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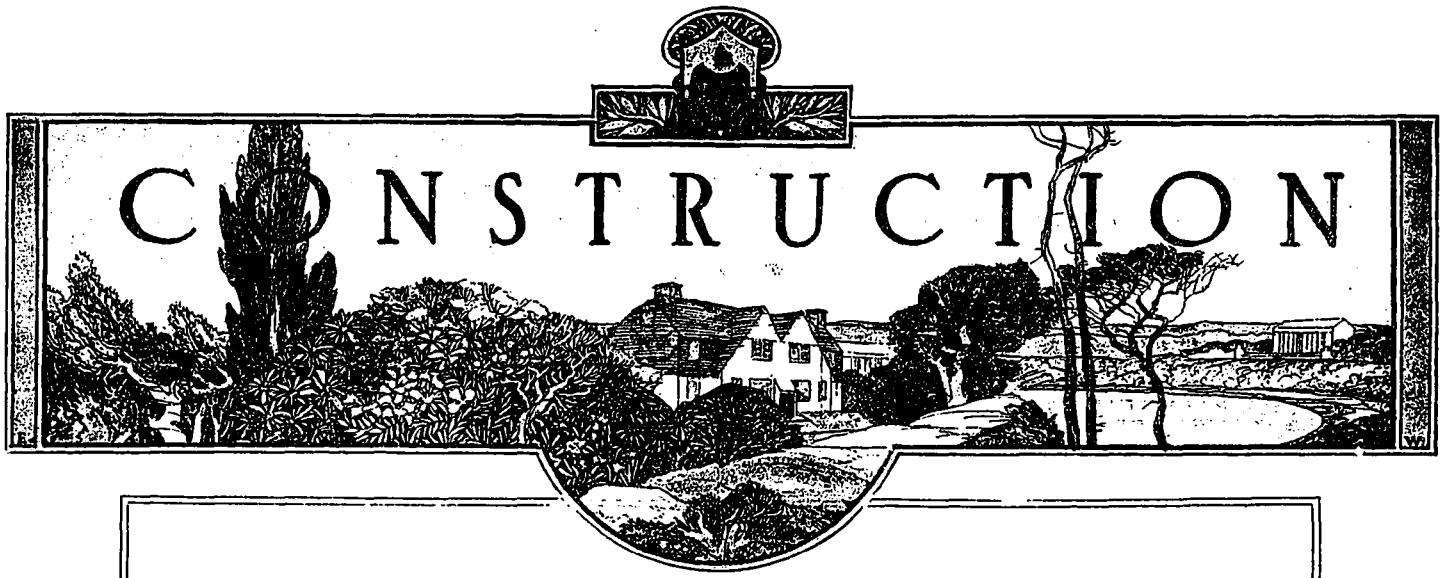

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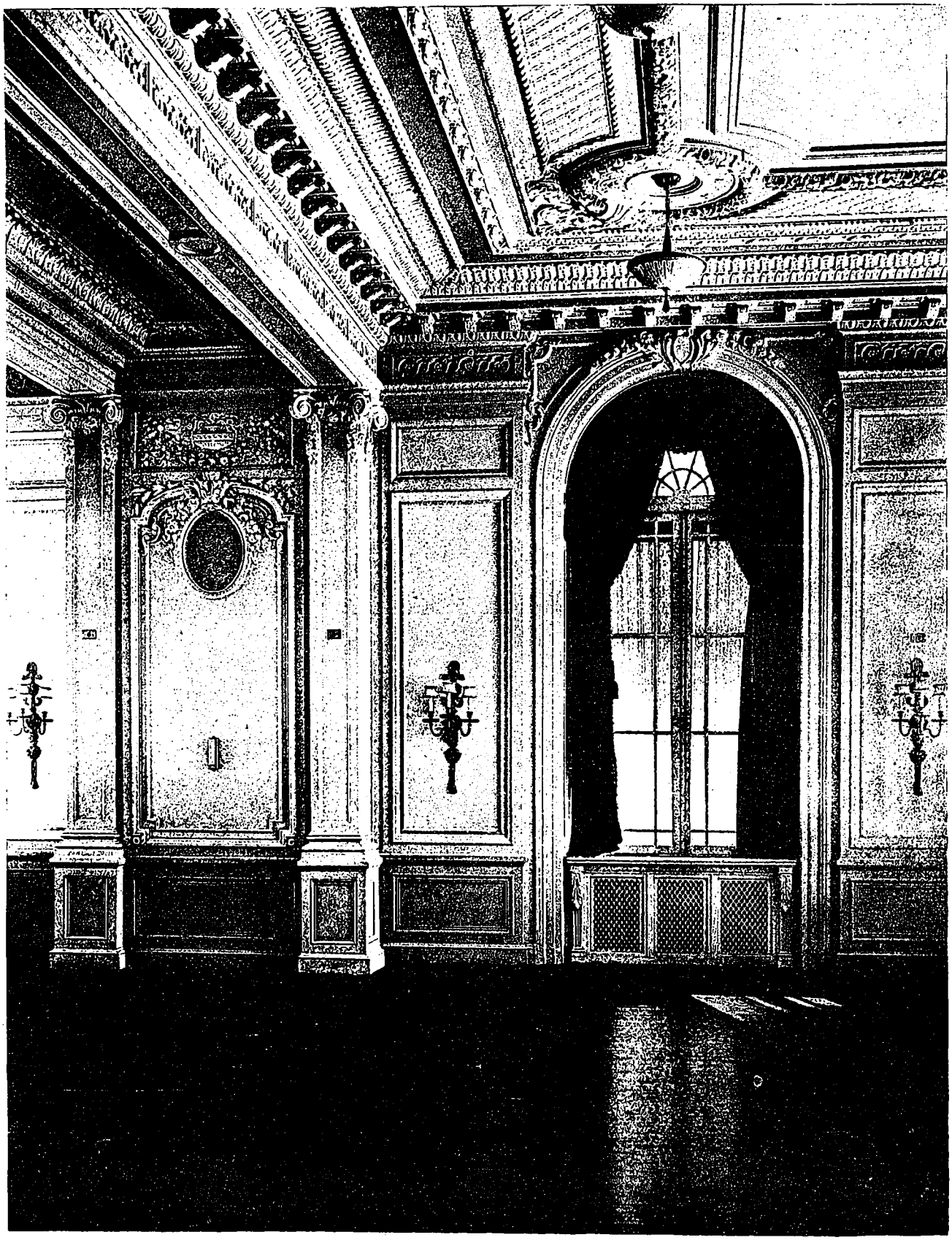
BRANCH OFFICES

MONTREAL NEW YORK



DETAILED VIEW IN DINING ROOM, HOTEL PALLISER, CALGARY, ALTA.

E. & W. S. MAXWELL, ARCHITECTS.

The Smaller Branch Bank Building

By Philip J. Turner, F.R.I.B.A.,

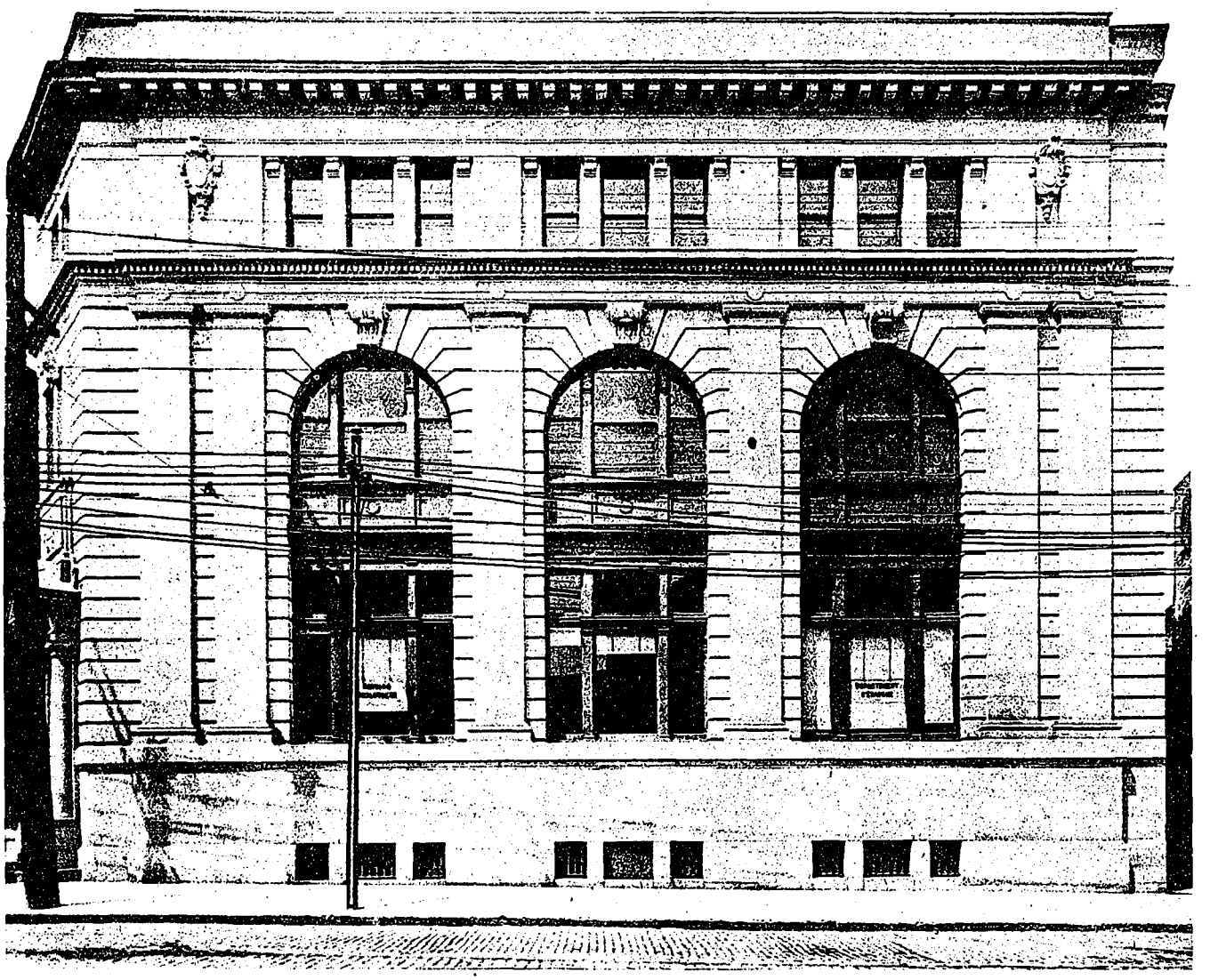
Architect, of Montreal, and Lecturer, Department of Architecture, McGill University.

THE excellent system of our Canadian banking institutions is recognized as having played a great part in the steady progress and strong financial position of the Dominion at the present time. By encouraging the people to deposit their savings, however small, by loaning money on all sound enterprises, and discouraging anything of the nature of what may be termed wild-cat schemes, the banks by adopting a conservative and strong policy have had a steadying effect on the people in periods of great prosperity, as also in times of financial depression.

DETAIL OF FRONT ENTRANCE, THE MOLSONS BANK, ST. LAWRENCE AND ONTARIO STREETS, MONTREAL. TURNER & CARLESS, ARCHITECTS.

The business of the banks has only been possible by the building up of a great number of branch offices all over the Dominion. These now amount to a grand total of 3,170 (with 22 additional in Newfoundland), representing in round figures probably one office to every 2,600 inhabitants. One realizes the growth of these institutions in comparing these figures with those of ten years ago. In 1906 the number of branches amounted to 1,565, or half as many as at the present time, and at the beginning of this century the number stood at 619 only for the whole Dominion. The enterprise of the 22 chartered banks of the Dominion is shown whenever and wherever an opportunity for obtaining good business offers, by the opening of a branch office amongst a prosperous community, be it a thrifty settlement of farmers, a manufacturing district, or a military camp.

In a growing town which may be passing through little more than its pioneer stage, the name of one of the chartered banks of Canada, displayed on a building, however small or insignificant, in its first branch, gives at once an impression of solidity to the district, and also impresses with a feeling of confidence the hard-working community in whose centre office has been placed.



ONTARIO STREET ELEVATION, THE MOLSONS BANK, ST. LAWRENCE AND ONTARIO STREETS, MONTREAL, QUE.
TURNER & CARLESS, ARCHITECTS.

The Canadian banking system is different from that of the United States in that the administrative work is carried out from one central head office, having a large number of branch offices scattered all over the Dominion. Across the border are found a much larger number of main offices, but under different executives, and with no branch offices, the whole work of each bank being generally concentrated in the one building. This different method in the carrying on of business gives the plans of the offices of the two countries a decided type of their own.

The buildings in which modern banks are housed take their inspiration for the most part from classic architecture.

Although ingenuity has been exhausted in trying other so-called types, with few exceptions, Renaissance is the influence from which we in Canada have not yet found it possible to emancipate ourselves to any degree.

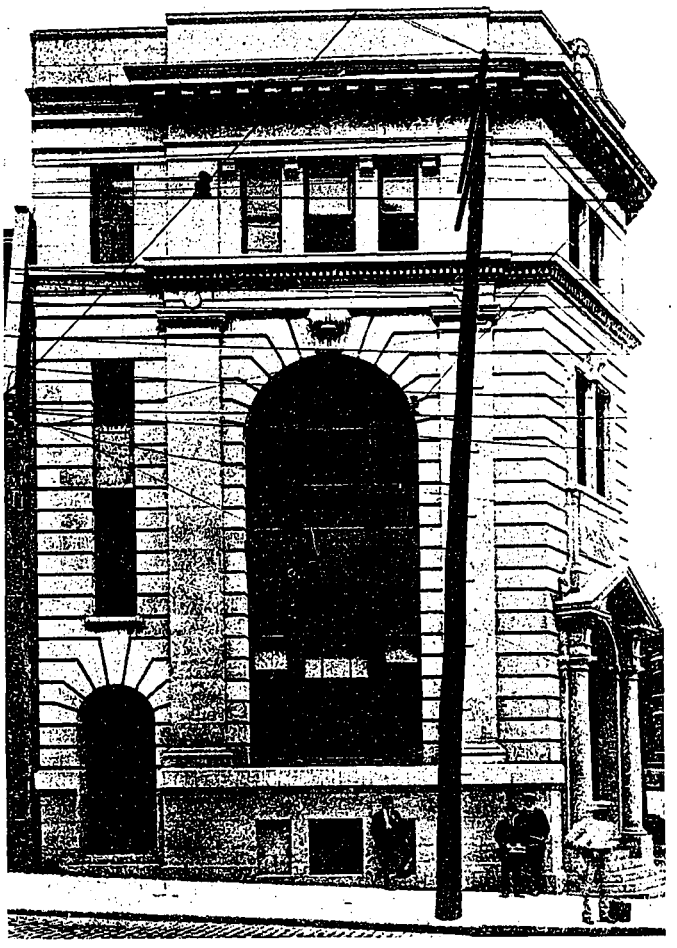
Our chartered banks which have branch offices running into the hundreds have adopted the policy, as a rule, of erecting buildings of the very best type, and in our more important cities have spent large sums of money on their properties. Probably no institutions in the Dominion in consequence have encouraged the building trade to a greater extent, or set a better standard of architecture.

A few of the larger banks naturally find that the building of so many offices locks up a great deal of capital, and have formed, in consequence, separate real estate companies for the exclusive purpose of erecting buildings for the use of the bank; the bank on its part paying as rent the interest on the bonds of the company, and providing a sinking fund for the paying off of the bonds when they fall due. Whatever the method of paying for the buildings, and the former method is the exception rather than the rule, the modern banking directorate, being business men of recognized ability, naturally realize that it is a foolish policy, and poor business as well, to spend large sums of money on small offices in our smaller or younger towns, especially when it cannot be ascertained with any certainty if

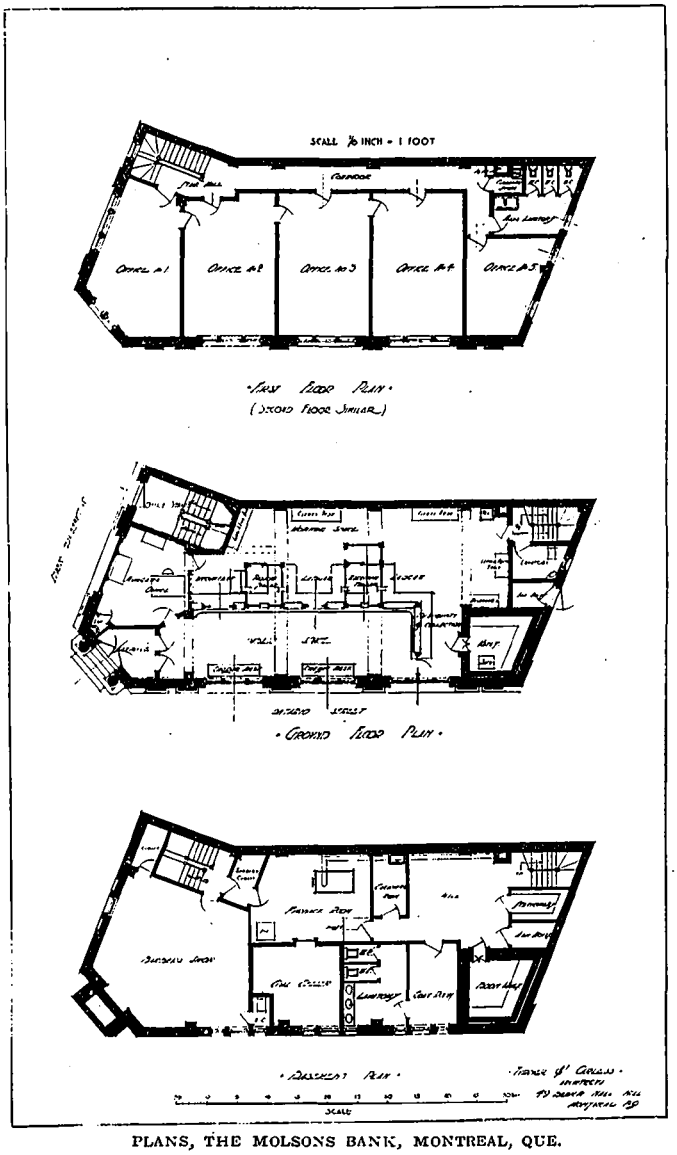
the business of the future will insure the bank making such an office a permanent one. The business of such localities does not justify unnecessary expense, and the problem before the architect, therefore, is to design an office of first-class construction, and at the same time keeping the cost at a low or reasonable figure.

After the question of general external appearance has been disposed of, the most important matter of planning and general conception of the problem presents a baffling variety of solutions, especially in the States, where no one bank seems to be planned in its details like any other.

The design of a banking office is an important factor to its success, and the general effect must be imposing, and at the same time of dignified simplicity. It should give the depositor the impression that it is a safe place in which to leave his money and valuables. The moral effect of a dignified structure which leaves no doubt of its purpose is a fact well recognized in business, and banking is no exception to the rule. The name of the bank should be always displayed in bold letters on the front of the building. The letters should either be cut in stone on the main frieze, or when made of bronze or other permanent material, should be affixed on some prominent position. Provision should also be made for suitable places near the entrance on which to display the customary brass or bronze tablets of the bank.



ST. LAWRENCE STREET ELEVATION, THE MOLSONS BANK, MONTREAL.

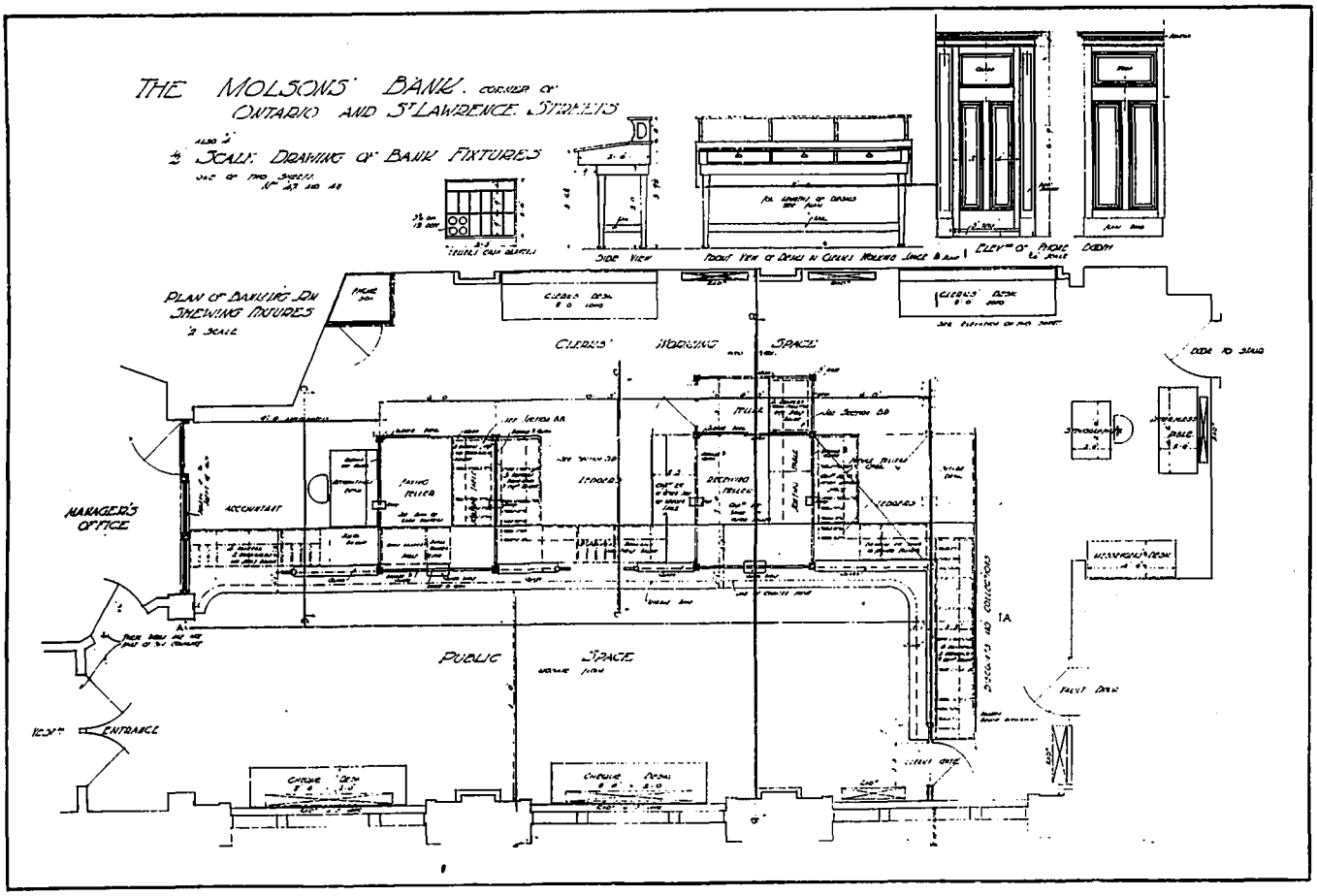


PLANS, THE MOLSONS BANK, MONTREAL, QUE.

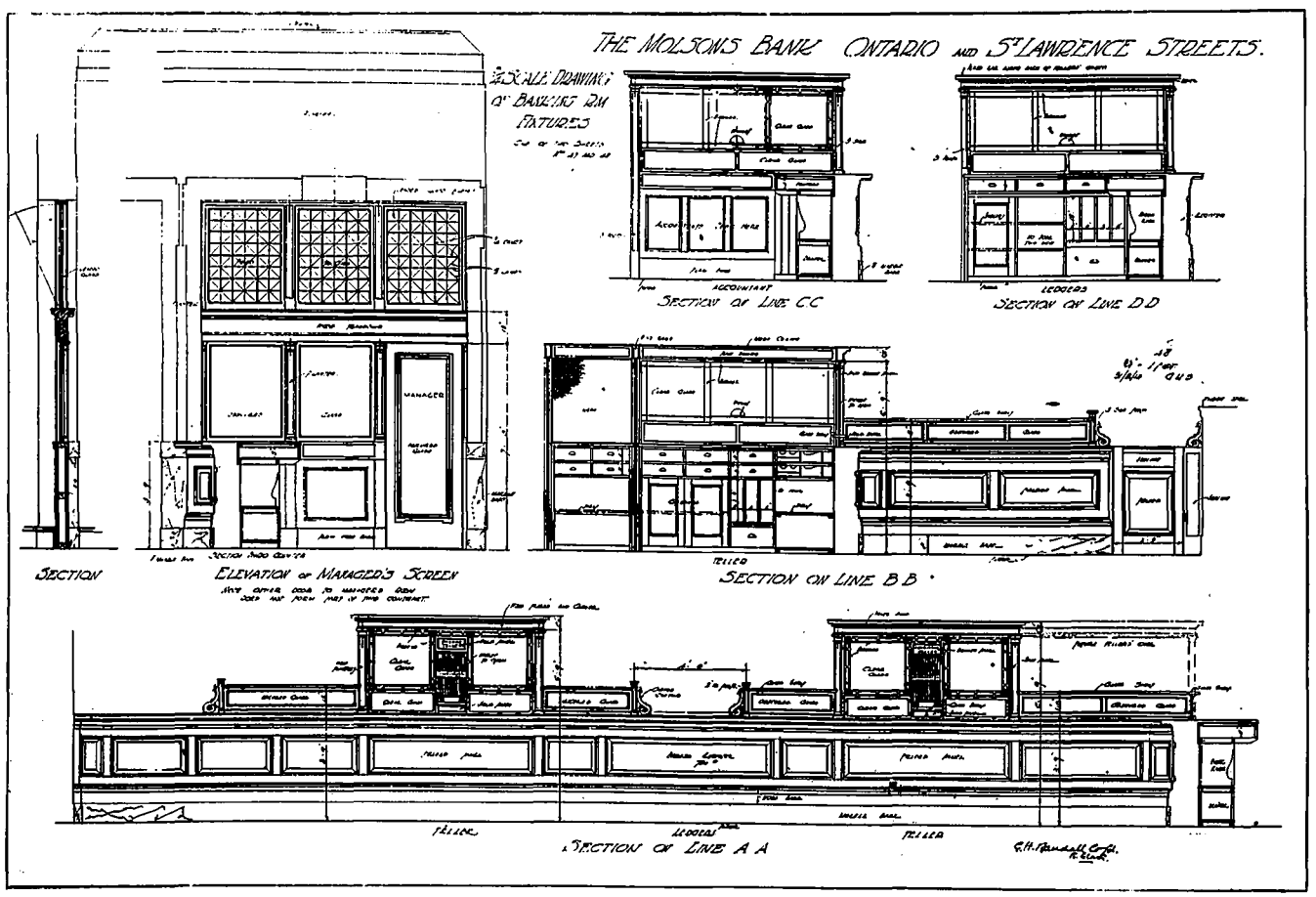
Most progress in bank design has undoubtedly been made in what may be called the machinery of the banking business, the special equipment of the building. In a banking room matters of prime importance are the compactness, convenient accessibility of its furniture, and the system of handling the documents and cash. In the conduct of business the utmost simplicity and method must be observed.

Bearing these general matters in mind, the following details may be mentioned.

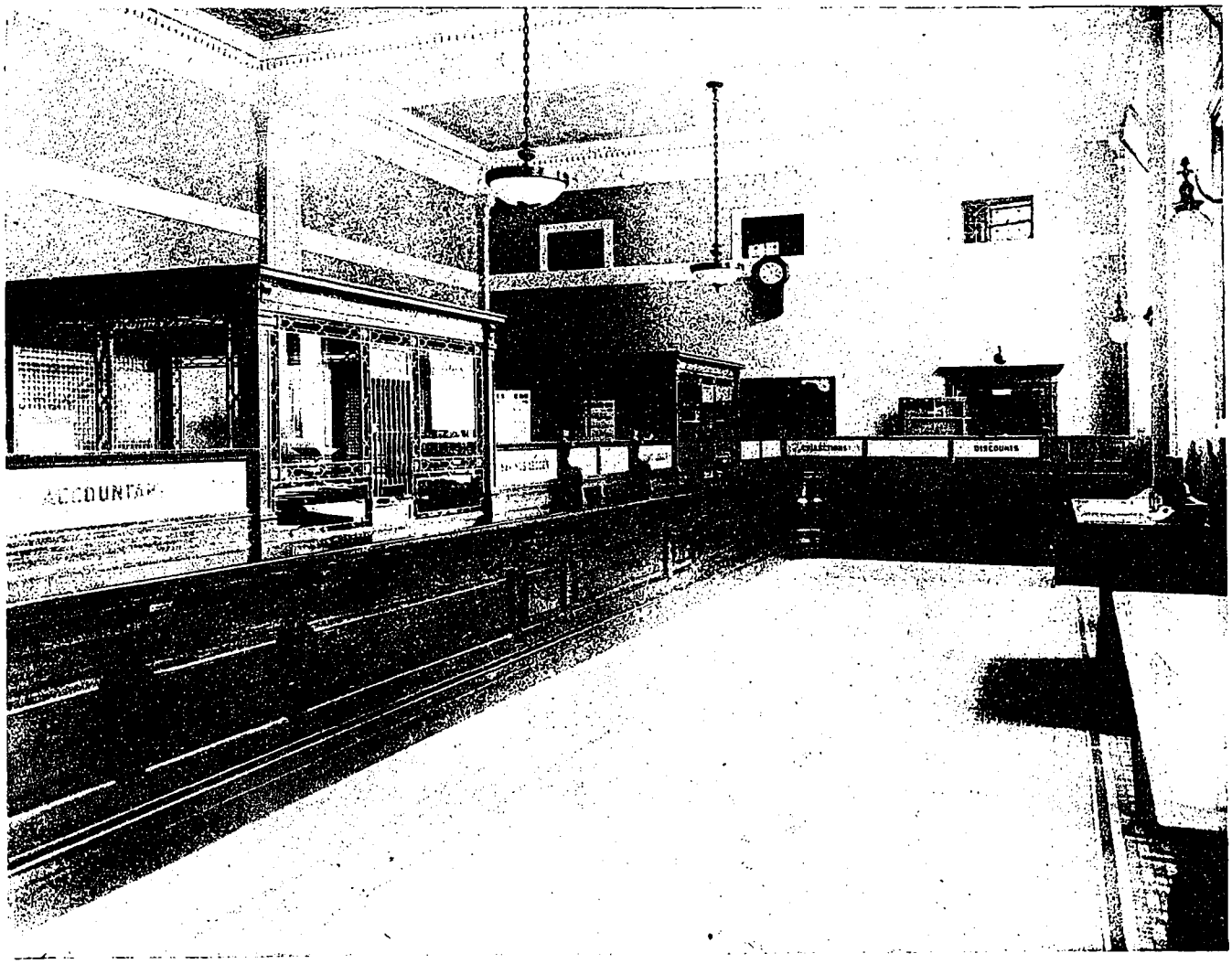
Natural Lighting.—Good light is one of the most important requirements in a satisfactory office, and it is desirable that the officers of the bank should have the preference over the public in this respect. For this reason it is best, when it can be arranged, to plan the office so that the light from the windows falls on the backs of the staff when standing at their desks and in the faces of the customers. Windows should be kept high up above the floor, so that desks can be placed under them, and the lower sashes as a rule are made not to open, for better protection, and for the avoidance of papers being scattered with the wind.



Artificial Lighting.—As a general rule electric light brackets about eight feet six inches to nine feet above the floor are to be preferred to ceiling lights in the banking room. In either case such lighting is only sufficient for general illumination, and to obtain efficient lighting for the staff each desk should be provided with an individual light.



Entrance.—The entrance to the office should naturally be imposing and on a large scale. The floor of the office should be kept conveniently close to the sidewalk, so that a flight of steps at the entrance may be avoided. When a building is placed at the junction of two streets, the main entrance must be placed on the principal street. If the two streets are of equal importance, an entrance on the corner will probably be demanded. Entrances on the angle, however, as a rule do not provide an economical plan. On narrow corner sites a centre entrance seldom provides the best plan, and a better result may be obtained by placing the entrance to one side.



INTERIOR OF BANKING ROOM FROM ENTRANCE, THE MOLSONS BANK, MONTREAL, QUE. TURNER & CARLESS, ARCHITECTS.

An example of this is seen in the Port Arthur office. From the point of view of design a more pleasing facade could have been obtained if the entrance had been placed in the centre, but being to one side the better plan was evolved. The office on St. Lawrence and Ontario streets shows the entrance on the corner of the site, both streets being of equal importance, the inner doors are situated to one side of the vestibule to obtain the best use of the floor space inside. Preference is given to the entrance doors being designed with full length glass panels, protected by metal grilles on the outside. Such doors are more attractive than solid doors; they also give strangers an opportunity at once to recognize the building as a bank, and also at night give additional security to the office.

Manager's Office.—This should be always placed near the entrance, especially in the country office, where it is part of the manager's business to interest himself in, and to make himself friendly with his customers. On a corner site of the smaller type it is well to place the office on the external angle of the building, and to keep the windows reasonably low, so that the manager can have a view of both streets. A mistake is often made in giving the manager too small an office. A room ten feet square, or about twelve by ten, should be the minimum. This private office should also be closed in at the top, whether the screen to it is carried up to the banking room ceiling or not.

The conversations a manager has with his customers should not be overheard, either by the staff or the public, in the office. The manager's office should always be directly connected with the staff's working space behind the counter, and so placed in reference to the public space that he can overlook everything that is going on.

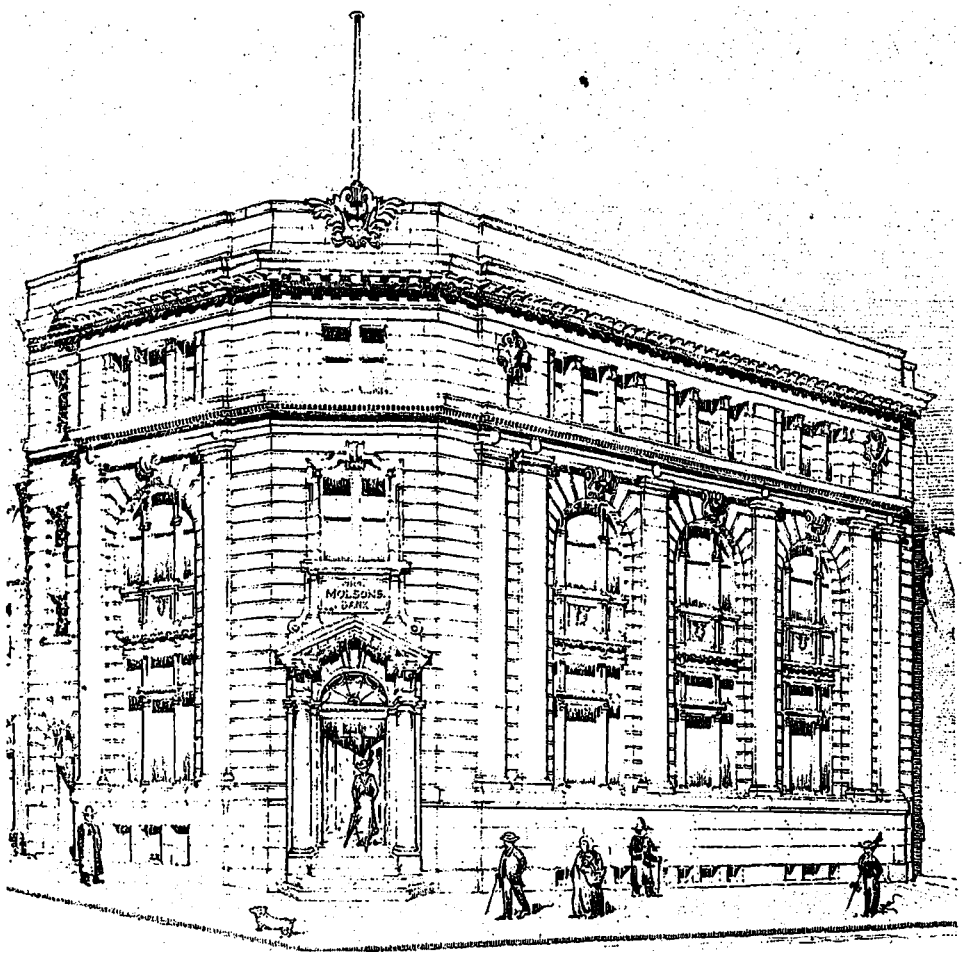
Vault.—The vault should be placed, if pos-

sible, where the door can be seen from the street, and also convenient to the bank tellers. It is best not to place it directly against a party wall or adjoining a dark lane or yard, for fear it might be tampered with by any badly disposed person. Whereas vaults in our large cities are very elaborately and expensively constructed, the smaller ones in the country are not as a rule steel lined, the cash being kept in burglar-proof safes inside the vault. All vault walls should be built with strong reinforcements of some kind. A good method is to build the walls of reinforced concrete about sixteen inches thick, with iron bars placed vertically and horizontally at about nine-inch spacings, or if of brick, heavy hoop iron should be laid in the horizontal joints every three courses in height. The floors and ceilings should be also reinforced in a similar manner, and very strongly built to stand the strain of falling walls on them in the case of fire. The vault must be made thoroughly waterproof, and the inside walls afterwards lined with terra cotta and plastered. The foundation walls usually go to form a book vault in the basement for old ledgers and vouchers not in daily use. This should be easy of access from the banking room. Immediately above the door of the ground floor vault in the ceiling is placed the observation and funnel-shaped shooting outlet, with a thick plate glass cover on the floor above. The vault not necessarily being more than eight feet high, the space over can be used as a cupboard, or a convenient place for concentrating the drain and water pipes, and forming access to same. In the St. Lawrence street branch the bank messenger's rooms form a mezzanine floor over the vault and recess adjoining.

Floors in Public Space.—Whilst tile, marble or mosaic should be used for the better class office, hardwood, on account of cost, is used as a rule for the cheaper offices. This, however, is by no means an ideal material, as it is hard to keep clean. A first-class composition floor, laid direct on the rough flooring, offers a satisfactory alternative to hardwood.

INTERIOR OF BANKING ROOM, LOOKING TOWARDS ENTRANCE, THE MOLSONS BANK, MONTREAL, QUE. TURNER & CARLESS, ARCHITECTS.

Staff Lavatories.—These as a rule are best placed in the basement, all space on the ground floor being required for the business of the office or possible extensions. In planning of all buildings, especially in new districts and where the building does not occupy the whole site, it is always wise to plan the office so that it can be easily enlarged at any future time if the town

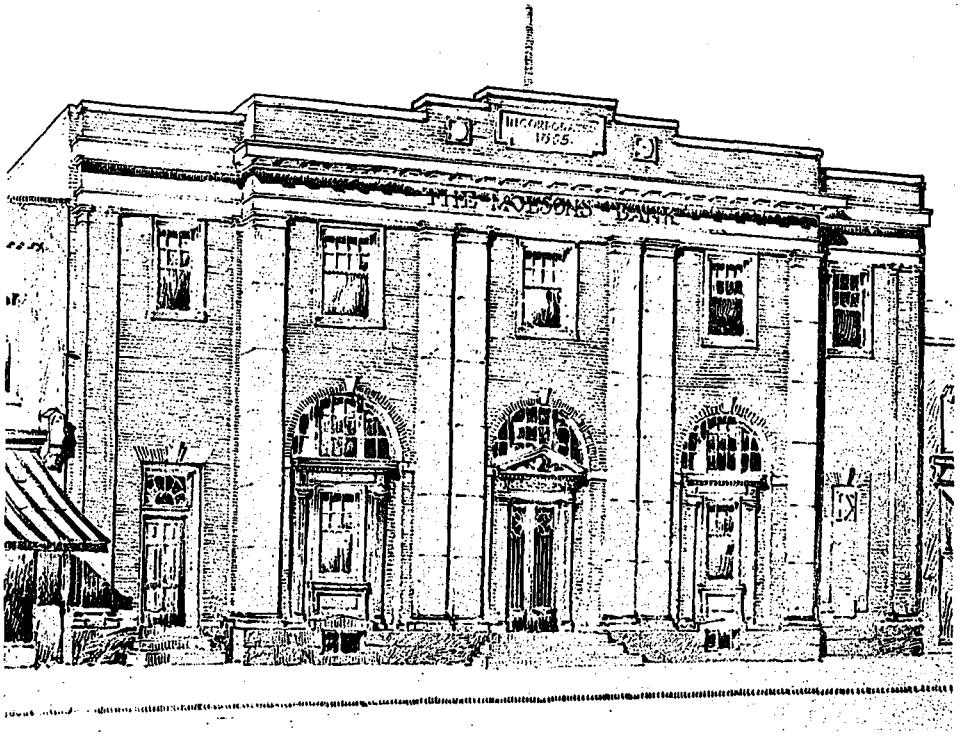


GENERAL VIEW, THE MOLSONS BANK, ST. LAWRENCE AND ONTARIO STREETS, MONTREAL, QUE.

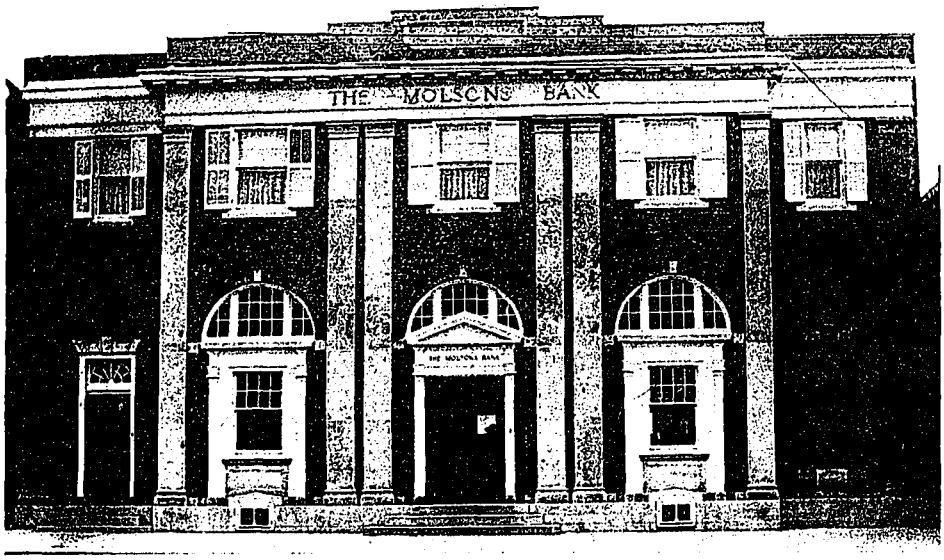
and business grows, without serious expense or any radical changes. The building at Drummondville was so planned, for example, so that it could be easily enlarged by taking down the back wall without affecting the rest of the lay-out of the building to any serious extent.

Office Fittings.—These require a great deal of study, many details being made to suit the special requirements of individual banks. The fittings themselves are usually made by firms who are specialists in this kind of work. The style of fittings have changed very considerably during the last few years. Formerly it was the practice to have between the bank ledgers and tellers, a mass of grille work for the whole length of the counter, and to the height of the cages, with a large number of wickets. Now the preference is given to the enclosing only of the tellers' cages with as little metal work as possible on the counter front, consistent with security. The rest of the staff have no grille work in front of them, but a low screen about twelve inches high is placed on the top of the counter which protects the ledger from being read by the customers. The glass in these screens should be obscured, but the glass in the tellers' cages should all be clear plate glass. On the top of this low screen it is customary to fix a plate glass shelf (upper side polished and under side obscured), or wood shelf which not only further screens the ledgers from the view of customers, but also is convenient for handing over the depositor's pass books.

Twenty years ago all counter fittings were built of a uniform height of seven feet for their whole length, with turned columns supporting a heavy cornice. To-day everything above the counter top should be kept light in construction, so as to give, as far as possible, an unobstructed view of the banking room. This result has been obtained satisfac-



THE MOLSONS BANK, NORWICH, ONT. TURNER & CARLESS, ARCHITECTS.



THE MOLSONS BANK, NORWICH, ONT. TURNER & CARLESS, ARCHITECTS.

torily in the St. Lawrence and Ontario street office. (See illustration.)

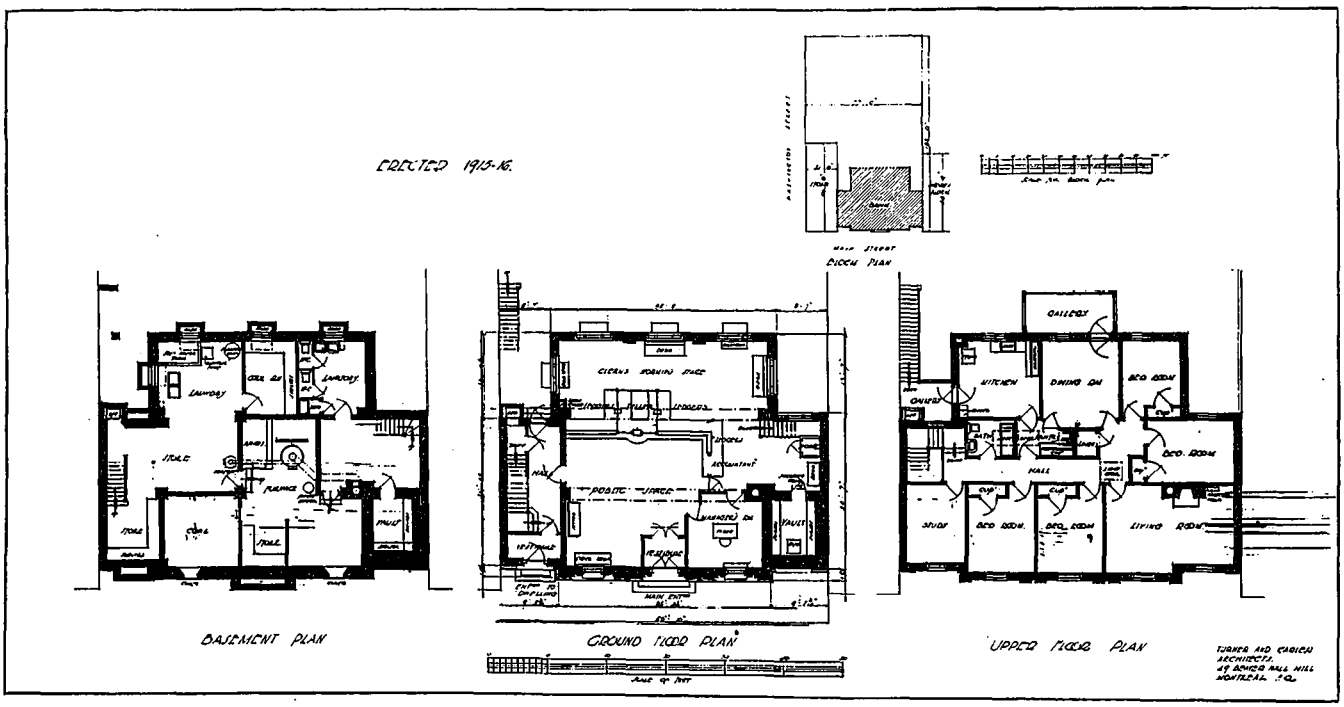
The tendency to-day is to leave the accountant's counter, which is flat, entirely open; that is, without having any railing built on it. This refers more particularly to the city offices.

In the country, where a certain amount of privacy is desired, the low rail is introduced in the accountant's section, but an opening in this railing should be provided about three feet wide, through which documents can be passed when customers' signatures are required.

The accountant's position should always be placed next to the manager's office. On the back of the counter front, provision should be made for running a horizontal grooved moulding to contain the electric wires. It is desirable also that all posts or columns should be built hollow, to allow space for wiring. With reference to the desks behind the counter it was the custom until some years ago to build these desks in solidly as part of the fixtures proper, and to introduce as many cupboards and drawers as could be obtained in a given space. Now-a-days practically all furniture is movable and cupboards have been practically done away with, as they served no good purpose, and generally became a receptacle for litter. A marble base is a very desirable addition to a counter front, as it protects the wood at a point where deterioration is most apt to set in from the contact of water during the process of washing the floors.

The front edge of the counter top should have a good projection, both for the purpose of preventing customers from looking over the screen on to the ledgers, and also to protect the counter front itself from being damaged.

The tellers' cages must be of sufficient size to give the tellers enough working space without being cramped. A compartment six feet wide by seven feet deep is a useful size, though several are only five feet six inches in width. Whether desks are put on only one or both sides of cages, a clear working space of three feet in width should be allowed. In some of-



THE MOLSONS BANK, NORWICH, ONT. TURNER & CARLESS, ARCHITECTS.

fices, as in the St. Lawrence and Ontario streets branch, an additional compartment is placed next to the paying teller's cage for an assistant during the rush hours to help in the sorting of cheques and other special purposes. The top of the teller's desk is often covered with plate glass. The grille work is usually made of bronze, of steel with a bronze finish, or of black iron. In designing this metal work care must be taken that no horizontal rail is placed in such a position as to interfere with the teller's clear vision. The teller should be able to have an unobstructed view of his customers at all times. It is very important that all openings in the lower part of the grille work be protected with plate glass behind, so as to prevent anybody from putting a stick through and extracting paper money when lying on the desks.

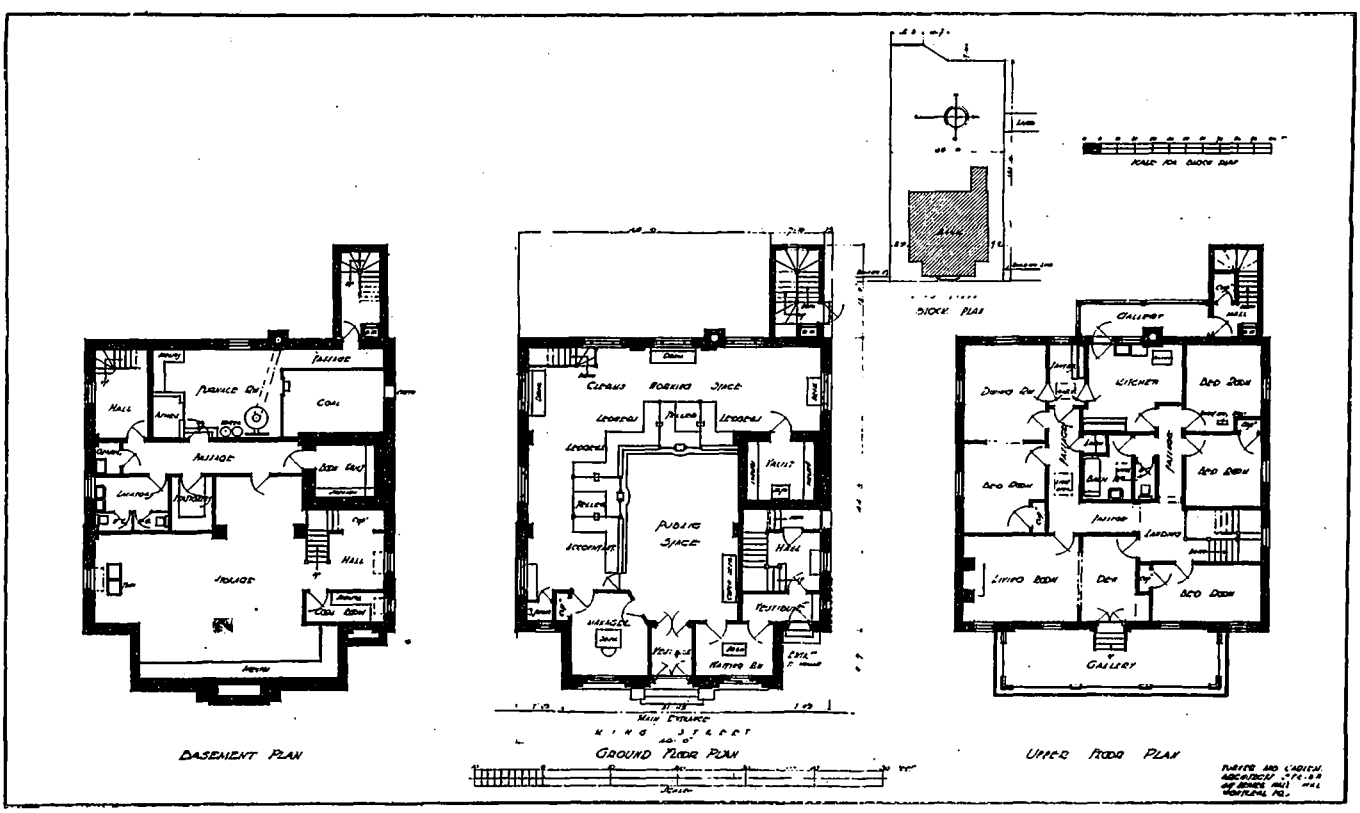
THE MOLSONS BANK, SOREL, QUE. TURNER & CARLESS, ARCHITECTS.

The grille in the centre of the front should be fitted with a telescopic wicket, or one hung on hinges, so as to be opened in case a parcel has to be passed through.

The top of the cages are constructed with round wire mesh, not larger than one and one-half inch in diameter, and in the smaller offices the sides are made of steel ribbon, bronze plated, one-quarter inch wide, with the mesh not exceeding one-half inch.

The wicket door in counter, forming the entrance for the clerks, should in all offices, where possible, be placed close to the manager or accountant, so that the staff passing in and out can be under the direct surveillance of the heads of the office.

In small offices the fittings are best planned



THE MOLSONS BANK, SOREL, QUE. TURNER & CARLESS, ARCHITECTS.

THE MOLSONS BANK, SOREL, QUE. TURNER & CARLESS, ARCHITECTS.

to occupy only two sides of the public space. Three sides necessitates an unnecessary large staff and difficulties for the manager in superintending.

It will be readily understood that the fittings and furniture of a bank form a considerable item of cost in the expense of a new office.

It is therefore essential that they should be of the highest grade of construction, and important that the very best layout is obtained from the start. Some banks when opening temporary offices have adopted fixtures in the form of specially made standard units, the latter being set up side by side to form a complete counter. These units have the advantage that they can be taken down and used elsewhere without any waste from cutting when a more permanent office building is being established and special fixtures are to be installed.

Additional Descriptive Notes to Illustrations

The Molsons Bank, Norwich.—This building has just been completed. The facade is treated with Indiana limestone pilasters and a light shade clay ironspot vitrified brick, laid with a fine joint. The woodwork is all painted white, except the entrance doors, which are of quartered white oak. The name of the bank is displayed in large bronze letters, standing out three-quarters of an inch from the face of the main frieze.

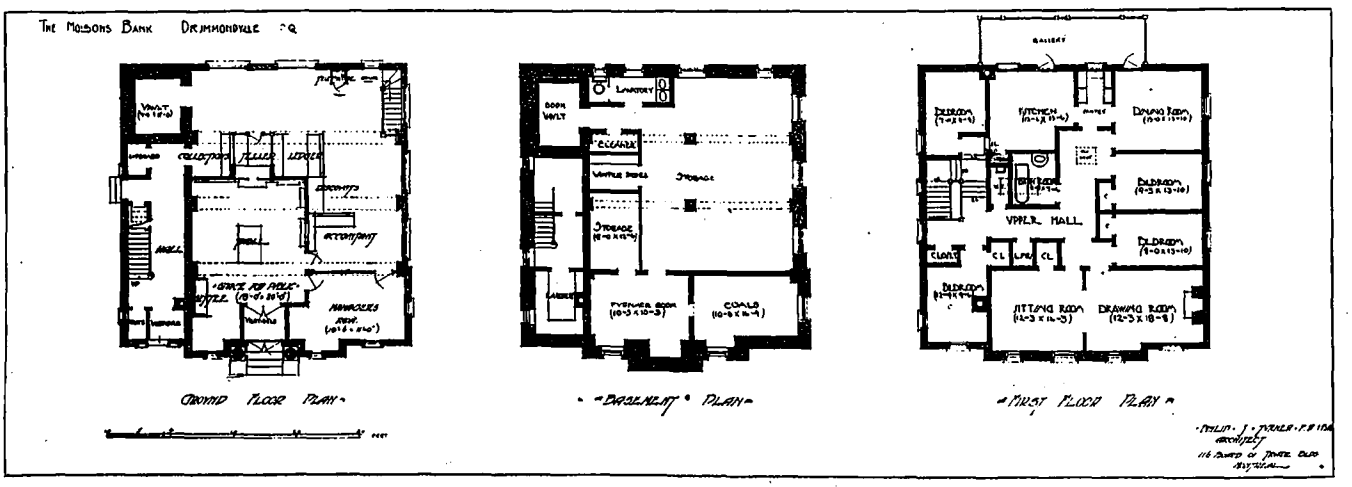
The height of the banking room is fourteen feet, with the principal lighting at the back, which gives the best results for the staff.

The upper flat forms the manager's residence, the woodwork being of chestnut, with the exception of the four bedrooms, which are of pine.

A hoist is provided to the basement; also a linen chute to the laundry. The laundry tubs, lavatory basins and sinks are all provided with hot and cold water, and an additional service of soft water. The latter is stored in a large tank in the basement, and raised by an automatic electric pump and pressure tank. The dining-room is panelled, and a large gallery approached from it can be enclosed in the winter. The cost of the building complete, exclusive of banking room fittings, is equivalent to twenty-one cents a foot cube.

Sorel.—The design of this somewhat unusual front was governed by the desire to obtain a gallery to the manager's residence which would overlook the fine large square of the town.

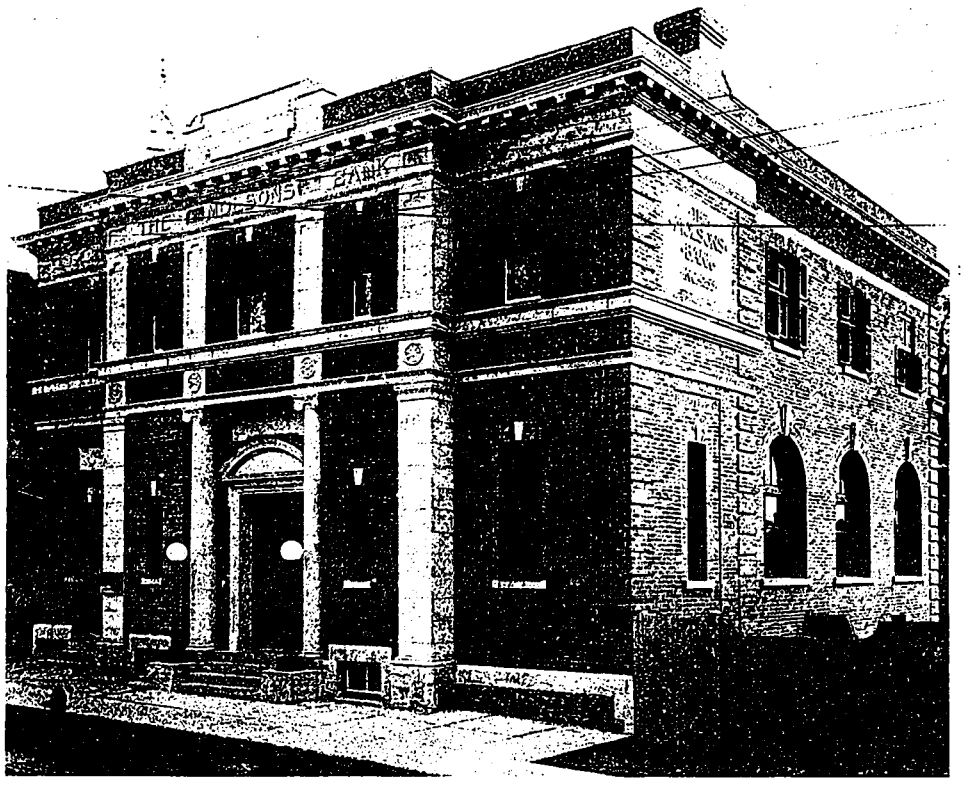
The facade is treated in two shades of clay ironspot bricks, a brownish-red for the rustication, and a light buff for the rest. The banking room is excellently lighted, with the windows in



all cases to the backs of the staff when working at the counter. The manager's room and waiting room are not so high as the main office, forming on plan the projection on the facade. The waiting room is so planned that it can be used for that purpose, for either the office or the residence when the office is closed.

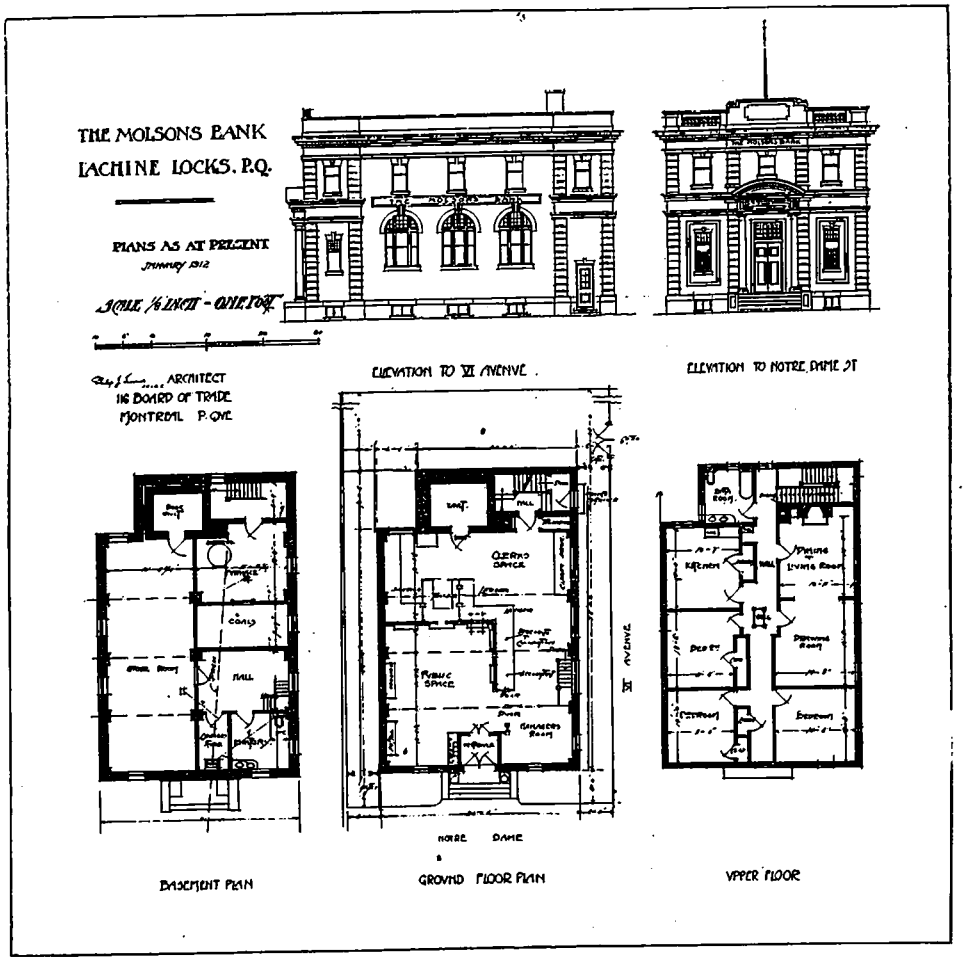
The vestibule is tiled and the public space is covered with a red composition floor material with black border.

The first floor allows an excellent seven room residence, and in the basement is the usual office staff lavatory, book vault, cleaner's store, stationery store, furnace room, etc., with a large store, laundry, and cool room for the residence. The building has just been completed at a cost of twenty-two and a half cents a cubic foot, exclusive of banking room fittings.



THE MOLSONS BANK, DRUMMONDVILLE, QUE. PHILIP J. TURNER, F.R.I.B.A., ARCHITECT.

Drummondville.—This building was erected in 1912. Light buff facing bricks have been used in the elevations with Roman stone facings. The cost was twenty-five cents a cubic foot. It is planned to allow for easy enlargement to the banking room at the back. A mistake often made in country offices is to give an undue amount of room to the public to the detriment of the staff.



In this plan and other examples shown, this common error has been avoided.

Lachine. — Erected in 1912 at a cost of twenty-one cents a cubic foot, exclusive of banking room fixtures. Light buff pressed bricks and Roman stone have been used in the elevations. The upper floor was designed for the use of the members of the staff. The banking room is a typical and good layout for a small office, with (1) the staff back to the light, (2) manager's office near entrance and at corner of two streets, and controlling public space and office staff, (3) door to clerks' space placed next man-

ager's office and also next accountant, and (4) vault door convenient for teller and in view of the whole office.

Port Arthur, Ont.—Elevations of Indiana limestone with light pressed brick facings above. A good layout for office on a corner site, of little breadth and where the main street is on the narrow side, giving the best use of floor space in the interior. Upper floor used as offices with strong room divided into steel compartments for the use of the different tenants, separate lavatories for both sexes on each floor. The top floor is partly occupied by the staff.

St. Lawrence and Ontario Street.—An awkward shaped site, with the problem of having to place the entrance on the corner and that to the upper floors offices on the narrow side of the lot. A mezzanine floor, containing three rooms, for the bank messenger, being placed in line with the front of the vault, the banking room is given a square end on this face. The screen to the manager's office also forms a right-angle termination to the banking room at the opposite end. The ground floor is 19 feet high, which gives sufficient height for a vault nine feet high and messenger's rooms over. Two of the three openings in end wall between banking room and mezzanine give the bank's messenger an opportunity for watching the office when closed, the third opening acts as a ventilating panel. The building is of fireproof construction throughout, with a reinforced concrete skeleton frame and terra cotta partitions and furrings. The walls above the base are of Indiana limestone, with the base itself of Queenston limestone, the stairs to the offices have marble treads and cast iron strings, railings, newel posts and carriages and oak handrail.

THE MOLSONS BANK, LACHINE, QUE. PHILIP J. TURNER, F.R.I.B.A., ARCHITECT.

The vestibule has a marble mosaic floor and Missisquoi dark and light green marble dado. The floor of the banking room consists of six inch light grey vitrified tiles, with narrow white borders to each square of four tiles. The woodwork of the office is all of quartered white oak with marble base to counter front, and

cheque desks. The grille work to the cages is all of bronze.

The foundations of the building are carried on reinforced concrete piles. The total cost of the building complete, including foundations, but not banking room fittings, is on a unit of forty-two cents a cubic foot. The whole of the fittings, furniture and electric light fixtures were designed by the architect.

Canada's Fire Loss

The fire loss of Canada has reached enormous proportions. The drain upon her financial resources constitutes an economic loss which no country can afford and still meet competing nations on an equal footing.

The war has had far-reaching effects upon commerce. European countries, in greater or less degree, are realizing their latent powers, production is being speeded up, resources are being developed, trade openings are being sought and established. Prior to the war Canada found herself handicapped in any scheme of trade expansion by the lower cost of production in Europe. It therefore follows that, with the realization by European countries of their commercial possibilities, this trade handicap will be greatly accentuated.

On the basis of averages, and from the data available as to the cost of insurance and upkeep of fire departments, the following comparisons may be deduced:

For the past three years the average rate for fire insurance in Canada has been one dollar and eighteen cents per one hundred dollars of insurance. The average rate in Sweden is decimal forty, in Austria decimal thirty, in England decimal twenty-three, in Germany decimal twenty-two, in France decimal twenty-one, in Spain decimal nineteen, and in Italy decimal nineteen.

A Canadian labor employer with one hundred

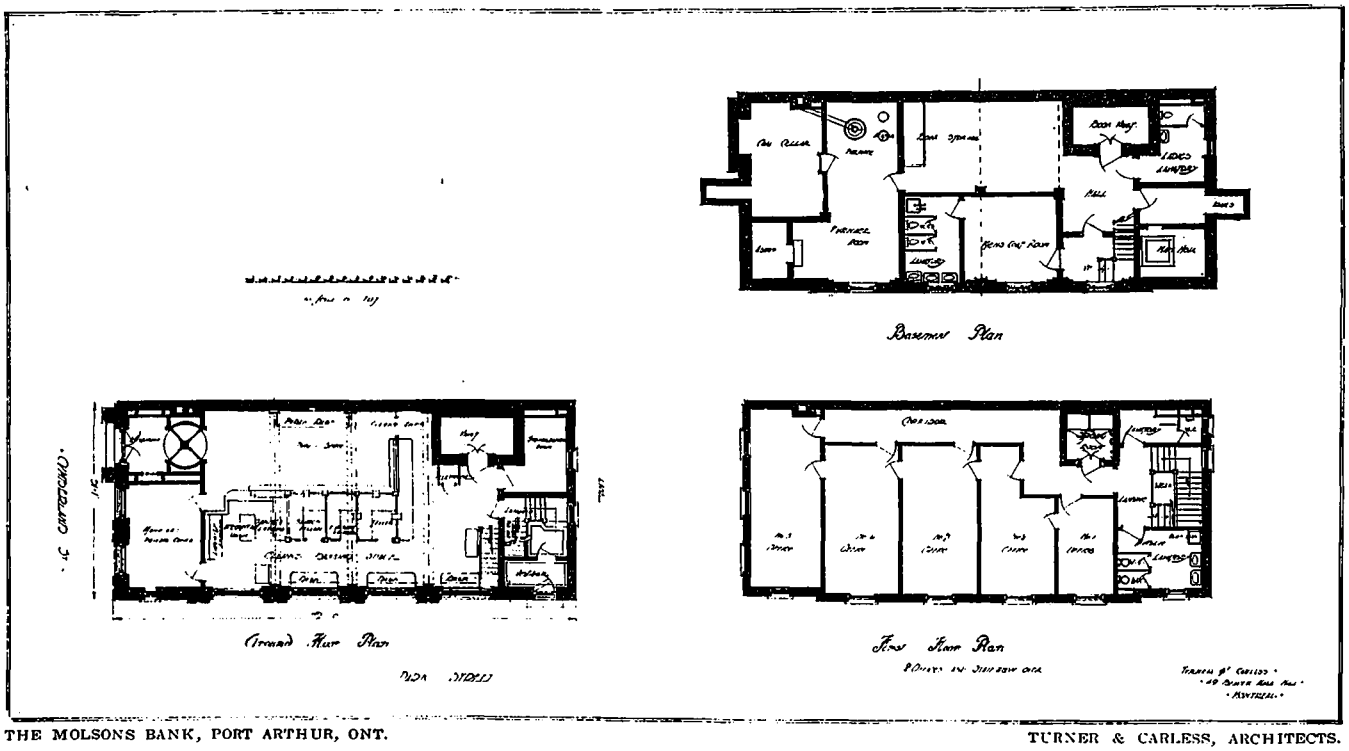
THE MOLSONS BANK, PORT ARTHUR, ONT. TURNER & CARLESS, ARCHITECTS.

CLERK'S WORKING SPACE, LOOKING TOWARDS MANAGER'S OFFICE, THE MOLSONS BANK, PORT ARTHUR, ONT.

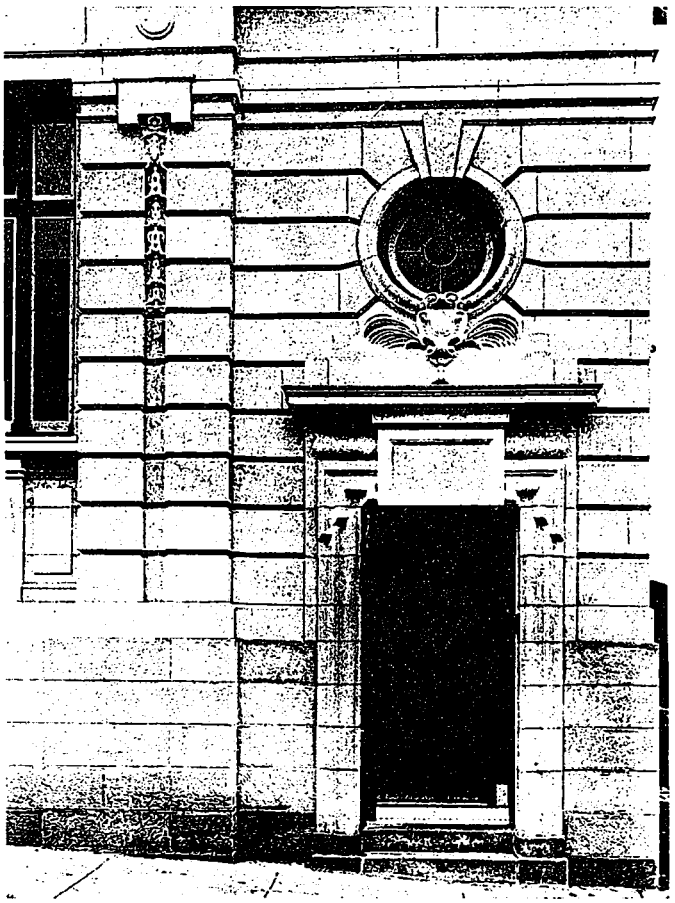
employees, carrying an insurance of fifty thousand dollars on plant and buildings, and, assuming that two thousand dollars insurance is carried or paid for by each employee on furniture and dwelling—or a total of two hundred and fifty thousand dollars—would, on the foregoing basis, have to provide in wages and overhead charges two thousand nine hundred and fifty dollars. His competitor in Sweden would only require one thousand dollars, in Austria seven hundred and fifty dollars, in England five hundred and seventy-five dollars, in Germany five hundred and fifty dollars, in France five hundred and twenty-five dollars, in Spain and Italy four hundred and seventy-five dollars.

For upkeep of fire departments Canada is heavily taxed in comparison with competing countries. In 1914, Paris, France, with a population of two million, eight hundred and forty-six thousand nine hundred and eight-six, had a total fire department expenditure of approximately six hundred and fifty-six thousand four hundred and seventy-nine dollars, or twenty-three cents per head. Toronto, for the same year, with a population of four hundred and seventy thousand one hundred and forty-four, spent six hundred and seventy-five thousand one hundred and forty-six dollars on her fire department, equal to one decimal forty-three dollars per head.

The Toronto manufacturer—and this is only an example for all Canada—has to provide for himself and family and for each employee and his family one decimal forty-three dollars to cover fire department costs, as against the twenty-three cents his Paris competitor must provide; or, with an average of five to a family, for his one hundred employees, he would have to pay in salaries and wages seven hundred and twenty-two dollars and fifteen cents as against



THE MOLSONS BANK, PORT ARTHUR, ONT. TURNER & CARLESS, ARCHITECTS.



A DETAIL—THE SIDE ENTRANCE, THE MOLSONS BANK, PORT ARTHUR, ONT.

one hundred and sixteen dollars and fifteen cents by his European competitor.

For insurance and upkeep of fire department the Toronto employer of one hundred hands, as representative of Canadian industry, must pay three thousand six hundred and seventy-two dollars as against six hundred and forty-one dollars in Paris, a handicap equal to thirty dollars per employee.

The Census Report of 1911 gives five hundred and fifteen thousand two hundred and three as the number of employees engaged in manufacturing in Canada; consequently at thirty dollars per head, there is a handicap of fifteen million four hundred and fifty-six thousand and ninety dollars against Canadian manufacturers in the cost of fire insurance and municipal fire departments.

The salaries and wages paid to these five hundred and fifteen thousand two hundred and three employees amounted to two hundred and forty-one million eight thousand four hundred and sixteen dollars, an average of four hundred and sixty-seven dollars and eighty cents, or approximately nine dollars per week. The foregoing handicap of thirty dollars per employee represents the wages for three decimal three weeks of each employee.

In 1910 the products of Canadian manufacturers were valued at one billion one hundred and sixty-five million nine hundred and seventy-five thousand six hundred and thirty-nine dollars. This charge for insurance and municipal fire protection therefore represents an added tax of one decimal three per cent. upon Canada's entire output of manufactures.

The fact that much the larger portion of this amount is buried in the pay-roll can be accepted as the reason why our employers have given so little attention to the question. The charge must be met, however, whether by direct or indirect means.

Employers complain of the rising cost of manufacturing; employees complain of the rising cost of living and demand increased wages. In view of the foregoing, employers should seriously consider reduction of the burden imposed by the enormous destruction of our created resources by fire—that their earnings may not be reduced by these charges, and thus remove one of our heavy handicaps before Canadian employers and employees meet world competition under the new trade conditions which will develop after the war.

Farm Home Conveniences

At the last annual meeting of the Commission of Conservation a report of a survey conducted on 400 farms during 1915 was presented. Some interesting data were secured respecting conditions in many rural homes.

Keeping the young people on the farm is one of Canada's national problems. Many causes have been suggested for the yearning for the city. The conveniences of the city home constitute one of the chief attractions. Notwithstanding this, however, very few farmers have introduced these conveniences into their homes.

Of the 400 farmers visited, 53 per cent. have young people in their families. With this large percentage of young people it is a regrettable fact that only two farmers out of every hundred have bathrooms in their homes. Only 6.2 per cent. have water closets, only 2.5 per cent. have a complete service, and only 2.2 per cent. have electric light. In these 400 homes, only 16.5 per cent. have the water piped to the house, and but 17.5 per cent. have furnaces in the home. These conditions are entirely within the control of the farmers, 86.7 per cent. of whom are the owners of farms averaging 126.5 acres.

In contrast with the foregoing, the conveniences which have been supplied by the government and public utility companies and of which the farmer has availed himself stand out prominently. The Post Office Department has carried to 76 per cent. of these 400 farmers rural free mail delivery, allowing 77 per cent. of them to be supplied with daily newspapers, while 58.2 per cent. have the convenience of a telephone.

Only 2.5 per cent. have complete sanitary service in their homes, while 5 per cent. have automobiles, and 31.5 per cent. have either automobile or horse and buggy for the young people.

HOTEL PALLISER, CALGARY, ALTA.

E. & W. S. MAXWELL, ARCHITECTS.

Hotel Palliser, Calgary, Alberta

Owned and Operated by the Canadian Pacific Railway Company.

THE Hotel Palliser, situated in the gateway to the Rocky Mountains, was erected to fill a long felt need for the class of accommodation that has made the Canadian Pacific Railway hotels a by-word for comfort and good living. Situated in the heart of the city, adjoining the railway station, it offers conveniences to its patrons that more than offset the advantages that might have been obtained by selecting a more distant and picturesque site.

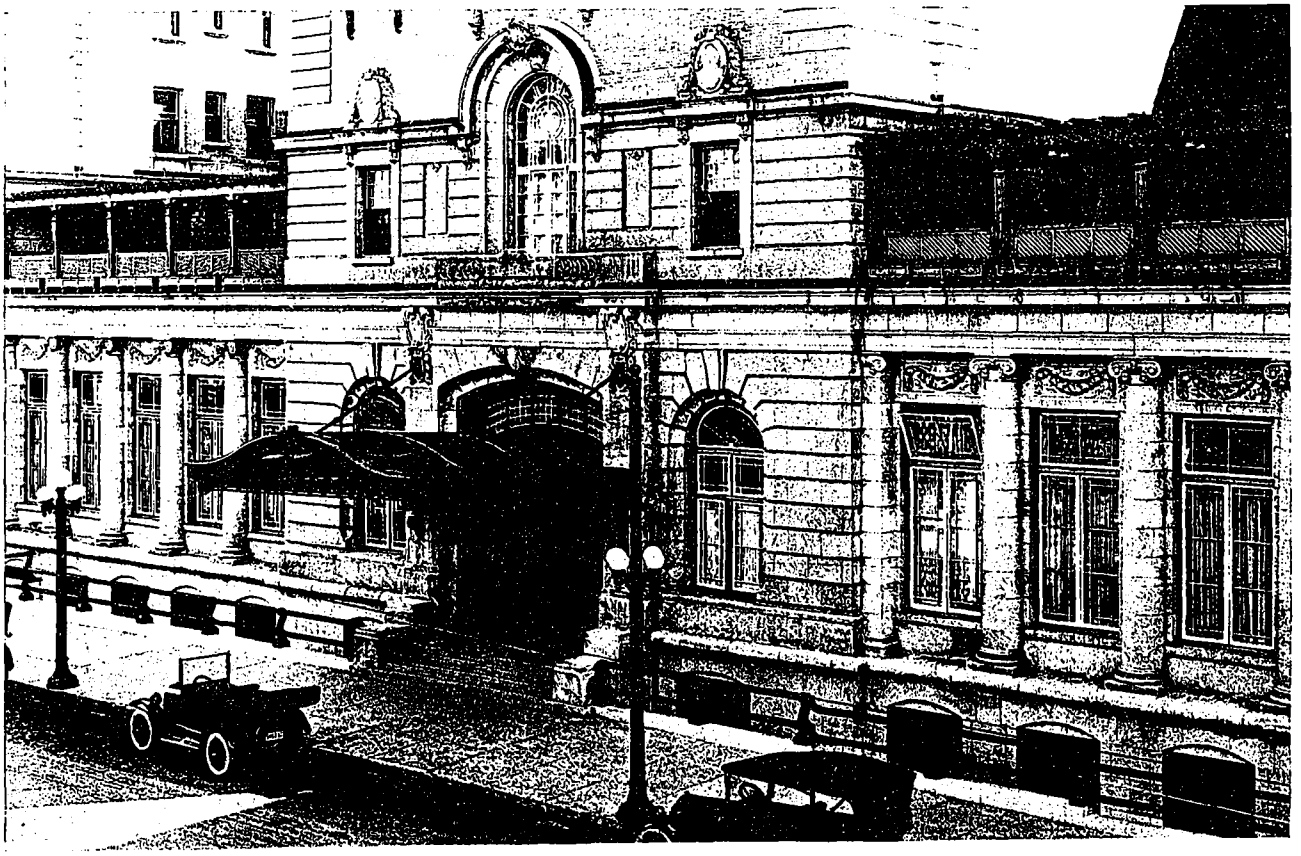
The hotel caters to the tourist whose objective is the unsurpassed scenery of the Rockies, the business man, and residents desiring an environment of refinement and the best of service.

Owing to the nature of the site, a picturesque solution of the problem, such as is evidenced in many of the company's hotels of the chateau type, was considered inadvisable.

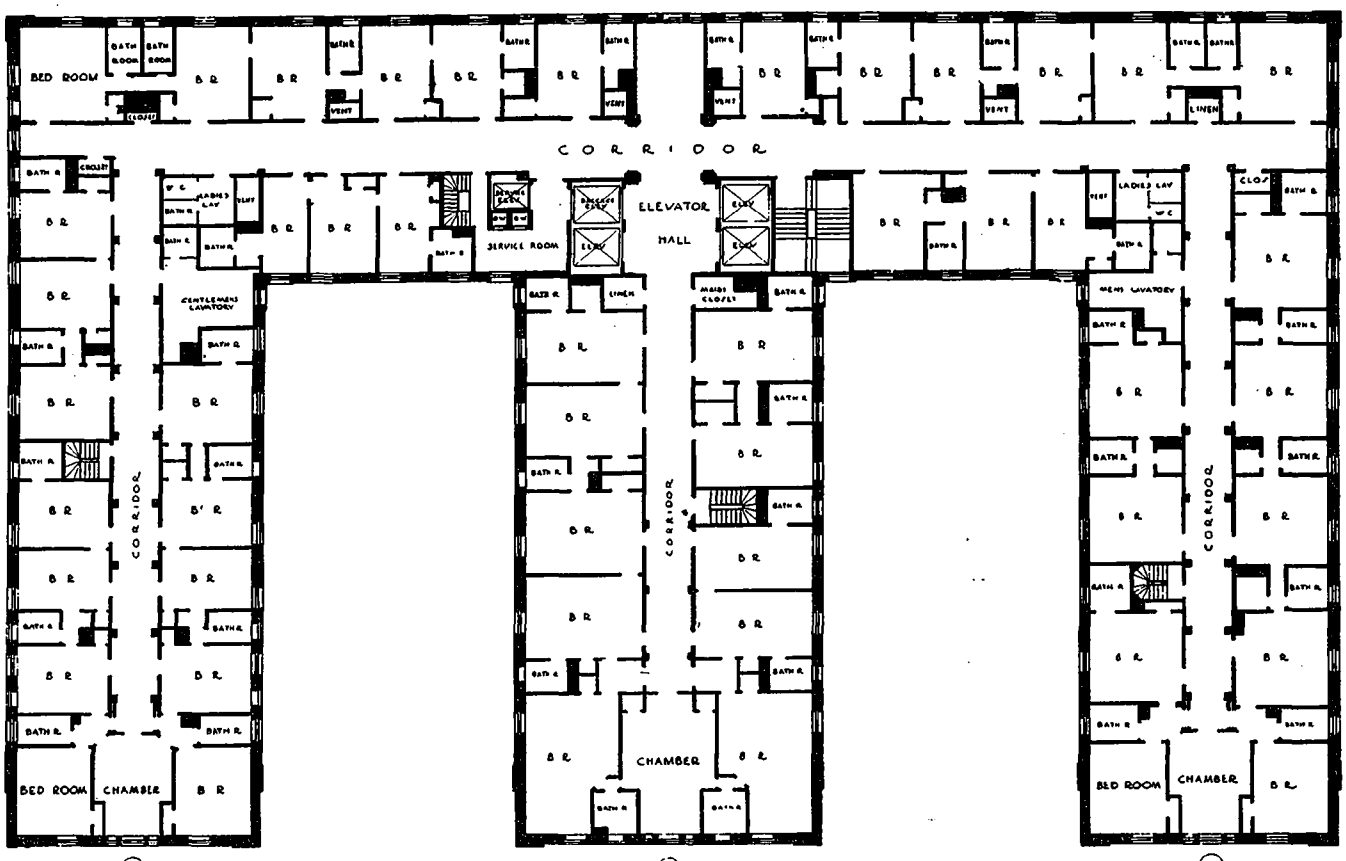
The existing structure is one of eight stories and a basement, so designed that five additional stories may be added, terminated by a steep mansard roof. The facade facing Ninth avenue has three projecting wings and two U-shaped courts. The track elevation is without break, and no interior courts exist.

The exterior perspective shows a clean-cut structure, quite simple and modern in its straightforward expression of the interior. The details of a more elaborate nature recall the work of the Louis XVI. period. The ground floor plan shows two main axes, one leading from the main entrance to the elevator lobby, and the other from the station entrance (so called because of its proximity to the adjoining station) to the dining room.

On entering one is received in the entrance hall, finished in Bottichino marble. To the right is the office, and conveniently adjoining is the ladies' room, off which is the retiring room, with toilet conveniences. Over the entrance are offices, including that of the manager. The entrance hall, rotunda and palm room open into one another. The same sense of style is evident, but the treatment of composition and use of materials vary. The entrance hall is of Bottichino marble, including the ceiling treatment. The floor is laid out in simple patterns with grey Tennessee marble, the base of the piers and columns being of green marble, above which is fine honed Bottichino marble of a pleasing warm tone. The office, seen to the right of the illustration, has quartered oak panelling, and a bronze treatment of pilasters and grille work above the counter line. The coat room adjoins

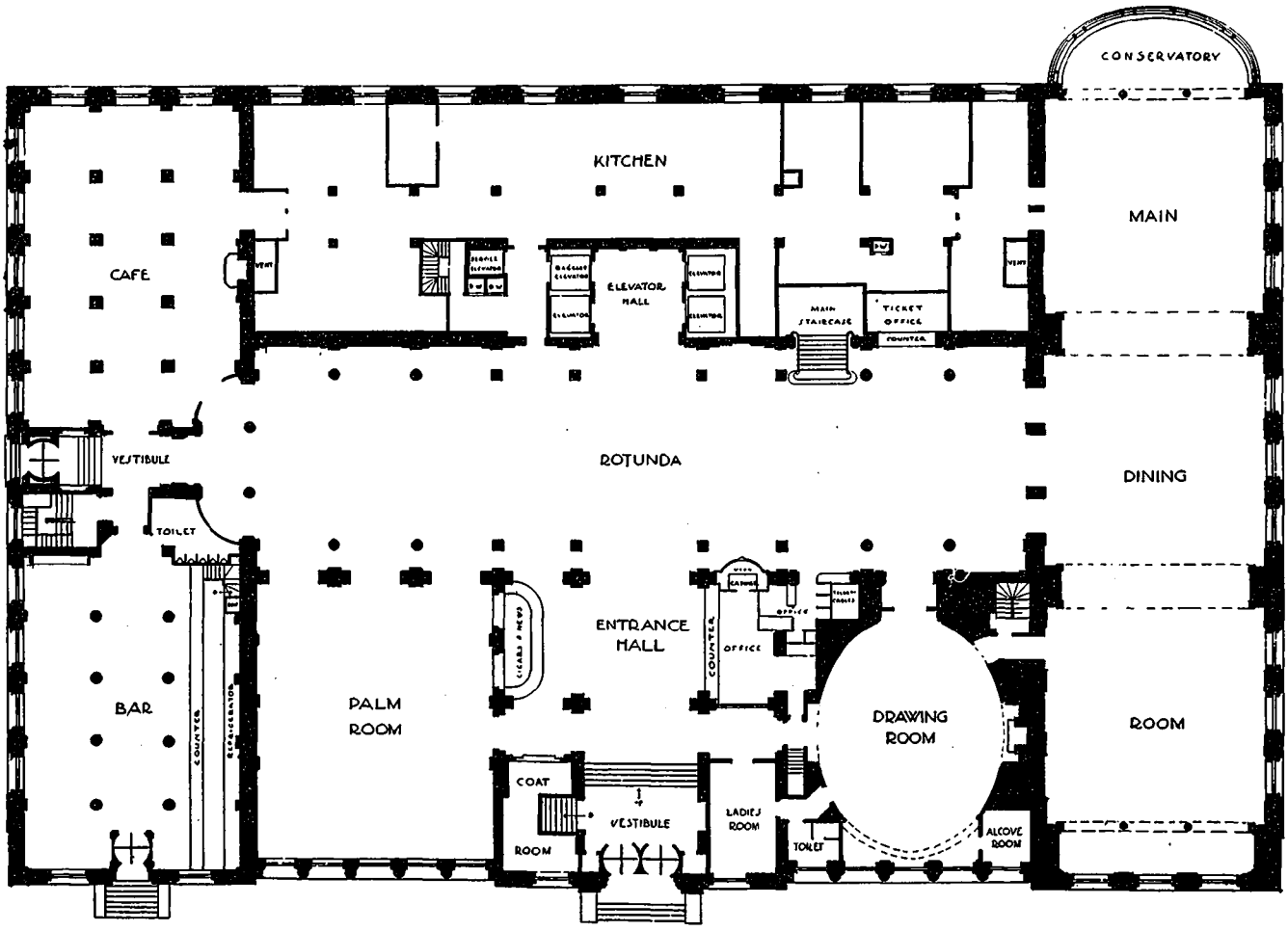


DETAILED VIEW, SHOWING MAIN ENTRANCE, HOTEL PALLISER, CALGARY, ALTA. E. & W. S. MAXWELL, ARCHITECTS.



TYPICAL FLOOR PLAN

SCALE FEET



GROUND FLOOR PLAN

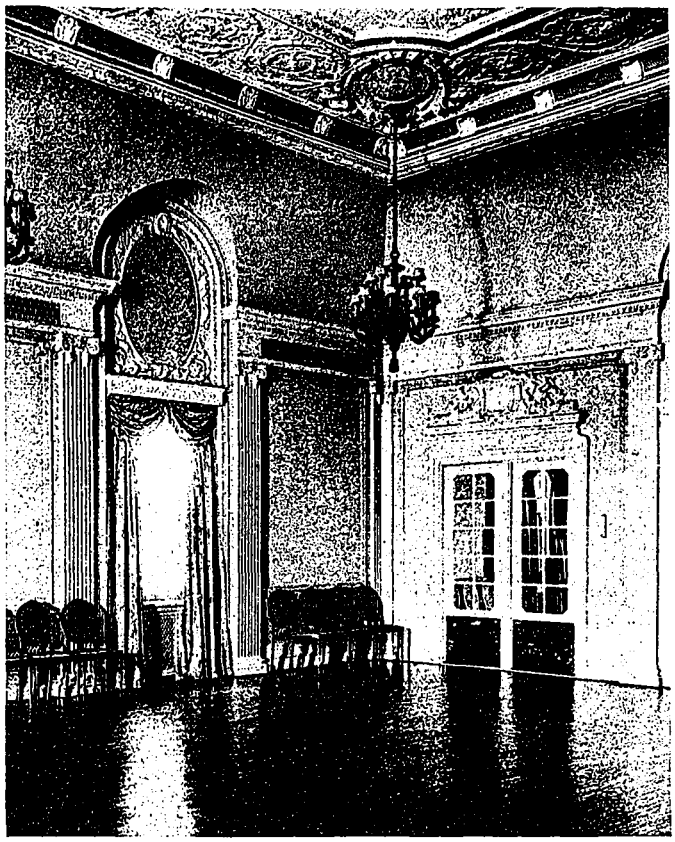
SCALE FEET

HOTEL PALLISER, CALGARY, ALTA.

E. & W. S. MAXWELL, ARCHITECTS.

the hall to the left of the vestibule, and on the right is the ladies' room.

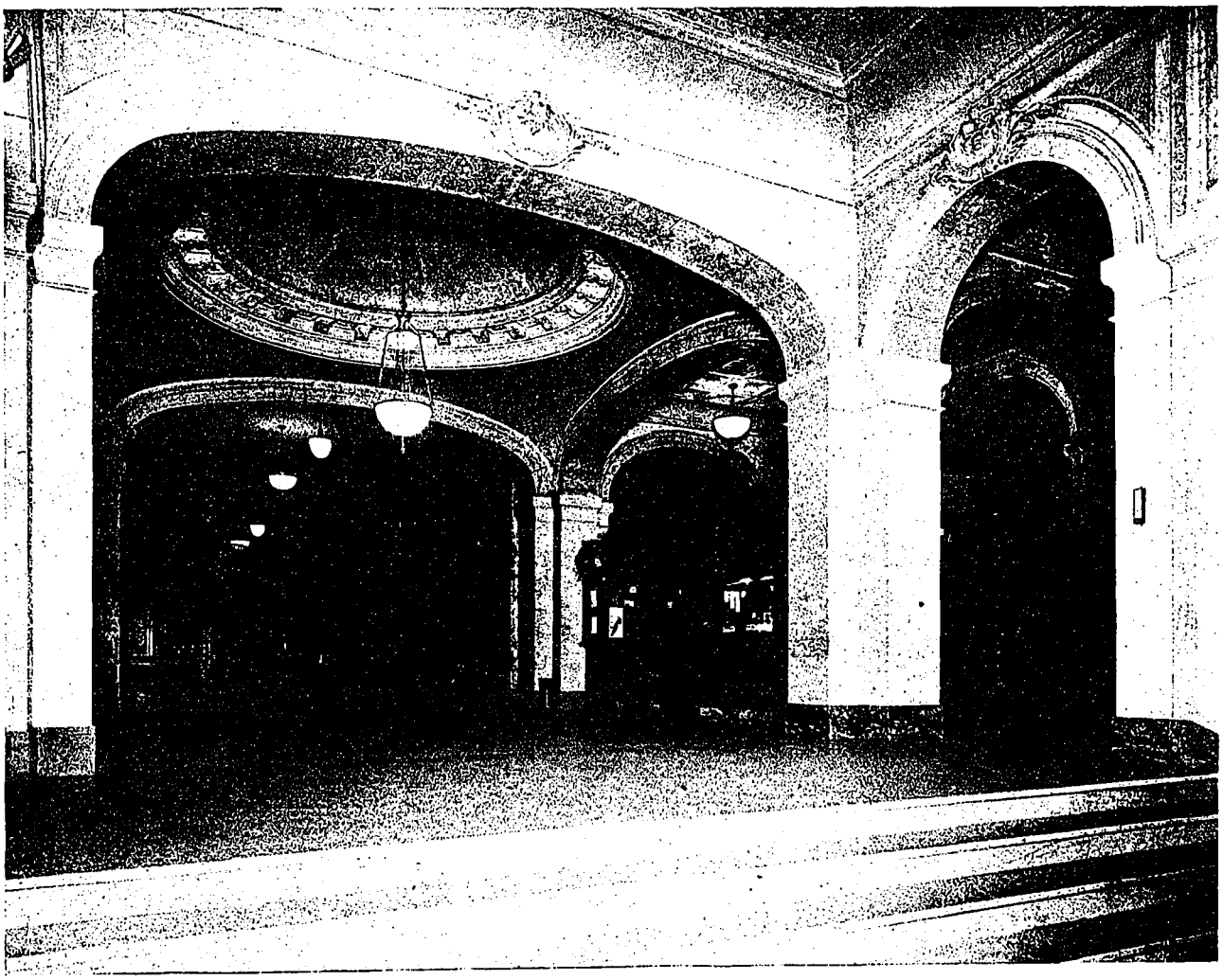
The top-lighted rotunda extends from the cafe and the station entrance end of the building, to the dining room. Above the dining room triple entrances is a musicians' gallery. The rotunda is one hundred and forty feet by forty feet, the main feature of the composition being a row of columns and pilasters on either side. The ceiling is designed so as to form a triple composition in the length of the room. The walls have an oak dado, set on a green marble base, the large wall panels over, being hung with tapestry.



THE BALL ROOM, FIRST FLOOR, HOTEL PALLISER, CALGARY, ALTA.

The pilasters and columns are of Bottichino marble, and the ceiling of plaster. Apple green rugs (set on the grey Tennessee marble floor) and the tapestry panels harmonize with the soft antique color of the oak panelling.

The white oval drawing room, thirty-four feet by forty-six feet, has a shallow domed ceiling, and is rather Adams in design and detail. The rug, in which rose and black predominate, the reproduction of eighteenth century English furniture, the decorative accessories, such as gilded mirrors, paintings of beautiful women by Miss Gertrude Des Clayes, and the well

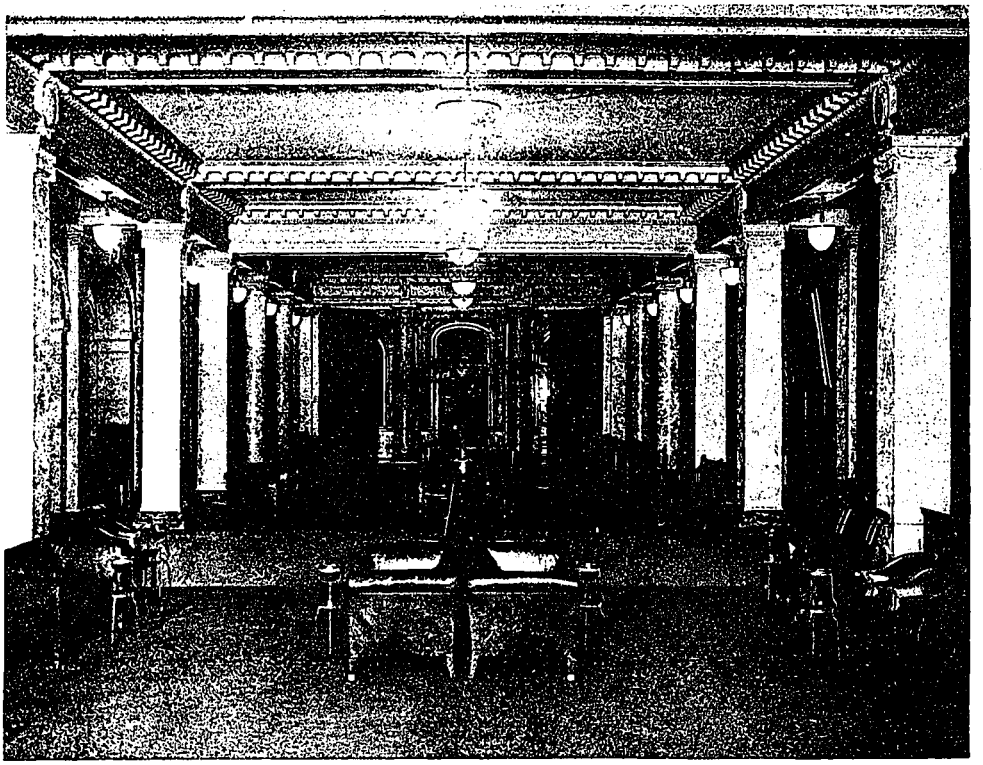


ENTRANCE HALL, SEEN FROM THE VESTIBULE, HOTEL PALLISER, CALGARY, ALTA. E. & W. S. MAXWELL, ARCHITECTS.

carried out chimney-piece, with its interesting chased steel grate and fender, all combine harmoniously to form a suitable setting for the fair sex.

The electric lighting scheme consists of table lamps and gilt wall candelabra of Adams design. The use of silk shades produces a becoming illumination that can be rendered more brilliant by using the linolite indirect system installed in the cornice.

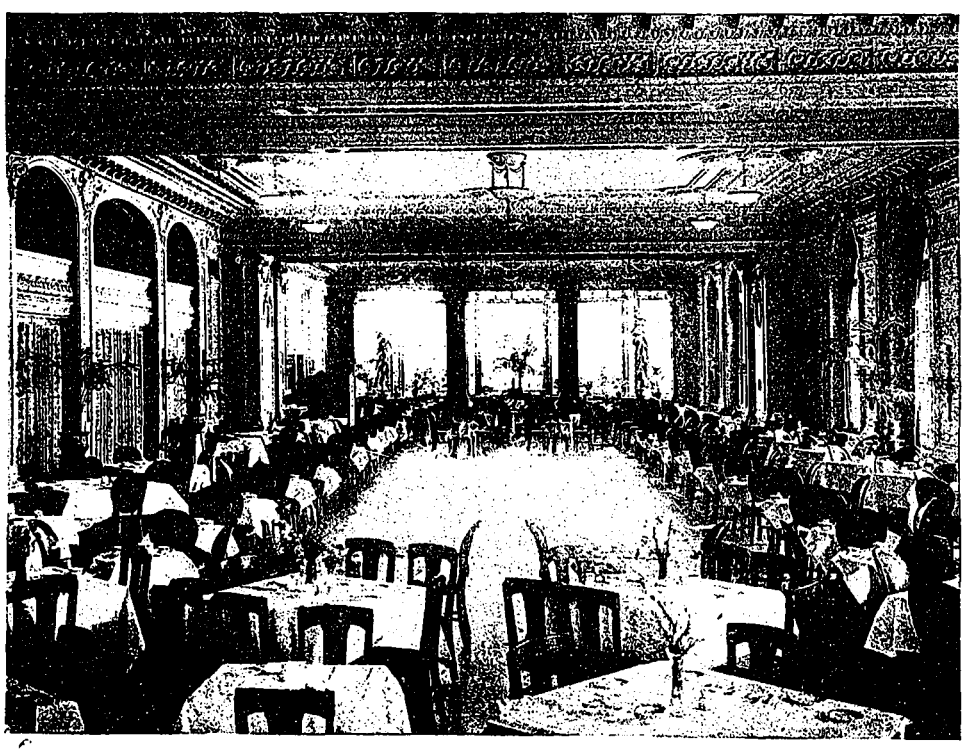
The dining room, thirty-nine feet by one hundred and twenty-five feet, has an alcove at one end and a palm conservatory at the other. The room forms a triple composition in its length, and it is possible, during a quiet season, to reduce the size of the room by screens, without affecting the architectural appearance. The design is frankly Louis XVI. in its development and detail. The walls and ceilings are painted white, and the curtains and other decorative notes are a soft golden color. The wall brackets are gilt with polychrome decoration, and the main lighting is by semi-indirect bowls of etched glass.



THE ROTUNDA, LOOKING TOWARDS THE STATION ENTRANCE END, HOTEL PALLISER, CALGARY, ALTA.

The cafe is forty feet by fifty-seven feet, treated in a Mediæval manner. The floor is of waxed heatherbloom tiles, about six inches square, the coloring varying from soft red to leaf brown, the general effect being antique.

The constructional features, such as the vaulted ceiling at the rear, and the piers, are in Caen stone. The piers and the walls have a quarter-cut oak dado, antique in color, but not too dark. The plaster walls are sand finished, toned with oil stains. The ceiling of oak finished beams is frankly constructional in appearance; stone corbels receiving the main beams. Leaded glass windows of heraldic character, electric fixtures of wrought iron treated with polychrome coloring, shield shape ventilator grilles, treated heraldically in color, all combine to maintain the spirit of the "Moyen-Age." The chimney piece is the main feature of the room, and has an interesting use of "Scotch scenes" or fire bricks arranged in patterns that show a reasonable use of the material. The massive carved lintel is supported by sandstone from near Winnipeg, showing a small fossil formation and a warm buff color. The coat of arms over the shelf is in stone, decorated in tempera color, and metals.



THE DINING ROOM, HOTEL PALLISER, CALGARY, ALTA.

SITTING ROOM, FIRST FLOOR, NEAR THE BALL ROOM, HOTEL PALLISER, CALGARY, ALTA.

The barroom, forty feet by fifty-seven feet, is also quite Mediæval in its appearance. The walls are of sanded and stained plaster, with a dado of oak; the piers of sandstone to dado height. The beamed ceiling, supported by arches, is rather unusual, but not an innovation. The treatment of the bays at the bar counter wall is frankly different from the "sitting out" portion, where tables and chairs are invitingly arranged. The large panels, over the rear bar, are destined to receive painted decorations, but now that Alberta has gone dry, it is difficult to prophesy. The floor is similar to that in the cafe.

The kitchen in the rear of the ground floor, between the cafe and dining room, contains the most modern equipment available, and, owing to its position, quick, efficient service is possible. A mezzanine story contains a staff dining room, and extends over a portion of the kitchen.

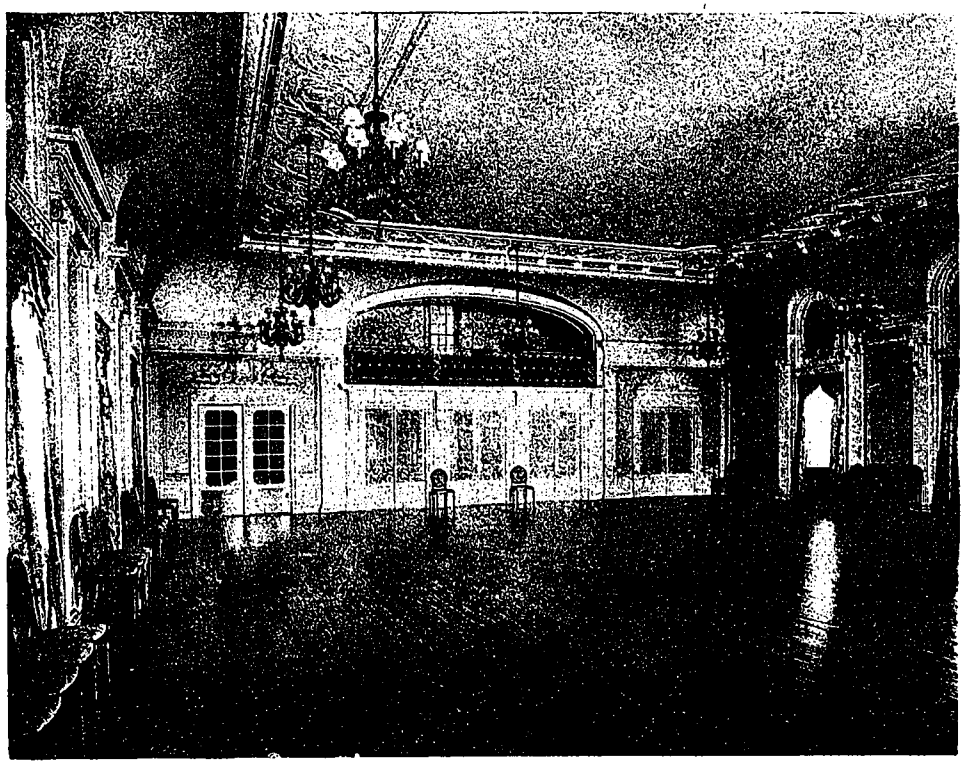
In the basement is the refrigeration plant for cooling the drinking water and making ice; the ventilating machinery that takes care of the main rooms, supplying fresh washed and filtered air and exhausting the foul air; and a large storage tank for water (placed just outside the building to the east).

The power plant that takes care of the station, laundry building and hotel, is situated across the tracks, and is connected with the hotel by a tunnel.

The bakery is in the rear of the basement, also the stewards' department, with store room.

The station connects with the hotel by means of a large tunnel, thus permitting guests' luggage to be handled expeditiously and conveniently. The bar cellar and wine storage room are under the bar towards the centre of the building. The barber shop, accessible from the street as well as from the main corridor, is under the barroom. It has terrazzo floors, tile walls, and bath and dressing rooms adjoining. A large men's toilet room, adjoining the staircase from the ground floor hall, contains urinals and wash basins, the water closets being in a separate adjoining room.

To the north and west are a series of sample rooms, well lighted from areas on the street



THE BALL ROOM, LOOKING TOWARDS THE ENTRANCE, HOTEL PALLISER, CALGARY, ALTA.

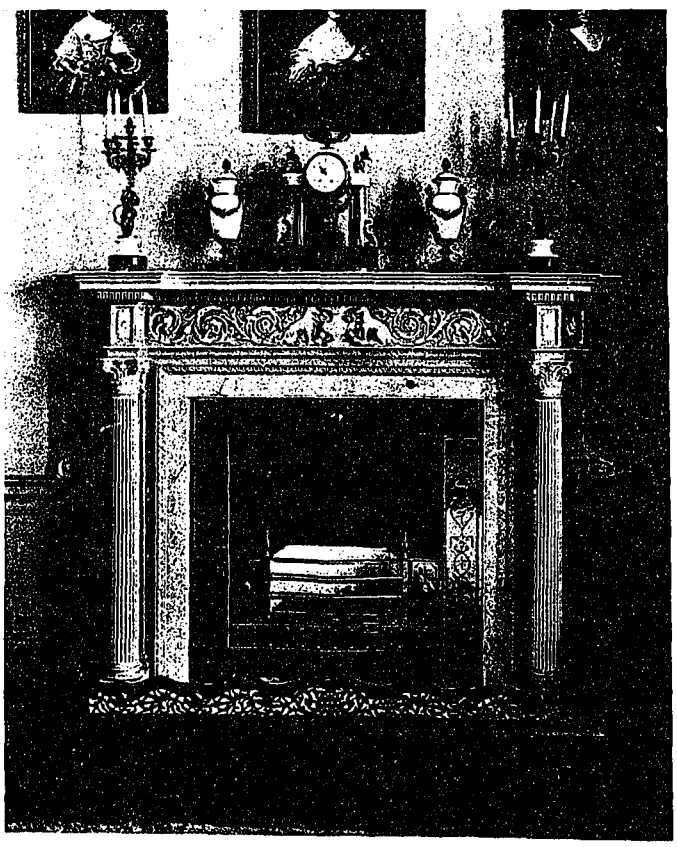
fronts, and in the rear under the dining room, are locker and recreation rooms, as well as lavatories provided for male and female help.

The first floor has thirty-four bedrooms, and, in addition, a suite of rooms devoted to entertaining, the main feature being the ballroom, forty-eight feet by sixty feet, directly over the entrance hall. This room is, on occasions, used for large banquets. Serving rooms with electric dumb waiters and service elevator adjoin it, and near by, are several private dining rooms.

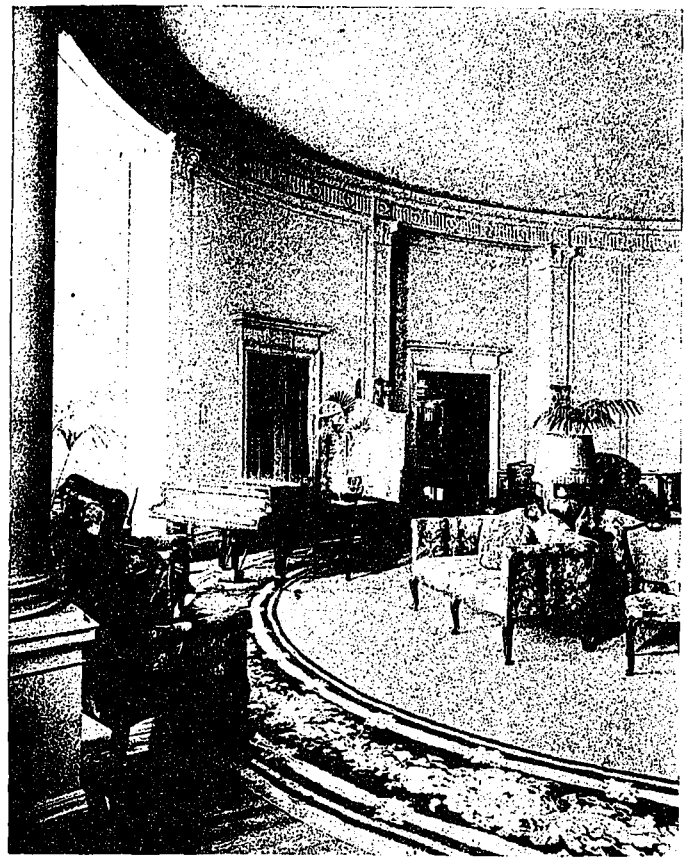
The ballroom extends through two stories, and has a musicians' gallery over the entrance. The treatment of walls and ceiling is in tones of white paint. The walls have a pilaster treatment with a large coved ceiling over the entablature. The oval panels over the windows are destined to receive painted decorations in the Louis XVI. style to conform with the rest of the room.

Adjoining the ballroom are a series of ante rooms, sitting out rooms, and a large foyer, which is between the elevators and the ballroom. The electric fixtures in this room, and the rooms so far described, call for special mention, and were made by The E. F. Caldwell Co.

The typical floor plan of the hotel shows four Otis Fensom elevators centrally located. The bedrooms are disposed in the rear portion and the three projecting wings. An abundance of air is available for the bedrooms and bathrooms, which, in all cases, have windows opening on to street fronts or courts, which are forty-four feet wide. All staircases are enclosed



THE DRAWING ROOM MANTEL, HOTEL PALLISER, CALGARY, ALTA.



THE DRAWING ROOM, HOTEL PALLISER, CALGARY, ALTA.

by wired glass doors, and interior fire escape staircases exist in each wing, as well as in the main portion.

There are three hundred and fifteen guests' bedrooms in the hotel. This includes sitting rooms, which can be used, if desired, as bedrooms. There are two hundred and forty-nine guests' bathrooms. The rooms have table lamps and telephones on the bedside tables; two lights for the bureau; a light over the bathroom door (which has a large mirror), and wall brackets where necessary. The bathrooms have tiled walls, vitreous tile floors, recessed mirror-doored medicine cabinets, solid porcelain basins and bathtubs, and a window in each room. The pipes are in ducts accessible at each floor. Ice cold drinking water is supplied to each basin.

Electric "maid-signal" devices are installed, indicating by a lighted electric lamp over the door the room in which the maid is at work, and indicating also in the office of the hotel. In addition to the guests' telephones, there is a private interphone system for the use of the hotel staff.

On the top floor in the east wing, there are six bedrooms for the chef and other male help, and ten rooms for the housekeeper and female help, the latter being disposed in large rooms that accommodate as many as six beds.

On the roof there is a sun parlor, thirty feet by sixty-seven feet, reached by a staircase and the elevators. Adjoining is a well equipped service room, from which, refreshments of the

GENERAL VIEW OF GENTLEMEN'S CAFE, HOTEL PALLISER, CALGARY, ALTA.

lighter variety are dispensed. A portion of the roof forms a terrace, where tables and palms add to the invitingness of an unsurpassed view of the distant Rocky Mountains.

The columns and beams of the hotel are of steel, the floor construction of concrete, and the partition work of plaster blocks. The exterior for a height of two stories is of Indiana limestone, then large sized Columbus brick to match the stone for six stories, finished with a cornice of metal, which will be removed when the five stories are added, which the steel frame is designed to carry.

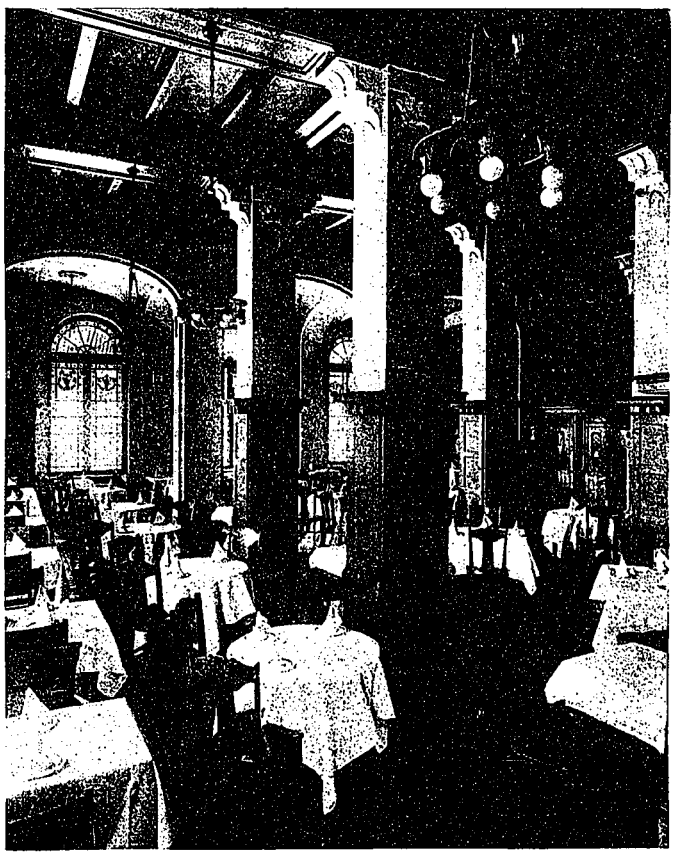
The pergolas on the front are entered from the ballroom, and are of wood. Flower boxes are provided, the intention being to grow vines over the roof beams, and flowers in the boxes.

The contractors were Peter Lyall & Sons Construction Company, and their work has been well executed.

Excessive Water Consumption

The excessive water consumption in Canadian cities constitutes a very serious problem. The average daily consumption in the Dominion is one hundred and eleven gallons per capita; in individual provinces it reaches as high as one hundred and forty-three gallons per capita, and in certain centres of fairly large size attains a maximum of two hundred and ninety-two gallons. There is no doubt that these figures can easily be lowered. The consumption in Great Britain is below twenty-five gallons in several cases, and the highest rate is only seventy gallons per capita.

That the more extensive use of meters would remedy conditions to a great extent is shown by two of our prairie provinces, Manitoba and Saskatchewan, where meters are more widely used than elsewhere, and where the average consumption falls to fifty gallons and fifty-five gallons, respectively—less than half the average for the remaining provinces. Nor would the introduction of meters mean an increased cost to consumers. The average estimated cost of water for Canada is ten and nine-tenths cents per thousand gallons, the only provinces materially exceeding this being the two prairie provinces, where meter rates have already been widely adopted. The rates charged on the meter basis could be adjusted to meet different local conditions, so that the amount paid by each consumer would be practically the same as at present, but all wastes would be avoided. Many Canadian municipalities have both flat and meter rates in force, the consumer having the choice between the two, but as a rule the meter rates are so ridiculously high for the average consumer that there is in reality no choice. For instance, although the estimated cost for Canada is ten and nine-tenths cents per thousand gallons, numerous cities and towns charge thirty cents and over, with several charging even over one dollar per thousand gallons. Our excessive consumption is not due to the liberal and beneficial use of water, but to the careless waste by a few consumers in each community. Meters will not effect former but will effectively check the latter.



VIEW IN THE CAFE, HOTEL PALLISER, CALGARY, ALTA.

CONSTRUCTION

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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 returned.

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FRASER S. KEITH - - - EDITOR AND MANAGER

Vol. IX Toronto, November, 1916 No. 11

Definite Specifying

Commenting on the custom of many architects avoiding making a definite specification the literature of one manufacturer dealing with this subject is enlightening. He evidently feels very strongly, as the following comments show: "The man who, desiring one article, device or equipment will placidly accept something else, is not an admirable or dignified figure. Knowledge he may have and discrimination, but his lack of courage stamps him as a spineless creature unworthy of responsibility, too weak to back his judgment with insistence—a mere temporizer with conditions—devoid of confidence in himself, and, therefore, undeserving of the confidence of others." . . "Two of the greatest things to be accomplished in the building world are the elimination of substitution and the creation of an overpowering insistence upon conformity with specifications." . . . "To every act of substitution there are two parties, the one who offers the substitution and the one who accepts it; and so long as there are those who will invite and accept substitutions, so long will there be those who will offer them. The prime responsibility for correcting this evil lies, then, with those who are primarily responsible for its existence. And in the building world these are the architects who will not write a definite specification and then stand back of it." . . "Why does any manufacturer put on the market a cut-price article? Granting him what you will of humanitarian motive, he certainly does not intend to lose money, or to earn any less profit per dollar of investment than his higher-priced competitor. His primary object is to divert into his own pocket profits that are going to his competitor."

The above opinion is doubtless shared by a great majority of reputable manufacturers, who are as a class advocates of a definite specification. There is no reason to believe that reputable manufacturers are given to taking advantage of a definite specification, while the loophole left where the words "or equal" are inserted often give rise to dispute, annoyance and dissatisfaction.

Generally speaking, there are distinct advantages to be gained by specifying definitely the material, equipment, or apparatus desired, and then insisting on having it unless there are good reasons why that particular article or material cannot be secured.

Educating The Public

Every architect will admit that there is much to be done in the way of educating, not only the general public, but all firms and persons interested in building operations, with a view of obtaining a greater appreciation of the work of architects, both as individuals and collectively. Too often, in fact invariably, when a building is erected the name of the architect is forgotten by those familiar with the building, or who have occasion to make use of it. The accepted reluctance on the part of architects to using any form of advertising when a building is under construction may be the underlying cause.

It is a notable fact that in newspaper descriptions of buildings, for instance, at the laying of a cornerstone, the architect's name is very often not mentioned. In such cases it is an illustration of self-effacement being carried to an extreme limit, mitigating against the profession generally. When one considers the amount of thought and training necessary for the creation of an important structure, it is hard to understand why the name of the man whose creative genius and inspiration have developed a monument of brick or stone, or concrete or other material, is not in some way indelibly connected with the structure. A brick or a stone or a small plate could be easily attached or made part of the building bearing the architect's name. Many architects would object to this suggestion, but it would help to eliminate to some extent the lack of due publicity current at present. Professional etiquette may require certain restrictions regarding publicity, but carried to an extreme it works an injury on the profession.

Every newspaper description of a building

should mention the architect, and every illustration of a new building should carry the architect's name underneath. A circular from the Royal Institute of Canadian Architects to the editor of every publication in Canada would do much in this connection.

A suggestion which was carried out by the Iowa Chapter of the American Institute of Architects was the issuing of a circular for free distribution amongst those interested in building operations. It contains a brief outline of the vital elements in connection with building activities. It explains the architect's function and status of a professional man, and the consideration which should influence the owner in the selection of an architect. In such a circular advice should be given regarding the treatment clients should accord their architects, which could be done in a way towards influencing the owners against interference or the general tendency of making too many suggestions, aptly described in the following lines by J. G. Holland:

"Can you tell me why
Men with a taste for art in finest forms
Cherish the fancy that they may become,
Of art, art's masters? You shall see a man
Who never drew a line nor struck an arc
Direct an architect, and spoil his work,
Because, forsooth! he likes a tasteful house!
He likes a muffin, but he does not go
Into his kitchen to instruct his cook;
Nay, that were insult. He admires fine clothes,
But trusts his tailor. Only in those arts
Which issue from creative potencies
Does his conceit engage him."

To improve the conditions under which the architect works, and to establish a proper appreciation of the profession by public enlightenment and the method of doing so, or the procedure to be adopted, rests largely with the architects themselves. There is much that can, and should be done, in this direction.

Assisting The Returned Soldier

An appeal issued by Mr. A. R. Doble, President of the Khaki League of Canada, on behalf of returned soldiers, strikes a note that will find a sympathetic chord in the heart of every Canadian. The men who have fought, and are fighting our battles, deserve consideration to a superlative degree at the hands of those who did not go to the front. A debt is due them that money cannot pay, but that can be met in part by a due appreciation and a proper attitude towards them for their gallantry and self-sacrifice.

When you see in the papers that any of the boys are returning to your neighborhood, reads the appeal, get together with a few of your neighbors and give them a hearty reception. Don't treat them to alcoholic refreshments. Many of the men are not in normal state, owing to what they have been through. While, under ordinary circumstances, a drink might do them no harm, under present conditions it might be a very bad thing for them. You will not wish to do an injury to those who have endured so much for you. Find out what jobs are vacant in your community. Make it a matter of pride for employers to give the first chance to a returned soldier. Encourage the men to get back to work. Loafing is bad for them, as it is for any of us. If you are an employer, give the returned soldiers a fair show. It may take a little time for them to get their bearings. Have patience with them, and encourage them—they have suffered so much for you. Be in a position to advise the returned soldier where to go in case of need. If you see one in any difficulty, try to help him out, or go with him where he can get proper attention. Help the men who have helped you.

Competition Re-Opened

The Australian Government has announced the resumption of the International architectural competition for the purpose of selecting the architect for the Parliament House and possibly incidentally an additional architect for other Government structures of the new federal capital city, Canberra. Only tentative outline sketch designs for the buildings are requested, and eight prizes are offered, aggregating £6,000, the first being £2,000, in addition to commission for service at the scale of the Royal Institute of British Architects. The designs may be submitted in either Melbourne or London by January 31, and will be judged by the following jury of architects, whose decision will be final: Messrs. George T. Poole (of Australia), Sir John J. Burnet (of London), Victor Laloux (of Paris), Louis H. Sullivan (of Chicago), and Eliel Saarinen (of Russia). The programme will be issued to any practising architect on application to the High Commissioner for Australia, 72 Victoria street, Westminster, London, or to the Works' Departments respectively of the British Dominions, or to the British Embassies at Madrid, Paris, Rome, Petrograd, Stockholm, or Washington, from which foreign offices, as well as the High Commissioner, supplemental texts in French or Esperanto may also be obtained when prepared.

The Australian Government has been freely criticized by members of the Royal Institute of British Architects for re-opening the competition during the period of the war. It is claimed that owing to the large number of architects being deprived of entering the competition since they are serving their country, it would be only fair to delay until the conclusion of the war, when an equal opportunity would be afforded to all.

Modern Practice in The Design of Bank Vaults

The Requirements of Small Banks.

No single problem in the entire field of vault design is more difficult of satisfactory solution than that of the country bank vault. The attempted answers, as evidenced by work installed, run from no vault at all, or merely a safe and too frequently a poor one at that, to vault construction so expensive as to appear unwarranted.

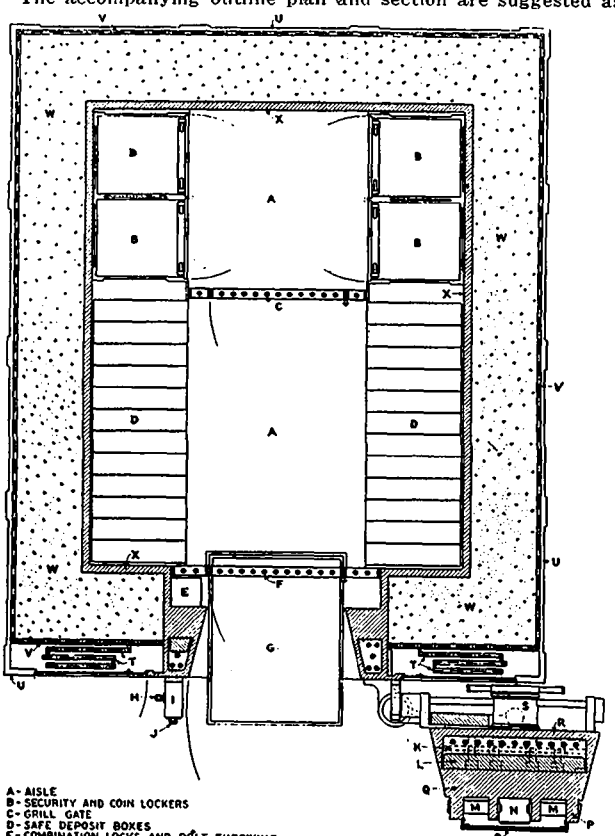
How much money a bank in the country or in a small city is justified in spending for the protection of such of its funds and securities, and the collateral of its customers, as it must keep on the premises, and how this expense should be distributed, is the question. This can only be settled after a careful consideration of many factors, including the character of the bank building, its immediate environment, the size of the town or city, character of the community, possibility of burglary or mob attack, and other similar conditions, a comprehensive digest of which will decide whether the outfit should include a vault, a safe, electric protection, watchman or burglar insurance, or all, and what should be the proportionate cost of each.

Many institutions depend almost wholly upon burglar insurance, many others upon insurance plus electric protection, the addition of which materially reduces the insurance premium. Others add a fairly good safe, although of course all have some sort of enclosed storage space usually dignified by that name, which is often a misnomer. The good safe still further cuts the insurance rate. A majority of country banks, however, have vaults varying in strength from an ordinary brick enclosure without a lining, and fitted with the cheapest kind of so-called fireproof doors, up to really good construction.

A practice unfortunately becoming too common is the use of showy bolt work, crane hinges, and pressure mechanism set upon ordinary cement filled, fireproof doors to produce the impression that such doors are really burglar proof. The public has no way of judging the strength of any safe or vault except by its outward appearance, and it is questionable advertising to dress a fireproof vault to appear as one of burglar proof construction.

Unfortunately for the peace of mind of the banker, who must limit his expenditure for safe and vault construction, the element of resistance against which he must build is identical with that which menaces the urban banker; for fire burns as hotly in the country as it does in the city, and the expert burglar will not confine his attentions to the largest banks. The same appliances and the same skill in their use may be brought to bear equally in any part of the country, and while the amount of moneys carried by the smaller and more remote institutions is not so attractive as that carried in the great vaults of the cities, yet the opportunities for attack and successful get-away are far greater, and this condition should not be lost sight of.

The accompanying outline plan and section are suggested as representing a good type of fairly low cost, effective construction. The metal lining should be approximately two inches in thickness, built up of layers of various materials combining qualities resistant to shock, tearing effects of explosives and tools, cutting and drilling instruments, and to the oxy-acetylene cutter-burner. This lining should be surrounded, without air space, by a rod or rail reinforced concrete wall poured monolithically. This wall, in turn, should be covered on all six sides with the panels of an electric protection equipment, either central office or isolated alarm system, this in turn protected by an exterior finish, either of steel panels, marble, removable plaster sections, or wood, as may be determined by the architect.

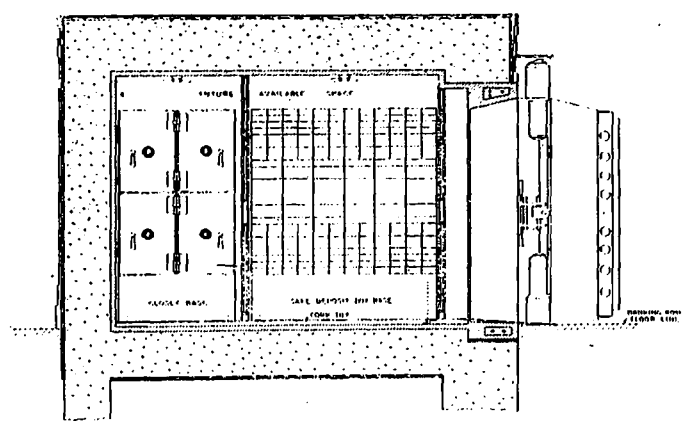


Plan of Typical Bank Vault of Effective Construction and Moderate Cost

The entrance should be protected by a single straight flange door approximately eighteen inches in thickness, having carefully ground joints and built up of composite construction, including a face casting carrying reinforced concrete and anti-cutter-burner section, and inner sections corresponding in principle to the general make-up of the lining, but very much heavier. These thicknesses may be reduced if the cost is prohibitive, although such a reduction is not desirable.

The vault should be set in such position as to permit free observation of all sides, top and bottom, and also to provide access to the electric protection panel work for inspection or repairs. An open foundation is the best, although, because of the difficulty of successfully attacking a vault from the bottom, the use of an enclosed foundation as a fireproof vault is not particularly objectionable.

Fireproof vaults are frequently built alongside of and abutting security vaults, which is unwise practice because of the ease with which the fireproof vault may be entered and the cover afforded for burglarious operations. Lowering platforms



Longitudinal Section through Typical Bank Vault

or tilting floor sections are not necessary if the splay of the bottom jamb is reduced to a minimum in which case an incline foot-plate may be installed even where trucks are to be rolled into the vaults, as the rise need not be more than two inches in two feet. The floor in front of the vault at the front edge of the foot-plate should be recessed to permit the plate to sink in flush. A substantial day gate is always desirable, which should be provided with a latch lock to be opened with a key from either side. The use of an inside knob for unlocking robs the gate of practically all of its security.

The accompanying drawings show an installation of safe deposit boxes in addition to the bank's lockers, and this practice cannot be too highly recommended. The revenue from even a small lot of boxes goes far toward paying the interest upon the cost of the vault. In addition to the convenience afforded the bank's customers and the advertising secured by bringing the vault work to the attention of the public, it is also a valuable factor in establishing closer relations between the bank and its customers.

The safe deposit boxes should be ample in size and the unit width should be not less than five and a half inches. This provides a double unit box of sufficient width to store securities laid crosswise, and the recently adopted outside depth of twenty-six inches—two inches greater than the older standard—is appreciated by box renters as it provides room for two lengths of securities in the tin box with a space in front for jewelry, etc.

It is a mistake to economize in connection with the safe deposit boxes by using cheap key locks. The lock has always been the weakest point in the safe deposit business, and the highest grade of interchangeable key locks should be selected mainly for their intrinsic value and partly for the advertising which they furnish.

It is customary to divide by grille work the sections of the vault which are used by the public and by the bank, and this is always to be advised. The construction of the bank lockers as shown is an improvement over the older designs in that the door opening is the full size of the interior of the locker, there being no return angle frames. This is not only a matter of convenience where loose storage is concerned, but permits the use of the entire closet where filing devices are used.

Small vaults are seldom provided with electric call buttons, but their use is recommended for obvious reasons. Floor tile of any character can be used, but cork has proven particularly satisfactory except for very large, public vaults where a more dignified material is to be preferred.

Electric protection has been mentioned, and is shown on the drawing as a part of the equipment. In explanation it may be stated positively that no vault can be built to-day, at a cost not prohibitive to the country bank, which will withstand an up-to-date burglarious attack of a day's duration. Consequently, some dependence must be placed upon other factors, and electric protection is one.

There are several different systems in operation, not all of equal value, and expert and unbiased opinion should be had

before making a selection. These statements must not be taken as a corroboration of the position so frequently advocated by salesmen of electric protection outfits, that a protective installation in connection with fireproof walls is all that is really necessary. All arguments in support of such a stand are fallacious, although often accepted by banks, as is evidenced by the existing great number of protected fireproof vaults used for bank and safe deposit purposes. In the last analysis, electric protection means simply a watchman, and full reliance must not be placed upon it. All banks should have some form of mechanical and structural protection. Electric protection is by no means infallible, although it is generally so represented. It has weak points like other human productions. Even if it were perfect, there is naturally nothing about it which provides a physical stop to a burglar or mob, and it would be quite practicable in many cases to ignore this protection, enter the vault, and make a get-away before the watchmen or public summoned by the alarm could interfere, to say nothing of the often proved possibility of standing off such interference with firearms and so extending the time for operating.

Electric protection performs one service, however, that makes it a necessary adjunct even to the very strongest vaults. It effectually protects against the unauthorized entering of the vault, out of business hours, by the officers or employees of the bank who may know the combinations of the locks and be in a position to trick the time locks or to see that they are not wound or are underwound at closing time, and, indeed, that is the only reason why it is in use on many of the heaviest vaults in the country—vaults that are more than burglar proof, that were built to resist organized mobs with all the machinery that they could command.

Lighting the vault would seem a simple matter, and one that would ordinarily call for no special thought, but, as with most similar subjects, there are right and wrong ways. The location of the lighting fixtures should be studied with reference to the interior equipment, especially if filing devices are to be used. They should usually be of low design, to lie close to the ceiling and permit the locker doors to be as high as possible and clear the fixtures in their swing; also to allow safe deposit boxes to run as near to the ceiling as practicable. Vault space is valuable, even that near the top which should be made conveniently available. It goes without saying that the light should be plentiful, soft, and evenly distributed. Where more than one circuit is used, fixtures should be so wired that the blowing of a fuse would not put out all of the lights in any fixture. If the vault is large or more than one story in height, and this statement refers to large fireproof as well as to security vaults, continuous burning night-lights are necessary to permit any one accidentally locked in to find the telephone and to assist those outside in effecting his release. It is sometimes desirable to install a low tension system of lighting, which would automatically be thrown on if the high tension system should be put out of commission, so that the vault would at no time be dark. The common method of carrying the current into the vault by means of a flexible cord with plug connection is not to be recommended; it is inconvenient, the door is often closed upon the cord and a fuse is blown, a delay is generally experienced in getting new cords, and it is a positive source of danger in connection with a large safe deposit vault where unauthorized interference would put the vault in darkness.

Properly installed and permanently located, lead covered wires may be built through the vault construction from the bottom upward without affecting its security. A switch may be located at a convenient point on the front of the vestibule; if the vault is large, this should be a momentary contact button with a pilot light, the button actuating an automatic switch.

Too frequently an architect is so limited by the bank's appropriation for the building that work even approximating the character above indicated is out of the question and he is constrained to build a fireproof vault and allow the bank to buy a so-called burglar-proof safe and place it inside the vault. This is quite common practice, but it cannot be too strongly condemned. No safe that would be purchased under such conditions is sufficiently strong to withstand burglarious attack for any considerable length of time, and to enclose it in a fireproof vault is simply to furnish protection to the burglar while he operates, not only giving him a concealed space, but also providing an effectual noise-proof chamber, which will eliminate, or at least deaden, the sound of explosions.

It is preferable to use a burglar-resisting safe, enclosed in a heavy, fireproof covering, and located in such a position as to be seen conveniently from the street. This safe should be set up from the floor so that the watchmen, police, and public could see under it, and mirrors should be provided and so arranged that the sides, back, and top can also be readily observed. This in conjunction with proper lighting effects and an electric protection cabinet is inexpensive and effective.

Some banks in carrying out this scheme have gone so far as to place their safe in the front window close to the sidewalk, and as even the ordinary safe requires an appreciable amount of time for a successful attack, the chances for detection are so great as to act as a deterrent, if not an actual guarantee, against any attempt.

Architects should caution their clients, however, against purchasing the ordinary commercial safe if it is to be used for protecting any large amount of money or securities, and should recommend one specially built upon plans drawn by a competent and unprejudiced designer in the interest of the bank.

A word regarding fireproof vaults. These are too frequently built of walls so thin that they will not withstand shock of falling bodies, although they may be fully fireproof aside from this factor. Walls of hard burned brick set in rich cement mortar are satisfactory provided, of course, that the roof supporting beams are fully protected. Concrete, either with or without reinforcement, except that the top should always be strengthened, are more common and are to be depended upon.

A wide choice is to be had from manufacturers' designs in the selection of doors. Where the fire risk is slight, outside single and inside folding doors of thin construction may serve; but if there is a possibility of any considerable fire, they should not be depended upon. A cement filled door, six or eight inches in thickness, should be used. Such doors have the advantage of requiring no inside doors and so conserve both space and convenience. Furthermore, if the vault is located in the basement and there is a water risk, door frames may be grouted solidly to the vault walls and the door joints packed with compressible waterproof packing, against which the door can be forced with a pressure handle; this will provide a waterproof vault, a quality which is lacking in the great majority of fireproof vaults.

The largest and strongest vaults in the United States and Canada have been built from engineers' designs, while comparatively few of the smaller vaults have received such specialized attention, though every argument favoring the employment of an engineer upon heavy work is equally potent where lighter construction is considered. Indeed, where the expense is to be kept to a minimum such service is even more necessary, as every dollar should be made to yield its utmost in the way of security, and this can only be accomplished when a full and complete knowledge of the subject forms the working basis.

In view of the splendid showing of good design and strict economy that has been made under such conditions within the last few years, the architect who insists upon specialized advice and acquaints himself with the merit of real vault construction, and as far as practicable with its details, makes no mistake. —Frederick S. Holmes, in "The Brickbuilder."

CONTRACTORS START WORK ON NICKEL PLANT.

Work has now commenced on the new nickel plant for the International Nickel Company. The Foundation Company, Ltd., of Montreal, have the general contract, and will probably supervise all the work for the various trades. It is estimated that approximately $5,000,000 will be spent on the erection of this plant. It was not until the latter part of August that the public was aware of the location of this new industry. The contractors are now advertising extensively for laborers, and it is expected that a good start will be made before winter sets in.

BUILDING RECORD BEATS ALL YEARS.

According to the figures handed out by City Engineer Brian, of Windsor, more building was done in the past ten months than any one year in the history of Windsor. The figures for the month of October are: Seventy-one permits, totalling $162,300, as compared with 19 permits, totalling $41,080 for October last year, or an increase of 295 per cent. over last year. The best year in the history of Windsor was in 1913, when permits totalled $1,149,000, but the total for the past ten months is $1,250,880, and beats these figures by $101,880. The total for the first ten months of last year was $436,315, an increase for this year of $814,566. The largest permit issued so far this year was for the Windsor Collegiate Institute, $168,000.

NEW HOTEL WILL BE BUILT.

Recent reports confirm the information given in these columns two months ago concerning the new $2,000,000 hotel to be erected on the site of the Yonge Street Arcade, Toronto. This hotel will form a link in the chain of hotels extending over the United States from coast to coast, and controlled and operated by the United Hotels Co. Frank A. Dudley, Niagara Falls, N.Y., is the president. We understand that Geo. B. Post & Sons, architects, of New York City, have been retained to prepare plans for this new hotel, which will have six hundred guest rooms with baths. The new hotel, both as regards design and equipment, will be thoroughly modern and planned from experience derived in the erection of America's leading hotels. The site is owned by the Dovercourt Land, Building and Savings Co., Ltd., of Toronto, of which Col. W. S. Dinnick is the president.

NEW GARAGES FOR WINNIPEG.

Winnipeg is fast becoming an automobile centre. Last month work was started on two new garages, one on Portage avenue for the Breen Motor Company, opposite the Boyd Building, which is expected to cost about $35,000, and the other for the Willys-Overland Company, at the southwest corner of Portage avenue and Maryland, which is expected to cost about $75,000. Both will be modern fireproof structures. The Willys-Overland garage will be reinforced concrete and brick. The Sutherland Construction Company, a local firm, will do the work, and it will be completed in about two months' time. The garage for the Breen Motor Company was designed by Arthur E. Cubbidge. The front will be built of Missiquoi light grey marble, with verde antique marble base and trimmings. The interior will be finished with mahogany trim, maple floors and sand-finished walls in a light grey color. These handsome structures will be an addition to Portage avenue.

BIG BOOM IN OTTAWA.

Despite the high cost of material and labor, building operations will be commenced in many directions this fall in Ottawa at an expenditure of about $500,000. A four-storey brick building, suitable for manufacturing purposes, will be built on the site of the old Ferguson property, Albert street, where once the Grand Opera House stood. An apartment house will be erected at the corner of Laurier and Bank, to cost $30,000.

The International Motor Company will enlarge their building at a cost of $20,000. The Holland Chambers will be changed into an apartment house by the mortgagee at a cost of $20,000. It is rumored that Hugh Carson intends to build a large factory with an outlay in the neighborhood of $60,000. The C. H. Cochrane Company, spice manufacturers, have purchased a site on Breeze Hill avenue, and will erect a building to cost about $20,000. The owners of property at 334 Laurier avenue, which was recently damaged by fire, will change the building into apartments at a cost of about $15,000. Donald Fraser will erect an apartment house at 165 and 167 Laurier avenue, which is expected to cost about $20,000. The Rolla L. Crain Co. will erect a large factory, costing about $25,000 or more. The Bayswater Knights of Columbus will build on Spadina avenue. This building will be up-to-date in every particular, and is expected to cost about $40,000. McKenzie Bros., undertakers, are building an addition to their parlors at a cost of about $15,000. The Beach Motor Company has selected a site and will erect a garage to cost about $30,000.

The Haynes Motor Company, of Albert street, will also erect a building devoted to the assembling of cars. The total cost will be around $40,000.

A new public school is now in course of erection in Overbrook, at the corner of King Edward avenue and Quill street. It will be finished by January 1st, and will cost $8,000.

CONSTRUCTION NEWS

Information of Special Interest to Architects Contractors, and Manufacturers.
Construction Building Reports will Give You Up-to-date Information Every Day on all New Buildings About to be Erected or in Course of Erection.

BUSINESS BUILDINGS.

CHATHAM, ONT.—The Dominion Sugar Co., Ltd., will erect an office building in connection with their $1,000,000 plant.

CREIGHTON, ONT.—The Canadian Copper Co., Copper Cliff, Ont., are erecting an office building, to cost $75,000.

DUNDAS, ONT.—E. G. M. Cape & Co., Ltd., 10 Cathcart street, Montreal, have been awarded the contract for the erection of an office building and factory, to cost $30,000.

HAGERSVILLE, ONT.—Architect Gordon Hutton, Bank of Hamilton Building, has prepared plans for a bank for the Bank of Hamilton, to cost $10,000.

HAMILTON, ONT.—Architects Prack and Perrine, Lumsden Building, Toronto, are preparing plans for an office building for the Canadian Westinghouse Co., Ltd., to cost $150,000.

NIAGARA FALLS, ONT.—Work has started on a bank building for the Royal Bank of Canada, to cost $40,000; C. M. Borter, Main street, is the architect.

OTTAWA, ONT.—MacKenzie Bros., 511 Bank street, have started work on an office building, to cost $15,000.

OTTAWA, ONT.—W. G. Adamson, 126 Sparks street, is erecting a business block at the corner of Bank and Laurier streets, to cost $65,000.

PORT ARTHUR, ONT.—Edwin G. Penniman, Graham and Horne block, has been awarded the contract for the erection of a business block, to cost $80,000.

TORONTO, ONT.—Architect J. M. Lyle, 19 Avondale road, has prepared plans for an office building, to cost $7,000; Jackson-Lewis, Bell Telephone Building, have been awarded the contract.

TORONTO, ONT.—Work has been started on an office building for the Brown Brass and Copper Rolling Mills at New Toronto, which is to cost $40,000; Henry Simpson, 79 Spadina avenue, is the architect.

VANCOUVER, B.C.—The Royal Bank of Canada have received a permit for alterations to the old Boulder Hotel on Cordova street, which is to be made into a branch bank, the cost will be $10,000. The Bell Telephone Co. will erect an exchange on Clarke street.

WALKERVILLE, ONT.—The Bell Telephone Co., Montreal, has prepared plans for a telephone exchange, to cost $20,000.

WINDSOR, ONT.—Architects Walker and McPhail, Tuson Building, have prepared plans for a power and office building, to cost $100,000. The Bell Telephone Co., Montreal, are erecting a telephone exchange on Goyeau street, to cost $18,000; W. Carmichael is the architect.

CIVIL ENGINEERING.

MONTREAL, QUE.—T. O. Sullivan has been awarded the contract for the erection of a bridge over the aqueduct canal at Lasalle road.

OTTAWA, ONT.—R C. Desrochers, secretary of public works, has received tenders for the erection of a steel bridge (two spans) over sluice ways in St. Charles River, at Quebec, P.Q.

SAULT STE. MARIE, ONT.—The new Ontario Dock Bridge at Sault Ste. Marie, was blown down, value $50.000.

SWAN RIVER, MAN.—Joseph Armstrong, secretary-treasurer of the rural municipality of Swan River, has received tenders for the erection and completion of a steel bridge with concrete abutments, over the Rolling River.

WOODSTOCK, ONT.—Wm. Forbes, county superintendent, has received tenders for the erection of a steel bridge on the 16th line, one and a half miles north of Bond's Corners.

CLUBS, HOSPITALS, THEATRES AND HOTELS.

BYRON, ONT.—Architects Watt and Blackwell, Bank of Toronto Chambers, London, have prepared plans for an addition to the London Health Association's sanitorium at Byron, Ontario.

DELHI, Ont.—The Grand Trunk Railway, Montreal, has started work on a station building to cost $6,000.

GUELPH, ONT.—Architects Colvill Booth & Co., Union Bank Building, have prepared plans for theatre alterations to cost $10,000.

HAMILTON, ONT.—The city of Hamilton is buying $50,000 worth of hospital equipment.

HAMILTON, ONT.—Engineer E. R. Gray, City Hall, has prepared plans for an addition to the waterworks, to cost $400,000; also for the erection of a pump house, to cost $125,000.

INGERSOLL, ONT.—R. G. Wilson & Son, 193 College street, London, have been awarded the contract for the erection of an hospital addition to cost $10,000; W. G. Murray, Dominion Savings Building, London, is the architect.

KINGSTON, ONT.—Work has started on alterations to the Mowat Memorial Hospital, which will cost $10,000.

KITCHENER, ONT.—Work will commence in the spring on the erection of a new hospital on Queen's crescent to cost $60,000.

LONDON, ONT.—The London Health Association will prepare plans for an hospital to cost $50,000.

OAKVILLE, ONT.—Architect Wm. Connery, 72 Queen street west, announces that tenders are being taken at Oakville for the erection of a fire hall to cost $10,000.

PALMERSTON, ONT.—The Dominion Government, Ottawa, has received tenders for post office fittings.

PORT COLBORNE, ONT.—The Grand Trunk Railway Co., Montreal, will erect a station building to cost $15,000.

SAULT STE. MARIE, ONT.—L. R. Allcock, 169 Spring street, has been awarded the contract for the erection of a picture theatre to cost $20,000; T. R. Wilks, 612 Queen street east, is the architect.

STRATFORD, ONT.—The city of Stratford contemplate the erection of an hospital to cost $30,000.

TORONTO, ONT.—Baines & Peckover, 68 Esplanade street east, have been awarded the contract for the erection of a hydro sub-station to cost $75,000.

TORONTO, ONT.—The following sub-contracts have been awarded on the Union Station: Steel, Canadian Bridge Co., Ltd., Walkerville; iron bases, Canada Iron Foundries, St. Thomas; cut stone, Geo. Oakley & Son, Ltd., Toronto; mason and terra cotta, James A. Wickett, Ltd., Toronto; Guastavina work, R. Gaustavino Co., Boston, Mass.; drainage system, Bennett & Wright Co., Ltd., Toronto; concrete fireproofing, Crescent Concrete Paving Co., Toronto; hollow tile fireproofing, Dominion Fireproofing Co., Toronto; integral waterproofing, waterproofed with "Toxement" furnished by Dartnell, Ltd., Montreal; membrane waterproofing, Carmichael Waterproofing Co., Toronto. The Toronto Terminal Architects, 1 Belmont street, Montreal, Ross & MacDonald, Hugh G. Jones, John M. Lyle (associate), are the architects.

UNION-ON-LAKE, ONT.—Henry Foster, John street, Leamington, has been awarded the contract for the erection of an hospital for the Canadian Tubercular Society to cost $31,000; J. C. Pennington, La Belle Building, Windsor, is the architect.

VANCOUVER, B.C.—The Canadian Pacific Railway has prepared plans for a new clubhouse for the Shaughnessy Heights Golf House to cost $20,000.

WINDSOR, ONT.—Work has started on a club house on Gogeau street to cost $10,000; G. Jacques & Co., Windsor, are the architects.

FIRE LOSSES.

AYLMER, ONT.—The business buildings on Talbot street were destroyed by fire; loss $50,000.

CAMP BORDEN, ONT.—The mess room, reading room, kitchen, sleeping apartments and officers' bunk houses were destroyed by fire; loss $15.000.

KINGSTON, ONT.—George Boyd's garage was destroyed by fire; loss $10,000.

LINDSAY, ONT.—The Telephone Exchange of the Canadian Machine Telephone Co. was destroyed by fire; loss $26,000. The warehouse of Flavelles, Ltd., was destroyed by fire; loss $60,000.

LONDON, ONT.—W. A. Jenkins Mfg. Co.'s stock food plant was destroyed by fire; loss $30,000.

PORT STANLEY, ONT.—The warehouse of the Port Stanley Fish Company was destroyed by fire; loss $6,000.

SIDNEY TWP., ONT.—Frankford's cheese factory was destroyed by fire; loss $8,000.

ST. JOHN, N.B.—St. Stephen's lumber mill was destroyed by fire: loss $100,000.

TOFIELD, ALTA.—The Tofield public and high school was destroyed by fire: loss $9,000.

TORONTO, ONT.—The factory of the McAlpine Tobacco Co., 2 McAlpine avenue, was destroyed by fire; loss $5,500.

VANCOUVER, B.C.—J. M. Dale's store was destroyed by fire; loss $40,000.

VANCOUVER, B.C.—The business section of Port Hammond was destroyed by fire; loss $75,000.

VICTORIA, B.C.—The mill of the Victoria Shingle Co., David street, was destroyed by fire; loss $9,000.

WATERFORD, ONT.—The building of Col. I. E. York was destroyed by fire; loss $20,000.

WELLAND, ONT.—The machine shop, blacksmith shop and storehouse on Section 2 of the Welland Canal was destroyed by fire; loss $40,000.

MISCELLANEOUS.

BELLEVILLE, ONT.—Thomas Manley, Belleville, has been awarded the contract for the erection of a garage addition for The McLaughlin Carriage Co., Ltd., on Coleman street, to cost $6,000.

CAMBORO, ONT.—Judge Wolfe, New York City, will erect a compressor building to cost $40,000; E. F. Diener, Dunnville, Ont., is looking after the plans.

CONISTON, ONT.—The Canadian Asbestos Co., 44 Youville square, Montreal, have been awarded the contract for a new roof on the smelter of the Mond Nickel Co., Ltd., the cost will be $20,000.

CREIGHTON, ONT.—Work has started on a shaft house for the Canadian Copper Co., Copper Cliff, to cost $200,000.

DEAN LAKE, ONT.—The Sudbury Copper Co., Sudbury, Ontario, have prepared plans for an oil flotation mill, to cost $25,000.

ERINDALE, ONT.—S. Price & Sons, 255 Queen street east, contemplate the erection of a dairy building, to cost $5,000.

GOLDEN LAKE, ONT.—Work has started on the erection of a dam and dredge in the lake for the town of Renfrew; J. K. Rochester, mayor.

HARROW, ONT.—G. Howie, Harrow, Ont., has prepared plans for a stock barn to cost $5,000.

HAMILTON, ONT.—Architects Lindsay & Wardell, Federal Life Building, have prepared plans for steps and promenade in the Holy Sepulchre Cemetery, to cost $14,000.

HAMILTON, ONT.—Architect E. B. Patterson, 143 Wentworth street north, is preparing plans for a garage for Thomas Ramsay, 15 Market square, to cost $15,000.

HAMILTON, ONT.—W. R. Rollo, 13 Spring street, secretary of the Trades and Labor Council, announces that land has been purchased for a labor temple on Catharine street north, to cost $75,000.

HAMILTON, ONT.—E. R. Gray, City Engineer, has prepared plans for a military barracks on King street east, to cost $45,000; Kent, Garvin Co., 10 Catharine street, have been awarded the hardware contract; Patterson, Tilley Co., Brennen & Sons, Consumers Lumber Co., Cole Lumber Co., Barton Lumber Co., Alliance Lumber Co., and D. Atchinson Co., have been awarded the lumber contract. Architect E. R. Gray, City Engineer, has prepared plans for a pump house to cost $125,000. Albert A. Lees, 47½ Main street east, has prepared plans for a garage to cost $10,000.

KIRKLAND LAKE, ONT.—The Lake Shore Mines, Ltd., Kirkland Lake, have prepared plans for mining buildings to cost $150,000.

LONDON, ONT.—Hyatt Brothers, 288 Egerton street, have started work on The McLaughlin Co.'s garage and automobile show-rooms, which will cost $10,000.

NEW TORONTO, ONT.—The Brown Brass Rolling Mills are erecting a garage to cost $10,000; Henry Simpson, 79 Spadina avenue, is the architect.

NIAGARA FALLS SOUTH, ONT.—B. A. Cook, Ferry street, Niagara Falls South, has been awarded the contract for the erection of a laundry at 633 Ferry street. to cost $18,000.

OTTAWA, ONT.—The Beach Motor Co., 186 Albert street, Ottawa, contemplate the erection of a garage to cost $30,000. The Haynes Motor Co., Albert street, have prepared plans for an automobile factory to cost $50,000.

PARIS, ONT.—P. H. Secord & Sons, 133 Nelson street, Brantford, are erecting a dining room for Penmans, Ltd., to cost $6,000.

PORT COLBORNE, ONT.—The Dominion Bridge Co., Ltd., have been awarded the steel contract on the International Nickel Co.'s plant, which will cost $3,000,000.

FORT WILLIAM, ONT.—M. Sellers & Son, Fort William, will erect a grain elevator to cost $130,000.

SARNIA, ONT.—The Imperial Oil Co., Church and Court streets, Toronto, will erect an oil refinery to cost $200,000.

SUDBURY, ONT.—Work has started on James Burns' garage on Elgin street to cost $12,000.

TORONTO, ONT.—T. A. Rowan, 59 Victoria street, is excavating for a garage on Yonge street, near Bloor, to cost $8,000.

TORONTO, ONT.—Architect G. W. Gouinlock, Temple Building, has prepared plans for an addition to the betting sheds of the Ontario Jockey Club to cost $12,000. The Imperial Munitions Board, Lumsden Building, has prepared plans for a storage building to cost $6,000.

TORONTO, ONT.—Wm. Thompson, 62 Woodlawn avenue, has started work on his garage on Pears avenue to cost $13,000. A. W. & J. H. Shuter, 115 Davenport road, are erecting a garage to cost $6,000. Wells Brothers of Canada, Ltd., 96 Gould street, have been awarded the contract for the erection of waggon sheds and stables for the Robert Simpson Co., Ltd., to cost $75,000. Architect S. H. Penlington, 47 King street west, has prepared plans for a laundry boiler room and chimney for the Taber Laundry Co., to cost $6,000. Witchall & Son, 156 St. Helens avenue, have been awarded the mason contract for the art museum on the north-east corner of Grange and Beverly streets; Darling & Pearson, 2 Leader lane, are the architects. The Corrugated Bar Co., Buffalo, N.Y., have been awarded the reinforced steel contract, and Reid & Brown, 63 Esplanade street, have been awarded the structural steel contract for the Wm. Davies plant at the corner of Front and Cypress streets.

VANCOUVER, B.C.—MacDonald, Nettleton & Bruce, Vancouver, has been awarded the contract for the erection of freight sheds and office for the Canadian Northern Railway Co.; Messrs. Pratt & Ross, Vancouver, are the architects.

WELLAND, ONT.—Ryan & Gardner, Welland, have been awarded the contract for the erection of a garage and automobile warerooms to cost $10,000.

WINDSOR, ONT.—T. C. Ray, secretary of the Board of Trade, is preparing plans for a power building on McDougall avenue.

WINNIPEG, MAN.—R. D. Waugh, Chairman of Commissioners, 901 Boyd Building, has received tenders for the erection of a frame engine shed.

WINNIPEG, MAN.—Work has commenced on Breen Motor Company's garage on Portage avenue to cost $35,000. Work has commenced on Willys-Overland garage on Portage avenue to cost $60,000.

PLANTS, FACTORIES AND WAREHOUSES.

ACTON, ONT.—Architect J. M. Jeffery, 708 C.P.R. Building, Toronto, has prepared plans for a factory, to cost $15,000.

AMHERSTBURG, ONT.—The Salval Process Co., Syracuse, N.Y., contemplate the erection of a factory, to cost $60,000.

BRANTFORD, ONT.—A. J. Cromar, 448 Colborne street, has been awarded the contract for the erection of a factory, to cost $20,000.

BRANTFORD, ONT.—P. H. Secord & Sons, 133 Nelson street, have been awarded the contract for the erection of a warehouse addition, to cost $15,000.

DUNDAS, ONT.—E. G. M. Cape & Co., Ltd., 10 Cathcart street, Montreal, have been awarded the contract for the erection of a factory and office building, to cost $80,000.

FORD CITY, ONT.—Wells & Gray, Bank of Commerce Building, Windsor, are erecting a factory, to cost $100,000.

GALT, ONT.—P. H. Secord & Sons, Brantford, have been awarded the contract for the erection of a factory, to cost $15,000.

GALT, ONT.—Architect J. Evans, 30 North Water street, Galt, has prepared plans for a factory for the Galt Brass Co., to cost $50,000.

GALT, ONT.—P. H. Secord & Sons, 133 Nelson street, Brantford, have been awarded the contract for the erection of a factory on Water street north, to cost $15,000. The Dodge Metal Hose Co. of Canada, Ltd., have prepared plans for a factory on Beverley street, to cost $50,000.

HAMILTON, ONT.—Geo. E. Mills, 614 King street east, has been awarded the contract for the erection of a factory for the Chapman-Holton Co., May street, to cost $15,000.

HAMILTON, OST.—Architects McPhie & Kelly, Bank of Hamilton Building, have prepared plans for a factory and warehouse on Glendale avenue, to cost $15,000; Geo. E. Mills, King street east, has been awarded the contract.

HAMILTON, ONT.—Architects Prack & Perrine, Lumsden Building, Toronto, have revised plans for the Dominion Steel Castings factory on Depew street, to cost $75,000. The Acme Stamping and Tool Works, Sydney street, have called for tenders for the erection of a factory addition, to cost $15,000.

HAMILTON, ONT.—Architects Prack & Perrine, Lumsden Building, Toronto, have prepared plans for a factory on Depew street, to cost $75,000. H. G. Christman, Bank of Hamilton Building, has been awarded the contract for the erection of a storeroom on King William street, to cost $5,000. Geo. E. Mills, 641 King street east, has been awarded the contract for the erection of a factory on Glendale avenue, to cost $15,000; McPhee & Darling, Bank of Hamilton Building, are the architects. Architects Stewart & Witton, 7 Hughson street south, have prepared plans for a factory addition on Elgin street, to cost $10,000. Architects Prack & Perrine, Lumsden Building, Toronto, have prepared plans for a factory, to cost $200,000.

BELLEVILLE, ONT.—A. E. Allen, Bank of Commerce Chambers, has been awarded the contract for the erection of a factory to cost $15,000; J. W. Evans, 237 Bleecker street, is the architect.

HIGH FALLS, ONT.—Work has started on the Canadian Cooper Co.'s power house, to cost $100,000.

KITCHENER, ONT.—The Canadian Buffalo Forge Co., Ltd., have prepared plans for a factory in Woodside Park, to cost $100,000.

LONDON, ONT.—W. A. Jenkins, King and Ridout streets, will make repairs to their factory at a cost of $15,000.

LONDON, ONT.—The McClary Mfg. Co. are erecting a galvanizing plant, to cost $40,000; J. M. Moore, 415 Richmond street, is the architect; J. Moran & Sons, 927 Maitland street, has the contract.

LONDON, ONT.—Architect W. G. Murray, Dominion Savings Building, has prepared plans for a factory addition, to cost $6,000. J. Moran, 927 Maitland street, has been awarded the contract for the erection of a factory addition on King street, to cost $40,000; J. M. Moore, 415 Richmond street, is the architect. John Hayman & Son, 432 Wellington street, have been awarded the contract for erection of a factory addition, to cost $12,000.

NIAGARA FALLS, ONT.—The Nesbitt Billing Co. are preparing plans for a pickle factory, to cost $15,000. The Perfection Tire and Motor Co., Madison, Iowa, will erect a factory in Poplar Park, to cost $65,000.

OTTAWA, ONT.—J. F. Lozano & Co., international brokers, San Antonio, Texas, contemplate the erection of a factory, to cost $100,000.

PEMBROKE, ONT.—W. Markus Co., Ltd., Pembroke, have been awarded the contract for the erection of woollen mills for the Pembroke Woollen Mills Co., Ltd.

PORT ARTHUR, ONT.—A. G. McIntyre, World Building, New York City, is preparing plans for a pulp mill, to cost $1,000,000.

PORT COLBORNE, ONT.—The Foundation Co., Ltd., 224 St. James street, Montreal, have commenced work on a nickel plant on the lake front, to cost $3,000,000.

ST. THOMAS, ONT.—The Canadian Woodenware Co. are preparing plans for a modern up-to-date factory.

ST. THOMAS, ONT.—Bingham & Co., Aylmer, have prepared plans for a store, warehouse and shipping depot, to cost $10,000.

TEESWATER, ONT.—The Orangeville Lime and Cement Co. will erect a factory, to cost $75,000.

TORONTO, ONT.—Architects Bond & Smith, 15 Wilton avenue, have prepared plans for a factory addition for Booth-Coulter Co., to cost $5,000.

TORONTO, ONT.—John V. Gray Construction Co., Confederation Life Building, have been awarded the contract for the erection of a factory addition for the Canadian Fairbanks-Morse Co., on Bloor street, to cost $10,000. The Toronto Laundry Machine Co., corner Dundas street and Sorauren avenue, have prepared plans for an additional storey to their factory, to cost $6,000. Architect Ellis & Ellis, Manning Chambers, have prepared plans for a factory for Mathews Bros., to cost $30,000.

TORONTO, ONT.—Architects Prack & Perrine, Lumsden Building, have prepared plans for an addition to the Russell Motor Car Company's munition plant; Deakin Construction Co. Ltd., have been awarded the contract. Architects Prack & Perrine, Lumsden Building, have prepared plans for a warehouse on Carlaw avenue, to cost $365,000; H. G. Christman & Co. have been awarded the contract. R. G. Kirby, 537 Yonge street, has been awarded the contract for the erection of a bread factory on Dovercourt road, to cost $20,000. Architect Wm. G. Burns, 74 Indian Grove, has prepared plans for a brick bakery, to cost $7,000.

TORONTO, ONT.—Architect F. R. Berry, 1107 College street, has prepared plans for an addition to a factory on Atlantic avenue, to cost $10,000. P. W. Ellis Co., Wellington street east, have prepared plans for a factory addition on Prescott street, to cost $8,000. C. A. Scott, 575 Logan avenue, is erecting an addition to J. S. A. Wheatley's factory, to cost $12,000. The Dominion Government, Ottawa, will erect an aviation plant in Toronto, to cost $1,000,000. Work has started on an addition to the Wm. Neilson Co.'s factory on Gladstone avenue, to cost $7,000; Sproatt & Rolph, 36 North street, are the architects. J. D. Young & Son, 835 College street, have been awarded the carpentering contract; Gordon Bros., 1 Delisle street, the masonry contract.

VANCOUVER, B.C.—The New England Fish Co. will erect a storage warehouse on Gore avenue, to cost $17,000.

WAHNAPETCI, ONT.—Pearson Engineering Corporation, New York, have been awarded the contract for the erection of the Hydro-Electric power plant and dam, to cost $1,250,000.

WALKERVILLE, ONT.—The Canadian Bridge Co., Ltd., have been awarded the contract for the erection of a factory, to cost $15,000.

WESTON, ONT.—L. E. Dowling, 167 Yonge street, has been awarded the contract for the erection of a factory at Weston for the American La France Fire Engine Co., to cost $6,000.

PUBLIC BUILDINGS AND STATIONS.

HALIFAX, N.S.—H. W. Johnston, acting city engineer, has received tenders for the construction of a public convenience station.

OTTAWA, ONT.—R. C. Desrochers, secretary of public works, will receive tenders up to November 13, 1916, for the construction of a shed and covered passage at Postal Station "A," Montreal, Quebec.

VICTORIA, B.C.—The city of Victoria will erect a municipal building on Garbally road.

SCHOOLS, COLLEGES AND CHURCHES.

FREDERICTON, N.B.—An addition will be made to the Charlotte Street School.

HAILEYBURY, ONT.—The Canadian Bridge Co., Walkerville, Ont., were awarded the steel contract for the School of Mines. Ritchie Cut Stone Co., 191 Grant avenue, Hamilton, were awarded the cut stone contract. The Trussed Concrete Steel Co., Walkerville, Ont., were awarded the reinforcing and steel sash.

HAMILTON, ONT.—The Separate School Board will erect a school at the corner of Pearl and Nelson streets, to cost $60,000. The Ruthenian Church contemplate the erection of a church, to cost $30,000.

HAMILTON, ONT.—The Roumanian Orthodox Church contemplate the erection of a new edifice on Barton street west, to cost $30,000. The Separate School Board contemplate the erection of a school on Viewpoint avenue, to cost $30,000; Lindsay Wardell, Federal Life Building, is the architect. R. H. Foster, Building Superintendent, Board of Education, City Hall, is preparing plans for a school in the northwest section, to cost $100,000. Architect F. W. Warren, Bank of Hamilton Building, has prepared plans for a church on Mount Hamilton, to cost $9,000. Architect Gordon Hutton, Bank of Hamilton Building, has prepared plans for a school addition, to cost $40,000. Architects Stewart & Witton, King and Hughson streets, have prepared plans for a school, to cost $40,000; work will commence in the spring.

BEETON, ONT.—Architect John Wilson, Collingwood, has prepared plans for a school, to cost $15,000.

LENNOXVILLE, QUE.—Work has started on the new million dollar school at Lennoxville, Que.

McGREGOR, ONT.—G. Jacques & Co., 5 Sandwich street west, Windsor, have prepared plans for a school, to cost $10,000.

McGREGOR, ONT.—Architects G. Jacques & Co., 5 Sandwich street west, have called for tenders for the erection of a school, to cost $40,000.

MONTREAL, QUE.—Durocher & Archambault have been awarded the contract for the erection of an addition to the St. Eusebe School.

OWEN SOUND, ONT.—The Jewish congregation, McLaughlin Building, Third avenue east, will erect a new synagogue, to cost $5,000.

PETERBORO, ONT.—Architect W. Blackwell has prepared plans for a new Methodist church.

PORT CREDIT, ONT.—A. T. Darragh, 161 Close avenue, Toronto, has commenced work on a school, to cost $20,000; D. C. Cotton, 54 Adelaide street east, Toronto, is the architect.

SIMCOE, ONT.—R. Gunton has been awarded the contract for the erection of a school, to cost $20,000; Chapman & McGiffon, 95 King street east, Toronto, are the architects.

ST. JOHN, N.B.—The ratepayers of Coldbrook have decided to erect a new school at Glen Falls, to cost $8,500.

ST. THOMAS, ONT.—The St. John's English Church has prepared plans for a church, to cost $10,000.

SWANSEA, ONT.—Architect J. M. Jeffrey, 708 C.P.R. Building, Toronto, has prepared plans for a church, to cost $30,000.

TRENTON, ONT.—The School Board are contemplating the erection of a school, to cost $40,000.

TWEED, ONT.—Architects Ellis & Ellis, Manning Chambers, Toronto, are preparing new plans for a school, to cost $25,000. Former plans proved too costly.

VICTORIA, B.C.—J. E. Griffith, Deputy Minister of Public Works, has received tenders for the erection and completion of the Silverton School.

WALKERVILLE, ONT.—St. Mary's Anglican Church are erecting a church house on the corner of Niagara and Monmouth road, to cost $40,000.

WELLAND, ONT.—Telford & Morse were awarded the contract for the erection of a school, to cost $5,000; T. L. Nichols is the architect.

WINDSOR, ONT.—The School Board contemplate the erection of a new school, to cost $40,000.

RESIDENCES, STORES AND FLATS.

AMHERSTBURG, ONT.—Architect J. C. Pennington, La Belle Building, Windsor, Ontario, is preparing plans for a residence in Walkerville for Walter Chater, 15 Kildare road, to cost $6,000.

BRANTFORD, ONT.—Architect Fred C. Bodley, Temple Building, has prepared plans for a residence on Erie avenue.

CHATHAM, ONT.—Thos. McKay, Gray street, has been awarded the contract for the erection of a residence, to cost $7,000; S. G. Kinsey, 5th street, Chatham, is the architect.

CORNWALL, ONT.—Architects Hutchinson, Wood and Miller, Royal Insurance Building, Montreal, have prepared plans for a residence on Augustus street, to cost $8,000.

HAMILTON, ONT.—Ronnenberg and Beck, 54 Fairholt avenue south, have prepared plans for a bungalow, to cost $6,000.

HAMILTON, ONT.—Architect F. W. Warren, Bank of Hamilton Building, has prepared plans for a residence on Ontario street, to cost $5,000; work will not start until spring. R. Spicer, 279 Bay street south, has been awarded the contract for the erection of Mr. T. A. Woolley's residence on Proctor boulevard, to cost $8,000. Architect W. H. Hunkins, Lister block, has prepared plans for an apartment house for Harvey Levitt, Beamsville, Ont. J. A. Jones has been awarded the contract for the erection of a residence on Rosemont, to cost $6,000.

LINDSAY, ONT.—W. Wallace is erecting a store on Wellington street, to cost $6,000.

LONDON, ONT.—Architects Watt and Blackwell, Bank of Toronto Building, have prepared plans for a residence on Craig street, to cost $7,500.

LONDON, ONT.—The walls are up on A. H. McKnight's apartments on Queen's avenue, to cost $10,000; Watt and Blackwell, Bank of Toronto Building, are the architects.

NIAGARA FALLS, ONT.—Architects Green and Wicks, 110 Franklin street, N.Y., prepared the plans for Dr. Harvey Grant's residence and garage on Park Hill street, which will cost $50,000. W. G. Adamson, 126 Sparks street, has been awarded the contract for the erection of a store and apartments on Laurier street, to cost $36,500; Millson and Burgess are the architects. A. W. Davidson, 69 Grosvenor street, is erecting a residence on Clemow avenue, to cost $6,000. Architect W. H. George, Castle Building, Queen street, has prepared plans for alterations and additions to apartments on Laurier avenue, to cost $11,000.

OAKVILLE, ONT.—Architects Munro and Meade, 34 Hughson street south, Hamilton, are preparing plans for a residence for W. F. Eaton, Ravenscliffe avenue, Hamilton, to cost $30,000.

QUEBEC, QUE.—Wilfrid Brochu is erecting a residence on Aberdeen street, to cost $8,000.

STONEY CREEK, ONT.—Architect E. Patterson, 143 Wentworth street, has prepared plans for Wm. Nash's residence, to cost $7,000.

STRATFORD, ONT.—Architect Jas. S. Russell, Gordon block, has prepared plans for store and office alterations, to cost $10,000. Architect J. S. Russell, 21 Downie street, has prepared plans for store and office alterations, to cost $5,000.

TORONTO, ONT.—Brown and McKnight, 789½ Concord avenue, have started work on an apartment house on Dundas street, to cost $12,000.

TORONTO, ONT.—A. W. Pike, 49 Hepbourne avenue, will erect an apartment, to cost $15,000. Architect C. J. Gibson, 51 Yonge street, has prepared plans for a store and warehouse, to cost $30,000; C. W. Woods, 613 Manning avenue, has been awarded the mason contract; W. R. McGiffin Co., Ltd., 54 Roncesvalles avenue, have been awarded the carpenter contract. W. P. Levack, 519 Roxton road, has prepared plans for an apartment house, to cost $10,000. Work has started on a residence for Dr. H. McDonald, 357 Runnymede road, to cost $6,000. W. A. Wilson, 22 Beech avenue, has started work on a duplex residence, to cost $6,000; P. H. Finney, 79 Adelaide street east, is the architect. J. W. Butchart, 1 St. Ives avenue, Lawrence Park, has been awarded the contract for the erection of a store and residence for G. R. Hume, 1243 Dundas street, to cost $6,000. Sheppard & Abbott, 78 Harbord street, have been awarded the plumbing and heating contract for a residence for E. L. MacLean, 98 Walmer road, to cost $15,000; Taylor and Nesbitt, 18 Havelock street, have been awarded the plastering contract; Burke, Horwood and White, 229 Yonge street, are the architects.

TORONTO, ONT.—Arthur Jutchins, Mimico P.O., has started work on two duplex residences for Wm. A. Hutchins, to cost $10,000; E. Gagnon and Cummings, 2359 Queen street east, are erecting an apartment house on Queen street, to cost $9,000. J. W. Butchart, 1 St. Ives avenue, Lawrence Park, has been awarded the contract for the erection of a store and residence, to cost $6,000. J. T. and H. Hutson, 43 Victoria street, have prepared plans for an apartment house on Isabella street, to cost $35,000. J. Richards, 1 Lonsdale road, has been awarded the contract for the erection of apartments, to cost $30,000; the walls are up. Architects Burke, Horwood and White, 229 Yonge street, have prepared plans for a residence in Rosedale, to cost $15,000. Architect Thos. Hancock, 836 Dovercourt road, has prepared plans for a residence to cost $5,000. Architects Edwards and Edwards, 18 Toronto street, have prepared plans for a residence, to cost $12,000. J. W. Butchart, 1 St. Ives avenue, has prepared plans for two residences, to cost $12,000. J. Skelton, room 36, 33 Richmond street west, has started work on a residence, to cost $5,000. J. H. Dawlish, 231 Sheldrake boulevard, has commenced work on a residence, to cost $5,000. Architect C. J. Gibson, 51 Yonge street, has prepared plans for a store and warehouse, to cost $30,000. W. P. Levack, 519 Roxton road, has prepared plans for stores and apartments to cost $15,000. A. A. Mitchell, 502 Palmerston boulevard, contemplates the erection of a duplex residence, to cost $14,000.

WATERLOO, ONT.—The Waterloo County Children's Aid Society are erecting a detention home, to cost $15,000.

OVER HALF A MILLION AHEAD OF LAST YEAR.

The building permits in Winnipeg up to the end of September are over half a million dollars ahead of last year, the figures being $2,195,300, while for the corresponding period last year they were $1,721,900. Every indication points to increased building activity.

TO GIVE CONTRACTS TO LOCAL FIRMS.

The Pacific Great Eastern Railway Company will spend about $200,000 in the near future on machine shops, repair shops and a roundhouse at Squamish, B.C. The officials of the company state that so far as possible the contracts will be given to local firms.

MILLION DOLLAR SCHOOL.

Lieut. J. K. L. Ross, of Montreal, the well-known sportsman and owner of racing horses, has donated the sum of one million dollars for a new Bishop's College at Lennoxville, Que. The first sod was turned by Mrs. J. K. L. Ross last month, and active building operations have now begun. No expense will be spared in the erection of this building, and it is fully expected when completed to be the finest structure of its kind in America.

Barrett Specification Roofs Guaranteed for 20 Years

Made in Canada

OUR new plan to guarantee Barrett Specification Roofs for 20 years seems to have met with instant welcome from architects, owners and roofing contractors.

During the first few weeks the plan was in operation *several million feet* of Barrett Specification Guaranteed Roofs were specified.

This means that the owners of these roofs are guaranteed against all roof repair and upkeep expense until 1936.

This new Guaranty Bond is issued on all Barrett Specification Roofs of 50 squares or more in all towns in Canada and in the United States of 25,000 population and over—*and in smaller centers where our Inspection Service is available.*

Our only requirements are that the roofing contractors be approved by us and that The Barrett Specification dated May 1, 1916, shall be strictly followed.

The Guaranty is arranged for as follows:

The owner or his architect orders the roofing contractor to "construct a Barrett Specification Roof and get for him a 20 Year Guaranty Bond for the work."

The contractor notifies us that he wishes the 20 Year Bond and will construct the roof under the supervision of our Inspector.

Our Inspector on completion of the job certifies that the proper quantity of Specification Pitch and Felt has been used and that The Barrett Specification of May 1, 1916, has been strictly followed.

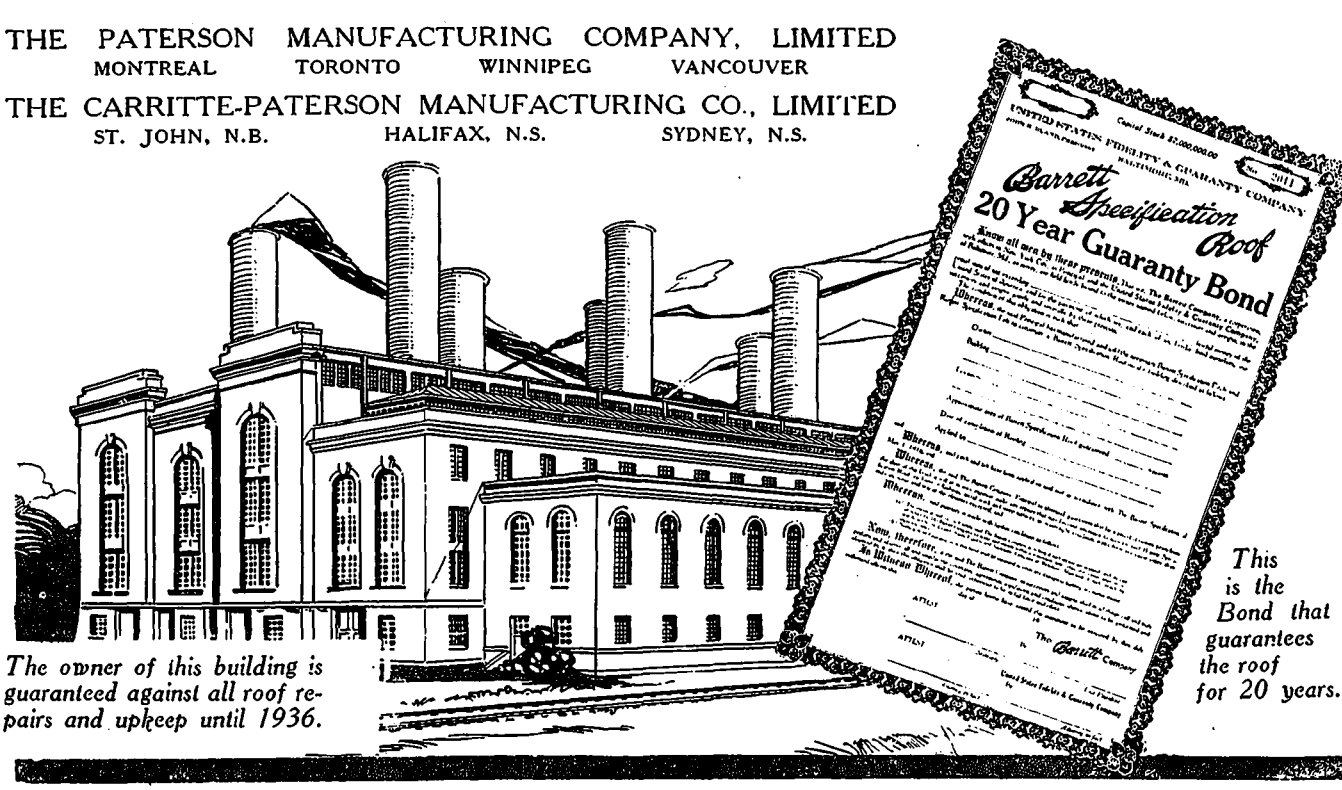
On our O.K. of the job, the U.S. Fidelity & Guaranty Company issues a regular 20 Year Guaranty Bond, by which the owner is relieved of all costs for repairs or maintenance to the roof during the next 20 years.

The Guaranty Bond costs the owner and roofing contractor nothing. The service is free in the interest of good workmanship and the good repute of our materials.

If you are interested in the proposition we shall be glad to send you further details.

THE PATERSON MANUFACTURING COMPANY, LIMITED
MONTREAL TORONTO WINNIPEG VANCOUVER

THE CARRITTE-PATERSON MANUFACTURING CO., LIMITED
ST. JOHN, N.B. HALIFAX, N.S. SYDNEY, N.S.



The owner of this building is guaranteed against all roof repairs and upkeep until 1936.

This is the Bond that guarantees the roof for 20 years.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by The Architects of Buildings Featured in This Issue

BUILDINGS—THE MOLSONS BANKS.

A.—The Molsons Bank, Port Arthur, Ont.
B.—The Molsons Bank, St. Lawrence and Ontario streets, Montreal, P.Q.
C.—The Molsons Bank, Sorel, P.Q.
D.—The Molsons Bank, Norwich, Ont.
E.—The Molsons Bank, Drummondville, P.Q.
F.—The Molsons Bank, Lachine, P.Q.
Brick—
A.—Clayeraft Mining and Brick Co.
B.—Kittanning Brick Co.
C.—Interprovincial Brick Co., Ltd.
D.—Interprovincial Brick Co., Ltd.
E.—Milton Brick Co.
F.—Milton Brick Co.
Boilers—Warden King, Ltd. A.B.C.D.E.F.
Concrete work—Wm. Wardwell, engineer.
Electric fixtures—McDonald & Willson, Ltd. A.B.C.D.E.F.
Elevators and hoists—Gillis & Geoghegan.
Electric wiring and apparatus—
McDonald & Willson, Ltd. B.C.E.F.
E. S. Coppins. D.
Mahon Bros. A.
Expanded metal—Pedlar People.
Flooring—Mosaic Tile Co.
Furniture—
Canadian Office and School Furniture Co., Ltd. A.D.E.
G. H. Randall Co., Ltd. B.
The Globe Furniture Co., Ltd. C.F.
Glass—The Hobbs Manufacturing Co., Ltd.
Hardware—Yale and Towne.
Marble—
Mariotti Marble Co.
Smith Marble Co.
Ornamental iron—Estey Bros.
Plumbing fixtures—Port Hope Standard Sanitary Co., Ltd.
Plumbing—James Robertson Co., Ltd. A.B.C.D.E.F.
Radiators—Warden King, Ltd. A.B.C.D.E.F.
Stone—Indiana Limestone.
Structural steel—Dominion Bridge Co., Ltd.
Tile—Marbleoid Co.
Vaults—J. & J. Taylor, Ltd. A.B.C.D.E.F.
Revolving doors—Dominion Revolving Door Co.
Pile foundations—Raymond Concrete Pile Co.
Coal chutes—The Galt Stove and Furnace Co., Ltd.
Contractors, general—
A.—Seaman & Penniman, Fort William, Ont.
B.—J. H. Hutchison, Montreal.
C.—Loomis-Dakin, Ltd., Sherbrooke, Que.
D.—McKinney Lumber Co., Ltd., Woodstock, Ont.
E.—Louis Beaudry, Montreal, P.Q.
F.—Louis Beaudry, Montreal, P.Q.

HOTEL PALLISER, CALGARY, ALBERTA.

Brick—Plain, Alberta Clay Products, Medicine Hat, Alberta; fancy, David McGill, agent, Montreal; enamelled, Waite-Fullerton Co., Ltd., Calgary.
Boilers—Installed by James Ballantyne Co.
Casements and window construction, also doors and window trim—P. Lyall & Sons Construction Co., Ltd.
Concrete work—P. Lyall & Sons Construction Co., Ltd.
Electric fixtures—E. F. Caldwell & Co., and the Robert Mitchell Company
Electric wiring and apparatus—Parker-Chase Electric Co., Calgary.
Elevators and hoists—Otis-Fensom Co.
Expanded metal—Pedlar People, Ltd.
Fire alarm system—Northern Electric Co., Ltd., Calgary.
Fire doors—McFarlane & Douglas, Ottawa.
Fire escapes—Canada Foundry Co., Toronto.
Flooring—Cement floors, Master Builders' finish.
Glass—Plate, Taylor Painting and Decorating Co., Winnipeg, Man.; light globes, E. F. Caldwell & Co. and R. Mitchell Co.
Hardware—Yale and Towne, James Walker Hardware Co.
Heat regulating system—James Ballantyne Co.
Inter-phones system—Northern Electric Co., Ltd.
Kitchen utensils—Duparquet, Moneuse & Co.
Laundry machinery—Gurney Foundry Co., Ltd.
Marble—P. Lyall & Sons Construction Co., Ltd.
Ornamental iron—Canada Foundry Co., Toronto.
Paints—Interior and exterior, Taylor Painting and Decorating Co.: waterproof, Sherwin-Williams Co.
Plumbing—Bath fittings and sanitary fixtures, James Ballantyne Co.: faucets, Cluff Bros., Toronto.
Plaster work (ceiling)—P. Lyall & Sons Construction Co., Ltd.
Refrigeration equipment—Linde Canadian Refrigerator Co.
Power machinery—Prime movers, motors, air compressors and pumps, James Ballantyne Co.

CATALOGUES, BOOKLETS, ETC.

Sterling Furnaces.—A booklet entitled "Every Room Heated" has been issued by the makers of these furnaces. It sets forth in a descriptive and illustrated manner the many advantages of the Sterling in heating and scientifically ventilating the modern home. Copies of this booklet may be had from Findlay Bros. & Co., Ltd., Carleton Place, Ont.

The Dominion Paving & Contracting Co., Ltd., makers of Peerless Carbolite Carbolineum Wood Preservative, have issued a new pamphlet regarding the merits of their preservative. What it is, what it will do, and what it will save is gone into in an explanatory manner. This pamphlet is well worth the consideration of architects and engineers. A copy will be mailed by addressing the above company at 55 Gore Vale avenue, Toronto, Ont

The Murphy Furnace.—This automatic smokeless furnace is elaborately described in the 25th edition of their illustrated catalogue. The installations of the Improved Murphy Automatic Smokeless Furnace includes a great number of the prominent buildings of Canada. The operation, capacity, durability and mode of construction is dealt with in this edition. This catalogue will be mailed by addressing the Murphy Iron Works, Buffalo, N.Y.

Twyford's Sanitary Ware.—C. W. Beal, 60 Adelaide street east, Toronto, Ont., informs us that booklets and illustrations describing this ware can be had by addressing him. The history of this British firm of manufacturers proves interesting reading. The superior quality of Twyford's Sanitary Ware is recognized throughout the world, and although the war has made great inroads into the output of this firm, Mr. Beal is still in receipt of regular shipments.

Clark Vacuum Trap.—The automatic control of water and steam heating plants is given no end of consideration, through necessity, by those interested. New devices appear from time to time, but there are few that really stand up under a rigorous test. The superior regulating devices now being manufactured by W. E. Clark, Ltd., deserve mention and commendation. They are giving entire satisfaction wherever installed, and their output is being increased steadily. In their Booklets A and B this firm describes minutely and accurately the Clark Vacuum Trap and Temperature Booster, and they deserve the attention of the architect and engineer. By addressing W. E. Clark, Ltd., at 719 King street west, Toronto, Ont., these booklets may be had. It is timely to mention that the Clark specialties are distinctly Canadian, having been invented, patented and made in Canada.

The Dominion Fitter.—This is one of the most complete catalogues it has been our pleasure to review for some time. Attractively produced, and of such size as to prove convenient, it should find its way to every architect and engineer. The various lines illustrated in this catalogue have been produced with a view to meeting the demands of the heating business as they have been presented by architects, engineers and contractors. Several new products are catalogued for the first time and they have proved efficient after rigid tests. Care has been shown by simplifying the method required in specifying certain types, for the arrangement of the various lines are so grouped that the trade name need only appear in the specifications. Every item is listed in an alphabetical index. Published by the Dominion Radiator Company, Ltd., Toronto, Ont., who will supply a copy on request.

PERSONAL.

A change in the well-known engineering firm of MacMullen, Riley & Durley has occurred through the retirement of Mr. Durley, who is now connected with the Engineering Department of the Imperial Munition Board. Mr. H. H. Angus, whose name appears in the new organization, is well known in engineering circles in Toronto, and has been for some years practicing his profession in this city. The new firm of MacMullen, Riley & Angus will continue the design of heating, ventilating, plumbing and electrical equipment of buildings as carried on by them separately in the past, and will also specialize in the building, design and equipment of industrial plants.

LARGE CONTRACT TO BE AWARDED.

Tenders will shortly be called for excavating 300,000 cubic yards of earth on the site of the new Canadian Northern Railway station, which will be erected on Dorchester street, in Montreal. The contract will be a big one, the site being in the space bounded by Cathcart, Mansfield, Lagauchetiere and St. Monique streets.

BIG JUMP IN BUILDING IN TORONTO.

Building permits for 1915 in the City of Toronto totalled 466. The year's business amounted to $5,155,631. So far this year 436 permits have been granted, totalling $5,502,797, or an increase to the end of October of $347,166. In October last year the month's business totalled $413,756. This year permits for October totalled $496,148, or an increase of $82,392.

BUILDING A CITY.

Preliminary plans for the steel plant at Ojibway, Ont., are nearing completion, but actual building operations will probably not be commenced before next spring. The location of a civic centre has been practically settled, and municipal buildings will be erected in the spring. The plans have also been completed for a storm sewer, which will empty into either the Turkey Creek or the Detroit River.

NEW SCHOOL IN MONTREAL.

Architects Venne and Labelle, 706 St. Catherine street, Montreal, associated with Vandal and Gascon, 520 St. Lawrence boulevard, have completed the plans for a new school to be erected at the corner of Fullam and Amity streets. The estimated cost is $160,000, and the contract has been awarded to J. A. Durocher and G. Archambault, 616 St. Denis street. The building will be of re-inforced concrete and Montreal lime stone, and will be thoroughly modern and up-to-date in every respect. Work will start this fall.

BUILDING STATISTICS FOR MONTREAL.

For the month ending October 31st 171 permits were granted in Montreal, totalling $352,924. In October last year 214 permits were granted, totalling $493,268, or $140,344 less than the corresponding month last year. One thousand eight hundred and thirty-two permits were issued to the end of October last year, totalling $5,005,526, as compared with 1,669 permits issued for the corresponding period this year, totalling $4,139,934, or $865,592 less than last year. It is not expected that the total this year will equal last year's total.