is now only waiting to develop into vigorous manhood with the advent of settlers and capitalists.

The evolution of this important section of the fine arts in this part of the Dominion of Canada has been surprisingly rapid—not excelled even by the mushroom growth of some of the large Western cities of the United States.

Thirty or thirty-five years ago Winnipeg was an aggregation of log houses surrounding Fort Garry, an Hudson's Bay Company's post—the plains of Manitoba and the territories stretching away for nearly a thousand miles westward to the foot hills of the Rocky Mountains, uninhabited, except by Indians and half-breeds.

The year 1870 brought considerable changes. With the influx of settlers came an increased demand for comfort; the old style log-built buildings gave way to to the "balloon" structure—span roofed dwellings, a single chimney, the woodshed as an adjunct in the rear. Stores sprang up; plain frame churches were built, and lo! a city was formed. At this period architecture must be pictured in its primitive form, every man being his own designer and the level prairie his working foundation.

The ensuing ten years to 1880 was one of steady architectural progress, the closing period of this decade being marked by the near approach of the Canadian Pacific Railway, the opening out of stone quarries and the local manufacture of bricks, of which considerable use was made in many new structures.

From 1880 to 1883 a tremendous impetus was given to the building trades by the passing through the city and province of the above railroad, then reaching out its mighty iron tentacles towards the Pacific Ocean, creating that much-talked-about real estate boom which brought Winnipeg so much notoriety, and with it world-wide fame.

This was in verity a golden period for professional men, and, as a result, architecture received that attention due to one of the fine arts in the palmy days when money was plentiful, and clients kicked not at the percentage demanded.

During these years, and for two or three years afterwards, scores—literally scores—of architects, from all parts of the world, hung their "shingles" up to the light of day, and public buildings, churches, schools, stores and residences sprang up as if by magic. New streets were laid out, a system of drainage to the Red River put in, sanitary plumbing began to be thought of, scientific heating and ventilation was introduced, but—and it must be told—solidity of construction was not so much aimed at as the prettily got-up picture elevation to catch the eye of the "tenderfoot."

The creations of the Greeks, the Romans of Augustus' day, the monks and master masons of the middle ages, the Italian Renaissance, were repeated piecemeal, with the addition of redundant modern ornamentation on many of the buildings—imitations even of the early Christian basilica surmounted edifices utterly unsuited in style to its use.

It may be taken as a correct statement that profuse and overdone outside details in these days meant flimsiness in other ways—hence the trouble to-day in repairing and putting in stone foundations, bracing up and strengthening these very buildings. However, it is a pleasure to be able to praise quite a number of well-built and tastefully designed structures erected in those years, in which considerable attention was paid to proportion, symmetry, and fitness. Amongst the most prominent were the Hudson's Bay stores, post office, Holy Trinity church, St. John's college, Richardson block, Stobart block, the Jail, Court House, Legislative Buildings, and in succeeding years Wesley College, Baptist Church, new Court House, Ottawa Bank, Westminster block, Manitoba Hotel, Galt's, Peck's, Ashdown's Sanford's and the Massey warehouses, and many others.

Mulvey, Dufferin, Euclid and Argyle schools are good specimens of later day architecture; the Collegiate also is a substantial and creditable structure. All these schools are answering their purposes admirably.

Scores of fine residences have gone up since the boom years, more or less artistic in design, as the owners were possessed of the artistic taste and the money to gratify their wishes in building for the expression of ideas, and for beauty of form, instead of truckling to that spirit of commercialism which makes itself so unpleasantly conspicuous in these days of utilitarianism and race for wealth.

The town of Emerson boomed for a while at the same time as Winnipeg, and some handsome blocks were built. The town of Portage la Prairie and the city of Brandon were also created; the two latter places are flourishing to-day, whilst Emerson is in a decaying state.

The prominent buildings to-day in Brandon are the post office, most of the bank buildings, the insane asylum, hospital, Fleming block, etc.; at Portage la Prairie the jail, court house, home for incurables and Alloway and Champion's bank are amongst the leading architectural features. Morden, on the South Western Railway, is also a rising place with several handsome blocks.

Other towns on the North Western Railway could be mentioned favorably as regards architectural progress, and not a few of the numerous towns on the C. P. R. as far as Calgary are following suit. The village of Selkirk also possesses its well-built insane asylum.

Calgary is one of the prettiest places in the Northwest, and contains some well-designed blocks built of local stone.

It will not be denied by intelligent observers that the sister arts, music, painting and architecture, are closely allied—so close that should one of the sisters languish for lack of encouragement, the others droop their heads accordingly. This brings us without further circumlocution to the plain statement that, although money is said to be the root of all evil, it is absolutely necessary for the expansion of architecture as one of the fine arts, and that there should be plenty of it. Give the architects in the Northwest equal opportunities in this respect with their confreres in the East, and the artistic quality of their work would become immediately apparent. Even as it is, under somewhat unfavorable surroundings, very much has been done in establishing a higher plane in architectural proportion, skill in design, combined with solidity of construction, highly creditable to those professional gentlemen who have stood the heat and burden of the day, and are with us still.

The scope of this article is practically unlimited, but the space allotted to it by the editor of this journal is necessarily cramped. There is still much to say on many important matters, including a closer analysis of a number of blocks and residences not mentioned here at all. However, enough has been written to show that only in progress is there life; and that we are really progressing, but very slowly, is certainly true. It is fitting, therefore, to reiterate with increased emphasis, the statement that architecture in Manitoba and the Northwest is only waiting to develop into vigorous manhood with the advent of capitalists and settlers.

ONTARIO ASSOCIATION OF ARCHITECTS.

PROCEEDINGS OF ANNUAL CONVENTION.

THE annual Convention of the Ontario Association of Architects was held in the building of the School of Practical Science, Queen's Park, Toronto, on Tuesday and Wednesday of last week.

On the first day the President, Mr. H. B. Gordon, took the chair at 2.30 p. m., and called the meeting to order, there being then about a score of members present.

The proceedings were opened by the reading of the minutes of the last annual meeting, which were adopted without discussion.

PRESIDENT'S ADDRESS.

The President then proceeded to read the following address :

In welcoming you to this annual convention of the Ontario Association of Architects, it is not my purpose to weary you with a review of architectural progress during the last year. The hard times that have prevailed so long, still continue their depressing effect upon the number and size of our commissions. Works of any magnitude have been few, and the majority of architects have had abundant time for study and reflection. All experiences should have an educating influence, so we may expect the result of this lull in the exercise of our constructive powers to be a gain to our reflective faculties. May we also hope that when the wave of prosperity again makes us all very busy, there will be manifest a distinct improvement in our architecture. Out of the evil of dull times should spring the good of better preparation for a revival of business.

In our collective as well as individual capacity it is hoped that the lull has not been without its advantages. It has certainly afforded us ample time to reflect upon the weaknesses of present architectural practice and the possibilities of improving it by organization and united effort. In common with many other citizens, some architects are apt to say that they (meaning someone other than themselves) should get such and such laws passed, or do so and so in regard to the profession, and then things will be righted. They forget that all have their duty to perform in making efficient our present organization, and also all have their influence in seeking to secure further legislative action. As you are aware we very nearly succeeded in getting the amendment to our Act carried at the last session of the Legislature. Having passed the second reading, and to that extent having its principle affirmed, it was referred to a special committee nominated by the Speaker of the House. Owing possibly to the personal opposition of the Speaker, on this committee there several members who were opposed to the Bill. Thus, while the mover and seconder and the Minister of Education spoke strongly in favour of the proposed amendments, the forces for and against were so evenly balanced that it was thought inadvisable to press the matter to a vote at the risk of defeat. The Bill was reported back to the House on the understanding that it be withdrawn for that session.

From the necessary interviewing of members of the House, we gathered that the object of the amendment was much better understood than formerly, and that our cause had gained many new friends. With few exceptions the only opposition on the part of members arose from an anxiety as to how such a measure might be viewed by some of their constituents. Not that there can be any reasonable ground for objection when the measure is understood, but they seemed to fear that country builders and others might conclude that the passage of the amendment would limit their practice and ultimately lead to the compulsory employment of architects.

We wonder how any such idea could arise in the mind of anyone who carefully reads the proposed amendment. Everyone will be as free after the passage of the amendment as before it, to draw plans for themselves or for others, and make such charges as they desire. No man's livelihood will be restricted in the least The only point of limitation will be, that a man cannot call himself an architect when he is not one. It is a question of common honesty, and all who are opposing the amendment are either consciously or unconsciously assisting in perpetuating a fraud upon the public.

It is far more in the interests of the public than in those of present practising architects, that some compulsory educational standard should be set up. It is distinctly to the interest of the public that architecture should be improved. It is the art whose productions are constantly before the eye ; the one whose practice most intimately affects the health and comfort of the people, and the one whose judicious use of materials is so necessary for the wise investment of capital. As we cannot have good architecture without well-educated architects, and as some compulsory standard of education is necessary to ensure that architects be well educated, the public in their own interests should desire the passage of the amendment to our Bill.

There is reason to believe that the educational campaign carried on by the Association for the last few years will bear fruit in the passage of our amendment at the next session of the Legislature. In order to accomplish this, however, the Association must make a united effort, and the committee who press the matter before the Legislature must not be met with reputed quotations from members of the Association, and even Council, opposing the amendment.

The passage of our Bill most unfortunately implies the necessity of taking into the Association all now practising architecture who desire to call themselves architects. Thus the status of architecture in Ontario will not immediately be advanced. The benefits from this legislation will probably only be felt 10 or 15 years hence. This is one of the best evidences of the personal disinterestedness of its present promoters, and the fullest answer to all who may suspect some hidden benefit to a chosen few. As artists we desire to uplift our art ; as patriotic citizens we want to advance our country.

Meantime we might consider whether the gaining of some present title of distinction indicating educational standing and proved architectural ability might not be a desirable stimulous to those in the Association.

In the Royal Institute of British Architects there are three grades of membership, viz., Fellows, Associates and Honorary Members. The first two (except in special cases) have to pass examinations before they are privileged to use the title of distinction. Thus the affix of A. R. I. B. A. means something to a British architect and gives him a definite standing before the public.

Possibly it might be well for us to make a distinction in our membership. For instance, it seems but reasonable that those young men who have passed the Association's examinations should be placed on a higher level than those who have come in merely because in some manner or other they have been practising architecture at the time of legislative action.

It is also evident that young men who have only recently passed their examinations should not be placed in a higher grade than older men who have spent a score or more of years in the honorable practise of their profession and whose works are a testimony to their ability.

The inauguration of any system of degrees is beset by difficulties, but if the general idea met with approval, no doubt some practical method of arranging the matter will be suggested. It might be possible to have the ordinary members distinguished by a simple O. A. A.; those who have passed the examination and thus become graduates, distinguished by G. O. A. A.; while the older men, whose work and position in the profession justifies the honor, might, by recommendation of the Council and vote of the convention, be elected to the position of Fellows, with the right to add F. O. A. A. to their names.

Apart, however, from all legislative action or degree conferring enactment, it is possible for each member of this Association to do much for the elevation of the practice of architecture in Ontario. During the business depression that has been resting upon the country there has been a strong temptation to even honorable men to adopt the canvassing agent's methods to obtain work. This is bad enough even when the solicitor confines himself to the praises of his own wares ; but generally any departure from the recognized professional methods of conducting our business is apt to land the transgressor in the position of slandering his competitors and trying to steal their jobs. Such unprofessional Ishmæls may be found even in Ontario ; and it becomes every member of this Association to not only abstain from every appearance of this evil, but also to keep alive a sentiment that will condemn all such reprehensible conduct.

There are men who will act honorably under all circumstances ; there are others who will act honorably if under good influences and surroundings ; our duty is to create such surroundings. To this end the society spirit should be fostered amongst us. The members of the Association should meet more frequently for mutual edification. The geographical distances between our homes is so great that more than one general meeting of the Association each year seems impracticable ; but there is no reason why in several local centres there should not be associations or chapters meeting once a month. The Toronto members have realized the importance of this idea, and a committee purpose placing before you for discussion and approval a general scheme for the establishment of local chapters. There is no reason why the chapter idea should not find fulfilment in several places in Ontario. Some may say that local jealousies and conflicting interests are such as to make the practical carrying on of a chapter impossible. Rather let it be said that because of such local difficulties the need of a local chapter is all the more urgent. To meet for discussion of matters of mutual interest is the best way of dissipating distrust and inaugurating mutual forbearance and respect ; then there is the distinctly educational advantage of such chapters. The man who thinks he has nothing to learn from his professional brethren is to be pitied for his blindness. There are many things we cannot learn from books and those who have experienced the helpfulness of interchange of opinion with their architectural brethren know that many of their best ideas owe much to such association.

Besides the ethical and educational advantages of such chapters, there is their distinct influence in elevating the profession in the eyes of the public. So long as architects disparage one another and run after one another's clients, so long will the public estimate architects generally by the lowest standard we set up. But let the profession in any town show a united front, help one another professionally and uphold one another's reputation, the public will adopt a high standard in its opinion of the individual architects. Such chapters would form a local authoritative body on all public questions associated with architecture. They would be ready to assist in the formation or amendment of local building laws. They could deal with local competitions. They might negotiate with local bodies of builders and others and give seasonable advice upon all matters pertaining to building.

All this would benefit the individual architect, would help the

Ontario Association of Architects, and would tend to elevate and improve architecture in Ontario.

Besides our duties along these social and business lines, it becomes us to strive personally to advance the truly art side of our profession. This is as urgently needed as the other. Scientific data may be obtained from books; art education can only be satisfactorily attained by association, criticism and suggestion. I am well aware that no amount of education can make an artist if the original qualifications be absent. I am equally convinced that no architect can satisfactorily develop without the favoring circumstances of association and criticism. True, he may study classical and gothic models and be able to reproduce on paper many of the best architectural triumphs of the past. But the subject before architects is not reproduction but adaptation. The building problems of to-day are so hampered by social requirements and unbending commercial interests, that the old academic rules will not strictly apply. The study of the classic orders is not that the architect may reproduce a temple with all the proportions strictly after Vignola or some other authority, but rather that he may adapt them to the modern conditions of a classical street front. The vigorous and varied forms of gothic architecture are studied, not for the purpose of exact reproduction, but rather to see how much of them can be engrafted on the modern building with its arbitary requirements. The study of the history of architecture is not along archeological lines, but rather that a comprehension of the motives and principles that found their expression in stone and brick may serve to solve present problems. Such is the practical trend of the age, but there is no reason why it should be divorced from the truest art. The bars have been let down, but that is no reason why architects should run riot with all architectural forms. The principles of true art remain unchanged, though the form of their expression must necessarily alter with our changing civilization. And it is just those principles that are hardest to define that are most necessary of conservation. And it is the application of those principles to present problems that the architect most needs. This is something he cannot learn from books nor evolve from his own consciousness. It can only be learned from the mistakes and successes of others. Even then it can only be truly learned as he looks at these mistakes or successes through the varied lenses of other architects' opinions. How many of the eccentricities of budding genius might be prevented by the sober contemplation from another's standpoint of the self thought brilliant solution to some architectural problem. How many offensive mannerisms in design might be corrected by a little advice from those whose trained eyes analyze the defect.

The very freedom which we claim on the ground of our modern requirements and modern building material is becoming a license to perpetrate architectural sins.

Plate glass and steel construction have so modified our limitations as to voids and solids that we are apt to forget the artist in our homage to the engineer. Old fashioned rules of proportion are ruthlessly swept aside, and as if to match the constructive change, the salient points of the engineering triumph are hung with detail and decoration that defies all rules of adaptation or suitability.

No one will deny that there must be necessary changes in our ideas of general massing and the relation of solids to voids, to meet the pressing requirements of modern conditions. But there is no reason why the realm of detail should be so ruthlessly invaded or its past examples so persistently miscopied and misplaced. Competent critics of modern architecture generally put their finger on this weak spot, and I think I may safely state that a remedying of this is one of the crying needs to which Ontario architects should address themselves. To see and recognize our deficiency is a long way towards its remedying.

The correct proportion of any classic detail may be copied from a book, but the suitable incorporation of a detail and the appropriate use of an ornament is a much more difficult matter. A post graduate course by Ontario architects in the colleges of local chapters, under the curriculum of friendly criticism and suggestion, seems to me one feasible way of finding its solution.

There is another matter that affects the estimation of our profession in the eyes of the public, and that should receive some attention from us. Any who have been called upon to give expert testimony in courts must have observed the great divergence, and even direct contradiction, of experts in their evidence; and as a result, the very little weight that a judge gives to their testimony. The public distinctly discounts all expert evidence, and many go to the length of stating that they can hire professional experts to give any kind of evidence they like. This is very humiliating to the individual architect, and distinctly derogatory to the reputation of the profession.

An architect should of course at all times exercise a judicial mind and seek to do justice to all concerned. This, I am glad to know, is the ruling principle with a very large number of our Ontario men. Their differences of statement in the witness box arise more from the method of questioning by the examining counsel than from any intention in mind or purpose. Indeed, a very conscientious man is put to great inconvenience by the ingenious method of stating or mis-stating fact to which he is expected to give an affirmative or negative answer. Also, the manner in which the case has been previously stated to the witness forms a strong bias in the mind of even a cautious and reflective man. But unfortunately, cautious and reflective men are not in demand as professional experts for court cases, but rather those who can be most easily enlisted as advocates of the side they are engaged to support.

Thus a distrust of professional evidence has arisen; honest men when called upon to testify are humiliated by having their statements discounted, and the whole status of the profession is lowered in the eyes of the public.

The only adequate remedy appears to be in having the experts appointed and paid by the courts to make disinterested investigations and reports. Such is the case in France. Certain members of the profession are designated by government as architectural experts, and the judge of any case can avail himself of their help in determining any matter requiring technical knowledge or experience. Some steps should be taken to secure similar legislation in Canada. A committee appointed by this convention could co-operate with one from the Society of Civil Engineers and any other body interested in having the abuse remedied; it being understood that no legislative agitation on any subject other than our important amendment be commenced until our association has gained its point, and it becomes unlawful for anyone to begin masquerading as an architect under such a title without the necessary educational qualifications. This is the present desirable goal to which our activities must strive. From now until the next legislative session rises, all legitimate influence must be exerted to carry our Bill. Every member of the association must do his part. Builders, manufacturers and others engaged in building interests must be seen, our case fairly stated to them, and, if possible, their sympathy and co-operation secured for the passage of the Act. They are regarded as men who take a practical view of the matter, and their influence with many of the members of the House is considerable on such matters as affect building or architecture. Any misapprehensions that have arisen must be explained, and the fullest light of investigation turned on the proposed measure. Our cause is so manifestly just and in the interests of the public, that our best policy is the courting of the fullest investigation.

TREASURER'S REPORT.

In the unavoidable absence of Mr. Burke, the Treasurer's report was read by the registrar, Mr. Langton:

THE TREASURER IN ACCOUNT WITH THE ONTARIO ASSOCIATION OF ARCHITECTS.

1896.	Dr.	
Jan. 1.	To balance from 1895	$1,644 80
Dec. 31.	Members' annual fees	271 00
	Members' registration fees	30 00
	Students' registration fees	12 00
	Students' examination fees	9 00
	Sale of examination papers	0 75
	Transfer of articles	1 00
	Interest on Treasurer's bank account	46 00
		$2,014 75

1896.	Cr.	
Jan. 2.	By W. A. Langton, balance of salary for 1895	$150 00
Dec. 31.	W. A. Langton, salary for 1896	300 00
	W. A. Langton, general disbursements	62 37
	Crombie, Worrell & Gwynne, legal services	28 50
	Printing reports, circulars, etc.	60 55
	Printing examination papers	25 00
	C. H. Mortimer, subscriptions for CANADIAN ARCHITECT for 1894-95-96, sent to three British Architectural societies	22 50
	C. H. Mortimer, reporting convention	12 50
	Harry Webb, Convention lunch	14 00
	General stationery	16 90
	Caretaker School of Practical Science, re Convention and Examinations	15 00
	A. H. Gregg, attendance at Examinations	15 00
	Books added to Library	16 00
	Total disbursements	$ 738 32
	Balance on hand	1,276 43
		$2,014 75

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

HENRY LANGLEY,
WM. R. GREGG.

The Treasurer, in submitting the accompanying statement, would explain that while the total disbursements are $265.79 more than last year, the present account includes a proportion of the Registrar's salary amounting to $150.00 which should be charged to 1895. Last year had other outstanding accounts amounting to $33.63, while this year $3.00 will cover this item. Considerable extra expenditure was also involved this year for printing in connection with our efforts to secure legislation. Three years' subscription for the CANADIAN ARCHITECT, which was sent to three British architectural societies for the years 1894-95-96, and amounting to $22.50, was paid this year. Attention is called to the fact that our balance is still decreasing, owing to the fact that a large number of fees have not been paid for several years past. Our balance in the bank is $368.47 less than it was at this time last year.

On motion of Mr. Power, seconded by Mr. Fuller, the report was adopted.

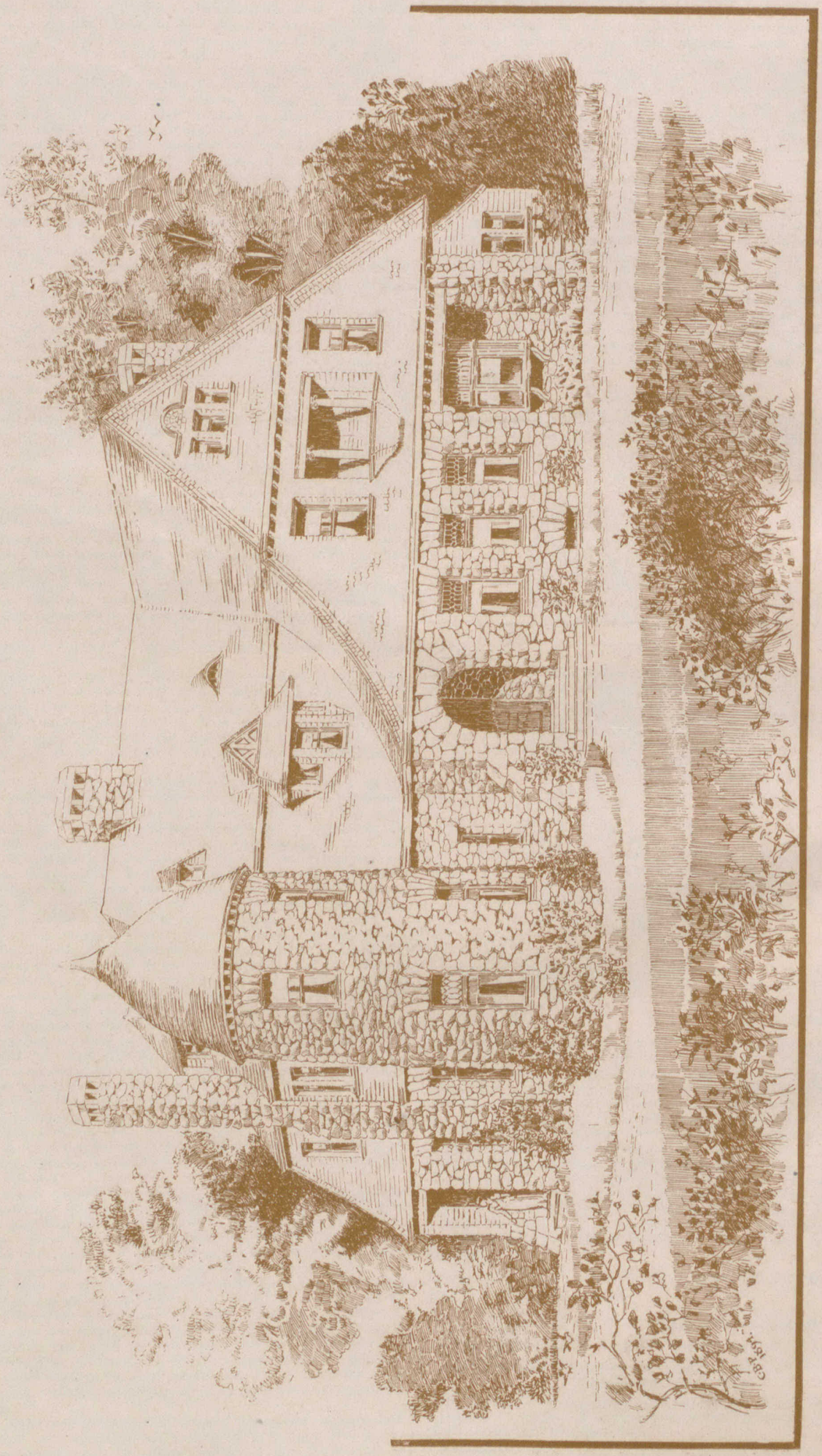
REPORT OF REGISTRAR AND LIBRARIAN

The Registrar then read his own report:

REPORT OF REGISTRAR AND LIBRARIAN AT THE ANNUAL MEETING ON JANUARY 12TH, 1897.

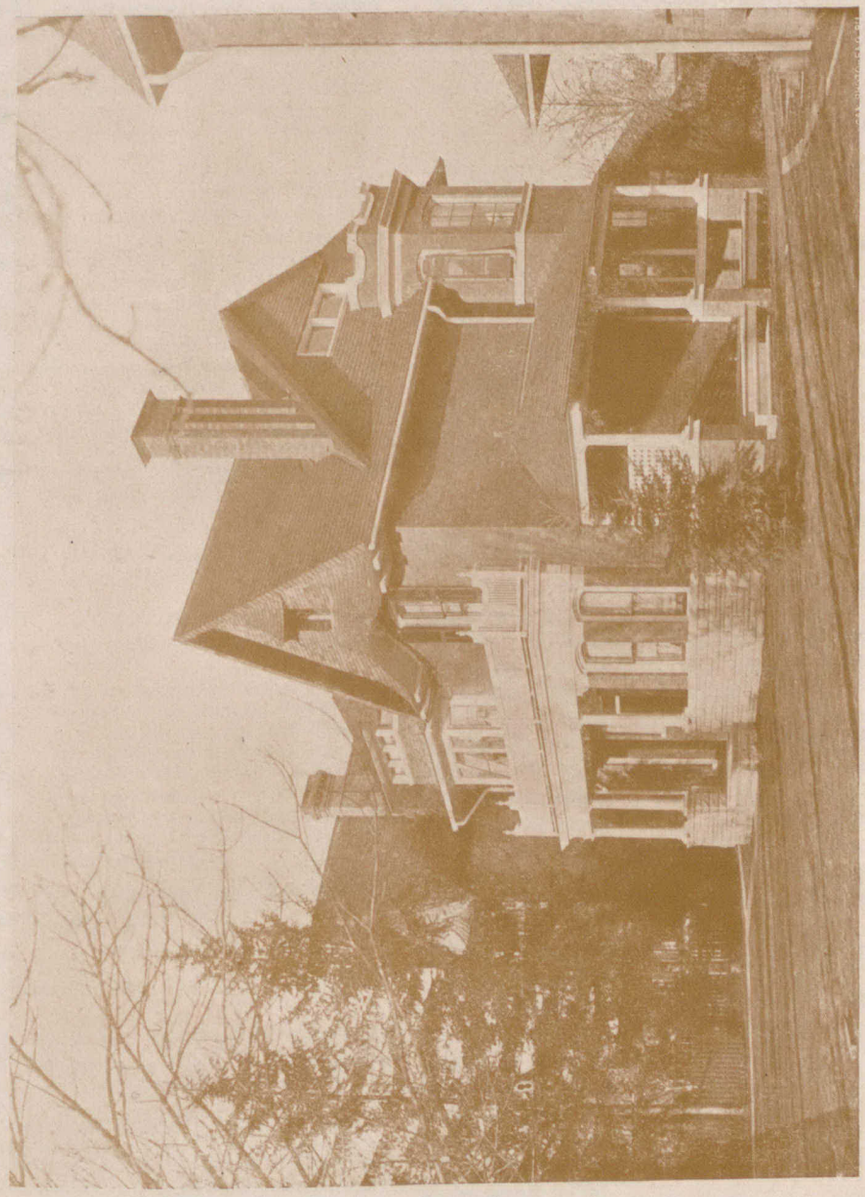
MEMBERS.—The number of members on the roll is the same as last year, viz., 132. There have been two new registrations, but also a death and a resignation.

STUDENTS.—There has been one student registered. The examinations were held in March. The Board of Examiners were



SUMMER RESIDENCE.

R. FINDLAY, ARCHITECT, MONTREAL.



RESIDENCE, ROSEDALE, TORONTO.

DICK & WICKSON, ARCHITECTS.

the same as in 1895, viz., Prof. Galbraith (Chairman), Messrs. C. H. C. Wright, M. B. Aylsworth, R. J. Edwards, W. R. Gregg, Grant Helliwell, W. L. Symons, S. H. Townsend and A. F. Wickson. There were six candidates for examination :—For the first intermediate, 2 candidates, of whom 1 passed ; for the second intermediate, 3 candidates, of whom 1 passed ; for the final, 1 candidate, who did not pass. There were also 4 candidates for examination supplementary to the examinations of the previous year. These, except 1, were successful.

LEGISLATION COMMITTEE.—The Bill to amend the Act of Incorporation was introduced again in the Legislature. Copies of the Bill, with notes explaining the emendations, and in particular, pointing out the essential amendment in the section in which occurs the title "Registered Architect" which it is proposed to change to "Architect," were sent to all members of the Legislature. Personal interviews were obtained with the bodies forming the different parties in the House. The Cabinet expressed themselves in favor of the amendment ; the leaders of the Conservative party, at a meeting of the party, and with the apparent intention of speaking for the party, expressed themselves in favour of it ; the Patrons went into the matter very carefully, particularly in the question of fees, and when these were fixed as part of the amendment they expressed themselves in favor of it. Mr. Garrow, a member of the Liberal party whose opinion is respected on both sides of the House, agreed to move the amendment, and with the exception of a few of the more prominent men in that party it was not thought necessary to canvass opinion further on the Liberal side of the House. The Bill passed the second reading without opposition, and was referred to a special committee appointed by the Speaker. The Speaker was himself strongly opposed to the Bill, and as we were informed both by members of the committee and by the Speaker himself, took pains to personally impress his view upon members of the committee. Whether from this reason or not, a majority of the committee proved to be hostile, and it was considered necessary by Mr. Garrow to make a compromise, the Bill being passed by the committee on condition that it should be subsequently withdrawn in the House. The adoption of this method of rejection as the least injurious to the reputation of the Bill if it should be brought up again, may perhaps be taken as an encouragement to believe that the members of committee who joined in rejecting the Bill would be willing to consider the arguments in its favor if it should come up again when the country was ready for it. There is no doubt that a great deal of misconception exists in the country as to the effect the amendment would have upon the business of builders ; and there is reason to believe that members of the special committee received protests against the Bill from the country, and that they came from persons of this class. The Council having in view the general favor shown to the Bill in the House, and the special circumstances connected with the opposition which caused its withdrawal, see no reason why the Bill should not be introduced again this session.

STANDING COMMITTEE ON BUILDING BY-LAWS.—This committee met for the purpose of further establishing its work and will present a report to the Convention.

THE LIBRARY.—The following books have been added : Kerr's English Gentleman's House, Architecture for General Readers by T. Heathcote Statham, A History of Architecture by Prof. Banister Fletcher and Banister F. Fletcher, A History of Architecture by A. D. F. Hamlin, and a second copy of Mitchell's Building Construction, Part 1. Presentations have been received of a volume of sundry works by Mr. Chas. Baillairge, of Quebec, and of the Proceedings of the American Institute of Architects since Consolidation in 1889. There have been 102 lendings from the Library.

On motion of Mr. Henry, seconded by Mr. Gregg, this report was also adopted.

REPORT OF COMMITTEE ON BUILDING BY-LAWS.

The President next read the report of the Committee on Building By-laws :

GENTLEMEN :—Your committee met and considered the best methods of advancing the inauguration of suitable building by-laws in municipalities in Ontario, and securing amendments to existing building enactments.

We first endeavored to secure all the useful information available concerning existing building laws in the leading cities of the world. We wrote to a number of cities in America, Europe and Australia, asking for copies of their building by-laws, and in reply have received copies of a number of building enactments. A study of these, together with the report of the former committee in regard to Toronto building by-laws, places your committee in possession of a great deal of valuable information that may be available in counselling municipal officers and others concerning building enactments.

We resolved to ask the convention to appoint a standing committee on the question of building by-laws and to instruct such committee to communicate with the various municipal officials throughout the province, apprising them of the existence of such a committee, and suggesting the desirability of consulting with its members for the compilation or amendment of building laws suitable to the respective localities.

We think it desirable that such standing committee should have a corresponding member in all cities and towns where there are members of this Association ; and thus through their local number stimulate municipal officials to action in the matter of suitable building laws.

We also think that such a committee should obtain through its corresponding members or otherwise, correct information as to the present condition of building by-laws in the various towns and cities of Ontario, and if possible secure copies of all such existing laws.

We are of opinion that a standing committee of this convention possessed of such knowledge and experience, would be consulted by those who are contemplating either new by-laws or amendments to existing ones.

Such consultations would probably result in much better building enactments being passed than otherwise would be possible, and as a consequence improvements in methods of building.

While the assistance proposed to be offered by such a committee might entail considerable labor upon its members, we believe that the ultimate benefits to the profession would be such as to justify the self sacrifice.

We also think that if this scheme is approved by the convention, the standing committee should seek the co-operation of the Association of Fire Underwriters, and also that of the various Boards of Health in furthering the enactment of better building laws.

Submitted on behalf of the committee.

H. B. GORDON, Convener.

The following is a suggested form of circular letter to be addressed to the municipal officials :

SIR,—The convention of the Ontario Association of Architects being impressed with the desirability of securing more definite and suitable building enactments in the various municipalities of Ontario, have appointed us a standing committee of that body for the furtherance of this object.

We have secured copies of the building by-laws of a number of American and European cities, and have instituted a study and comparison of the same. We have obtained information regarding the present unsatisfactory condition of existing building by-laws in the various Ontario municipalities, and have noted the many desirable matters for enactment suitable to places of varying population and situation.

Our object is to improve the standard of building in Ontario by such enactments as shall conserve the stability of structures, the healthiness of dwellings, the safety of buildings for public assembly, and the minimum of fire risk. These desirable ends we believe can be secured without hampering the operations of any skilled constructor or entailing additional cost that would prove burdensome to capital.

The information we possess we are willing to place at your disposal for the purpose of inaugurating or amending a system of building by-laws suitable for your locality.

You will of course, understand that this offer is limited to such counsel and advice as the committee can give you by correspondence.

It was moved by Mr. A. E. Paull, seconded by Mr. Gray, that the report be adopted.

Mr. Paull remarked that the matter dealt with in the report was one that demanded a great deal of consideration. When the President was reading it he (Mr. Paull) thought that it was rather limited in its scope, being apparently confined only to the matter of the erection of buildings. It left out a number of very important matters which he (Mr. Paull) thought should be dealt with in a building by-law—matters which might be considered municipal. For instance, in the City of Toronto, take our streets. In Toronto there are many streets which are very narrow, and the principle has been adopted of building houses on such narrow places that sanitary arrangements cannot be properly carried out ; the result being, although it may not always be made apparent that the longevity of the people living on them is very much less than it would be if the streets were carried through at a good width. There were many parts of the city of Toronto now—notably up in Yorkville—where you will find there is no more than just enough room in front of the houses for a donkey cart to pass through ; and those houses are now all unoccupied. In a report of this kind the question of the provision of proper parks and playgrounds ought also to be dealt with.

The President : There is a Standing Committee of this body on the question of the improvement of cities, appointed at the last convention. I suppose the remarks of Mr. Paull would bear upon that topic.

The motion was then put and adopted.

It was moved by Mr. Gregg, seconded by Mr. Gray, that the Committee on Building Laws be continued as at present constituted, but with power to add to their number corresponding members in various places. Carried.

Mr. Gregg remarked that he believed there was no report from that other Standing Committee ; but he moved that it also be continued. He thought there was scope for it all in the line in which Mr. Paull had spoken as well as in a good many other lines ; but of course its work was quite a different thing from that of

a Committee on Building By-laws. For instance, it was proposed now to extend the Toronto Street Railway along the lake front to the Island. They might have an opinion, in that connection, as to how the Island should be laid out; and for that reason alone he thought they should have the Committee on Municipal Improvements continued.

Mr. Langton said that the Committee was appointed in 1894-5, and consisted of Messrs. Billings, Baxter, D. B. Dick, W. R. Gregg, Post and Aylesworth; and last year it was moved by Mr. Gregg and carried that the Committee be continued with powers to add to its numbers. He (Mr. Langton) seconded Mr. Gregg's motion that the Committee be continued with power to add to its numbers.

Mr. Gregg: What is the name of that Committee?

Mr. Langton: It is called the Committee on Municipal Adornment.

Mr. Paull remarked that the Committee might bring forward something next year.

Mr. Langton suggested that Mr. Gregg be the Chairman of the Committee, and with this embodied, the resolution was declared carried.

The Registrar then read a letter from the Secretary of the Am. Inst. of Architects saying that he had had enquiries from Canadian architects as to the possibility of entering the American Institute, and asking if the Ontario Association desires connection with the American Institute, and also a letter from the Secretary of the Province of Quebec Association asking for co-operation of the Ontario Association in the establishment of a Dominion Institute.

Mr. Gregg said that he supposed that if there was an affiliation it should be between a Dominion Association and an American Association. He did not go into the question as to the desirability of affiliation at present, but simply moved that it be left in abeyance pending the consideration of the question of the establishment of a Dominion Association.

Mr. Simpson seconded the motion, and it was declared carried.

The President: Now we have the other question, with regard to the Dominion Association.

Mr. Simpson asked to what legislature would they have to apply for their bill in case all the provincial associations decided to amalgamate. Would their bill have to go to the Dominion House or through the several local Houses?

The President said it would depend altogether on what they were asking for.

Mr. Simpson: Well the same as we are asking now from the Provincial House.

The President replied that he understood the matter of the regulation of the professions in the various provinces was in the hands of the Provincial Legislatures. There might be a sense, however, in which the Dominion House might exercise an authority of which he was not cognizant.

Mr. Simpson said that the reason he asked was that it occurred to him that if amalgamation took place there might be a possibility of their getting the bill through the Dominion house which they might not succeed in getting passed through the Provincial House.

Mr. Gregg said that he saw one advantage that might result from having a Dominion Association: that was, that such an association would be in a better position than they were to deal with the question of duties on plans from other countries—to deal with it better than it had ever been dealt with in the past. If they were to have a tariff in this country, it should be fully enforced as regards foreign plans, but this had never been done hitherto.

Mr. Langton did not think they were in a position to know what the proposition meant. They did not know whether the carrying of it out would help or hinder them in obtaining the legislation they were now asking for. As far as they knew at present professional associations were incorporated by the local legislatures and not by that of the Dominion; so he supposed this Association should also seek for incorporation from our local legislature. They were so far without the suggestions or notes which the President of the Quebec Association had promised should be sent to them. The question as to the duty on plans was an interesting one; but it was not the most important question they had to deal with. It alone was not sufficient reason for desiring to have a Dominion Association.

Mr. Henry remarked that the formation of a Dominion Association would not prevent the existence of local associations working under their own Acts.

Mr. Langton said he had thought there would be difficulty in carrying on two associations.

Mr. Henry suggested that they communicate with the Quebec Association for the purpose of finding out more definitely what their proposal was.

Mr. Darling said he would like to know what effect amalgamation would have on the course they were now pursuing. He thought they might continue as at present, and at the same time make enquiry of the Quebec people what they meant. He thought that at present this Association had its hands full enough. He would certainly be very averse to merging it in a Dominion Association.

The President: As I understand, the purport of Mr. Henry's motion is simply that we ask for further information before doing anything. Is that it?

Mr. Henry: Yes. I quite agree with Mr. Darling that our efforts should all be concentrated on the one thing, the securing of legislation here.

Mr. Power thought a resolution was hardly necessary. In the first place, it was scarcely a suggestion even that they were dealing with. They had not got the information that was spoken of in the communication that had just been read. He thought it would be a decided mistake to do anything in the matter until they had that information; and even if they had the information it would, he thought, be unwise for them to undertake anything more than they had under way at the present time. He could not see that amalgamation would help them much just now, and it might do them a good deal of harm. He thought they had better just centre their efforts on what they had under consideration at present, and when they got the further information that was spoken of in the letter they could discuss the matter further.

The President: Has anyone got a motion, then? (No one responds.)

The President: Then we will pass on to other business. Seeing that we have arrived at that stage, I suppose we are now in a position to consider the proposition from the American Institute.

Mr. Gregg said that when he made his motion he had not had the least idea that a Dominion Association could be arranged for within this year, and he thought that a Dominion Association would be the proper body to receive and consider such a suggestion as that coming from the American Institute. That body being a national one, it would not, in his opinion, be proper that affiliation should take place between it and an association which was merely provincial.

Mr. Currie thought, nevertheless, that the American Association should receive an answer from this Association in reply to their suggestion. How could this body affiliate with the American Institute? He understood that the latter had themselves offered no suggestion as to how to bring the thing about. For himself he saw no reason why an association in this country should not be in affiliation with one in the States. In joining the latter they need not necessarily throw up their own organization. If some way could be arrived at by which this Association could become affiliated with that of the United States, and by which they could derive the benefit which must constantly result therefrom, he thought it would be a very good thing. He saw no reason why there should be a dividing line between the architects of the United States and the architects here. At the same time, he was entirely in favor of maintaining their own association. In any case, he thought such a suggestion coming from the American Architects Association should receive a courteous answer.

Mr. Darling said there was no question the communication from the American Association should be cour-

THE "TEMPLE BUILDING," BAY STREET, TORONTO.

GEO W. GOUINLOCK. ARCHITECT.

teously answered ; but as to endeavoring to carry out affiliation with them, he saw where difficulties would crop up. For instance, they had just heard a proposition with regard to legislation for the purpose of keeping foreign plans out of the country.

Mr. Power moved that in the opinion of this meeting an international association would not be advantageous under present circumstances, and that the Registrar be instructed to reply to this effect to the Secretary of the American Institute of Architects.

Mr. Darling seconded the motion.

Mr. Power's motion was then put and carried.

Mr. D. B. Dick said that a matter had been put in his hands to bring before the convention. Some little time ago a suggestion was made—by whom he did not exactly know—that there should be a chapter of the Association formed in Toronto. Two or three meetings of the Toronto members of the Association were called, and he thought some twenty or twenty-five members attended them.

Mr. Langton remarked that thirty-two members had assented to the proposition ; some had done so by letter.

Mr. Dick went on to say that the upshot of the matter was that a committee was appointed—of which he (Mr. Dick) was convener—to consider the question and report as to what should be done. The report which he held in his hand was prepared and submitted at the last general meeting of the Toronto members of the Association, and approved of ; and the committee was continued and instructed to take charge of the matter at this convention. He would now read the report. (Reads.)

The committee appointed at the meeting of the Toronto members of the O. A. A., held on Dec. 16th, to consider the question of forming a local chapter of the Association, beg to report as follows :

That they are of opinion that the proper course to pursue will be to lay before the convention a proposition looking to the formation of local chapters throughout the province wherever desired by a sufficient number of members residing in one municipality or within a reasonable distance of it. To carry out this idea it appears only to be necessary to add a few by-laws to those passed by the Association, as your committee consider it desirable that each local chapter should have the utmost freedom in regulating its own affairs in whatever way the members consider most suitable to their local circumstances.

Your committee are also of opinion that a prominent feature in the establishment of a system of chapters should be that each chapter should have the benefit of all the papers read before the others, if they desire it. In this way the larger chapters would be of material assistance to the smaller ones, and the benefits to be derived from membership in the Association would be distributed more equally over all the members throughout the province.

The following by law, consisting of five clauses or sections, is submitted as containing all that is necessary to accomplish the desired end :

PROPOSED BY-LAW.

1. The Association shall encourage the formation of local associations to be known as Chapters of the O. A. A. Any five members of the Association may apply to the Council for permission to form a chapter with headquarters in any city or town which they may select, and such permission shall be granted by the Council if it is found that the territory proposed to be covered by the new chapter does not encroach upon that of any existing chapter. If any question of encroachment should arise, it will be determined by the Council at their discretion.

2. Members of chapters must be members of the O. A. A., but no obligation shall rest upon any member of the O. A. A. to become a member of a chapter unless he desires to do so. Chapters may establish a grade of associate members and may elect honorary members, but no practising architect shall be eligible either as an associate or honorary member. Associate members shall not be eligible to any office and shall not be entitled to vote.

3. Each chapter shall have power to fix its own dues and make such by-laws as it may think necessary and desirable, so long as these do not conflict with the constitution and by-laws of the O. A. A., of which point the Council shall be the judge, and for this purpose the by-laws proposed to be adopted by any chapter must first be submitted to the Council for approval.

Whenever a paper shall have been read at a meeting of a chapter, the secretary or other officer of such chapter shall notify the Registrar of the Association of the title of such paper, and he shall in turn notify the proper officer of each of the other chapters. On receiving a request from any chapter for the use of a certain paper, the Registrar shall communicate with its author, asking for the loan of the paper, and upon receiving it shall forward it to the chapter desiring it. This chapter shall arrange to have it read at a meeting by one of its members, and as soon as possible thereafter shall return it to the Registrar, who will forward it again to the author.

5. Each chapter shall report annually to the Association the number of members on its roll, and if at any time the number shall fall below five the Council of the Association shall declare such chapter no longer in existence.

Signed on behalf of the Committee,

D. B. DICK, Convener.

Toronto, 24th Dec., 1896.

After reading the report, Mr. Dick said he hoped gentlemen would discuss this matter, and not pass this report by any means merely as a matter of courtesy. He asked them not to pass it if they did not feel that these chapters were desirable. He was sorry there were so few of the Toronto members present. He did not think it looked very hopeful for the success of the chapter that of the sixty members of the Association residing in Toronto there were so few that took sufficient interest in the matter to show it by their attendance here on this occasion. He moved the adoption of the report.

Mr. Harper seconded the motion.

Mr. Gregg said that he very strongly approved of the general principle of the thing. They had heard that thirty architects in Toronto favored it, and said that they would become members of a Toronto chapter. He did not think there was anything discouraging in that.

The President : Thirty-two.

Mr. Gregg said that generally half the people that should take an interest in such a thing did not do so. These thirty-two were probably all the men that had ever taken an interest in the convention, and they did not propose to drop the convention because certain members in Toronto did not pay them a visit once a year. He thought the larger proportion of the men who were taking an interest in the Association were Toronto members. He thought there should be a chapter formed here, and he thought that when it was formed other chapters would be formed in other places. Other places would feel the need of such a thing. He heartily approved of the principle, and would move that they adopt the principle and consider the clauses of the report.

Mr. Power thought there were two sides to the question. He would like to see more interest taken in the matter both in Toronto and outside. They had only to look around them in order to see the amount of interest that was taken in the Association itself in which they were all supposed to feel an interest. He should be afraid that if a chapter were formed and carried on in Toronto it would to some extent take away from the interest felt in the Association ; and he was afraid that at this juncture they could not afford to take any such chances as that. Not long since they had a greater number coming forward and showing their interest in this Association than they saw present to-day. He thought that until this Association was put on a better footing it would be a mistake to proceed with the chapter idea. He did not wish to go against the suggestion in any way. If there was sufficient interest felt in it to assure its being carried on properly here, all right ; but he doubted it.

Mr. Simpson asked if the matter could not be allowed to stand until the next day. He thought there were a great many members who did not expect very much to take place on the first day of their meeting, and who on that account did not attend until the second day. He knew there would be quite a number more of the Toronto members present on the following day, and he thought there would be more from outside also. He moved the adjournment of the discussion until Wednesday.

Mr. Darling seconded this motion, and it was carried.

The rest of the afternoon was occupied in the exhibition and discussion of a series of stereoptican views of designs by members of the Association. At six o'clock the convention adjourned until the following day.

On Wednesday morning at ten o'clock a visit was paid to the new City Hall under the personal conduct of Mr. Lennox, the architect. There was a great deal to be seen and, in spite of the cold weather, the party visiting the works were unwilling to leave as early as had been intended, so that it was about half-past twelve before the Convention was again called to order. A number of members were in attendance who had not been present on the first day.

Mr. Langton read a paper upon "Principle in De-

sign," which, with the discussion that ensued, must be omitted for want of space.

Mr. D. B. Dick read the following paper :

THE POSSIBILITY OF A NEW STYLE OF ARCHITECTURE.

It is now some 350 years since the last living style of architecture reached its culminating point and began to fall away into decadence. These last 3½ centuries have been in some respects the richest in the world's history. Greater progress has been made in discovery and invention in every department of science during these 3½ centuries than had been made in the preceding 30 centuries. And yet, strange to say, during this last period—which has been so fruitful in the advancement of science—there has nowhere been in existence a true living style of architecture ; while during the whole time that elapsed, from the earliest dawn of the art to the beginning of this period there has never been a time when there was not being practised somewhere in the world a living and growing style.

This fact, however, is sometimes stated in such an exaggerated form as to lead to the very erroneous conclusions that nothing worthy of the name of architecture has been done since the middle of the 16th century, and that everything that was done before that time was good, and everything that has been done since must necessarily be bad. This is far from being the case. But critics seem often to lose their critical faculty when they are dealing with old work, and speak of it reverently and almost with bated breath, merely because it is old. This spirit sometimes leads them to profess admiration for examples of old work, which, if they were the work of modern architects, these same critics would at once condemn and hold up to ridicule. There has been a vast amount of architecture produced during this last period, and much of it has been good and some of it excellent. Nearly the whole of the architecture of the Renaissance belongs to this period.

But while this is true it is also true that there is a radical distinction between architecture which is living and that which is not living. A living style contains within itself the elements of growth along the same lines on which it has arisen. As new conditions arise and new problems present themselves, new forms are evolved by a natural process of development from within. This process goes on slowly and gradually. There may be no apparent break in continuity, and no abrupt step anywhere visible, and yet it is found that after the lapse of a certain time the style has wholly changed. In short, a new style has been invented. But after a style has ceased to be a living one such growth as this never takes place. Its features and forms may indeed be used with academic correctness, and may be adapted to new situations and purposes. As a new need arises another old feature will be taken and ingeniously made to serve the new purpose. But a style may be made use of in this way for an indefinite length of time without making any advance beyond the point which it had attained while it was still living and growing, because this method is simply imitative and eclectic.

At this point the question "what is style?" seems naturally to arise. Very few writers have made any attempt to give an explicit definition of the term, but have contented themselves with recounting the history and describing the features of the various styles and pointing out the differences between one and another. Such definitions as have been made are more or less unsatisfactory and may convey different meanings to different minds according to their individual predilections and the character of the architectural objects with which they are familiar. Owen Jones, for instance, says in his preface to the "Grammar of Ornament :" —"Architecture is the natural expression of the wants, the faculties, and the sentiments of the age in which it was created." "Style in architecture is the peculiar form that expression takes under the influence of climate and materials at command." Both these statements are true so far as they go, but as definitions they do not appear on one hand to cover the whole ground and on the other they seem to claim almost too much. Here is an attempt at another definition :—"Style in architecture consists in the harmonious working out of the construction and ornamentation in a manner so characteristic that the period and locality of the erection of original examples can be determined (by comparison) from the evidence which they themselves furnish."

All true styles will be found to fill these conditions no matter how much they may differ from each other, either in method of construction or character of ornamentation. The number of true styles into which the architecture of the world may be classified is wonderfully small considering the length of time over which they extend, and the variety of conditions under which they were produced—conditions varying with the purposes of particular buildings, with difference of materials, of mechanical skill, of climate, and of those peculiar qualities of mind in the builders which go to form what is called the genius of a people.

The first beginnings of architectural design were the fruits of a desire to hand down the memory of some great event or personage to future generations. The next were inspired by man's religious instincts, and it was only after architectural ideas had become somewhat crystallized by practice in these two directions that they began to be applied to buildings of a purely utilitarian character. It would take too long, and it is not necessary for the present purpose, to trace in detail the evolutionary process by which each style advanced to its highest perfection only to be gradually changed into something altogether different. But this point may be noted in passing, that the change from one style to another was always the result of the introduction of new factors such as a change in structural methods caused by the attempt to solve new problems or supply new needs, never from a mere desire to change the fashion of the external form in which architectural ideas were expressed. The most potent of these factors have been the general use of the arch by the Romans, the development of groined vaulting by the Gothic architects, and possibly the use of the truss. A couple roof and a simple barrel vault both require a straight wall for their support with only this difference, that unless the vault is tied in so as to take the lateral thrust off the walls, they must be made much thicker to resist that thrust than would be necessary to carry the couple roof. But as soon as the principle of groining or trussing comes into play, the continuous wall necessarily changes its character and becomes a series of strong supporting points with a comparatively light enclosing wall or screen between them. In the case of the highest development of this idea—the Gothic cathedral—the enclosure becomes a mere frame of stonework for the display of the largest possible quantity of painted glass. In effect the side wall is cut into sections which are turned round at right angles and so developed into buttress and flying buttress and pinnacle. This is but one illustration of the principle upon which all true development has taken place.

Two important elements in the formation or modification of style have invariably been materials and climate. The Egyptian and Grecian styles could never have been developed except in a country capable of supplying very large blocks of excellent stone. Nor could the type of dwelling house found in Pompeii, with its shady open air features, so suitable to the south of Italy, ever have come into general use in the climate of the northern parts of Europe.

The course of the historical development of style has been along certain well defined channels or main arteries. There have been many offshoots, and possibly some indigenous styles, but these may all be left out of account because they have had no influence upon the general historic sequence of styles. This sequence includes the Egyptian, the Assyrian, the Greek, the Roman, the Byzantine, and the Gothic. No style outside of these can be said to have had any influence in forming the great historic chain of styles.

One or other of two great principles of construction will be found to be the ruling idea in the formation of every style. And the distinction between these two is so great that it is a question whether it would not be proper to say that there are only two great styles, and that all others are only sub-divisions of them. The one of these great root principles is that of the pillar and beam, and the other that of the arch. All before the Roman period belong to the one style, and the Roman and all that come after it to the other. For although the principle of the arch was undoubtedly known long before the Roman period, it was the Romans who first used it as the leading principle of their construction.

Disregarding the intermediate links connecting the different styles, and considering only the most characteristic examples of each, their remarkable dissimilarity is much more obvious than their resemblance. It requires some consideration to realize for instance that the church of St. Sophia is the direct descendant of the Parthenon, the Pantheon at Rome of the Hippostyle hall at Karnak, and Salisbury cathedral of them all. But since it is so it is natural to expect that all these different styles should contain some elements in common. It might even be expected that the elements of which they are composed would be the same in all cases although used in entirely different ways, just as the type in a fount may set up at one time the text of Herbert Spencer's philosophy, and at another the wit and humor of Punch, or a work in the English language one day, and one in French or Italian the next. These elements are of two kinds, the constructive and the decorative. The essential constructive elements are very few in number. All that are absolutely necessary to constitute a building, are some sort of enclosure, a means of entrance, and in most cases a roof. The constructive elements then are walls, piers or columns, and a roof, composed either of lintels, vaulting, or trussed work ; the choice between the three perpendicular or supporting elements being most frequently determined by the principle of construction of the roof to be carried by them. The decorative elements are more numerous and complex, although wonderfully simple after all. Mouldings are the most universally used of all decorative forms, and these, no matter where or in what style they may occur, consist invariably of one or more of four simple elements used either singly or in combination. These simple elements are the ovolu, the hollow, the bead or roll, and the fillet. The ogee is only a combination of the quarter round and the hollow, and the scotia is only two hollows of different sizes contrasted. The fillet may be used either with its face set perpendicularly or at an angle, in which latter position it suggests the chamfer which may therefore be reckoned as merely a modification of the fillet and not an independent element. There is absolutely no moulding or combination of mouldings in any style that has ever been invented that is not made out of these rudimentary elements. The possible number of combinations of these simple elements is practically inexhaustible, through the mere variation of the order of their juxtaposition and their relative sizes. When to this is added the variety obtained by modifications of their profiles the possibilities become infinite. Compare the crude simplicity of the Roman ogee or ovolu with the subtle refinement of the Greek, and the difference is at once apparent, and yet they are essentially the same. There is a great difference in the effect of the ordinary attic base and the common Early English one, which consists of a small roll at the top and a large one at the bottom with a hollow and fillet between, and yet the chief difference between them is the omission in the Gothic base of a couple of fillets. The Greeks sometimes combined their elements in such a way as to produce undercut mouldings, and the Gothic architects afterwards seized hold of this idea and used it with wonderful effect in composing their groups of mouldings. But an analysis of the most elaborate groups invariably shows that they

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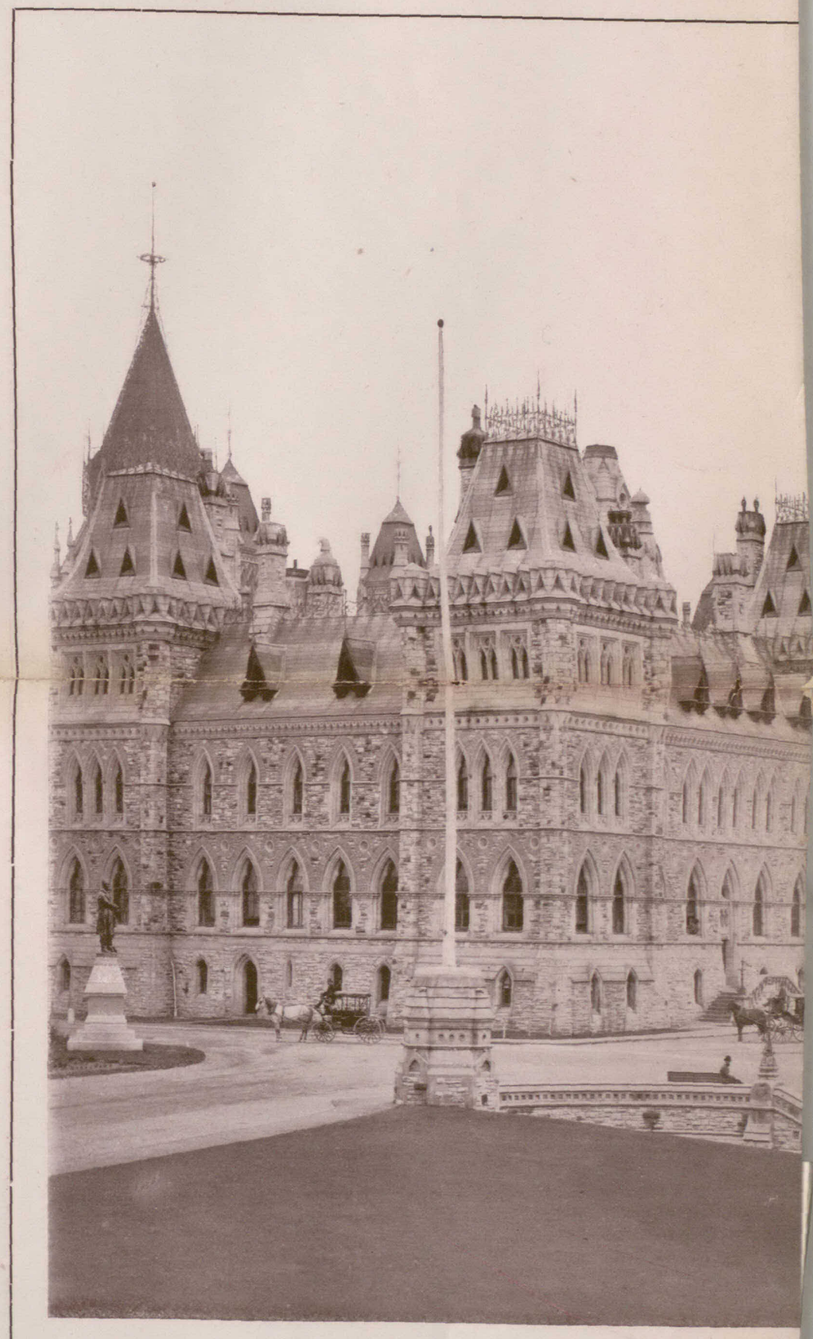

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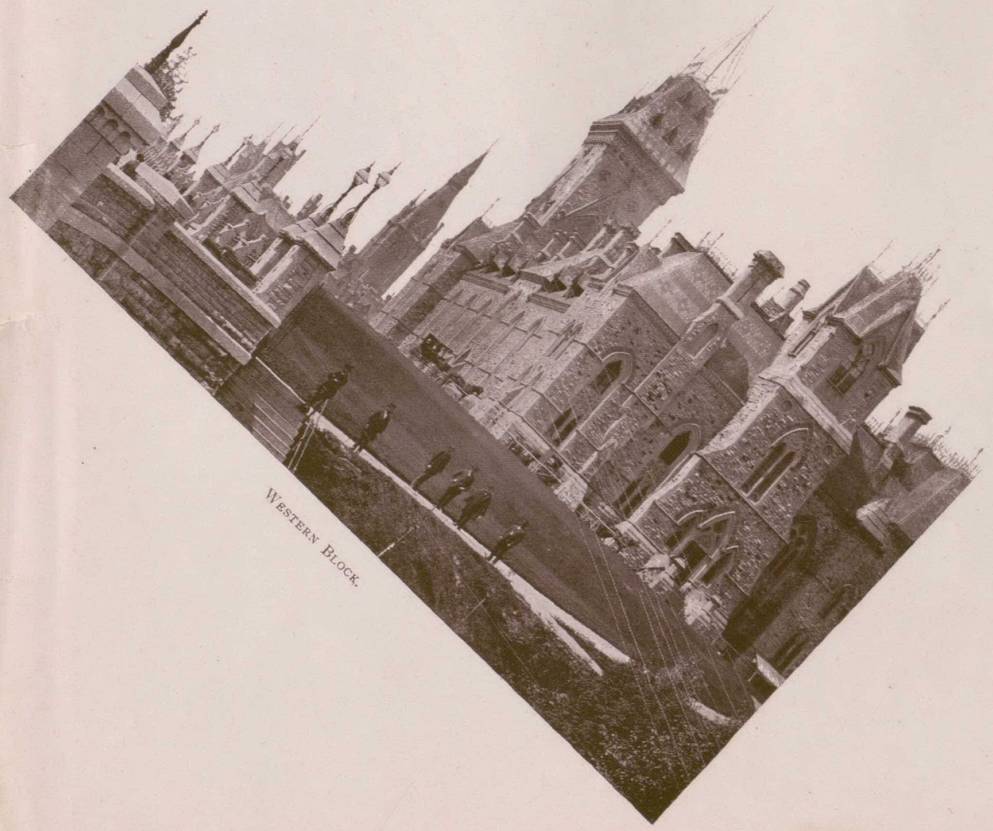
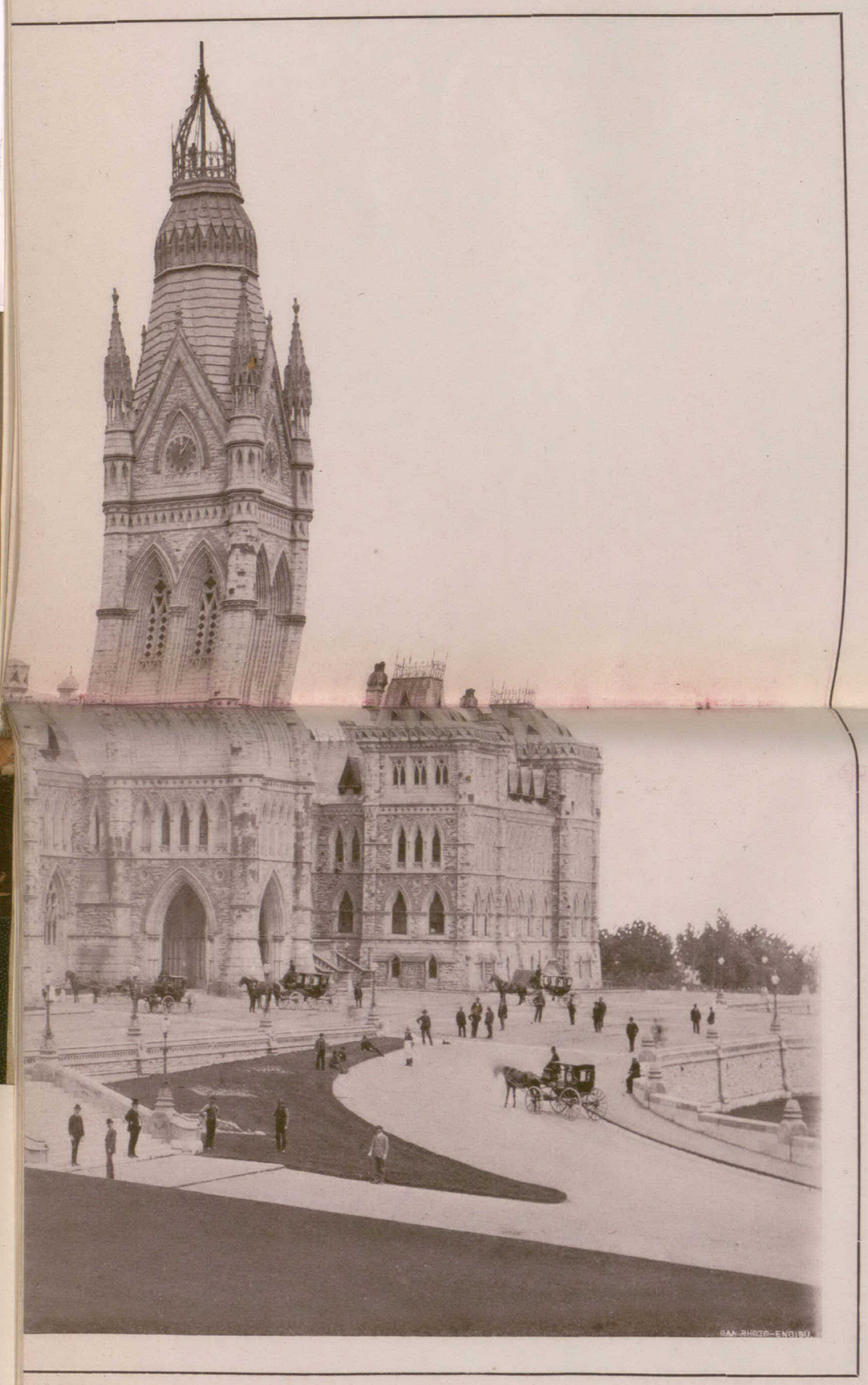


WESTERN BLOCK.

CANADIAN HOUSES OF PARLIAMENT

MESSRS. FULLER & JONES, STEN



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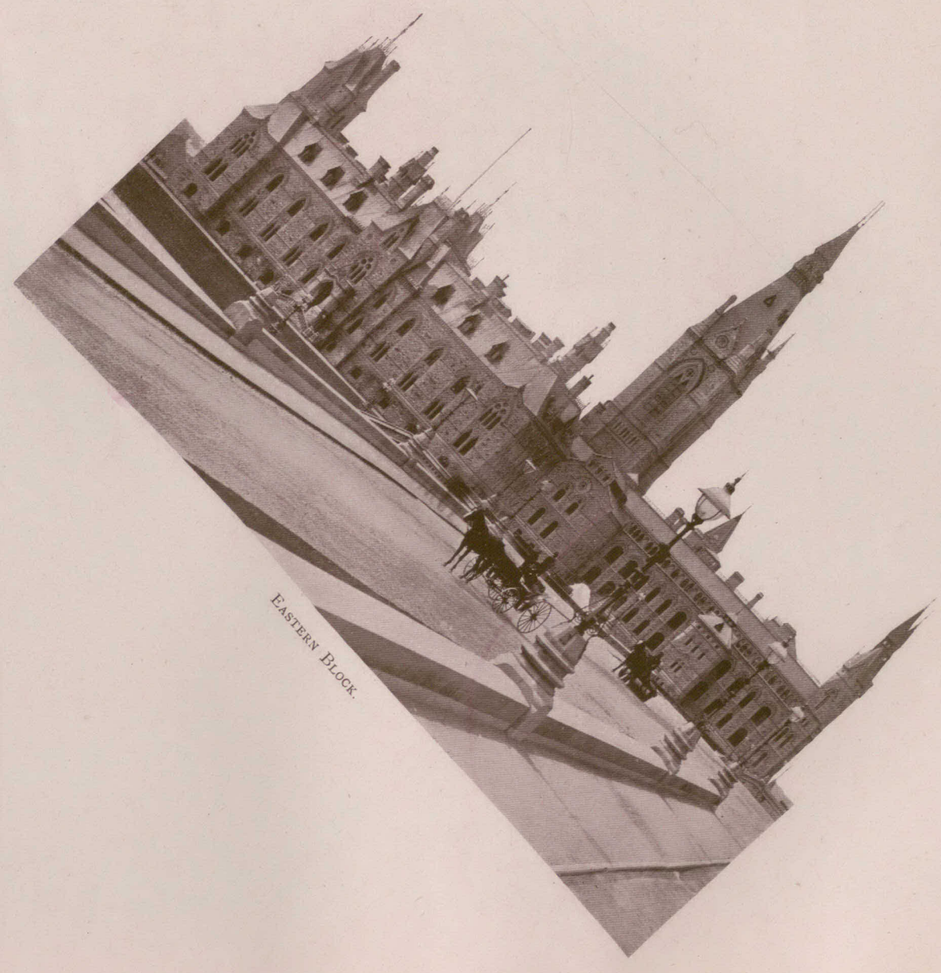

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LANGEVIN BLOCK.

EPARTMENTAL BUILDINGS, OTTAWA.

, AND THOS. FULLER, ARCHITECTS.

are composed of the same simple elements. The desire to produce richer effects than could be obtained by simple mouldings led to the enrichment of their surfaces and so to the use of decorative carving. Sculpture also appears from very early times to have been associated with architecture as a decorative accessory. And the character of the carving and the sculpture varied in different styles, and, taken in conjunction with the mouldings, contributed largely to their individuality.

All architecture then is composed of the same elements. But there is a radical difference between the principles on which these elements were used up to the 16th century, and those on which they have been used since. In the old method they were used as the words by which expression was given to those new thoughts which were ever contributing to the building up of the body of true architecture. In the modern method the thoughts themselves are appropriated and combined and arranged to make up the eclectic architecture of modern times.

That eclecticism is the ruling motive of modern architecture may be considered as an accepted fact. All the so-called "Revivals" have been nothing but eclecticism. The advance of science and the increased complexity of modern life have constantly raised new problems from the solution of which some tendency at least towards a new style might reasonably have been expected. Engineering and all the other sciences have kept fully abreast of these new demands, and have often created new wants by offering the means of satisfying them. Architecture alone has failed to rise to the occasion. It is not to be denied that in some respects architecture has advanced even within the last generation, but there has been no change of principle and the improvement has been rather in taste than method.

The chief factors in the creation of these modern opportunities have been the increase in knowledge of the properties and strength of materials and of the principles of framing; and the improvements in the manufacture of iron and steel and of glass. The building of the Crystal Palace by Sir Joseph Paxton, about the middle of this century, gave a great impetus to the use of iron, and the iron front became the new idea. Fortunately it had not vitality enough to live very long. Had the designers been able to divest their minds of the old ideas they might perhaps have made something of the new one. But instead of this they simply took the old forms of a stone construction and tried to adapt them to the new material. The result was inevitable. To save material, columns and other features were attenuated to the last degree, and to save expense in modelling, details were duplicated with hopeless monotony, while, worse than all perhaps, the principal idea to be kept in mind in designing or selecting the details was not "are they beautiful or appropriate?" but, "will they draw out of the mould?" Some of these attempts have been removed to make way for more modern structures, but many of them still remain and periodically challenge attention by blossoming out in a resplendent coat of new paint.

But the one great opportunity of modern times has been the advent of the steel framed structure generally spoken of as the "skyscraper." It is not yet many years since it appeared as practically a new problem; but the number of the attempts at its solution, and the vast amount of ability and skill that have been brought to bear upon these attempts, afford justification even now for an estimate of the value of the results. There is much variety among the examples and some of them are good, some bad, and some indifferent. But, however various they may be in other respects, this one thing has to be said of them all—that not one of them has contributed in the very smallest degree towards the creation of a new style. They are all shams in so far that their construction is not expressed but concealed. There is not an architectural idea in one of them that was not in current use long ago. They may be divided roughly into two classes, 1st, those in which the whole height is treated as one composition from which nothing can be taken away and to which nothing can be added without destroying its proportions, and 2nd, those which are designed on the principle of a pillar, some of the lower stories being grouped to form the base, and some of the upper ones the capital, while the intermediate stories form the shaft as it were. The first of these two ideas is by far the more difficult of successful accomplishment, and when it is successful the result is proportionately better than in the best of the other type. The second type is defective in that it fails to satisfy the eye that the design was made for just that number of stories and no other. The idea is suggested that the building might be cut in two in the middle, the upper part raised, and one or more new stories inserted. A design that conveys this impression to the mind cannot possibly have been made on true principles. The majority of the very tall buildings are also found wanting when the test of suitability of design is applied to them, because they are usually so situated that they cannot be seen except so much foreshortened that their proportions are entirely destroyed. The only appropriate place for a skyscraper is on the side of a large open square or at the end of a long street, which latter, of course, is rarely possible. It therefore carries within itself the seeds of its own destruction as an architectural idea, because its advantages depend upon its standing alone and towering over its less aspiring neighbours. A street of skyscrapers would defeat its own purposes, and a city of skyscrapers would be unfit to live in. Hence there are already signs that its day is over and that the height of street buildings will in future be generally restricted by legislative enactment. It is not wonderful that the skyscraper has done nothing towards the production of a new style nor that some of the examples have not been very happy as designs. The wonder is rather that, considering the time usually allowed for designing them, the average results have been even so good as they are. There is no need to regret that the skyscraper has done nothing towards the attainment of a new style because it could, after all, have been nothing more than a style for skyscrapers, while a new style to be of any use must be one capable of universal application.

One can hardly look back over the history of the styles without asking onesself the question—Is there any reason why they should not have been developed upon other lines than those which they actually followed? If, for instance, the Roman style developed under one set of conditions into Gothic and under another into Byzantine, why might it not under a third and easily conceivable set of conditions have developed into a third style differing from both of these as much as they do from each other? We have seen that all architecture is composed of the same essential elements. If these have been combined to form styles differing from each other as much as Egyptian and Roman or Greek and Gothic, why have they never been combined to make another different from them all? It can only be because the evolution of a style is a long slow process and the world was not big enough to allow of the complete separation necessary for the existence at the same time of more than one or two of the wholly different sets of conditions necessary for the evolution of distinct styles. And further because during all the time that the old styles were in process of evolution, certain social conditions favorable to the process prevailed but have ceased in modern times to exist, and have been succeeded by others distinctly unfavorable.

In view of the fact that so few distinct styles were evolved during the past, is it possible by analysis to arrive at such a knowledge of the principles out of which they grew as to afford a hope that even yet the following out of the same principles might result in the production of a new one? We have seen that the elements of all styles are the same and are always at hand. There are men of as much talent or even genius in the world to-day as there ever were. The sister arts of painting and sculpture are as much alive to-day as they have ever been at any period in their history. Why should architecture of all the fine arts alone be dead? Is no resource left her but that of fitting together the dry bones of the dead past instead of going forward in the full exuberance of life and creating new ideas to be handed down as working material to future generations as the ideas of the past have come down from one generation to another?

The eclectic method has been tried for several centuries and has failed. Is there no other? Would it be possible by going back to first principles to design a building absolutely without style? Much has been written and spoken about "catching the spirit" of a style but those who have succeeded best in the attempt have only succeeded in producing imitations—close enough in many cases to deceive those ignorant of the date of their erection into believing them genuine works of the style imitated. They have done absolutely nothing towards carrying the evolution of the style one iota further. There is, however, a "spirit" of design without which no good work ever has been done or ever will be done in any style. It is something akin to thinking without words. It is the creation of a design by the thoughtful working out of all the problems involved under the special conditions of the case. It is conceivable that up to a certain point a design might thus be worked out that would be structurally complete, perfect in its proportions, and yet without a trace of detail belonging to any known style—in fact without any detail at all. One could not look at the Parthenon or Salisbury Cathedral from a distance too great to permit of any detail being visible without in some measure being conscious of the difference in the spirit of the two styles. If it were possible to work out a design, even without detail, that would not suggest the spirit of any known style, the first step would be taken towards the invention of a new one.

Let us conceive the experiment tried under the most favorable conditions. Let the designer be a man who has been brought up like a Nazarite from his birth with a view solely to this experiment. Let us assume that he has been thoroughly trained in the theory and practise of construction so that the most intricate problems present no difficulties to him. But with all this knowledge of building he has never seen a book on architecture, nor a photograph of any architectural example, and he knows nothing of ornamented construction. Let us suppose further that he is naturally a man of artistic temperament to whom the beauties of nature are a constant delight, and that he is a lover of painting and sculpture. Now suppose a problem set before him to be worked out, without regard to cost or any other limitation. The subject selected would probably be a large church, because religion has caused the production of a greater number of architectural monuments than anything else in the world. Now how would he go about it? The first idea would be that a large number of people must be able easily and comfortably to see and hear the whole of the service. This means to begin with a large open space unencumbered with piers or columns—altogether there would be no objection to the use of these outside of this space to form aisles or other adjuncts. But they would not be absolutely necessary as constructive expedients because the use of trusses renders it easy to roof over without intermediate supports, any space that could possibly be required for an audience room. A consideration of the pros and cons in regard to the different available forms would probably lead to the conclusion that a rectangular plan not very far removed from a square would be, upon the whole, most convenient both for sight and hearing. Perhaps it might be more convenient to put staircases, vestries, schoolrooms and other appurtenances in projections rather than within the main walls Something of the nature of an apse or chancel might be rendered necessary by the ritual. A tower might be necessary for bells. Some stacks might be required for smoke flues and ventilating shafts. Windows and doors would be necessary, and perhaps also porches. If the roof were of truss construction a greater thickness of wall would be necessary under the ends of the trusses than elsewhere, which would break up the uniformity of thickness of the walls. That appears to be all. Two other

factors, however, remain to be considered—materials and climate. In a country in which stone is the usual building material and in which large stones could be readily procured, lintels would probably be used to cover the openings, to save the labor of cutting voussoirs for arches. On the other hand if only small stones or brick were available the openings would naturally be arched over. Considerations of climate would probably determine the pitch of the roof and how the eaves should be formed, whether by projections or otherwise, also perhaps whether there should be an inside ceiling to form an air space or not. The dimensions of the windows and the character of the glass would be determined partly by the quality of the light and perhaps by the character of the service to be performed in the building. In a cold bright climate the windows might be smaller than in a warm foggy one. If the service were one in which books had to be used by the whole congregation more light would be needed than if the ritual were not committed to paper at all or if books were used only by the clergy conducting the service. It might even be desirable to have only a "dim religious light" in the portion of the building occupied by the audience in order that they might better see what was done by the officials conducting the service, on whom a bright light should therefore be thrown.

The raw materials out of which the design is to be made are now lying ready to the designer's hand, and it cannot be said that they are lacking in possibilities. The first thing to be done is to arrange the different features in the relation to each other that would be most convenient for the purposes of the building. This would soon be accomplished. Up to this point all has been plain sailing, and no difficulties have presented themselves to our designer, accomplished as he is in engineering and building, but ignorant of architecture. But now a new problem presents itself. Aesthetics must be taken into account. The building is not only to be strong and convenient, but it is also to be beautiful. The designer has now gone as far as his knowledge of building will carry him, but if he were to stop at that point the result would simply be building, and not architecture at all. How much further will his natural artistic instincts and cultivated taste carry him without any knowledge of existing architectural forms? Bringing these to bear upon the character of the materials to be used, he would probably see that polished variegated marbles would call for some treatment requiring large unbroken surfaces, while a material of uniform texture, especially if light in color, would require to be broken up to get the effect of light and shade. They might also enable him to compose his raw materials in masses, so as to produce agreeable effects of light and shade. But he must go much further than this, to produce anything worthy of being mentioned in comparison with the masterpieces of ancient or modern architecture. There must be beauty of detail as well as of outline, and play of light and shade on surfaces as well as in contrasting masses. He would now have to go on to express the construction by suitable detail, and enrich it with appropriate ornament, so as to form a beautiful and harmonious whole. If, with the limitations we have assumed, he were able to accomplish this, he would thereby prove himself such a heaven-born genius as has never yet appeared in the world. All his ideas of outline of masses and play of light and shade and beauty of form would have been derived from a class of objects entirely different in shape, proportion, color and texture, from those with which he was now called upon to deal. He would be practically in the position of a student, say of electrical science, who had studied the theory of electricity but had never seen a dynamo or other electrical machine. Such a person would probably discover on taking his first model to the patent office that he had wasted his time in inventing again something that had been invented in the very infancy of the science. Our designer would be in the same position. So far as architecture is concerned, he would be in the position of a child or a savage, and his best efforts would inevitably be crude and puerile.

Now let us suppose the same problem presented to an architect trained in the modern or eclectic school, the sole proviso being that his design should be beautiful, but absolutely devoid of style. Would it be possible for him to divest his mind of all his accumulated knowledge of the architectural forms and details and ideas of the old styles. as a slate is cleaned off with a damp sponge? Is it not more likely that from the very first steps in the arrangement of his plan he would be influenced by recollections of the old styles? He could not divest himself of the influence on his taste of those buildings which he had admired and studied. Try as he might, he would find recollections of basilica, or temple, or cathedral, or mosque, suggesting ideas as to the treatment of his raw materials, and insensibly he would find himself designing in some familiar style. He could not help himself, because style consists not merely in ornamentation, but also in structural form and disposition of mass. So the questions of style and external treatment have to be kept in mind even in the arrangement of the ground plan. The consideration of the nature of the various materials alone would bring him face to face with the question of style. Is the ruling motive to be the beam or the arch? This might not be determined by local circumstances, and so the one system might be as available as the other. What is to determine it then? The aesthetic taste of the designer. And having once made his choice, his artistic instincts would lead him to adhere consistently to the principles of the system chosen. The leading lines must necessarily be either horizontal or vertical, because every great architectural monument that has ever been produced has been either in one style or the other.

No! it is not thus that a new style of architecture will ever be invented. Man is always the heir of all the ages, and his heritage is the sum of the learning and knowledge that have been slowly accumulated in the past. Progress is only made by advancing beyond the highest point previously reached. The men who originate new ideas are those who are most familiar with all the ideas of their predecessors. New inventions are most likely to be made by those who are most familiar with all previous inventions. So, in art as in science, that man is most likely to invent a new form whose mind is most saturated with the best of the old forms.

Some attempts have been made to produce a new style by harking back to some old style at an incomplete stage in its development, and trying to carry it onward on some other lines than those on which it was actually developed. This appears to have been Richardson's idea in attempting to revive the Romanesque style, and to that extent his attempt differed from most other modern attempts to revive old styles. None of these attempts have had any better result than to galvanize the old forms into a semblance of life more or less ephemeral according to the ability of the apostles of the cult for the time being. Examples of the more recent attempts will at once occur to you—the Gothic revival, Norman Shaw and the Queen Anne, Eastlake and his so-called principles of "Truth." It is curious to observe in Eastlake's case how some of the designs in his own book belie every one of the principles laid down in it. It is difficult, for instance, to conceive on what principle of truth a book-case can be designed which is finished on top with an imitation of a shingle roof with dormer windows. As regards Richardson, it is futile now to speculate what he might or might not have accomplished had he lived to the allotted span. His experience would doubtless have been that of all others who have trodden the same path. Measured by actual results, his influence upon the architecture of this country has not been beneficial, not so much because of what he did or failed to do, but because of what his imitators have done. Richardson went to original sources for his inspiration, but most of his imitators have only gone to Richardson, and the result therefore cannot be considered surprising.

Attempts have sometimes been made to combine the outlines of one style with the details of another, but no new style has ever resulted from these attempts. The best example of this is probably the French Renaissance of the time of Francis I, where the outline is Gothic and the details mostly Classic. The effect is picturesque, but there was no vitality in the resulting style or variety. The English Elizabethan is of the same type. The term "debased" applied to it by the Gothicists is not inappropriate, and no better instance of this debasement is to be found than in the west front of Westminster Abbey, where the classic details look strangely out of place on the Gothic front.

If, then, all attempts at revivals have failed to produce a new style; if the eclectic method has failed; if the invention of new constructive methods and the creation of new needs have also failed, and if the attempt to dispense with style altogether is sure to fail, is there anything left on which to base a hope that there will ever be a new style? It is a question not lightly to be answered. The conditions under which the old styles were produced have long passed away. Life was leisurely in those old days. There was time to linger over a design until it was as perfect as its author could make it. Men whose work was of an artistic kind worked for the love of their art, and took pleasure in their work for its own sake. The styles were not made by men who looked upon their art as a mere means of making a living. In those days each worked in only one style, and all worked in the same style at the same time, and they probably knew little or nothing of any other, so that to them it was the vernacular. They did not dabble in Greek one day and Gothic the next. In some cases they may have had before them examples of the preceding styles out of which their own had grown, but they could only have had such knowledge of these as they could obtain at first hand. There were no excursion trains to afford them the mental dissipation of a glance at all the monuments of antiquity during a summer holiday. They had few books, still fewer illustrations, and no photographs at all. So it is not surprising that some of the Romanesque work, for instance, was obviously the result of efforts at recollection of Roman forms, which might perhaps have been copied literally, had the means only been available in the shape of a library. Men were therefore compelled to think for themselves instead of borrowing the thoughts of others. The growth of a new style was an affair of centuries. The best Egyptian or Greek architect, if called upon to design a spire, would probably have pronounced it impossible. And so it was, within the time at the disposal of one man or one generation. But keep the problem before one generation after another, and gradually the thing is done—not all at once or by one man, but slowly, through many tentative efforts and failures, success is finally reached, and the Greek temple becomes the Gothic cathedral. Mr. Sturges puts this idea very well when he says: "Once only in a series of centuries appears an architectural thought destined to grow great and stimulate other thoughts, and call out their embodiment in visible form."

The shadow cannot move backwards on the dial, and the old conditions can never be restored. Some one said recently that "the most fertile mind—much less the average—is not able to produce from the use of the material and purposes of the structure, an entirely original supply of forms, especially within the limit of the time allowed for the occasion." That is true, and therefore every architect must express his ideas in the forms of some known style. All styles are open to the choice and all are alike alive or alike dead to this generation. The history of the last three centuries seems to point to the Renaissance as the one most in touch with the spirit of modern life. It is by far the most plastic of all styles. It is suitable alike for all classes of buildings, from the most humble to the most palatial, and for every purpose—domestic, ecclesiastical, educational, commercial, municipal, national and monumental. So long as the fancy is restrained within the limits of good taste, its forms can be used with the utnost freedom, and adapted to every purpose. Every young architect, after having acquired a general knowledge of all styles, should take some one and make it his own and try to know it thoroughly, in its principles, its history, its monuments and its details, and he should design in that and no other. If the Renaissance is chosen, then some one phase of it—say French or English—should be thoroughly mastered before another is taken up.

It cannot be predicated with certainty that there will ever again be a new style. But there are certain principles on which the existing styles should be used, and it may be confidently asserted that if these principles are not followed there will assuredly never be a new style. Blind copying will never produce one. It would be a long task fully to analyse and formulate these principles, but for the present purpose they may be summed up into two propositions: 1st. That construction must be absolutely truthful, and must be expressed in forms appropriate to the purposes of the building; and 2nd. That no moulding or feature of any sort must ever be used merely from habit, or without careful analysis to discover why it is pleasing to the eye, and what it means, and even then it should be used only after long and careful consideration whether it should be used at all, what function it is to perform, and whether nothing better can be devised to perform that function.

The following out of these principles may never result in the formation of a new style. Certainly no one man will ever invent one; but it may be that the efforts of some of those who try faithfully to carry out these principles may start an influence that will increase as it rolls onward, until in course of time it will be found that unconsciously a new style has grown up. But assuredly the only efforts that will be of any avail will be inspired by an earnest striving after what is true and beautiful, and an honest love for art for its own sake, and only when these are vivified by at least some spark of that divine creative imagination which must be born in a man, and without which he may be a builder, but never an architect.

Mr. Henry said he had been wondering how an architect who confined himself to one style, and practised in that style only, was to live. Of course he could no doubt spend with advantage far more time than most of them did in studying one style; still, necessity would compel him to branch out from it occasionally.

Mr. Gibson said that all the examples of distinct style had been exhibited in public buildings; but was not there a style developing in regard to private buildings, particularly in respect to those of the better class and of later dates?

Mr. Darling, in moving a vote of thanks to Mr. Dick for his paper, said that he thought that gentlemen had fully exhausted the subject. Speaking of a person following one style and still making a living, he (Mr. Darling) thought one of the best examples of that was Norman Shaw. The spirit of his work is Gothic, but he impresses upon it his own individuality. In following the old styles and old theories, he had not simply adapted the details from old work, but he had analysed and found the principles underlying them, and then had done work himself that was as nearly original as it possibly could be. The trouble with most men in a country like this was that they had to adapt from old works certain features and embody them in new buildings. The Americans, to his mind, copied things straight. They had got a tremendous number of photographs, and they simply reproduced from them. He had noticed in the States a mantle-piece by Mr. Richardson which had been simply copied and put into a private house. It seemed to him that that was a mistake. The architects might have taken the general principles underlying the design of that mantle-piece and then adapted it. Norman Shaw had done this as far as the origin of his work was concerned, but by the time he had finished with the details the work was his own. If the younger men in the profession would devote themselves more to analysis the result of their work would be very much more satisfactory than if they simply copied; and that there was a strong tendency to copying all over this continent was very manifest. He had great pleasure in proposing a vote of thanks to Mr. Dick for his able paper.

The motion was seconded by Mr. Belcher.

Mr. Paull observed that Mr. Dick, in tracing up the history of architecture, had shown that the art was governed in early times to a very large extent by the amount of stone that was within reach; and subsequently alterations had resulted from other conditions of a similar kind. Mr. Dick had said that there did not seem to be any chance at all of another order of architecture springing up. He thought, however, a new order might arise, if one looked forward far enough—say a hundred years. That would be too late for this generation. Take the history of the lighthouses built within the generation. Take the Bishop's lighthouse at the Scilly Isles. Some years ago one was built there of iron, and it blew down a few years afterwards. Then a lighthouse was built there with a base of forty feet, built up almost solid, and carried about one hundred and twenty feet high. After a few years storms came and shook the lighthouse to its foundations, and blew off a portion of the lantern. Then engineers were called in again, and they found it was necessary to put a casing of stone on the outside of the lighthouse seven feet wide at the bottom and two feet wide at the top; and now, he supposed, it is so strong that if an earthquake was to take place that lighthouse would not likely be shaken down. So that we see that these things are experimental, and done by progressive steps by superior men, and Mr. Dick's new style may arrive by and bye.

Mr. Gibson said that he thought an element in a new style would be the use of iron as a tie-rod, which had only been employed in the old styles incidentally. He could explain perhaps by reference to a cart-wheel. In the old style of wheel the spokes formed struts or braces; in the new style they formed a tie—quite an opposite force.

The President: I have heard the bicycle was revolutionizing things; I did not know it was going to revolutionize architecture.

Mr. Gibson said that if the principle was good in the bicycle—which it was—there was no reason why it should not be good in architecture.

Mr. Simpson asked what would constitute a new style. It had often struck him that the architectural work in Chicago, for instance, was characteristic. He supposed many of those present were familiar with the work of Adler & Sullivan. He had not himself seen any other examples of the style they had brought out.

A member: It seems to be an adaptation of the Moorish. It is very largely decorative.

Mr. Gregg remarked that the definition in the paper pretty well answered the question whether a new style was possible. If the style must show the period and the character of the locality he did not think a new style was possible, because such conditions as those under which the old styles arose could never occur again. The large number of examples we have before us, and the facilities for travelling that now exist, make a very different set of conditions from those under which mediaeval builders worked.

Mr. Gibson: Why is a new style desirable?

Mr. Darling: There is no outcry for a new style.

The President observed that he felt sure they had all been very much pleased by Mr. Dick's paper; and perhaps some thoughts that had been vaguely floating through their minds had been concentrated, and some thoughts added to them, by the paper.

The motion was then put and carried.

Mr. Dick thanked the Convention for their patient attention to rather a long paper. The subject, he had found after he had begun to get fairly into it, was really too big to be handled in a paper. It was a subject that would require a book, and a great deal of the matter of which he had notes which he had intended to use—which would have softened down, perhaps, by a further explanation, some of the points which seemed to have been rather crudely and baldly stated—he had found it necessary to drop out altogether simply for want of space. If he had attempted to go into all of the points which the subject had presented, he would have occupied their time for the whole of the afternoon and exhausted their patience as well. In reply to Mr. Henry's question as to how a young architect could make a living if he practised only in one style, Mr. Dick said that it was not always possible to pursue the course that was theoretically the best, and pointed out that most great architects had worked only in one style.

Mr. Paull rose to say that they had had a very valuable lecture or address on the previous day from the President. There had been very many valuable points in it which had been presented with a sequence that he thought they all admired. There had been no vote of thanks to their respected presiding officer proposed at the time, and he did not think it was out of order to propose one now. He therefore moved now a vote of thanks to Mr. Gordon for his very valuable address.

The Convention signified their approval of the motion by applauding heartily.

The President replied that he thanked them for the motion adopted in this informal way. The form in which he should like to receive their thanks would be their thoughtful consideration of the two suggestions he had made in his address. One was the question as to the adoption of some degree or some form of distinction in their membership. It seemed to him that even with their amendments passed—even supposing they were placed in the position of being to a limited extent a close corporation—that would involve the bringing in of all who are in any way seeking a living by architecture. It would mean that every country builder who sought to call himself an architect would have to become a member of this Association, and for long years to come the public would not be able to distinguish that there was any particular advantage to a man in being a member of the Ontario Association of Architects; but it seemed to him that with their amendments carried or without them it would be desirable that men who have passed an examination and who have therefore shown themselves qualified along the purely technical lines, should be placed in some way in a better position than any one who might come in by virtue of legislation. He thought that those who had passed an examination should be singled out by some title or designation from those who had made no effort to so qualify themselves. Then he thought it would be very invidious to place a young man who had passed in this way on a higher plane than those who had practised their professions for ten or fifteen years, and who had put up buildings which were sufficient evidence of their skill and ability as architects. He would say that all men who had been practising architecture for ten years—or, if they liked, make it shorter—a sufficient number of years to show they were architects—that they should be eligible for the position of Fellow. Thus they would have the grade of those who were graduates and the grade of those who by their work had proved they were competent architects, and thus they would have a distinction at the first and all through until their Act would have had the effect of grading up the whole of the profession to a proper standard. The other point was one which he felt very strongly on himself. That is, the question of expert evidence—the question of having to go to court, as some of them had occasionally to do, and give expert evidence, and then having their statements in evidence largely discounted, and themselves placed in the humiliating position of practically being told that their evidence did not amount to anything. They ought certainly to seek means of having this altered so that in such cases they should be called in by the court and not by the litigants. He thought they should, to begin with, have a standing committee of this Association to investigate the question, and in doing so to get all the information that could be got from France or elsewhere, and to associate possibly with the committee of any other body which might be interested in the matter in the same way, so that something might be done to remove this growing evil—an evil which involved a reflection upon the individual practitioner and upon the profession generally.

Mr. Gregg, speaking in regard to the first proposal of the President, said that last year there was a resolution upon this very point. That was, they passed a motion that every graduate having passed the examination should have a diploma. That idea should not be dropped. The motion had been passed and the diploma should be prepared, so that the graduate could have it and hang it up in his office. He would ask that the Council take the matter in hand and have a lithographed diploma prepared, even though it might be one that would not be an artistic adornment to the office. If it was only in Roman type and signed by the proper parties it would answer the purpose.

Mr. Darling said that he quite agreed with Mr. Gregg's suggestion about the diploma. But he did not think that the question of Fellowship should come up Who was going to judge among all the members of this Association who were really architects and who were not? He assumed that every man who would come into this Association would have to be a Fellow at the start, the difference remaining to be made afterwards. They could not suppose that all the men over the country were going to stand it if ten or twenty of those constituting this organization were to be permitted to say who were and who were not architects. If the Association ever got its Act they might take some steps in the way of grading examinations in the years to come as the older men dropped out.

Mr. Simpson thought it would be rather premature to consider anything of the sort at present.

Mr. Baker thought the proposition only amounted to adding a name to what was already in existence. He thought the thanks of the young men in the Association were due to the old men and them alone for the position of the Association to-day. The thing would be in a very bad shape if left to the young ones, judging from the amount of interest they had shown in it. He did not see why they should not call every member who had been practising ten years a Fellow, and the others Associates, and also those who pass in future, Associates.

Mr. Darling: Supposing you call all the men who have been practising ten years Fellows; would a man who had only been practising nine years be kept out, and then would you a year afterwards call him a Fellow?

Mr. Baker: Certainly.

Mr. Darling: I do not see the reason in it.

Mr. Baker: I think every other association of the kind in existence has something of that sort to distinguish the members.

The President remarked that he was glad that the initial stage of the discussion had been got through with. The matter might now simmer in their minds, and perhaps by the end of another year they would be in a position to discuss it a little further on its merits.

Mr. Burke moved that the Council consider this matter and report upon it a year from now, as also upon the suggestion with regard to experts.

Mr. Power seconded the motion.

Mr. Burke expressed the opinion that the matter with regard to experts was very important. He thought it was very humiliating to go into court and see two architects of reputation giving evidence, each swearing diametrically the opposite to the other, each evidently inspired by the side by which he was employed.

Mr. Curry did not see how they were going to stop that. It was the same thing with the medical profession, and the medical profession as a body were very much better educated. As long as they had a body of men unequally educated they were going to have that difference of opinion. How often did a lawyer come to them to give evidence if he found that they would give it as the facts were and not as he wanted them to be represented? Lawyers went and hunted for evidence that was favorable to their own side only.

Mr. Burke said that the French idea was to have a board of experts who would report on the thing alone.

The President had known of cases in which the court had taken upon itself to appoint an official expert. It was done sometimes, he believed, in connection with the medical profession. He had known also of one or two isolated instances where in building cases the judge had appointed an expert. That principle they would like to see carried out in its entirety—and that was the object of his suggestion—instead of its being an optional and very infrequent thing.

Mr. Darling thought they were laying down to themselves a very big job. He did not think any small body of men like themselves could induce any government to pass such a provision. He thought the simplest way out of the difficulty would be for the whole profession in Toronto to refuse to give evidence.

A member: You cannot refuse to give evidence.

Mr. Darling replied that he had refused. He had stated, "I will not give my opinion until I go into court. I will then give my opinion whether it is in your favor or the contrary." They had then declined to subpoena him. If one said that to the lawyer who wanted him to go into court to give evidence the lawyer would not then subpoena him. He had heard a statement made by a lawyer a short time ago which had irritated him beyond endurance. That was a case in which,

half a dozen architects having given evidence, the judge (the lawyer had told him) had said afterwards he did not believe any of them.

Mr. Curry and Mr. Darling objected to the two matters being dealt with in the one resolution.

The motion was then put that the question with regard to expert evidence be referred to the Council to bring in a report thereon at the next annual meeting, and on a show of hands it was declared lost.

The motion that the question with regard to degrees be referred to the incoming Council for them to consider and report upon at the next convention was then put, and was declared carried.

The President said that the next matter was the continuation of the discussion, adjourned from the previous day, on the question of chapters.

Mr. Dick, for the benefit of those who were not present on the previous day, gave a very full synopsis of the contents of the reports which he had submitted upon the subject, and then went on to say that, speaking as a member of the Association living in Toronto, he would like to say that they found such a chapter was really necessary. He remembered three cases in the past that showed it. One was that of the public competition for the city building. They had seen that certain conditions governing the competition ought, as they thought, to be improved; and in an informal way an influential architect called a number of the profession together, and a meeting was held. If there had been a chapter the secretary of it would have called the members together in a simpler manner. In another case a law suit was being carried on, and a certain firm called a meeting of the city architects and asked them to join with that firm in fighting out a certain point that was of interest to every one of them. Still another case was one which came up every year. The City Council had said that the Toronto architects were to appoint two members on the Board of Management of the Technical School. There was no proper body to elect these two members as things were at present. If they had this chapter in Toronto the City Clerk would communicate with the secretary, and the chapter would then elect these persons. He knew of a similar case in regard to a competition in Ottawa; and there were other instances which showed the necessity of having an organization of the kind, even though its meetings might be infrequent.

Mr. Darling thought they ought to have a body of local men who could be dealt with as an authority. One matter which they could have to do with would be building by-laws. He did not see that such an organization would militate against the interests of the Association. He thought if they could get men interested in a chapter they would take much more interest in the Association; and if other places would get up chapters it would, he thought, be a help to the Association also.

Mr. Belcher said that there could not possibly be a chapter where he resided, and therefore he could speak of the matter without being suspected of having any axe to grind. He quite agreed that it would be a good thing to establish a chapter here, and possibly others in Hamilton, Ottawa, London and Kingston. Members of these could get together and discuss various matters, and benefits would result not only to the chapters and to their members individually, but, he was sure, to the Association also. Then, when those belonging to the chapters got others who did not, to meet them here, they could post the latter, and from time to time, as opportunity offered, other chapters could be formed in the smaller towns.

The motion for the adoption of the report was then put and carried unanimously.

Mr. Curry intimated that he had a resolution in a rough form which he wished to submit to the meeting. It might afterwards, he said, be put in better shape.

Resolved, That the Council of the Ontario Association of Architects are hereby urged to procure, if possible, from the Ontario Legislature, the amendments to the Ontario Architects' Act which would enable the Association to carry on the provisions and objects of the Act.

That it is the opinion of this Convention that the Act has failed to accomplish the purpose stated in its preamble, which reads, "Whereas it is deemed expedient for the better protection of the public interests in the erection of public and private buildings in the province of Ontario, and in order to enable persons requiring professional aid in architecture to distinguish between qualified and unqualified architects, and to ensure a standard of efficiency in the persons practising the profession of architecture in the province, and for the furtherance and advancement of the art of Architecture." It has failed to protect the public, because when they desire the services of an architect it makes no difference, so far as they can see, whether he is registered or not, and therefore, the most incompetent person being at liberty to call himself an architect, is just as capable in the eyes of the public as the registered man.

It has failed to ensure a standard of efficiency because, for the reasons above stated, the students plainly see that, as far as the public are concerned, those who qualify themselves to pass the examinations are in precisely the same position as the most ignorant persons. Therefore, only those students study who would qualify themselves, act or no act.

If the Act has failed to ensure a standard of efficiency, it is obvious that it has also failed to further and advance the art of Architecture.

The architects of this province loyally undertook to carry out the Act even although they were fully aware of its defects; and they have borne the expense of doing so. In many ways the work has been a success, proving of great benefit to those who have taken the prescribed course of study and passed the examinations. But as the work is not in any way compulsory, many young men do not take the course or present themselves for examination.

The membership in the Association has fallen off to such an extent that it will soon be impossible for it to carry on the work any longer. There has been a yearly deficit for the past 4 years, amounting in all to $915, or an annual average deficit of $229. It seems, therefore, as if the wisest course for the Association to pursue would be to cease their efforts to have the Act amended, thus throwing upon the Government the responsibility for taking such steps as are necessary to protect the public interests.

The amendments to the Act which we seek are not of a character which would benefit any member of the profession financially. They would, however, raise the standing of the profession as a whole in so much as the architects of the future would be very much better fitted for their work, in that they would have received a thorough and systematic training preparatory to passing the examination. But our efforts have been misunderstood. We have acted in a disinterested manner, and for our thanks we have been accused of trying to benefit ourselves at the expense of the public. If the public desires to live under the present condition of affairs, there is no reason why we should not permit them to do so in peace.

It would be most unfortunate if the result of the work which has been accomplished in establishing the system of examinations should all be thrown away because of the inability of the Association to continue longer to carry it on. This Association would therefore respectfully urge upon the Government the necessity for their taking up and carrying on the examinations.

He thought it was hardly necessary for him to add anything to what he had said on the previous day. They did not want to be going year after year to the Legislature asking them to amend this Act into a workable form, and to be practically told that they were doing it for their own advantage, when in reality they were doing nothing of the kind. What they were doing was for the benefit of the public—to protect the public against dangers of which they seemed to be unaware, and which, if they were not desirous of being protected against, he would allow them to remain subject to.

Mr. Darling said that he had much pleasure in seconding that motion. As long as the principle laid down in it was maintained, it might be a little more carefully drawn, perhaps. It was certainly a very important one. He agreed with Mr. Curry that it was perfectly useless to go on year after year as they had been doing, and being met with the crassest kind of ignorance in regard to the matter on the part of people, who, besides simply knowing nothing about it, did not seem to care to know anything. They saw the same men year after year. They said, "Oh, yes, it is a very good thing," but that is the end of it. There was no use in going on like this indefinitely, because they could not help feeling they were just boring these people to death when they went to see them. The Minister of Education had always said that he was very favorable to this thing, that it would be very helpful, and that their support and interest in the School of Practical Science was going to help very much in the success of it Well, if the Minister thought so he ought to do something. They had done their best to help the school along in common with the profession at large. Personally, it did not make the slightest pecuniary difference to any one of the men now practicing whether that amendment was passed or not. But it was going to make a very great difference to the country, and if the Minister could not see that he had better be told at once, in plain English, that if he was not going to help in the matter the Association was not going to help him. He could do what they asked if he liked.

Mr. Belcher thought it would be best to leave the matter in the hands of the Council, with authority to use the resolution at their discretion at any time that they might think opportune.

Mr. Darling thought the time should not be limited by the resolution to one year, but that it should simply express the idea that the Association were not going to continue after this fashion.

Mr. Curry said that he was willing to have the motion changed to any form as long as the principle of it was adopted. The Association were going on with a yearly deficit, and they could not continue that forever. They had tried year after year to have this Act amended, and they seemed to be no nearer that point than they were five or six years ago. If they could not have the Act amended they should know it at once, and then simply put their Association into a position in which they could maintain it without charging unnecessary fees.

Mr. Dick thought that they had continued their course of procedure long enough, going to the Legislature for something that was certainly not for their personal advantage. It seemed impossible to get it into the heads of politicians that any body of men could take the amount of trouble and go to the amount of

personal expense that members of this Association had done for some object, the attainment of which was not going to benefit themselves. That is the feeling that they have, and they have very little hesitation about expressing it. They say, "It is all very well for you fellows to tell us your object is educational—that you want to educate young men so that they will be your rivals in the future, but that is a little more than you can ask us to believe." He rose really to make a suggestion to Mr. Curry, and that was that he might embody in that resolution a suggestion that the Government, if they were sincere in their expressed approval of the aims of this Association, might show it in a very practical way by taking the examinations off their hands. He (Mr. Dick) did not see any reason, since the Government had established a faculty of architecture, they might say, in the institution in which they were then meeting, why they should not themselves take charge of these examinations and relieve the Association of the trouble and expense connected with them. The Government could certainly do that work better than this Association could. The Government had every facility; they had means and men and everything else that was required; and if they were, as he said, sincere in expressing their approval of the work of the Association, they could show it in that way.

Mr. Burke agreed with Mr. Dick. He (Mr. Burke) should be very sorry to see the Association drop the examinations. Speaking from his own standpoint, the result to his students from the holding of the examinations had been very beneficial; students have become a different class; and he thought it would be a calamity to the students in the offices of members of the Association generally not to have the examinations before them during their studentship.

Mr. Curry said that if this resolution met the approval of the convention he should like to have it understood that it be redrafted by Mr. Dick, Mr. Darling and himself, so that in doing so all points might be carefully considered and the motion very carefully worded; and he did not think they could possibly do that inside of a week or two, because they might draft it, and then after thinking it over come back to it again. What they wanted now was the expression of the opinion of the members on the matter.

Mr. Power said he liked what was contained in Mr. Curry's resolution. When it was read it was going through his mind that there might be something done on the lines that Mr. Dick had suggested. He thought that gentleman's idea ought to be embodied in the resolution. He thought it should just simply be put to the Government in this shape: "Either pass this Bill or not. Allow us to carry on the Association or relieve us of the expense." He thought that if the matter was put in that shape it would show that the Association were willing to settle the thing either one way or the other. They could not go on with the thing in the shape in which it is now. He, for one, was quite willing that the Government should take the examinations off their hands.

Mr. Simpson remarked that the Minister of Education should have been made an honorary member of this Association, so that he could have been present at their discussions.

Mr. Darling: I think he should have been, but I do not think he would have come.

Mr. Aylsworth remarked that there did not seem to be any objection to the proposition. He would move that if the resolution was not to be passed by the Association as it stood, they should approve of the principle of it and leave it in the hands of the Council as an expression of opinion.

The President: Any seconder for that—that we approve of the principle without committing ourselves to the details?

Mr. Belcher: I second that.

Mr. Gregg said that last year the examining board of members had to meet, prepare papers, read them over to each other, and then go over them after they had been written and either pluck or pass the candidate. The largest number of papers was for one candidate. The reason for the paucity of students is that students would not study unless there was something definite in the future that they were working for. As it is now they think they are working for nothing, and therefore they do not read the proper text books, they do not prepare themselves, and they are not ready for the examinations. As a member of the Examining Board he was strongly in favor of Mr. Curry's motion, and he would like to make the examination a strong point in it.

Mr. Darling suggested that if the convention had sufficient confidence in the committee of three which had been named to draw that resolution up, to put it in such form as they thought best, subject to the approval of the Council, it would be better for them to allow the resolution to pass as a vote of the convention. It would in that way be much stronger than if the matter were disposed of in the manner in which the motion just made proposed.

Mr. Aylsworth said that his impression was that it was not desirable that this should now be passed by the Association. He had merely made the motion to save time.

The mover and seconder agreed to withdraw the amendment and the original motion was then put, it being understood at the same time that the wording might be modified by the committee, especially that portion of it with regard to the limitation of the time to one year, and also Mr. Dick's suggestion as to the examinations should be embodied in it; and further, that the Council should make use of the resolution in any manner that they saw fit.

Mr. Strickland: Do I understand that this motion of Mr. Curry's will be perfected before it goes to Council?

Mr. Curry: Yes.

Mr. Strickland: Are they to change any of it or not?

Mr. Darling: No, not in principle.

Mr. Henry: It seems to me that Mr. Curry's motion, as modified, means either that the Association go on or that it be killed completely. It was almost too important a matter to be voted on suddenly.

Mr. Gregg: The Council are to use it as they see fit.

Mr. Curry said that they could not pass a resolution at the present time which was going to hold the hands of the convention a year from now. This motion did not kill the Association at the present moment. It must go on for another year. But they were about tired of dogging after the Government. He certainly did not propose to do it any longer. They saw it stated in the papers by people who do not understand what the Association were trying to do that the architects were looking out for themselves. He thought that if the public did not think that they were acting in good faith in the interests of the public it was time they withdrew.

Mr. Baker said that it was pretty hard for the younger members of the convention to find all that they had been looking forward to now about to go. As Mr. Dick had said in his paper on "Style" that the development of any one style was not a matter of one year but the work of time and effort, so it was with matters of this sort. As a younger member, one who has been a student, it struck him as being too bad altogether that the thing should be in the shape in which it now was. They had certainly to do something to make it workable; but he was entirely opposed to doing anything like discontinuing its work under the Act.

Mr. Darling did not think the resolution meant that they were going to give up the Association because they did not get what they wished. It was not burning their boats behind them; it was only getting the matter in some kind of form. What this resolution meant was that the men in the Council and outside the Council who had been doing this legislative work should be freed from the necessity of going up to the House and pushing the matter of legislation for an indefinite period. The Government were to be asked to assume the expense and responsibility of running the examinations. Surely the Government must be concerned in the success of the school they had started themselves without any suggestion from the architects of this province. The architects throughout the province had been taking a great deal of interest in that school and were prepared to take a great deal more interest; surely the Minister must see that.

Mr. Baker: Mr. Dick's point is a very good one; but outside of that I do not see what will be gained. When you started out ten years ago to get this legislation, you did not expect to get it in five years or ten years or twenty years, did you?

Mr. Darling: Certainly I did, and if you had heard what the Minister of Education has said to us, from time to time, you would have thought so too.

Mr. Gray said it seemed to him that the resolution was very comprehensive, and he did not see anything in the passing of it that would determine the future action of the Association. It seemed to him that it was only a matter of time in any case when these examinations must be dropped by reason of the expense. He thought Mr. Curry's idea was to take time by the forelock and to have this resolution as a means of freeing the hands of the Council. If the resolution resulted in attaining their object they would have taken a step in advance. If it did not they would be in a position in which they might either change their tactics or proceed upon some other line.

Mr. Henry: I would move in amendment that instead of the convention passing this as a resolution it be simply passed as an expression of opinion.

The President: I do not see the difference.

Mr. Henry said that it seemed to him that if they passed it as a resolution the Council ought to carry it out to the letter, and not do otherwise unless asked to use their own discretion.

Mr. Aylsworth said he did not understand the resolution in that way. He thought it was simply intended as a means of strengthening the hands of the Council.

Mr. Curry: With the consent of the seconder of the resolution I am quite willing to have it placed in the form Mr. Henry wishes to have it in—as an expression of the opinion of the Convention.

Mr. Darling concurred.

The President put the resolution in the form thus suggested and it was then carried.

Mr. Langton said that Mr. Andrew Bell, who had attended the convention, but who had had to leave to catch a train, had asked him to move to change the place of meeting of the convention next year to Ottawa. Mr. Bell had thought it would be a good thing for architects in his part of the country if the convention could be held in that city next year. He (Mr. Langton) moved accordingly that it be an instruction to the Council to call the meeting at Ottawa next year. The resolution not obtaining a seconder, it fell to the ground.

The election for four members of the Council then took place, and the gentlemen who were called upon to occupy those positions were: Messrs. Andrew Bell, S. G. Curry, D. B. Dick, and Frank Darling.

It was moved by Mr. Darling and seconded by Mr. Henry, that the same gentlemen be auditors for the ensuing year as had acted in that capacity last year, namely, Messrs. Henry Langley and W. R. Gregg.—Carried.

Mr. Henry moved a vote of thanks to the Minister of Education for the use of the building, and to the members of the staff of the School of Practical Science for their courteous assistance, which was carried.

Mr. Dick asked leave to tender his resignation as a member of the Council, and said that he would have liked to have Mr. Watts, of Ottawa, elected to that position. Mr. Curry asked leave to resign and suggested that another member not residing in Toronto should be elected in his place. Both these propositions were received with expressions of dissent.

The following are the officers of the Association for 1897: President, Jos. W. Power, Kingston; 1st Vice President, E. J. Lennox, Toronto; 2nd Vice-President, S. G. Curry, Toronto; Treasurer, E. Burke, Toronto. Council—Andrew Bell, Almonte; Frank Darling, Toronto; D. B. Dick, Toronto; J. M. Moore, London; W. R. Strickland, Toronto. Registrar and Librarian, W. A. Langton, Canada Life Building, Toronto.

THE BUILDER

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PROMINENT CONTRACTORS OF MONTREAL.

WE have the pleasure of being able to present to the readers of this New Year Number, portraits of some of the leading contractors in various lines in the city of Montreal. In the accompanying brief biographical sketches are presented in outline the career of these gentlemen :—

MR. HENRY W. GARTH,

senior partner in the firm of H. W. & J. H. Garth, proprietors of the Dominion Metal Works, is a native Canadian, having been born in Montreal in the year 1840.

He was educated at Upper Canada College, Toronto, Ont., and after leaving that institution in 1863, entered the employ of Messrs Carpenter & Co., wholesale hardware merchants of Toronto. He remained in the employ of this firm for five years, and at the expiration of that time returned to Montreal. He then entered the employ of his brother, Mr. Charles Garth, who was then principal owner and director of the Dominion Metal Works. He became a partner in the firm in the year 1875, under the style of Charles Garth & Co. Mr. Charles Garth retired from business in the year 1878, when the subject of this sketch became senior partner, and associated himself in business with his nephew, Mr. John Garth. These gentlemen have since carried on the affairs of the firm most successfully.

The Dominion Metal Works was established in the year 1823 by the father and grandfather of the present

MR. HENRY W. GARTH.

proprietors. It is the oldest establishment of its kind in Canada, and to the enterprise of its originators is due the first introduction of gas lighting, the first hot water heating, and the first steam heating apparatus into Canada. Most—in fact, nearly all the principal public buildings, and many of the largest private houses of this country have been fitted up by this firm, and their work has given general satisfaction.

MR. GEORGE ROBERTS

was born at Camden Town, London, England, May, 1826. He learned his trade with his father, a contractor and builder, in conjunction with whom he erected several large buildings. He came to Canada in 1854, and was engaged as superintendent of buildings on the Quebec and Richmond Railroad, under the late Mr. R. J. Reekie. On completion of the works in 1856 he re-

MR. GEORGE ROBERTS.

moved to Montreal, and in the spring of 1857 commenced business there on his own account. In a few years he had succeeded in establishing a large business, employing on an average 75 to 100 carpenters and joiners. Mr. Roberts has been connected with the construction of many of the most important private and public buildings in the city, including the McGill Library and Physics buildings and Bank of Montreal. Mr. Roberts' workshops are equipped with the most modern facilities for the production of first-class joinery.

MR. GEO. W. REED.

One of the pioneers in modern methods of roofing is Mr. George W. Reed, of Montreal. Born in New England some sixty-eight years ago, and passing through Montreal just after the great fire of 1852, he saw the opportunity there was for a live man in the business, and promptly acted upon his convictions.

At that time slate as a roofing material had never been known in the city, and Mr. Reed was the first to introduce it to the attention of architects and proprietors. This habit of being first to take hold of anything good in his line of business has been a characteristic of his through all his long and successful business life.

His idea from the first has been that good work was the only sure road to success, and the results have justified his course.

As the growth of his business has demanded, new lines have been added to the old, until at the present time this is one of the largest houses in roofing and kindred trades in the Dominion, giving employment to a

large staff of men, and calling for clear-headed superintendence.

The latest addition is the agency of the Boston Blower Co.'s Canadian business in heating of large buildings

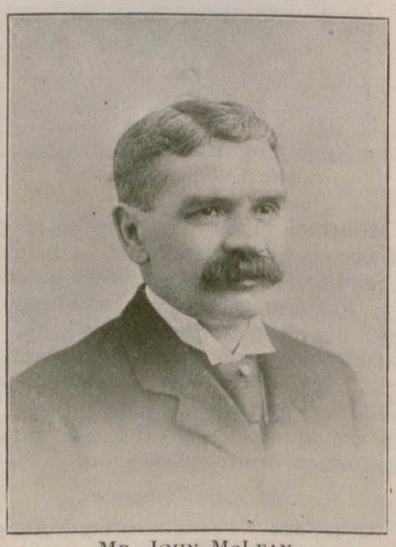
MR. GEO. W. REED.

and the fitting up of stock conveyors for cotton, wool, and other mills.

Among the business men of Montreal Mr. Reed stands in the front rank of those whose business lives have done much to elevate the standard of business integrity in the community.

MR. JOHN McLEAN

commenced business in Montreal as an ornamental plasterer in the year 1870, and for the last quarter of a century has been closely identified with this and other branches of ornamental work in connection with most of the important buildings erected in that city during that period. Mr. McLean has established an excellent



MR. JOHN McLEAN.

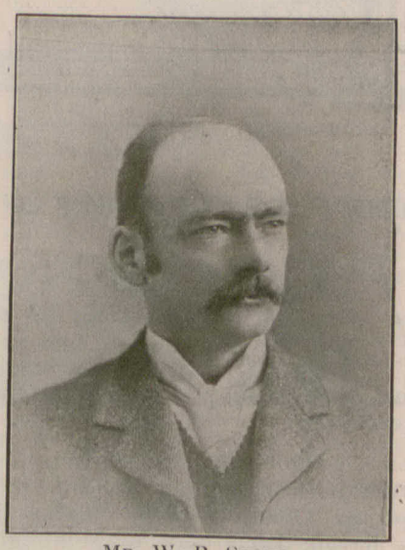
reputation for thorough, conscientious and skilful work in this and other allied branches of the building trade. The first terra-cotta fireproofing work for division walls, ceilings and roof construction in Canada was put in by him as contractor during the erection of the fine building of the New York Life Insurance Company on Place d'Armes, Montreal. Again, under the direction of Mr. A. T. Taylor, F.R.I.B.A., he was in the van—being first to lay marble mosaic floors—the first in Canada being put down in the banking room of the Bank of Montreal.

MR. W. P. SCOTT

represents a familiar figure in the building trade of Montreal, and but few in the trade have had a more marked success than he. Mr. Scott is a true Scotchman by birth, being a native of Edinburgh. Landing in New York, he pursued his trade with the leading designers and decorators of that city, and being possessed of considerable talent as an artist, and the indomitable push characteristic of the Scotch, has gained for himself a wide reputation as a designer and decorator.

Mr. Scott arrived in Montreal about 20 years ago and opened business on his own account, and from that time he began to step the ladder of success, and is now at the head of his profession in Montreal.

Mr. Scott is of a quiet, genial disposition, and possessed of a considerable amount of patience and the



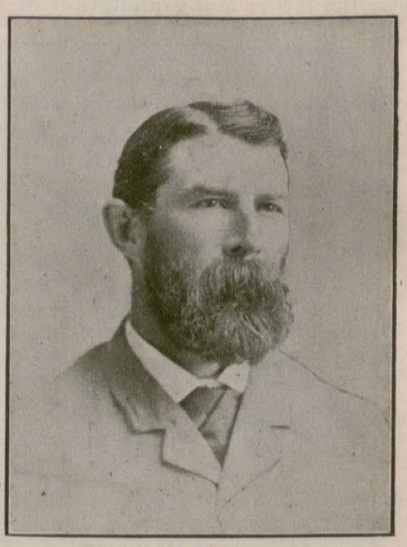
MR. W. P. SCOTT.

power to please, backed up by talent as an artist, and to these characteristics is largely due his success.

Among the large public buildings of Montreal there are many which bear witness to his skill.

MR. J. H. HUTCHISON,

who occupies the foremost rank as a masonry contractor, commenced business about 25 years ago, his first contract being the casing of the post office building at Portland, Maine. After a residence of three years in Portland Mr. Hutchison returned to Montreal, and in connection with Mr. Daniel Wilson built the Windsor Hotel. On the completion of this work he again engaged in business on his own account. He built the Redpath Museum, and also constructed the first ice palace in Montreal. Mr. Hutchison's yards, situated



MR. J. H. HUTCHISON.

on Seminary street, cover an area of 4,000 square feet. He owns an extensive machinery plant operated by steam, and gives employment to a large number of workmen. Among the important buildings which he has erected may be mentioned the Redpath Museum, Temple Building, Board of Trade, High School, St. James and Erskine churches, Queen's Hotel, and the residences of Lord Mount Stephen, Sir Donald Smith, R. B. Angus, R. G. Reid and Hugh Graham.

POINTERS FOR CONTRACTORS.

By H. T. F.

"Order is heaven's first law; and this confest,
Some are, and must be, greater than the rest."—POPE.

THE couplet is true on both counts, and particularly so as regards contracting and contractor. "Order" is the first requirement, and this quality faithfully carried out, marks the contractor as "greater than the rest." Order, in the preparation of estimates and order in the manner of conducting his work when once a contract is obtained, will most assuredly lead to a large measure of success in business. It may be asked, however, "What is order when applied to contracting?" I will endeavor to give my view of "order," as maintained by the successful contractor.

A well digested method in making out estimates is the first element of success, and to arrive at this method considerable brain effort must be expended, and some clerical labor employed. A proper list of everything required about a building must be prepared—preferably in alphabetical order—with prices of the material given, and where possible, price of labor in setting or finishing in part or whole. To this must be added cost of delivery in the works, insurance, and a fair percentage for contingencies. The orderly estimator will first take a survey of the ground on which the building is to be erected; he will consider the means of getting his materials on the ground. Then he will find out, by actual measurement, the amount of excavation necessary, and the distance he has to remove such earth as must be carted away. The amount of stone and brickwork, the number of yards of concrete or cement floor required, and all the drain tile will be counted up; each kind and quantity charged in the estimate under its own heading. So with everything about the building, timber, nails, paint, glass, plastering, hardware, and the thousand and one other things necessary to complete the contract; everything charged in its proper place accompanied by such remarks as may be deemed pertinent. And, at this point, let me remark, that seventy-five per cent. of the troubles that befall the country contractor at least—and this applies also in large measure to contractors everywhere—are due to ignorance or disorderly estimating.

Two things the young contractor should avoid, are, hasty and disconnected estimates, and the acceptance of work on another man's figures, unless that man is an expert, and paid for preparing the figures. The unwary contractor who has no confidence in his own figures, becomes an easy prey to the unscrupulous owner, who does not care a snap who loses money so long as he gets his work done at a low figure. A contractor who allows his desire to get the "job," or whose necessities impel him to take the work for whatever he can get for it, stands on the brink of ruin, and is sure to be crowded to destruction by the time—or before—the works are finished. Be sure your figures are right; knowing this, nail them to your mast, as it were, and stick to them to the end, unless you find you have omitted something, rendering your tender too low; then ask to be allowed to add the deficiency, and if not permitted, withdraw from the contest. It is not often, however, that the orderly estimator overlooks an item of material or an hour's labor.

The work having been awarded, immediately set to work to provide materials, so that as soon as operations commence, there need be no cessation for lack of stuff until the completion of the building. Make a full and complete set of bills of material, taking the quantities from the estimate, and BE SURE you get what you order, both in quality and in quantity. If you use any stone, arrange to pay for it as measured in the wall—100 feet to the cord. Of course, dimension stone will be paid for by the foot, or as may be agreed upon. Look carefully after your brick during delivery, and see that you do not get more than your proper allowance of "bats" and "soft bricks." House your lime as soon as it is on the ground, and be sure you get the quantity you are billed with. Keep an eye on everything you have placed on the ground. Overhaul your lumber bills and have the number of joists, studs, rafters and all dimension stuff, tally with your order and with your bills. Do this without delay, so that discrepancies may be adjusted while the matter is fresh. Make arrangements with your painter to have all shop work primed as soon as it leaves the workman's hands. The plasterer and plumber should be engaged to start their respective labors when required, in order to have the work continue without a break. All these things being arranged in an orderly manner, the next thing will be to commence work.

The first actual work will be to excavate for cellar. The contractor must first lay out the size of excavation and start his laboring men to work, either under his own supervision, or that of a competent foreman. In either case the exact time of each man should be kept in a time-book prepared for the purpose, and each man on the work should also be provided with time slips similar to the one given below, in which a daily record will be kept of the doings of each workman, including date, time, for whom the work was done, and the description of work: these slips do not cost much, and I dare say they may be had at the office of THE CANADIAN ARCHITECT AND BUILDER. Their advantage and usefulness cover much more than their cost, and are a sure preventative to subsequent disputes regarding time and wages. They should be handed in to the contractor, or his clerk, at least once a week:

STUB.	WORKMAN'S TIME SLIP.		
No. 10. .....189..	No. 10. .....189..		
..... (Workman's Name.) for ..... Contractor, etc., on John Doe's cellar, excavating and moving stones, 8½ hrs.	Work Done This Day by.....		
	For Whom.	Description of Work.	Time.
	John Doe...	Excavating cellar and moving stones.....	8½ hours.
(----2¼"----)	(--1⅛"--)	(-----2⅜"-----)	(--1.0"--)

The stub may be kept by the workman, while the slip should be kept on file after the time has been properly charged on the one hand and credited on the other.

By adopting a system of this kind, or one similar, the contractor may know every day, if desired, just how the work is getting along financially. In adopting this method of getting at the actual cost of any work it does not follow that another piece of work of a similar kind will cost exactly the same amount. The knowledge gained to-day by actual experience is not sufficient for an estimate to be made six months or a year hence; and, accordingly, the contractor must be constantly laying about him for new ideas, ever on the alert to take advantage of new methods and ready to make application of these novel plans that are constantly being put forth to facilitate work and reduce cost. It is impossible for the non-progressive contractor, who still adheres to the methods of twenty-five years ago, to compete with men whose organ of order is largely developed, and who are alive to every modern innovation if it gives promise of advancing his interest.

Besides adopting the foregoing method of time keeping, the contractor should have a slip for his own use, which might be termed "A Memorandum of Estimate

and Costs." This memorandum should be for the purpose of noting results and comparing them with first estimate in order to discover lapses or discrepancies. In my own practise, when contracting, I found this system of great utility in giving a definite to every transaction connected with the work in hand, which served me well when making estimates on other buildings. I give herewith a form that is generally employed for this purpose :

MEMORANDUM OF ESTIMATE—COST FOR MR. J. DOE'S HOUSE.

.....189..

Various Service and Material.	Quantities.	Original Estimate.	Bid.	Cost.	Profit.
Cost Preparing Estimate and Expenses					
Grading and Excavating					
Quarried Stone					
Mason Work					
Dimension Stone					
Brick and Terra-Cotta					
Bricklayer					
Grates					
Ranges and "Set Stoves"					
Heaters					
Heating Pipes, Radiators, etc.					
Registers					
Mantels					
Tiles and Tile Floors					
Outhouses					
Pavements					
Carpenter Work					
Lumber					
Factory Work					
Porches and Verandahs					
Fences					
Hardware					
Painting and Glazing					
Plastering					
Plumbing					
Gas Pipes and Fixtures					
Electric Wiring and Fixtures					
Roofing					
Tin and Galvanized Iron Work					
Iron Fencing and Cresting					
Cellar Floors					
Cement Work					
Teaming and Carting					
Laborers' work					
Permits and other Legal Matters					
Paperhanging					
Personal Expenses					
Percentage					
Insurance					
Miscellaneous					

Here the contractor may tell at a glance what any piece of work cost him, and he may be able to judge from this what any similar work is likely to cost him, though, as before stated, it will not do to accept blindly as the probable expense of one piece of work because a similar piece previously cost a certain sum. No matter how much alike two pieces of work may be in style, material and surroundings, there will always exist conditions that will make differences of cost. This is a well-known fact among experienced contractors.

The great leak that is so often found in contractors' affairs is generally to be looked for in the labor department. When I say "labor department" I do not confine myself to the laboring man,—the man who works with pick and shovel,—as a rule he performs his part well and honestly, and his pay is small ; I mean the loss is mostly found in the pay sheet of the high-priced mechanic, chiefly because he has not been handled properly. After the quality of order in a contractor, should follow a knowledge of men and an ability to lead them to successful endings. There should be no delay in paying their wages. If any portion of wages due the mechanic is held back from any cause, that mechanic at once becomes a creditor of the contractor and can not, from the very nature of things, feel bound to do more for his employer than his own ideas and inclinations will permit. Prompt payment of wages does much towards making prompt and industrious workmen. Be prompt and correct in all your dealings with men in your employ, then you may expect to receive prompt and effective service, for you hold the right to exact it.

In letting sub-contracts, it is usual to pay the sub-contractor in the same ratio as the contractor is paid. This, in all cases, should be understood in order to prevent disputes. It is always better for a contractor to sub-let the work of heating and plumbing, but in doing so it should be understood that all the work must be done in accordance with the demands of the main specifications and drawings, but if there are no drawings showing the system of piping for the heating and plumbing, with radiators, registers, baths, sinks, taps, vents, etc., a plan should be prepared before the work is let, and this plan should be approved of by the architect or by the owner if there is no architect employed. I must warn the young contractor here concerning the matter of heating and plumbing, and advise that if he has had no experience or a very little experience in these branches, he should take no definite action about them until he has got the opinions of some person or persons who have had a lengthy experience. Indeed, in preparing an estimate, when much plumbing is to be done and where a system of heating is to be placed in the building, it is always the wisest plan to submit the drawings and specifications to some experienced person in the business, and have him estimate on the work and say what he will do it for. The figures secured, it is well to add from 5 to 10 per cent. to them to cover the contingent expenses that are sure to arise. If the mason work, painting, and portions of the work are sub-let for fixed amounts, do not forget to add a percentage to the amounts to be paid to sub-contractors, for it must be borne in mind that you cannot be responsible for another man's work and see that he performs his proper duties, without an expenditure of time, labor, and money.

Having received and accepted the most suitable bids for the various works, and added them to the figures estimated for the work you intend undertaking yourself, the next thing will be to add an additional 5 or 10 per cent. to the whole amount, which sum should represent profit above all and every expense in connection with the contract. If this amount, or a greater one, does not result from the work when completed, it can not be said that it was a profitable contract, as business matters go.

I would like to say right here that no sensible contractor ever "jumps" at the cost of a building and takes the work at the figures he gives, neither will he adopt the method of "cubing" in making an estimate that he intends to use when tendering for a piece of work. Cubing may do well enough in experienced hands for making an "approximate" estimate of the cost of a building, but proves a snare and a pitfall, if relied upon as being exact.

Besides the blank forms presented in the foregoing, there are many others that are used by contractors in their practice, varying according to the character of work and its locality.

At the annual meeting of the Owen Sound Portland Cement Co., held at Owen Sound on the 22nd December, the following officers were elected for the current year : John Lucas, President ; J. E. Murphy, Vice-President ; R. P. Butchart, Manager ; W. P. Pierson, Director ; Geo. S. Kilbourn, Secretary-Treasurer.

The Pedlar Metal Roofing Co., of Oshawa, Ont., will be pleased to send architects and others interested illustrated catalogues of their various lines of manufacture, including metal ceilings, shingles, sidings, lath, corrugated iron, sheet metal building fronts, etc. Their book of art ceiling designs is worthy of special mention.

The annual election of officers of the London Master Plumbers' Association was held on the 17th of December, with the following result : W. H. Heard (Chairman of Dominion Sanitary Committee), President ; Wm. Smith, Vice-President (re-elected) ; Jas. Greenaway, 2nd Vice-President ; Thos. Partridge, Treasurer ; Wm. Skelley, Jr., Secretary ; Chas. Walker, Seargent-at-Arms.

Messrs. F. B. Dakin & Co., of Iberville, P. Q., have just completed a contract with the Sanitas Mfg. Co., of Boston, to manufacture their patent closets for Canada. Messrs. Dakin & Co. are making some very handsome and nice working closets, among them a new patent syphon wash-down, which promises to supersede the wash-outs now so generally used. Architects, contractors and plumbers should look into their merits.

PERSONAL.

Mr. S. G. Beckett is now installed in the office of Geo. W. Gouinlock, architect.

Mrs. Adams, wife of Mr. James Adams, ex-government architect of Kingston, Ont., is dead.

Messrs. Edward Martyn and George Hammett, two London contractors, leave this month on a trip to England.

On the 21st of December Mr. Wm. R. Burke, civil engineer, of Ingersoll, was married to Miss Ferguson, of Cookstown.

Mr. Andrew Davidson, a well-known contractor, of Kingston, Ont., died last month. He was 68 years of age, and a native of Scotland.

The death is announced of John Wallace, contractor, of Brockville, Ont., who erected many of the best buildings in that city. He had reached the age of 79 years.

Much sympathy is expressed with Mr. John Lucas, contractor, of Toronto, in the death of his wife. Mrs. Lucas was walking up Spadina avenue when she suddenly expired from heart failure.

Theophile Le Blanc, who is said to have been an architect of some ability and a good draughtsman, died in New York city on the 15th of December. He was a graduate of a Canadian college.

Mr. William Rae, who has held the position of head draughtsman for Mr. Geo. W. Gouinlock, architect, for the past two years, left a couple of weeks ago for a trip on the continent and expects to be gone about six months.

Mr. Clarence Burritt, who has been employed in the office of Messrs. Strickland & Symons for the past four years, resigned his post to accept a more lucrative position upon the draughting staff of Geo. W. Gouinlock, architect, Toronto.

During the past month another Canadian architect has joined the ranks of the benedicts, in the person of Mr. Herbert Matthews, of London. The ceremony took place at Sarnia, the bride being Miss Collins, of that town. The ARCHITECT AND BUILDER extends congratulations.

PUBLICATIONS.

Messrs. Castle & Son, Montreal, are sending out to architects and other customers a very neat and useful daily pocket memorandum book for 1897.

Copies of papers presented before scientific societies and brochures published on a variety of subjects by Mr. Chas. Baillairge, architect and civil engineer, City Engineer of Quebec, have been bound together in one volume, and we are indebted to the author for a copy of the same.

CHIPS.

Mr. W. C. McDonald has presented the Peter Redpath Library of McGill University, Montreal, with a valuable collection of architectural works.

The journeyman plumbers and steamfitters of Montreal have formed a union, seventy-four shops being represented. Mr. M. A. Verville is president.

The bill incorporating the St. Johns Stone Chinaware Company, of St. Johns, Que., has passed its third reading in the House of Assembly, at Quebec.

The Methodist church at St. Mary's, Ont., has been improved, at a cost of about $7,000. The work was carried out under the supervision of Mr. David Baxter, architect, of Stratford. Accommodation is provided for 1,000 persons.

As a result of mining operations, a building boom is being experienced at Rossland, B. C. The first brick building, a hotel located on Main street, has been finished. Brick kilns have been started in the town, the product selling at $20 per thousand.

Mr. Francois Lapointe, a Chicago architect, has made a proposition to the City Council of Montreal to construct a steel tower, 600 feet high and 258 feet at its base, on Mount Royal Park. The promoters are a company of Canadian and American capitalists.

The improvements to the Wall street Methodist church at Brockville, Ont., have been completed. The old church has been converted into a Sunday school room, and a new church erected alongside, giving a total seating capacity of 2,000. The cost of erection and furnishing was $22,000. Messrs. Power & Son, of Kingston, were the architects.

It is said that a new kind of roofing material is being produced at a mill in Christiana, Norway, in the shape of imitation slates, which are made of compressed wood-pulp and rendered waterproof by a secret process. The new slates are black, not easily broken, of light weight, and are cheap. In short, they possess every advantage of the best slates now in use.

The Engineering Record calls attention to the dangers of high-speed elevators, in connection with the recent accident in the American Tract Society building at New York. In this case elevators ran at 700 feet per minute, and the safety device works at a speed of 900 feet per minute. The elevator became unmanageable and went down at a high rate of speed, which was enough to break the bones of the passengers, but not enough to release the safety-catch and bring the machine to a stop. This journal recommends that the speed of elevators should be restricted to 400 feet per minute.

THE ONTARIO RADIATOR COMPANY.

APPLICATION has been made to the Ontario Legislature for the incorporation of the Ontario Radiator Co., Ltd., with a capital stock of $300,000. The first directors of the company are to be Messrs. Thos. Kinnear, W. A. Mitchell, Samuel Crane, J. T. Jackson, J. A. Keyes and F. J. Travers, of Toronto, and Samuel Jackson, of St. Catharines. The purpose for which incorporation is sought is to manufacture a patent radiator, the invention of Messrs. J. T. Jackson, of Toronto, and Samuel Jackson, of St. Catharines. The inventors claim that a fault with radiators as at present constructed is that the steam or hot water often lies dead or stagnant within the radiator loops, which are blind ends, and which, consequently, prevent a free circulation of the steam through them. A great difficulty is to get rid of the air in these loops. The presence of the air in the loops prevents the steam circulating, and causes half of the radiator to remain cold and unaffected by the ingress of live steam. The Jackson radiator has no blind ends in the loops. The steam goes up one side of the loop and down the other side. Then it passes on to the next loop, and repeats the same operation. The radiator is in effect a continuous pipe. The principle underlying its construction is exactly the same as that of a coil or straight pipe, all the air in which is driven out by the steam as it enters, and continues along the pipe. A test of the radiator was recently made at the Polson Engine Works, Toronto, before a number of interested persons, including several architects, and is said to have been very satisfactory. A patent has been obtained for Canada, and applications for Great Britain, France, Germany and the United States are under way.

KEEP ON ADVERTISING.

No business man not yet dead in the shell but can see even in dull times an opportunity to let the world know that he is alive. In advertising one's business it is perhaps three times out of four a blind and fatal mistake to leave the public in the dark as to whether the factory is still running and the owner thereof alive or dead.

No industry that is not overdone or wrongly located can be effectually downed by a spell of depression. Consumers do not quit the world as some gentlemen did in the days of Noah, and if unable to purchase what they need to-day, the same need speaks for itself to-morrow. When the wind is low, mend your sails, and the man who is prepared for the breeze is the man most benefitted by the same.— Power and Transmission.

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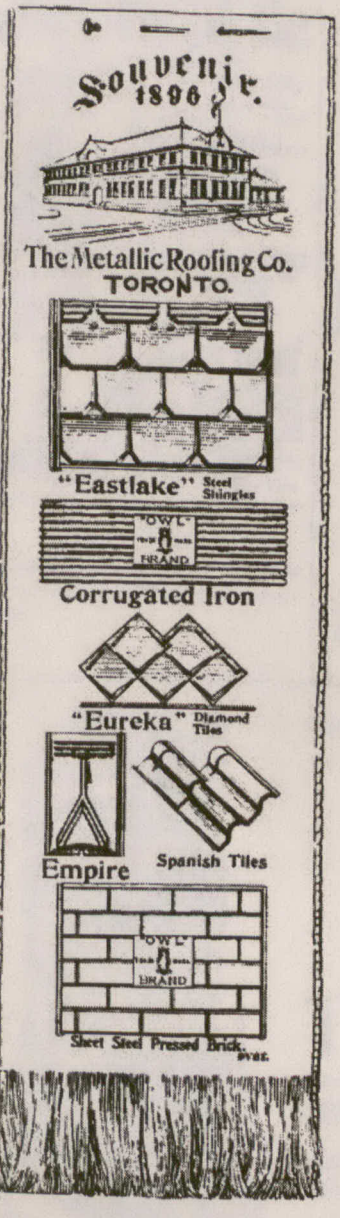

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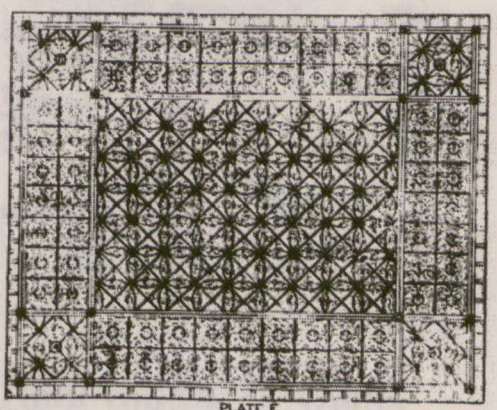

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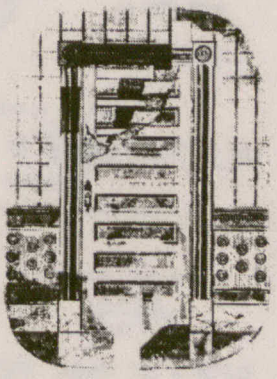

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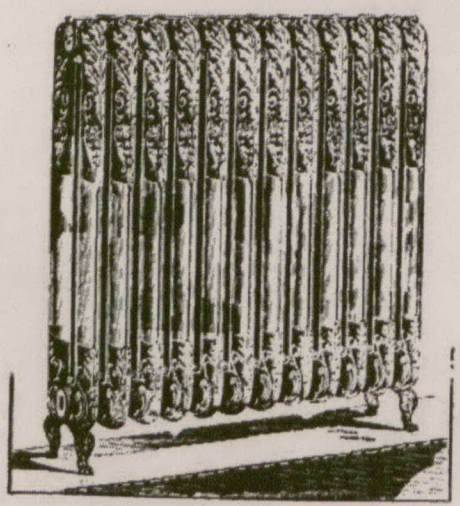

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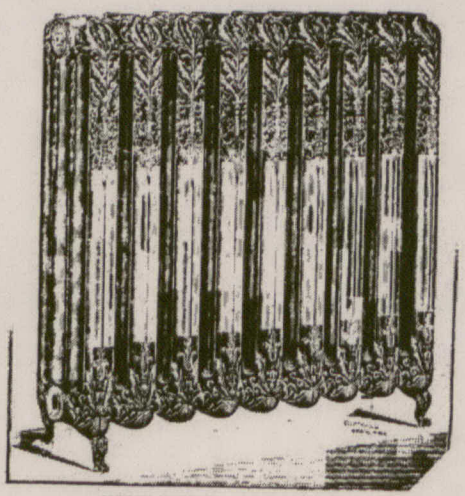

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PREMIER.....

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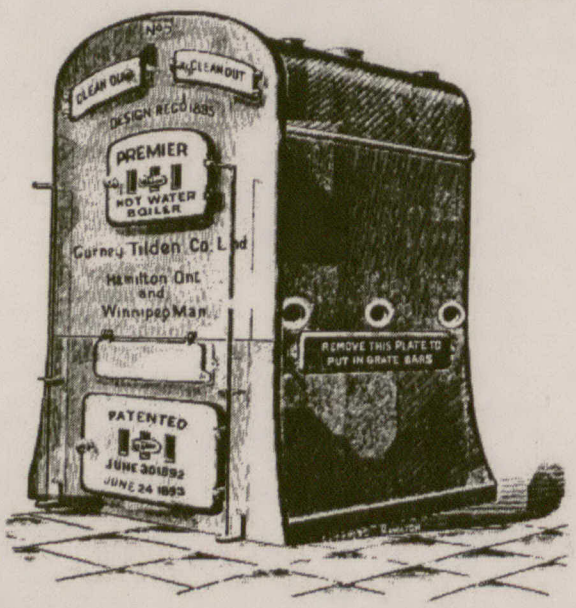

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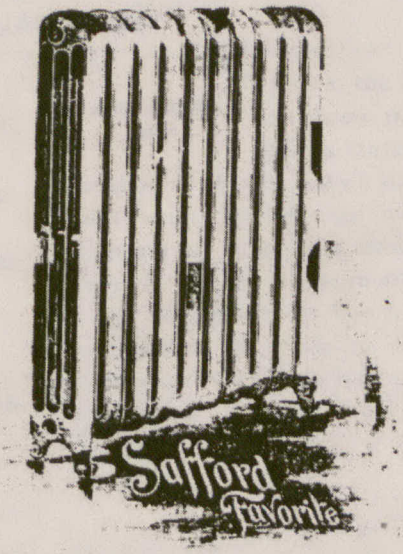

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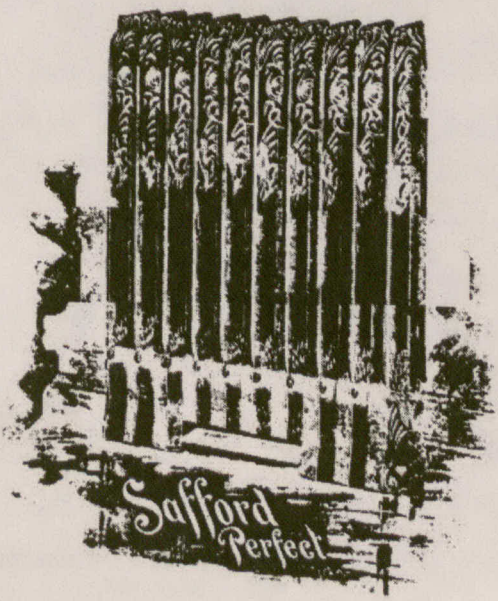

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