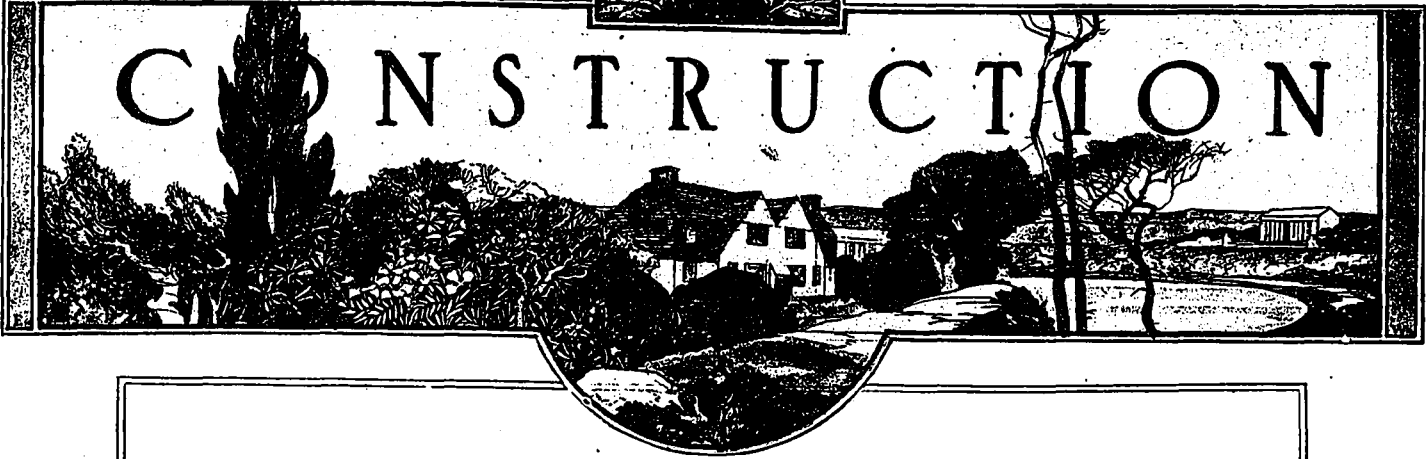


Pages Missing



CONSTRUCTION



June, 1917

Vol. 10, No. 6

CONTENTS

ROSS PAVILION OF THE ROYAL VICTORIA HOSPITAL	189
FIRST UNITS OF MOUNT HAMILTON HOSPITAL	196
HOSPITALS AND AESTHETICS	200
INFIRMARY OF HAMILTON HEALTH ASSOCIATION	203
TASTE AND REFINEMENT IN HOSPITALS	204
NEW SURGICAL PAVILION OF ST. JOSEPH'S HOSPITAL	206
TORONTO FREE HOSPITAL FOR CONSUMPTIVES	210
A HOSPITAL WITH UNUSUAL FEATURES	214
EDITORIAL	215
Manufacturers Back Canadian Architects—War Creates Need for Hospitals—Canada's Favorable Trade Balance.	
CONSTRUCTION NEWS	216

Full Page Illustrations

ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL (Frontispiece)	188
---	-----

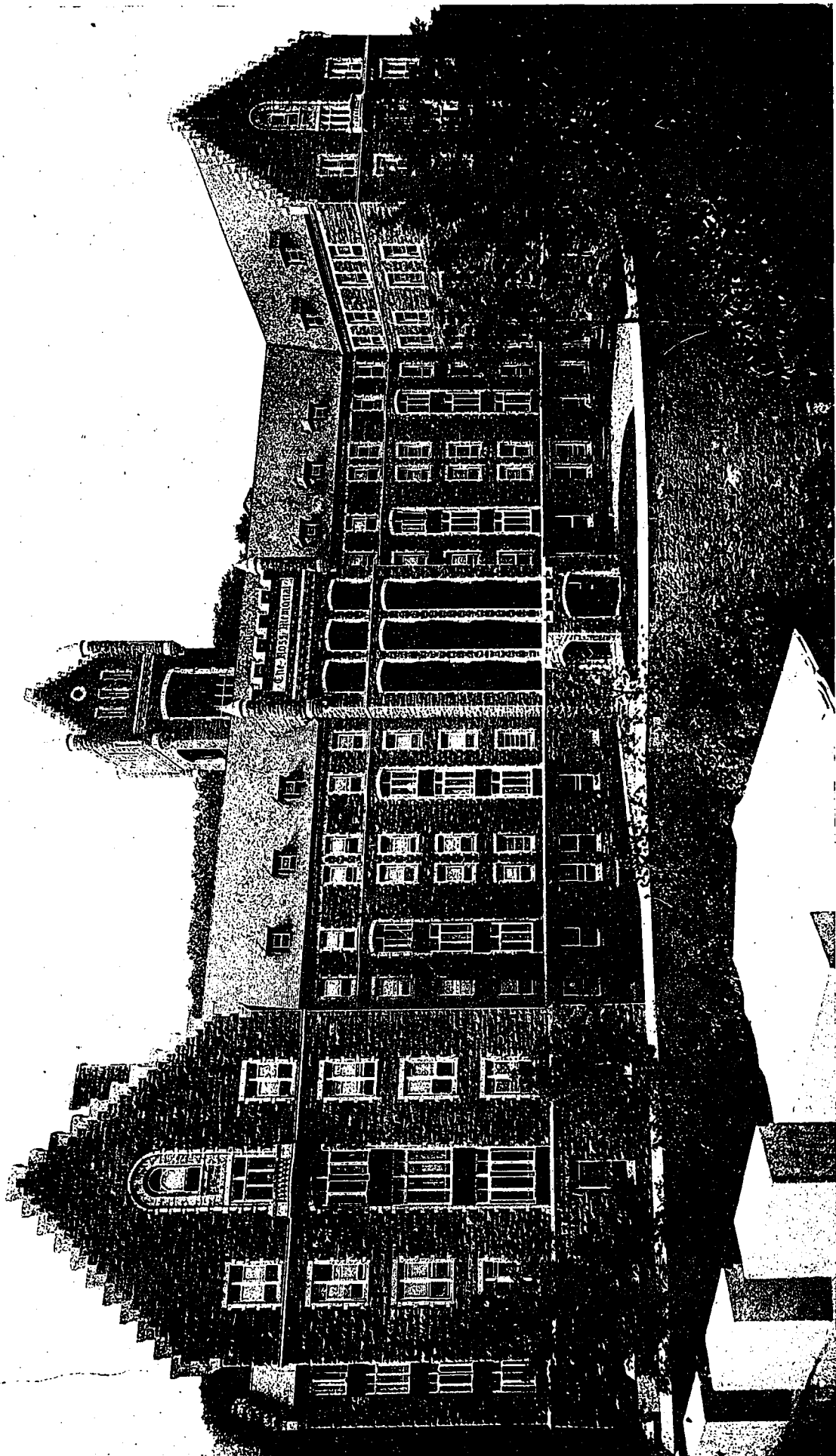
H. GAGNIER, Limited, Publishers

GRAPHIC ARTS BLDG., TORONTO, CANADA

BRANCH OFFICES

MONTREAL

NEW YORK



ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.

STEVENS & LEE, TORONTO, AND KENNETH G. REA, MONTREAL, ASSOCIATE ARCHITECTS.

Ross Pavilion of The Royal Victoria Hospital

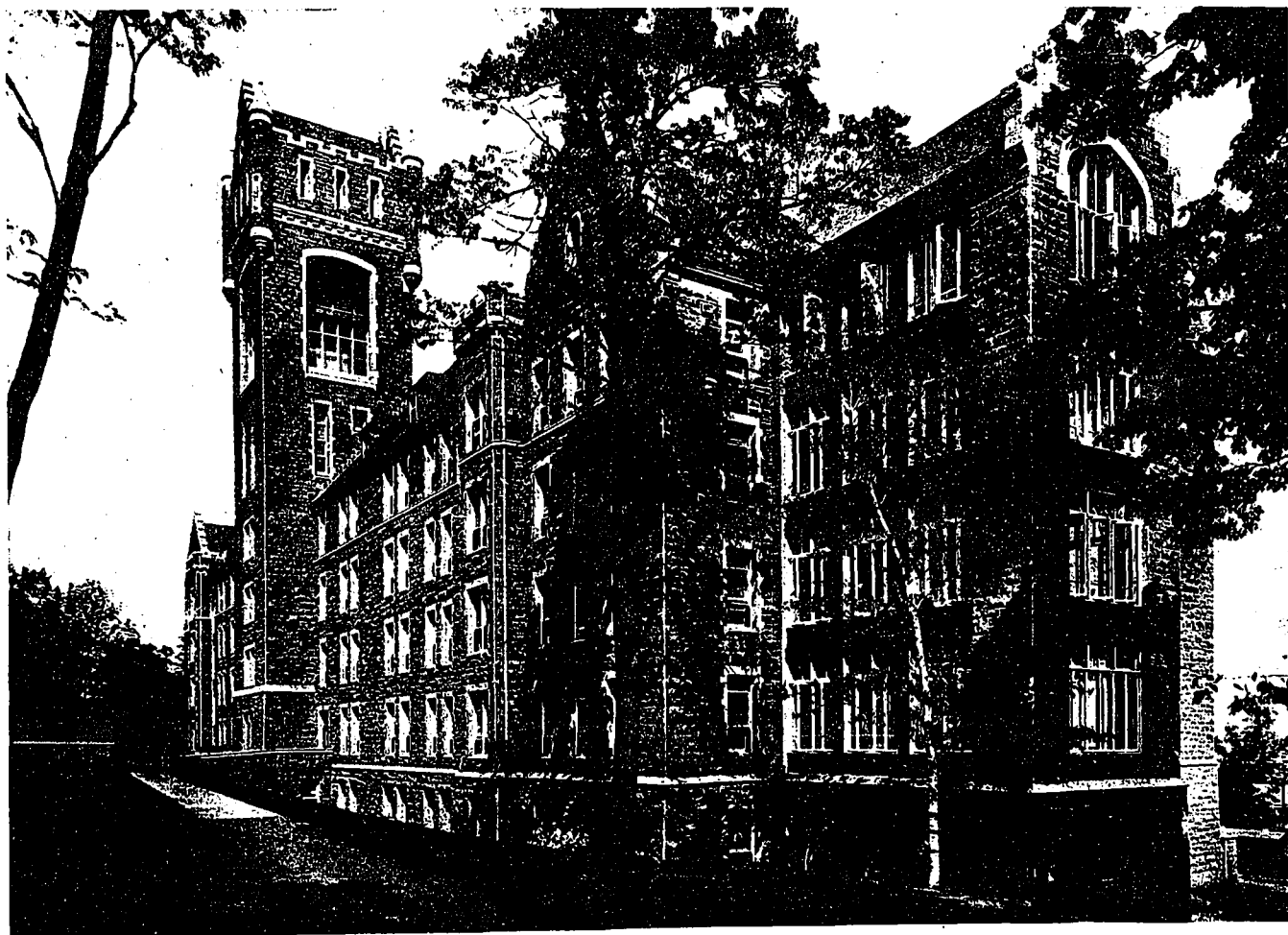
*Splendid Memorial to the Late James Ross
Erected on Mountain Side at Montreal.*

THE development of hospitals in Canada and the United States during the past five years has been phenomenal; with three thousand hospitals in the United States and Canada in 1911, the number has grown to over eight thousand at the present time. Nowhere in the world has there been such strides in any architectural development. While the major increase has been with the small public hospitals for the poor and indigent, there has been, nevertheless, a marked growth of hospitals or pavilions for the exclusive use of those who can and are willing to pay. Nearly every large hospital to-day has its private ward pavilion, sometimes adjoining the main group, and sometimes isolated and under practically separate administration, so far as the food and nursing are concerned.

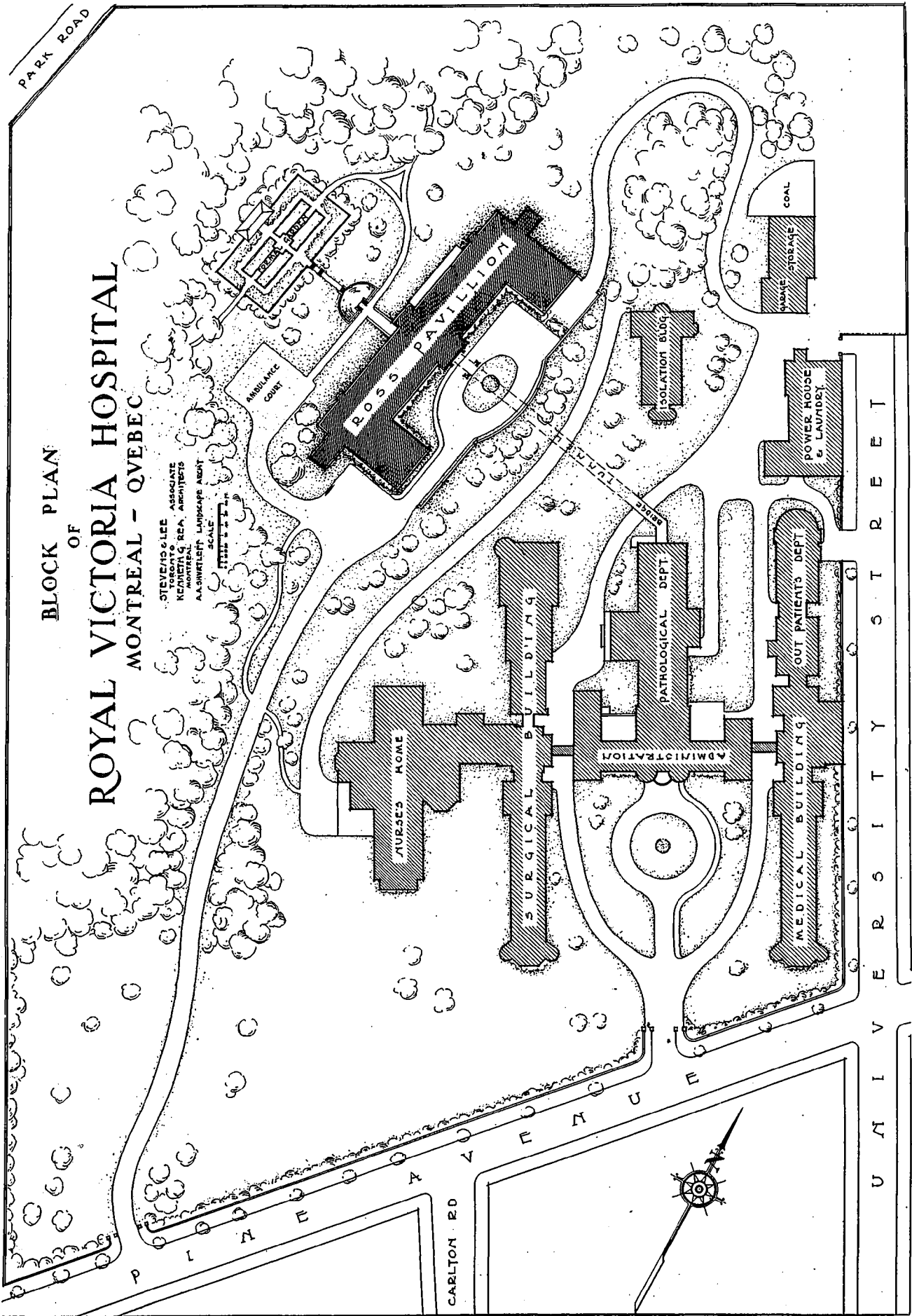
The problems and conditions given the architects of providing for one hundred and thirty private patients in the Ross Pavilion of the Royal Victoria Hospital, at Montreal, which was dedicated by their Royal Highnesses, the Duke and Duchess of Connaught, on the 11th of October, 1916, were somewhat unique.

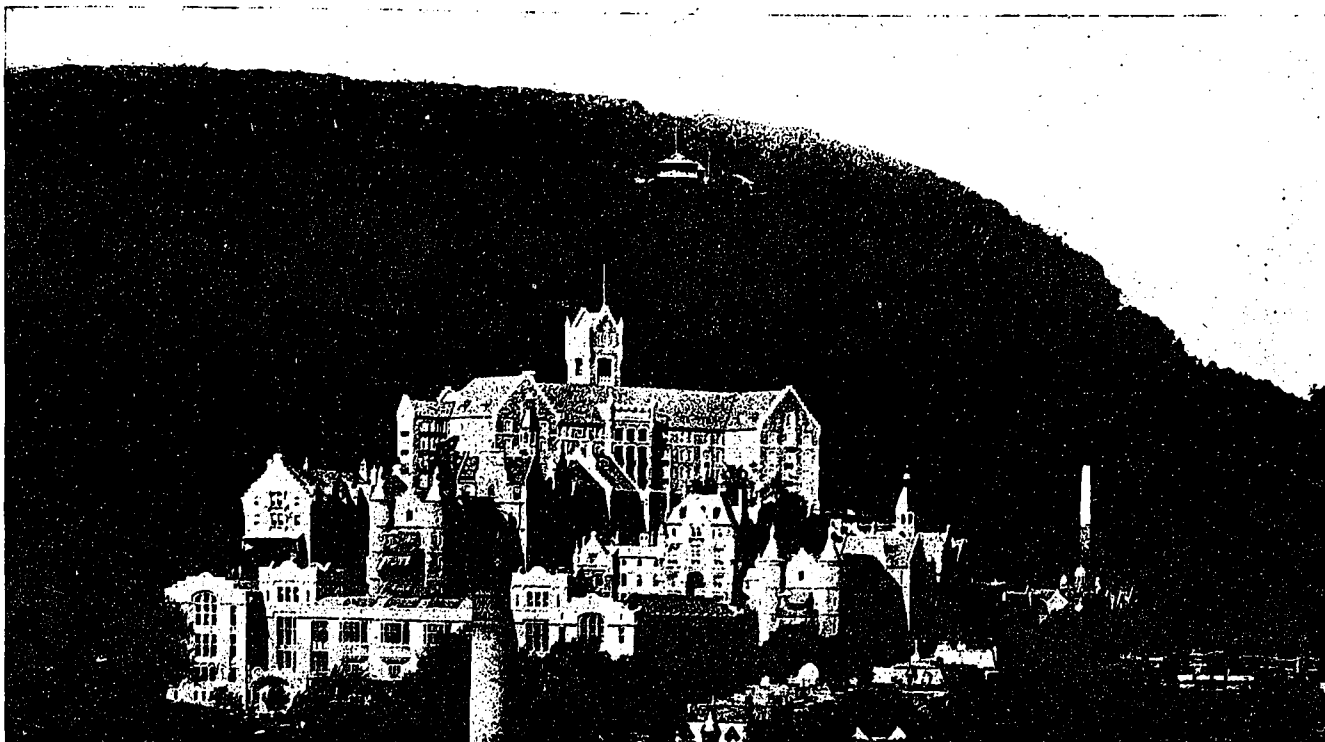
The precipitous grade on the side of Mount Royal, where the main buildings are located, made the study of the site for the new private ward pavilion a most important factor. There was no room on the east; a location at the west on Pine Avenue would bring the new building into too close proximity with the existing group; so a location at the northwest, about three hundred feet from the present group at the edge of a plateau on the slope of the mountain, was selected.

After the selection of the site, the next problem was the approach; first, from the main hospital, and second, from the street. The first has been solved by tunnelling into the mountain, to a point directly under the staircase and lifts, and sinking a shaft to meet this tunnel, as the main floor of the new building is one hundred feet above the main floor of the original hospital. This tunnel leaves the second story of the main building, crosses a bridge, and then, with a five per cent. grade, reaches the lifts and staircase at a level of fifty feet below the ground floor. As to the second, the pavilion entrance is about



END VIEW OF ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.





ROYAL VICTORIA HOSPITAL BUILDINGS, SHOWING ROSS MEMORIAL WING IN BACK GROUND.

1,000 feet from the street entrance, which entrance is marked by heavy wrought iron gates. The main courtyard, at the east of the new pavilion, is reached by a moderate slope from the gates, and is sufficiently broad to allow the turning of automobiles and carriages. This roadway was excavated from the side of the hill along which it rises to the elevation of the new building. The patients' entrance is from a courtyard at the west, approached by a detour from the same driveway.

In connection with the patients' entrance, there is an exedra, through which is the approach to the patients' lawn and tea house. Walks lead through the natural park. This park consists of a large tract of land that will be reserved for the patients and will be developed as the needs increase. The location is such that patients will be relieved of the disturbing noises from the street or from the main hospital buildings.

The exterior of the building is designed to harmonize with the original plant. This necessitated the use of the Scotch Baronial type of architecture and the material is of rock faced Montreal limestone with cut stone quoins and ornament. Being on an elevation nearly one hundred feet above the other buildings, it naturally dominates the group when viewed from a distance. A central tower was considered a desirable architectural feature, as this makes a practical housing for elevator machinery, fans and ventilation.

The main entrance from the east court is through a porte cochere to the memorial vestibule. This vestibule has walls and groined ceiling of Caen stone and floor of marble. On the

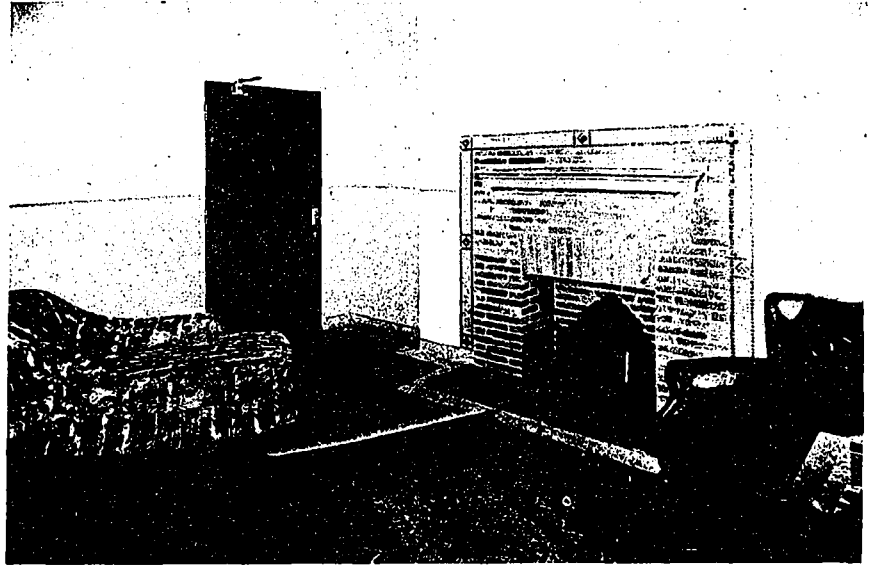
right of the entrance is the porter's window; on the left, a memorial tablet in bronze, surrounded by marble, with the inscription: "This pavilion was erected and equipped by John Kenneth Leveson Ross, to the memory of his father, James Ross, and of his mother, Annie Kerr Ross."

The first story is used entirely for administrative purposes, medical treatment, the culinary department and a small psychiatric department. The entrance hall is 26 feet by 32 feet and here the architects felt at liberty to depart from the hospital type of finish. Here there is panelled oak dado, with the upper portion of the walls of Caen stone and a panelled vaulted ceiling. At the five electric outlets in the ceiling are heavy bronze chandeliers. The heating of the room is taken care of through a central marble and oak pedestal with bronze grills which is surmounted by a tiny illuminated fountain. The floor is Belgian black and Italian white marble, with a border of Tennessee. At the right, is the general office, (back of which are the private offices) with panelled oak counter; at the left, one of the reception rooms; directly ahead, the two lifts. These lifts lead from the tunnel, fifty feet below, to the attic of storage space, and are two in number; one a general lift for standing passengers or guests, and the other for beds, stretchers and supplies. The larger lift is so arranged that with the power trucks which will be used, patients can be taken from any part of the main building, through the tunnel, up to any floor, room or balcony in the new building.

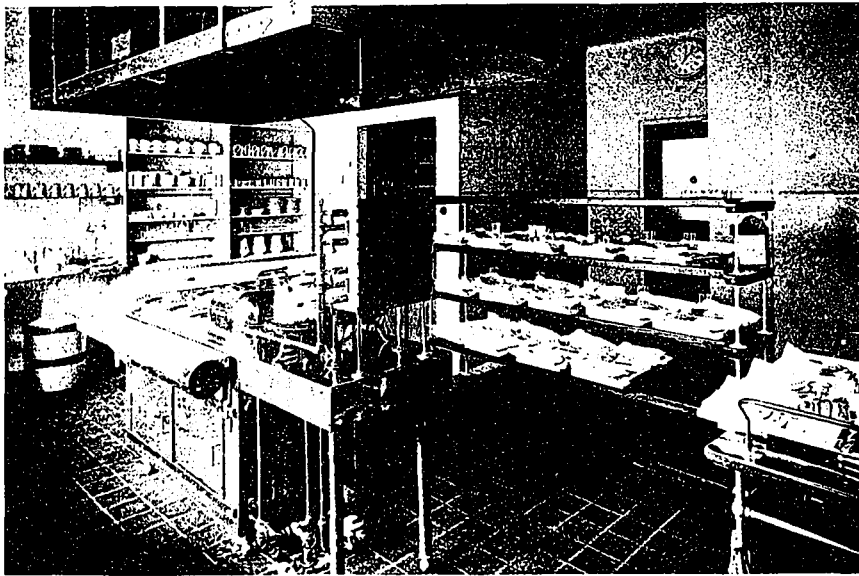
The kitchen, located on this floor, is a model of convenience, and has every device for cooking and serving of food to this class of patients.

It is divided into three sections—scullery, where rough work and the preparation of food is done; the central portion, where all foods are cooked; and the serving portion, where the food is loaded into the food trucks preparatory to its transit to the various ser-
veries. Connected with this department are the special dining rooms, store rooms, refrigerators and service stairs.

From the main entrance hall, through a special corridor, are the rooms for the use of the special nurses, consisting of locker room, dressing booths and baths. Adjoining the main entrance, on the south is a series of waiting and examining rooms. Locker and



PRIVATE SUITE IN ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.



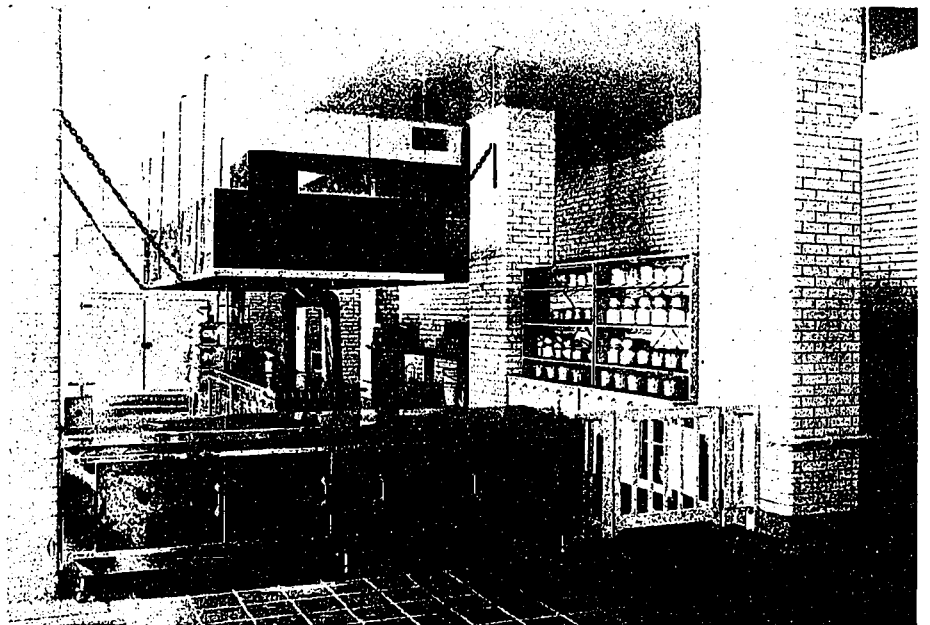
SERVING ROOM IN ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.

toilet rooms are provided near the main entrance for the accommodation of staff members.

On this floor is a complete Roentgen or X-Ray department, with the most modern equipment. This consists of a suite of two operating rooms, control room, developing room, view room, plate storage and toilet. A special room is set apart for the electrocardiograph, with wires extending to the different floors, so that records may be taken without moving the patient from his own bed. A large medical treatment department, consisting of the various baths—shower, needle, douche, sitz, continuous, car-

bon dioxide, etc. Also rooms for electric cabinets, baking and hot-packs, rest rooms, etc., are provided. A small psychopathic department, with continuous bath, is provided for the occasional need of patients requiring rest and isolation.

While there are no patients located on this first floor except the occasional psychopathic patients, the entire second, third and fourth floors, and a large portion of the fifth floor are devoted to their comfort. On the central axis of each story is a large airing balcony, of sufficient size to allow many beds and patients in wheel chairs. Connected with these balconies on each floor are the office of the head nurse and sitting room



KITCHEN IN ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.



ENTRANCE GATES TO ROYAL VICTORIA HOSPITAL, MONTREAL.

for nurses. On the west side on the same axis, are located the ser-
veries or serving kitchens, from
which the individual service to
each patient is taken. These ser-
veries connect directly with the
main kitchen through the service
lift. There are thirty suites of
two rooms, with bath and private
balcony; numerous suites with
bath; and large private rooms
with baths adjoining. Two rooms
and a bath are provided on the at-
tic floor for special noisy cases.

The construction of the build-
ing has been carefully studied to
avoid the transmission of noises
from one part of the building to
another and from one room to an-
other. To that end, double floors
and double partitions are built;
also double windows everywhere.
The entrances to all the patients'



ENTRANCE HALL TO ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.

VIEW ON BALCONY, OVERLOOKING MONTREAL AND ST. LAWRENCE RIVER AT
ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.

rooms are vestibuled with two
doors. All latch bolts and all
noisy hardware are omitted. The
floors of the rooms are covered
with linoleum, and the floors of
the corridor with cork tile.

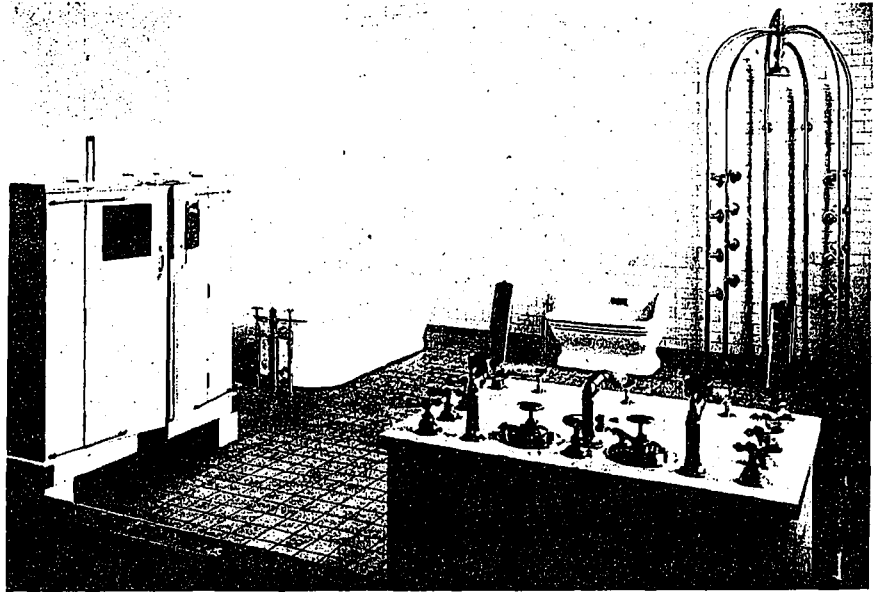
Careful study has been given to
the decoration of the patients'
rooms. Each room is provided
with a special hospital lavatory, a
built-in china mirror frame, sur-
rounded by a tile and mosaic bor-
der, a semi-direct ceiling light,
portable bedside light, telephone
connection, nurses' call system,
and a clothes cupboard, through
which the room is ventilated, af-
fording ventilation of the room
and contents of the cupboard as
well.

In addition to the main balcony
and the private balconies, on each
floor there is a large day room
on the north and a solarium on the
south. Sink rooms, toilets, and
baths, and linen, medicine and
broom-closets are provided. The
corridors are wide and the floors
are laid in cork tile. Vacuum
cleaner connections, fire hose and
drinking water fountains are pro-
vided on every floor.

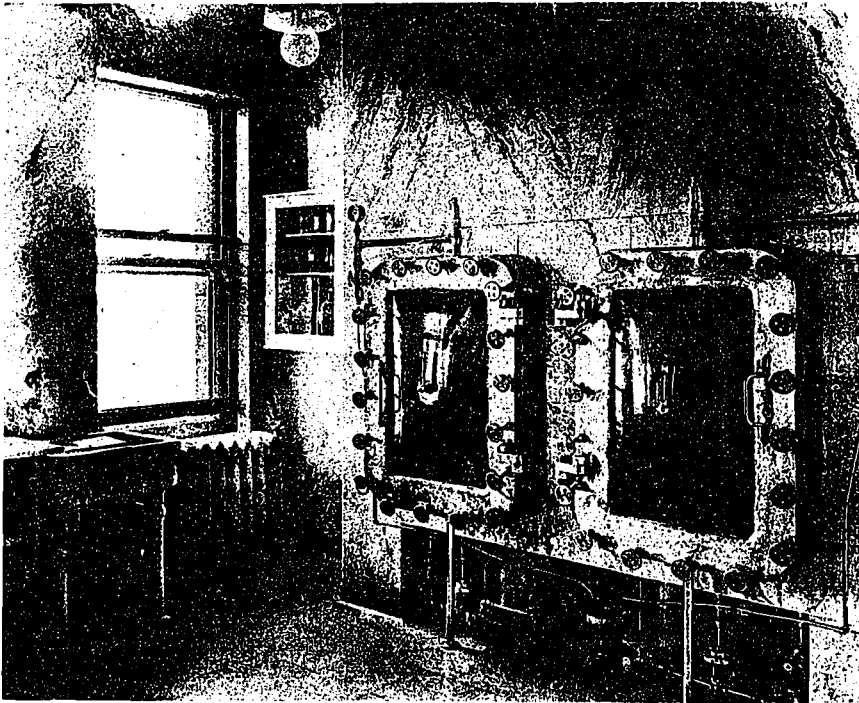
The north portion of the fifth
floor is set apart for the operating
department. It has been the en-
deavor of the architects to make
this department second to none,
not in elegance and expense, but
in simplicity and practical results.
The operating rooms have been

particularly studied for the results which are here attained. The floors are of Tennessee marble; the walls of Tavernelle marble, of a tawny yellow color (selected for its softness and freedom from reflection); and the ceilings and cove of plaster, painted ivory white.

The light through the skylight is diffused by the use of special glass in the frames. The wall lights, as well as the ceiling, have a double sash, with heated air space between. The outside air is admitted, after heating, through space between the sashes. There are no radiators or exposed fixtures in the rooms themselves. These rooms are artificially light-



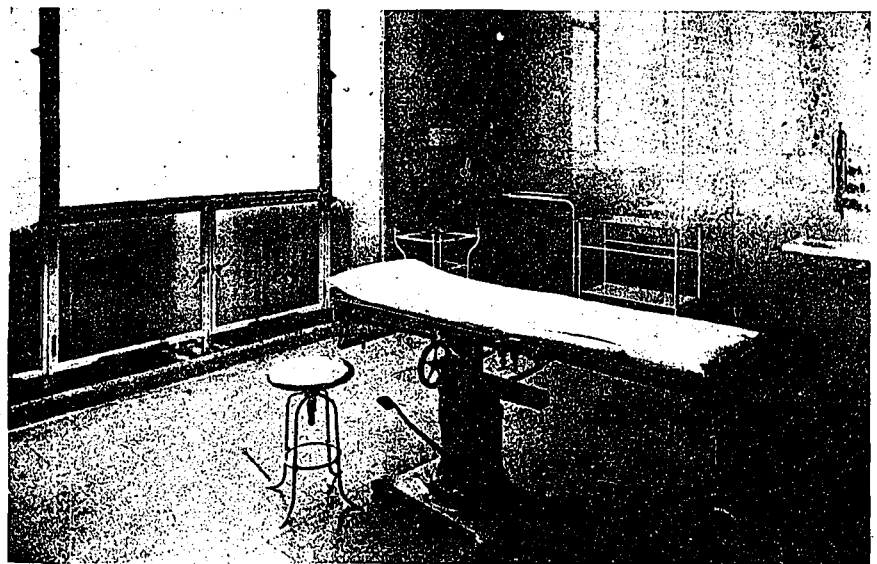
DOUCHER ROOM. SHOWING ELECTRIC BATHS, ETC.



STERILIZING ROOM IN ROSS MEMORIAL WING OF ROYAL VICTORIA HOSPITAL, MONTREAL.

ed through wall-panelled lights and intense hydrogen lights in front of powerful reflectors above the ceiling lights. Distilled water is brought from the still, located above and reheated to any desired temperature in the room, this being the only fixture projecting beyond the surface of the walls. Built-in metal cabinets take care of supplies. A flushing floor drain provides for drainage. Compressed air, nitrous oxide, and oxygen are piped to each room.

In the sterilizing room, which is located between the two operating rooms, there is installed the most modern sterilizing appara-



OPERATING ROOM, SHOWING RADIATORS BEHIND CASEMENTS IN ROSS MEMORIAL WING.

tus. The dressing sterilizers, which have been especially designed for this pavilion, are built into the walls and surrounded with marble casings. These sterilizers have a special device for using superheated steam and for condensing the moisture to give dry dressings. The surgeons' scrub-up is in the open corridor. It is simple in construction, the water being turned on and off by the touch of an elbow. Here also are the built-in cabinets for hot blankets and instruments. The nurses' work room, the surgeons' dressing and locker room, the plaster room, and cystoscopic and anaesthetizing rooms, the laboratory, and orderlies' room are all here provided.

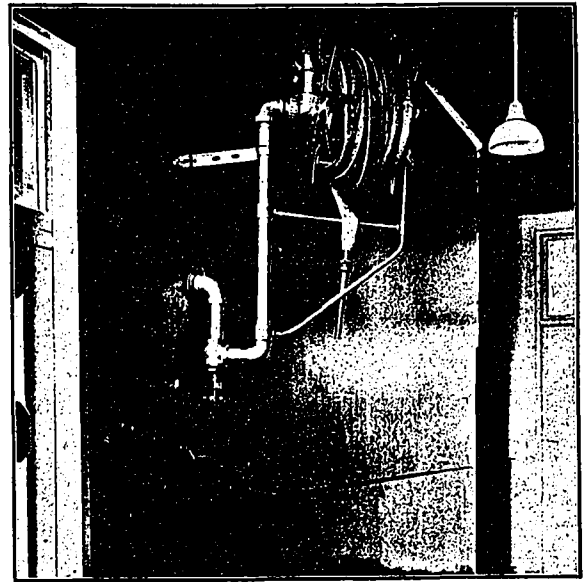
Distilled water is provided not only for surgical purposes, but for drinking water for the entire

pavilion. A room is set apart for this plant in the attic space, and the water for drinking purposes is cooled and circulated throughout the building.

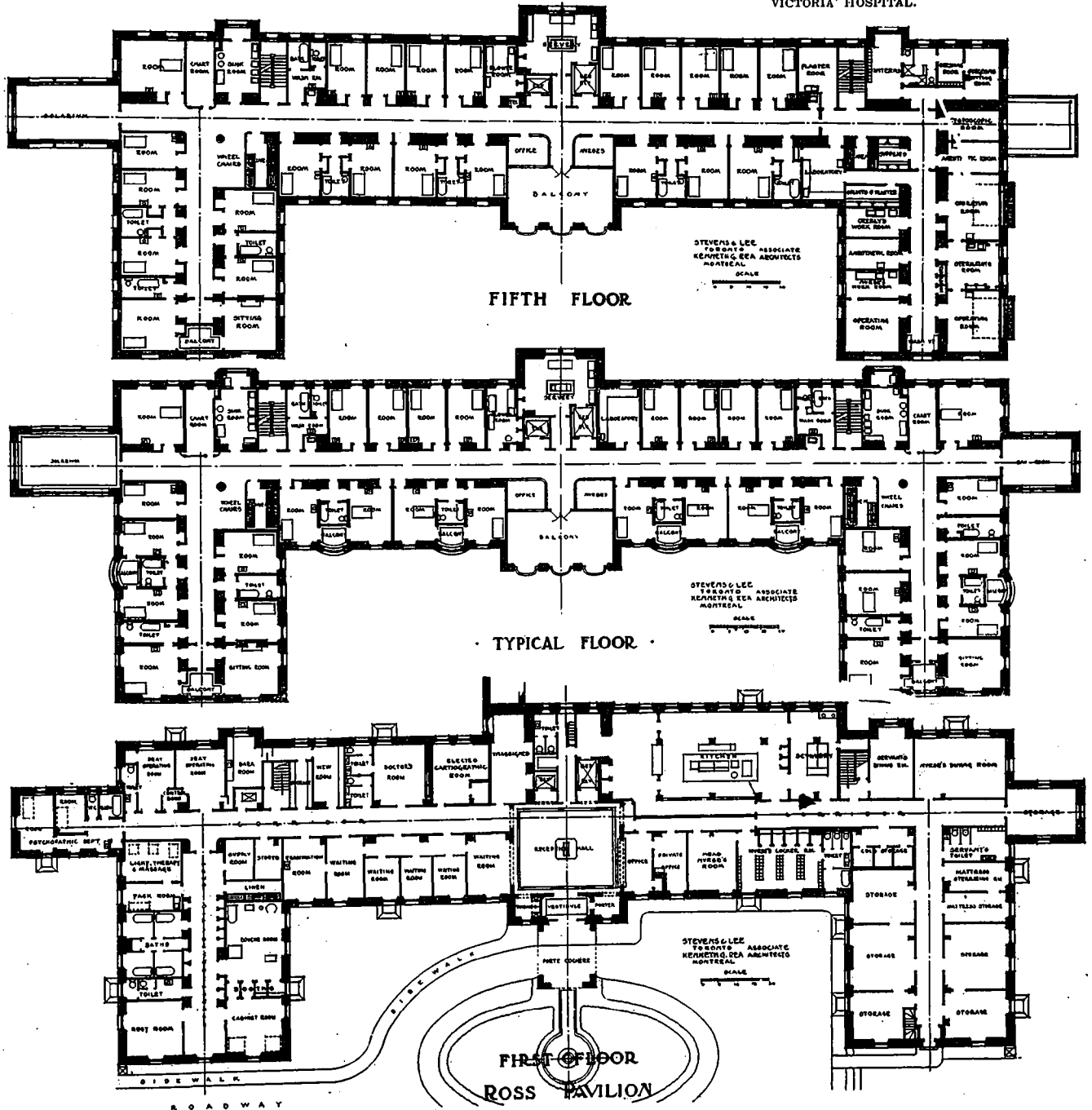
The heating is by hot water, forced by pumps from the hospital boiler plant through a special tunnel. The radiators are set away from the wall and floor, and are supported on brackets.

The nurses' call system consists of a locking push button on each bedside, recording the number of the room at the various nurses' stations on each floor by a silent electric light annunciator, and by a signal light over the door of the patient. In addition to this, an elapsed-time recorder, making a record of the exact time and the duration of every call, is provided in the main office of the building.

Exhaust ventilation is provided by means of fans direct connected to electric motors. The air is drawn from the rooms through tile ducts.



AUTOMATIC HOSE REELS IN ROSS PAVILION OF THE ROYAL VICTORIA HOSPITAL.



First Units of Mount Hamilton Hospital

*Part of a Large Group of
Twenty-two Buildings.*

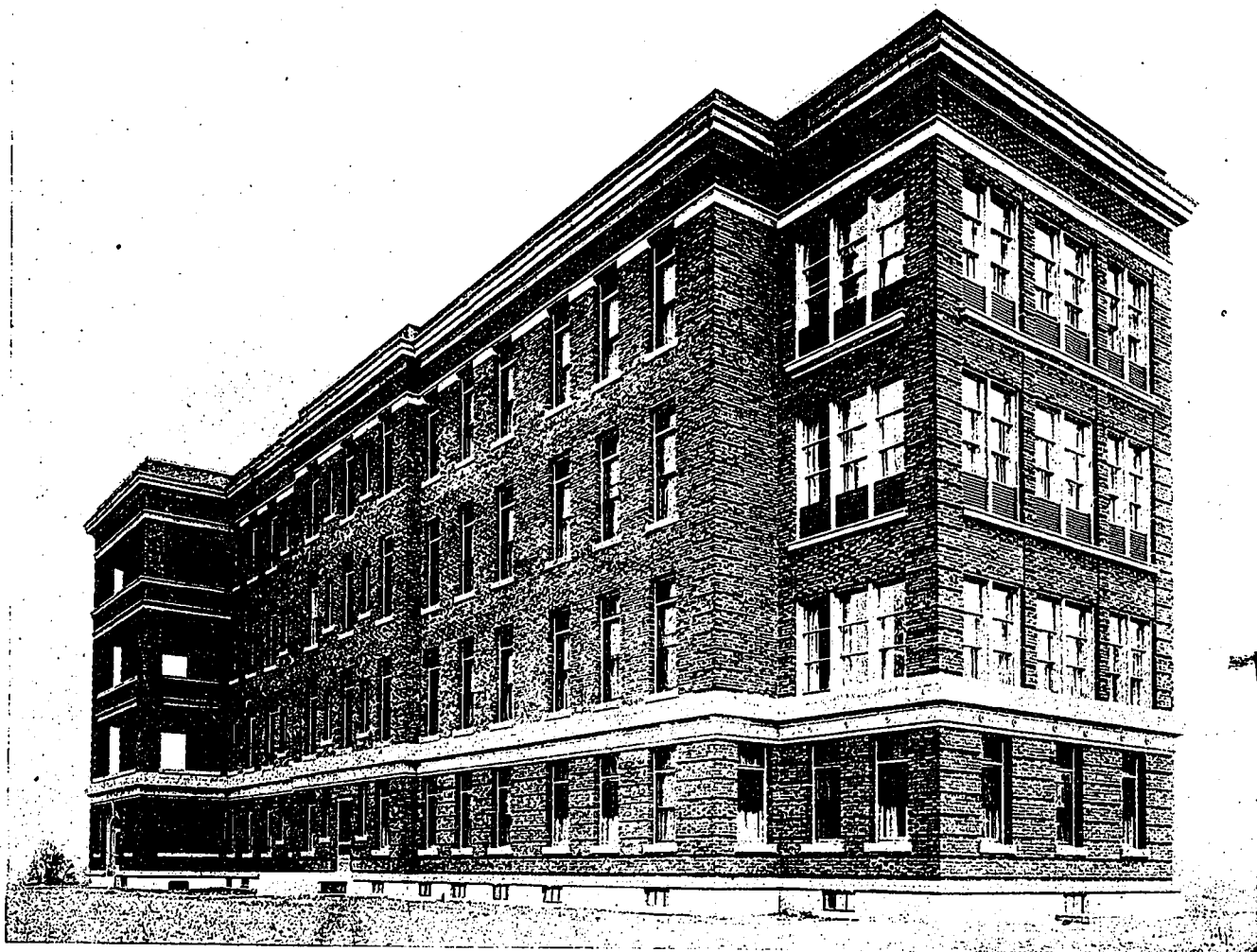
ON May 19th last, His Excellency the Duke of Devonshire formally opened the first unit of the Mount Hamilton Hospital, at Hamilton, Ontario.

When fully completed, the Mount Hamilton Hospital will be one of the most modern and extensive institutions of its kind on the continent. The plans call for twenty-two buildings, consisting of: Administration building, operating building, two surgical wards, two medical wards, semi-private ward, private ward, children's ward, pathological ward, neurological ward, obstetric ward, out-patients' ward, isolation ward, nurses' home, superintendent's residence, female help building, male help building, service building, laundry, power house and garage. The cost will be about \$2,000,000.

The property is on an elevation to the south of and overlooking the City of Hamilton, whence a view is had over the city, the Dundas valley, and Lake Ontario, and has a frontage of 1,140 feet and a depth of 525 feet. It has been very

favorably commented on by many authorities as a location for an hospital.

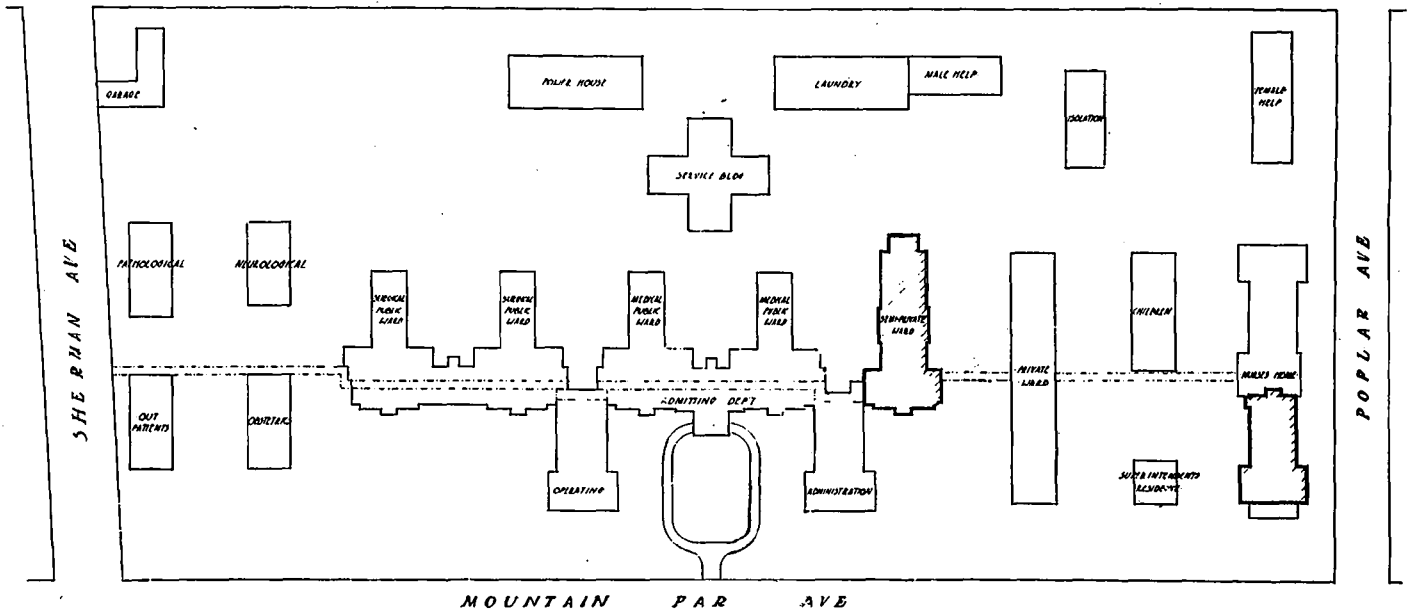
Much investigation among the later United States hospitals, on the part of the architects, Stewart & Witton, Hamilton, in conjunction with Dr. Walter F. Langrill, medical superintendent of the Hamilton City Hospital, was made before the general scheme was planned and presented to the Board of Hospital Governors. The Board approved the plan, as did also Dr. Goldwater, of Mount Sinai Hospital, New York City. Dr. Langrill worked in close co-operation with the architects at all stages of the work. The general scheme, of course, was worked out to take care of requirements for many years to come, the plan being to build as need demanded. On account of the war, the original intention of building the central group, consisting of power house, service, administration and operating buildings, and the public wards, was abandoned, and the buildings illustrated here, the semi-private ward building, and



SEMI-PRIVATE WARD BUILDING, MOUNT HAMILTON HOSPITAL.

STEWART & WHITTON, ARCHITECTS.

CONCESSION ST



PLAN OF ALL BUILDINGS, MOUNT HAMILTON HOSPITAL.

a portion of the nurses' home, were commenced. The semi-private ward building will, for the present, be operated as a complete medical case hospital. Temporary provision for the department of administration has been made on the ground floor, with a kitchen and service room in basement.

Each floor contains six wards of four rooms each, isolation ward, day room, doctors' bed and sitting rooms, serving, store, linen, bath, toilet and sink rooms, two balconies and a solarium.

This building is a good example of architectural design of all buildings in the scheme, although the administration and operating buildings will be more elaborate in treatment, they being at the front of the group. The construction is of reinforced concrete faced with buff-colored, rough texture brick, and with sandstone trimmings. The doors and window frames are the only wood used in construction.

The floors are of

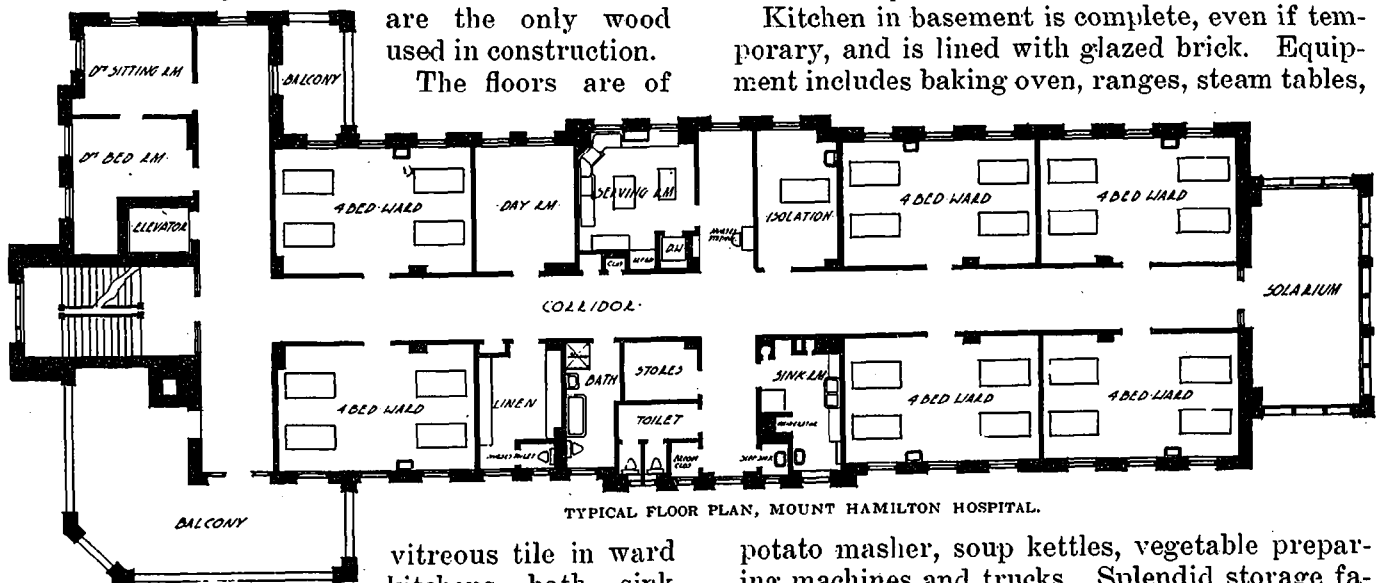
and toilet rooms, terrazzo in wards, and cork with an 18-inch terrazzo border in corridors. The sun-room floors are of quarry tile.

Stairs are terrazzo, with cork treads, the junctions of all treads, risers and strings being coved. Windows are finished with marble sills. Door frames are of metal without casings, and all base is of vitreous tile.

The plumbing fixtures, except kitchen sinks and baths, are of wall hanging type, of vitreous ware, and the baths are of porcelain built in. Lighting fixtures in wards are of indirect type, and for other rooms semi-direct.

In sink rooms on all floors there is a modern glass enameled steel laundry chute, a gas incinerator, provision for gas heater for making poultices, and a specimen cabinet, specially ventilated, where patients' specimens are kept until doctors' inspection.

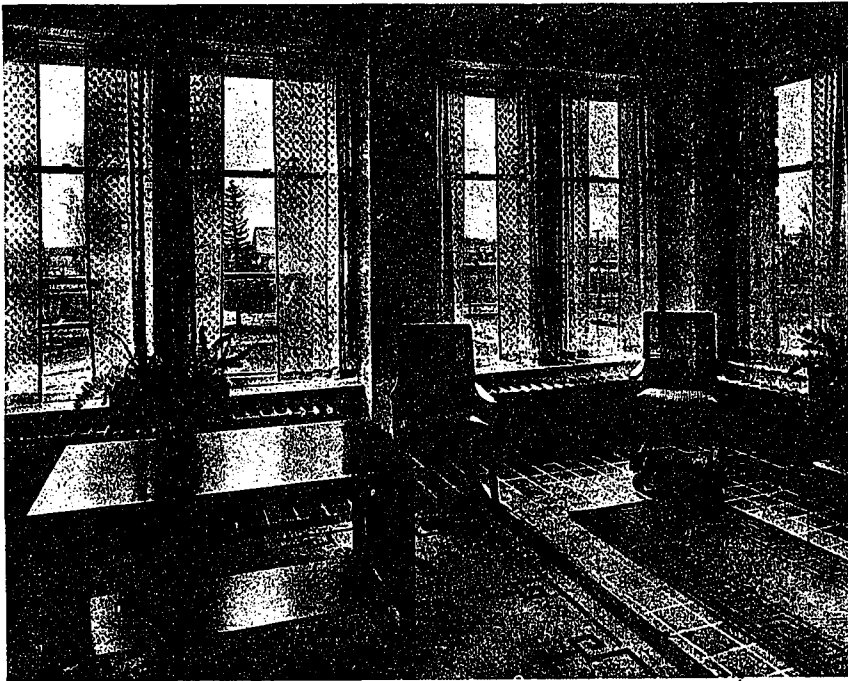
Kitchen in basement is complete, even if temporary, and is lined with glazed brick. Equipment includes baking oven, ranges, steam tables,



TYPICAL FLOOR PLAN, MOUNT HAMILTON HOSPITAL.

vitreous tile in ward kitchens, bath, sink

potato masher, soup kettles, vegetable preparing machines and trucks. Splendid storage fa-

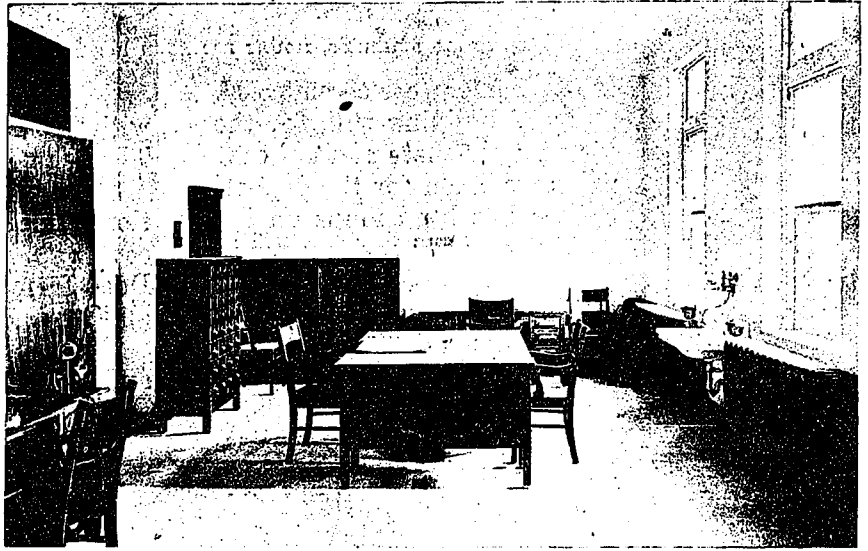


SOLARIUM, MOUNT HAMILTON HOSPITAL.

ilities are provided for food and supplies.

Services are provided for electric power from the lines of both the local electric company and the Hydro. All water is pumped through the building by electricity.

An intercommunicating telephone system and a silent nurses' call system are installed, and in connection with the latter extra receptacles are provided in wall plates for sockets for heating pads and lights. With the nurses' call system, pressure by patient on a push button attached to a



OFFICE, MOUNT HAMILTON HOSPITAL.



FOUR BED WARD, MOUNT HAMILTON HOSPITAL.

flexible cord, illuminates a red bull's eye at head of patient's bed, a red lamp over door of room, and another in head nurse's room, in an annunciator. The annunciator indicates the ward or room from which call comes, and light over door confirms this. The bull's eye indicates the patient making call. Signal cannot be cancelled except at bedside of patient. If there is more than one call from same room, at same time, the cancellation of one does not cancel the others.

Lockers' rooms and storage for patients' clothing are provided in basement. Complete dumb-waiter equipment is installed, with opening at all floors.

The heating is of forced circula-

tion hot water type. Ventilation of service rooms and toilets is by exhaust fans. Mechanical refrigeration is provided for all cold rooms and refrigerators. Hot water is supplied from hot water heater in basement, and stand pipes are provided for fire protection with outlets on each floor. An electric vacuum cleaning system is installed in basement, piping being carried to all rooms and corridors.

A noticeable feature in connection with the furnishings, which are modern and complete indeed, is the presence of rugs in the wards and sun rooms. Walls are tinted, and will be enameled later. Bedside tables and many other items are of steel.

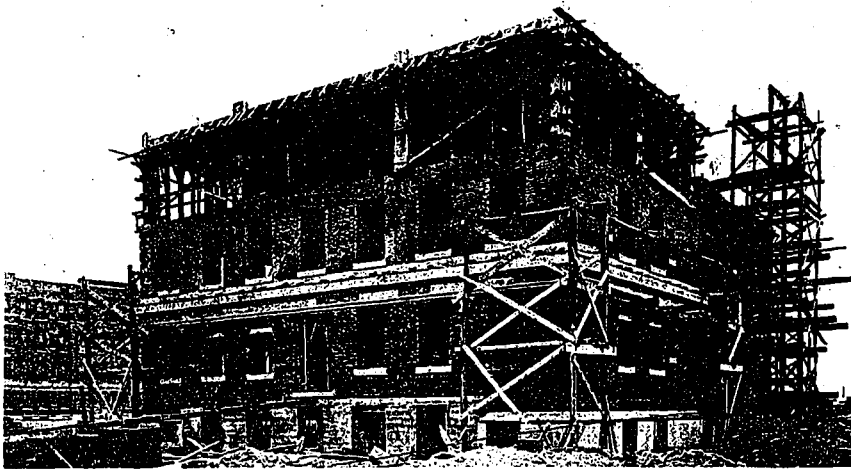
In the illustration of isolation

ward, can be noticed, against wall, at foot of bed, a rather unusual screen. This screen is simple in construction and operation. It is in five spans. When full open the screen covers the foot of an ordinary hospital bed, by a span four feet six inches wide, and the sides of the bed by spans seven feet six inches long. The height of screen is five feet six inches over all. The sides are adjustable in length, and, when folded, as in illustration, the screen occupies a space four feet six inches long, five feet six inches high, and eighteen inches wide.

Screen is made of tubular steel uprights and cross rods, and mounted on wide malleable iron base fitted with four four-inch,



ISOLATION WARD, MOUNT HAMILTON HOSPITAL.



NURSES' HOME BUILDING, MOUNT HAMILTON HOSPITAL.

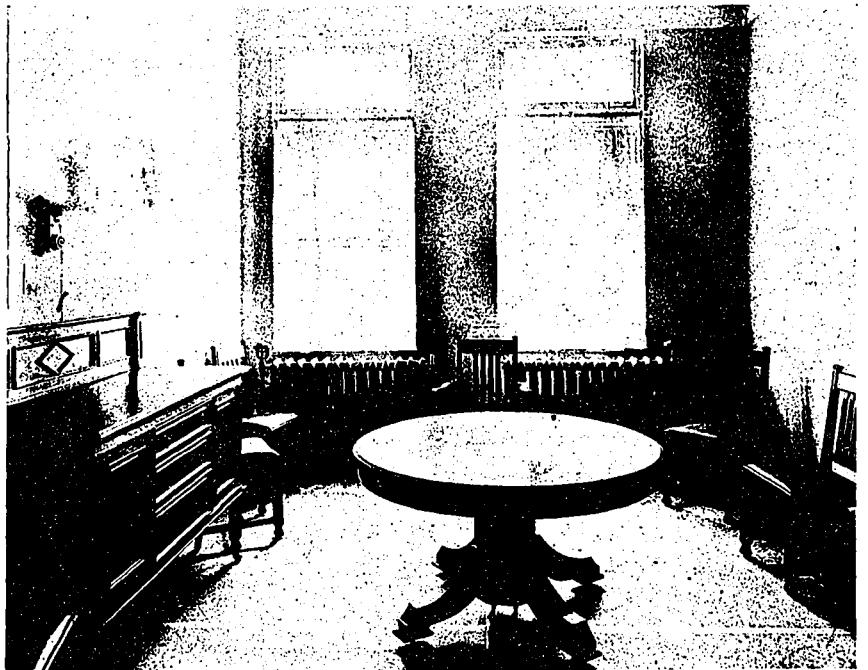
swivel, ball-bearing, rubber-tired castors. The screen cover is made in one piece, of extra heavy and very strong bleached cotton. Loops, tapes, buttons or other fastenings, are not required in any way.

One of the interesting features of the sun rooms are the shutters on the upper floors. These allow of many variations of ventilation and light, and are the same as those described in connection with the infirmary for the Hamilton Health Association (Mountain Sanatorium) in this issue.

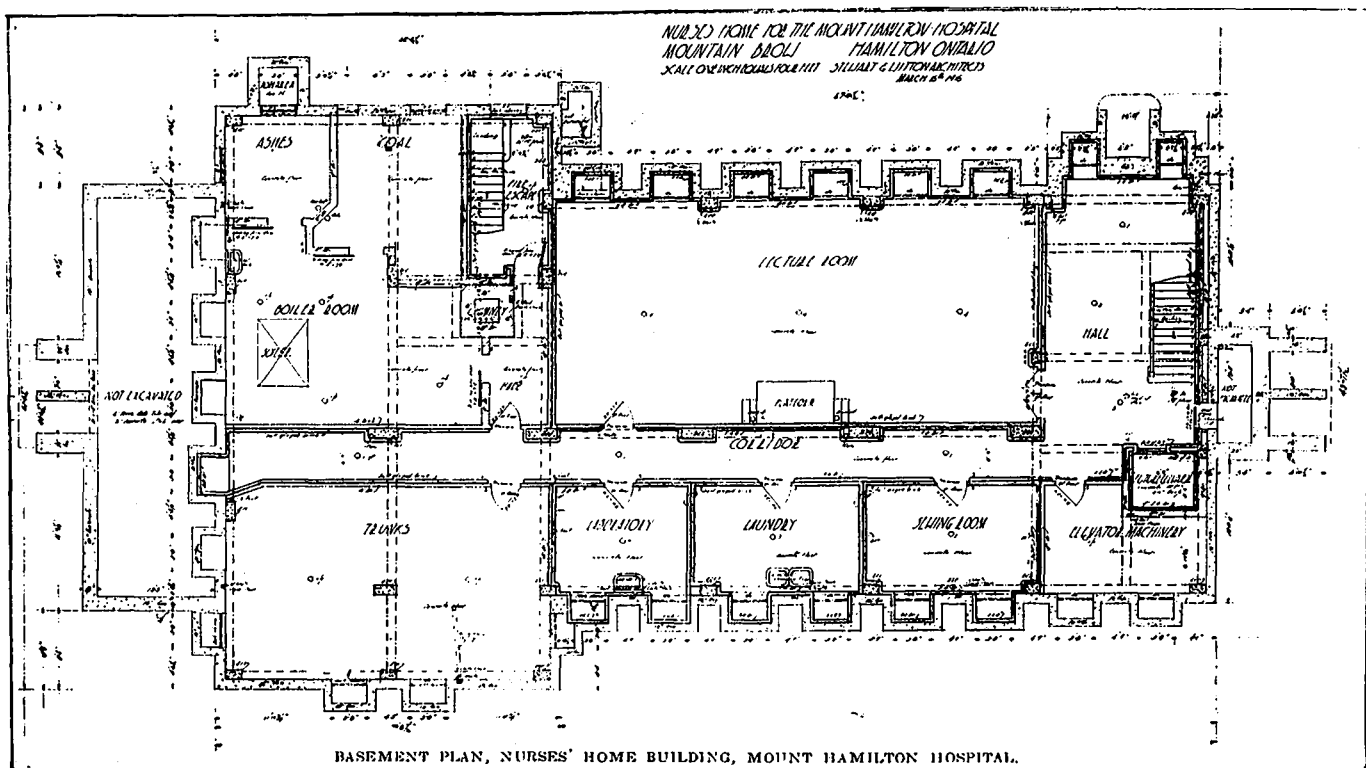
The nurses' home building now under construction is of reinforced concrete, faced with the same brick as the semi-private building, and most other materials are the same. There are four

floors and basement. Provision is made in the present building for fifty-one nurses, each of whom is to have a private room containing lavatory and clothes closet. The superintendent of nurses will have a sitting room and bath, besides bedroom on first floor, and there will be a sitting room, lavatory, two bath rooms, shower and dressing room for nurses on each living floor.

The plan for the complete nurses' building unit gives a good idea of the scope of the general scheme. This plan calls for a six-story building, accommodating



DAY ROOM, MOUNT HAMILTON HOSPITAL.



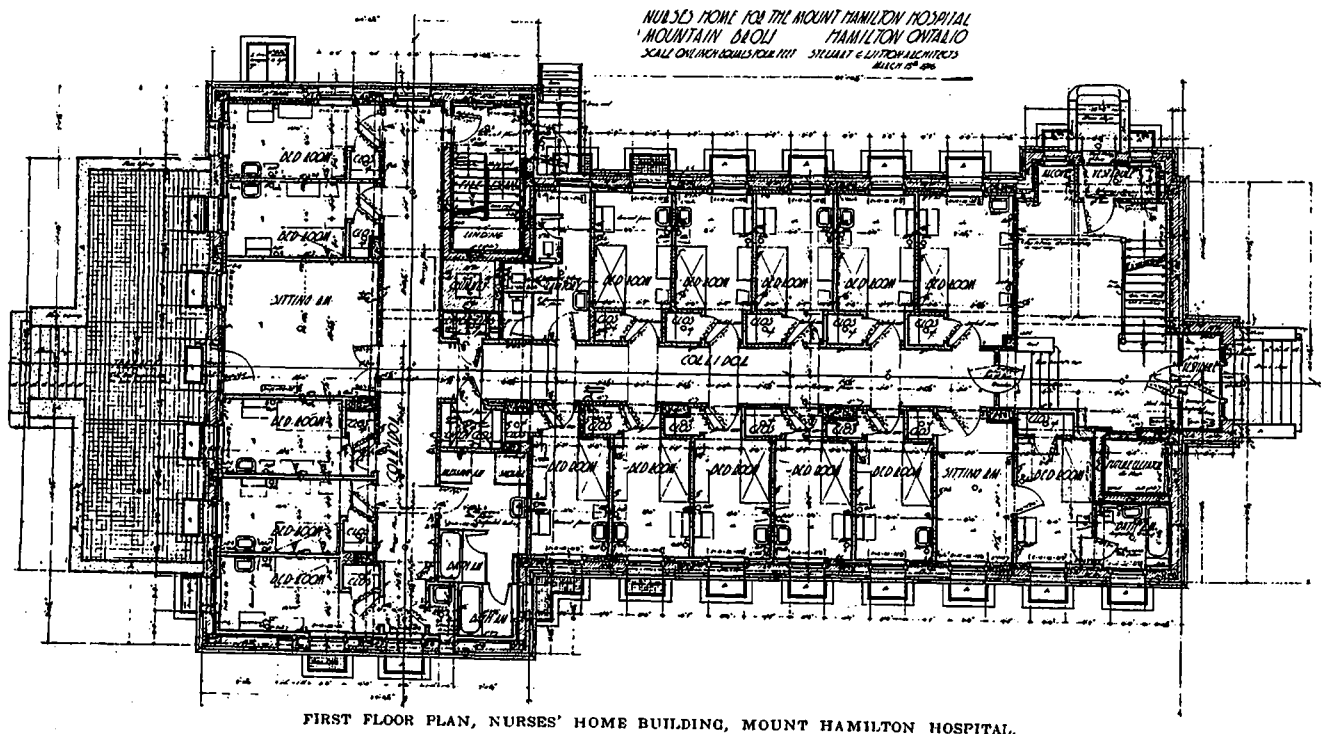
350 nurses, each having a private room. This building will include gymnasium and swimming pool, and will have complete kitchen, store and dining rooms. The portion now being erected can be noted on plan of general scheme.

In the basement are provided lecture room, laboratory, laundry, sewing room and trunk room. All basement rooms have concrete floors. Temporary heating plant is installed, provision being made to couple on to the mains of central heating plant in the future. Separate enclosed fire stairs are provided, as is also a large terrace with red quarry tile floor. Provision is made for elevator in the future.

HOSPITALS AND AESTHETICS

Grosvenor A. Herberly, in *Building Management*

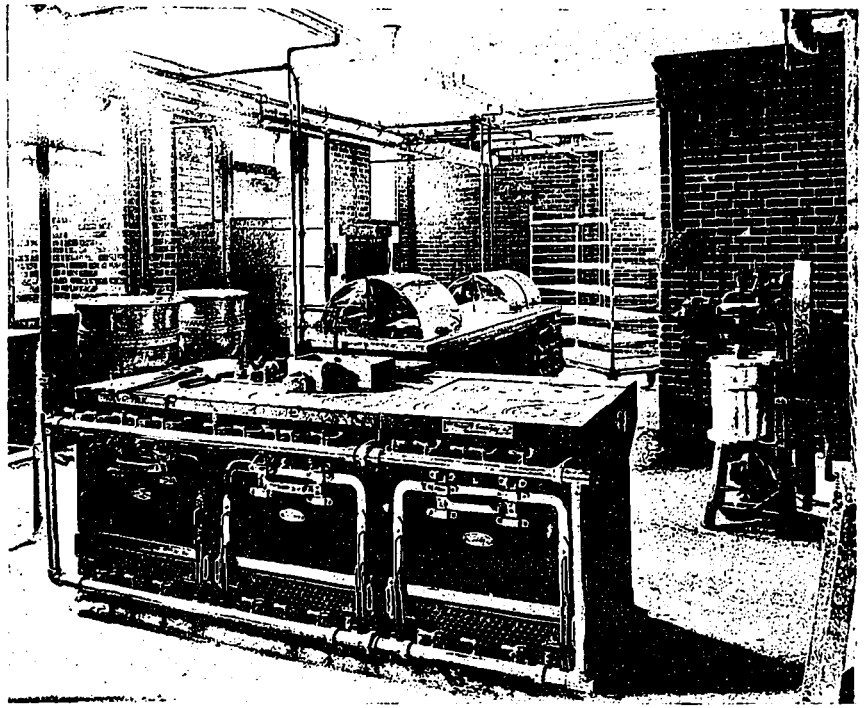
The generic function of architecture is, of course, the proper housing of the human race, in sickness as well as health, and I venture to say that there is to-day no greater field of prophylaxis against disease. It is fast becoming so recognized in all civilized countries. The point I make is, that if the art and science, the aesthetics and mechanics, of architecture are useful in the prevention of disease, so also may they be of service in its cure, and that this involves more the art than the science of architecture.



For the profession may properly be thus defined, theoretically, as of two departments, after the fashion of medicine and surgery. No less, unfortunately, is it largely practised as one to the exclusion of the other, nowhere more regrettably than in the case of the hospital, where too often the science has entered to the exclusion of the art. So it has happened that among all the new hospital conditions that have combined to make the radical advances since the days of Bedlam and the old "Hotel Dieu," one looks usually in vain for the aesthetic element—a consideration of the sense of beauty. With rare exceptions, the only real aesthetic touch in our great hospitals is an accidental one—the trained nurse in her cap and gown. And I venture to say that, considered merely as a

piece of decoration, she has done more than any other one thing to counteract the blight of the institutional atmosphere.

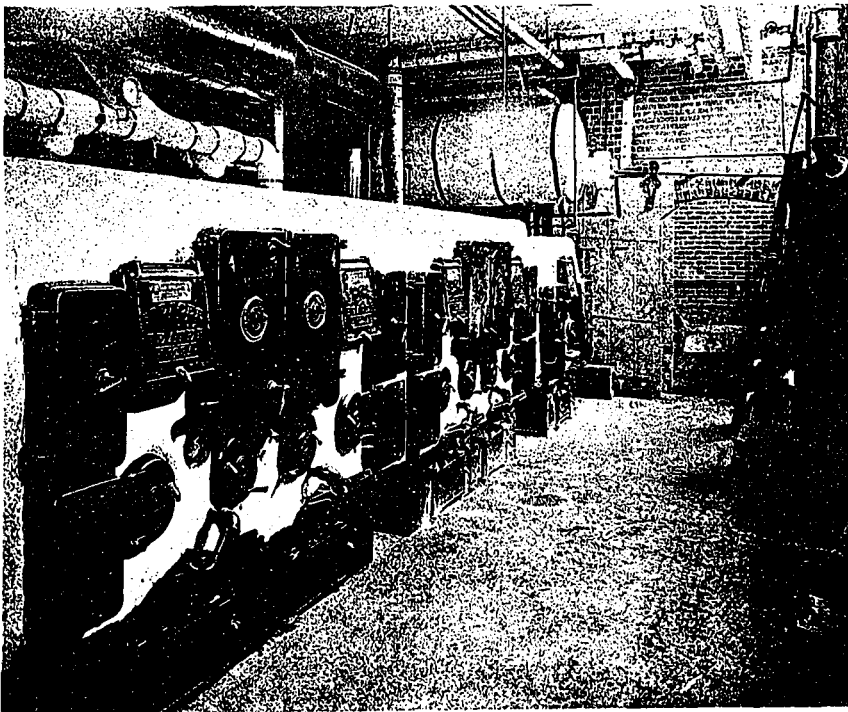
The Esculapian temples of healing were shrines of beauty. Should we then consider the modern hospital as nothing more than a huge shelter provided for the surgeon's, doctor's and nurse's work, as an aseptic workshop furnished with power and machinery, the latest tools and the most perfect equipment and scientific aids to research and clinical efficiency, merely a complex of conveniences and apparatus? Or can we consider it not merely a great mechanism, but a silent agent in the art of healing?



KITCHEN, MOUNT HAMILTON HOSPITAL.

Is this Utopian? Is there healing virtue in sunny climates, in the scent of pine woods, in the stimulating sight of lofty mountain peaks? And is the value of such things found only in direct physical results? Is environment powerful only in aspects of nature? Does our sense of sight react less powerfully to walls of cheerless, glaring plaster than of sunlit foliage? Must the patient make the effort to shut out the one while he welcomes the other? And is an invalid less sensible to such things than the well man? Is the sense of beauty measured altogether by a man's strength and vitality any more than by the degree of his so-called culture?

Am I wrong in thinking that, after all, the most perfect hospital is the one which most nearly satisfies the requirements of that master of all consultants, Dame Nature, and that diagnosis, operation, treatment, research, are all but a seeking to find the way of least resistance through which Nature shall work? And if this is so can we afford to neglect the least helpful thing, even though we believe others more important? Can we yet say through which door of the bodily senses this healing spirit is most apt to come and go? Above all, should we neglect the sense of sight? Or is it mere poetic license that calls the eye "the window of the soul," thus rating vision, psychically, as our master sense? Is it right that the sense of beauty should receive full communion in God's cathe-

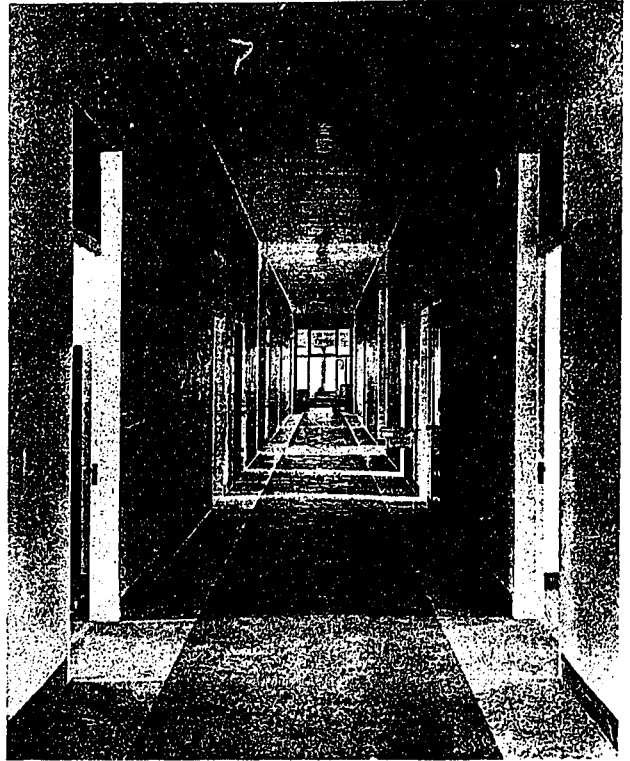


BOILER ROOM, MOUNT HAMILTON HOSPITAL.

dral of Notre Dame and a block away be cast out like some dreaded heretic from the Hotel Dieu?

That a profession whose great minds hail medicine and surgery as inseparable would wittingly call in the architect to serve as master builder, but exclude him as the artist, I am indeed loath to believe.

"Having torches they passed them on, one to the other." And should it not be to-day—and always—as it was in the days of the torch race? In his address in surgery on the "Realignment in Greater Medicine," Cushing pleads for the wider co-operation of medicine and surgery and their allied sciences which, as he quotes from Huxley, "are independent in proportion as they are imperfect." And so he speaks hopefully of the closer co-partnership into which the men of medicine, surgery and scientific research are now entering. But must we stop there? Is it presumptuous to suggest that in this business of healing the sick in hospitals, the art of architecture be included as a kind of special partner? Are there not times when in the brotherhood of all the arts and sciences one profession should take the torch from another, as did those Greek

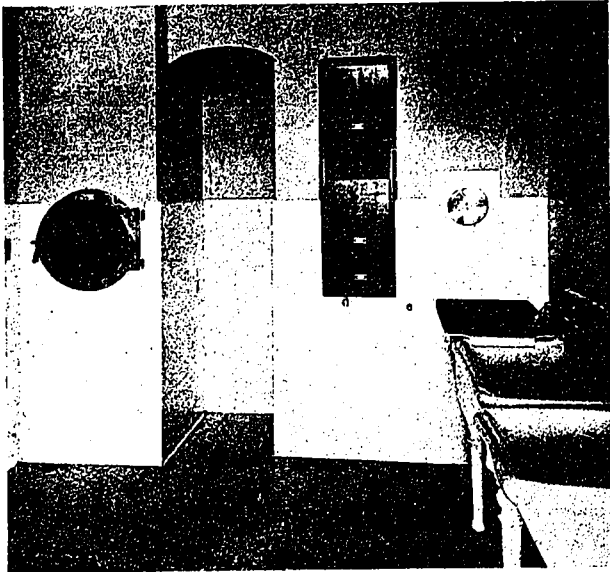


MAIN CORRIDOR, MOUNT HAMILTON HOSPITAL.

In such a spirit at all events, encouraged, be it said, by some of those who are to-day the acknowledged torch-bearers of greater medicine, I have thus ventured into its kingdom, asking "safe conduct" for the sake of the art whose passports I carry.

SOME USEFUL INFORMATION

Solid brick walls with $\frac{1}{4}$ -in. mortar joints require 14 bricks per square foot of wall 9 in. thick, 21 for 13-in. walls, and 28 for 18-in. walls. To lay 1,000 brick with 3-16-in. joints requires 8 cu. ft. of mortar, $\frac{1}{4}$ -in. joints 10 cu. ft., 5-16-in. joints 12 cu. ft., $\frac{3}{8}$ -in. joints 16 cu. ft. To lay 1,000 brick in 1:3 $\frac{1}{2}$ cement mortar $\frac{3}{8}$ -in. thick requires 1 $\frac{1}{4}$ bbl. cement and five bags or 18 cu. ft. of sand.



SINK ROOM, MOUNT HAMILTON HOSPITAL.

runners, proud to be its bearer if only for a moment, eager to advance it toward the goal; content if only it be none the dimmer for his carrying, and ready to yield it in turn to some fresh runner in the race of human progress?

So, while as an architect speaking of things medical I have some fear lest parts of this paper appear to be rather superficial criticism of things beyond the scope of my profession, from a broader point of view I make no apologies. For, to my thinking the universality of art, both in extent and intent, enfranchises the craftsman in every domain of human activity in which he renders service—gives each profession a brevet in the ranks of every other. So I feel that in a large sense, even as it is, I speak among conferees.



FOOD STORAGE WALL FIXTURES IN MOUNT HAMILTON HOSPITAL.

Infirmery of Hamilton Health Association

*Modern Building on Mountain for
Treatment of Pulmonary Tuberculosis.*

IN 1913 the Hamilton Health Association, operating the Mountain Sanatorium, found it necessary to erect a building to give additional accommodation for patients with advanced cases of pulmonary tuberculosis.

On the selection of the architects, Stewart & Witton, a member of the firm in whose charge the work was to be, in company with Dr. J. H. Holbrook, medical superintendent, visited a great many of the sanatoria in the United States, studying the design and equipment, with a view to making the building in hand modern in every way.

The property of the Association is located to the west of and on the brow of an elevation overlooking the Dundas valley, with a frontage of 1,200 feet and a depth of 2,900 feet. The brow frontage is somewhat spoiled for building purposes by being deeply cut into by a ravine which leaves approximately equal frontage on the brow on each side.

Though the main group of buildings were at the southerly part of the property, it was decided to build this infirmary at the brow and make it complete in all departments, except the laundry.

The proper designation for this building is "The Infirmery for the Hamilton Health Association," but for brevity's sake it will here be called the "Hamilton Mountain Sanatorium," a name which is commonly applied to it and other buildings of the association.

The building is of fireproof character, of reinforced concrete and hollow tile, faced with buff brick, and designed for a future third story, and, from the accompanying plans, will be seen the extent of provision for the open air treatment of patients.

The distinctive feature of the building is the arrangement of the wards, inner rooms heated

in winter and separated by folding doors from the balconies, are provided for use at meal times and for bathing and dressing.

Each ward, except isolation wards, has its balcony, the beds, mounted on large castors, being moved with ease from one to the other. There are twenty-two beds on the ground floor, and twenty-eight on the first floor. Besides these, on the ground floor are two isolation wards, and on the first floor five.

The balconies are provided with double-hung sash, sliding shutters and wire screens which can be kept below the sill level when conditions permit. The shutters, when up, permit free access of air, and keep out the sun, and, to some extent, rain and snow.

Entering through the vestibule to the public hall, to the right are nurses' room, examining room, waiting room and pharmacy, and to the left offices, private office of medical superintendent and laboratory. This floor contains the main kitchen, store room well equipped with bins and wall cases, nurses' and helps' dining rooms. On the other floor are diet kitchen, serving room and doctors' bed and sitting rooms and sleeping porch.

Floors are of terrazzo and concrete treated with concrete hardener. All door frames are of steel. A locker room with steel lockers is provided. All bedside tables are of steel. A silent nurses' call system, similar to that on the Mount Hamilton Hospital, is installed, as is also dumb waiter equipment.

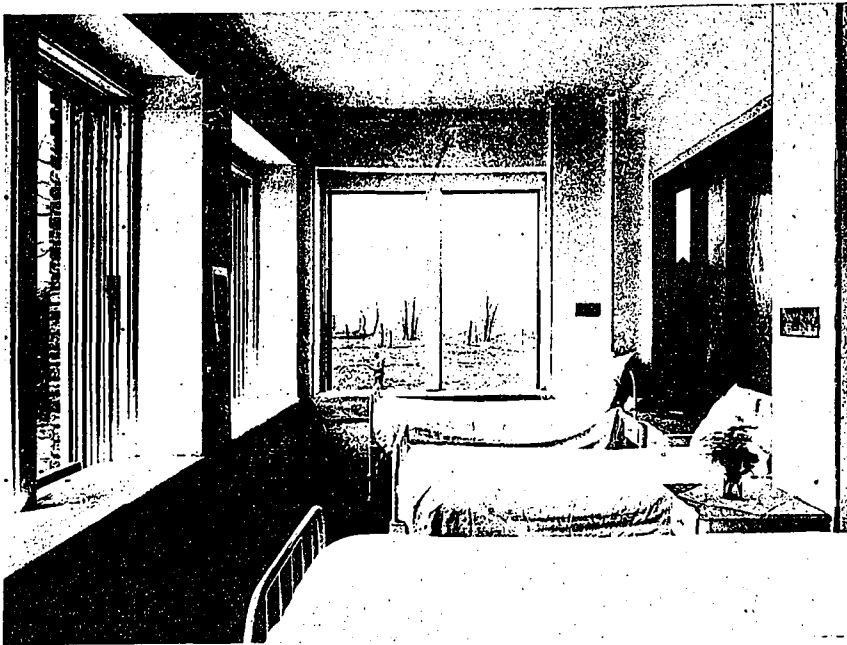
The building is provided with mechanical refrigeration, electric light and power, and is heated by a forced circulation hot water system.

At the request of the Government, this building was temporarily given over for the treatment of returned tubercular soldiers. Since



MOUNTAIN SANATORIUM, HAMILTON.

STEWART & WITTON, ARCHITECTS.



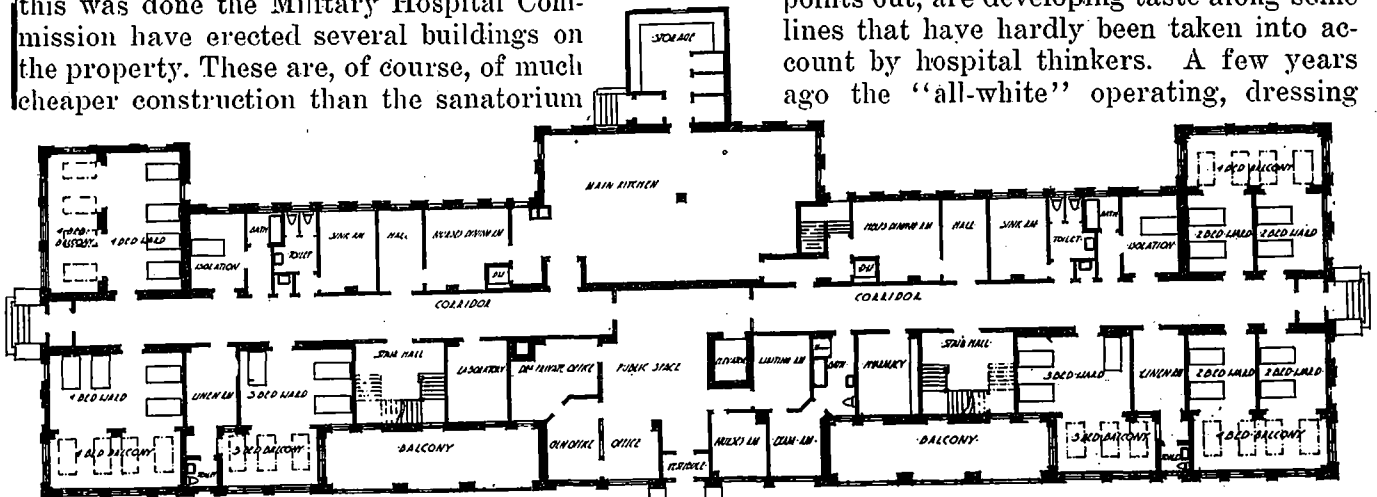
BALCONY, MOUNTAIN SANATORIUM, HAMILTON.

TASTE AND REFINEMENT IN HOSPITALS

In recognition of the powerful influence of environment, hospital administrators are nowadays thinking about making their institutions attractive to all the senses. They invoke beauty of architecture and decoration to please the eye; harmony of sound, music, and quiet, in which harsh noises are prohibited, to please the ear; flowers and sweet scents (in place of the old-time hospital smells, iodoform and carbolic acid) to please the sense of smell; soft fabrics, blankets, and linens, and smooth, clean furniture, to please the sense of touch; and appetizing foods to please the sense of taste.

this was done the Military Hospital Commission have erected several buildings on the property. These are, of course, of much cheaper construction than the sanatorium

But we, the "Modern Hospital" points out, are developing taste along some lines that have hardly been taken into account by hospital thinkers. A few years ago the "all-white" operating, dressing



GROUND FLOOR PLAN, MOUNTAIN SANATORIUM, HAMILTON.

proper. Two views, one of a dining room, and one of a ward of the Commission buildings, are given.

and service rooms were regarded as the very last word on asepsis; and we have in mind a few hospitals in which the "all-white" fad was permitted to rule even in the private rooms, and white metal beds, white enameled dressers and tables, and white linen covers and shades were to be found.



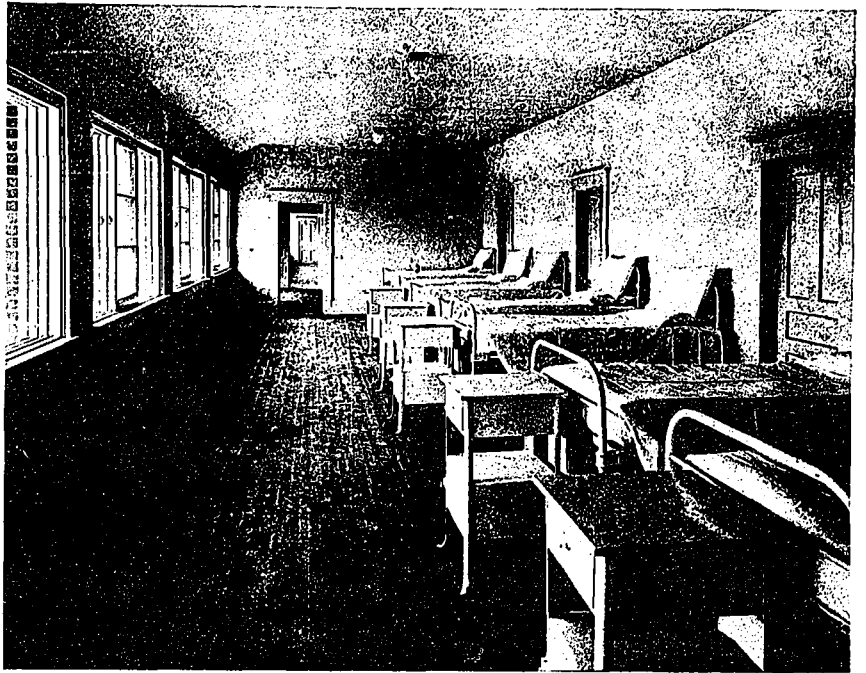
KITCHEN, MOUNTAIN SANATORIUM, HAMILTON.

It seems that we have well passed this stage of attractiveness now, and superintendents and trustees of taste and culture are planning for "pretty things" in furniture and accessories. That is why the idea of having well-to-do people of refinement furnish individual rooms has taken so strong a hold on the trained hospital mind.

It is a joy to go into a hospital and find evidences of good taste and refinement on every hand, the

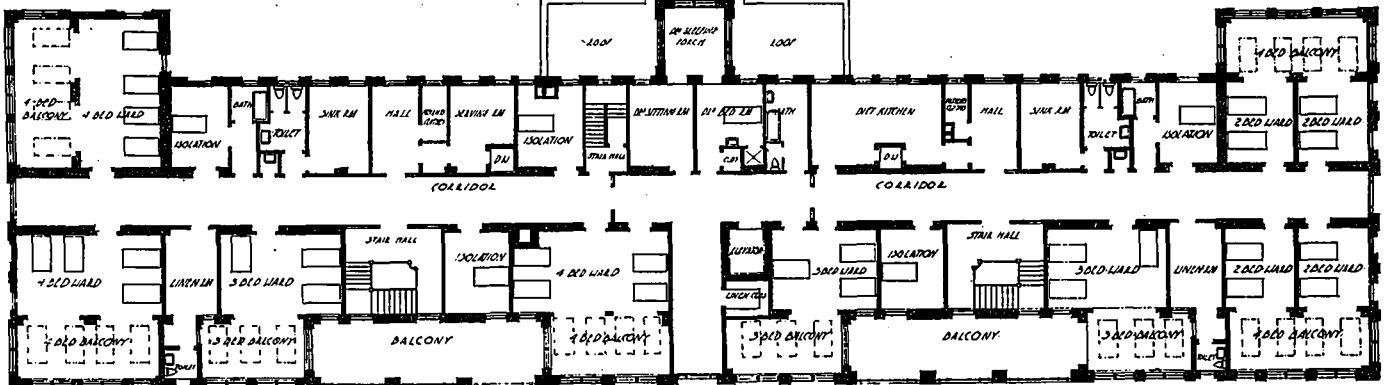
private rooms provided with attractive carpets or rugs, the windows tastefully draped and shaded, the furniture in pretty styles and of good material, well treated. And if the rooms are all different in their furnishings, each one striving, as it were, to be more inviting than the others, it gives one the feeling that the creature comforts and the sensibilities of patients, as well as their ailments, are given care and thought.

There is no reason why the wards may not also share in these beneficences. Pretty rugs, large and small, can be disinfected and kept clean; window shades and drapings may be artistic, soft and pleasing; the beds may be in attractive patterns, pleasing polishes, and dainty colorings; and the bed dressings may be kept clean and neat. These things all enter into the therapy of our time, far more than drugs, plas-



WARD, MILITARY HOSPITAL, HAMILTON.

made. Those tested during the month were 12 feet high, 4 feet long, and either 12 or 6 inches thick. The tests of the walls were



SECOND FLOOR PLAN, MOUNTAIN SANATORIUM, HAMILTON.

ters and poultices. May more hospital superintendents find the money to add their share to the new era of good taste and refinement in hospitals!

TESTS OF TILE WALLS

During the month of April the first of several tests of tile walls were made by the United States Bureau of Standards. While previously various commercial tests of the load-carrying capacity of tile walls had been made, in the present case the work is part of a large investigation which is being made at the suggestion of the tile manufacturers and of the committee on hollow tile of the American Society for Testing Materials.

About fifty walls of various heights and thicknesses will be

satisfactory in every case, high loads being obtained, and material showed good deportment.



DINING ROOM, MILITARY HOSPITAL, HAMILTON.

New Surgical Pavilion of St. Joseph's Hospital

*Addition to Hamilton Institution
Provides for Future Extensions.*

LACK of accommodation and the need of the more effective separation of medical and surgical cases was the prevailing motive for the building of a new surgical wing at the St. Joseph's Hospital, erected at Hamilton, Ont. The location of this wing to the west of the present building had in view the future development of this institution so that the ward wings would eventually run north and south with the administration building between them, changing the present entrance from the west to the south. The power house and laundry are at the extreme west of the property.

The immediate problem was to provide a building for about sixty patients (both public and private), with the necessary ward accessories and operating suite. In addition to these there have been provided all the culinary department, dining rooms, nurses' instruction rooms, X-Ray department and laboratories for the entire hospital.

As the sum at the disposal of the Hospital authorities was limited, the building materials and type of construction had to be carefully considered to keep the cost down to the necessary minimum. The cost of this wing has worked out at less than \$1,500 per bed.

The exterior is of grey brick with limestone trimmings to harmonize with the existing building. There are three stories and basement, with a corridor in the basement and on the ground floor connecting with the existing building. The pan system of reinforced concrete was adopted to obviate the necessity of suspended ceilings, which have been used only in certain rooms to conceal plumbing pipes. The floor slabs rest on concrete columns and girders and the exterior brick walls.

The partitions are of hollow tile with wall furring of the same material. The finish in general is of hard plaster painted, this coming

flush with a terrazzo covered base, which extends out into the rooms as a border to and flush with the Jaspe linoleum finish of the floors. The door and window frames are flush with the plaster and the joint is covered with a small metal strip giving the least possible lodgement for dust. All doors are flush panel, sanitary type, veneered in birch.

All toilet rooms, serveries and sink rooms have a full terrazzo floor, and the stall partitions are of Vermont marble. The windows of the patients' rooms are provided with a ventilating apron, to prevent the draught coming upon the patient.

The service entrance is through an area into the receiving room, where all goods are checked and weighed. The store rooms and cold storage rooms are adjacent to this room and easily accessible from the kitchen. In the latter are provided gas range and charcoal broiler, vegetable steamer, stock kettle,

cereal cooker and water urn. In the scullery is apparatus for the preparation of vegetables and ice cream making, run by an electric motor. The food is served to the different floors through dumb waiters opening into the ward serveries and thence on trays by the nurses.

In close proximity to the main kitchen are located the nurses', sisters', servants' and special dining rooms. The latter is for the priests and any visiting friends. There is a separate servery for these with carving and steam table for keeping the food hot. The remainder of the basement is taken up with the X-Ray department, laboratory and the different instruction rooms for the training of the nurses, which includes a kitchen for diatetic work.

Coming to the ground floor, on the main axis is located the chapel, which is one story in height. There is a flat tile roof over this, giving provision for the open air treatment of cases



ST. JOSEPH'S HOSPITAL, HAMILTON.

STEVENS & LEE, ARCHITECTS, TORONTO.

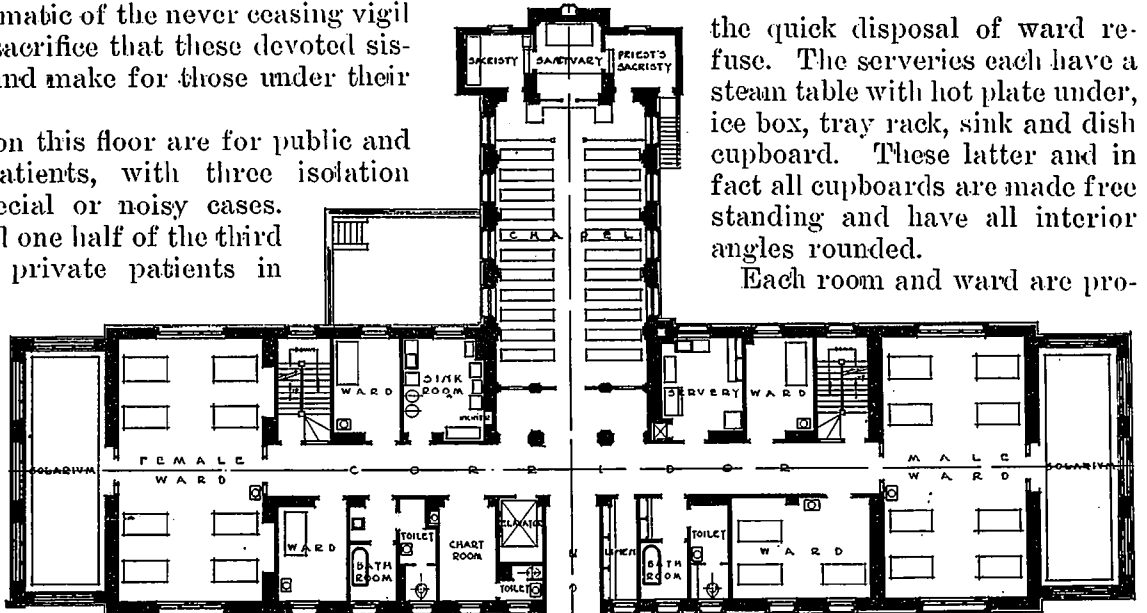
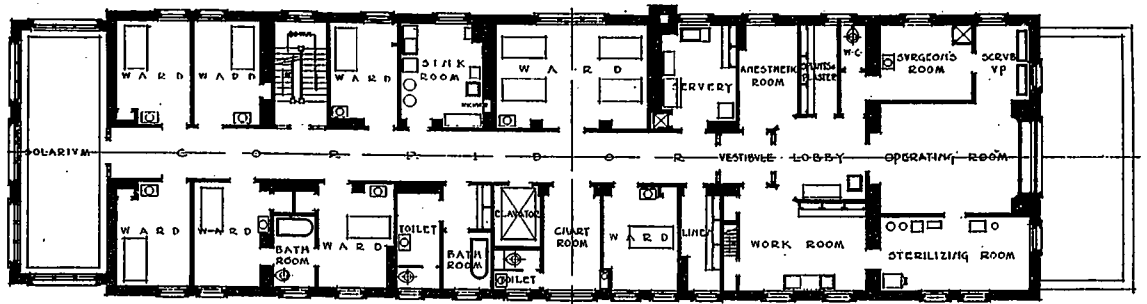
that require it. In the sanctuary of the chapel a ceiling fixture contains an oil lamp never allowed to be extinguished, which is emblematic of the never ceasing vigil and constant sacrifice that these devoted sisters exercise and make for those under their charge.

The wards on this floor are for public and semi-public patients, with three isolation rooms for special or noisy cases. The second and one half of the third floor are for private patients in single rooms and semi-public patients in wards of four each, there being three suites of bedrooms, which may be let together or separately. There is

a room on the second floor for care and preservation of flowers sent to the patients. In general the accommodation for the patients is at the ends of the building, leaving the centre for the rooms assigned to the work of the nurses, which is of necessity more or less noisy.

At each end of the building on all floors are sun rooms with quarry tile floors. These are heated and have sash that fold back to the jambs with special hardware, permitting the full daylight opening of each window, so that the rooms may be used to the best advantage both in summer and winter.

The sink rooms are equipped with sink for general work, bed pan sink and rack, utensil sterilizer, gas plate for the making of poultices and fomentations, and a small gas wall incinerator for

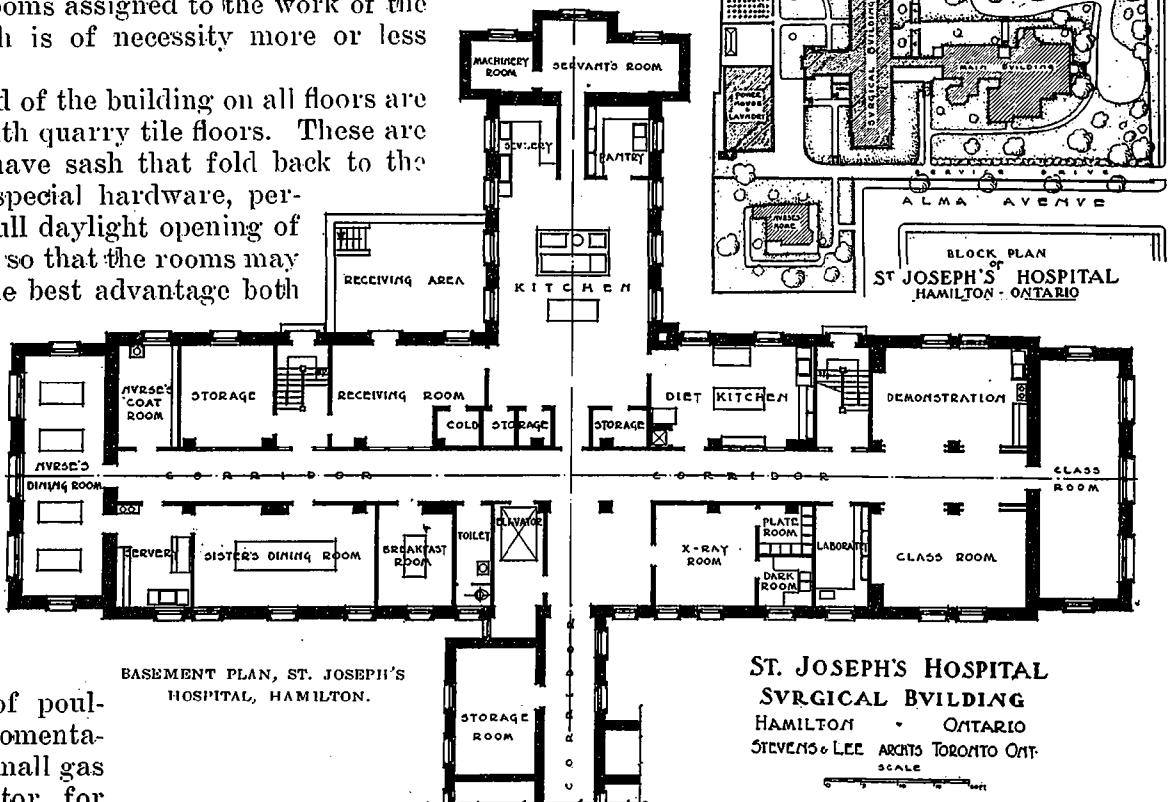


FIRST FLOOR PLAN, ST. JOSEPH'S HOSPITAL, HAMILTON.

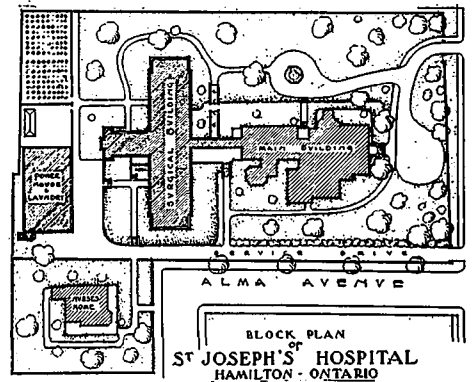
the quick disposal of ward refuse. The serveries each have a stean table with hot plate under, ice box, tray rack, sink and dish cupboard. These latter and in fact all cupboards are made free standing and have all interior angles rounded.

Each room and ward are pro-

vided with a wash basin for the convenience of the surgeon as well



BASEMENT PLAN, ST. JOSEPH'S HOSPITAL, HAMILTON.

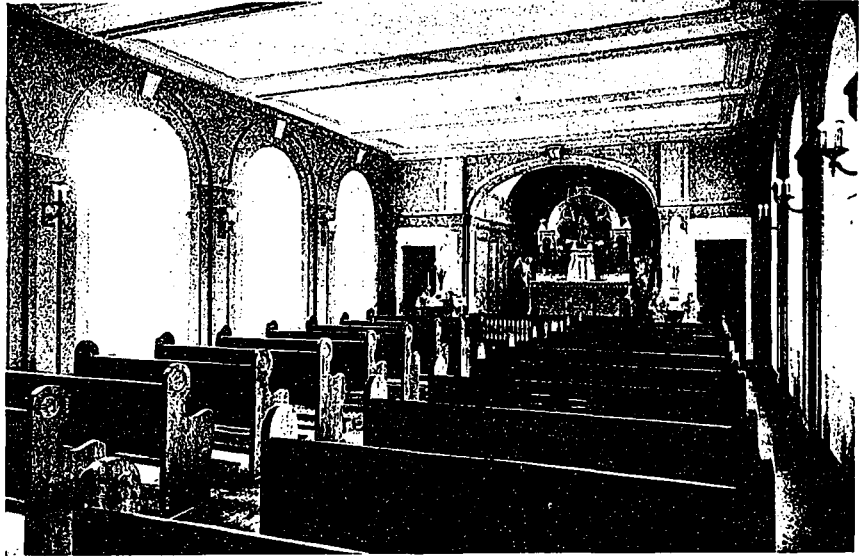


BLOCK PLAN ST. JOSEPH'S HOSPITAL HAMILTON - ONTARIO

ST. JOSEPH'S HOSPITAL SURGICAL BUILDING HAMILTON - ONTARIO STEVENS & LEE ARCHTS TORONTO ONT. SCALE

as the patient. Back of these basins the wall is lined with white tile flush with the wall, and in this tile are set vitreous mirror frames and soap dishes flush with the tile.

There is a nurse call at the head of each bed, which registers by lights in the corridor over the door of the room or ward and in the floor chart room, where is located the head nurse's desk. In wards there is a pilot light showing which patient in that ward made the call. There is a locking device on the call button, so that the call may only be cancelled by the nurse answering it, at the bed, with a key which operates the device. This system is operated by duplicate sets of storage batteries, charged from



CHAPEL IN ST. JOSEPH'S HOSPITAL, HAMILTON.

are the nurses' work room and the sterilizing room. The equipment of the latter consists of dressings, water, utensil, and instrument and glove sterilizers set on one combination pipe frame. All the plumbing fixtures in this department, as well as the rest of the building are special, with elbow valves and removable strainers for cleaning the pipes and traps. There is a sink for the orderly in the lobby and a flushing floor drain in the operating room.

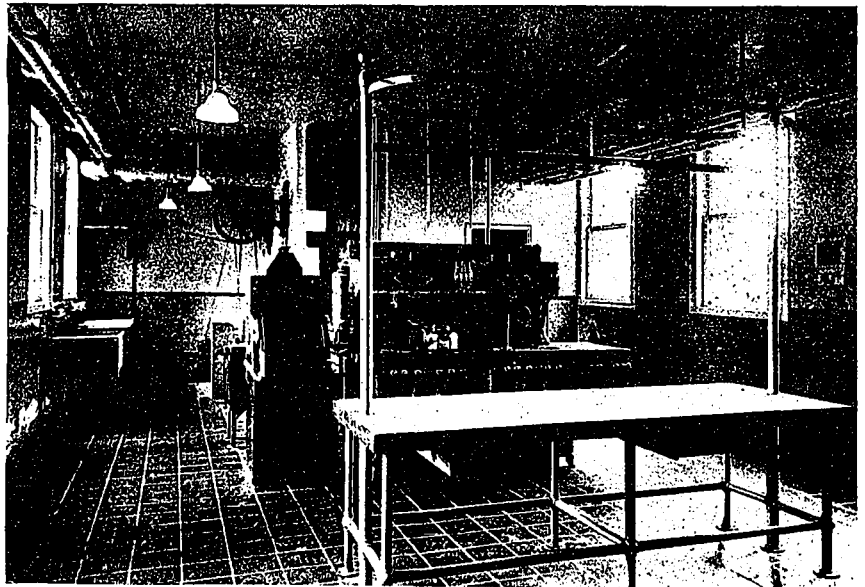


SOLARIUM IN ST. JOSEPH'S HOSPITAL, HAMILTON.

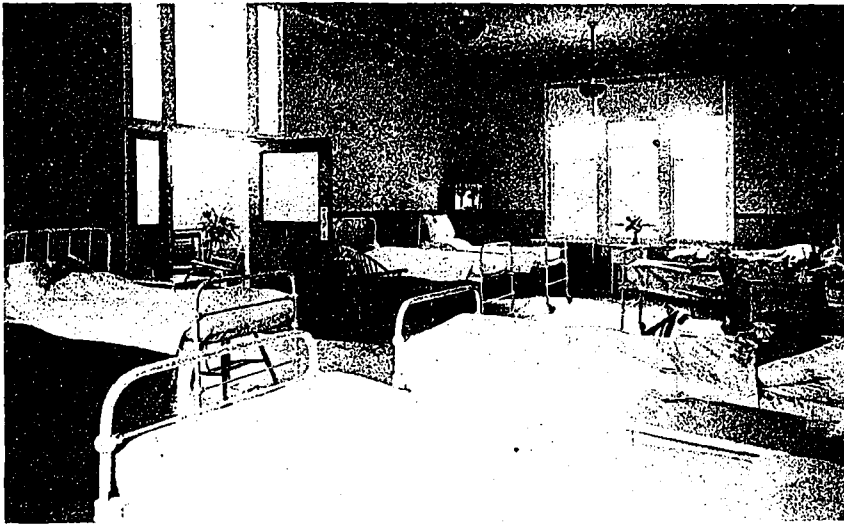
a motor generator set. A telephone jack is installed in the private rooms for the use of the patient, but the instrument itself is portable.

The operating department, located on the top floor at the north end of the building, is entered by two set of doors with vestibule between. The latter gives directly into the anaesthetic room, so that the patient is etherized before being brought into the working part of the suite. The lobby, lighted from above, opens into all the different rooms of the department. On one side of the operating room are the surgeons' dressing room, toilet and scrub-up, there being no door to touch in entering the operating room from the scrub-up. On the other side

itself, fresh air being introduced under the sill.



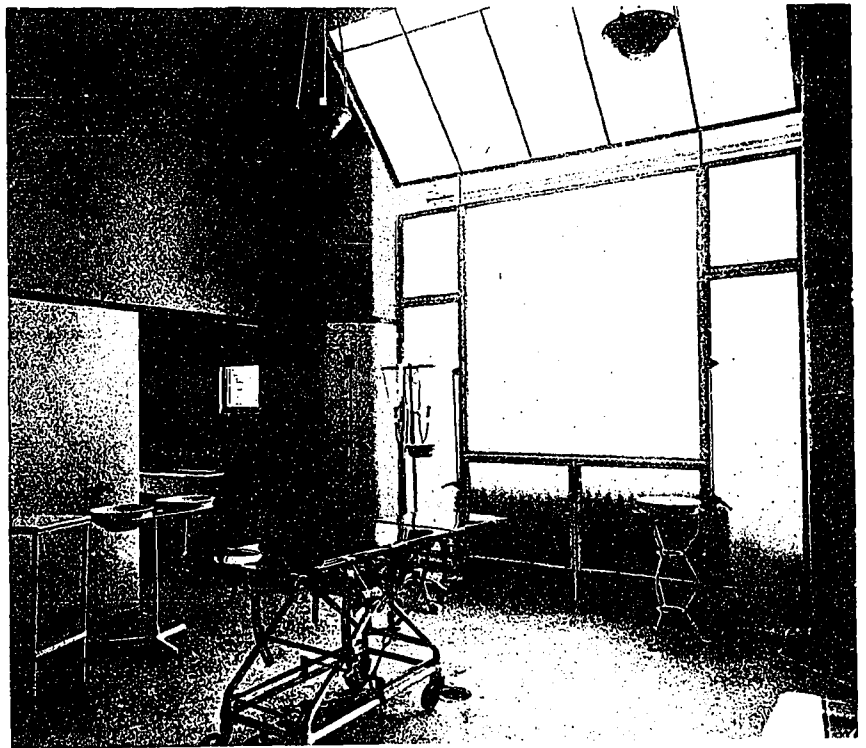
KITCHEN IN ST. JOSEPH'S HOSPITAL, HAMILTON.



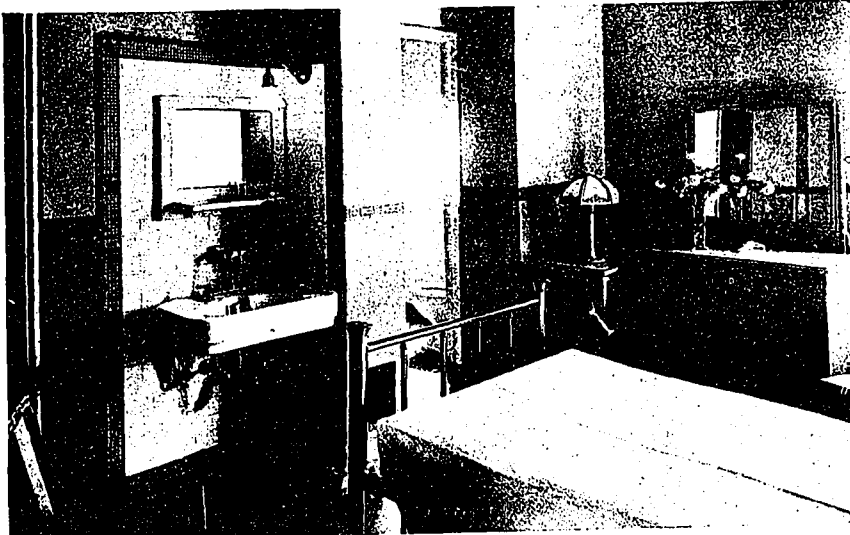
LARGE WARD IN ST. JOSEPH'S HOSPITAL, HAMILTON.

The heating in general is by direct radiation through hospital radiators set three inches from the wall and supported off the floor on cast iron brackets. Exhaust ventilation is provided through galvanized iron ducts to the penthouses on the roof. There are four separate systems as follows: The wards; the toilets and sink rooms; the kitchen and serveries; and the operating suite. Each is operated by a fan and the air is by-passed through a set of steam coils so that it will operate when the fan is shut down.

Stand pipes are installed for fire protection with two outlets on each floor connected with automatic hose reels. The vacuum cleaning apparatus is in the basement and is piped to each floor with electric remote control back to the operating motor.



OPERATING AND SURGEONS' WASH ROOMS IN ST. JOSEPH'S HOSPITAL, HAMILTON.



PRIVATE WARD IN ST. JOSEPH'S HOSPITAL, HAMILTON.

In order to provide efficiently for the diverse steam services in an institution of this nature, a central power house has been built of a sufficient size to take care of future extension. For present needs two high pressure boilers of 150 horse power each have been installed. The high pressure steam, transformed by pressure reducing valves, is used for the laundry, cooking, sterilizing, etc., and to supplement the low pressure steam, which is used for heating the new wing. The boilers are fed by horizontal feed pumps, which are in duplicate.

Hot water is heated for all buildings by means of generators connected to storage tanks with thermostatic control. The heating of the old building, which was formerly done by three hot water boilers, is now taken care of by a generator and an electrically driven circulating pump with a steam auxiliary in reserve. At present the hospital will buy its current for light and motor services, but when it has expanded in the future, it is proposed to install electric generators to manufacture its own current and be independent of transmission troubles.



MAIN BUILDING, NEW WINGS AND COTTAGES, TORONTO FREE HOSPITAL FOR CONSUMPTIVES, WESTON, ONTARIO.

Toronto Free Hospital For Consumptives

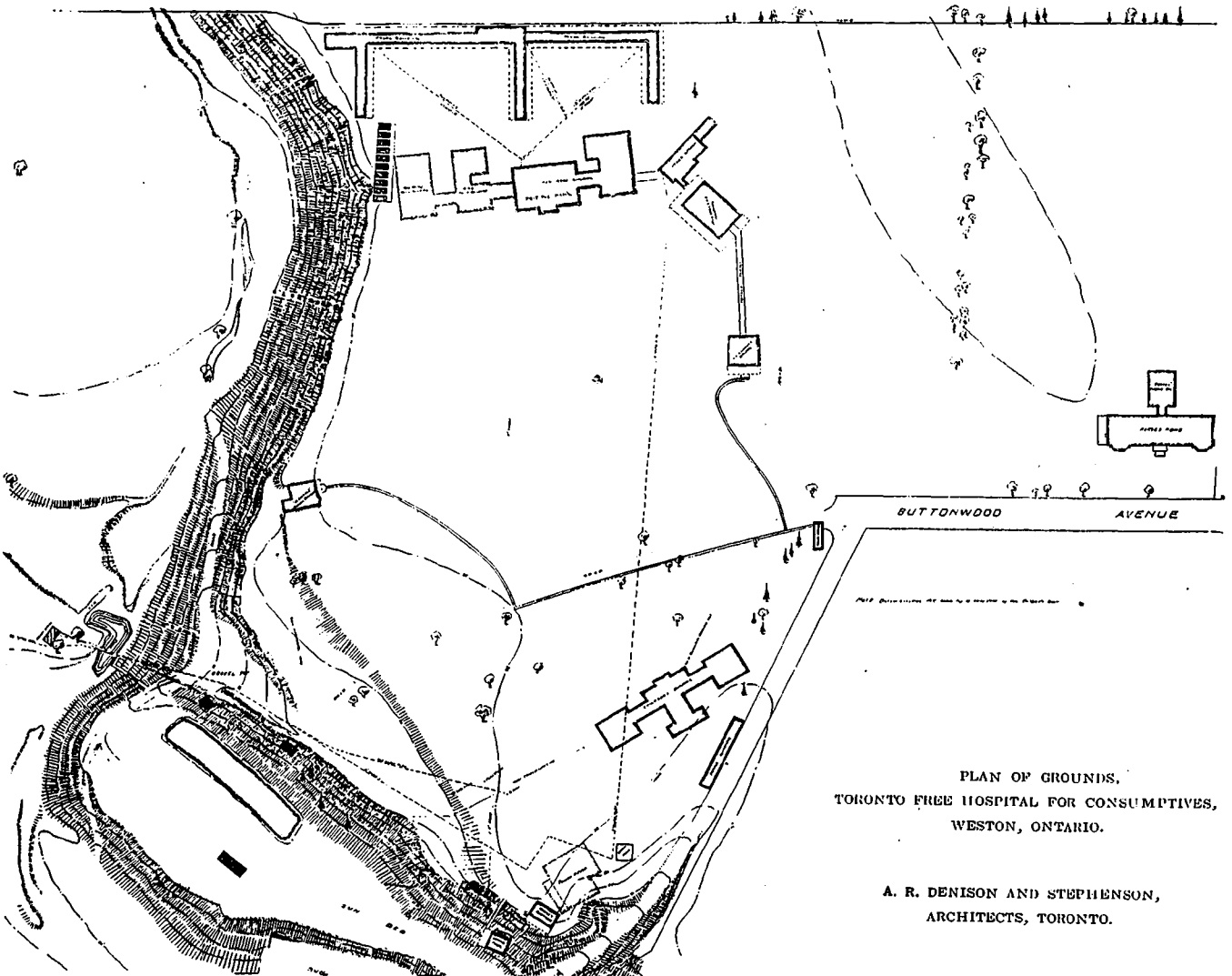
*Group of Fireproof Buildings Being Erected
to Replace Wooden Structures Destroyed by Fire.*

ABOUT fifty acres of fine land of natural beauty comprise the site on which the hospital buildings stand, on the east bank of the Humber River, and on the Toronto and Weston Electric Railway. The buildings erected represent a cost of about \$250,000, and, including the new wing, have a capacity of four hundred patients.

In 1909 the main portion of the then existing frame buildings was destroyed by fire, and the Hospital Association decided to replace the de-

stroyed buildings with more substantial structures. The new buildings are well planned and of uniform design.

The buildings, with the exception of the nurses' home, are grouped around three sides of an extensive open court, so that all command a fine outlook across the Humber valley. The court is approximately two hundred yards wide, and is sodded and laid out in flower beds and concrete walks, allowing ample space for recreation for convalescing patients.



PLAN OF GROUNDS,
TORONTO FREE HOSPITAL FOR CONSUMPTIVES,
WESTON, ONTARIO.

A. R. DENISON AND STEPHENSON,
ARCHITECTS, TORONTO.

The buildings erected during recent years are of fire-proof construction, the outer walls being of solid brick, foundation walls

of concrete, and floors of slab concrete supported on steel beams encased with concrete. The inside partitions are mostly of gypsum slab construction, this being chosen on account of its lightness in weight and fireproof qualities.

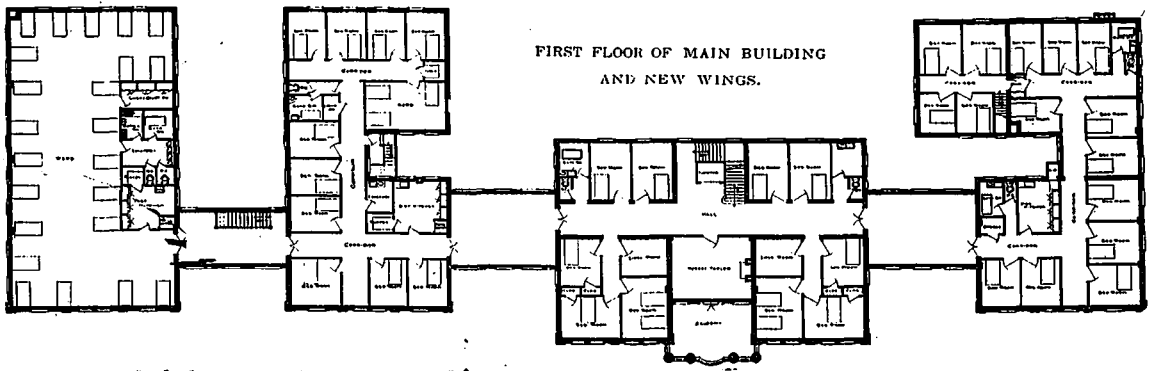
The exteriors of the buildings are faced with dark purple stock brick, having a white putty mortar joint, the main facades being relieved with artificial stone. The cornices are of metal painted and sanded to match the stonework. The roofs are of concrete similar to floors, on the top of which is a built-up wooden roof covered with felt and gravel.

This idea is carried out in all the new buildings, so that when an additional story is added the present concrete roof becomes the floor of the new story.

The concrete floors are in most cases covered with Scotch battleship linoleum.

The new wing to main building, just completed, has terrazzo floor, which was found to be more sanitary, and so far has given perfect satisfaction. The terrazzo is carried up the walls six inches in height in the form of a cove base. The stairs throughout are of concrete with birch newels and handrails. The walls and partitions throughout are plastered, and decorated with enamel of various subdued tints to harmonize with fittings of rooms.

A noticeable feature throughout is the omission of all angles, projections, etc., wherever practicable. The plaster is rounded at all internal and external angles of walls, parti-



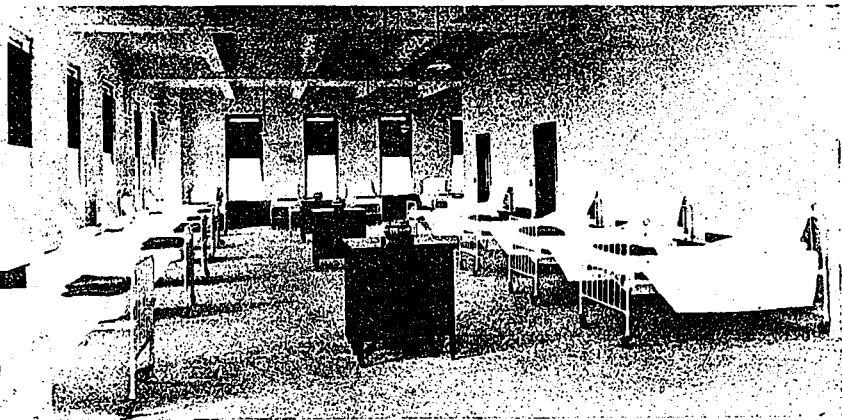
tions, ceilings and beams. The trim is also omitted wherever possible, the plaster at window and door jambs being bull-nosed and returned into frames, with small birch quarter-round moulding at intersections. There are no wooden baseboards, a large quarter round birch moulding being substituted.

The buildings throughout are well lighted by electricity on the semi-indirect system. Electric plugs are provided for attachment of vacuum cleaners.

The wards and private rooms are all equipped

with a silent nurse call system, each bed being provided with bell push which signals direct to an indicator board at nurses' desk.

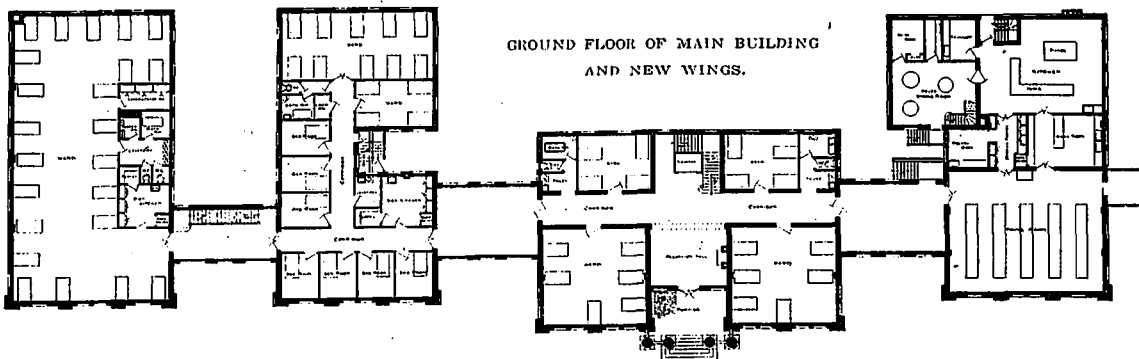
Ample bathroom and lavatory accommodation is provided on each floor of the buildings.

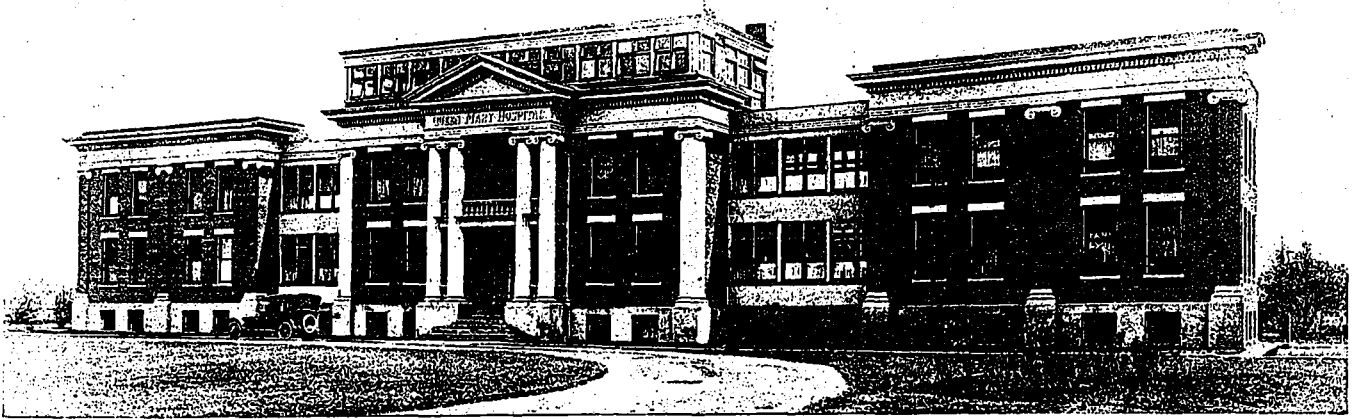


WARD IN NEW WING AT WESTON SANATORIUM.

The main building, which was the first building erected under the new scheme, consisted of a centre building with a wing building on either side, connected by spacious well lighted corridors. This building is located on the north of the property and faces south. An additional wing has just been completed and put in operation.

The basements of the centre building and wings of same building are divided into bedrooms, the portion below the corridor being util-





QUEEN MARY HOSPITAL, CHILDREN'S BUILDING, WESTON SANATORIUM.

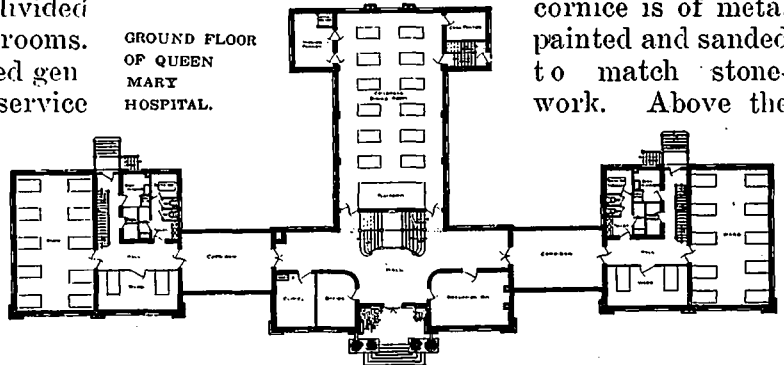
ized as a large rest room. The boiler room, fuel room, etc., are located in the basement of the east wing. The basements of these buildings stand well up out of the ground, have high ceilings, and are well lighted and ventilated.

The ground floor of centre building is divided into wards, and floor above into single rooms. On the ground floor of east wing is located general dining room, with large kitchen, service pantry, etc. On this floor is also a smaller dining room for the kitchen help. The floor above is divided into single bedrooms, a portion being separated and used exclusively by kitchen attendants. The first and second floors of west wing are each divided into bedrooms and small wards, with bath rooms, lavatories and diet kitchens. The first and second floors of the new wing are used as large twenty-three-bed wards, with bath room and lavatory accommodation, chart room and diet kitchens.

The centre portion of main building has an

imposing entrance, with concrete steps leading up to portico with red quarry tiled floor and large circular stone Ionic columns two stories in height. The corners of centre building and wings are defined by stone Ionic pilasters. The

GROUND FLOOR OF QUEEN MARY HOSPITAL.



cornice is of metal painted and sanded to match stonework. Above the

columns of main entrance is an ornamented pediment. The heads and sills of all windows are of artificial stone.

The roof of centre portion of main building has recently been utilized for shelters for special cases where patients need direct sunlight on the affected parts of the body. The shelters are constructed of corrugated iron, the sides, rear and roof being closed in and the front left open. The patients are taken up to the shelters in the elevator in cots, and wheeled to their respective positions under the shelters.

The children's building is of similar design to the main building, and consists of a centre building with a wing on either side connected by corridors. On the ground floor of the centre building toward the front of building are the office clinic room, and large reception room; behind these is a large dining room with service pantry, to which food already prepared is brought up on a dumb waiter from kitchen in basement.

A feature of the centre building



STAIRWAY AND CORRIDOR IN QUEEN MARY HOSPITAL.



NURSES' HOME, WESTON SANATORIUM.

A. R. DENISON AND STEPHENSON, ARCHITECTS, TORONTO.

is a grand staircase rising from the centre of a spacious hall. Another feature is the entrance, which has ornamental stone mullions, and pilasters with large side lights of bevelled plate set in copper.

The ground floor of each wing is laid out for one large and one small ward, with necessary lavatory accommodation. The layout of the first floors of wing buildings is a duplicate of ground floor layout. The first floor of centre building is entirely given up to bedroom accommodation. Situated in the rear of this floor and immediately above pantries of ground floor, are two large sunrooms, with entrance from a wide corridor accessible to all bedrooms. The first floor of this building is served with dumb waiters running from kitchen in basement. A large school room is situated on the roof of centre building. The walls of school room are of brick up to sill level, and above are entirely of wood and glass, having glazed sash which can be removed during summer months and screens substituted.

The nurses' home is somewhat isolated from the other buildings, and the design, though less ornate, is in keeping with same. There are three stories and a basement to this building. On the front portion of ground floor is a large reception room, and a music or entertainment room, each having large bay windows and brick fireplaces. These rooms are situated at either end of a wide corridor running across building and opening on to large verandas. On the ground floor of rear portion of this building is the nurses' dining room and service pantry.

The buildings are at present heated by hot water system, each building hav-

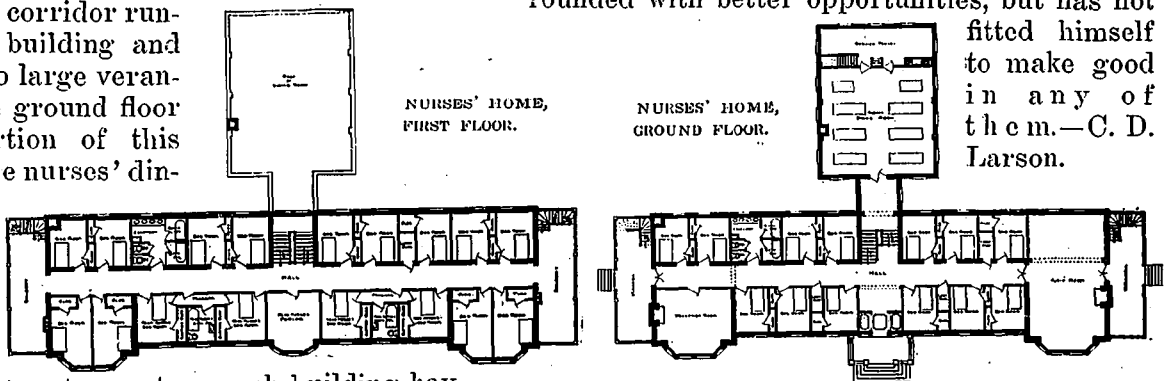
ing a separate boiler. It is the intention of the Hospital Association at some future date to erect a central heating plant, plans and layout of which have already been prepared by the architects. The power house will be a two-story brick building, which will be located to the southwest of the grounds. The boilers will be on the ground floor. There will be two boilers installed when the building is erected, with space provided for an additional boiler when more buildings are added to the scheme. The boilers specified are tubular, each boiler being sixteen feet in length, seventy-two inches in diameter, and containing ninety-six three and one-half inch tubes. Each boiler will have 1,588 square feet of heating surface, and will be of one hundred and thirty horse power each. The feed pipes will be run under ground in continuous concrete conduits two feet wide and two feet high. The pipes will be covered with five-ply sectional asbestos air-cell covering.

The floor above boiler room will be utilized as a laundry, with ironing and drying rooms, etc. Laundry will be fitted up with the most up-to-date machinery and laundry appliances.

All the buildings on the property are well drained, there being a modern drainage system with adequate septic tanks.

The average man cries for better opportunities, while the fact is that he is literally surrounded with better opportunities, but has not

fitted himself to make good in any of them.—C. D. Larson.



A Hospital With Unusual Features

*Green Finish in Operating Room.
Inclines Instead of Staircases.*

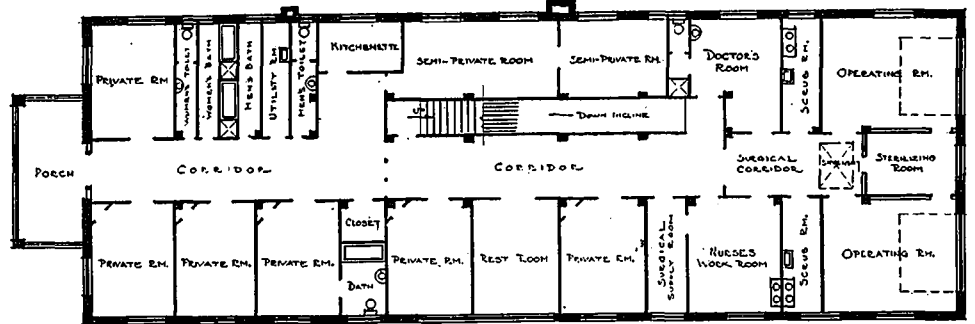
FRED S. CLINTON, M.D., F.A.C.S., president of the Oklahoma Hospital, Tulsa, Okla., in a recent issue of "Modern Hospital" describes the new institution of which he is head, it containing several features worthy of note.

The Oklahoma Hospital was planned and built to suit the needs and service of the modern requirements of an active industrial community. Its lines are simple and its construction is substantial. It is fireproof, and its compactness and completeness furnish a type for moderate-sized hospitals needed in localities where service without show is sought.

The accompanying plan of the third floor gives a good idea of all, and a close study may suggest valuable ideas for actual utilization of all available space. The use of inclines or ramps instead of elevators or stairs will appeal to many when constant service, economy of operation and upkeep, as well as lack of noise and dirt, are considered.

All four floors are above ground. All rooms

rooms. The kitchenette has a refuse receptacle, refrigerator, warming oven, steam table, hot plates, tray shelves, dish rack, kitchen sink, cabinet for dishes, etc. Each floor has a bedpan sterilizer, utensil racks, etc. All private rooms are finished in different tints or colors. Chil-



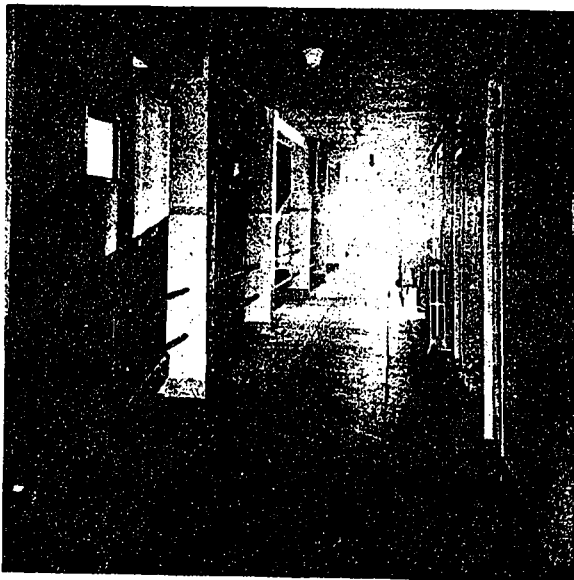
TYPICAL FLOOR PLAN OF OKLAHOMA HOSPITAL, SHOWING INCLINE USED IN PLACE OF STAIRCASE.

dren's rooms are made attractive with nursery decorations.

The emergency operating room at ambulance entrance facilitates handling of severely injured, poisoned, or other suitable patients with least disturbance to the household or to formal operations elsewhere. The X-ray and pathological laboratories are also on the ground floor. The engine room has the boilers, circulating hot-water heater, vacuum cleaner, incinerator, high-pressure boiler, etc., completely separated from the remainder of the floor by a solid wall and one room, so as to lessen heat and noise. The hospital has low-pressure steam heat, electric lights, sanitary plumbing, vacuum cleaner, silent signal system, inclines, intercommunicating telephones, circulating hot water and other modern conveniences. The inclines for a hospital of this size are a success, and, while the principle is not new, its application in this instance will so popularize it that every complete book on hospital construction hereafter will contain a description of this feature.

The operating-rooms on the third floor are practically above fly and dust line, and are completely separated from the other parts of the hospital, which prevents confusion and promotes the comfort of patient and friends. These rooms can be mechanically cleansed and flooded with sunlight.

One operating room is finished in standard white. The other is finished in green because Dr. Clinton believes that it has a more tranquilizing effect on the patient and is easier on the operator's eyes. He also uses black operating room sheets and towels because the black more sharply defines by contrast the field of operation and is less irritating to eyes.



Part of corridor and the inclines. The inclines work any time of day or night, can be kept clean, and never get out of order. The side lights on incline permit ventilation when needed in semi-private rooms. The ceiling lights are separately wired, so one or all may be used at once. The silent signal over the door shows red through the transom to the occupant of bed, to the nurse in the hall, and at the switchboard in the office. This arrangement does away with one fixture by side of bed and enables the office to check time and place of service if necessary.

have outside exposure. All doors open into rooms, have checks and transoms. The latter open from the top.

Each floor is complete within itself, having private, semi-private, bath, toilet and rest-

CONSTRUCTION

A JOURNAL FOR THE ARCHITECTURAL
ENGINEERING AND CONTRACTING
INTERESTS OF CANADA



H. GAGNIER, LIMITED, PUBLISHERS

Corner Richmond and Sheppard Streets
TORONTO - - - CANADA

BRANCH OFFICES:

MONTREAL—171 St. James Street,
E. R. Milling, Representative.
WINNIPEG—336 Qu'Appelle Street,
F. C. Pickwell, Representative.
NEW YORK—156 Fifth Avenue,
A. R. Lowe, Representative.

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

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

ADVERTISEMENTS.—Changes of, or new advertisements must reach the Head Office not later than the twentieth of the month preceding publication, to ensure insertion. Mailing date is on the tenth of each month. Advertising rates on application.

CONTRIBUTIONS.—The Editor will be glad to consider contributions dealing with matters of general interest to the readers of this Journal. When payment is desired, this fact should be stated. We are always glad to receive the loan of photographs and plans of interesting Canadian work. The originals will be carefully preserved and returned.
Entered as Second Class Matter in the Post Office at Toronto, Canada.

WESTON WRIGLEY - - Editorial and Business Manager
RICHARD G. LANGRILL . Assistant Editor and Manager

Vol. X Toronto, June, 1917 No. 6

Manufacturers Back Canadian Architects

The Toronto branch of the Canadian Manufacturers' Association, comprising over 800 firms and corporations, at their annual meeting, held in May, adopted a report of the Executive Committee protesting against "the growing and persistent discrimination by the Government departments against the employment of Canadian architects, engineers, contractors and manufacturers in the construction of public works."

The policy complained of is viewed by the Manufacturers' Association as inconsistent with the efforts which are being made through our universities and other educational institutions to develop into a high state of efficiency the young men of the country. It is felt that the conservation and development of the manhood resources of the country, no less, but rather more, than our material resources, are the concern of the whole country.

That the Manufacturers' Association are consistent in the stand they take in favoring the development of Canadian brains and industry is shown by the fact that thirty-six scholarships of \$25 each are given by their members to students at the Central Technical School, Toronto.

The governments of Canada, both national and provincial, should be the first to recognize the importance of employing the best Canadian architects and engineers on Canadian public works, and they should be the last to depart from this principle.

War Creates Need For Hospitals

Dr. Herman Biggs, Health Commissioner of the State of New York, who has just returned from France, draws attention to the spread of the great white plague, which since the outbreak of the war has made enormous strides and has reached a point where, if the war were to be terminated to-morrow, there would be 500,000 active cases of tuberculosis to be dealt with. Today there are in France virtually no facilities for caring for these, or even for supervising them.

Before the war, France had done practically nothing for the prevention of the spread of tuberculosis, except for some private institutions, the accommodation totalling only about 150 beds, and the authorities had never taken any official cognizance of the disease, no notification of its outbreak being required anywhere in France.

The troops, instead of living in tents and in the open air when they go to the front, live in trenches, often wet and always damp, always cold, or they are in dugouts under ground, still more damp and colder. Then, relieved from duty in the front fighting lines, they are billeted in peasant houses in towns and villages, or in farmhouses or outbuildings near the front, in very much overcrowded rooms, without ventilation or fresh air or sunlight, and even with very little diffused daylight. These peasant houses in France are provided with few windows and doors, these being rarely open, owing to the strong national aversion of the French people to fresh air.

Canada's Favorable Trade Balance

The unprecedentedly favorable balance of trade reported by the Department of Trade and Commerce at Ottawa for the 1916 fiscal year is looked upon with considerable satisfaction because it demonstrates that Canada has established herself as a supply base for the Allies during the war, and proves the contention that the Dominion can hold her place in international competition.

In 1913 there was an excess of \$309,447,000 in imports over exports, but the figures declined in two years until the excess of imports over exports was \$35,934,000. In 1916 the excess of exports over imports was \$249,089,000, and during the year ending March, 1917, the favorable balance amounted to \$333,881,000.

Canada's trade during the 1916 fiscal year totalled \$2,249,170,171. The exports aggregated \$1,151,375,768, against \$741,610,653 for the previous fiscal year.

Canada's exports for the first four months of the current year were \$354,891,404, as compared with \$285,168,625 for the corresponding period a year ago, and imports were \$329,497,238, as compared with \$214,008,068.

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.—Reid & Brown, 63 Esplanade east, Toronto, have been awarded the steel work contract in an addition to a school for the Public School Board for the City of Chatham, to cost \$35,000.

Guelph, Ont.—J. J. Mahoney, 45 Kent street, has been awarded the plastering contract in an office building for C. L. Dunbar, Douglas street, to cost \$10,000; Geo. Walker, 32 Tiffany street, has been awarded the carpenter contract; W. A. Mahoney, 73 Quebec street, is the architect.

Guelph, Ont.—Robert Dunbar, Guelph, has been awarded the mason contract in an office building for C. L. Dunbar, Douglas street, to cost \$10,000; Dennis & Bennett, Guelph, have been awarded the painting and glazing contracts; Howard Brothers have been awarded the roofing contract; Stevenson & Malcolm, Guelph, have been awarded the heating, plumbing and electric wiring contracts; W. A. Mahoney, Quebec street, is the architect.

Hamilton, Ont.—W. Finden, 291 Catharine street north, has been awarded the concrete and cut stone contracts in a parish hall for St. Luke's Church, to cost \$12,000; the Hamilton Bridge Works Company, Limited, Hamilton, have been awarded the steel contract; W. G. Brown, Clyde Building, is the architect.

Hamilton, Ont.—Pigott, Healy Company, Hamilton and Detroit, have been awarded the concrete and mason contracts in a factory and office building for the Canadian Westinghouse Company, to cost \$200,000; Adam Clark, 7 Main street west, Hamilton, has been awarded the plumbing contract; Prack & Perrine, Lumsden Building, Toronto, are the architects.

Thornhill, Ont.—H. F. Sheldon, Thornhill, has been awarded the general contract for the erection of a bank for the Sterling Bank; Langley & Howland, 112 King street west, Toronto, are the architects.

Toronto, Ont.—Archibald & Holmes, Excelsior Life Building, have been awarded the mason, concrete and cut stone contracts in an office building for the Toronto Harbor Commission, 50 Bay street, to cost \$150,000; Chapman & McGiffin, 95 King street east, are the architects.

Toronto, Ont.—Witchall & Son, 156 St. Helen avenue, have been awarded the mason contract in a bank building for the Dominion Bank, King and Yonge streets, to cost \$20,000, at the corner of Yonge and St. Clair avenue; Darling & Pearson, 2 Leader lane, are the architects.

CIVIL ENGINEERING.

Eastview, Ont.—The Town of Eastview is preparing plans for a bridge, to cost \$20,000.

Kerwood, Ont.—R. Waltham, Kerwood, has been awarded the general contract for the erection of two bridges for the Township of Metcalfe; Harry Thompson, R. R. No. 2, Kerwood, is the clerk.

Peterboro, Ont.—A by-law has been passed authorizing the erection of a bridge across Hunter street, to cost \$280,000.

Port Dover, Ont.—The Norfolk County Council, Simcoe, Ont., contemplates rebuilding the swing bridge over the mouth of the Lynn River.

CLUBS, HOSPITALS, THEATRES AND HOTELS.

Cobourg, Ont.—The Military Hospital Commission, Ottawa, contemplates the erection of an addition to their hospital here; Captain W. S. Symons, 14 Vittoria street, Ottawa, is the architect.

Hamilton, Ont.—Canadian Allis-Chalmers Company, Toronto, have been awarded the steel work contract in a theatre for Marcus Loew's Theatre Company, Toronto, on King street, to cost \$250,000; Ritchie Cut Stone Company, 191 Grant street, have been awarded the cut stone contract; Thos. Irwin & Sons, 22 McNab street, have been awarded the sheet metal and roofing contracts; Architectural Plastering Company, New York, have been awarded the plastering contract; F. G. Roberts Company, 106 Wells street, Toronto, have been awarded the painting and glazing contracts; Thos. W. Lamb, 17 St. John street, Montreal, and New York, is the architect, and P. H. Secord & Sons, Brantford, are the general contractors.

Preston, Ont.—Architect J. Mickler, Duke street, is preparing plans for a club house for the Preston Bowling Club.

Sarnia, Ont.—The Sarnia Golf Club contemplates the erection of a club house.

Toronto, Ont.—The Dominion Bridge Company, Imperial Life Building, have been awarded the steel contract in a moving picture theatre being erected on the southwest corner of Richmond and Victoria streets; the Peerless Artificial Stone, Limited, Coxwell avenue, have been awarded the artificial stone contract; the Canadian Ornamental Iron Company, 88 River street, have been awarded the iron stairs contract; the Frank Farrington Company, Detroit and Toronto, are the general contractors; Howard Crane, Detroit, is the architect; Hynes, Feldman & Watson, 105 Bond street, Toronto, are the associate architects.

Welland, Ont.—Rachor & Hyatt, 36 Main street west, have been awarded the painting and glazing contracts in alterations to a theatre for P. Whalley, 92 Main street, to cost \$11,000; Upper & Muckler, Welland, have been awarded the electric wiring contract; Charles Haget, Welland, has been awarded the heating and plumbing contracts; C. M. Borter, Niagara Falls, is the architect, and Ryan & Gardner, Welland, are the general contractors.

FIRE LOSSES.

Calgary, Alta.—The Dominion Government Observatory at the summit of Sulphur Mountain was completely destroyed by fire.

Fort William, Ont.—The entire plant of the Copp Stove Company was destroyed by fire; loss \$500,000.

Kingsville, Ont.—The car barns of the W. E. & L. S. Interurban Railway were destroyed by fire; loss \$50,000.

Moose Jaw, Sask.—The warehouse of the Western Oil Company in the Canadian Northern Railway yards here was destroyed by fire; loss \$6,000.

Nicolet Falls, Que.—The pulp and sash door factory of the Lotbiniere Lumber Company was destroyed by fire; loss \$30,000.

Paris, Ont.—The barracks of the Salvation Army at Paris were destroyed by fire.

Pembroke, Ont.—The lumber mill of the Colonial Lumber Company at Pembroke was destroyed by fire; loss \$140,000.

Peterboro, Ont.—The transformer of the Canadian General Electric Company at Peterboro was destroyed by fire; loss \$8,000.

Quebec, Que.—The plant of the Frasierville Chair Company was destroyed by fire; loss \$30,000.

St. Thomas, Ont.—The hotel of R. H. McLean & Son was destroyed by fire; loss \$25,000.

Toronto, Ont.—The factory of Cluff Brothers on Sterling road was destroyed by fire; loss \$250,000.

Windsor, Ont.—The warehouse of Thos. Langlois, 2 Windsor avenue, was destroyed by fire; loss \$5,000.

MISCELLANEOUS.

Hamilton, Ont.—R. M. Smith, 401 Barton street east, has been awarded the electric wiring contract in a garage for W. O. Sealey, 61 Hunter street, to cost \$10,000; Bloom & Britton, 121 James street south, have been awarded the plumbing contract; Richard Tope, 191 Robinson street, has been awarded the mason contract.

Hamilton, Ont.—Cook & Smith, Hamilton, have been awarded the carpenter contract in an amusement building for Addie Burke, 17 Mulberry street, to cost \$24,000; F. Knowles, Hamilton, has been awarded the electric work contract. George Frid & Company, Limited, Bank of Hamilton Building, have been awarded the general contract for the erection of an addition to the garage and showrooms of the McLaughlin Motor Car Company, to cost \$20,000; the Hamilton Bridge Works Company, Limited, have been awarded the steel work contract.

Hamilton, Ont.—Thos. Irwin & Son, 22 McNab street east, have been awarded the sheet metal contract in an addition to a garage and showrooms for the McLaughlin Motor Car Company, George and Bay streets, to cost \$20,000; R. M. Smith, 401 Barton street east, has been awarded the electric wiring contract; the Hamilton Bridge Works, Hamilton, and Reid & Brown, Toronto, have been awarded the steel contract; Leeks & Potts, 112 King street west, have been awarded the painting and glazing contracts; Adam Clark, 7 Main street west, has been awarded the plumbing and heating contracts; George Frid & Company, Bank of Hamilton Building, are the general contractors, and G. J. Hutten, Bank of Hamilton Building, is the architect.

Listowel, Ont.—George H. Fritz, Listowel, Ont., has been awarded the mason contract in a spinning mill for the Perfect Knit Mills, Limited, to cost \$11,000.

Niagara Falls, Ont.—Ireland & Dinham, Glenholme avenue, have been awarded the general contract for the erection of a fire hall for the City of Niagara Falls, to cost \$20,750; C. M. Borter, 102 Main street, is the architect.

Ottawa, Ont.—Alexander Garvock, 136 Lewis street, has been awarded the general contract for the erection of a workshop for the City of Ottawa, to cost \$17,542.

Ottawa, Ont.—N. Poirier, 193 Cathcart street, has been awarded the general contract for the erection of a laundry for the Grey Nuns, to cost \$20,500; J. D. Cheve, 163 Notre Dame street, Hull, Quebec, is the architect.

Owen Sound, Ont.—The Canadian Pacific Railway contemplates improvements to their coal docks at Owen Sound.

Pembroke, Ont.—The Colonial Lumber Company will rebuild their sawmill, which was destroyed by fire.

Ridgetown, Ont.—The Council has authorized the city that they can erect cement tanks on the streets for the purpose of storing oil.

Toronto, Ont.—The City of Toronto contemplates the erection of garages for the Street Cleaning Department, to cost \$25,000.

Toronto, Ont.—The Canada Hardware, Limited, 39 Richmond street east, have been awarded the hardware contract in a lodge building for the Masonic Temple Corporation of Toronto, Limited, to cost \$175,000; W. F. Sparling & Company, Trust and Guarantee Building, are the architects.

Toronto, Ont.—Witchall & Son, 156 St. Helen's avenue, have been awarded the general contract for the erection of a mausoleum for the Toronto General Burial Ground at Mount Pleasant Cemetery, to cost \$200,000; McIntosh Granite Company, 1119 Yonge street, have been awarded the granite contract; Darling & Pearson, 2 Leader lane, are the architects.

Toronto, Ont.—Hepburn & Disher, 18 Van Horne street, have been awarded the steel contract in a garage for A. Grassie, Toronto, to cost \$15,000; J. M. Cowan, 122 Margueretta street, is the architect. Plans have been prepared for a garage for A. Peters, 109 Montrose avenue, to be built on Bathurst street, to cost \$10,000. McGregor & McIntyre, 1139 Shaw street, have been awarded the steel contract in an addition to an art gallery for B. M. & T. Jenkins, 424 Yonge street, to cost \$40,000; the Trussed Concrete Steel Company of Canada, Limited, 34 King street west, have been awarded the metal sash contract; Hoidge & Sons, 34 Price street, have been awarded the plastering contract; Hudson Electrical Company, 18 Toronto street, have been awarded the electric contract; Otis-Fensom Company, 50 Bay street, have been awarded the elevator contract; the Canadian General Fire Extinguisher Company, 1200 Dundas street, have been awarded the sprinkler contract; H. Williams, 23 Toronto street, has been awarded the roofing contract; Sproatt & Rolph, 36 North street, are the architects.

Whitby, Ont.—Jackson-Lewis Company, Bell Telephone Build-

ing, Toronto, have commenced work on an amusement hall for the Military Hospital Commission, Toronto, to cost \$60,000.

Windsor, Ont.—Maul & Rigg, McDougall street, have been awarded the cut stone contract in an auto service station for W. C. Kennedy, Chatham street west, to cost \$30,000; Jos. L'Heureux, Wyandotte street, has been awarded the sheet metal, roofing, heating and plumbing contracts; Otis-Fensom Elevator Company, 50 Bay street, Toronto, have been awarded the elevator contract; R. Westcott & Company, Windsor, are the general contractors, and G. Jacques & Company, Windsor, are the architects.

PLANTS, FACTORIES AND WAREHOUSES.

Brantford, Ont.—The Kitchen Overall & Shirt Company, 11 Queen street, contemplates the erection of a factory on Durham and George streets.

Belleville, Ont.—The Rogers Cement Company, 23 King street west, Toronto, have been awarded the cement contract in a storage plant for Graham Company, Limited, Belleville, to cost \$100,000; the Trussed Concrete Steel Company of Canada, Limited, 34 King street west, Toronto, have been awarded the steel sash and reinforcing contracts; Frankfort Cooperage Company, Frankfort, Ont., have been awarded the lumber contract; Bennett & Wright, 72 Queen street east, Toronto, have been awarded the plumbing, heating and wiring contracts; the Armstrong Cork Company, Toronto, have been awarded the insulation contract; the Canadian Ice Machine Company, 32 Chestnut street, Toronto, have been awarded the refrigeration contract; Otis-Fensom Company, 50 Bay street, Toronto, have been awarded the elevator contract; Bureka Refrigerator Company, 31 Brock avenue, Toronto, have been awarded the cold storage doors contract; W. F. Sparling & Company, 120 Bay street, are the architects.

Elmira, Ont.—The Elmira Machinery & Transmission Company, Elmira will erect an addition to their factory.

Galt, Ont.—The Galt Building Products, Limited, contemplates the erection of a factory.

Galt, Ont.—George H. Thomas & Son, Galt, have been awarded the general contract for the erection of an addition to the factory of Newlands & Company, Galt, to cost \$7,000; W. Evans, 30 Water street north, is the architect.

Hamilton, Ont.—The Steel Company of Canada, Limited, contemplates an extension to their plant costing about \$100,000.

Hamilton, Ont.—The National Machinery Company, 76 Wellington street north, contemplates the erection of a factory at the corner of Sherman and Biggar streets, to cost \$60,000.

Hamilton, Ont.—Thos. Irwin & Sons, 22 McNab street south, have been awarded the roofing, sheet metal, painting and glazing contracts in a factory and office building for the National Abrasive Company, Boston and Amesbury, Mass.

London, Ont.—Steel Lockers Company, 426 Talbot street, contemplates the erection of a factory.

London, Ont.—R. G. Wilson, 195 College street, has been awarded the general contract for the erection of an addition to the factory of Goman Eckert, London, Ont., to cost \$15,000.

Mitchell, Ont.—A. Burritt & Company, Mitchell, will erect a new factory, to cost \$20,000, at Mitchell.

Ottawa, Ont.—The Ottawa Tile Company, 239 Laurier street, have been awarded the tile contract in a factory for the Ottawa Car Company, Albert street, to cost \$90,000; McFarlane & Douglas, Central Chambers, have been awarded the sheet metal contract; Murphy & Morrow, Ottawa South, have been awarded the plastering contract; W. J. Carson, 293 Laurier street west, has been awarded the painting and glazing contracts; W. E. Noffke, Ottawa, is the architect.

Owen Sound, Ont.—The Union Cement Company will erect an addition to their plant at Owen Sound, to cost \$275,000; the Fuller Engineering Company, Allentown, Pa., are the architects and general contractors.

Sarnia, Ont.—Architects James, Loudon & Hertzberg, Excelsior Life Building, Toronto, have prepared plans for an addition to the factory of the Mueller Manufacturing Company.

Saskatoon, Sask.—Hazelton & Walin, Limited, Winnipeg, have been awarded the general contract for the erection of a warehouse for the T. Eaton Company, Limited, to cost \$150,000; the Otis-Fensom Company, 50 Bay street, Toronto, have been awarded the elevator contract; the Canadian General Fire Extinguisher Company, Toronto, have been awarded the sprinkler system contract; Green & Litster, Winnipeg, have been awarded the plumbing and heating contracts.

Toronto, Ont.—Adams Manufacturing Company, 17 Adelaide street west, have commenced work on repairing their factory on King street, which was destroyed by fire some time ago. Architects Chapman & McGiffin, 95 King street east, are preparing plans for a glue factory for W. Harris & Company, 994 Danforth avenue. The Imperial Munitions Board, 56 Church street, contemplates the erection of an aviation plant at Ridley Park grounds, Toronto.

Toronto, Ont.—J. M. Vaughn, 46 Summerhill Gardens, Toronto, has been awarded the general contract for the erection of a warehouse for Sam Jardine, 357 Eastern avenue, to cost \$9,000. Waldon & Spittal, Toronto, have been awarded the mason contract in an addition to the factory of the Canadian Dyers' Association, Limited, 2 Liberty street; S. Hogg, 242 Markam street, has been awarded the carpenter contract; J. Francis Brown, Board of Trade Building, is the architect. S. L. Yolles and Harry Rotenberg, 67 Baldwin street, have been awarded the general contract for the erection of a factory for the Willard Chocolate Company, Limited, 260 Spadina avenue.

Windsor, Ont.—The Maxwell Motor Company, Sandwich street west, contemplates the erection of a factory on Howard avenue. The Chalmers Motor Company, Ford, Ont., will erect their factory, which was destroyed by fire, at Windsor, instead of at Ford, Ont.

PUBLIC BUILDINGS AND STATIONS.

Hamilton, Ont.—Architect A. W. Paene, Clyde Block, is preparing plans for a hydro sub-station for the Hamilton Hydro Electric Commission, to cost \$75,000.

London, Ont.—Architect E. V. Buchanan, City Hall, is preparing plans for an addition to a sub-station owned by the Utilities Board, London, to cost \$30,000.

Orillia, Ont.—The Grand Trunk Railway Company contemplates the erection of a station at Orillia.

Renfrew, Ont.—Work has commenced on a power sub-station for the Catagogie Light & Power Company, to cost \$20,000.

RESIDENCES, STORES AND FLATS.

Ford, Ont.—Architects G. Jacques & Company, Hydro Building, are preparing plans for a residence for C. S. Davis, Detroit, to cost \$5,500.

Guelph, Ont.—Johnson & Williams, 20 Central street, have been awarded the mason contract in a residence and garage for Dr. M. J. Ruddell, Wyndham street, to cost \$3,000; G. A. Scroggie, 21 Suffolk street, has been awarded the carpenter contract; Wm. Harris, 35 Oliver street, has been awarded the plastering contract; W. W. Stewart, 11 Quebec street west, has been awarded the electric wiring contract; Albert Smith, Cork street, has been awarded the heating, plumbing and galvanized iron contracts; W. A. Cowan, Guelph, is the architect.

Hamilton, Ont.—George Pyle, Barton street east, has been awarded the plumbing contract in a residence for Dr. Stewart, Beach street, to cost \$7,000; John Poag & Company, Westinghouse avenue, are the general contractors. Hannaford Brothers, 233 Robinson street, have been awarded the plastering contract in a departmental store for Grafton & Company, James street north, to cost \$100,000; Smith & Omand, 219 Ferguson avenue south, have been awarded the painting and glazing contracts; G. L. Hutton, Bank of Hamilton Building, is the architect.

Hamilton, Ont.—J. E. Riddell & Son, 14 Ferguson street north, have been awarded the sheet metal contract in a residence for I. G. Thompson, 4 Ravenscliffe avenue, to cost \$5,000; Hannaford Brothers, 232 Robinson street, have been awarded the plastering contract; Goodale & Laidlaw, 20 Hunter street east, have been awarded the painting contract; Alexander McKenzie, 164 Wentworth street south, has been awarded the heating and plumbing contracts; Halcombe Brothers, Hamilton, have been awarded the glazing contract; Donaldson & Patterson, 239 Bay street, have been awarded the carpenter contract, and Isbister Brothers, 142 Emerald street south, have been awarded the mason contract.

Hamilton, Ont.—Harry Foster, 1194 King street east, has been awarded the painting and glazing contracts in a residence for Dr. Stewart, Beach street, to cost \$7,000; Geo. Pyle, 374 Barton street south, has been awarded the plumbing contract; John Poag & Company, Westinghouse avenue, are the general contractors. Architect F. W. Warren, Bank of Hamilton Building, is preparing plans for an apartment house on King street east, to cost \$25,000. Charles Holcombe, 160 Markland street, has been awarded the painting and glazing contracts in a residence for Donald & Patterson, 229 Bay street, to cost \$5,500; A. McKenzie, 164 Wentworth street south, has been awarded the heating contract.

London, Ont.—Harry Hayman, 491 Ontario street, has been awarded the general contract for the erection of a residence for W. MacKeowen, London, to cost \$10,000; Watt & Blackwell, Bank of Toronto Building, are the architects.

London, Ont.—Sam Foxworth, 616 Waterloo street, has been awarded the general contract for the erection of a residence for Fred Henderson, St. George Apartments, to cost \$8,000; W. G. Murray, Dominion Savings Building, is the architect.

Niagara Falls, Ont.—Architect Carl Gardner, Morrison street, is preparing plans for a garage and residence for W. C. Pretty, 751 Ferry street, to cost \$7,000.

Ottawa, Ont.—A. G. Marshall, 15 O'Connor street, has been awarded the general contract for the erection of a residence for H. D. Marshall, 197 Sparks street, to cost \$7,500; Richards & Abra, 126 Sparks street, are the architects.

Ottawa, Ont.—Jas. Patterson, 33 Fulton street, has been awarded the mason contract in a residence for A. W. Grant, 16 Powell avenue, on Carling avenue, to cost \$5,000; Thos. Patterson, 70 Rosedale avenue, has been awarded the plastering contract; J. H. Baron, 420 Gladstone avenue, has been awarded the plumbing contract; D. A. Howard, 185 Strathcona avenue, is the general contractor. Jas. Patterson, 33 Fulton street, has been awarded the mason contract in a residence for George Cookes, 85 Nepean street, on Cobalt avenue, to cost \$5,000; Thos. Patterson, 70 Rosedale avenue, has been awarded the plastering contract; J. H. Baron, 420 Gladstone avenue, has been awarded the painting and glazing contracts; W. H. Murphy, 237 Lyon street, has been awarded the heating contract; J. R. McLeman, 240 Bank street, has been awarded the plumbing contract; D. A. Howard, 185 Strathcona avenue, is the general contractor. Wm. St. George & Sons, Ottawa, have been awarded the mason contract in an addition to the store of A. J. Freiman, 73 Rideau street, to cost \$25,000; McFarlane-Douglas Company, 250 Slater street, has been awarded the sheet metal contract; Davidson & Crooks, 16 Hamilton avenue, have been awarded the iron column contract; R. Holmes, 80 Arlington avenue, is the general contractor, and J. A. Ewart, Booth Building, is the architect. E. Manette, Ottawa, has been awarded the mason contract in a residence to be erected on Broadway avenue, to cost \$6,000; Ed. Wentzleff, 249 McKay street, has been awarded the carpenter contract; Murphy & Morrow, Billings avenue, have been awarded the plastering contract; Duford, Limited, 70 Rideau street, have been awarded the painting and glazing contracts; J. Ellcott, 226 Bank street, has been awarded the electric wiring contract; Millson & Burgess, Union Bank Building, are the architects.

Port Dalhousie, Ont.—Newman Brothers, St. Catharines, Ont., have been awarded the general contract for the erection of a girls' home for the Canadian Consolidated Rubber Company, to cost \$20,000.

Richmond Hill, Ont.—E. H. Lasher, Toronto, has been awarded the heating and plumbing contracts in a residence for Harry Moyle, Richmond Hill, to cost \$10,000; W. H. Graham, Richmond Hill, has been awarded the general contract; F. S. Mallory, 65 Adelaide street east, is the architect.

Toronto, Ont.—Plans have been prepared for a store and apartments for E. D. Morris, 2167 Queen street east, to cost \$25,000.

Toronto, Ont.—Architect W. Bredin Galbraith, Bank of Hamilton Building, is preparing plans for a residence to be erected in Oakwood District, to cost \$6,000. The Parlicourt Children's Home, 46 St. Clair Gardens, contemplates the erection of a children's home.

Toronto, Ont.—Plans have been prepared for a residence and garage for W. P. Levack, 519 Roxton road, to cost \$5,000. Plans have been prepared for a residence for J. S. Cass, 124 Grenadier road, to be erected on Lauder avenue, to cost \$5,000. H. N. Dancy & Son, Canadian Pacific Railway Building, have been awarded the mason contract in an apartment for Mrs. E. D. Y. Cohen, 26 Avoca avenue, to cost \$15,000; F. Markham, 51 Orchard View

boulevard, has been awarded the carpenter contract; Langley & Howland, 112 King street West, are the architects.

Toronto, Ont.—Architect Jas. Mitchell, 55 Isabella street, is preparing plans for a residence for E. B. Valey, 174 Balmoral avenue, to cost \$5,700. Plans have been prepared for an apartment house for Jas. Stewart, 627 Crawford street, to cost \$20,000. Plans have been prepared for a residence for Jas. McCarron, Vandorf, Ont., to cost \$6,500. Architect P. H. Finney, 79 Adelaide street east, is preparing plans for a residence for J. H. MacLaren, 159 Briar Hill avenue, to cost \$5,000.

Windsor, Ont.—Wells & Gray, Bank of Commerce Building, have been awarded the general contract for the erection of an addition to the residence of Gordon McGregor, Victoria avenue, to cost \$10,000.

SCHOOLS, CHURCHES AND COLLEGES.

Bracebridge, Ont.—The Public School Board of Bracebridge contemplates the erection of a new high school.

Bridgeburg, Ont.—Sommerville & Gilworth, Welland, Ont., have been awarded the general contract for the erection of a school for the Board of Education for the City of Bridgeburg, to cost \$23,000; Wm. Delaney, Simcoe, Niagara Falls, has been awarded the painting and glazing contracts; Niagara Electric Company, Victoria avenue, Niagara Falls, have been awarded the electric contract; W. G. Read, 489 Victoria avenue, Niagara Falls, has been awarded the heating and plumbing contracts; C. M. Eorter, Niagara Falls, Ont., is the architect.

Chatham, Ont.—The Canadian Contractors and Builders, Limited, Brockville, have been awarded the general contract for the erection of an addition to the Queen Mary School, at a cost of \$44,500; John Methuen, Victoria Block, is the architect.

Haileybury, Ont.—Architects Ellis & Ellis, Manning Chambers, Toronto, are preparing plans for improvements to a school of the Public School Board, to cost \$13,000.

Hamilton, Ont.—Mitchell & Ridell, 45 Lewiston avenue, have been awarded the mason contract in an addition to a school on the Mountain Top, to cost \$10,000; W. Evans, 51 Lamoreaux street, has been awarded the carpenter contract; R. J. Passmore, 530 Wellington street, has been awarded the plastering contract; A. M. McKenzie, 45 Ferguson street south, has been awarded the painting and glazing contracts; Adam Clark, 7 Main street west, has been awarded the heating and plumbing contracts; W. G. Brown, Clyde Block, is the architect.

Kenora, Ont.—Architect Arthur J. Wills, 204 Sterling Bank Building, Winnipeg, is preparing plans for a church for the St. Alban's Protestant Cathedral, to cost \$20,000.

Kingston, Ont.—The St. James Church, Kingston, contemplates the erection of a Sunday-school, to cost \$15,000.

Ottawa, Ont.—Architect J. A. Karch, 187 St. Denis street, Montreal, is preparing plans for a church for the Ruthenian Roman Catholic congregation, to cost \$12,000.

South Porcupine, Ont.—F. H. Secord & Sons, Limited, Brantford, have been awarded the general contract for the erection of a school for the Public School Board of the City of South Porcupine, to cost \$5,000.

St. Benjamin, Que.—A. Roy & Company, Three Rivers, Que., have been awarded the general contract for the erection of a church for the trustees of St. Benjamin, to cost \$17,000; P. Levesque, 115 St. John street, Quebec, Que., is the architect.

Stouffville, Ont.—John Innes, Richmond Hill, Ont., has been awarded the general contract for the erection of a school for the Public School Board of the City of Stouffville, to cost \$30,000.

Stratford, Ont.—The Central Methodist Church contemplates the erection of a Sunday-school, to cost \$17,000.

Trenton, Ont.—Schultz Brothers, Brantford, Ontario, have been awarded the general contract for the erection of a school for the Public School Board, to cost \$55,000; S. B. Coon & Son, 810 Excelsior Life Building, Toronto, are the architects.

Vankleek Hill, Ont.—The plans of Architects MacVicar & Heriot, 104 Union avenue, Montreal, for a church for the Presbyterian Congregation, to cost \$20,000, have been accepted.

Windsor, Ont.—J. McCrea, 36 Pitt southeast, has been awarded the general contract for the erection of a church for the Sacred Heart Church, Curry street, to cost \$9,000.

CONTRACTORS and SUB-CONTRACTORS

As Supplied by The Architects of Buildings

Featured in This Issue

Ross Memorial Hospital, Montreal.

Erick, National Brick Co., Montreal.
 Brick, Fancy, Dartnell, Ltd., Montreal.
 Beds, Ideal Bedding Co., Toronto.
 Casements, (Crittall), S. L. Hammond, Toronto.
 Clocks, E. Howard Clock Co., Boston.
 Doors, Metal, A. B. Ormsby Co., Toronto.
 Electric Fixtures, McDonald & Wilson, Montreal.
 Electric Equipment, L. K. Comstock Co., New York.
 Elevators, Otis-Fensom Elevator Co., Toronto.
 Expanded Metal, Clarence Noble, Toronto.
 Fire Doors, A. B. Ormsby Co., Toronto.
 Fuel Economizer, E. S. Manny Co., Montreal.
 Flooring, Cork, Can. Johns-Manville Co., Montreal.
 Flooring, Linoleum, T. Eaton Co., Toronto.
 Flooring, Terrazzo, Walker Hardware Co., Montreal.
 Grilles, John Watson & Son, Montreal.
 Glass, Pilkington Bros., Montreal.
 Glass (Globes), McDonald & Wilson, Montreal.
 Hardware, Yale & Towne, St. Catharines, and Walker Hardware Co., Montreal.
 Hose Reels, Montgomery Faultless Hose Reel Co., Toronto.
 Heaters, E. S. Manny Co., Montreal.
 Heat Grilles (Bronze), John Watson & Co., Montreal.
 Heat Regulators, Garth & Co., Montreal.
 Interior Woodwork, Geo. Roberts, Montreal.
 Kitchen Equipment Co., Sparrow & Co., Toronto.
 Marble, Vermont Marble Co., Peterboro.
 Memorial Tablet (Bronze), Robt. Mitchell, Montreal.
 Memorial Tablet (Marble), Smith Marble & Construction Co., Montreal.

Nurses' Call System, Holtzer-Cabot Co., Boston, and Signal Systems, Ltd., Toronto.
 Ornamental Iron, John Watson & Co., Montreal.
 Paints, Sherwin-Williams Co., Montreal, and Sturgeons, Ltd., Toronto.
 Plumbing, Garth & Co., Montreal.
 Plumbing Fixtures, J. L. Mott Co., Montreal, and Imperial Products, Ltd., Toronto.
 Plaster, E. G. M. Cape & Co., Montreal.
 Refrigeration, Can. Johns-Manville Co., Montreal.
 Refrigeration Machinery, Canadian Ice Machine Co., Toronto.
 Reinforcement, U. S. Steel Products Co., Montreal.
 Roofing, G. W. Reed & Co., Montreal.
 Screens, Watson, Ltd., Bradford, Ont.
 Steel Equipment, King-Sherrer Co., New York.
 Stone, E. G. M. Cape Co., Montreal.
 Sterilizers, Barnstead Co., Boston.
 Structural Iron, Dominion Bridge Co., Montreal.
 Telephone System, L. K. Comstock Co., New York.
 Terra Cotta, Montreal Terra Cotta Co., Montreal.
 Tile, Walker Hardware Co., Montreal.
 Vaults, J. & J. Taylor, Ltd., Toronto.
 Ventilators, B. F. Sturtevant Co., Montreal.
 Varnish, Sherwin-Williams Co., Montreal.
 Water Distillers, Barnstead Co., Boston.
 General Contractors, E. G. M. Cape & Co., Montreal.
 Heating Engineers, McMullen, Riley & Durey, Montreal.

Mount Hamilton Hospital, Hamilton.

Brick, Don Valley Brick Works, Toronto.
 Boilers, Spencer Heater Co., Toronto.
 Beds, Ideal Bedding Co., Toronto.
 Casements, A. B. Ormsby Co., Toronto.
 Cement, Union Cement Co., Owen Sound.
 Concrete Hardener, Master Builders Co., Cleveland.
 Doors (Metal), A. B. Ormsby Co., Toronto.
 Door Frames (Metal), A. B. Ormsby Co., Toronto.
 Electric Equipment, Cully & Brey, Hamilton.
 Elevators, Otis-Fensom Elevator Co., Toronto.
 Expanded Metal, Trussed Concrete Steel Co., Walkerville.
 Flooring, Concrete, W. H. Cooper, Hamilton.
 Flooring, Terrazzo, Kent Garvin Co., Hamilton.
 Hardware, Belleville Hardware & Lock Co., Belleville.
 Hardware (Jobber), Kent Garvin Co., Hamilton.
 Hollow Tile, National Fireproofing Co., Toronto.
 Heat Regulators, Can. Powers Regulator Co., Toronto.
 Interior Woodwork, Frid Construction Co., Hamilton.
 Kitchen Equipment, Gurney Foundry Co., Toronto, and Brantford Oven & Rack Co., Brantford.
 Lockers, Canada Wire & Iron Goods Co., Hamilton.
 Marble, Vermont Marble Co., Peterboro.
 Nurses' Call System, Bryant Electric Co., Bridgeport, Conn., and Northern Electric Co., Montreal.
 Ornamental Iron, Canada Wire & Iron Goods Co., Hamilton.
 Paints, Adams & Elting Co., Toronto, and Sturgeons, Ltd., Toronto.
 Plumbing Fixtures, Cluff Bros., Toronto.
 Pumps, Smart-Turner, Ltd., Hamilton.
 Refrigeration Machinery, Canadian Ice Machine Co., Toronto.
 Reinforcement, Trussed Concrete Steel Co., Walkerville.
 Roofing, Thos. Irvin, Hamilton.
 Sash Cord, Hercules Brand.
 Screens, Higgin Mfg. Co., Toronto.
 Steel Furniture, Metal Craft Co., Grimsby, Ont.
 Storage Bins and Cases, Walker Bin & Fixture Co., Kitchener.
 Stone, Cleveland Stone Co., Cleveland, Ohio.
 Sterilizers, Hospital Supply Co., and Am. Sterilizer Co., New York.
 Structural Iron, Hamilton Bridge Co., Hamilton.
 Tile, Kent Garvin Co., Hamilton.
 Telephone System, Stromberg-Carlson Co., Toronto, and Signal Systems, Ltd., Toronto.
 Vacuum Cleaners, United Electric Co., Toronto.
 Ventilators, Sheldons' Ltd., Galt.
 Varnish, Adams & Elting Co., Toronto.
 General Contractors, Frid Construction Co., Hamilton.

Mountain Sanatorium, Hamilton.

Brick, Stock, W. H. Cooper, Hamilton.
 Brick, Face, Don Valley Brick Works, Toronto.
 Boilers, Spencer Heater Co., Toronto.
 Beds, Ideal Bedding Co., Toronto.
 Casements, Trussed Concrete Steel Co., Walkerville.
 Cement, Canada Cement Co.
 Concrete Hardener, Master Builders Co., Cleveland.
 Door Frames, Metal, A. B. Ormsby Co., Toronto.
 Framel, Pratt & Lambert, Bridgeburg.
 Electric Equipment, Cully & Brey, Hamilton.
 Elevators, Otis-Fensom Elevator Co., Toronto.
 Expanded Metal, Trussed Concrete Steel Co., Walkerville.
 Flooring, Concrete, Frid Construction Co., Hamilton.
 Flooring, Terrazzo, Kent Garvin Co., Hamilton.
 Glass, Toronto Plate Glass Co.
 Hardware, Belleville Hardware & Lock Co., Belleville.
 Hardware (Jobber), Kent Garvin Co., Hamilton.
 Hollow Tile, National Fireproofing & Sun Brick Co., Toronto.
 Kitchen Equipment, Gurney Foundry Co., Toronto, and Brantford Oven & Rack Co., Brantford.
 Lockers, Dennis Wire & Iron Works Co., London.
 Marble, Vermont Marble Co., Peterboro.
 Nurses' Call System, Bryant Electric Co., Bridgeport, Conn., and Northern Electric Co., Montreal.
 Ornamental Iron, Canada Wire & Iron Goods Co., Hamilton.
 Paints, Brandram-Henderson Co., Montreal.
 Painting Contractors, Smith & Omand, Hamilton.
 Pumps, Smart-Turner Co., Hamilton.
 Plaster, Hill Bros., Hamilton.
 Refrigeration Machinery, Canadian Ice Machine Co., Toronto.
 Reinforcement, Trussed Concrete Steel Co., Walkerville.
 Sash Cord, Hercules Brand.
 Screens, Watson, Ltd., Bradford, Ont.
 Steel Furniture, Metal Craft Co., Grimsby, Ont.
 Storage Bins and Cases, Walker Bin and Fixture Co., Kitchener.
 Sterilizers, King-Sherrer Co., New York.
 Tile, Kent, Garvin Co., Hamilton.
 Ventilators, Sheldons, Ltd., Galt.
 Varnish, International Varnish Co.
 Mason Contractor, W. H. Cooper, Hamilton.
 St. Joseph's Hospital, Hamilton.
 Brick, Geo. Frid Brick Co.
 Beds, Ideal Bedding Co., Toronto.
 Casements, Trussed Concrete Steel Co., Walkerville.

Barrett Specification Roofs

Made in Canada

Long Service at Low Cost—

MANY buildings have just "roofs." The contractor says, "I'll build you a pitch-and-felt roof," and he does so.

It may be a *good* roof or it may be a *poor* one, yet a pitch-and-felt roof is the best and most economical roof for any building, *provided it is built right.*

There is one sure way to eliminate all guess-work and chance—incorporate The Barrett Specification in full in your building plans and employ a responsible roofing contractor to do the work.

The result will be a roof which will give satisfactory service for twenty years and upwards. The unit cost (the cost per square foot per year of service) of a Barrett Specification Roof is lower than that of any other permanent roofing. No other roof covering known can even approximate this figure.

Remember that a Barrett Specification Roof is not a ready-made roofing. It is constructed on the building and is recognized as *standard* by technical men generally.

These roofs take the base rate of fire insurance.

Our 20-Year Guaranty Bond

We are now prepared to give *without charge* a twenty-year surety Bond Guaranty on every Barrett Specification Roof of fifty squares and over in all towns of 25,000 population and more, and in smaller places where our *Inspection Service* is available.

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

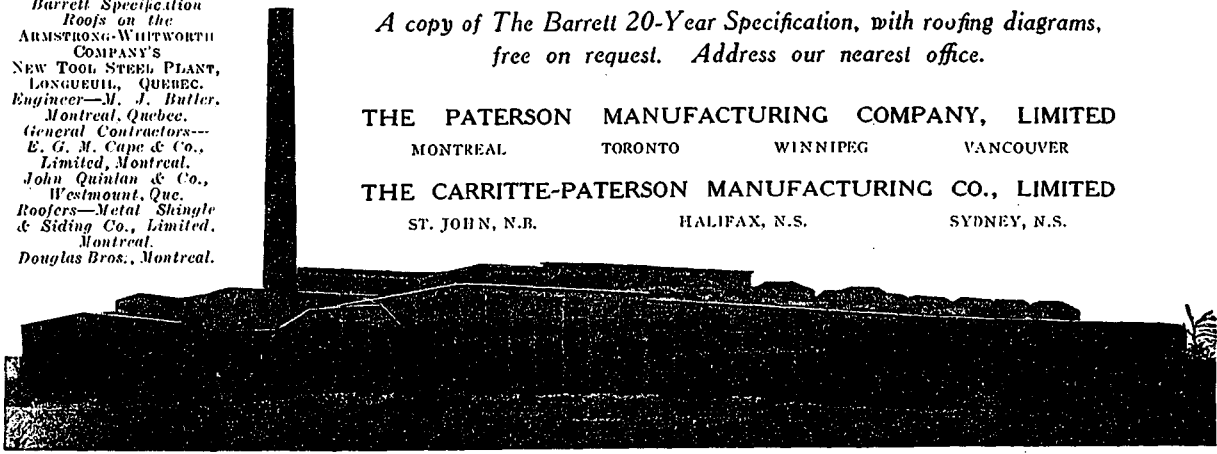
Write to our nearest office if you wish any further information regarding this Guaranty.

Barrett Specification
Roofs on the
ARMSTRONG-WHITWORTH
COMPANY'S
NEW TOOL STEEL PLANT,
LONGUEUIL, QUEBEC.
Engineer—M. J. Butler,
Montreal, Quebec.
General Contractors—
E. G. M. Cape & Co.,
Limited, Montreal.
John Quinlan & Co.,
Westmount, Que.
Roofers—Metal Shingle
& Siding Co., Limited,
Montreal.
Douglas Bros., Montreal.

A copy of The Barrett 20-Year Specification, with roofing diagrams, free on request. Address our nearest office.

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.



Cement, Union Cement Co., Owen Sound.
 Concrete Hardener, Master Builders Co., Cleveland.
 Electric Equipment, Cully & Brey, Hamilton.
 Elevators, Otis-Fensom Elevator Co., Toronto.
 Expanded Metal, Trussed Concrete Steel Co., Walkerville.
 Flooring, Concrete, Frid Construction Co., Hamilton.
 Flooring, Linoleum, T. Eaton Co., Toronto.
 Flooring, Terrazzo, Kent, Garvin Co., Hamilton.
 Hardware, Belleville Hardware & Lock Co., Belleville.
 Hardware (Jobber), Kent, Garvin Co., Hamilton.
 Hollow Tile, Sun Brick Co. and National Fireproofing Co., Toronto.
 Hose Reels, Montgomery Faultless Hose Reel Co., Toronto.
 Interior Woodwork, Frid Construction Co., Hamilton.
 Kitchen Equipment, Gurney Foundry Co., Toronto.
 Lockers, Canada Wire & Iron Goods Co., Hamilton.
 Marble, Vermont Marble Co., Peterboro.
 Nurses' Call System, Holtzer-Cabot Co., Boston, and Signal Systems, Ltd., Toronto.
 Ornamental Iron, Dennis Wire & Iron Works Co.
 Paints, Adams & Elting Co., Toronto.
 Plumbing Fixtures, Imperial Products, Ltd., Toronto.
 Refrigeration, John Hillock & Co., Toronto.
 Reinforcement, Trussed Concrete Steel Co., Walkerville.
 Roofing, Thos. Irvin Co., Hamilton.
 Screens, Watson, Ltd., Bradford, Ont.
 Steel Furniture, Metal Craft Co., Grimsby.
 Sterilizers, King-Sherrer Co., New York.
 Tile, Kent, Garvin Co., Hamilton.
 Ventilators, Sheldons, Ltd., Galt.
 Varnish, Adams & Elting Co., Toronto.
 General Contractors, Frid Construction Co., Hamilton.

Weston Sanatorium, Weston.

Brick, Wm. Pears, Toronto.
 Boilers, Gurney Foundry Co., Toronto.
 Beds, Ideal Bedding Co., Toronto.
 Concrete Contractor, A. C. Richmond.
 Electric Fixtures, McDonald & Wilson, Toronto.
 Electric Equipment, Hudson Electrical Co., Toronto.
 Elevators, Otis-Fensom Co., Toronto.
 Fire Doors, W. B. Dillon Co., Toronto.
 Fire Extinguishers, Purdy, Mansell Co.
 Flooring, Terrazzo, Italian Mosaic & Marble Co., Toronto.
 Hardware, Belleville Hardware & Lock Co., Belleville.
 Hardware (Jobber), Alkenhead Hardware, Ltd., Toronto.
 Heat Regulators, Purdy, Mansell Co., Toronto.
 Interior Woodwork, Walker & Robertson, Toronto.
 Kitchen Equipment, Moffatt Stove Co., Weston.
 Mason Contractor, Teagle & Son, Toronto.
 Plumbing Fixtures, Standard Ideal Co., Toronto, and H. Mueller Mfg. Co., Sarnia.
 Plaster, Andrew Petrie Co., Toronto.
 Refrigeration Machinery, Canadian Ice Machine Co., Toronto.
 Radiators, Gurney Foundry Co., Toronto.
 Screens, Watson, Ltd., Bradford.
 Steel Furniture, Metal Craft Co., Grimsby.
 Stone, Artificial, Toronto Ornamental Stone Co.
 Structural Iron, Reid & Brown, Ltd., Toronto.

BUILDING PERMITS.

Total value of permits issued at Vancouver for the month of May, 1917, was \$47,975, against that of \$32,980 for the same month last year, showing an increase of \$14,995.

CANADIAN FIRM SECURED CONTRACT.

The elevator contract for the W. C. Kennedy service building at Windsor, Ont., has been awarded to the Otis-Fensom Elevator Co., and not to the Houghton Elevator Co., Detroit, as stated in our May issue.

PERSONAL.

Edward Holgate, who has been chief draftsman with the Structural Steel Company of Montreal for the past seven years, has accepted a position as chief engineer with MacKinnon, Holmes & Company, Limited, of Sherbrooke, Que.

PROTECTING HOSPITALS FROM FIRE.

In the Ross Memorial and St. Joseph's Hospitals, described in this issue, and in many other public, office and factory buildings recently erected in Canada, the Montgomery Faultless Hose Reel has been installed. This reel is so simple in its operation that a nurse can use it. The reel is so built that the water can be turned on without unrolling the hose, as the staves supporting the hose collapse, allowing of its expansion. Only sufficient hose is unrolled to carry the water to the blaze, and the hose, being wound, and not folded, lasts, by actual test, five times as long, besides eliminating the danger of having the hose break at the kinks when the water is turned on.

NEW MAUSOLEUM AT TORONTO.

Building operations upon the new Mount Pleasant Cemetery Mausoleum, Toronto, which will be the second largest in America, are now under way, and it is expected that the work will be well nigh completed before summer is over. The structure will cost some \$350,000. The exterior will be of solid granite, and the interior of granite and marble. There will be 1,100 crypts and 24 private rooms with from ten to twelve crypts each. A beautiful chapel will be situated immediately within the entrance doors. The mausoleum will be 225 feet long and 125 feet in width, and second only in size to the Chicago Mausoleum. It was designed by Frank Darling, Toronto, and is in the Doric style of architecture. The lighting of the interior consists of an arrangement of ten large stained glass windows.

VENTILATION EQUIPMENT FOR HOSPITALS.

In view of the many hospitals being erected or under contemplation in all parts of Canada, and that many buildings erected for other purposes are being remodelled into temporary hospitals, it is desirable that the ventilation needs of hospital buildings be emphasized.

Wounded and disabled soldiers, and any persons who find it necessary to receive hospital treatment, require fresh air as one of the first essentials to an early recovery. While hospital boards are too frequently hampered by lack of sufficient appropriation

for purchase of equipment, the inclusion of proper ventilation apparatus is one of the most important items to be specified in a hospital building.

The modern practice with regard to ventilation for hospitals is to supply a constant volume of fresh air which has previously been washed and filtered into the operating suites, private wards, semi-private wards and public wards, each suite of wards being handled independently, and this supply of air is then exhausted from the kitchens, lavatories, service rooms and etherizing rooms.

The three large hospitals recently erected in Hamilton and featured in this issue, are equipped with Sheldon ventilating appliances throughout, similar to that installed in the Toronto General Hospital, Wellesley Hospital, St. Michael's Hospital, Weston Sanitarium, Toronto, and many other hospital buildings throughout Canada.

ESTABLISHES CANADIAN PLANT.

Canadian purchasers of steel products will be interested to learn that the Pittsburgh-Des Moines Steel Company, formerly known as the Des Moines Bridge & Iron Company, with works at Pittsburgh, Pa., and Des Moines, Iowa, has recently established a plant at Chatham, Ont. This Canadian branch of the company, known as the Canadian Des Moines Steel Company, Limited, has purchased the property of the Chatham Bridge Company, Limited, and has enlarged and completely equipped this plant to handle the manufacture of all standard types of steel structures, including mill buildings, office buildings, fire escapes and bridges. In addition to this they will also make a specialty here, as in the States, of the manufacture and erection of elevated steel tanks and other special structures, such as stand-pipes, storage tanks, smoke stacks, barges and coaling stations. In future all sales in the Canadian territory will be handled from Chatham, and all steel for delivery in Canada will be fabricated at this point.

DEVELOPING QUARRY PLANT NEAR WINDSOR.

Extensive developments are being made by the Brunner Mond, Canada, Limited, Amherstburg, Ontario, at the Amherstburg quarry, which they control. Several new buildings are being erected and several old ones altered.

The excavation for the main part of the plant has been completed, and the foundation for the machine shop is under way, while the subway to the boiler house is partly completed. The machinery at the quarry will be tried out, the crusher tested, and work of getting stone out for the concrete will be proceeded with at once. Cement, gravel and steel necessary are also on hand, and the railway from the quarry to the site of the plant has been laid. A residence has been converted into an office building, and another one into a first aid hospital. Houses around the quarry have been fitted up for employees.

Stone from this quarry is said to have gone into the first U. S. ship canal at the American Soc, and it is known that all the stone for the Canadian lock at the Soo came from here.

The property has been operated by different persons for many years, but the present development is on a more extensive scale than before attempted. Mr. Rutherford is general manager.

CATALOGUES and BOOKLETS

How to Know Good Lighting.—A very interesting booklet on indirect lighting has been issued by the National X-Ray Reflector Company, Chicago, illustrating numerous views of office interiors, banks, hotels, stores, clubs, churches, hospitals, schools, libraries and public buildings, many in Canadian cities in which the indirect system is used. The booklet is of interest to any architect having an interior lighting problem to consider.

New Corr-Mesh Catalogue.—The Corrugated Bar Company, of Buffalo, N.Y., reinforced concrete specialists and distributors of Corr-Products, has just issued a very attractive and useful catalogue on Corr-Mesh. Corr-Mesh is a stiff-ribbed diamond mesh expanded metal employed on reinforced concrete, plaster and general stucco work. Two kinds are manufactured, one having ribs 3/4-inch high, and the other having ribs 5-16-inch high. The forepart of the catalog is given over to a detailed description of the material, its advantages and various applications. The pages following are devoted to designing tables, graphical construction details and specifications relating to the use of Corr-Mesh in partitions, exterior walls, floors, roofs and ceilings respectively. Construction photographs showing the method of handling and erecting the material, and, incidentally, its wide and universal application, are scattered throughout the catalog in pleasing effect. The catalog contains much data which is valuable to the architect, engineer and contractor, and copies may be procured by addressing the Corrugated Bar Company, Mutual Life Building, Buffalo, N.Y.

R O O F I N G

THE roofing of the Ross Memorial Hospital featured in this issue is one of a number of outstanding buildings recently completed by us.

We are thoroughly equipped to handle any roofing contract.

Estimates
Furnished
for all
Roofing
Requirements.

Geo. W. Reed & Co., Limited
MONTREAL - CANADA