

The Toronto City Court of Revision recently reduced the G.N.W.T. Co.'s assessment from \$25,000 to \$8,391 on the strength of an itemized statement of cost submitted by the Co. showing that it has in the city 909 poles, ranging from \$1 to \$10 in value, according as they vary from 30 to 65 ft. in height; 214 miles of wire at \$12 a mile, and 30 miles on buildings at the same price; one mile of copper wire at \$30 a mile. The cost of planting poles the Co. placed at \$1.

Following are statistics of the three principal telegraph systems in the Dominion—the Great Northwest Telegraph Co., the C.P.R. Co.'s Telegraph, and the Western Union Telegraph Co.—for 1900:

	Miles of line.	Miles of wire.	No. of Messages.	No. of Offices.
G.N.W.T.	18,290	34,810	2,623,257	1,466
C.P.R.T.	9,505	37,112	1,900,000*	996
W.U.T.	2,922	8,682	437,157	218
Total	30,717	80,604	4,960,414	2,680

* Not including press messages.

The Government telegraph line from Murray Bay, Que., along the north shore of the river and gulf of St. Lawrence, has been completed as far as Chateau bay, Labrador, and additional stations have been established at Ponte du Maurier, Harrington, Mutton bay, St. Augustin, Bon Esperance, Blanc Sablon, Red bay and Chateau bay. The str. Tyrian, which was recently engaged in repairing the cable between Meat cove, Cape Breton, and St. Paul's island, is engaged laying a cable between Chateau bay and Belle isle. It is not yet known whether it will be possible to maintain a cable across the strait owing to icebergs, but the attempt will be made. The Tyrian is fitted with the Marconi wireless telegraph system, and another set is to be fixed on Belle isle for experimental purposes, and as a means of communication should the cable be carried away. D. H. Keely, Superintendent of Government telegraphs, is in charge of the work.

The C.P.R. Co.'s Telegraph.

The headquarters building recently erected at the corner of St. Francois Xavier and Hospital Streets, Montreal, was occupied by the C.P.R. Co.'s Telegraph on Sept. 2. Many of the offices which are rented were occupied earlier. In transferring the offices from the temporary quarters across St. Francois Xavier St. to the new building, it was only necessary to disconnect the wires leading to the old instruments and connect them with the new. The latest improvements in dynamos and switchboards have been utilized.

The new building is eight stories in height, with a deep cellar. In this cellar are placed the lineman's room, the big electric fan, which conveys cool and moderately hot air throughout the building; the dynamos which run the elevator, the store room and wine room of the City club, and the cable room, as well as lavatories for the messengers. The boilers for the heating apparatus are also placed in this portion of the building. The system for cooling the building is a modern one. The immense electric fan or blower is run by a dynamo. A large air shaft extends from the cellar to the roof with branch ducts connecting with every room in the building. If the day is very hot, it is possible to place a box of ice at the opening of the huge fan, which would make the air still cooler as it is sent through the building. On the other hand, the lower portion of the fan is provided with hot air pipes, and when a moderate heat is required throughout the building, these are heated and the fan carries the heated air to every room. For cold weather the regular system of live steam heating is provided. This is sent to the top of the building by means of a main conduit, and it is thence dis-

tributed to the radiators on different floors, and the condensed steam is forced back to the boiler by means of a small steam pump.

All the cables enter the building by means of underground conduits. The telegraph, telephone and lighting wires are all kept underground, and the most elaborate precautions are taken throughout the building to prevent a wire from being exposed at any point except, of course, in the switches, which are provided for that purpose. The telephone cable comes direct from the Bell Telephone Co.'s exchange through an underground conduit. The telegraph wires come in in six cables. One of these comes underground from near Place Viger station, and the other goes underground near the Windsor St. station. The other three cables are for local exchanges.

There are three entrances to the ground floor. The main entrance on Hospital St. is most imposing. Two columns of New Brunswick sandstone are at either side of the entrance. The wainscoting in the halls is of Sicilian marble polished to a high degree, and most artistically marked. The ceiling is finished in imitation ivory, beautifully carved. The entrance at the corner of St. Francois Xavier St. leads to the receiving room. This is a most imposing room, with ceilings 18 ft. high, and richly carved columns. The floor in front of the counters is tiled, and the counters are of marble. The local manager's office and the cashier's office are cut off from this room, while there is a smaller room at the side intended for reporters who use the C.P.R. wires. The receiving room is equipped with pneumatic tubes for conveying messages to the operating room, while an indicator is provided with connection to every office in the building. Any of the Co.'s tenants who wish to send a message have simply to press a button and a messenger will be sent. In rear of the receiving room, and reached by a door opening on St. Francois Xavier St., is the messengers' room, a cheerful apartment where the boys spend their time while waiting for messages. Above them, and reached from the receiving room by a short stairs is a cloak-room for the office staff, and a store-room for the keeping of six months' business. The lavatories for the office staff are also on this floor. On the fifth floor are the executive offices, C. R. Hosmer, formerly Manager of the Co.'s telegraph, and now a director of the Co., J. Kent, Manager, W. J. Camp, Superintendent of the Eastern Division, the Superintendent of Construction, and other officials being located there.

The operating room takes up the whole of the top flat. The ceilings are 18 ft. high, and as the building towers above all the surrounding structures, the telegraphers will enjoy good light and a splendid view of everything that goes on in the harbor. The power for operating the wires is furnished through 13 dynamos of the Lundell pattern. They connect with a slate switch-board, which distributes the current throughout the building. All the cables come from the basement through a shaft, and are distributed on a system of fuses and lightning arresters, mounted on porcelain blocks, and thence conducted by short cables to the switch. In rear of the switch is the distributing board, through which pass all leads between the switch and the table connections mounted on slate slips placed on an iron frame. Everything about the apparatus in this portion of the work is designed to make it absolutely fireproof. The main switch in the operating room is of the very latest design. It is equipped for 100 wires, and can be increased to receive 150. The key controlling each circuit marks the number of volts necessary, and contains a list of calls to the offices reached by the circuit. The operating room contains 8 sets of quadruplex instruments whereby 4 operators can work simultaneously on the one wire,

5 sets of duplex, 8 sets of automatic repeaters, and 34 sets of single working instruments. Every table is provided with seats for 4 operators, and all have slides for the use of the typewriter, as it is the intention to have all messages typewritten. Two cloak rooms are provided with lockers for the male and female operators. The heating apparatus in the operating room is arranged so that one-half the radiator may be closed off while the other heats. In this way it will be possible to control absolutely the heat of the room in which a large number of people will be engaged all day long.

General Telephone Matters.

The Bell Telephone Co. is laying another cable across the Detroit River, between Windsor, Ont., and Detroit, Mich.

The Dawson, Yukon, telephone service consists of 140 instruments in the town, and 26 scattered along the creeks, and orders are in for many more. Capt. Oleson is manager.

The extension of the New Brunswick Telephone Co.'s line to St. Andrews and St. Stephen is being pushed forward. J. Barnes, M.L.A., has the contract for erecting the poles.

The Valley Telephone Co., which was incorporated by the Nova Scotia Legislature in 1892, had its charter amended last session, by reducing its authorized capital from \$40,000 to \$30,000.

The Bell Telephone Co. of Canada is inviting tenders for the purchase of \$200,000 of its 5% debentures, redeemable on April 1, 1925. The debentures will be issued on Oct. 1, and the interest will be payable in April and Oct.

The cables connecting the Uptown, Montreal, and Westmount exchanges of the Bell Telephone Co. are being placed underground. When this work is complete over a mile of cable will have been laid. The Co. has now about 14 miles of conduits in the principal streets of Montreal, in which some 15,000 miles of wire are laid.

An exchange is responsible for the following:—"What is probably the only telephone system operated entirely by the Indians is being installed in the village of Kish-Pie-Axe, in northern British Columbia. The system is to be connected by a 20-mile telephone wire from the telegraph office at Hazelton, half way between Ashcroft and Atlin."

The following statistics for 1900 of telephone companies in the Dominion are given in the Statistical Year Book:—

No. of companies	58
from which returns were received	38
offices	1,580
sets of instruments	52,417
miles of poles	13,764
wire	129,111
messages sent (approximate)	156,217,627

Mr. Wayling, member of a syndicate asking for a telephone franchise in Toronto, says negotiations will be resumed after the holidays. This syndicate offers to put in a system at a cost of \$1,200,000, the yearly rates to be \$36 for a business telephone, or \$50 for a business and private telephone on one circuit; and two house subscribers on one line \$18 or \$20 each. Each instrument would be on a metallic circuit, and would be connected with one central switchboard. A guarantee of \$50,000 would be put up by the syndicate on entering into a contract.

The Northern Pacific Ry. is making tests of a system for the simultaneous transmission of telephonic and telegraphic messages over the same line, recently invented by C. H. Gaunt, one of its staff. The experiments are being made between St. Paul and White Bear, Minn. It has been found possible to send telegraphic messages, with the use of