TORONTO UNION STATION

ossal task Mr. Van Horne undertook and of the seemingly unsurmountable difficulties which he overcame, compared with which transcontinental railway construction today is a comparatively easy task. West from old Manitoba the route had to be decided on and construction pushed through an unsettled prairie country, a southerly way had to be found through the Rockies and the supposedly impenetrable Selkirk Mountains, all supplies and construction material had to be taken in from the Winnipeg and Pacific Coast termini, the former of which had no eastern Canadian connection, but never did a contractor have to wait, and continental track laying records were established for both a day's and a season's work. North of Lake Superior the construction difficulties and the getting in of supplies were gigantic tasks, but he grappled with them successfully, and, instead of taking the ten years allowed by the contract between the Government and the company, completed in half that time the great railway that will be his enduring monument and an emphatic witness to his indomitable will, his untiring energy, his organizing ability and his absolute thoroughness. Never was a railway more honestly built and never did shareholders get better value than for every dollar that was put into it.

From the day he first set foot on Canadian soil Sir William Van Horne was a never varying believer in the great future of the country, and it is not too much to say that he was one of the very first to really impress on Canadians generally the immense potentialities of the Dominion and especially of the vast territory west of Lake Superior. For the development of its latent resources, altogether outside of the railway sphere, he labored incessantly, and no native born Canadian could have performed more thorough service than he did to the country of his adoption and of which he soon became a naturalized citizen.

He was a man of gigantic intellect, an able administrator, largely self taught, with a marvellous memory for his omnivorous reading on most varied subjects, a recognised authority on geology and art, a most thorough man on any subject he became interested in, a charming companion, an always interesting conversationalist, a loving husband and father, with thorough domestic tastes, and a loyal and unvarying friend. Among the real makers of Canada none will occupy a higher place in its history.

ACTON BURROWS.

The Canadian Pacific Ry., according to a press report, proposes to cut a trail through the Rocky Mountains from Bany to Lake Louise, Alberta, about 60 miles, during 1916.

Starting of Work on Toronto Union Station.

H. G. Kelley, Vice President, Grand Trunk Ry., and President, Toronto Terminals Railway Co., gave the following statement to the press Sept. 26:

"Preliminary arrangements having been concluded for commencing work on the construction of the new union station at Toronto, the contractors have been instructed to proceed with this work. On account of the large expenditures involved at a time when the world's money market, and more especially the source from which Canada has been accustomed to obtain capital, is practically closed for other than war purposes, it appeared for a time that the undertaking would have to be indefinitely postponed. Arrangements were finally completed, however, with the Bank of Montreal for providing the funds necessary to allow the work to go forward, and the construction of the new building will therefore proceed at once.

"In the preliminary studies and final design adopted by the directors and approved by the Board of Railway Commissioners, every comfort and convenience for the travelling public and the City of Toronto has received careful attention. Much time has been devoted to the study and personal inspection of the latest approved railway terminals on the American continent, and it is hoped and believed that Toronto will have, in the new station, when completed, a railway terminal second to none. The east wing of the building will be owned and occupied by the Dominion Government as a postal station, and, by reason of its location, immediately adjoining the railway tracks, the receiving and despatching of all mail matter can be conducted instantly, thus avoiding delays which occur when mail matter must be carried to and from trains to postal stations located at distant points in the city. The west wing of the building will be occupied as railway offices by the Grand Trunk and Canadian Pacific Railway Companies, who have equal ownership in the terminals, while the central portion of the building will be the general concourse to and from trains, in which will be located the ticket offices and other accommodations for the convenience of the public. The work will be carried through to as early a completion as is practicable with the magnitude of the undertaking."

Work was started on the site Sept. 26, and it is expected to get the excavations made and the foundations built during the ensuing winter. The officers of the Toronto Terminals Co. are: H. G. Kelley, President; Geo. Bury, Vice-President; H. Phillips, Secretary; H. E. Suckling, Treasurer; J. W. Leonard, General Manager; W. H. Ardley, Auditor; W. C. Chisholm, General Solicitor; J. R. W. Ambrose, Chief Engineer.

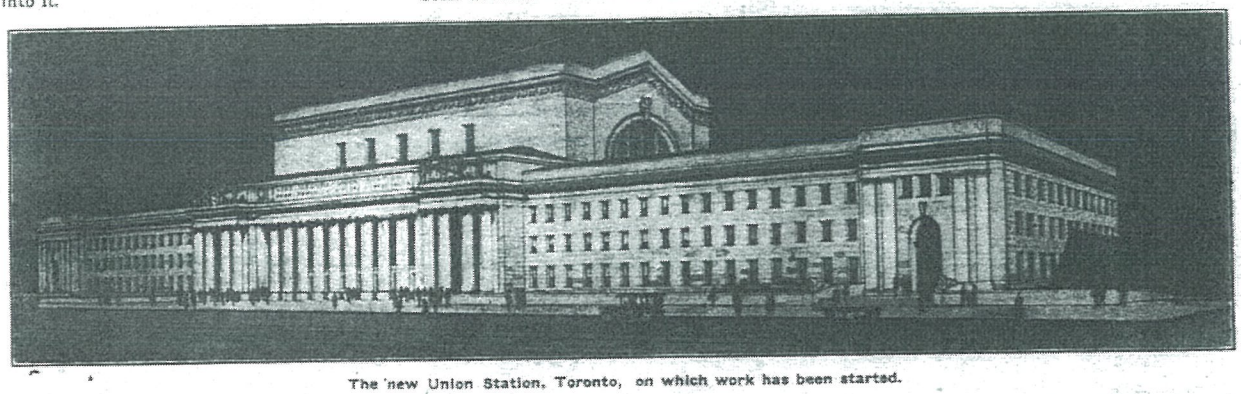
The construction work will be under the general direction of Chief Engineer Ambrose, who will be represented by H. K. Ferguson as clerk of works. W. T. Griffiths will be Superintendent for the contractors, P. Lyall & Sons Construction Co.

The new station, which will face Front St., and extend from Bay St. to York St., was fully described and illustrated in Canadian Railway and Marine World for ..

Canadian Railway Club.—Wm. Roger, A.M. Can. Soc. C.E., Elevation Draughtsman, Canadian Pacific Ry., read a paper before the club in Montreal, Sept. 14, on hydraulic presses vs. power presses in connection with the manufacture of cartridges and shells.

The Canadian Northern Ry. was fined $50 and costs in the Manitoba Provincial Police Court, Winnipeg, recently for failing to report to the factory inspectors two accidents at its shops, as required by the Factory Act. Notice of appeal was given.

The Grand Trunk Railway Patriotic Association of Toronto, the inauguration of which was announced in our last issue, has purchased two motor ambulances for use at the front, and will send a third one should it be required.



The new Union Station, Toronto, on which work has been started.

The Great Northern Ry. (U. S. A.) has obtained authority from the Board of Railway Commissioners to make certain reductions in its train service in British Columbia. Full particulars are given on another page under "Orders by the Board of Railway Commissioners," viz, orders 24161 and 24163.

The Mount Lehman Lumber, Timber and Trading Co., Vancouver, B.C., has been granted permission to build its logging railway under the British Columbia Electric Ry.'s New Westminster-Chilliwack line at mileage 30, with a head room of 12 ft.

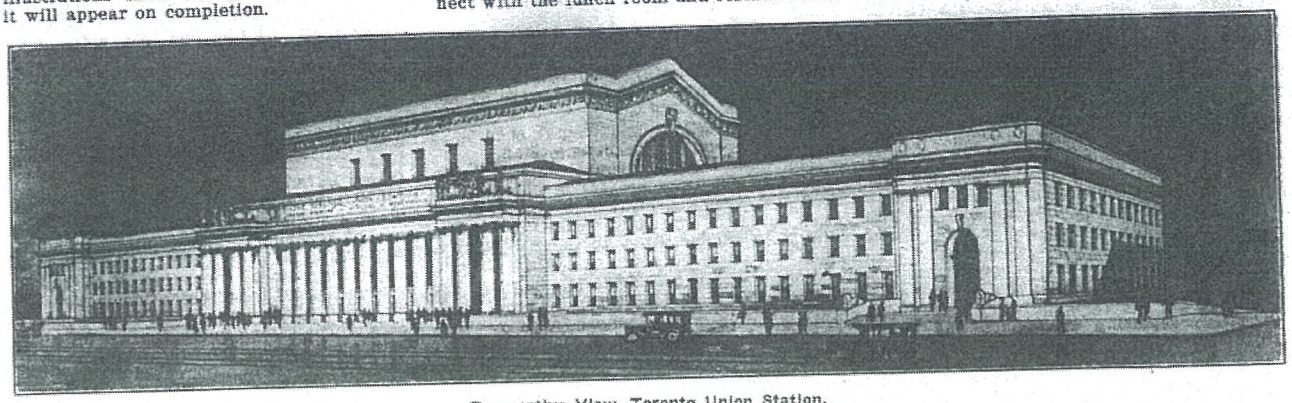
Canadian Northern Ry. Coal Supply.—In operating the line north of Lake Superior coal will be supplied from Port Arthur for about 300 miles east and from that point east coal will be hauled from Toronto and other coaling stations in the east.

The Dominion Government engineers and the contractors engaged on the construction of the Hudson Bay Railway, are reported to have offered to supply two machine guns and the men to operate same, to be attached to the 45th Battalion of the Brandon Regiment.

S. Hammett, formerly treasurer of Toronto Lodge 108, Brotherhood of Railway Trainmen, Belleville, Ont., was sentenced to a term in Kingston Penitentiary, Sept. 9, for misappropriating $800 of the lodge's funds.

The New Union Station at Toronto.

Plans for the new union station in Toronto have been drawn up, and it is expected that they will shortly be in condition for the calling of tenders, it being the stated intention to proceed with the work without further delay. The accompanying illustrations show the general scheme as it will appear on completion.



Perspective View, Toronto Union Station.

The site selected is to the east of the present union station, on the portion of the area swept over by the big Toronto fire in 1904, bounded on the north by Front St., and on the east and west by Bay and York Sts., respectively, this site having been expropriated by the railways immediately after the fire. The only buildings on the site that had to be removed were two at the York St. end of the Front St. frontage.

The floor plan of the station will be in the form of an inverted T, the leg projecting under the tracks, with the cross part along Front St. The building is to be of the Roman type of architecture, built of a light colored stone, Indiana limestone and granite being the probable choices.

The street in front of the station will be widened by 25 ft., and the line of columns along the front entrance of the building will be back 77 ft. from the present street line, making the frontage of the building quite impressive and open. At each end, the building will also stand back 50 ft., which should result in giving it an imposing setting, and, from the fact that it will occupy the whole block, there will be no room for the unsightly small stores that seem to form a parasitic growth around many large railway terminals.

The main station level will be about 18 ins. above that of Front St., and will be entered through a 25 ft. entrance way at each end of the front row of columns, these entrances leading into the ends of a large ticket lobby 250 by 84 ft., the long way of which will be parallel to Front St. This ticket lobby is to be the central point of the whole station scheme, the whole project being built up around it in a very convenient manner.

With the idea of convenience uppermost in the minds of the designers, the information booth will be situated in the centre of the ticket lobby, equally convenient to both entrances, and equally convenient to all the station conveniences, and from this central point they can be pointed out by the information booth attendants, with a minimum amount of confusion on the part of the railway patron in locating the desired objective.

Along the north wall of the ticket lobby, occupying the full distance between the entrance ways, will be 20 ticket booths, with the ticket agent's office centrally situated in this row. Along the opposite wall of the ticket lobby will be the baggage room and parcel room, each 60 by 40 ft., and each having a counter along the ticket lobby side. Midway between these two rooms will be a 40 ft. passageway to the trains.

The east end of the ticket lobby will connect with the lunch room and restaurant accommodation, which, with the service room, will occupy the full width of the building at that end, or a space of 152 by 76 ft. The opposite end of the ticket lobby will contain all the passengers' more personal facilities, including the main waiting room, 88 by 64 ft., centrally situated in that end. Connecting from this on the north will be the women's rest room, adjoining which are to be the toilet facilities, occupying a total space of 68 by 34 ft. The opposite side of the waiting room will consist of the men's accommodation, including lavatories, barber shop, baths and smoking room, a total space of 60 by 25 ft. The waiting room will be entered from the ticket lobby through two side passageways, from which entrance may be had to the accommodations connected with the waiting room, through intermediary lobbies. The extreme west end of the building will be entered from the street through a separate doorway, and will contain the local offices. The east end will be used by the post office department and will have a similar entrance to that at the other end of the building.

As mentioned, there is to be a 40 ft. opening centrally in the south side of the ticket lobby, leading down a 5½% ramp to the train waiting room. Flanking this passageway, there will be on one side a news stand, on the other a telegraph and telephone room, in the respective ends of the baggage and parcel rooms. Owing to the level of Front St., which is practically that of the main station level, being about midway between that of the present rail level and the rail level when the track elevation scheme is completed, it was possible to locate a train waiting room beneath the tracks, approachable by the 5½% ramp down from the ticket lobby. The difference in elevation between tracks and train waiting room will be 13.9 ft. This train waiting room, while not of great height, will have an area of 100 by 230 ft. in length from north to south, at right angles to the tracks.

Perspective of Ticket Lobby, Toronto Union Station.

Seating accommodation will be provided by 11 double cross seats down the centre of the room. On either side of the train waiting room, at the entry end, there will be additional lavatory accommodation, with entry lobbies at this level, communicating through stairways with large toilet rooms. Along either side of the train waiting room, through the balance of the length, as well as on the south end, there will be shop area for the convenience of passengers in making the light purchases peculiar to travelling.

Combination passenger and baggage platforms are to be used, and will be reached from the train waiting room by a 6 ft. stair on each side for each platform. Duplicate stairways will lead down from the platforms to the east and west of these stairways, into 25 ft. exit passageways that will flank the train waiting room on either side. Between the train waiting room and these passages there will be, on either side, two cross passages for communication purposes.

One of the underlying ideas in the station design was to develop a scheme whereby the traffic could be handled with a minimum of confusion, for which purpose special provision must be made to so handle the incoming passengers that their movements will not in any way interfere with those of the passengers proceeding to the trains. This scheme has been developed in a two-fold manner, either of which can be used as the volume of traffic warrants. Near the front end of the train waiting room, the flanking exit passages will widen and divide, with a central division wall, attached to which will be a gate that may be swung across either one of the arms of the divided passage. Normally the inner passages will be barred, the outgoing passengers proceeding along the passageway into the ends of the ticket lobby, where the incoming passengers may meet their friends, the large area available, and the opportunity the incoming stream of passengers has to stretch out in proceeding along this long passageway, eliminating the crowding and confusion usually incidental to meeting in congested quarters.

When the traffic is heavy, as at holiday times and during the Canadian National Exhibition, the exit passageway normally in service will be closed by the gate being swung across, the incoming passengers being diverted along similar passageways paralleling the ticket lobby, these passageways on either side descending a 7% ramp and meeting at the centre, leading from there into a basement-level station of identical layout to that above in most particulars. Passing across the exit concourse, the passengers will leave by a central doorway, branching right and left and ascending a 9% ramp to the main street doors. In this manner the incoming crowd will be kept at all times entirely separate from the outgoing passengers, and will be directed in such a manner along easily followed passages that there can be no confusion.

As stated, the lower level waiting accommodation will be almost identical with that above. The exit concourse will be similarly situated and of the same width, but slightly shorter than the ticket lobby above. With the latter it will communicate with a stairway at each end. In the centre will be a duplicate of the information booth, with ticket offices on the north side and parcel and grip rooms along the south side, making it to all intents and purposes a reserve station of similar capacity to the one above.

Between the new street curb and the face of the building there will be an open court the full length of the building, bridged at the centre for the entrance porch and either end for the office and post office entrances. Baggage will enter by way of the open court passageway from the York St. end, leaving it in the baggage quarters at the York St. end of the lower level. Carriages will proceed along the front of the building in the lower court, drawing up in front of a carriage arcade which will communicate with the carriage lobby, this latter being directly off the west end of the exit concourse. The exit will be by way of Bay St.

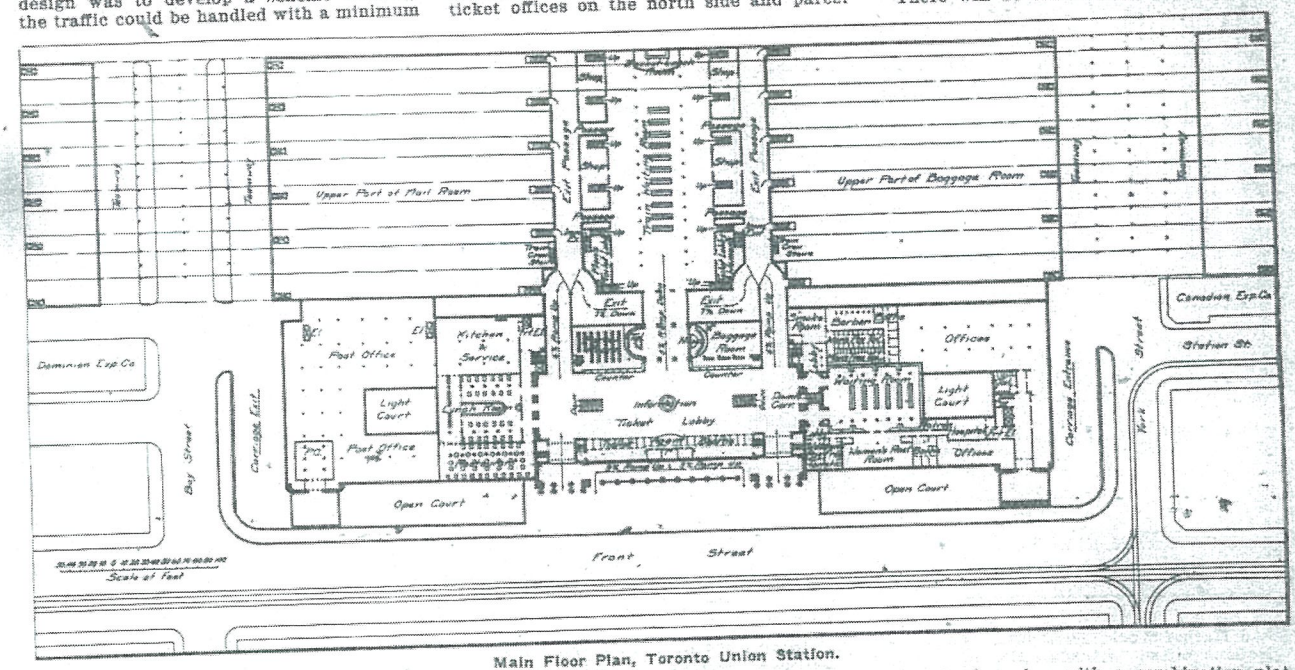
The baggage room will occupy the whole of the west end of the lower level, extending out under the track area as well. Most of the opposite end will be for post office accommodation. At the extreme ends of these spaces, 32 ft. back from the street and 342 ft. apart, there are to be elevators from the lower level to each platform for transferring the baggage and mail between the train platforms and the lower level rooms. Near the back of the station building there will be a trucking space, slightly lower than the lower level floor, and passing under the streets at either end to cross tunnels, along which will be additional elevators to the platforms. In one corner of the baggage space will be the customs lobby, connecting through the carriage lobby with the exit concourse.

Special accommodation has been provided in the design for the accommodation of immigrants. In the upper level plan it will be observed that in each exit passage there is to be a descending stairway leading to a cross passage in the lower level. This passage will connect with a series of rooms to the immediate east of the exit concourse, these rooms consisting of immigrants' waiting room, lavatories, lunch and kitchen service rooms, Provincial and Dominion agents, and laundry, this section of the station being entirely segregated from the balance of the station.

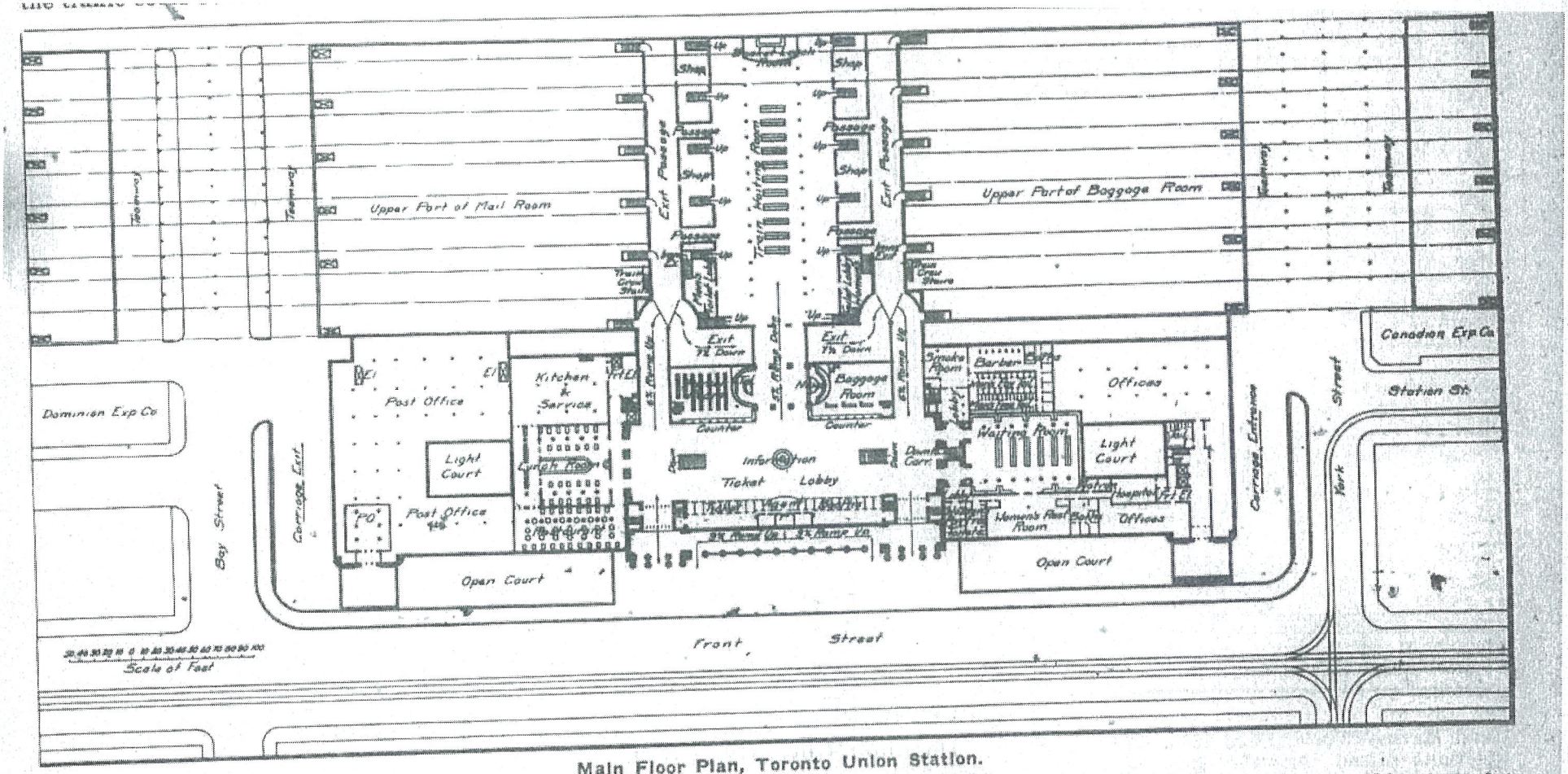
There will be ten through tracks in the station, in pairs, with a combination platform between each pair. The combination platforms will be 20 ft. wide, and they have been so planned that while passengers and baggage will use the same platforms, they will not come in contact. At each end of each platform, as previously stated, there are to be two elevators connecting with the lower level. The baggage will thus be handled at the outer ends of the platforms, and then through the lower subway for any lengthwise shifting, while the passengers will all move towards the centre of the platforms, where the stairways will be located. The train shed will be of the improved Bush type.

The upper three floors of the building will contain the railway divisional offices.

In the preparation of the plans, a great deal of comparative data was collected, from which to develop a scheme that would best meet the local requirements. This has involved the compilation of passenger statistics both in Toronto and many of the other larger cities on this continent, covering a period of several years. Some interest-



Main Floor Plan, Toronto Union Station.



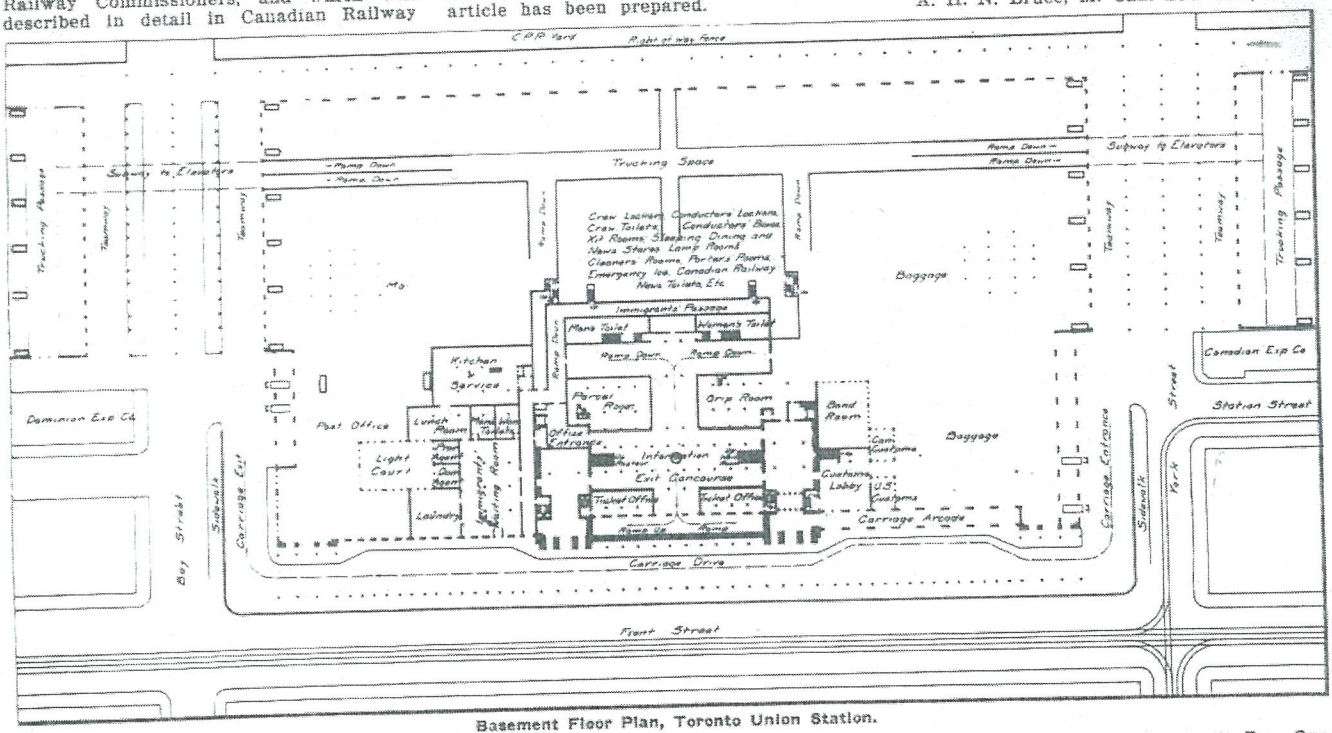
Main Floor Plan, Toronto Union Station.

station in pairs with a combination plat-

ing facts are developed from the report of the investigators. It shows that the passenger traffic is about equal to that of Washington, D.C., and about half that of Kansas City or St. Louis. The baggage handled is shown to be equal to that of the New York Pennsylvania Rd. station and nearly as great as that at the St. Louis station, Boston South station, and the New York Grand Central station. The parcel traffic handled is about the same as the baggage in relation to these cities, including in the last number Kansas City and St. Louis. It is of interest to note that the average number of pieces of baggage per passenger is greater in Toronto than in any other large centre on this continent.

The estimated cost of the station will be in the neighborhood of $3,000,000, and it will form a part of the $15,000,000 grade separation project ordered by the Board of Railway Commissioners, and which was described in detail in Canadian Railway and Marine World, Dec., 1913. All the objections raised by the city against the design of the station were overruled by the Board in its sitting of May 5 last. The city wanted greater head room in the train waiting room, but the Chief Commissioner ordered that the 10 ft. provided was ample, as an increase would involve the objectionable feature of more stairs, which, in the present design, are eliminated entirely in all places where there will be a large crowd. He also ruled against separate passenger and baggage platforms, stating that the experience of other large centres proved that the combination platform was quite as satisfactory. This ruling was qualified by an order forbidding the trucking of baggage passed to the passenger stairways, which, as already explained, the design makes quite unnecessary. The request that the platforms be ordered higher could not be complied with, as the Chief Commissioner considered that the advantages to be obtained would not be sufficient to warrant the Board in ordering the railways to change their rolling stock for this purpose. While the possible inconvenience of people meeting incoming friends was recognized, the larger advantages of the general scheme outweighed any advantages to be derived from a direct exit passage. If the light traffic exits were found to be unsatisfactory, an order could be issued compelling the use of the lower level exit at all times.

The Union Station is being built by The Toronto Terminals Railway Co., an organization of G.T.R. and C.P.R. interests formed to handle this project. The Chief Engineer of the company is J. R. W. Ambrose, who has been engineer in charge of the Toronto Grade Separation for the G.T.R. H. R. Safford, Chief Engineer, G.T.R., and J. M. R. Fairbairn, Assistant Chief Engineer, C.P.R., are acting as consulting engineers to the company. The architectural plans have been developed by Ross and Macdonald and Hugh G. Jones, Montreal, who are the architects, and with whom is associated John M. Lyle, Toronto. We are indebted to Mr. Lyle for the information on which this article has been prepared.



Basement Floor Plan, Toronto Union Station.

Dominion Government Railway to Hudson Bay.

Some general information in regard to construction of this line appears on page 258 of this issue.

Work on the terminals at Pas, Man., is reported to have been started, and it is expected to have it completed by the end of the summer.

Tenders are under consideration for the supply of the hardware necessary for the construction of the terminals at Port Nelson.

Replying to questions in the House of Commons, April 30, the acting Minister of Railways said the party of 130 men with 50 horses which left Pas, in January, in charge of J. F. Pratt, arrived at Port Nelson, April 9. The horses which were taken to haul supplies and outfit for road making, were not taken through. The men who formed the original party did not all go through, some left and joined the construction gangs en route, and men left the construction gangs to join the party. The total number arriving at Port Nelson was 148, all of whom were afterwards employed by the Department at that place.

Birthdays of Transportation Men in June.

Many happy returns of the day to:—

Jas. Anderson, Manager, Sandwich, Windsor and Amherstburg Ry., Windsor, Ont., born at Ayr, Ont., June 20, 1851.

W. C. Bowles, General Freight Agent, Western Lines, C. P. R., Winnipeg, born at Montreal, June 3, 1875.

J. H. Boyle, Superintendent, District 3, Lake Superior Division, C. P. R., Schreiber, Ont., born at Waterloo, Que., June 26, 1869.

F. P. Brady, General Superintendent, Canadian Government Railways, Moncton, N. B., born at Haverhill, N. H., June 22, 1853.

H. W. Brodie, General Passenger Agent, Lines West of Revelstoke, C. P. R., Vancouver, B. C., born at Fredericton, N. B., June 3, 1874.

A. H. N. Bruce, M. Can. Soc. C.E., Chief Engineer, Quebec and Saguenay Ry., Quebec Ry., Light, Heat and Power Co., etc., Quebec, Que., born at Ballyscullion, Ireland, June 18, 1854.

A. E. Doucet, M. Can. Soc. C.E., District Engineer, National Transcontinental Ry., Quebec, born at Montreal, June 9, 1860.

E. W. DuVal, Superintendent, District 3, Saskatchewan Division, C. P. R., Saskatoon, born at Toledo, Ohio, June 5, 1885.

J. M. R. Fairbairn, M. Can. Soc. C. E., Assistant Chief Engineer, Eastern Lines, C. P. R., Montreal, born at Peterboro, Ont., June 30, 1873.

W. E. Foster, Solicitor for Ontario, G. T. R., Montreal, born at Belleville, Ont., June 27, 1866.

A. A. Goodchild, General Storekeeper, Eastern Lines, C. P. R., Montreal, born at Peckham, London, Eng., June 3, 1866.

J. A. Heaman, Assistant Chief Engineer, G. T. Pacific Ry., Winnipeg, born at Memphis, Tenn., June 3, 1874.

H. W. Harding, Local Secretary, Canadian Northern Ry., London, Eng., born there June 6, 1869.

L. R. Johnson, General Superintendent, Angus Shops District, C. P. R., Montreal,

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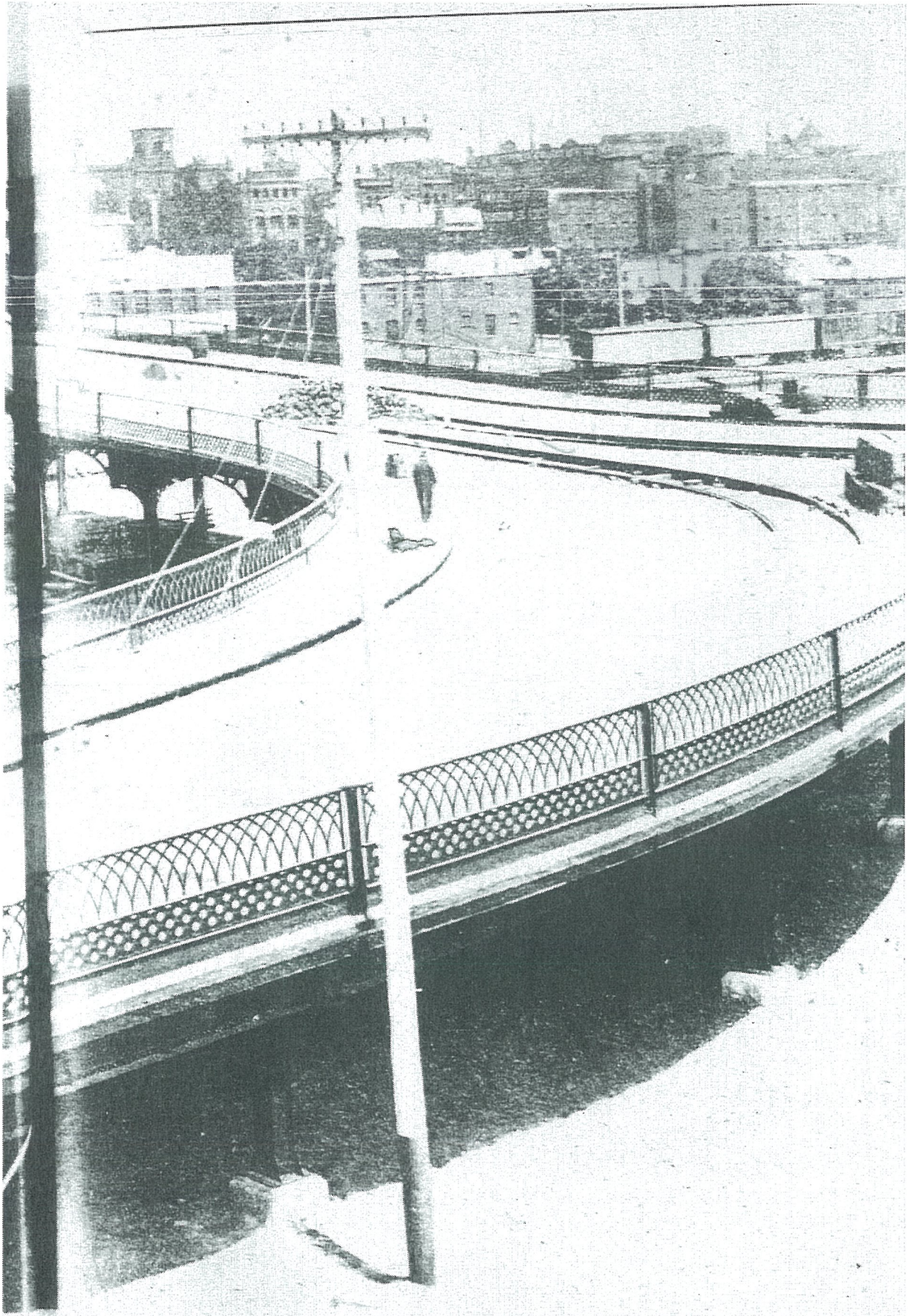

them. This drilling was done with a steam drill, half from each side of the stone.

The iron-work was erected during the winter of 1866-67, & was paid for at so much per [illegible]. The bridge was de-

wind strain of 400 lbs. for each longitu[dinal] lineal foot, & 150 lbs. for each Vertical ft. if the trestle bents were allowed for steel had to come up to the following re[quire]ments.