VOL. 5. NO. 12.

NOVEMBER, 1912

$3.00 per Year
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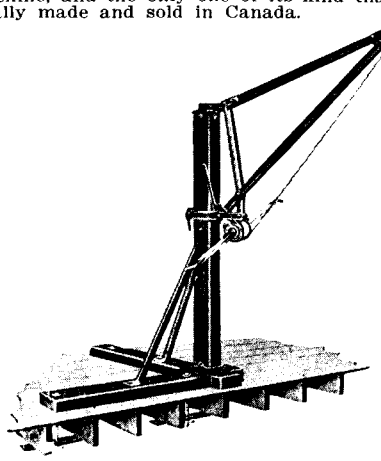

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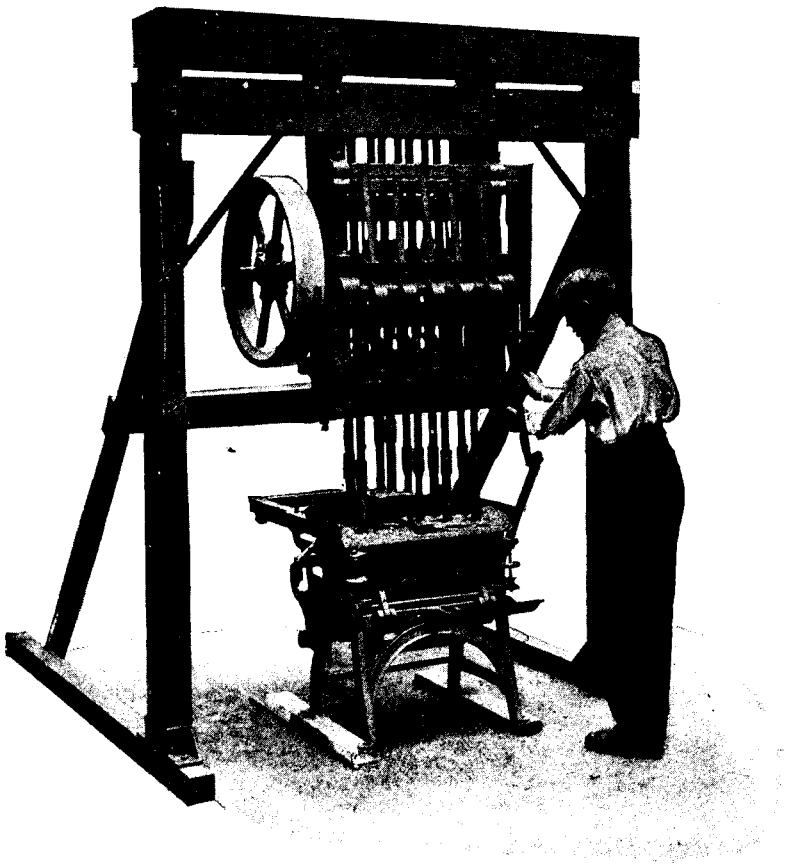

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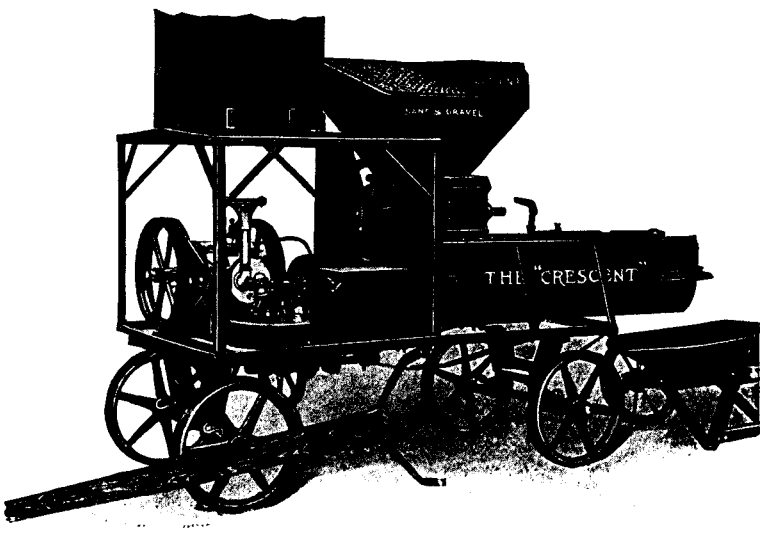

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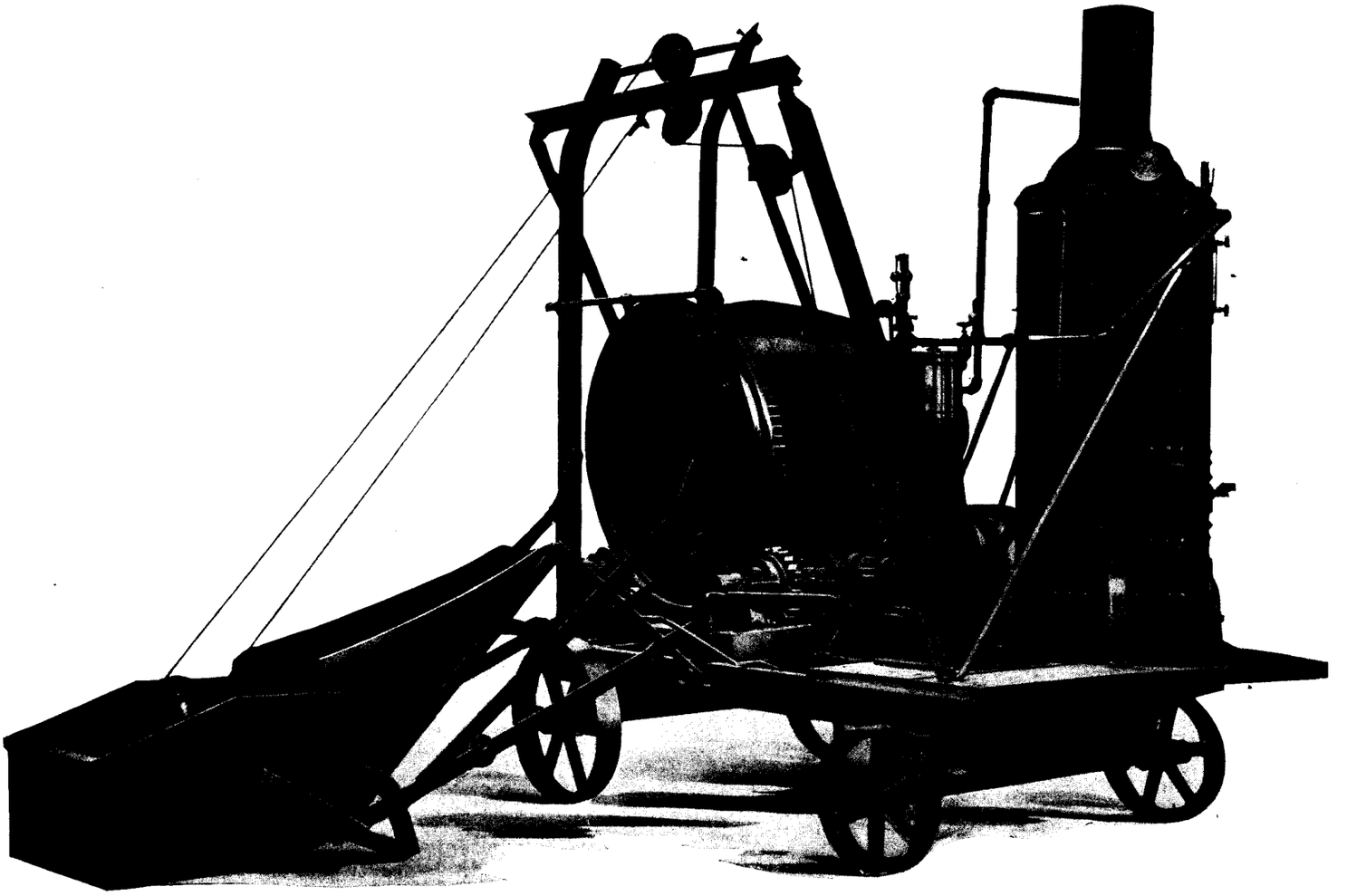

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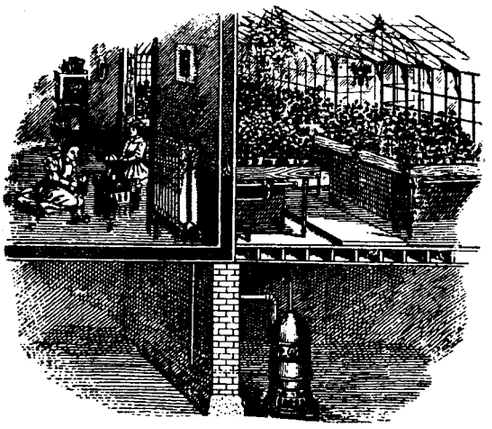

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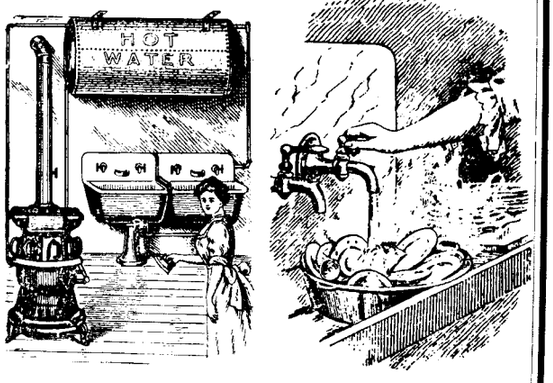

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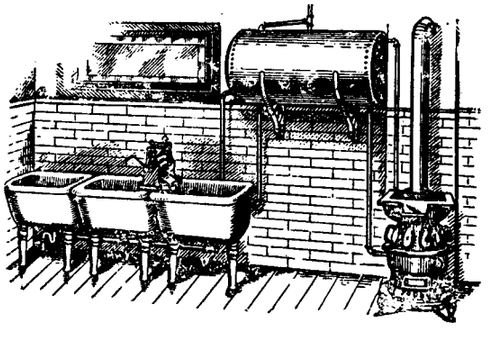

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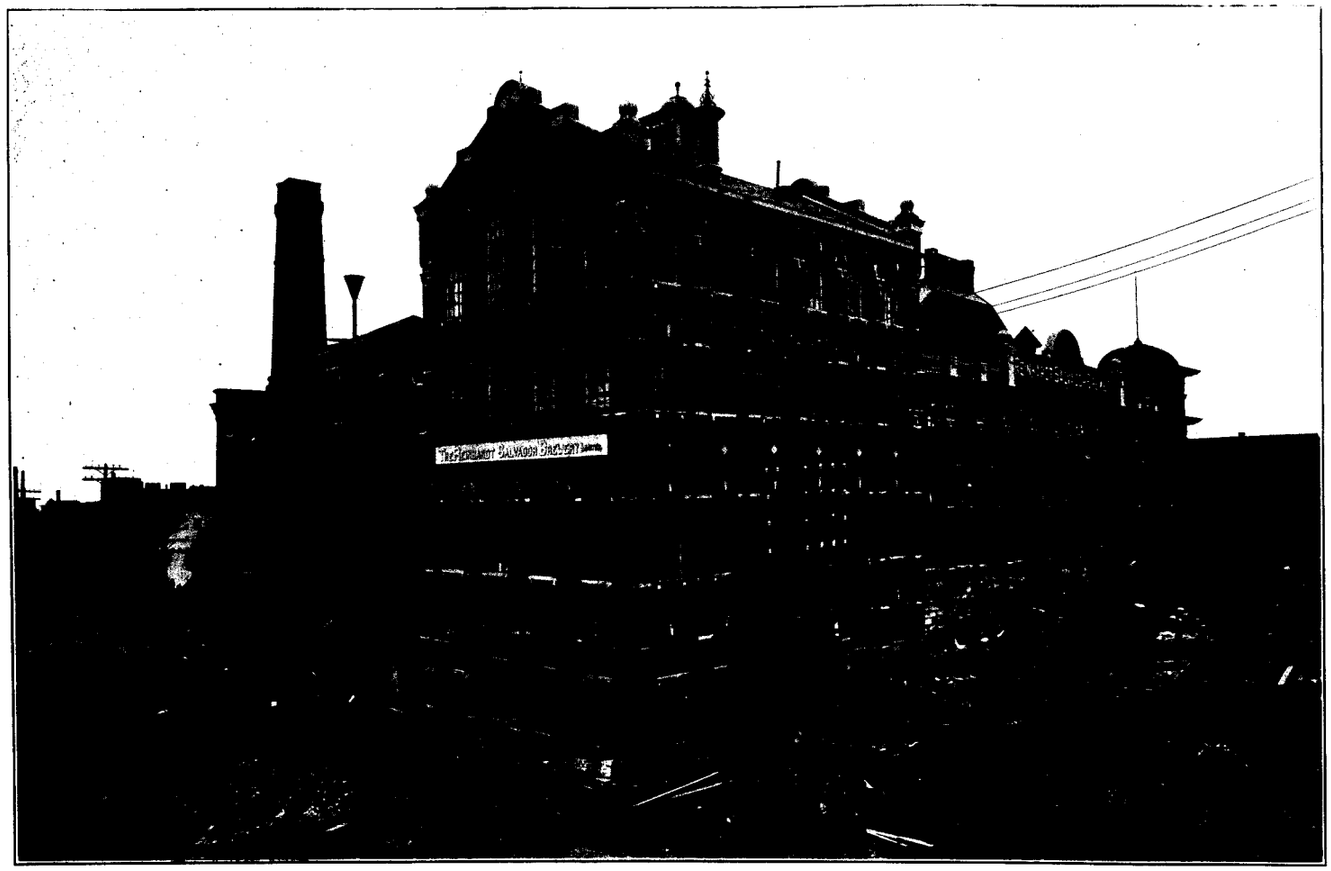

New Building, "The Reinhardt Salvador Brewery," Toronto. F. H. Herbert, Architect. Holtby Bros., Mason Contractors.

Some Notable Factory and Warehouse Buildings Built with DON VALLEY Bricks

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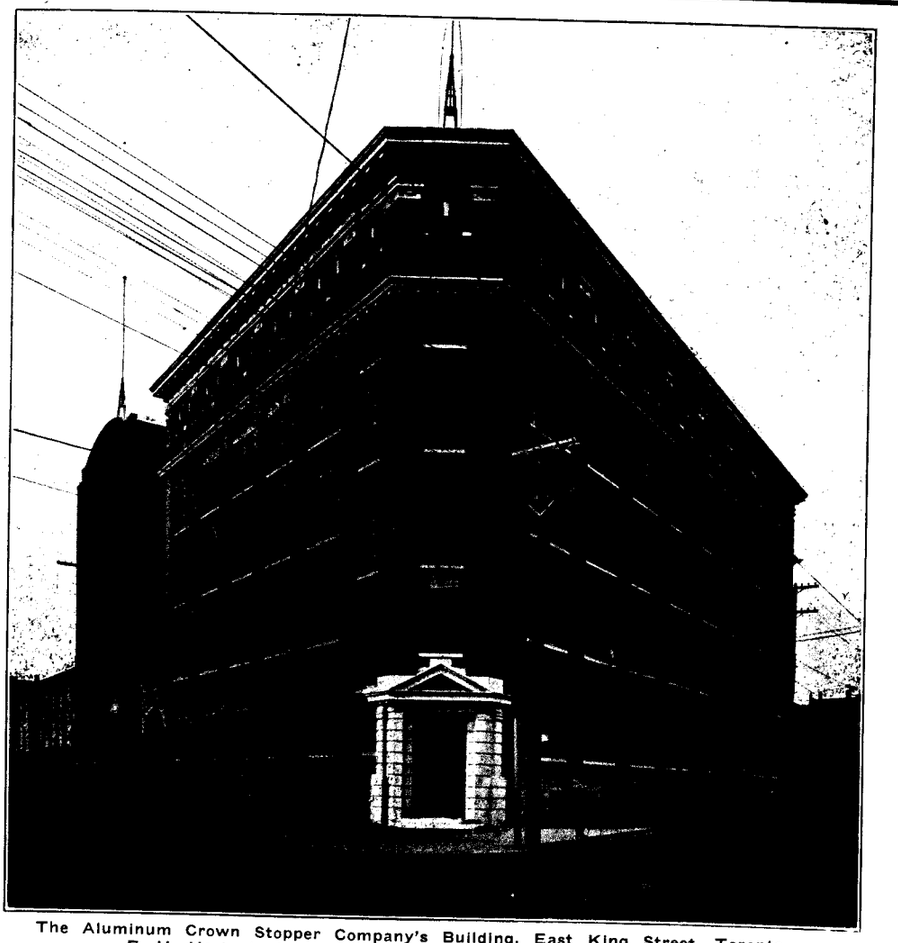
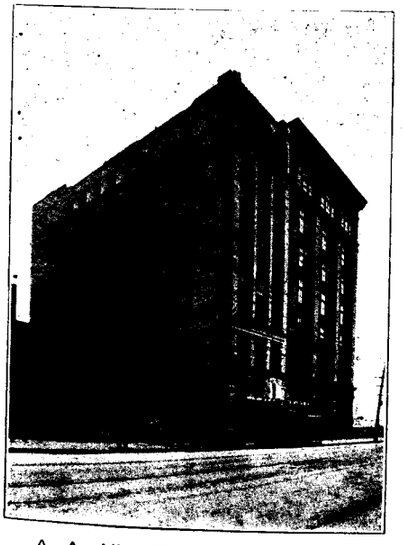
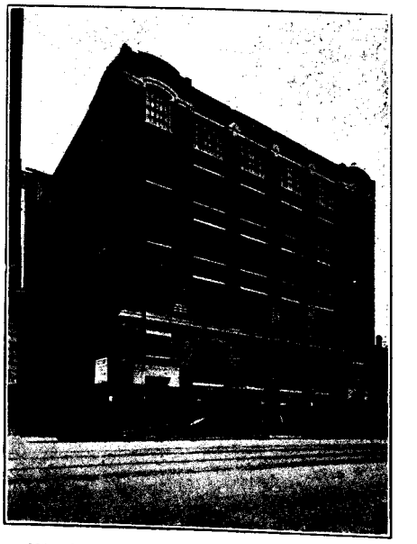


The Aluminum Crown Stopper Company's Building, East King Street, Toronto. F. H. Herbert, Architect. Wickett Bros., Mason Contractors.



A. A. Allan Co.'s Building, Toronto. Gordon & Helliwell, Architects. Witchall & Sons, Mason Contractors.

Ideal Bedding Company's Building, Toronto. F. H. Herbert, Architect. Witchall & Sons, Mason Contractors.



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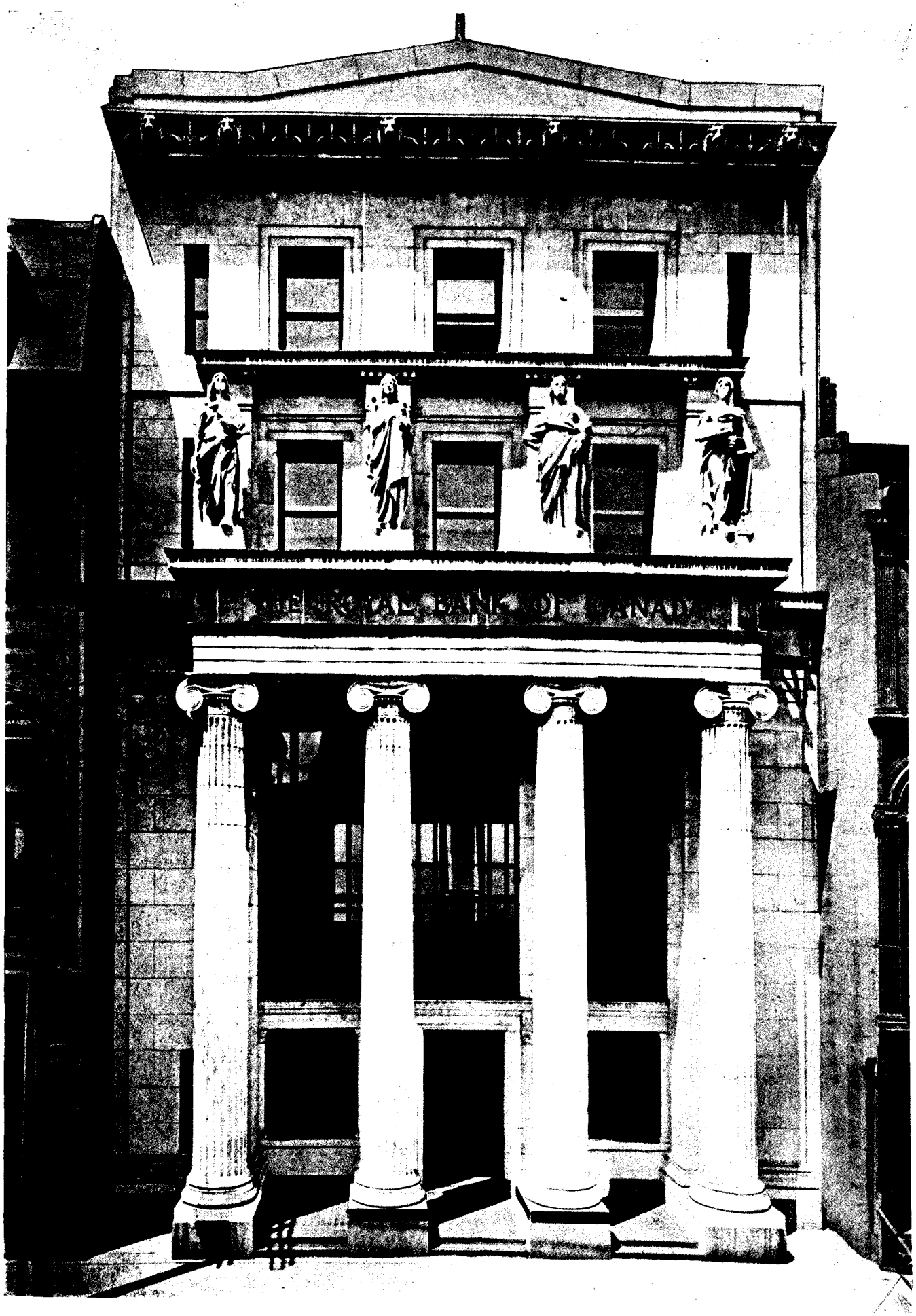

Royal Bank of Canada, St. James Street, Montreal. Howard C. Stone, Architect. Garth & Co., Plumbers. Standard Ideal Ware used.

CONSTRUCTION

VOL. V NO. 12

CONTENTS FOR NOVEMBER, 1912

ILLUSTRATIONS

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SATURDAY NIGHT BUILDING, TORONTO, CANADA

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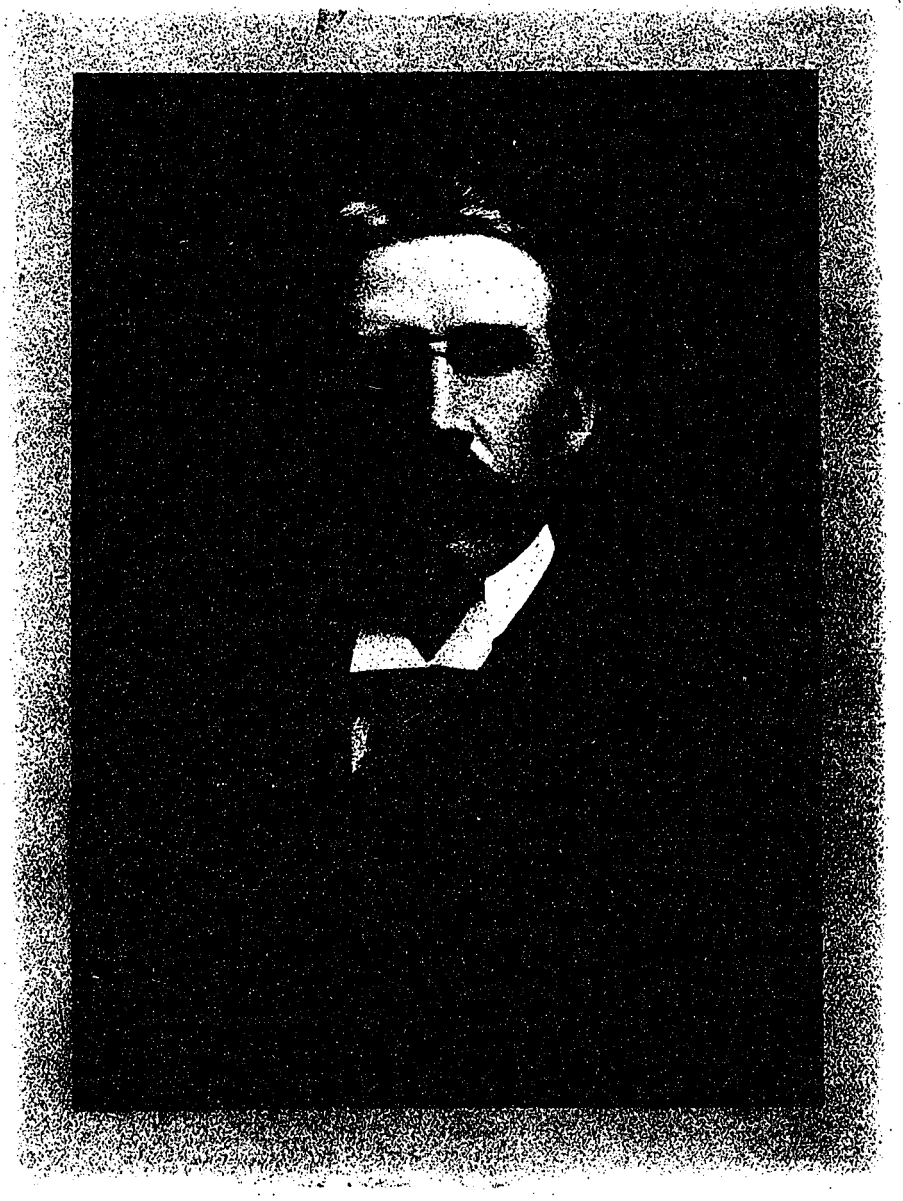


J. H. G. RUSSELL

Newly elected President of the Royal Architectural Institute of Canada.

¶ *Consolidation of the Provincial Associations and the Royal Architectural Institute of Canada, at the General Assembly, Ottawa.*

THE SIXTH General Assembly of the Royal Architectural Institute of Canada, held in Ottawa, October 7-8, 1912, marks the beginning of a new era in the architectural advancement of Canada. For some time the Institute has been steadily working for the consummation of the provincial associations into one working force. And at last it has been accomplished in a manner highly creditable to the former Institute as well as most promising to the new association. The reorganization provides that a member of any provincial architectural association becomes a member of the R.A.I.C., and that hereafter the council of the Institute is to be formed by the representative delegates from the provincial associations. The benefits of the amalgamation will be far-reaching. All local improvements of an extended nature will become a matter of supreme importance to the profession as a whole. The development of one section will effect the artistic growth of another. Civic planning will be an indispensable factor in the progress of every locality. There will be a higher ethical standing in the beautifying of our streets and public buildings. The western provinces will profit by the practical experiences of the east, while it in turn will be inspired by the rapid, wholesome growth in the west. From the unification will spring a consolidation of ideas, and a kindred feeling that will eventually mean the elimination of foreign architects, and produce a better architecture evolved from the consistent efforts of Canadian artists. Surely no better man could be selected to cement the new organization into a living vital force than J. H. G. Russell, the new president. Mr. Russell has been one of the important factors in the civic improvement of Winnipeg. His work in elevating the standard of architecture through the careful study of his various problems has enriched the commercial centres of this capital city. His presidency in 1910 of the Manitoba Association stands out as a year of activity and forcefulness which bespeaks for Mr. Russell a regime of unprecedented success in his new work.

¶ *Action of the R.A.I.C. in regard to the need of a general scheme for the beautification of Ottawa, and an advisory committee.*

WE HEARTILY COMMEND the action taken by the R.A.I.C. respecting the Ottawa improvements. At the fourth General Assembly held in Toronto one year ago a resolution was adopted to the effect that the Institute respectfully petition the Federal Governmen of Canada to appoint an advisory commission; said commission to be empowered with authority to evolve a general scheme for the beautification of Ottawa and have same carried out by competent artists. Such action seemed necessary after so much work had been finished without any comprehensive plan, most of which will eventually have to be changed. Since the above resolution was passed the Government suggested to the existing commission the employment of Mr. Todd to plan one portion of the park scheme, and at the same time secured the services of a second party to plan the disposition of a new departmental building. The motion of the Institute passed at their recent convention commends the Government for its good intentions, but regrets that a comprehensive study of the whole related matters of civic art, including location of buildings, laying out of parks and connecting boulevards, planning of traffic arteries and transportation facilities, etc., has not been attempted. It is hardly necessary to comment on the need of a general plan laid out by eminent architects and engineers who have a broad technical knowledge of civic art. The present commission consists of practically three members, although originally composed of seven. The vacancies should be filled immediately, and with men of advanced ideas. There is no question that the Government is entitled to commendation for the policy it has adopted so far, but we trust that it will go still farther and make the personnel of the whole commission one that is thoroughly imbued with the artistic and practical phases of civic improvement. With one man of æsthetic feeling and technical ability already a member of the committee, and with the existing vacancies filled by men of similar qualities the future artistic development of Ottawa will be assured. Surely the earnest endeavors of the Institute will eventually prevail.

¶ *Western views of town planning in relation to the building ordinances as expressed at the convention recently held at Calgary.*

A REMARKABLE COINCIDENCE it is, but nevertheless true, that in this age of commercialism, when everybody seems to be selfishly working out their own air-castles, so much stress is being laid upon city planning. There is scarcely any town with a successful present and promising future, but what has a city planning commission, and such a condition augurs well for the artistic beauty of our country as a whole, and teaches the practical lessons of economy and health. At the convention of Building Inspectors for Western Canada, the question of "Town Planning in its Relation to the Building Ordinances," was thoroughly discussed. Great stress was laid upon the fact that the people themselves are the controllers of the home in so far as it comes under civic jurisdiction. Unquestionably every home builder and contractor can exert a stronger influence than even the sanitary engineer or medical officer. It was shown that with clean-cut recommendations proper legislation may be passed to maintain sightly building lines; to allow ample space between the various houses for sufficient air and sunlight; to install proper ventilating systems, and above all to prevent overcrowded tenements which engender crime and unsanitary conditions.

A cry of warning was raised lest Western Canada duplicate the grave errors of our eastern cities as well as those of the Old Country. Crowded districts in Toronto, Montreal, Boston and New York were cited as congested areas whose environment decreased their efficiency. The degenerating effect of such a condition is vividly told by Henry Vivian, who says: "The sturdy laborer, who comes to the city from the country with all the energy that country life gives him, may be able to last through it—especially if he is an outdoor worker—and you don't see much difference in his efficiency. The full effect falls upon the wife and later on the children; and if you take three generations then you have the full effect of the foul tenement. You have got the little, measley, niggardly type of growth, unfit both physically and morally as well. You have got human nature down to the weed."

G. Wray Lemon, Secretary of the City Planning Commission of Calgary, referred to the apartment house, and its alleged necessity to the growing cities. Mr. Lemon believes that the type of house which should be encouraged is the industrial home with its garden and lawn rather than the flat-life. He feels that the well-to-do people should enjoy the private individual home life instead of the less wholesome conditions of the apartment.

In concluding, Mr. Lemon urged the various delegates to incorporate in their proposed uniform building codes such town planning measures as would tend to make the cities more useful, convenient, economical and beautiful.

¶ *New building code in relation to the essential features of town planning at Calgary and the satisfactory results derived therefrom.*

IN CONNECTION with the preceding article on the Western views of town planning in relation to the building ordinances, we would like to cite the action taken in Calgary, and the results accruing therefrom. The citizens in the various localities are called upon to determine whether they want an apartment house in their midst which, no matter how beautiful, would ultimately degenerate, or if they prefer to maintain the individual home. If they vote down the apartment the new building code backs up their decision with the following law: "No apartment house shall be erected in the residential district unless the consent of two-thirds of the owners of the land in the block in which the erection is proposed is obtained."

A second clause states that if an apartment house is over three stories in height it must be fireproof throughout. Other restrictions are made to the effect that there must be at least five feet between every house; that the building line shall not be closer than 20 feet to the street line in residential sections; that positive systems of ventilation be installed in each building, including cupboards and pantries, and that there shall be at least 500 cubic feet of free air space per person in each sleeping room.

The planning commission of this new bustling city are more than pleased with the new code. It maintains a healthy atmosphere, preserves the artistic feeling, and provides for all future contingencies. At first the builders of Calgary rebelled, but were soon persuaded that such restrictions meant a rise in land valuation, healthful conditions for all, and a city of artistic merit.

¶ *The question as to the advisability of the skyscraper being admitted into our commercial life is a serious problem to our growing cities.*

"THE SKYSCRAPER" is a question of considerable import to the members of the architectural profession and of the industrial world. Arguments "pro and con" are arousing heated debates in all the various trade centres. The discussion is, as yet, clean and wholesome, and seems to spring from ideas founded upon the artistic properties in architecture as well as the sanitary effects such buildings may have upon the people working within their walls as well as those who labor in adjacent structures.

The problem was enthusiastically taken up at the R.A.I.C. convention after the finish of Dr. Hodgetts' paper, which is published in this issue of CONSTRUCTION. The congestion of streets and the interference of traffic at times when thousands of workers pour from each tall building was cited as one of the reasons why the skyscraper should never be allowed in Canadian cities. On the surface this argument may appear somewhat trifling, but it becomes one of supreme importance when we stop to

consider the narrow width of our streets and the rapid and steady progress in our commercial life.

The question of trespassing upon individual rights or the privilege of any owner in using his own property to an infinite depth or height was cited as the greatest barrier against the enactment of certain legislative measures. This might hold true especially in the larger cities, where property owners feel a just pride in their heritage of freedom, but in the new towns certain laws could unquestionably be provided that might prove of scientific and practical value.

Exception was taken to the statement that the designer of a skyscraper is a paranoiac, by one member who referred to him as a very level-headed person. For does not the skyscraper bring good returns for money invested; it casts no shadows; it impedes no circulation of air; and the changing of business localities naturally prevents a serious condition of traffic congestion. All the above conclusions were drawn after considerable study had been given to the subject by the speaker.

Dr. Hodgetts brought to a close this interesting and profitable discussion with one strong appeal for the people in the lower stories and especially those who work in inside offices. He spoke of their being entitled to sunlight and fresh air, and that adequate laws should be passed to restrict the height of the skyscraper.

It was very evident that the majority of the delegates do or do not agree with Richard Le Gallienne, who speaks of the skyscraper in the following terms:

"Architecture, with most people, is like literature, or any other art; it is only appreciated when it belongs to the past, or is written in what we call a dead language. There are not a few in this world who are always demanding the Parthenon and Paradise Lost; and not from any real understanding of either, but merely because the Parthenon and Paradise Lost are old enough to be safely admired. Such cannot be expected to realize the prophetic beauty of American architecture or to understand that architecture is still growing, like any other reality, and that neither Greece nor Rome nor Nuremburg nor Constantinople, nor even Sir Christopher Wren, has exhausted its inevitable development. The beauty of all things is mainly in their truth—their character."

¶ *A regretable mistake in selecting the assessors for the new National Sanitarium Association building to be erected in the City of Toronto.*

EVERYONE MUST FEEL sorry to see an institution which is actively engaged in a noble work, fail in grasping the full import of a movement that has everything to do with its future success. Surely all work contemplated by them, if out of their scope, should warrant the engagement of expert advice.

The National Sanitarium Association, engaged in the stamping out of the white plague, has the sympathy and support of all thinking people. Their work is far-reaching in its scope and will eventually mean the elimination of this much dreaded disease. In order to facilitate their efforts it has been deemed advisable to erect a new institutional building in Toronto.

The new structure will be identified with the King Edward Memorial Fund for Consumptives, embracing executive offices, a free dispensary, diet kitchen, lecture hall, demonstrating room, and ample provision for post graduate study in tuberculosis. It will be located in close proximity to the medical department of the University, and will give the students an excellent opportunity to study this phase of work.

The conditions of the competition call for three assessors, not one of whom is a technical or professional man along the lines necessary to judge such a contest. While the terms state that the award of prizes made by the assessors shall be accepted, they do not state that the winner of the first prize shall be engaged to execute the work. These facts are lamentable. They keep out many of the best architects, who will not accept such terms. The architect cannot afford to spend his time and money, knowing that the plans submitted are judged by a standard biased and devoid of the essential characteristics necessary in considering both the artistic and practical sides of the problem.

We sincerely hope the association will not be handicapped in its efforts to secure a new building, for such a condition should not be the experience of those who are engaged in a noble work. But a procedure of this nature is detrimental to their own interests and unfair to the architectural profession.

¶ *Controversy concerning the famous statue, Venus de Milo—Question of position of arms settled—Mystery of age still unsolved.*

AT LAST the great mystery surrounding the famous statue of Venus in the Louvre has been dispelled. What was the position of her arms?—this is a question that has been discussed by artists ever since her discovery in 1820. Now we have Jean Aicard, well-known in letters, furnishing manuscripts written by Dumont D'Urville, a French naval officer, afterward renowned as an explorer. The D'Urville memoirs contain his statement that the arms were broken from the statue of Venus de Milo after its discovery at Melos, during a contest between French and Turkish sailors for its possession.

When originally found the statue was intact. Both arms were in place. The right arm descended a little below the hips, where it held up the draperies, while the left arm was raised above the head and grasped in the hand a small sphere, which was probably an apple.

The mystery remaining now is, to what period can we attribute this work? Draped statuary does not belong to the Phidian age, but this master work of sculpture, majestic yet simple, suggests the spirit of the best period of Greek art. Certain authorities assign it to the first century before the Christian era. Having the one point settled, we can now renew the controversy in regard to her age, although this may ever remain a secret—the statue being a woman.

THE DOMINION EXPRESS BUILDING, MONTREAL.
E. & W. S. Maxwell, Architects.

The Dominion Express Building, Montreal, Que.

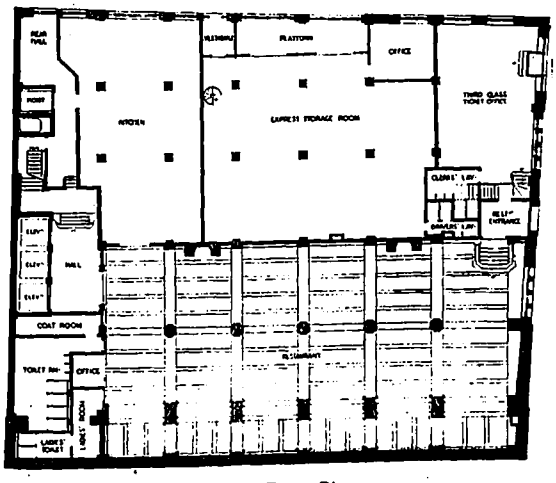
E. & W. S. MAXWELL, Architects

THE RAPID PROGRESS of the skyscraper gives evidence to the extensive growth of our commercial life. In every city of importance may be seen examples of this type not only practical in every requirement, but pleasing to the æsthetical sense. A consistent study of the design in relation to the economical conditions has given us many structures noted for the characteristics of lightness, durability and fire resistance.

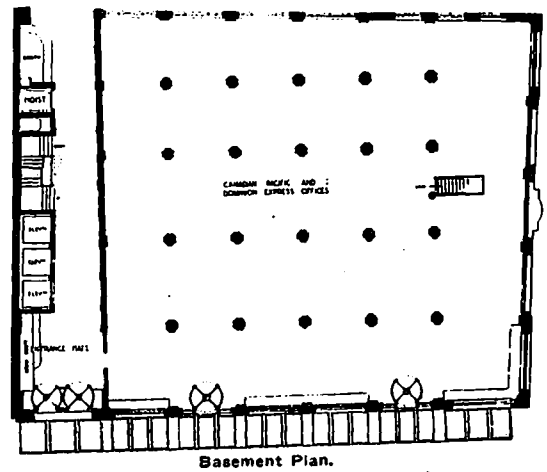
One of the most modern office structures is the Dominion Express Building. It is located at the corner of St. James and St. Francois Xavier streets, in the very heart of the financial district, and rises ten stories above the street level. The first two stories are of granite and all above of white dull glazed terra cotta.

The building was erected primarily for the housing of the Dominion Express Company and the Canadian Pacific Steamship and Railway ticket offices, which occupy the ground floor and part of the basement. All other floors to and including the eighth are arranged to meet the existing needs of large corporations, trust companies, etc. On the ninth floor, mezzanine floor and roof pergola are especially designed quarters for the Montreal Club. The large cafe in the basement has direct entrance from the street, in addition to the main entrance corridor, accessible from the adjoining hotel by means of a covered passage way. The exterior design follows the developed type of divisions for structures of this nature, with a strong vertical feeling. The floor levels are accentuated by means of delicately carved patterns beneath the window sills. The decorative frieze of the top storey in connection with the balustrade furnishes a suitable

Detail of Entrance.



Ground Floor Plan.



Basement Plan.

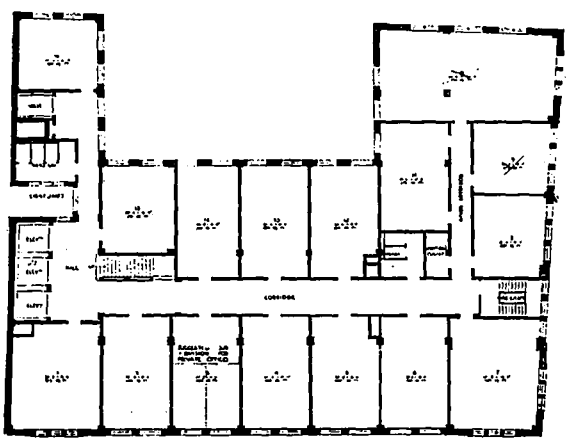
Bar Room on Lower Floor.

finish to a successful design and demonstrates the fact that a tall building has no real need of a heavy projecting cornice. French windows open upon the balcony, which gives the impression of a natural outgrowth from the plain piers extending throughout the height of the shaft.

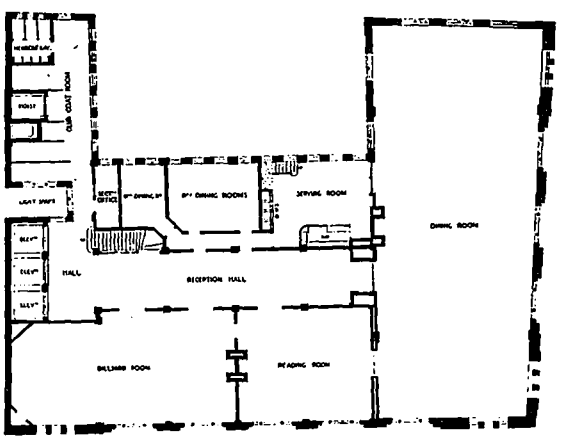
An unusual treatment has been given to the floors beneath and adjoining the revolving doors. In order to combat the adhering effect of snow a dull green non-slipping tile is used between ridges of vitreous tile. The floor in the entrance hall is of grey Tennessee honed marble, while that in the main office and corridors is of grey marble tile.

In the main entrance hall the large marble panels extending to the ceiling are filled with mitred figured green marble, while all stiles, cornices, etc., are of cream marble. The main office, 102 x 94 feet, has walls, columns and counters of white marble with green marble base; counter grilles of statuary bronze with signs of white opalite glass; finish and furniture of mahogany; office floors of cork tile and electric fixtures of opalescent glass in two thicknesses.

The cafe in the basement, together with the entrance hall and bar, has Welsh red tile flooring. Stenciled patterns and painted panels adorn the walls of the entrance to the cafe, in the centre of which is a charcoal grill with timber and plaster hood supported by piers of red tapestry brick.



Typical Floor Plan.



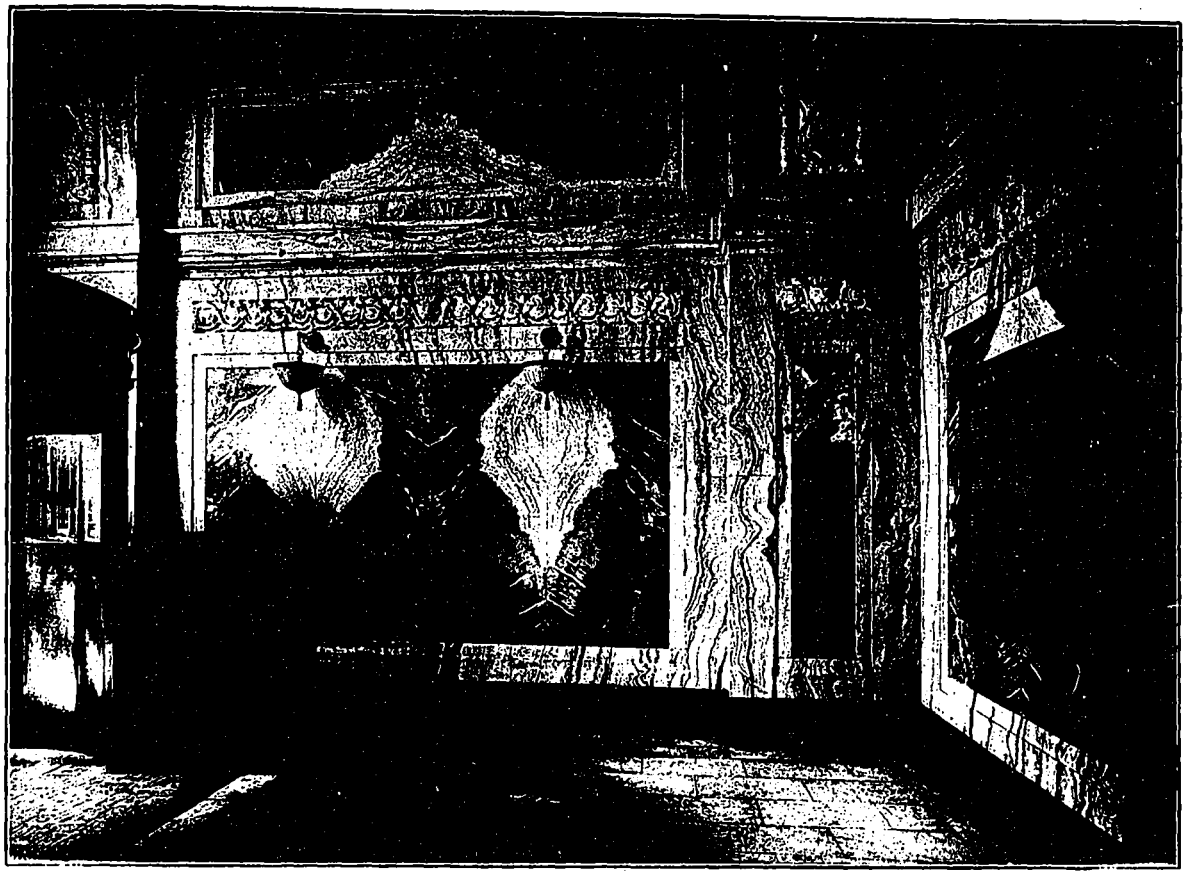
Club Floor Plan.

Main Dining Room in Montreal Club. Carried Out in Oak with a Rich Tapestry Paper Above Dado and Plaster Ceiling Decoration
E. & W. S. Maxwell, Architects.

Roof Pergola of Montreal Club. Enclosed with Large French Windows
E. & W. S. Maxwell, Architects.

Detail of Mantel in Bar Room, which is of Carved Ohio Stone.
E. & W. S. Maxwell, Architects.

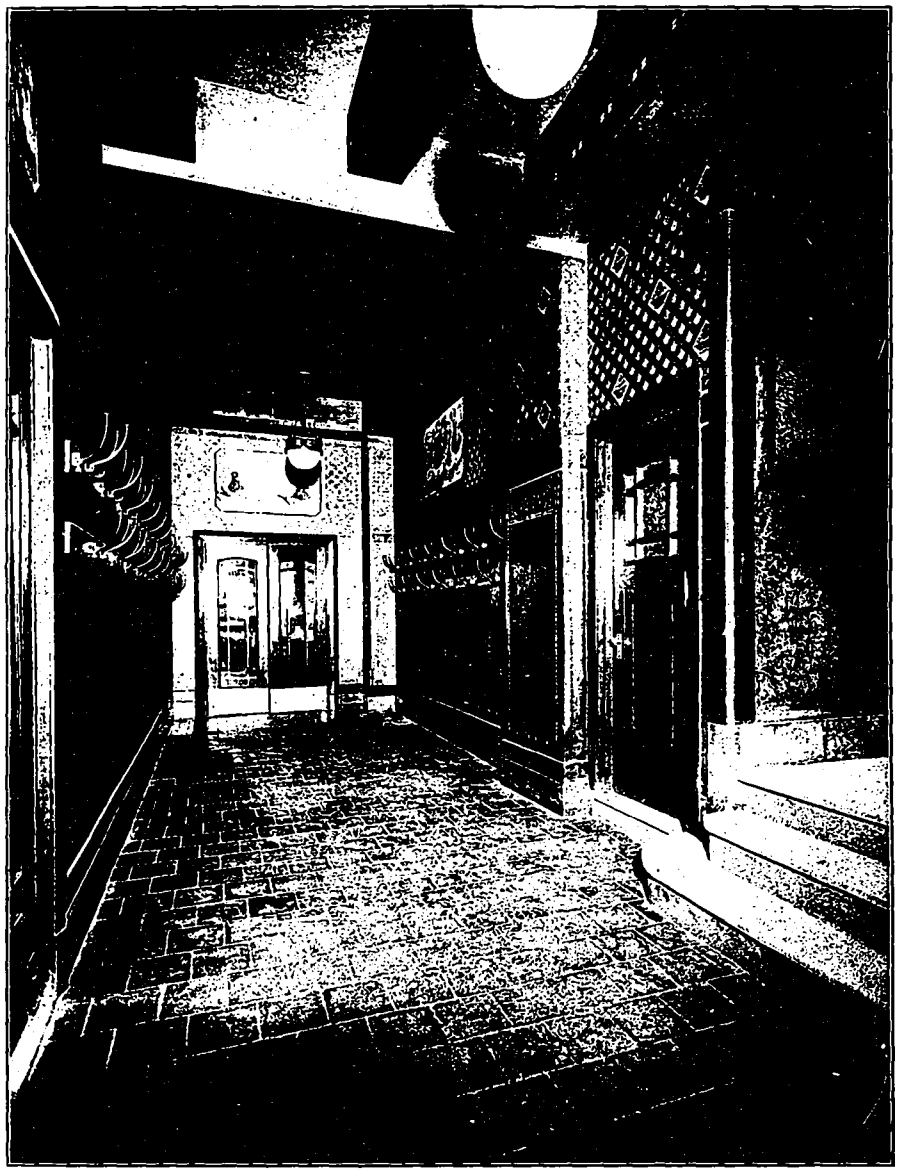
View of Cafe, Looking Towards the Grill. Hood Supported by Piers of Red Tapestry Brick.
E. & W. S. Maxwell, Architects.



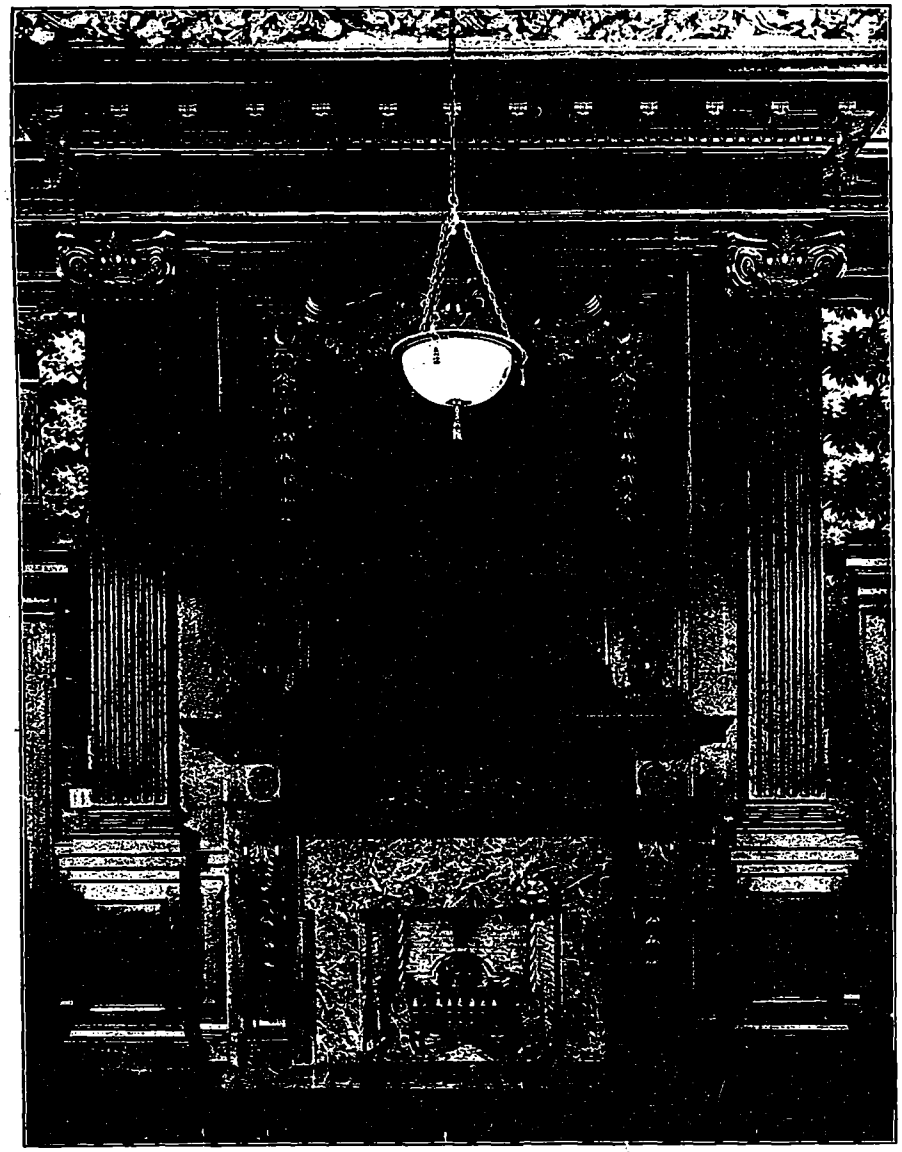
Eastman Marble of Cream Color with Richly Figured Green Panels and Dark Green Base.
E. & W. S. Maxwell, Architects.

Typical Corridor in White Marble and Mahogany Wood, with Borrowed Lights of Chipped Glass and Grey Tennessee Marble Floor
E. & W. S. Maxwell, Architects.

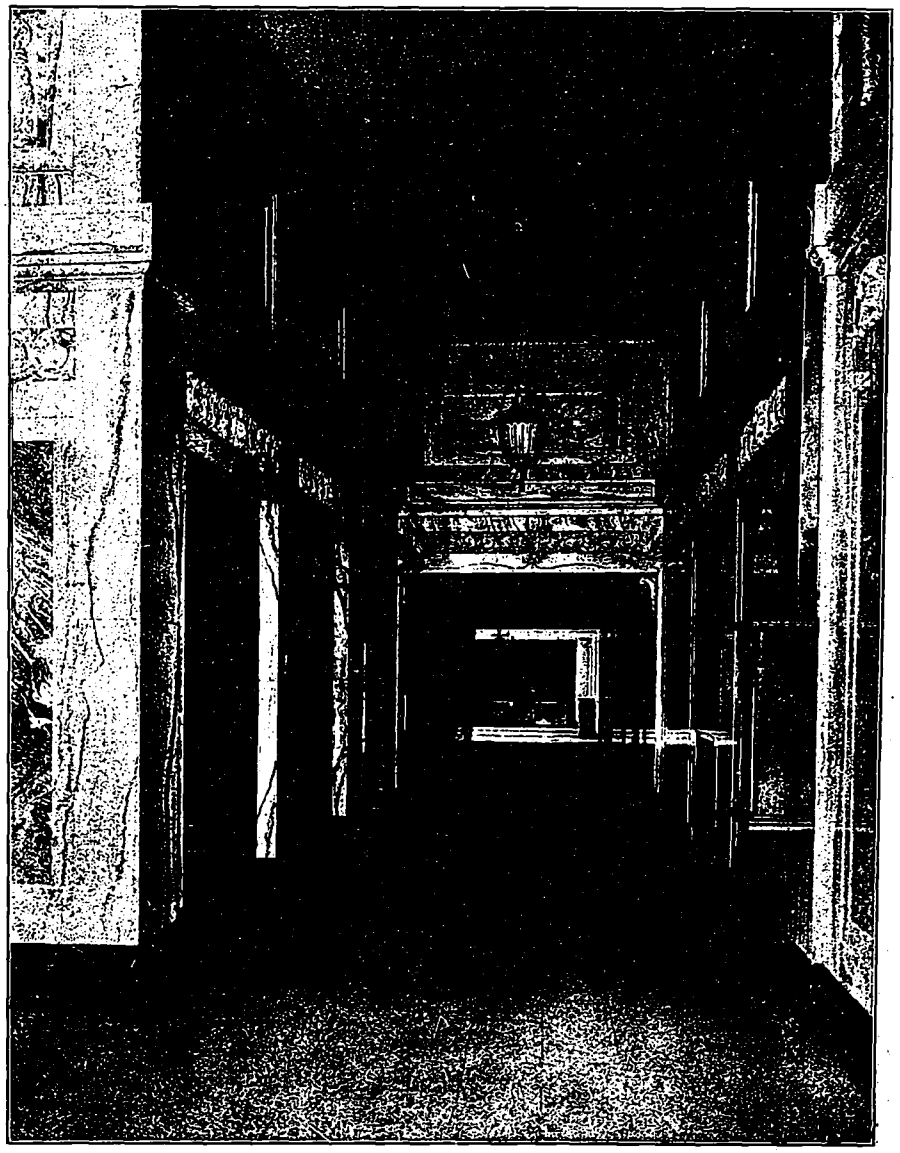
Entrance Hall to Cafe and Bar on Basement Floor. Finished in Canvas with Stencil Decorations and Hand-Painted Panels, the Ceiling Beams Being Marked Off with a Harmonizing Pattern.
E. & W. S. Maxwell, Architects.



Main Hall of Montreal Club. The Scheme Here is in Dark Oak with Soft Red Bodied Rugs of Old Persian Design, and Reproductions in Paper of Old Tapestry Panels
E. & W. S. Maxwell, Architects.



Oak Mantel in Dining Room of Montreal Club.
E. & W. S. Maxwell, Architects.



View of Main Entrance Hall, Showing Position of Elevators.
E. & W. S. Maxwell, Architects.

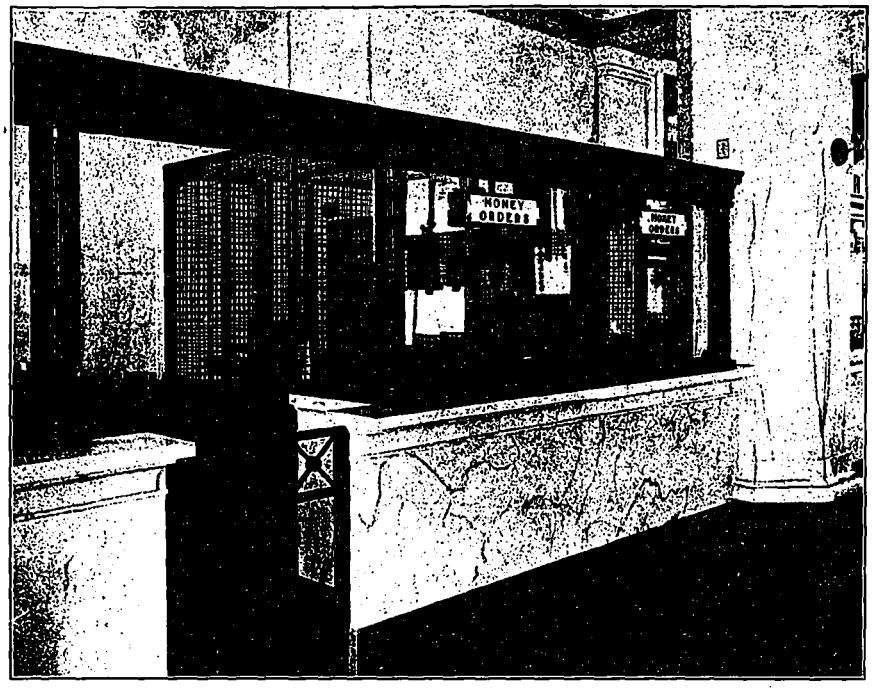
The stair cases and elevator fronts are made fireproof by means of wired plate glass and metal framing. Enclosed fire escapes are located at the end of each corridor, affording ample protection in case of a serious conflagration.

Considerable care has been given to the general effect of the corridors and private offices. The woodwork throughout is of mahogany; the walls finished in a dado of white marble, and the ceiling beamed to meet the structural features above. The typical offices are 25 x 15 feet, each possessing two windows, which permits of sub-dividing the space if desirable.

In addition to the ninth floor, accommodaitons for the Montreal Club, there is a mezzanine floor comprising a ladies' hall, cloak room, two private dining rooms and a kitchen department. The main hall of the club quarters is designed in dark oak with imitation old tapestry panels; the furniture of oak upholstered in green leather, and the rugs of old Persian design. In the main dining room the wood treatment throughout is of oak with tapestry panel effect and ceiling with plaster decoration of fruit and flowers.

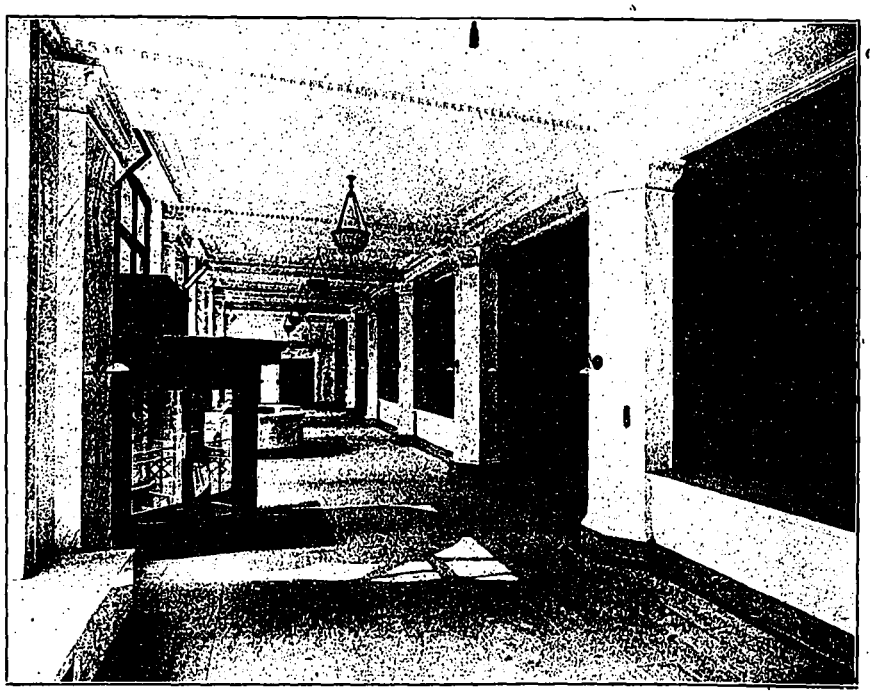
Upon the roof is a pergola 15 by 75 feet, designed with large French windows affording magnificent views of the surrounding mountains, city and harbor. The furniture is of cane with printed linen of black Chippendale design.

This building is one more example of the perfect harmony of stone and terra cotta. The result is a dignified expression of the fundamental principles of sound and reasonable construction.



Section of Counter in Dominion Express Company's Office.

The contractors and material firms who executed the work in connection with the Dominion Express Building are as follows: General contractors, Peter Lyall & Sons, Ltd., Montreal; steel work, Dominion Bridge Co., Montreal; hollow tile, Montreal Terra Cotta Co.; terra cotta, Doulton & Co.; refrigeration equipment, The Linde Canadian Refrigeration Co., Montreal; electric wiring, Philip Lahee & Co., Montreal; non-slipping tile, Greuby & Co.; elevators, Otis-Fensom Co.; cork tiling, D. E. Kennedy, Montreal; kitchen equipment, R. & W. Kerr, Montreal; plumbing and heating, Jas. Ballantyne, Montreal; painting and glazing, W. P. Scott, Montreal; safes, J. & J. Taylor, Toronto; bronze grill work, H. W. Jackson & Co.; furniture in club, Bromsgrove Guild of Canada, Ltd., Montreal; curtains and rugs, Duncan Fraser; hall rugs, M. Hicks, Montreal; bar and cafe tables, Gallagher & Charbonneau, Montreal; roofing, Douglas Bros., Montreal and Toronto; ornamental iron work, elevator enclosures and stairs, John Watson & Co., Montreal. Electric fixtures were installed by the following firms: McDonald & Willson, Montreal and Toronto; Paul Beau & Co., Montreal; E. Cantello White & Co. and E. F. Caldwell & Co., Montreal.



Dominion Express Company's Office. Finished in White Eastmans Marble, etc.

Sixth Annual Assembly R.A.I.C., Ottawa, Ont.

OTTAWA, THE CAPITAL CITY, extended a most cordial welcome to the delegates assembled at the R.A.I.C. Convention, October 7th and 8th. The representatives of some five hundred and fifty associates will ever remember the hospitable treatment received from the Ottawa Chapter, the city and the public press. The influence of the work accomplished by the active men in the Institute was never more fully realized. It was a fitting memorial to the monumental efforts already accomplished as well as a propitious debut for the new federation of provincial associations.

The Institute was formally opened in the Public Library at 11 o'clock, October 7th. President F. S. Baker introduced Mayor Charles Hopewell and C. P. Meredith, President of the Ontario Society, both of whom responded with enthusiastic addresses of welcome. Mr. Hopewell commented on the influence the architectural profession is having in the progress and development of Canada. He spoke of the unexpected growth of Ottawa, and urged the delegates to lend their efforts in making it the most beautiful capital city in the world.

Mr. Meredith, in referring to the beautifying of the capital, spoke of the material benefit the meetings must necessarily have upon the accomplishment of their efforts in this direction. He thought the suggestion of holding the convention in Ottawa every second year an excellent one, and only hoped that such action would be taken on the part of the associations.

President Baker, in responding to the hearty welcome, referred to the natural artistic advantages of Ottawa as second to those of no other city. He dwelt upon the past efforts of the Institute in securing for the city a definite plan to work upon and a method of arriving at natural and proper conclusions. In commenting upon the federation of the provincial associations in the R.A.I.C., he expressed the extreme pleasure in handing over a body financially solvent and one that has conscientiously endeavored to improve the standing of the profession and its affairs throughout the country.

In alluding to competitions, Mr. Baker said: "The various competitions which have been advertised throughout the Dominion during the past year indicate a great improvement in conditions and an increasing knowledge on the part of public bodies of the proper method of dealing with building matters. We have urged that these competitions should be confined to British architects, feeling that if they were confined to Canadian architects we might be accused of having narrow views and of not having the imperial spirit; because it was naturally thought that if British architects from any part of the Empire are permitted to take part in the Canadian competitions, and to seek work here, necessarily, on account of the great distances, they will establish offices and become Canadian architects. Our great fear was the powerful architects in the republic to the south of us might be tempted to exploit our building projects here, which undoubtedly would be detrimental to our interests. We are always glad to see them, as I have frequently said, and it is only in matters of business that we try to shut them out. On social occasions they are very welcome, and we wish them every success in their own land."

In the report of the three meetings held by the council, October 3rd and 4th, 1911, and May 20th, 1912, announcement was made of the appointment of John W. Simpson, F.R.I.B.A., as official delegate to represent the R.A.I.C. at the International Congress of Architects held in Rome In the last meeting it was moved that the following telegram be sent to the Prime Minister of Canada: "The Council of the Royal Architectural Institute of Canada, in session here to-day, renews its recommendations to you to appoint a Technical Commission for the improvement of Ottawa. And, in view of the fact that six months have elapsed since a deputation of this Council waited upon you, takes the liberty of the occasion of its meeting to-day to again urge you to act in the matter on the lines set forth by it when presenting its memorial."

During the afternoon session of the assembly the charter, assets, etc., of the Royal Architectural Institute of Canada, founded in 1907, were transferred to the delegates representing the different provincial associations which had already been recognized by the Royal Institute. The following resolution was unanimously carried: "Whereas, the necessary preliminary steps have been taken towards the reorganization of the Royal Architectural Institute of Canada, whereby membership in the provincial architectural associations confers membership in the Royal Architectural Institute of Canada, and whereby the council of the Institute is to be formed by the representative delegates from the provincial architctural associations; this General Assembly of the Royal Architectural Institute of Canada hereby resolves and agrees that the membership rights of all members in good standing of the Royal Architectural Institute of Canada (subject to charter and by-law) be conserved, and that all the present liabilities of this Institute be assumed by the reorganized Institute, the council of the reorganized Royal Architectural Institute of Canada receive all the assets of the present Institute on behalf of the reorganized Institute.

After the new organization had voted to accept the transfer of the assets, charter, etc., from the Royal Institute of Canada, a paper was read by Dr. Charles A. Hodgetts, Medical Adviser of Public Health to the Commission of Conservation, on "The Skyscraper." This address is printed at the conclusion of this report.

The invitation extended by J. W. Mitchell, Mayor of Calgary, to hold the convention in Calgary in 1913 was unanimously accepted. A vote of thanks for courtesies extended to the Institute was tendered

to the mayor and councillors of Ottawa, to the local and technical press, to the outgoing council, to the library committee for the use of the meeting room, to the local committee of arrangements of which Mr. Meredith is chairman, to the Ottawa Golf Club, and to the civic reception committee. The second session was brought to a close after a heated discussion on the motion to memorialize the Dominion Government in regard to the Institute's attitude on the creation of an advisory commission for all matters of civic art connected with the capital. The Institute urged in the resolution that at least all vacancies on the present Ottawa Improvement Commission be filled with competent men.

Immediately following the afternoon session a meeting of the coucil was held, with F. S. Baker as temporary chairman. The following officers were elected for the ensuing year: President, J. H. G. Russell, Winnipeg; vice-presidents, George Lang, Calgary, F. Wickson, Toronto, and G. A. Monette, Montreal; honorary secretary, Alcide Chausse, Montreal; honorary treasurer, J. W. H. Watts, Ottawa. The council tendered a vote of thanks to Messrs. Baker, Watts and Chausse for their earnest endeavors to bring about an *entente cordiale* among the architects of the Dominion. Mr. Baker, in expressing his appreciation for the motion just passed, said: "They say that an optimist is a man who 'does not know what is coming to him,' yet the men who have achieved great things in this world were optimists. When I was made President of the Institute its affairs were in most excellent condition, and it was at once obvious that the federation now consummated was desirable. Though the Institute was a powerful body, it lacked the unity which has now been given by the amalgamation of all the societies of architects in the Dominion, including the Toronto Society, which has lately joined with the Ontario association. This was a natural development; all it required was steering, which the council gave it. It took a long time, but it was well to move slowly and make sure that the thing was properly done. I think that now the matter is put in very good shape, and it is scarcely necessary to say to the members of this Institute that our efforts have been for the improvement of the profession of architecture, and that everything possible should be done to improve the standing of our profession throughout the world."

The banquet tendered at the Chateau Laurier in the evening brought to a successful end the first day of the convention. The new president, J. H. G. Russell, was toast master. In response to a toast, H. B. Gordon of Toronto said that he hoped henceforth the Royal Institute would place more emphasis on such work as town planning and that the architects would become more and more imbued with the spirit that made many of them spend time and energy in trying to better conditions which lead to higher citizenship. Other speakers of the evening were J. W. H. Watts, A. G. Marshall, F. S. Baker, J. Woodman, J. P. Hynes, Dr. Hodgetts, R. B. McGiffen and F. Taylor.

Condemnation of the Skyscraper

DR. CHARLES A. HODGETTS

THROUGH THE KIND invitation of the Royal Architectural Institute of Canada, I am privileged to-day in discussing, from the standpoint of a sanitarian, the necessity which exists for a limitation of height of buildings, as well as the proportion of the area of the lot that should be left unbuilt upon.

In taking a survey of the principal cities of this continent and of Europe, one is struck with the "freaks" which characterize the American city, and of which to-day there is, unfortunately, ample evidence that, unless checked, will damn most of our fair Canadian cities. If one were asked as to where we would more likely expect to find the skyscraper, the reply would be "in the densely crowded centres of Europe where land is scarce and expensive;" but the reverse is the case. Here, on this continent, where, for over a century, a nation has been proclaiming to the civilized world that there is land and liberty for all; here, where cities are not restricted in their growth, we find the rearing of the modern tower of Babel is being pushed to a degree which can only be characterized as the work of lunatics.

As to whether these errors in building are due to paranoia on the part of the financiers or the architects who design them, I am not, at this time, going to express a professional opinion. Certainly, one can readily see that some people in America are even now paranoiacs in so far as their opinions, ideas and wealth find expression in the monstrosities of New York and Chicago. It is an old adage, "there is reason in everything," but that was written in anti gargantuan, or to be more correct, "steel and concrete building" days. Certainly, a sanitarian can see no reason in this American method, whether it be viewed from the sanitary or the citizens' standpoint. The only reason is that greed and gain which are the indications to the sanitarian of the modern autocracy of incorporated wealth. This is a greater danger to the health and the physical development of a democratic people than the wise and sane rule of autocratic Germany, where an emperor makes laws for the betterment and improvement of the people. This fact is perhaps no more strongly emphasized than in this very matter which is now under consideration, viz., the regulation of the construction of buildings and the limitation of their height.

It has always struck me as more than strange that, while architects in Canada are designing and capitalists are erecting handsome factories which combine the advantages of the maximum amount of sunshine, light and air, all of which make for the

betterment of the environment of the mechanic and skilled artisan during the eight hours in which he chooses to work, yet the conditions to-day of the office employee—the bank clerk, the lawyer, the accountant, bookkeeper, stenographer and the hundred and one of the army to be found within the walls of the average commercial building—are worse than they were ten years ago. The reason why is not difficult to find; organized labor has secured and made imperative the improvement of the factory by judicious though not perfect laws, while on the other hand, unorganized labor, or that class which wears and worries and so far has suffered unseen and unheard—those which labor with their head, and often for hours far past that which organized labor would consider right, these men, women and children so far have not received any consideration either from the capitalist, the architect or the sanitarian, and on their behalf I wish to-day to raise this cry and sound the note of warning to all responsible for or concerned in the providing of sanitary office accommodation for the great army of office employes.

Every one of them has a right to adequate and sufficient sunlight and fresh air in which to spend his working hours. No man or woman in Canada at least—the Americans may do as they like in this respect—should be compelled to work in an office which has to be daily artificially lighted during the hours of labor. The rights of the office employee are as great in this regard as are those of the most skilled laborer.

There are offices in the capital city where the clerks work, day in and day out, summer and winter, under the artificial conditions of light, because God's gift to every Canadian citizen is never to be found therein, and where ventilation is of the most primitive character. Indeed, in some cases fresh air is as minus a quantity as is the sunlight. And who own the buildings?—the poor, the middle class who are compelled to toil therein? Oh, no—the capitalist who has no eye but for his money-bags and the dividends. It may be true that corporations have no soul, but it is a fact that each of the directors and shareholders has a soul, and all I can predict, both to them and those who design the modern skyscraper with its artificially lighted cupboards, in which humanity, male and female, toil for hours each, to them artificially lighted day is, in the words of Burns:

"Tam, oh Tam, ye'll git yer farin'
"An' Hell 'ill roast ye like a herrin'."

You ask me why? For the reason that these artificial conditions weaken and debilitate the people segregated therein, often for twelve hours of every twenty-four; and, in my opinion, each skyscraper is a greater menace to the health of the people employed therein, and in that by reason of its height it shuts out the sunlight from the occupants of adjacent buildings who have a right to the same beneficent rays as well as to the best of the city's air, by reason of these facts, they are each a nuisance which should be removed; and permission should only be given to the erection of buildings not more than six or seven stories in height and occupying no more ground than will permit of every office receiving sufficient daylight during the hours of work, which implies that there will be a good space between buildings, thus permitting of good ventilation, an essential in this country as important in winter as in midsummer.

Of course you will tell me, gentlemen, that this will raise a howl from the great corporations of Canada. I know it will, but tell me this—did any of the great corporations of Canada ever, primarily, do anything for the betterment of the health of their employees? As a sanitarian I judge by facts and I fail to find if ever a life insurance company has acted from such high motives as the health and life of their staff.

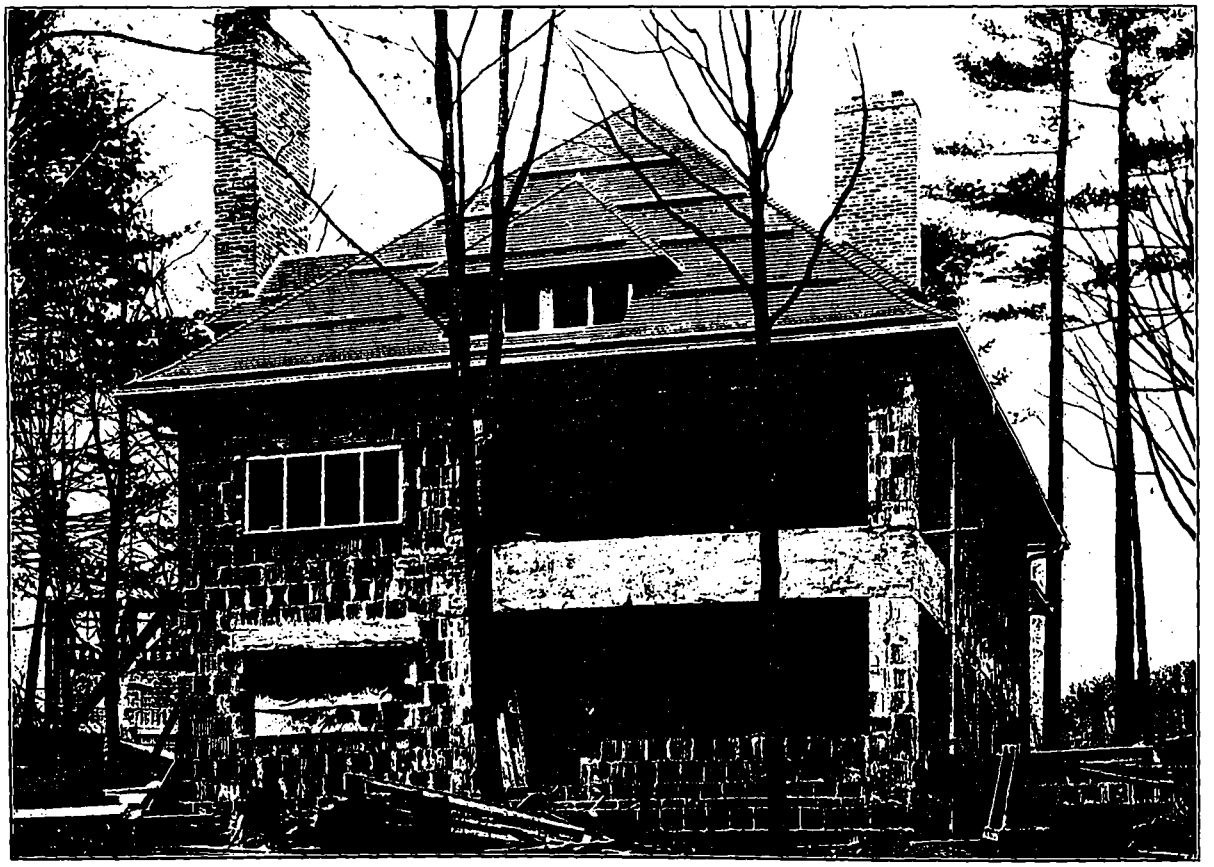
Fortunate it is that there are examples where a corporation has had the architect design an office building of great proportions which is not of steel and concrete and which does not tower to heaven; but these examples are few and far between, and where erected it would appear as if they bore the impress of advertisement by contrast rather than as monuments to the designer. Certain it is, however, that from the hygienic standpoint they are much to be preferred to skyscrapers which are erected as dividend makers and not with any view to the health of the army of clerks who through force of circumstances must toil therein.

There is little use for us to preach the gospel of sunlight and fresh air as preventives of consumption and still less hope of our reducing the morbidity and mortality from the white plague so long as our laws permit the erection of the modern office buildings in which, very often, thousands spend so many hours of the day in an environment which lessens their vitality—lowers their power of resistance—and in which many persons suffering from tuberculosis are forced to work. The question is a sanitary one, an economic one and one which can only be dealt with by the combined representation of all interested, and by none more so than the members of the profession which I have the honor to address. The question is, "Will you, in the name of humanity, assist in the building up of a virile Canadian race, discountenance this practice and aid to secure wise laws which will limit not only the height of buildings, but the area of lots built upon?"

We should not follow blindly in the footsteps of our American confreres who deliberately do a thing wrongly and then endeavor to convince themselves and the democracy that it is right; then, having worked the revival, enact a law making it so, thereby establishing a new code of ethics and law.

If it is correct that no person has the right to commit a nuisance upon his property which is a menace to the lives of others, then, in my opinion, no one has the right to shut out the sunlight either from adjoining property or from the public highway, or prevent the access of air or the natural effect of the sun's rays in absorbing moisture, by the erection of a building above a certain height—this law the skyscraper contraverts and, therefore, is a nuisance which should be abated.

Finished Exterior.



View Showing Wall Construction Before Stucco was Applied.

HOLLOW TILE RESIDENCE, RUSSELL HILL ROAD, TORONTO, ONTARIO.

Eden Smith & Sons, Architects.

House of Hollow Tile Construction, Toronto

EDEN SMITH & SONS, Architects

THE STUCCO finished house, with its delicately tinted wall, is fast eliminating the wooden home. Every city, every suburb and every country district gives evidence of its popularity. The colors of its walls vary from a gray or cream to the richer shades of brown. Not only is the attractiveness of the home desired, but the protection to the owner and his family has developed into a matter of prime importance. To guarantee this absolute safety to the client has been, and is still, a precious problem for the architect. How successfully it has been handled may be judged from the various types of construction that are absolutely fire resisting. One

Fig. 1. Method of laying up Wall; the Mortar, according to the Proper and Accepted Way, being Placed only along the Long Web of the Block, thus assuring a Continuous Air Space.

of the materials which adapts itself especially well to house work is hollow tile.

Originally hollow tile was used for the walls, but gradually increased in efficiency until to-day it is used throughout the building. Houses in which this material has been employed so extensively are somewhat rare in Canada, in fact, the one illustrating this article is the only one that has been brought to our attention. It has attracted unusual attention during its constructionary period, and seems worthy of considerable space in order that the intrinsic values of this form of burnt clay may be justly appreciated.

The house is located on Russell Hill Road, Toronto, and has hollow tile used for walls and partitions, with long span combination tile and concrete fireproof floor slabs. The roof and attic partitions, however, are of ordinary frame construction.

On page 58 may be seen the house before and after the stucco has been applied. As this was an entirely new form of construction in Toronto, it was

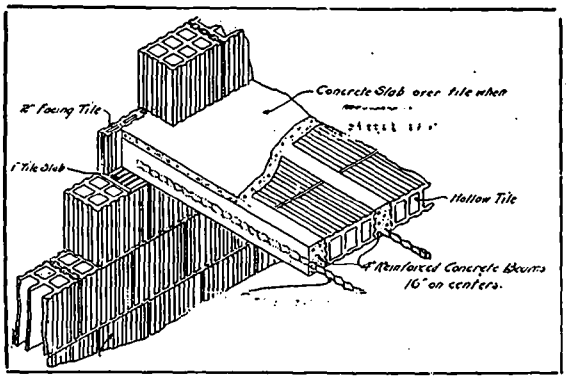


Fig. 2. Detail of Wall and Floor Construction.

necessary to secure special permission from the City Architect to proceed with the work. Upon the erection of the building thorough tests were made by the City Architect's department, and the results being entirely satisfactory, provision was immediately made in the revised code for houses of this type and for houses of ordinary construction with hollow tile exterior walls.

In the walls the hollow tile is set vertically, as may be seen in Fig. 1. The basement exterior and interior bearing walls are of 12 inch tile, first story 10 inch, and second story to roof plates 8 inch. Partitions before the attic floor line, other than bearing walls, are of 4 inch tile. A splash course of brick set on end is laid around the entire building at the grade-line. Below this course the outside of the tile walls is plastered with cement mortar and then damp-proofed by mopping with pitch applied while hot, thereby securing a perfectly dry basement. See Fig. 3.

On the top of all walls carrying floors, a course of 1-inch tile slabs were laid, which served the double purpose of preventing the concrete used in the floor construction from filling the tile cells, and properly

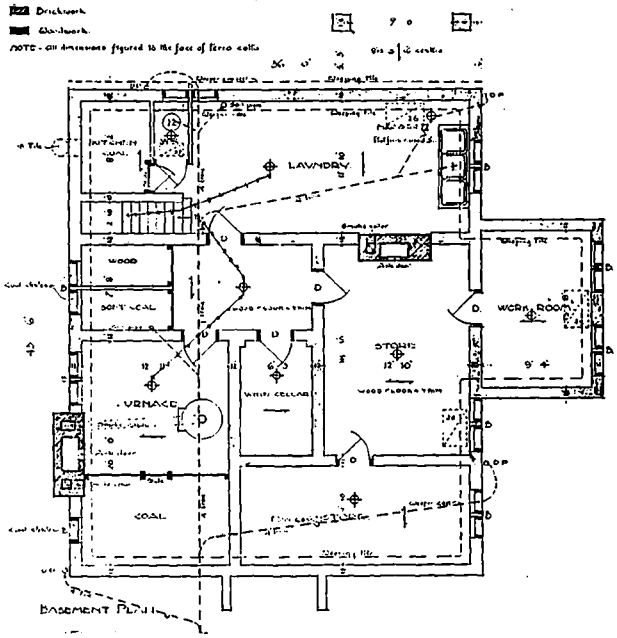
Fig. 3. Showing Splash Course of Brick at Grade Line.

distributing the floor loads to all the carrying webs of the tile. See Fig. 2. The tile manufacturers supplied half sizes and 1-inch slabs with which to work out story heights, and special jamb and half-jamb tile where necessary for box window frames.

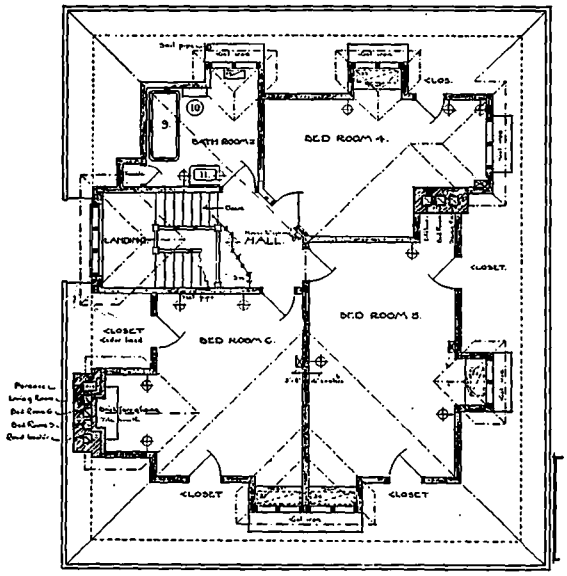
The lintels over window and door openings are formed of reinforced concrete, faced on both sides caps and veranda walls are formed in a similar manner.

Plaster grounds and interior trim were provided for by inserting nailing plugs at the time the walls and partitions were erected by the masons.

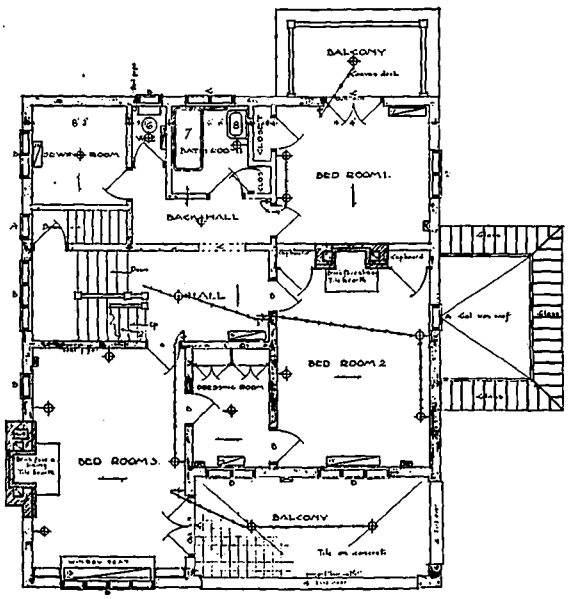
The floors throughout the entire building are of long span combination type, made up of 4-inch hollow



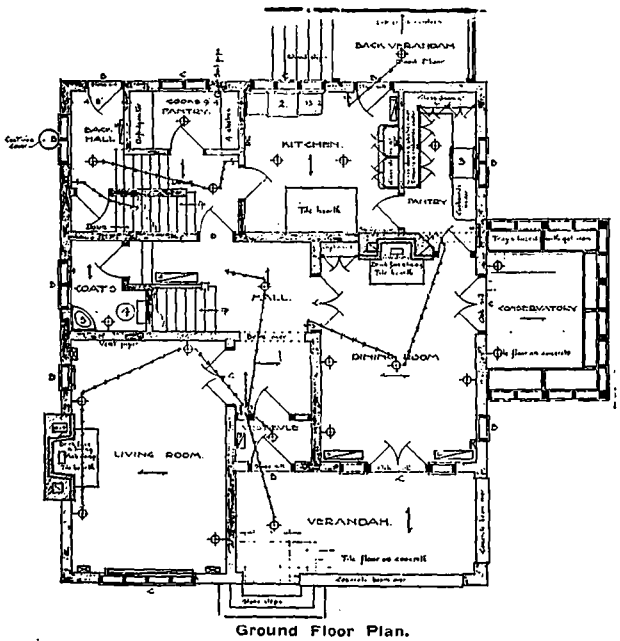
Basement Plan.



Attic Plan.



First Floor Plan.



Ground Floor Plan.

HOLLOW TILE RESIDENCE, RUSSELL HILL ROAD, TORONTO, ONTARIO.
Eden Smith & Sons, Architects.

with 2-inch hollow tile laid horizontally to secure insulation against frost and to provide an unbroken tile surface for plaster and stucco as shown in Figs. 5 and 6. The window sills in Fig. 4 are constructed by laying 4-inch tiles on their sides, extending beyond the wall line to form a drip and slightly beveled to cary off the water. The balcony tile with two inches of top concrete and 5-inch concrete ribs, reinforced with two 5/8-inch square twisted steel rods per rib. See Fig. 2. This floor, which was designed for a live load of fifty pounds on a thirteen foot span, under a test load of 290 pounds per square foot, showed a deflection of one-eighth of an inch at the end of twenty hours and resumed

its former position upon the removal of the load. The test was conducted by the City Architect.

The centering used for the floor slabs was the "skeleton" type, by which method a 2-inch by 10-inch

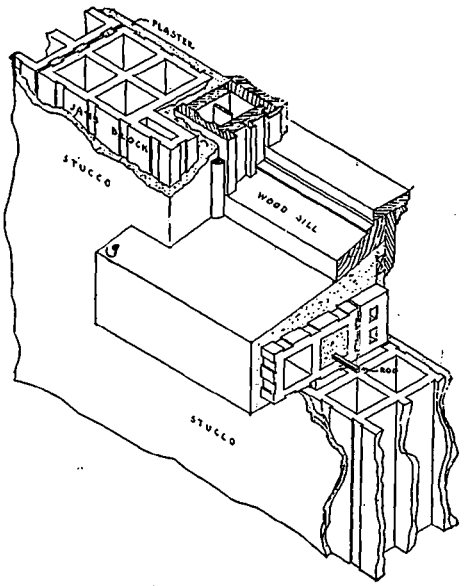


Fig. 4. Detail of Window Sill.

plank is placed under each rib—the tile spanning the opening between the planks, which were in this instance 17 inches centre to centre—and the rib is carried in turn by stringers and uprights. This is the

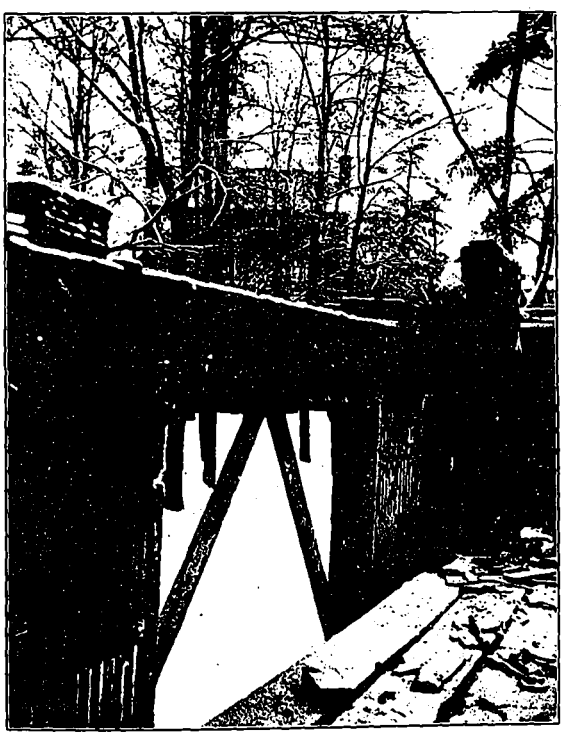


Fig. 5. Concrete Lintel Prior to Removal of Form and Placing of Hollow Tile Facing.

usual manner of procedure in reinforced concrete work, and is shown in Figs. 8 and 9. As the slabs were poured during the past winter under unusually severe conditions, extra precaution was taken to see that all material was properly heated before and during mixing. The moment a portion of the slab was completed, it was covered with a thick layer of straw and then with tarpaulins. Previous to this

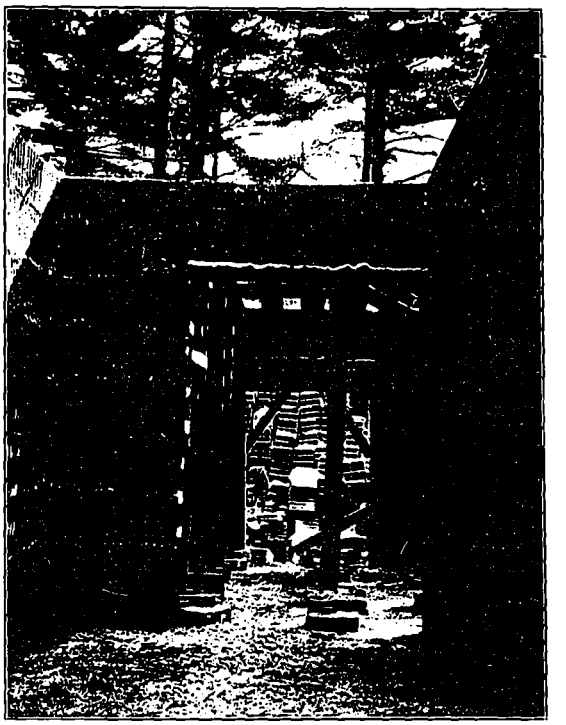


Fig. 6. Concrete Lintel Insulated with a 2-inch Hollow Tile Facing.

operation all openings were closed with muslin and salamanders placed under the forms, which gave ample protection from frost.

The veranda and balcony floors have their outer ends carried by reinforced concrete beams faced with tile as in the case of lintels, and in turn carried by a tile column the cells of which are filled with 1:2:4 concrete and properly reinforced by vertical rods.

All piping for plumbing and steam fitting is concealed in the tile partitions as shown in Fig. 10, and in the cinder floor fill. Electrical conduits were handled in a like manner. Sleepers used to carry the finished floor were laid and brought to a proper level by the carpenters after the piping had been tested and the spaces between brought to the right level with cinder concrete floor fill. All bath rooms, toilets and kitchen have tile floors and wainscoting. Owing to the rigidity of the walls and floors, perfect sanitary conditions are secured in these rooms, as the tile will not break loose or develop cracks in the corners, similar to ordinary frame construction. The balcony and veranda floors are of quarry tile.

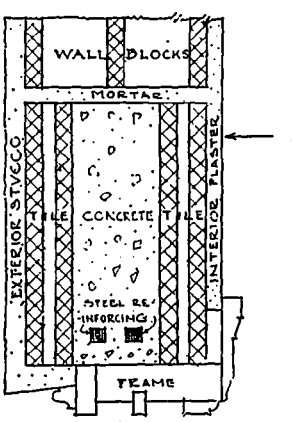


Fig. 7.

The exterior of the house is finished with three coats

Fig. 8. Upper Form Work for Floors, Consisting of 2 x 10-inch Planks Placed 17 Inches Centre to Centre.

Fig. 9. Lower Form Work for Floors, with Supporting Uprights and Stringers.

of white stucco, rough cast. The chimneys are of brick, but could just as easily have been constructed of tile and stucco. Many houses of this type use the brick veneering in place of stucco or a combination of brick veneer and stucco. In fact, terra cotta hollow tile is adaptable to practically any architectural design.

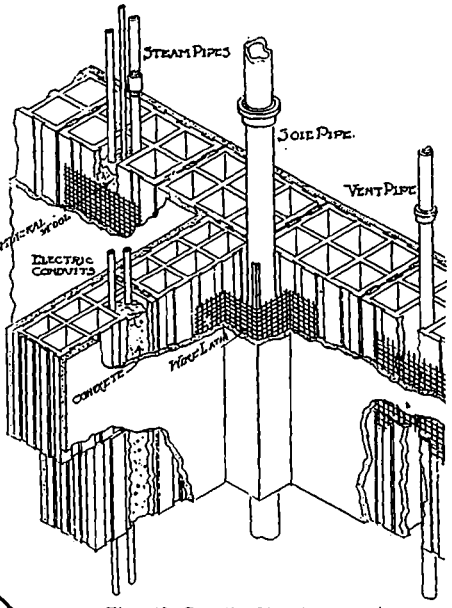


Fig. 10. Detail, Showing Method of Concealing the Piping

Section, Showing Position of Hollow Tile and Concrete Beams in Floor System.

HOLLOW TILE RESIDENCE, RUSSELL HILL ROAD, TORONTO, ONTARIO.
Eden Smith & Sons, Architects.

CONSTRUCTION

A · JOURNAL · FOR · THE · ARCHITECTURAL ENGINEERING · AND · CONTRACTING INTERESTS · OF · CANADA

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H. GAGNIER, LIMITED, PUBLISHERS
Corner Richmond and Sheppard Streets,
Toronto, - - Canada

BRANCH OFFICES:
MONTREAL—171 St. James Street
WINNIPEG, MAN.—13 Royal Bank Building
LONDON, ENG.—17 Cockspur St., S.W.
CHICAGO—People's Gas Building
NEW YORK—156 5th Avenue

CORRESPONDENCE—All correspondence should be addressed to "CONSTRUCTION." Corner Richmond and Sheppard Streets, Toronto, Canada.

SUBSCRIPTIONS—Canada and Great Britain, $3.00 per annum. United States, the Continent and all Postal Union countries, $4.00 per annum, in advance. Single copies, 35c.

ADVERTISEMENTS—Changes of, or new advertisements must reach the Head Office not later than the fifth of the month preceding publication, to ensure insertion. Advertising rates on application.

CONTRIBUTIONS—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and duly returned.

Entered as Second Class Matter in the Post Office at Toronto, Canada.

Vol. 5 Toronto, November, 1912 No. 12

CURRENT TOPICS

PREPARATIONS are being made by the Governor of the Federal District, Mexico City, to replace the present rented building, occupied as Comisario, with edifices constructed at the Government's expense and designed for this especial purpose. It is understood that a most imposing scheme of buildings is in contemplation.

* * *

WORK ON THE ERECTION of a temple for the Latter Day Saints at Raymond, Alta., is to be started shortly, according to an announcement made by the President, Joseph F. Smith, of the Mormon Church, at a general conference recently held at Salt Lake City. In design and construction it will be patterned after existing structures of this type in Utah, although necessarily less pretentious than some of the more imposing edifices, as a sum of but $200,000 has been set aside for its construction.

* * *

THE ARCHITECTS at Winnipeg are advocating the enlarging of City Hall Square in order that their new building may be placed to better advantage. By adopting such a plan Market street could be opened to the river, and the new City Hall made the feature of a civic centre. Such a proposal is strongly favored by Leonard Stoke, ex-president of the R.I.B.A., who also suggests that the Lord Selkirk memorial be located in front of the new hall.

* * *

EARNEST CONSIDERATION is being given by the authorities of Calgary towards the improvement of the physical appearance of that city. At least this is the substance of a recent report which states that the services of Thos. H. Mawson, the well-known English landscape architect, will be engaged to draft a comprehensive scheme including a civic centre to cost in the neighborhood of four million dollars. As Mr. Mawson is employed in a similar undertaking at the present time in Victoria, it would seem that the Western municipalities are making greater progress along these lines than those of the east, where improvements of this kind have been long under discussion with very little being done.

* * *

OWING TO THE LARGE NUMBER of applicants for study in architecture, it is understood that the faculty of the University of Alberta has decided to adjust the schedule of the engineering department so as to provide a full first year course leading to a degree in architecture. Next year it is the intention to enlarge the course so as to include first and second year studies. In addition to mathematics, draughting and architectural history, classes in modelling will be conducted. The curriculum and equipment will be gradually improved upon until the advantages are such as to attain the standard reached in other branches offered by the University.

* * *

THE SASKATCHEWAN Association of Architects, although a comparatively new organization, displays an activity which indicates that it is to be a most useful body. Already the question of education is being considered by its members as a matter of prime importance, and an approach is to be made with a view to having the authorities of the Saskatchewan University establish an adequate course for architectural training. This step was decided on at the first annual convention recently held at Regina, which was largely attended and included a number of important papers and discussions. The meeting came to a close at a dinner held in the banquet room at the King's Hotel. The officers elected for the ensuing year are as follows: President, T. C. Clemesha, Regina; vice-president, W. W. LaChance, Saskatoon; secretary-treasurer, G. Von Egmond, Regina; committee, A. R. Greig, Saskatoon; N. W. Thompson, Saskatoon; R. S. Bunyard, Moose Jaw; W. R. Reilly, Regina.

* * *

THE UNITED STATES daily consular reports state that mahogany, which has always been considered a luxury in Canadian provinces, is being imported in large quantities for office fittings, decorating

purposes, etc., during the fiscal year ending March, 1912, a total of 2,700,000 feet of mahogany, invoiced at $315,000, was imported.

* * *

FRANKLIN E. BELFRY, architect of the Toronto Board of Education, has been appointed registrar of the Ontario Association of Architects, to succeed Herbert E. Moore, who has resigned after performing the duties of that office for a period covering the past five years.

* * *

OVER FOUR MILLION dollars for residential work alone is included in the total expenditure for new buildings undertaken in Edmonton this year up to the end of October. Taking into account the increased number of business and industrial structures that would justify so pronounced a development in this direction, it is readily to be seen that Edmonton is rapidly assuming an important place among Canadian cities. In all 1,788 permits were issued for residential structures which represent an average cost of $2,400, or a better balanced investment than some of the larger cities can boast.

* * *

IT IS PROPOSED to supplement the British housing and town planning Act, which has been operative for three years, with a new measure that shall directly deal with the problem of the poorest of the poor. Several bills tending toward this end are now before Parliament. In order to state clearly the views of many British housing reformers, the committee of the National Housing and Town Planning Council has issued a memorandum giving the reasons for the decision which has been taken by the council to support the proposals that financial help shall be given by Parliament to municipalities in the task of rehousing the poorest and that a new housing department shall be brought into existence for the purpose of stimulating action where local authorities are not active. The committee urges strongly that the Government lend for this special purpose, and under certain well-defined conditions, money at 2½ per cent. (savings bank interest rate) and that the local authority in taking these loans at this low rate of interest should satisfy the Local Government Board (a) that the houses are built either to replace destroyed houses or to house those whose need is pressing, and (b) that the tenancy of these houses shall be limited to the poorest. The local authority would also be required to pay the sinking fund on the ground that the property will ultimately be a source of income, and the total loan charge entering into the rent will thus be 2½ per cent. Under these favorable conditions the annual cost of a $1,000 rural cottage (covering cost of land and building) will be $25, and as rates and other charges in a rural district are not high it should be possible to let such a cottage with half an acre of land at a rent of $35 to $40 annually.

* * *

THE FOLLOWING European conditions were cited at the conclusion of Dr. Hodgett's address upon the "Condemnation of the Skyscraper." They tend to support the arguments advanced in his paper, which are deduced from established precedents of considerable merit:

In Frankfort, population 350,000, the town controls the height as well as the number of stories in each new house. The town is divided into three districts; in the inner one houses may be built 65 feet high and contain five stories and not more than three-quarters of the site may be built on; in the middle zone buildings must not be more than four stories, including the basement, while in the outer zone only three stories are permitted and only two where the streets are narrow.

In Dusseldorf the height of the buildings is regulated by the breadth of the streets. In the inner town the building height is 63 to 66 feet, with four stories, although where the streets are wider then permits are issued for higher houses. In the outer town buildings are restricted in height to 49 feet divided into three stories, and in the district of villa residences only two stories are permitted. In this municipality, in the inner town, one-third of the building site must be reserved, the limit being one-half in the outer town and in the villa district only two-fifths of the site may be covered.

Mannheim.—This town is divided into three zones and the districts therein are as follows: First zone, 75 and less per cent. of lot may be built on and buildings are restricted to five stories. Second zone, 50 per cent. of the lot may be built on with small spaces between buildings, except those on main streets, when the height is four stories. Third zone, 40 per cent. of the lot may be built upon, and the buildings are three stories in height.

Cologne.—Buildings in the centre of the town may be five stories with a mansard. In other portions of the town no building may rise over three stories in height or occupy more than forty per cent. of the lot.

In Saxony, in the year 1900, such a scheme was made completely for all towns, while in various German communities houses must be placed so as to secure the maximum amount of sunshine.

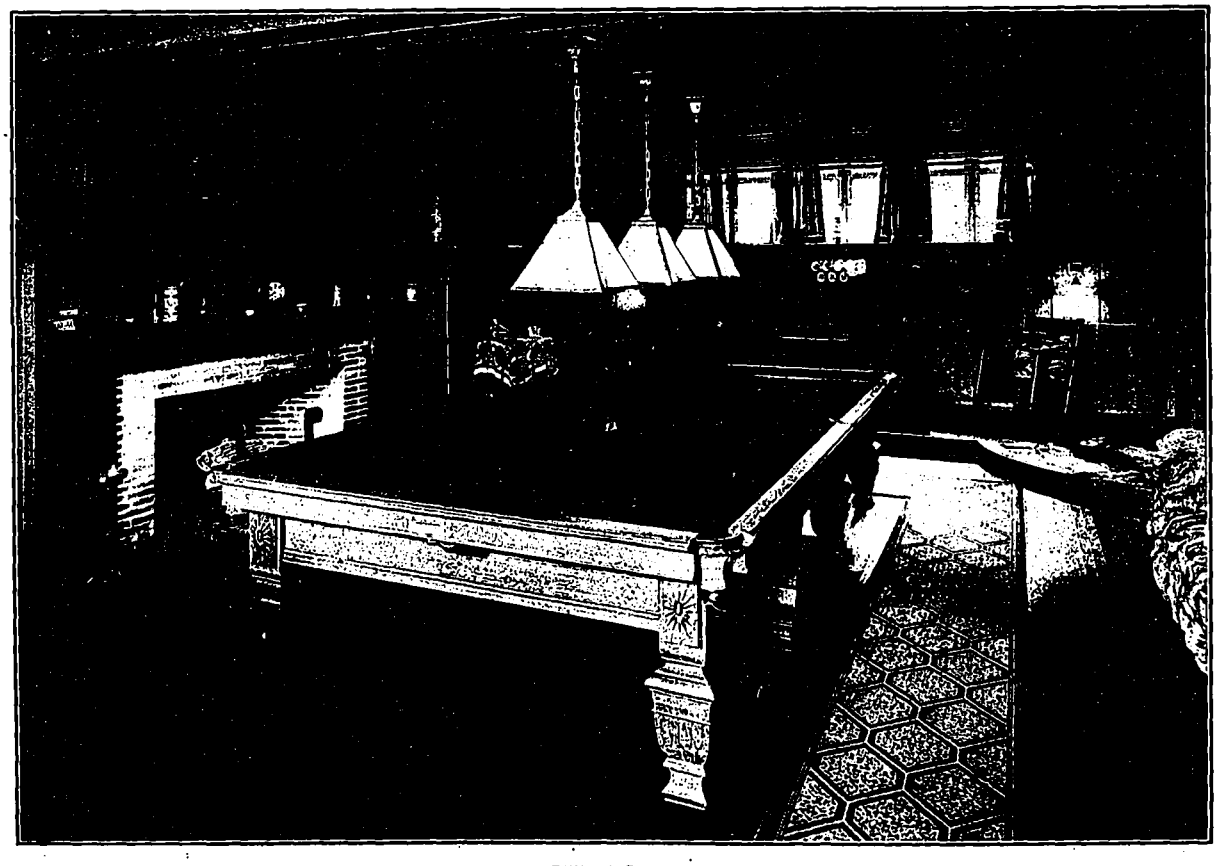
* * *

BUCKINGHAM PALACE has been declared the ugliest royal residence in Europe. To its natural ugliness has been added the gloomy coloring due to the accumulation of London dirt, until now the façade of the palace is not only hideous, but extremely depressing. This condition is to be ended next year when the royal family are away. The entire exterior of the palace will be remodeled, following the scheme of Sir Aston Webb, sanctioned by the Government. There are to be no alterations to the interior of the palace, and the first essential laid down is that no rooms should be reduced or enlarged, no window taken away or even altered. In spite of the condition, it has been found possible to change and greatly improve the present design. Pilasters will be inserted between the windows on the entire front running up to a new frieze of massive design, above which a cornice, wholly masking the chimneys and ventilators of the palace, will extend the whole length of the building.

HOUSE, EAST ROXBOROUGH STREET, TORONTO.

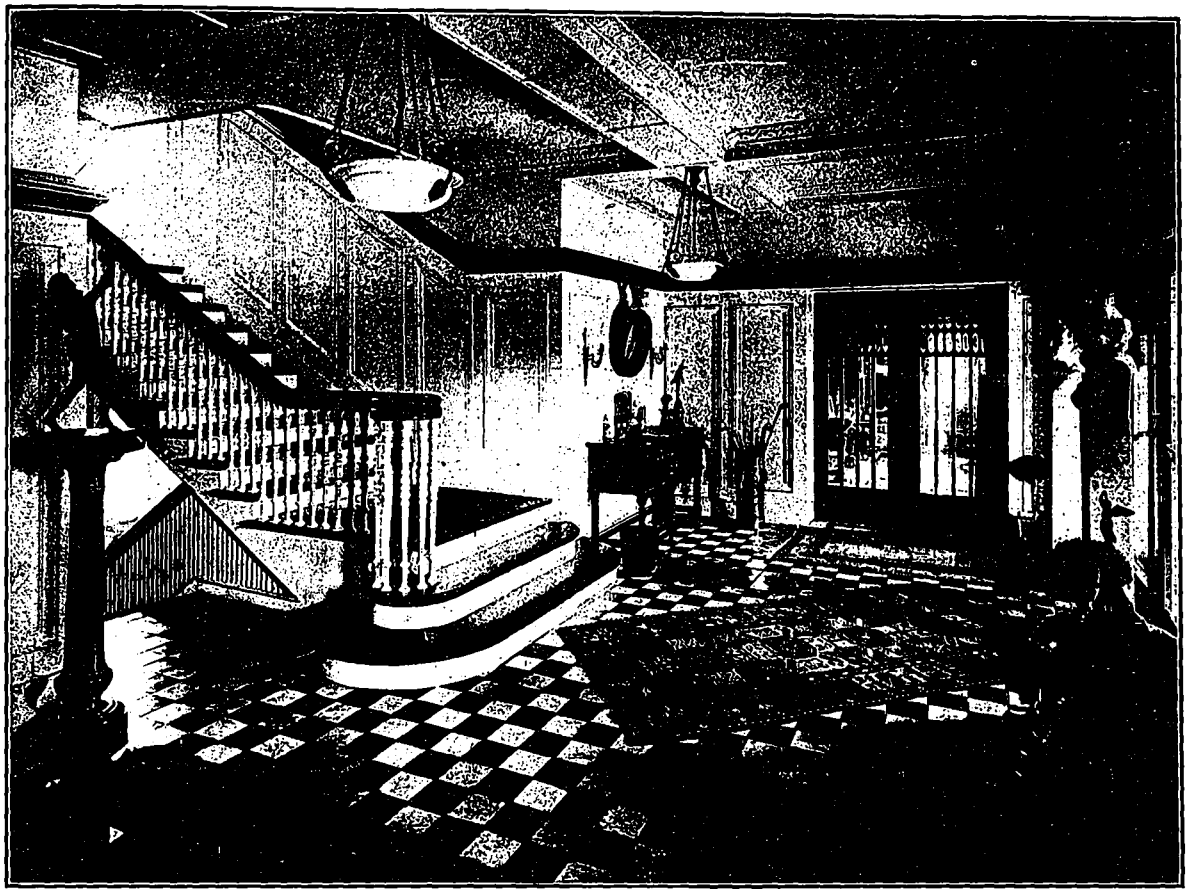
Page & Warrington, Architects.

Living Room.

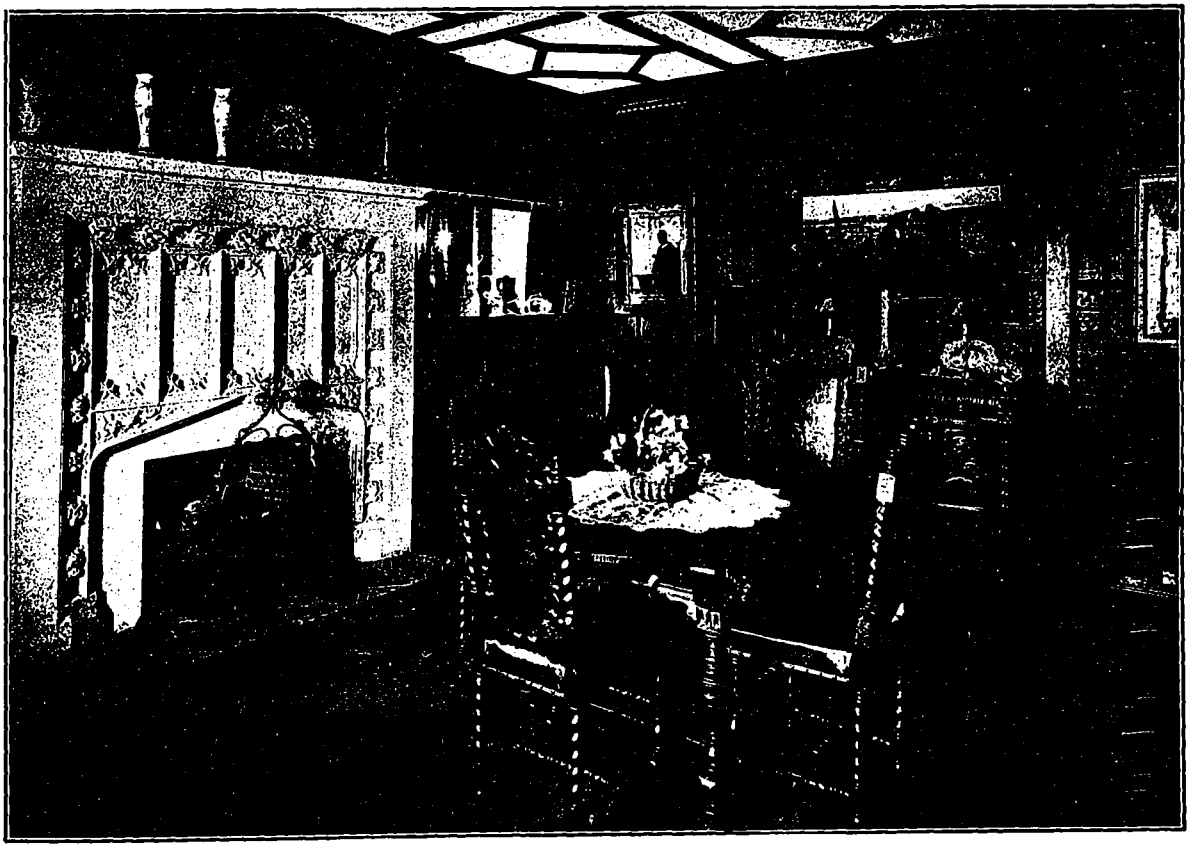


Billiard Room.

HOUSE, EAST ROXBOROUGH STREET, TORONTO.
Page & Warrington, Architects.



Hall.



Dining Room.

HOUSE, EAST ROXBOROUGH STREET, TORONTO.

Page & Warrington, Architects.

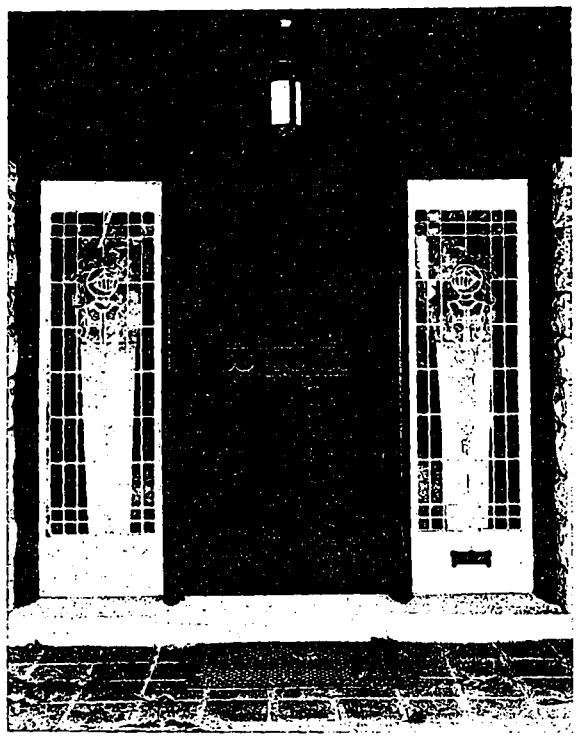
House on East Roxborough Street, Toronto

PAGE & WARRINGTON, Architects

PICTURESQUELY located at the top of a ravine some five hundred feet in depth is this charming house resembling the English homes in character. The frontage of the lot is exceptionally wide, furnishing ample space for the building itself and a sunken garden to one side. The exterior of the house is of stone in the lower half and stucco upon brick above; having a general greyish tone which forms a pleasing ground for the pine trimmings stained brown. Red tiles are used for the roof and furnish a touch of color in the harmonious ensemble which finds an adequate setting among the natural surroundings. The terrace and veranda are laid in nine-inch square tiles. A special feature of the exterior is the leaded glass windows with Gothic treatment.

Upon the interior an unusual amount of wood paneling provides a richness usually lacking in houses of this size. The hall, which follows the Colonial feeling, has a floor of black and white marble, with stairs and walls treated in white mahogany, and a decorated plaster beamed ceiling. The doors have one large mahogany panel. In the living rom the walls are finished in panels of brown fumed oak, designed in early English with the upper part carved. The floor is laid in herringbone parqueting patterns, while the beamed ceiling is of oak. Among the decorative features are the carved stone fireplace and fender, a nook in which is planned another attractive fireplace and glass doors leading to the palm room.

The dining room walls are paneled in Gothic style with fine mouldings and rails of very dark oak. Parquetry flooring is used to give a proper finish to the ornateness of the room with its fireplace of imitation Caen stone, and its china closet of wood built beneath the windows. No fixtures mar the design and all lighting is done by means of candelabras placed in various parts of the room.

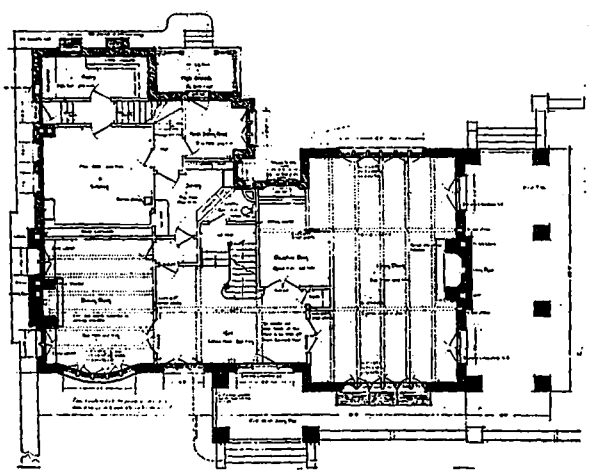


Entrance.

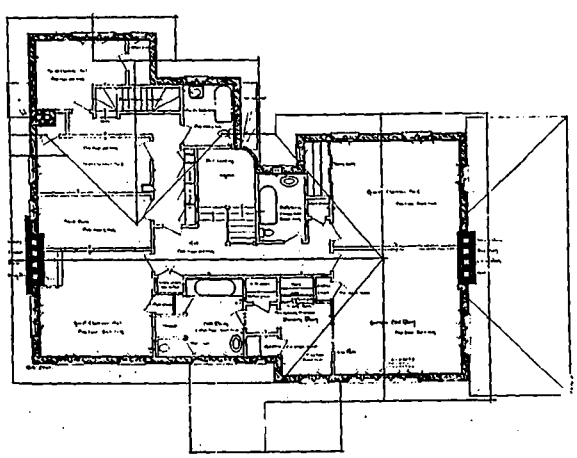
The billiard room has walls and floor in grey oak, a beamed ceiling and a brick fireplace. Upon the second floor the hall is finished similar to the lower hall. The main bedroom and guest room are decorated in white enamel, the latter being enriched by means of mahogany inserts.

The basement floor accomodates, in addition to the billiard room, 21 x 34 feet, a hall, laundry, wine room and boiler room. A system of hot water heating has been established throughout with concealed radiators.

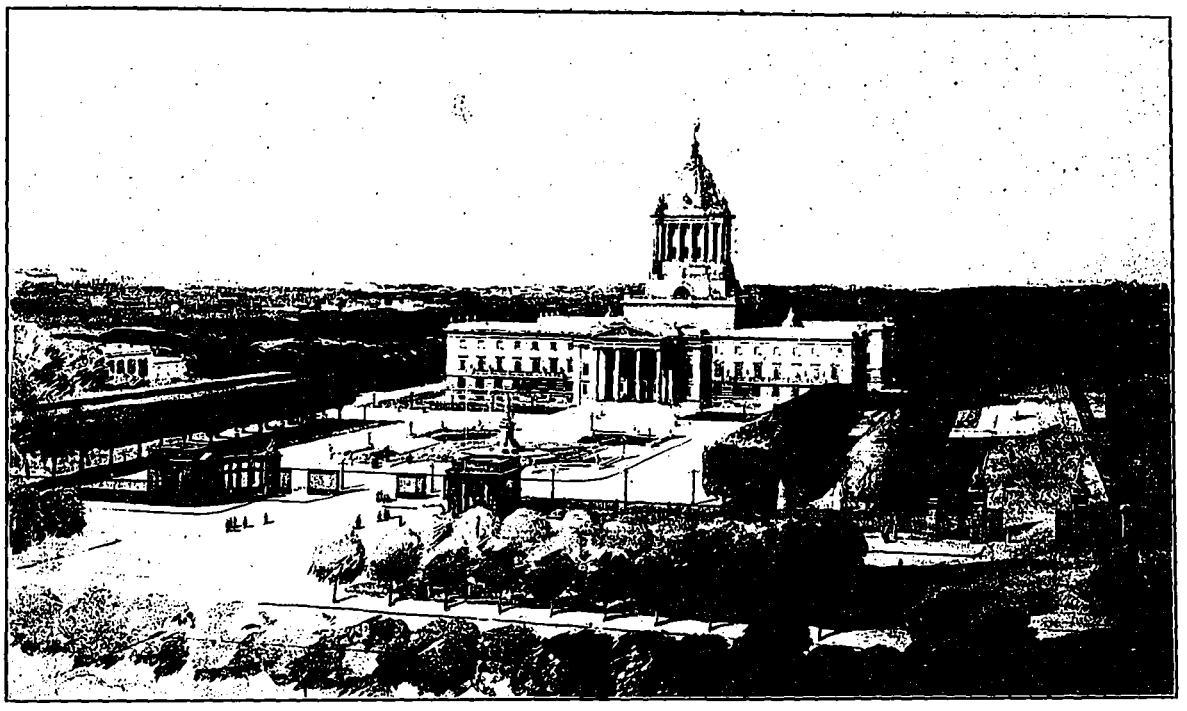
This house is of the best workmanship and conveys the impression that no expense has been spared to make the exterior design both pleasing and harmonious, and at the same time keep the interior of corresponding taste and refinement. Each succeeding year finds a wonderful advancement in the artistic development of our houses.



Ground Floor Plan.



First Floor Plan.



WINNING DESIGN, MANITOBA LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG.
Frank W. Simon, Architect.

The New Legislative and Executive Building, Winnipeg, Manitoba

H. W. HORWOOD, Provincial Architect.

THE COMPETITION for the new Government building at Winnipeg is considered by the architectural profession as one of the fairest competitions ever conducted in Canada. The assessor was Leonard Stokes, F.R.I.B.A., until recently President of the Royal Institute of British Architects, and recognized in his profession as a man of exceptional ability. The conditions of the competition were prepared by C. H. Dancer, Deputy Minister of Public Works, and the Provincial architect, under the direction of the Hon. Colin H. Campbell, Minister of Public Works. The committee of the House to confirm the assessor's selection was chosen by the Premier, Sir Rodmond Palen Roblin, and comprised members of both parties of the Legislature.

The first Parliament in Manitoba was held January 21st, 1871, in the residence of Hon. A. G. Bannatyne, and not until 1884 were the present legislative buildings erected by Gelly & Company at a cost of $284,000. Prior to 1884 the old Land Titles building, recently demolished for the new Court House, was used for Parliament. The original building is still to be seen on Lombard street, surrounded by tall office buildings, and every part gives evidence of the Parliamentary history enacted during the seventies and eighties.

The Province of Manitoba, whose boundaries have been considerably extended, is looking forward to the completion of the Hudson Bay Railroad and a direct route to the ocean. In Le Pas the sound of the bridge builder is heard, and the little village on the mighty Saskatchewan which a few short months ago was only a mission, is now a town of considerable importance. What architect could not be inspired with the conditions as set forth in this contest, for while the building is in the process of construction the Province itself will extend its frontier a thousand miles, developing its immense resources both in agriculture and mining, and this new territory, which until recently has been nothing but a waste, will soon become a land of promise for the husbandman.

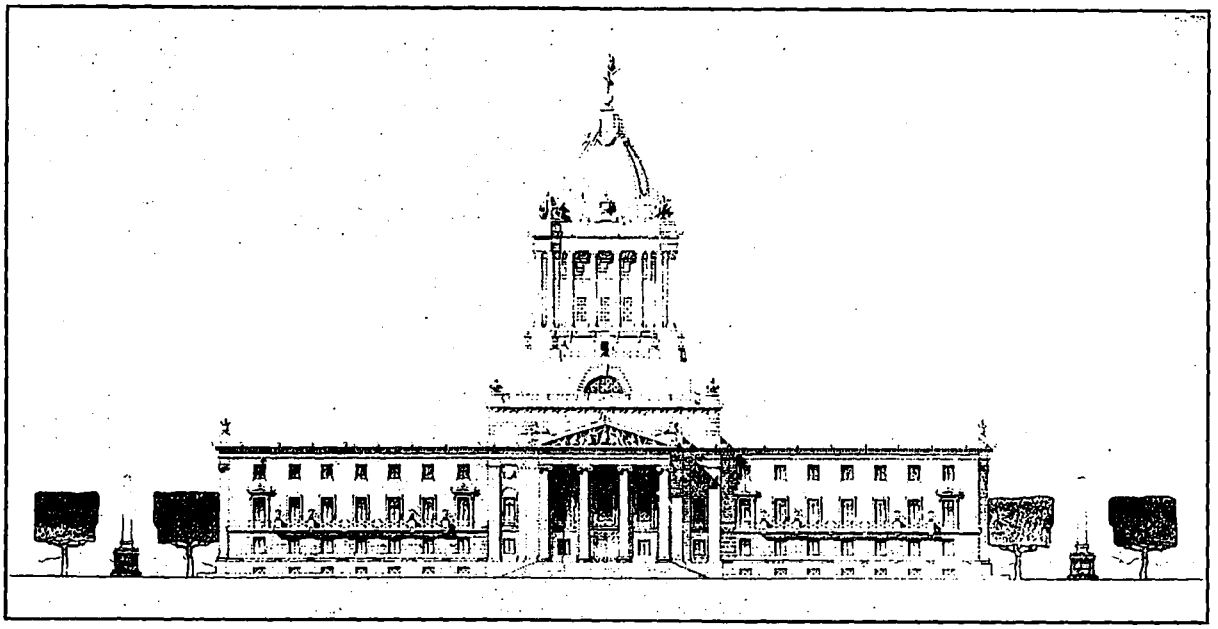
The terms of the competition were necessarily very complete, and the allocation of space as set forth for each department was compiled after considerable study had been given to the subject. Manitoba being a Canadian Province in the British Empire, the Government stated that "the competition shall be restricted to architects who are British subjects practising in the British Empire," thereby making it a world wide competition. Loyal to tradition, the fundamental principle of the Province politically within the British Empire, was to be expressed in its public buildings.

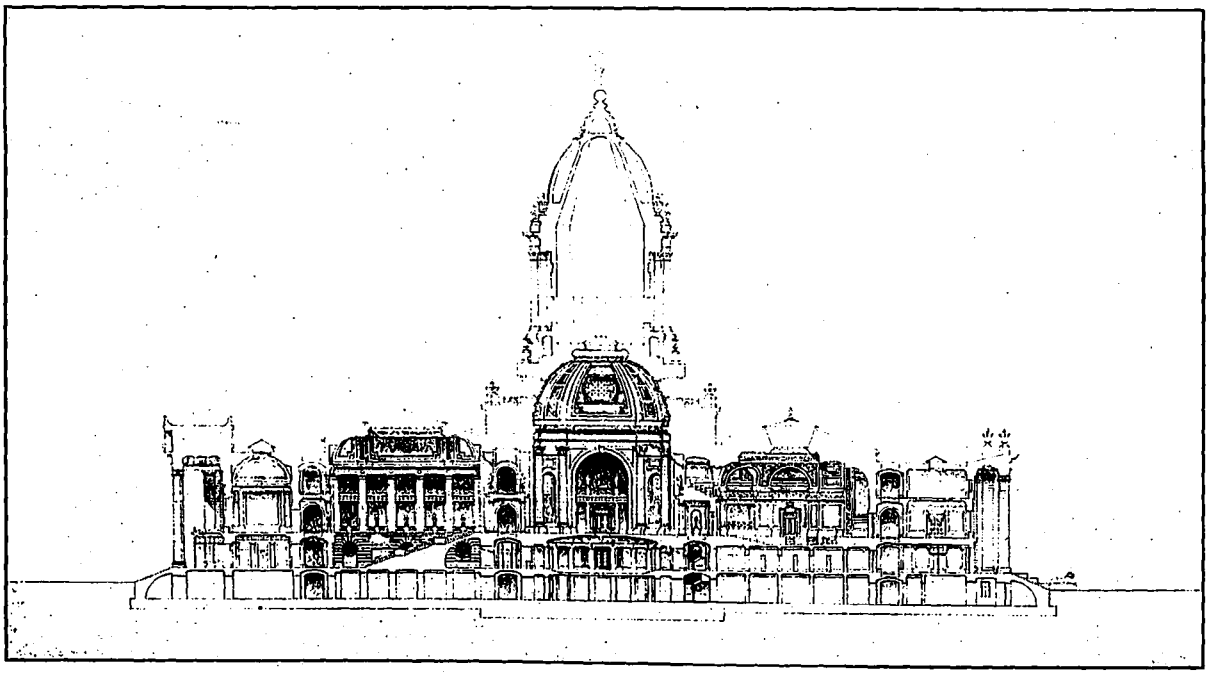
The competition was announced in December, 1911, and the preliminary sketch drawings were in the hands of the Minister by the 15th of February, 1912. There were sixty-seven sets entered, from which five were selected, each one of the accepted designs receiving an honorarium of $2,000.00 for

the completion of other plans more carefully studied. The five architects selected by the assessor, and confirmed by the Lieutenant-Governor-in-Council, for the final competition were Frank Worthington Simon, London, England; E. & W. S. Maxwell, Montreal; Sharp & Brown, Toronto; Brown & Vallance, Montreal; and Clemesha & Portnall, Regina, all of whose plans are illustrated in this number of CONSTRUCTION. The various designs submitted showed a wide divergence of treatment, but all followed out the conditions asked for in the programme. After a careful analysis of the respective schemes and the decision made, it was found that the successful design had been submitted by F. W. Simon, of London, England.

The site, extending approximately 1,000 feet on Broadway with a depth of 1,234 feet to the Assiniboine River, is an ideal one. The general lay-out in which this building is to be incorporated bespeaks for Manitoba one of the finest groupings in Canada. The land is practically level, having a gentle slope to the river, and comprises about 30 acres. The building itself has a frontage on the river opposite the site of old Fort Rouge.

The competition calls for a main entrance hall; separate administrative entrances with cloak rooms adjacent; a spacious ante-room in connection with the legislative chamber, council rooms, committee rooms, and library. The chamber is to have a seating capacity of 125 in order to provide for the new



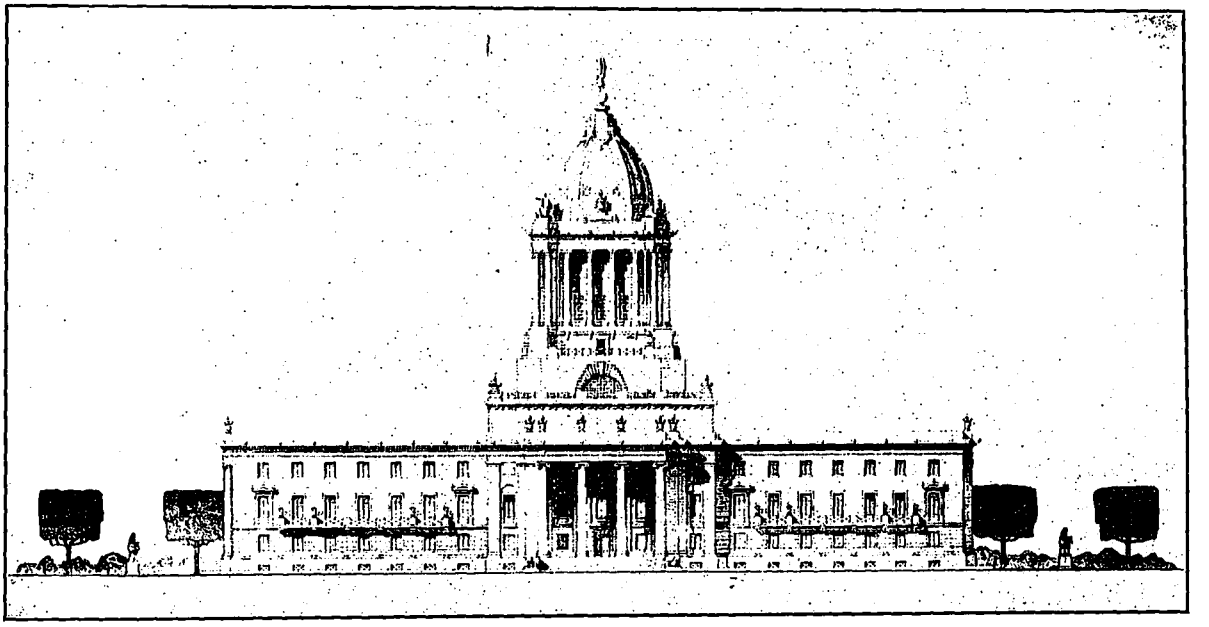


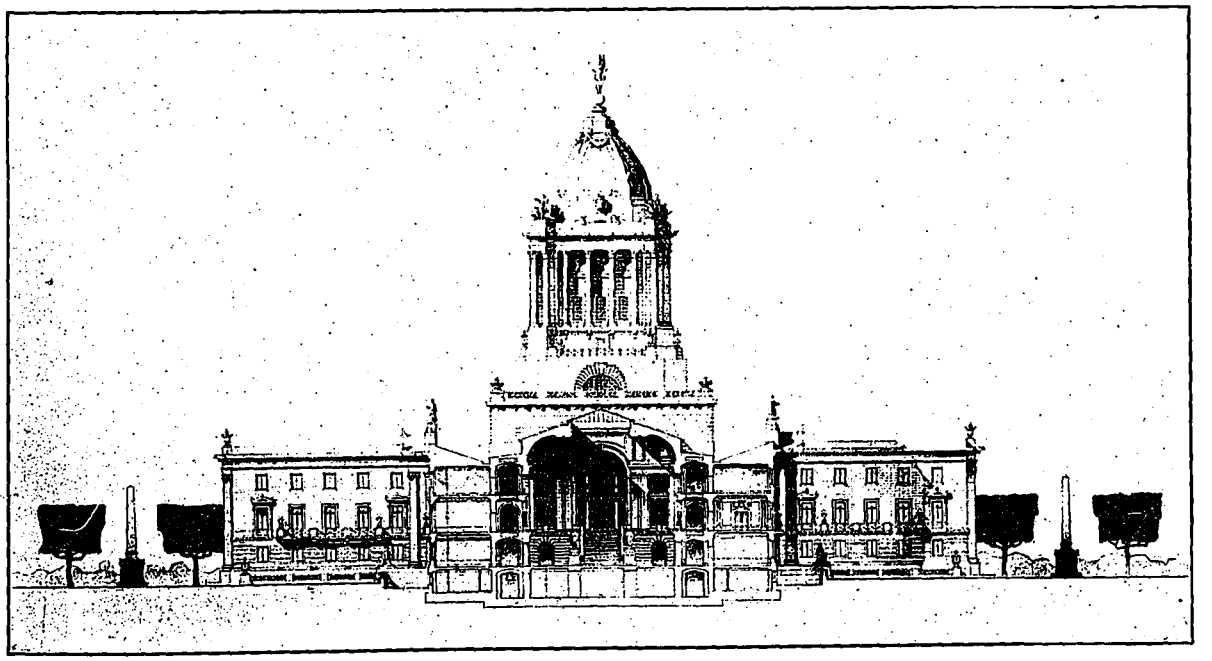
WINNING DESIGN. NORTH ELEVATION AND LONGITUDINAL SECTION.

portions of the province as well as the future growth of the older parts. Further requirements are public galleries accommodating 300 people, a press and speaker's galleries. The above group also to comprise rooms for the Premier, Speaker and Lieutenant-Governor in addition to a library, and offices to be used by members of Parliament while in session. The programme asks for one large, two medium, and six small committee rooms in connection with a waiting room, smoking room, cloak rooms and toilets. Provision is also made for reading and writing rooms, museum, general office, and twelve small offices for the members. Each department is to consist of Minister's quarters, with all the subordinate offices attached.

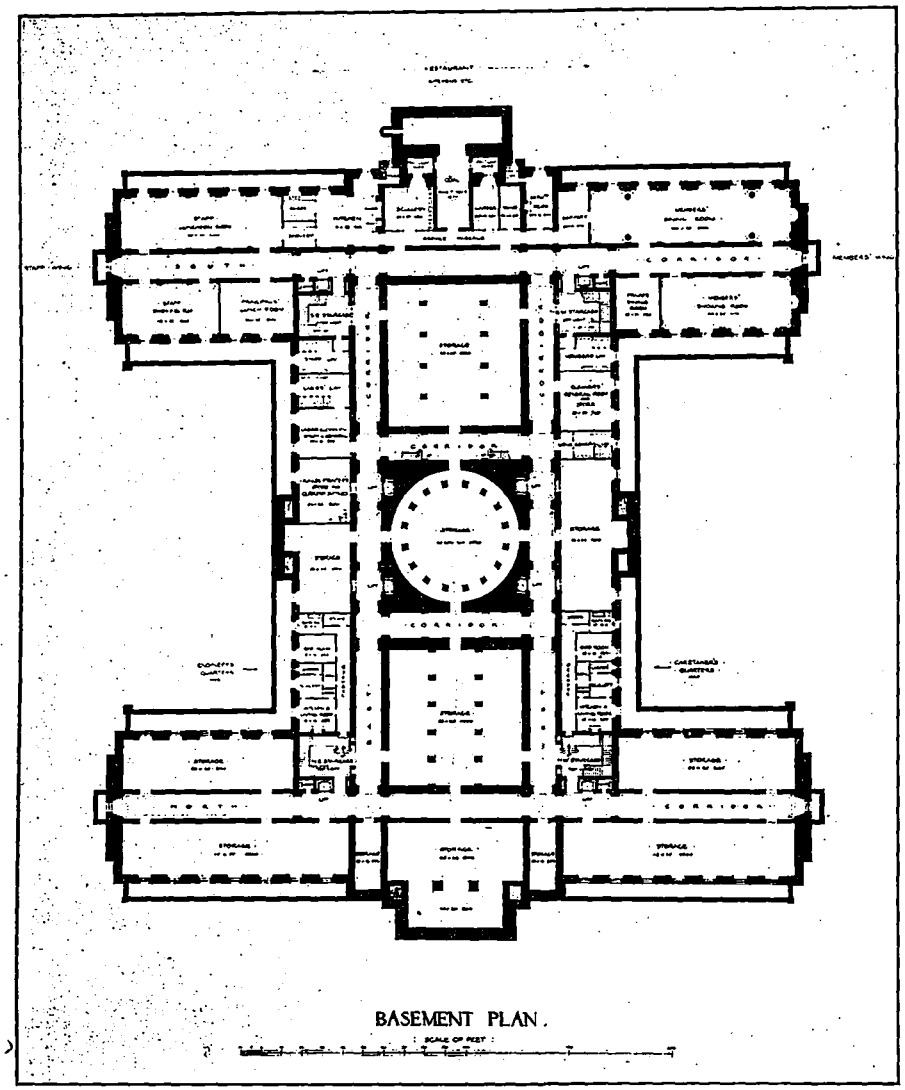
The building is to be of Manitoba stone, and all the various materials used in construction are to be supplied by Canadian or British manufacturers. The approximate floor space required, exclusive of halls, is two hundred and twenty thousand square feet.

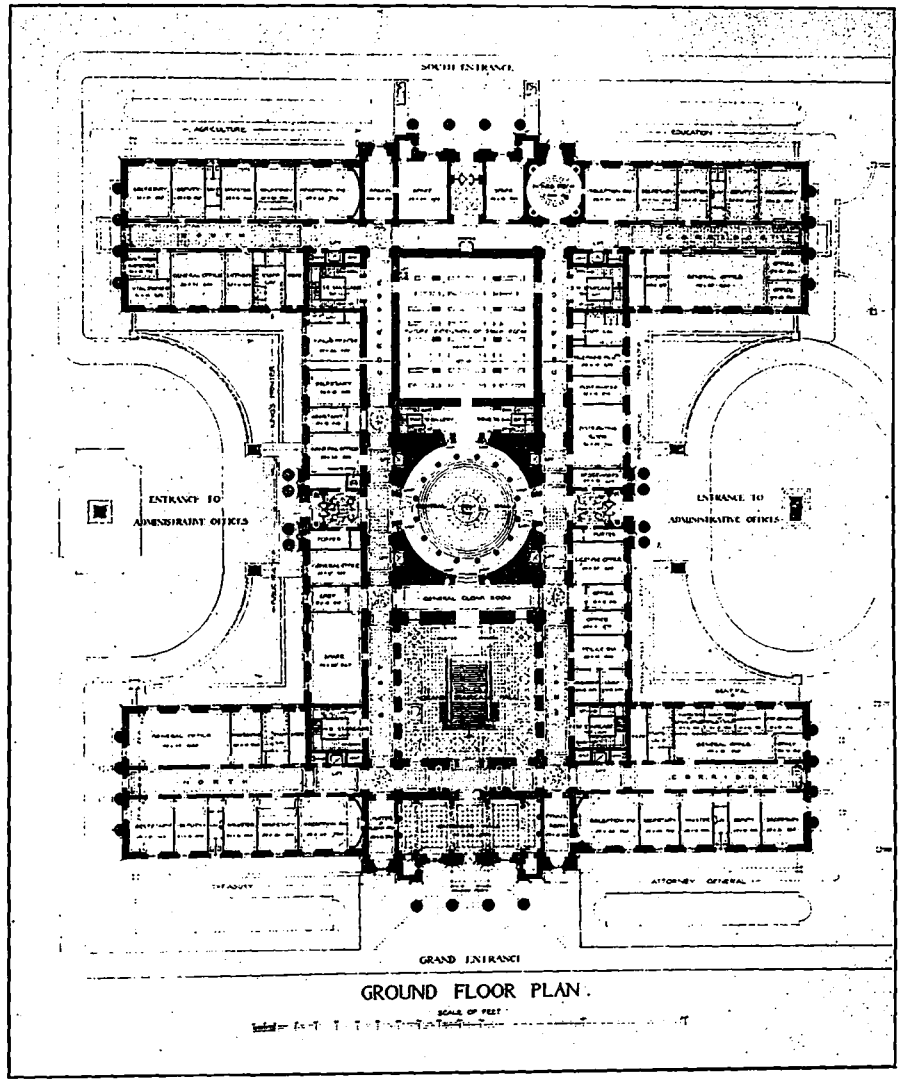
The winning design is one of dignity, well proportioned and harmonious. The monumental character of the building adapts itself to the northern climate in which it will be erected both in respect to the exterior treatment as well as general arrangemnt of its plan. Upon entering the portico one passes through a low vestibule into the staircase hall with its lofty ceiling lighted by the indirect system. The stairs lead to the ante-hall, which forms an





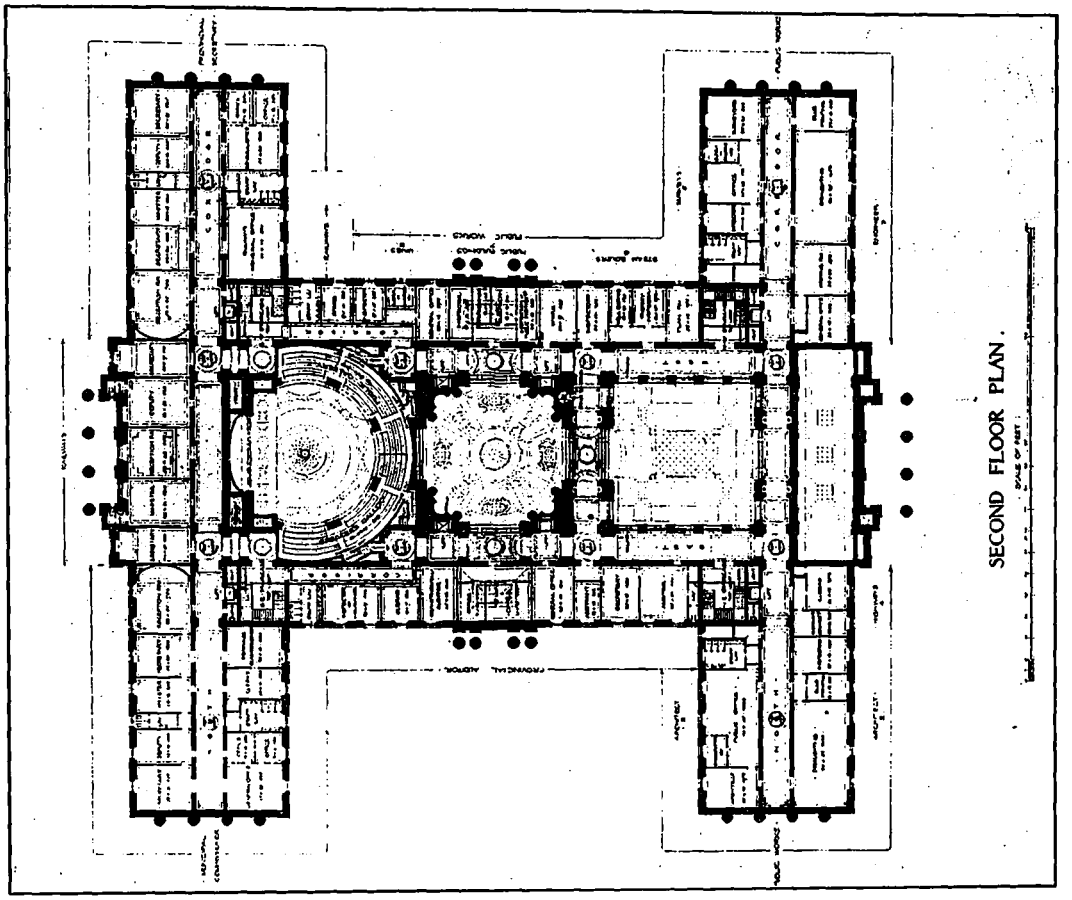
WINNING DESIGN, SOUTH ELEVATION AND TRANSVERSE SECTION.

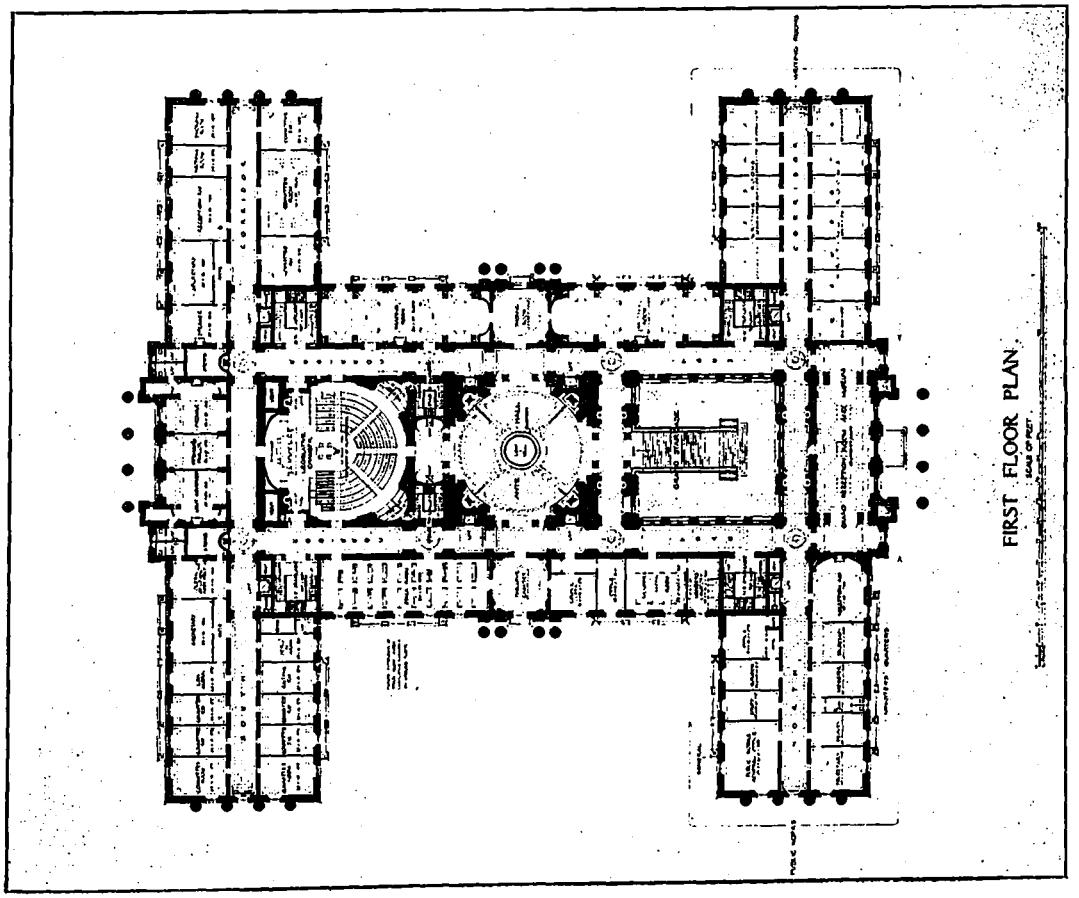




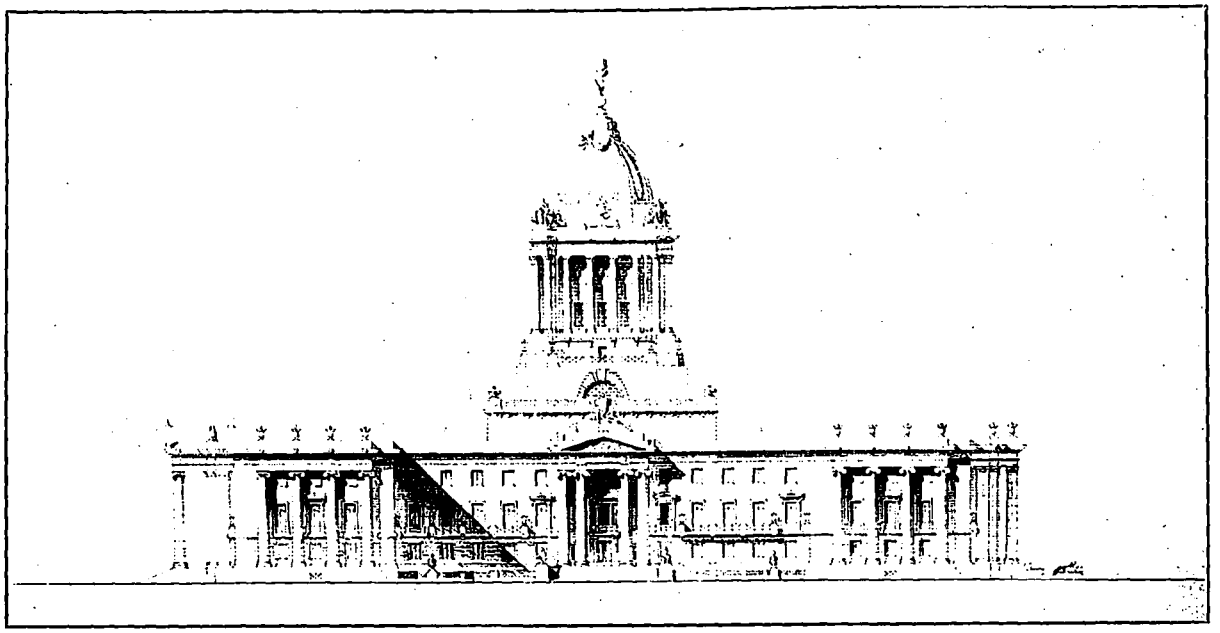
WINNING DESIGN, MANITOBA LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG.

Frank W. Simon, Architect.





WINNING DESIGN, MANITOBA LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG.
Frank W. Simon, Architect.

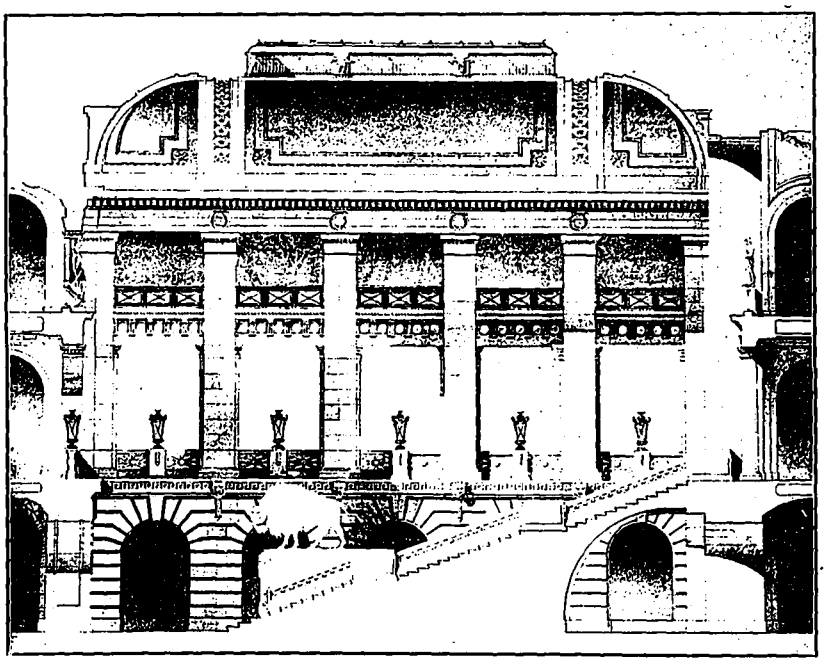


WINNING DESIGN, WEST ELEVATION.

adjunct to the legislative chamber. Above the central portion rises the columnated dome. Encircling the three central features of the plan are corridors with ample window lighting. The four main staircases with elevators adjacent are well planned, and give convenient access to all parts of the building. A grand reception room is situated over the principal entrance, which will make a convenient place from which to view the ceremonies at the opening of Parliament. Reception rooms for each set of departmental offices are placed in the precincts of the central corridors for the convenience of the public. The library and executive chamber are on the east side of the first floor; the writing rooms occupy the north-west portion; the committee rooms fill the east and west wings on the south front, while the remaining wing to the east is utilized by the Public Works department. The offices of the Lieutenant-Governor, the Prime Minister and the Speaker are situated in the centre of the south façade.

On the ground floor are located the offices of the Attorney-General, and the departments of the Treasury, Agriculture and Education. The other departments of the Government are arranged in reference to each other according to their existing needs. The plans are of the unit type, which permits of whatever future re-arrangement of offices may be desirable. The whole disposition of space, general arrangement, and economy of planning in the winning

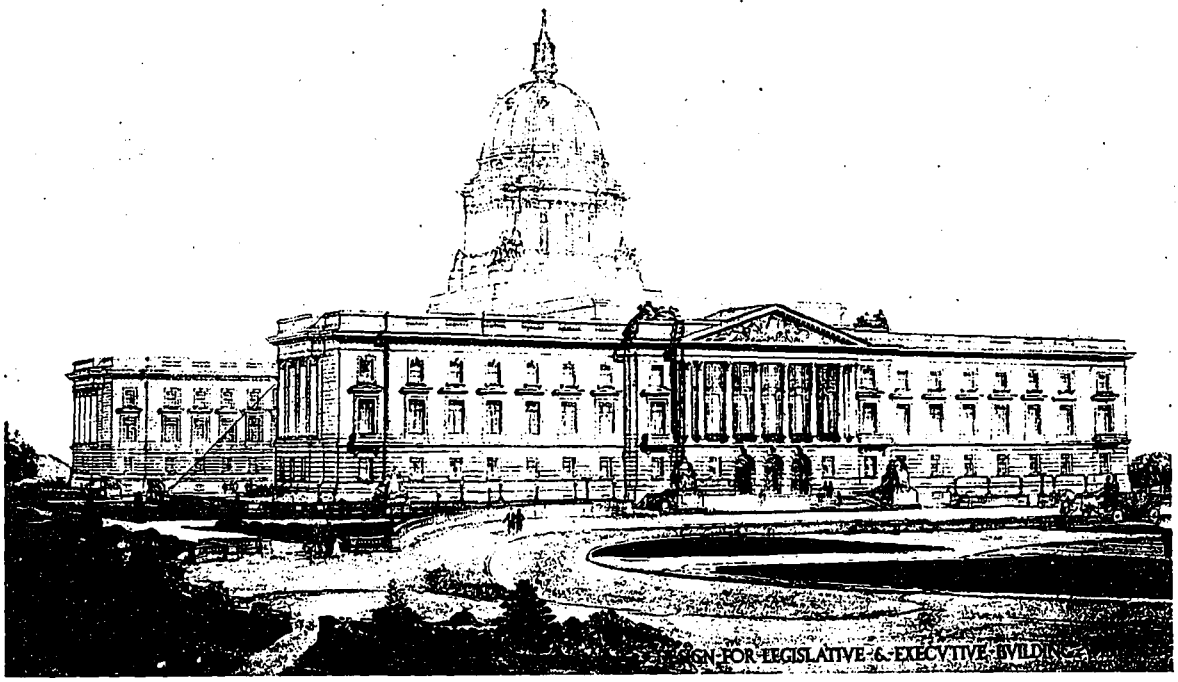
Winning Design Detail of Staircase Hall

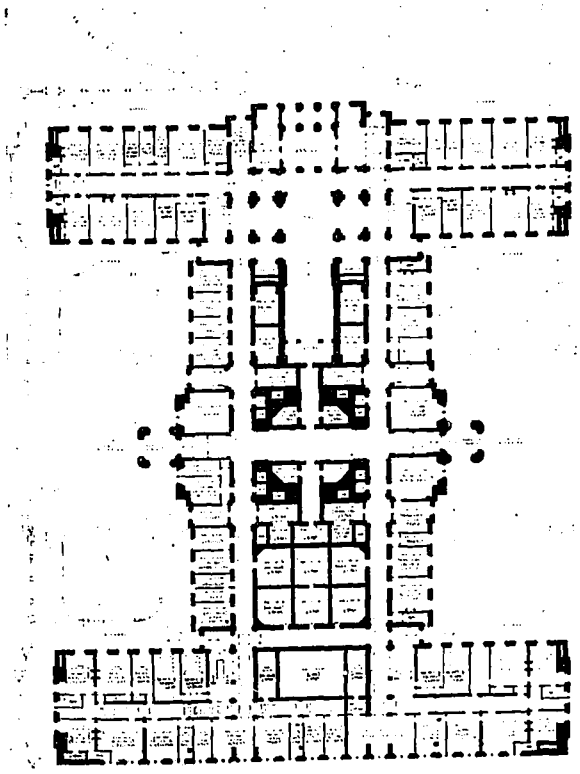


Frank W. Simon, Architect

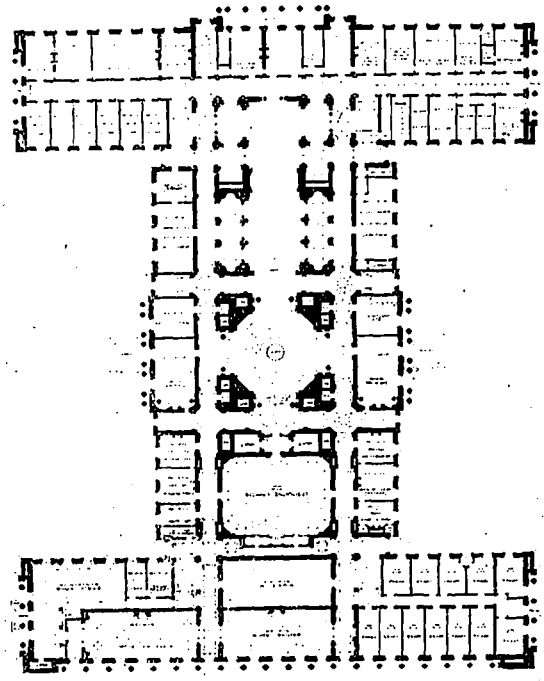
design most nearly approximate the conditions of the programme. The space comes within the estimate and the cubical contents work out in conformity with the amount of money to be expended. The drawings, in the opinion of the assessor, are of an exceptionally high order, and show a careful handling of the requirements in every respect.

It is impossible to describe the other designs presented, but close observation will convince one that each scheme has its own individual merits.



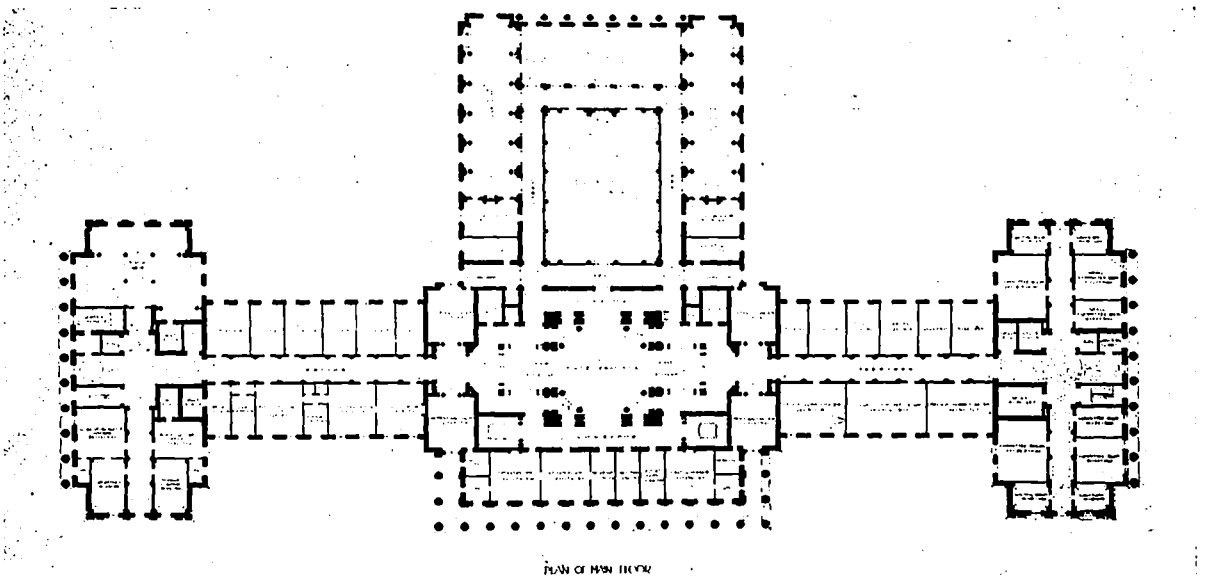


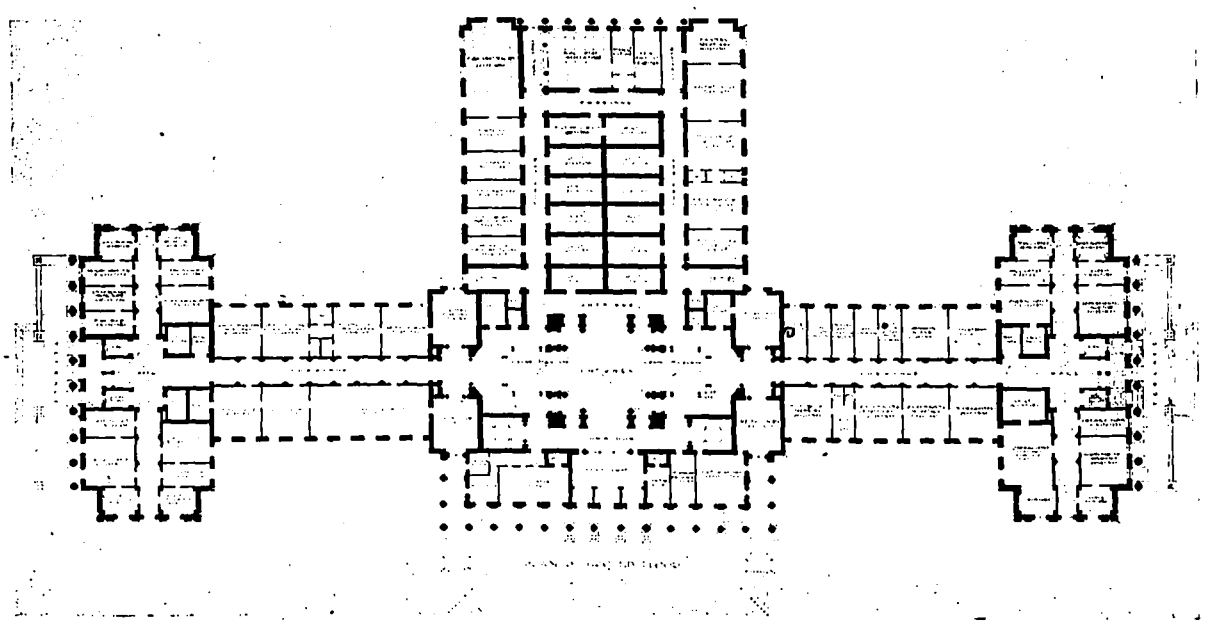
Ground Floor.



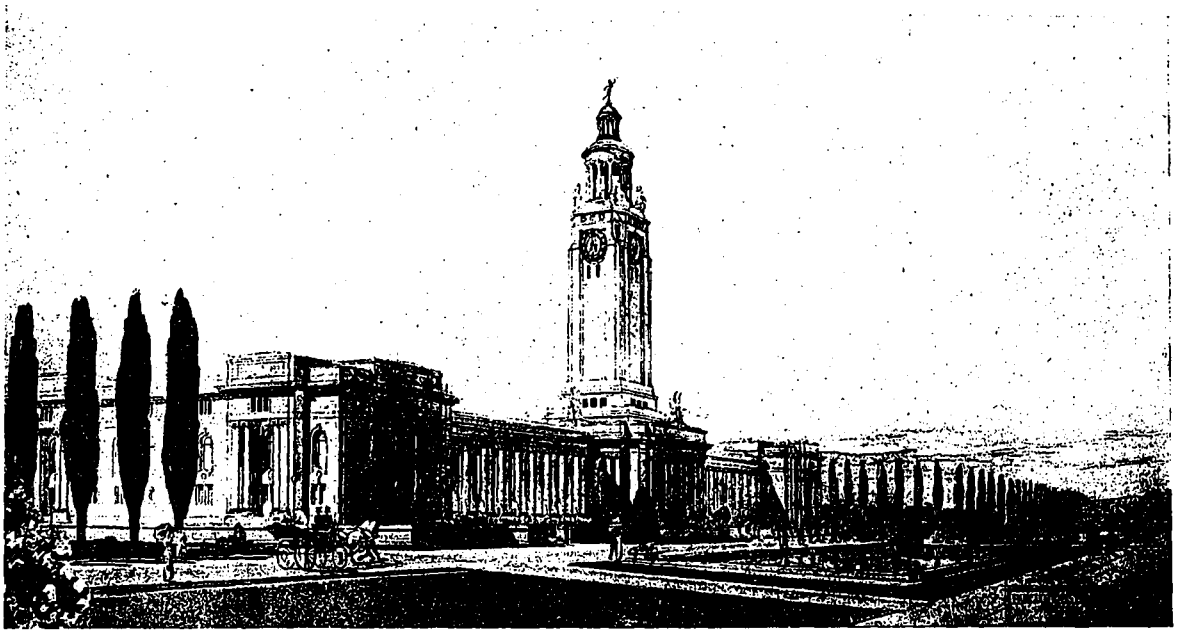
Main Floor.

COMPETITIVE DESIGN, LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG, MAN.
E. & W. S. Maxwell, Architects.





COMPETITIVE DESIGN, LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG, MAN.
Sharp & Brown, Architects.

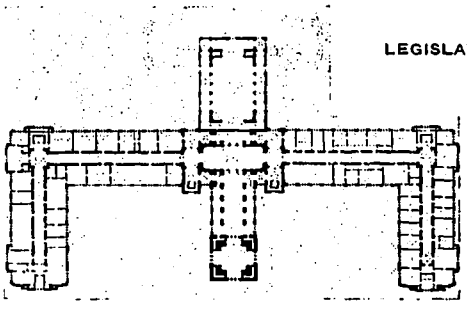


COMPETITIVE DESIGN,

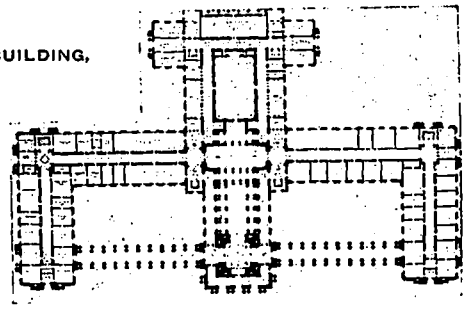
LEGISLATIVE AND EXECUTIVE BUILDING,

WINNIPEG, MAN.

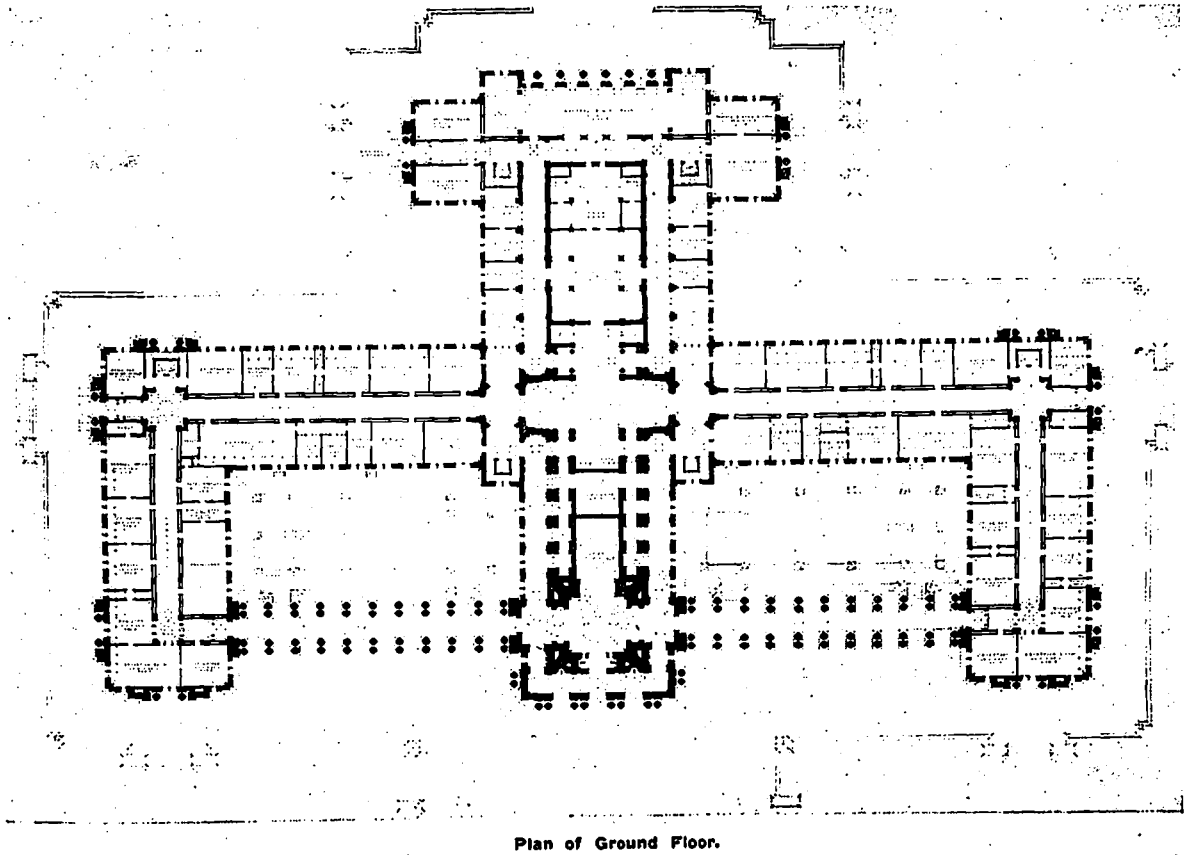
Brown & Vallance,
Architects.



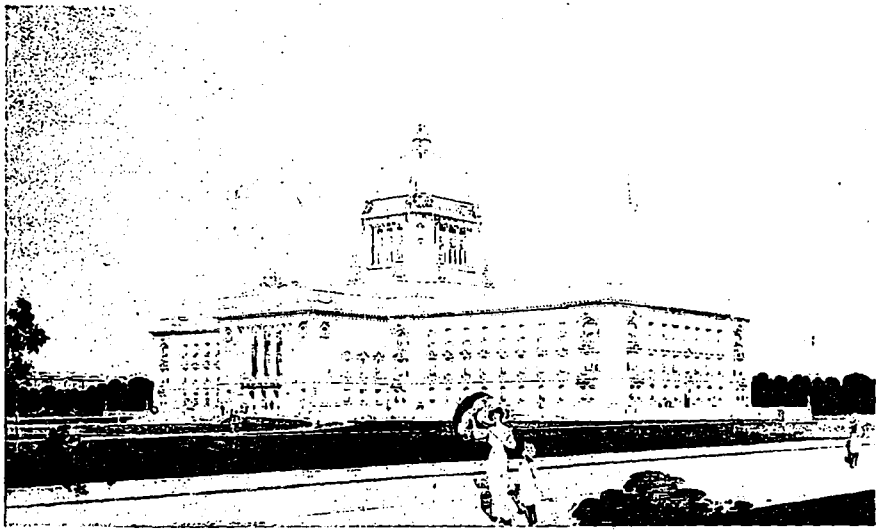
Plan of Second Floor.

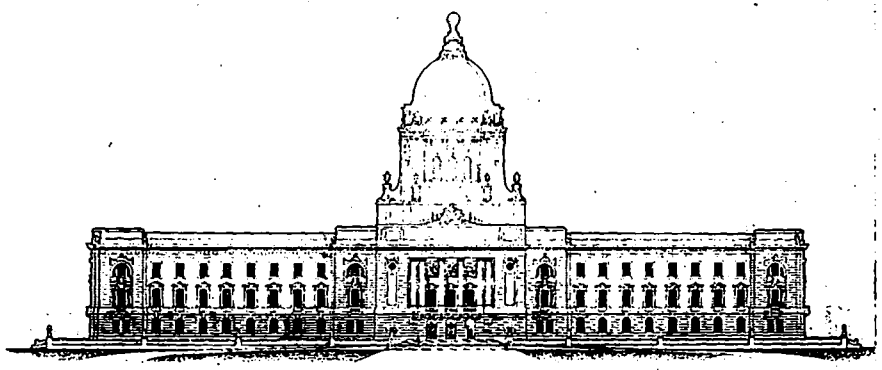


Plan of First Floor.

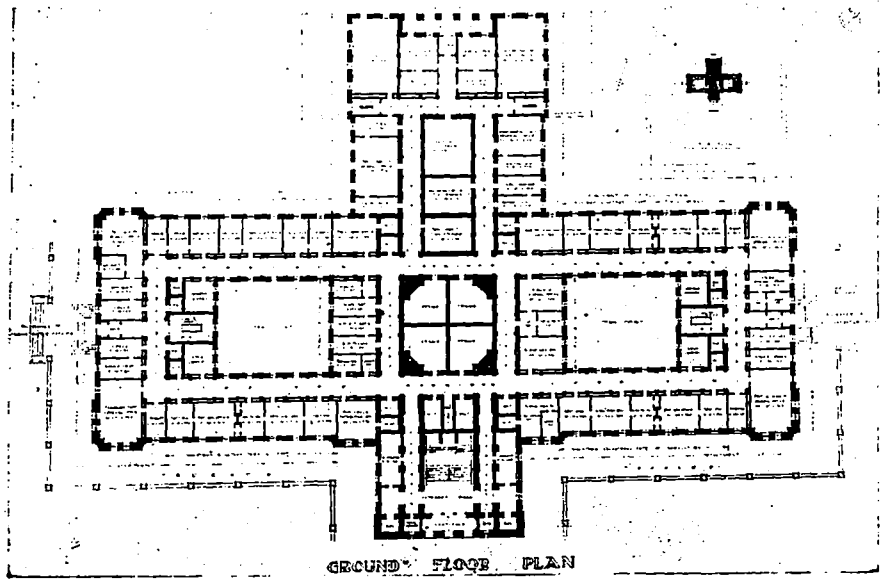


Plan of Ground Floor.

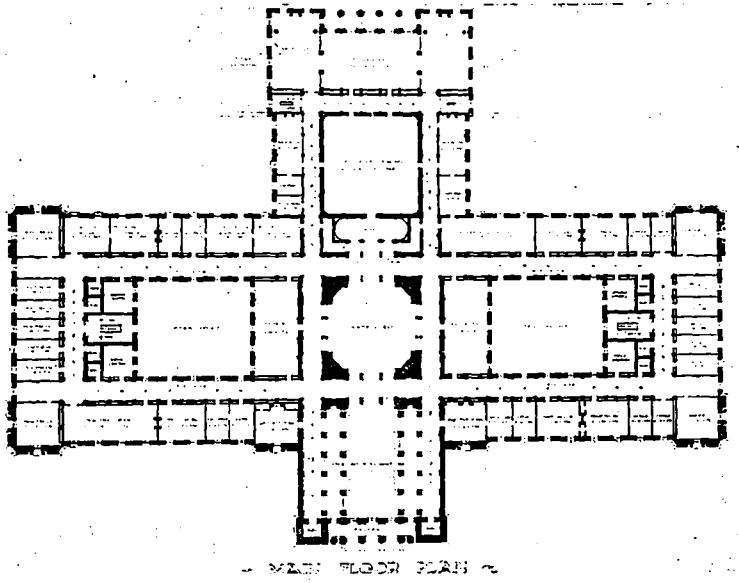




ELEVATION TO BROADWAY

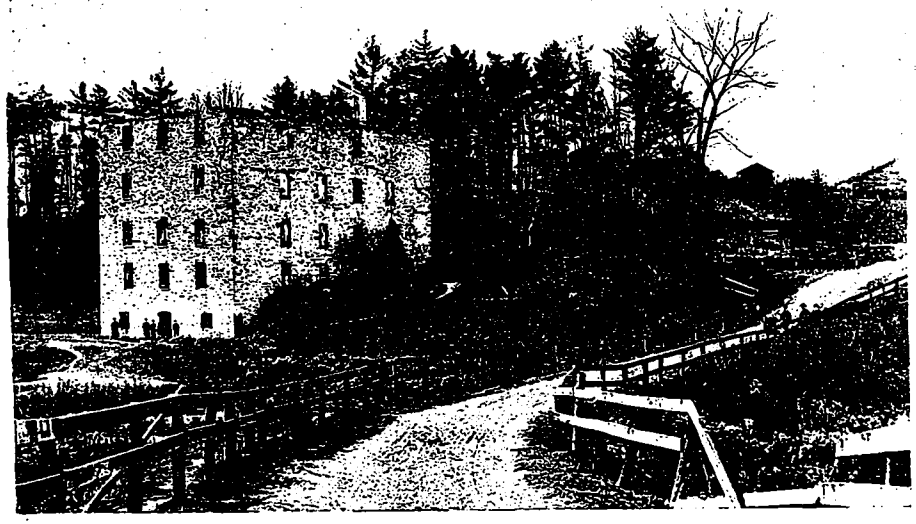


GROUND FLOOR PLAN



MAIN FLOOR PLAN

COMPETITIVE DESIGN, LEGISLATIVE AND EXECUTIVE BUILDING, WINNIPEG, MAN.
Clemesha & Portnall, Architects.



OLD MILL ON HUMBER RIVER.

DON VALLEY.

HIGH PARK.

RESERVOIR PARK.

FOUR VIEWS IN AND ABOUT TORONTO.

Imperialism and Architecture

From The Builder, London

THE GREATNESS of a civilization declares itself in its architecture. Without the pyramids and colossi of the Egyptians, the temples and monuments of the Greeks, or the thermæ, fora, and aqueducts of the Romans, ancient history would be to us mythical, legendary, and unreal. It is in the scattered remains of the architecture of these ancient peoples that we see them face to face, in their carvings that we feel their closest intimacy, and in their brick courses that we get the direct evidence of their strength. History teaches us that the endurance of a nation depends not so much upon its acquirements of the arts of war as upon its accomplishments in the arts of peace. Once having conquered the world, Alexander the Great controlled it not by the marshalling of troops, but by the founding and establishing of cities of Greek design. Rome spread out her *castræ* not as permanent military outposts, but as the precursors of her eternal *colonæ*. It is to the civilizing influence of their cities that we must attribute the enduring greatness of Greece and Rome.

Colonies and dependencies may be acquired by conquest, but their retention demands a higher cultivation as well as a superior military strength. Power without the civilizing influence of culture is ignorance ruling knowledge with a rod. A Roman poet wrote of Greece, "Captive Greece made captive her captor Rome;" and during the latter end of last century Germany, after an enforced isolation from her weaker but more artistic opponent France, lost immeasurably in art inspiration as the intangible price of her apparent success. If knowledge and culture have been the necessary accompaniments of successful imperialism in the past, they are its essentials to-day. Now we see not one imperial power, but many, each eagerly pursuing its own policy of government throughout colonies, dependencies, and protectorates beyond the sea, vying with its neighbors in dispensing the benefits of civilization, resenting interference, and jealous of established success. Great Britain, by reason of the wider extent of her realms, glories in responsibilities demanding preeminence not only in administrative ability, but also in the practice of the arts. Incapacity in the latter is the precursor of weakness in the former. When Great Britain is incapable of setting an example of architectural achievement to her dependencies other nations more virile will slowly but surely take advantage of her relapse—step into the breach, undermine her prestige, and bring about an imperial disaffection more effectual in its consequences than the ravages of internal feuds.

Cosmopolitanism, that volatile medium which is so necessary to the fusion both of national and individual interests, is not antagonistic to imperialism. Imperial architecture is affected by cosmopolitanism, not in its parts, but as a whole.

Whilst within the confines of an empire there will ever exist climatic changes and racial differences, imperial character, adaptive, amenable, and elastic, will absorb and embrace these, remaining imperial and distinctive at the same time. The expression of imperial character through the medium of architecture is a policy which the Mother Country should encourage. Divergence from a course set by the parent which is unattributable to the inherent demands of climate and location means imperial disintegration. Our rule and protection extends not only over aboriginal countries and continents which have gradually become immense colonizations, as in Australasia and Canada, but also over vast countries like India, whose native populations far outnumber the purely British section; or, again, it extends over countries like South Africa, original independent colonizations of settlers drafted from other European powers. If our imperialism is to be completely effective throughout the length and breadth of the Empire the Mother Country must see to it that her national character is expressed not only in the architecture of the cities she founds, but also in the public buildings of the cities she rules.

In Canada to-day there are but too evident tendencies to an appropriation of American ideals and methods of expression not entirely to be attributed to the natural influence of cosmopolitanism and opposed to imperialistic ideals. England as the hereditary exemplar is fast losing ground. The incompetence of the British missioner and the chaotic confusion of style in which our architecture has become entangled is largely responsible for this estrangement. In Vancouver Toronto, and Montreal the largest and handsomest buildings are the works of American architects. . . . England should take steps to recover this lost ground. In Australia the remoteness of any such civilizing neighbors removes the danger of such an unnatural alliance; but even here we must remember that the eyes of the Australian are, by the spread of literature and the illuminations of the photographer, open to the architecture of the world. In South Africa, without interfering with the natural expression of imperialistic ideals, the homestead of the original Dutch settler supplies the motive for the same type of building erected in modern times. It is somewhat regrettable, however, to find that these rustic characterizations have been allowed to penetrate the more important monuments of the towns. Even so, whilst it may savour of presumption to enforce an imperial architecture upon countries like India, possessed of glorious native traditions, at the same time to attempt to emulate the native craftsman by a process of transmutation through British eyes would be as foolish as it would be weak. The recent erection of public buildings in Bombay in a pseudo-Indian-cum-English style is a distinctly retrograde step.

The confusion consequent on the attempt to combine the characteristics of a modern European and Indian

building in one and the same structure, to erect for the native that which by tradition he alone is capable of erecting for himself, is to invite not only the scorn of the Imperialist, but also the ridicule of those whose own noble architecture has been so grossly caricatured. As a compliment in political diplomacy it is shallow, and from every point of view a grave error.

The Oriental is to-day interested and concerned in emulating the civilization of the Western world. Our architectural schools are training students from India, China, and Japan. Indian rajahs vie with one another in building houses based on English models. If we are to retain suzerainty in India this attitude is one to be encouraged. Before the Mutiny palatial residences and public buildings were erected in accordance with the understood traditions of the protectorate power. With the characteristic assurance and confidence enjoyed by our predecessors of the period we unhesitatingly expressed ourselves in our natural and straightforward way. This was not to be interpreted as showing any lack of appreciation of the glories of the Mogul Empire; it showed no disrespect for the unapproachable delicacy of the minarets and domes of the Taj Mahal, no disregard for the beauty of the coniferous spires of the city of Benares, no antipathy to the palaces of Agra, or distaste for the earlier rock-cut tombs. Indeed, such an attitude is one of submission, veneration, and respect; a conscious recognition that these things are the unattainable remains of a glorious past.

An empire can nurse no finer ideal than the cohesion of its dominions in cities erected in one style of architecture recognized throughout the world as the expression of its own imperial ideals. The encouragement of such an empire pervading style throughout colonies, dependencies, and protectorates will tend to annihilate distance and conduce to an imperial liberty, equality, and fraternity. Out of political it will create personal ties, and into closer relation will bring the ambitions of those whose destiny it is to excel.

THE RAPIDITY with which concrete work can be done by an experienced working force and efficient machinery is exemplified by the following record recently made by corporation workmen on Dundas street, Toronto. Seven hundred bags of cement, each weighing over 87 pounds, were put through the concrete mixer, which was also fed with four cars of broken stone. Approximately 235 tons of concrete resulting from this mixture, were laid in the roadway in a working day of 540 minutes, so that approximately a ton of concrete was made, handled, and put in place evey two and a third minutes. The 235 tons of concrete measured 175 cubic yards, or equivalent to a pillar five feet square and 189 feet high. Not only was this large amount of concrete turned out, but owing to three distinct mixing methods, there was delivered and spread a ton of perfectly assimilated concrete every two minutes during the day. The above record was made by a Koehring No. 14 street mixer, manufactured by the Canada Foundry Co., Limited.

ABOUT A YEAR AGO, the firm of Pinchin, Johnson & Co. (Canada), Limited, paint manufacturers, decided to include in their general paint business a waterproofing line. Arrangements were finally concluded whereby they became sole Canadian licensees and manufacturers of the products of the A. C. Horn Company, of New York, waterproofing engineers and contractors.

This department embraces an engineering staff, under the direction of Mr. J. R. Mickle, for many years associated with Mr. A. C. Horn in the capacity of engineer, during which time waterproofing or dampproofing of such buildings as the Vanderbilt Hotel, Vanderbilt residence, Times building, United States Express building, Hotel Belmont, Presbyterian Hospital, New York city; Carnegie Library, Pittsburgh; Rush Hospital, Philadelphia; Department of Agriculture Building, Washington, D.C.; United States Custom House, Phelan Building, San Francisco, and many prominent Government buildings, was executed. Mr. Mickle is an engineer whose work has consisted mainly in the solution and execution of structural waterproofing matters, and is well known among prominent architects and contractors, both in the United States and Canada. With this equipment, it is now possible, by consulting this department, for architects and contractors to be relieved of the annoying details incident to foundation waterproofing and superstructural dampproofing.

EVERY PERSON interested in the good roads movement is aware of the latest development in this important work through the use of concrete. This new type of road is now the subject of extended experiments by the United States Government. It has met with such pronounced success in Wayne county, Michigan, as to give that locality national celebrity. In brief, a concrete road is akin to our cement sidewalks, a water-shedding, indestructible and monolithic mass that defies disruption. The Association of American Portland Cement Manufacturers has published for free distribution a comprehensive book entitled "Concrete Highways," which will interest road supervisors, contractors and taxpayers in every section of the country. The book, which is handsomely and profusely illustrated, contains nearly a hundred pages. It was prepared by expert road engineers and goes into every detail of construction, concluding with a tabular digest of concrete pavements in all sections of the country. The various chapters include discussion of bituminous compound wearing surfaces, grouted pavements, reinforced concrete pavements, and specifications for the one and two-course types. In fact, the book covers the entire subject in the most reliable and authentic way. Road supervisors, especially, will find it of inestimable value and the taxpayer will be extremely interested in the economical results obtained by the introduction of these durable concrete highways. Free copies of the book may be had upon application to the Association of American Portland Cement Manufacturers, Land Title Building, Philadelphia, Pa.

ARCHITECTS OUELLET & LEVESQUE, 115 St. John street, Quebec, Que., are desirous of receiving catalogues relating to fireproofing, fireproof windows and doors, iron stair cases and elevators.

A POCKET size booklet containing illustrations, descriptions and list price of the various toggels on the market has just been issued by the Star Expansion Bolt Company, 147-149 Cedar street, New York city. Copy of booklet will be mailed upon request.

THE SEVENTH EDITION of "Building Construction," thoroughly revised and enlarged, with approximately eight hundred illustrations, has just been published by B. T. Batsford, 94 High Holborn, London, England. The work treats of the principles and details of modern construction for the use of students and practical men. Crown 8vo, cloth. Price, $1.50.

THE REPORT on the building and ornamental stones of Canada by Wm. A. Parks, under the direction of the Department of Mines, is a work of exceptional interest and should prove of special benefit to architects and builders. It deals with the chemical, physical, and geological features of building stones, methods of quarrying, testing, and preparing stone for the market, together with a description of the building and ornamental stones occurring in Ontario, south of the Ottawa and the French rivers.

AN INTERESTING FEATURE of the two large safes used in the Chateau Laurier, which building was illustrated in the October issue of CONSTRUCTION, is the method of safeguarding the guests' valuables. The locks on the safe deposit require two keys to open same. One, a "master key," is held by a hotel official, the other key becomes the property of the guest. Since neither the guest nor the official can open the lock without the knowledge of each other, it guarantees absolute privacy to all documents belonging to the owners of the various boxes. The safes, which are approximately six feet in height and weigh 4,300 pounds, were furnished by the company of J. & J. Taylor, Toronto, Ont.

A CATALOGUE setting forth the advantages of "Underwriters" steel sash has been issued by A. B. Ormsby, Limited. It contains a large number of tables and plates showing standard sizes, as well as specifications and some carefully compiled data, which should be of interest to architects. There are also a number of excellent half-tone illustrations showing the practical application of "Underwriters" steel sash to modern building construction. That this type of sash is being extensively adopted is evidenced by a published list of recently completed work, including office buildings, manufacturing plants, schools, banks, etc. The company has factories and warerooms, both in Toronto and Winnipeg, and agencies in all the principal eastern and western cities.

POROUS TERRA COTTA has become an important factor in the building world of to-day. Six years ago this material was introduced by Robert Bennett, a well-known contractor and member of the Toronto Builders' Association, who has made it his specialty ever since. Some of the more important work in which he has used terra cotta to great success are the following buildings erected in Toronto: Lumsden Building, Hobberlin Building, Upper Canada Bible College, Molsons Bank, Bell Telephone Building, Independent Glass Factory, Lawrence Bakery, McLaughlin's Automobile Garage,

Robert Bennett.

Birkbeck Building Vaults, Humberside Collegiate Institute, and the O'Keefe Brewery Company's new building. In addition to the above some twenty school buildings built within the last two years have been constructed in a similar manner. Judging from the large number of contracts Mr. Bennett has in hand, he will be assured of plenty of work for some time to come. The porous terra cotta used by Mr. Bennett in all his contracts is made by the Don Valley Brick Works. It is a Canadian product which is manufactured from a shale and clay whose chemical properties are peculiar to that section of the Don banks owned by this company, and is well known as a building material of exceptional qualities for fireproof construction.

Barrett Specification Roofs

Shove Mills, Fall River, Mass. Roofed along the lines of the Barrett Specification in 1876.

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This specification is simply the standard formula for building a first-class roof of this character.

It is possible, of course, to make an inferior roof of these materials either by poor workmanship or by using insufficient and poor goods. But if the Barrett Specification *is followed absolutely and the materials called for are used,* you are certain of getting the best value in roof coverings.

Such roofs usually last twenty years and over without leaks or repairs.

Barrett Specification Roofs are almost universally used on factories and buildings of large roof areas and where costs are carefully figured. They are equally good for city dwellings, warehouses, railroad buildings, etc.

Copy of the Barrett Specification, with diagrams, mailed free on reuqest to nearest office.

Special Note.

We advise incorporating in plans the full wording of The Barrett Specification, in order to avoid any misunderstanding.

If any abbreviated form is desired, however, the following is suggested:

ROOFING—Shall be a Barrett Specification Roof laid as directed in printed Specification, revised August 15, 1911, using the materials specified, and subject to the inspection requirements.

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Steel & Radiation, Ltd.
Clare Bros.
Dominion Radiator Co., Ltd., Toronto.
Goldie & McCulloch Co., Ltd.
Pease Foundry Co., Ltd.
Taylor-Forbes Co., Ltd.

Brass Works.
James Robertson Co., Ltd.
Kerr Engine Company.

Brick and Terra Cotta.
American Enamel Brick and Tile Co.
Don Valley Brick Works.
E. F. Dartnell.
Stinson Reeb Builders' Supply Co., Ltd.

Bridges.
Canada Foundry Co.
Dominion Bridge Co.

Building Paper and Felts.
Asbestos Mfg. Co.
Bird, F. W. & Son, Hamilton.
The Pedlar People.
H. W. Johns-Manville Co.
Metal Shingle & Siding Co.

Building Supplies.
Mussens, Ltd.
Bird, F. W. & Son, Hamilton.
E. F. Dartnell.
Stinson Reeb Builders' Supply Co., Ltd.
The Pedlar People.
Canadian Fairbanks Co., Ltd.
Metal Shingle & Siding Co.

Caps for Columns and Pilasters.
The Pedlar People.
W. J. Hynes.
Metal Shingle & Siding Co.

Cars (Factory and Dump).
Mussens, Ltd.
Sheldons, Limited.

Cast Iron Columns
Canada Foundry Co.
The Pedlar People.

Cement (Fireproof.)
Dartnell, E. F..
H. W. Johns-Manville Co.
Stinson Reeb Builders' Supply Co., Ltd.

Cement Block Machinery.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Mussens, Ltd.

Cement Brick Machinery.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Mussens, Ltd.

Cement Machinery.
Steel & Radiation, Ltd.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Mussens, Ltd.

Cement Tile Machinery.
Mussens, Ltd.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Stinson-Reeb Builders' Supply Co.

Chairs, Seats, etc.
Stratford Mfg. Co.

Cold Storage and Refrigerator Insulation.
Kent Company, Limited.
Linde British Refrigerator Co.
F. W. Bird & Son.

Concrete Contractors.
Bowes & Francis.

Concrete Construction (Reinforced)..
Steel & Radiation, Ltd.
The Pedlar People.
Trussed Concrete Steel Co.
Metal Shingle & Siding Co.

Concrete Mixers.
Canada Foundry Co.
E. F. Dartnell.
Ideal Concrete Machinery Co.
London Concrete Machinery Co.
Mussens, Ltd.
Canadian Fairbanks Co., Ltd.
Wetlaufer Bros.

Concrete Steel.
B. Greening Wire Co., Ltd.
Clarence W. Noble.
Dennis Wire & Iron Co.
Steel & Radiation, Ltd.
The Pedlar People.
Trussed Concrete Steel Co.
Canadian Fairbanks Co., Ltd.
Metal Shingle & Siding Co.

Conduits.
Conduits Co., Ltd.
The Pedlar People.

Contractors' Machinery.
Mussens, Ltd.
Canadian Fairbanks Co., Ltd.

Contractors' Supplies.
B. Greening Wire Co., Ltd.
E. F. Dartnell.
Kent Company, Limited.
Mussens, Ltd.
Stinson Reeb Builders' Supply Co., Ltd.

Cork Board.
Kent Company, Ltd.
The Can. H. W. Johns-Manville Co., Ltd.

Corner Beads.
Steel & Radiation, L.
The Pedlar People.
Metal Shingle & Siding Co.

Cranes.
Dominion Bridge Co., Ltd
Mussens, Ltd.
Canadian Fairbanks Co., Ltd.
International Marine Signal Co., Ltd.

Crushed Stone.
Stimson-Reeb Builders' Supply Co.

Cut Stone Contractors.
The Canadian Art Stone Co
E. F. Dartnell.
The Roman Stone Co., Ltd.

Damp Proofing.
Pinchin, Johnson Co.
R. I. W. Damp Resisting Paint Co.
Ault and Wiborg Co.
Glidden Varnish Co.
Johns-Manville Co., H. W.

Decorators.
Fred G. Roberts & Co.

Deposit Boxes.
Goldie & McCulloch Co., Ltd.
J. & J. Taylor.
Canadian Fairbanks Co., Ltd.

Doors.
Burton & Baldwin Mfg. Co.
J. R. Eaton & Sons.

Door Checks.
Solomon & Spielmann.

Drills (Brick and Stone).
Mussens, Ltd.

Drying Appliances.
Sheldons, Limited.

Dumb Waiters.
Otis-Fensom Elevator Co.,
Turnbull Elevator Co.

Electro-Plating.
Dennis Wire and Iron Works

Electric Wire and Cables.
B. Greening Wire Co., Ltd.
James Robertson Co., Ltd.

Elevators (Passenger and Freight).
Otis-Fensom Elevator Co.
Turnbull Elevator Co.

Elevator Enclosures.
B. Greening Wire Co.
Canada Foundry Co.
Dennis Wire and Iron Works
Meadows, Geo. B. Co., Ltd.
Otis-Fensom Elevator Co.,

Enamels.
Pinchin, Johnson Co.
Ault & Wiborg Co.
Berry Bros.
Benjamin Moore Co.
International Varnish Co.
Imperial Varnish & Color Co.

Engines.
Mussens, Ltd.
Goldie & McCulloch Co., Ltd.
Sheldons, Limited.
Canadian Fairbanks Co., Ltd.

Engineers' Supplies.
Steel & Radiation, Ltd.
James Robertson Co., Ltd.
Sheldons, Limited.
Kerr Engine Company.
Mussens, Ltd.
Canadian Fairbanks Co., Ltd.

Exhaust Fans.
Sheldons, Limited.

Engineers and Contractors.
Bishop Construction Co.

Expanded Metal.
Clarence W. Noble.
Steel & Radiation, Ltd.
Galt Art Metal Co.
Stinson-Reeb Builders' Supply Co.
The Pedlar People.
Trussed Concrete Steel Co.
A. C. Leslie & Co., Ltd.
Metal Shingle & Siding Co.

Expansion Bolts.
Star Expansion Bolt Co.

Fire Brick.
E. F. Dartnell.
Stinson-Reeb Builders' Supply Co.

Fire Sprinklers.
General Fire Equipment Co.
Vogel Co., of Canada, Ltd.
McGuire, W. J.

Fire Extinguishers.
A. B. Ormsby, Ltd.
Vogel Co., of Canada, Ltd.
General Fire Equipment Co.,
Johns-Manville Co., H. W.

Fire Escapes.
Canada Foundry Co.
Dennis Wire and Iron Works
Meadows, Geo. B. Co.

Fire-Place Goods.
Carter & Co., Ltd.
Dennis Wire & Iron Co., Ltd.

Fireproofing.
Clarence W. Noble.
Don Valley Brick Works.
E. F. Dartnell.
Eadie-Douglas Co.
Johns-Manville Co., H. W.
National Fireproofing Co.
Steel & Radiation, Ltd.
Port Credit Brick Co.
The Pedlar People.
Trussed Concrete Steel Co.

Fireproof Steel Doors..
Metal Shingle & Siding Co.
Dennis Wire & Iron Co., Ltd.
Mussens, Ltd.
A. B. Ormsby, Ltd.
Stinson-Reeb Builders' Supply Co.
The Pedlar People.
Steel & Radiation, Ltd.
Metal Shingle & Siding Co.

Fireproof Windows.
A. B. Ormsby, Ltd.
Galt Art Metal Co.
Hobbs Mfg. Co.
Stinson-Reeb Builders' Supply Co.
The Pedlar People.
Metal Shingle & Siding Co.

Flooring.
Bird, F. W. & Son, Hamilton.
Seaman, Kent Co., Ltd.
J. R. Eaton & Sons.

Furnaces and Ranges.
Steel & Radiation, Ltd.
Clare Bros.
Pease Foundry Co., Ltd.
Taylor-Forbes Co., Ltd.

Galvanized Iron Works.
A. B. Ormsby, Limited.
Sheldons, Limited.
The Pedlar People.
Metal Shingle & Siding Co.

Galvanized Iron.
A. C. Leslie & Co., Ltd.
Metal Shingle & Siding Co

Glass.
Consolidated Plate Glass Co.
Hobbs Mfg. Co.
Toronto Plate Glass Importing Co., Ltd.

General Contractors.
Bowes & Francis.

Grille Work.
Dennis Wire & Iron Co., Ltd.
Steel & Radiation, Ltd.
J. & J. Taylor.
Meadows, Geo. B. Co.

Hangers.
A. B. Ormsby, Limited.

Hardware.
Taylor-Forbes Co., Ltd.

Hardwood Flooring.
Canadian Fairbanks Co., Ltd.
J. R. Eaton & Sons.

Heating Apparatus.
Kerr Engine Company.
Clare Bros.
Dominion Radiator Co., Ltd.,
C. A. Dunham Co.
Steel & Radiation, Ltd.
Goldie & McCulloch Co., Ltd.
Pease Foundry Co., Ltd.
Sheldons, Limited.
Taylor-Forbes Co., Ltd.

Heating Engineers and Contractors.
Sheldons, Ltd.

Hoisting Machinery.
Mussens, Ltd.
Otis-Fensom Elevator Co.,

Hinges.
Taylor-Forbes Co., Ltd.

Hydrants.
Kerr Engine Company.

Iron Doors and Shutters.
J. & J. Taylor.
Dennis Wire & Iron Co
Metal Shingle & Siding Co.

Iron Stairs.
Canada Foundry Co.
Dennis Wire and Iron Works
Meadows, Geo. B. Co.

Iron Supplies.
Kerr Engine Company.

Insulation.
Bird, F. W. & Son, Hamilton.
Kent Company, Limited.
The Can. H. W. Johns-Manville Co., Ltd.

Interior Woodwork.
Seaman Kent Co., Ltd.
J. R. Eaton & Sons.

Jail Cells and Gates.
Dennis Wire and Iron Works Co., Limited.
Goldie & McCulloch, Ltd.
J. & J. Taylor.

Joist Hangers
Taylor-Forbes Co., Ltd.
Trussed Concrete Steel Co.

Lamp Standards.
Canada Foundry Co.
Dennis Wire and Iron Works
Canadian Tungsten Lamp Co.
Seaman, Kent Co.

Lath (Metal).
B. Greening Wire Co., Ltd.
Clarence W. Noble.
Steel & Radiation, Ltd.
Galt Art Metal Co
Stinson-Reeb Builders' Supply Co.
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Laundry Tubs.
Toronto Laundry Machinery Co.

Leaded Glass.
Hobbs Mfg. Co.

Marble.
James Robertson Co., Ltd.
E. F. Dartnell.
Missisquoi Marble Company
The Hoidge Marble Co., Ltd.
Dominion Marble Co.
Lammers & Carleson.
J. Ringborg, Noirksping, Sweden.

Metallic Sash.
Steel & Radiation, Ltd.
Hobbs Mfg. Co.
Metal Shingle & Siding Co.

Metal Shingles.
Galt Art Metal Co.
The Pedlar People.

Metal Store Fronts.
E. F. Dartnell.
Dennis Wire & Iron Co.
Hobbs Mfg. Co.
Metal Shingle & Siding Co.

Metal Walls and Ceilings..
A. B. Ormsby, Limited.
C. W. Noble.
The Pedlar People.
Metal Shingle & Siding Co.

Municipal Supplies.
Mussens, Ltd.

Non-Conducting Coverings.
Ault & Wiborg.
H. W. Johns-Manville Co.

Ornamental Iron Work.
Turnbull Elevator Co.
Steel & Radiation, Ltd.
Canada Foundry Co.
Dennis Wire & Iron Co., Limited.
Meadows, Geo. B., Ltd.

Packing (Steam).
H. W. Johns-Manville Co.

Packing.
Gutta Percha & Rubber Mfg Co.
Canadian Fairbanks Co., Ltd.
Phillip Carey Co.

Paints—(Steel and Iron).
Pinchin, Johnson Co.
Brandram & Henderson.
Glidden Varnish Co.
E. F. Dartnell.
International Varnish Co.
Imperial Varnish & Color Co.
R. I. W. Damp Resisting Paint Co.
Solomon & Spielman.

Paints and Stains
Pinchin, Johnson Co.
Brandram & Henderson.
E. F. Dartnell.
James Robertson Co., Ltd.
International Varnish Co.
Berry Bros. Ltd.

Perforated Steel.
B. Greening Wire Co.

Pipe Covering.
Canadian Johns-Manville Co.
Kent Company, Limited.

Plasters.
W. J. Hynes.
Brandram & Henderson.
Johns-Manville Co., H. W.

Plaster Corner Beads.
The Pedlar People.
Metal Shingle & Siding Co.

Plate and Window Glass.
Consolidated Glass Co.
Hobbs Mfg. Co.
Toronto Plate Glass Importing Co., Ltd.

Plumbers' Brass Goods.
Steel & Radiation, Ltd.
James Robertson Co., Ltd.
Standard Ideal Co., Limited.
Canadian Fairbanks Co., Ltd

Plumbing Fixtures.
James Robertson Co., Ltd.
Standard Ideal Co., Limited.

Pneumatic Tools.
Mussens, Ltd.

Porcelain Enamel Baths.
James Robertson Co., Ltd.
Standard Ideal Co., Limited.

Radiators.
Steel & Radiation, Ltd.
Dominion Radiator Co., Ltd.,
Taylor-Forbes Co., Limited.

Refrigerating Machinery.
Kent Company, Limited.
Linde British Refrigeration Co., Limited.

Refrigerator Insulation.
Bird, F. W. & Son, Hamilton.
Metal Shingle & Siding Co.
Kent Company, Limited.
The Can. H. W. Johns-Manville Co., Ltd.

Radiator Valves.
Steel & Radiation, Ltd.
Kerr Engine Company.

Reinforced Concrete.
Steel & Radiation, Ltd.
Noble, Clarence W.
The Pedlar People.
The Canadian Siegwart Beam Co., Ltd.
Trussed Concrete Steel Co.,
Metal Shingle & Siding Co.

Relief Decoration.
W. J. Hynes.

Roofing Paper.
The Pedlar People.
F. W. Bird & Son.
Johns-Manville Co., H. W.
Metal Shingle & Siding Co.

Roofing.
Asbestos Mfg. Co.
Bird, F. W. & Son, Hamilton.
H. W. Johns-Manville Co.
Paterson Mfg. Co.
Metal Shingle & Siding Co.

Roofing (Slate).
A. B. Ormsby, Limited.

Roofing (Tile).
Waite-Fullerton Co., Ltd., Winnipeg.
E. F. Dartnell.
The Pedlar People.
Metal Shingle & Siding Co.

Rubber Tiling.
Gutta Percha & Rubber Mfg. Co., Limited.

Safes, Fireproof and Bankers.
Goldie & McCulloch, Limited.
J. & J. Taylor.
Canadian Fairbanks Co., Ltd.

Sanitary Plumbing Appliances.
James Robertson Co., Ltd.
Standard Ideal Co., Limited.

Sand Screens.
Steel & Radiation, Ltd.
B. Greening Wire Co. Limited

Screens.
Watson-Smith Co., Ltd.

Shafting Pulleys and Hangers.
Goldie & McCulloch Co., Limited.
Canadian Fairbanks Co., Ltd.

Sheet Metal.
A. C. Leslie & Co.
Metal Shingle & Siding Co.

Sheet Metal Workers.
Sheldons, Ltd.
A. B. Ormsby, Limited.
Galt Art Metal Co.
The Pedlar People.
Metal Shingle & Siding Co.

Shingle Stains.
Pinchin, Johnson Co.
James Robertson Co.
International Varnish Co.

Sidewalks, Doors and Grates.
Dennis Wire & Iron Works Co.

Sidewalk Lifts.
Otis-Fensom Elevator Co.,

Sidewalk Prisms.
Hobbs Mfg. Co.

Slate.
James Robertson Co., Ltd.

Stable Fittings.
Dennis Wire & Iron Works Co., Ltd.

Staff and Stucco Work.
Johns-Manville Co., H. W.
W. J. Hynes.

Steam Appliances.
Steel & Radiation, Ltd.
Kerr Engine Co.
Sheldons, Ltd.
Taylor-Forbes Co., limited.
Canadian Fairbanks Co., Ltd.

Steam and Hot Water Heating.
Steel & Radiation, Ltd.
Sheldon, Ltd.
Dominion Radiator Co., Ltd.,
C. A. Dunham Co.
Taylor-Forbes Co., limited.

Steel Casements.
Steel & Radiation, Ltd.

Steel Concrete Construction.
Steel & Radiation, Ltd.
Noble, Clarence ...
The Pedlar People.
Trussed Concrete Steel Co.

Steel Doors.
Dennis Wire & Iron Co., Ltd.
Mussens, Ltd.
A. B. Ormsby, Limited.
The Pedlar People.

Structural Iron Contractors..
Canada Foundry Company.
Dennis Wire & Iron Co., Ltd.
Dominion Bridge Co., Ltd.
Hamilton Bridge Co.
Reid & Brown.
Structural Steel Co., Ltd.
Toronto Iron Works.

Telephone Systems.
Northern Electric & Mfg. Co.

Structural Steel.
Canada Foundry Company.
Sheldons, Ltd.
Mussens, Ltd.
Dennis Wire and Iron Works
Dominion Bridge Co., Ltd.
Hamilton Bridge Co.
Reid & Brown.
Structural Steel Co., Ltd.

Terra Cotta Fireproofing.
Carter & Co., Ltd.
Winnipeg.
Don Valley Brick Works.
E. F. Dartnell.
Missisquoi Marble Company

Tile (Floor and Wall).
Carter & Co., Ltd.
E. F. Dartnell.

Vacuum Heating Systems.
C. A. Dunham Co.

Varnishes.
Pinchin, Johnson Co.
Ault & Wiborg Co.
Berry Bros., Ltd.
Brandram & Henderson.
International Varnish Co.

Vaults and Vault Doors, Fireproof and Bankers.
Goldie & McCulloch Co., Ltd
J. & J. Taylor.

Valves.
C. A. Dunham Co.
Steel & Radiation, Ltd.
James Robertson Co.
Kerr Engine Co.
Taylor-Forbes Co.
Canadian Fairbanks Co., Ltd

Ventilators.
Sheldons, Limited.
Metal Shingle & Siding Co.

Wall Finishes.
Pinchin, Johnson Co.
E. F. Dartnell.
Berry Bros.
International Varnish Co.
Brandram & Henderson.

Wall Hangers.
Taylor-Forbes Co.

Waterproofing.
Pinchin, Johnson Co.
E. F. Dartnell.
Ideal Concrete Machinery Co
Mussens, Ltd.
Ault & Wiborg Co.
Bird, F. W. & Son, Hamilton
Stinson-Reeb Builders' Supply Co.
R. I. W. Damp Resisting Paint Co.
Glidden Varnish Co.
Johns-Manville Co., H. W.

Waterworks Supplies.
James Robertson Co., Ltd.
Kerr Engine Co.
Mussens, Ltd.
Standard Ideal Co., Limited.

Wheelbarrows.
Mussens, Ltd.

White Lead, Putty and Oils.
Pinchin, Johnson Co.
International Varnish Co.
Brandram & Henderson.
Glidden Varnish Co.

Window Guards.
Dennis Wire & Iron Co., Ltd
Steel & Radiation, Ltd.
B. Greening Wire Co. Limited

Wire Rope and Fittings.
B. Greening Wire Co. Limited
Mussens, Ltd.
Otis-Fensom Elevator Co

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