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**THE BELL TELEPHONE COMPANY'S NEW EXCHANGE,
TORONTO.**

THE Toronto offices of the Bell Telephone Co. have been removed to the Company's new building on Temperance St., but the removal of the operating room will not take place for some months, pending the completion of the new switchboard which is at present in course of manufacture at the Company's workshops in Montreal.

A recent inspection of the new building, which is nearing completion, shows it to be a most substantial structure, and designed in the best possible manner to meet the requirements. The building is stone and brick, three stories in height, and is said to be the only thoroughly fire proof structure in the city. The outer walls are 4 ft. thick at the base, and about 3 ft. thick above the foundations. The inner walls are of brick, and are supported by steel girders encased in hollow fire brick. The first and second floors are tiled, as also the lower portion of the walls of first and second story and of stairway. The only part which would be affected by fire would be the door and window frames as even the partitions dividing the various offices are of porous terra cotta. The wood work throughout is of cherry, and presents a rich appearance.

Half of the basement is occupied by the cables, which are brought in through a large manhole beneath the sidewalk; these cables will number about 125. Each of them will contain 100 wires, thus meeting the requirements of the exchange, which is designed to serve 5000 subscribers. These cables pass up through the floor above to terminals in the distributing room, from which the wires are carried beneath a false floor to the distributing rack, and from thence back beneath the floor and through a shaft to the switchboard. The remaining portion of the basement is occupied with the steam heating apparatus and for storage purposes.

Immediately to the left of the main entrance is a pleasant room which is to be fitted up as a reception room, and adjoining it will be the long distance telephone department; on the same floor are the store room, repair shop, testing room and lavatories.

The second floor is reached by an iron stairway having marble steps. The manager's office is located on this floor at the front of the building, immediately across the hallway being the public office and the offices of bookkeepers, stenographers, etc. On this floor are the offices of the superintendent, a large battery room and a lunch and cloak room for the operators. The cloak room is provided with double lockers, each locker being divided for two operators.

On the third floor will be the operating room, around three sides of which will extend the switchboard, which will embrace every improvement which has been perfected up to the present time. The room is perfectly lighted by a large skylight. In the centre will be situated the chief operator's desks. There has been provided a second iron stairway, leading from near the centre of this room to the floor below, designed to afford an easy means of egress in case of fire.

Everything is as yet in an incomplete condition, but it is safe to say that when all arrangements are perfected, the Bell Telephone Exchange in this city will be equalled by few and excelled by none on this continent. It is the Company's intention to erect shortly a storage warehouse, where all its supplies will be kept. The quantity of supplies required to be kept on hand for constantly extending the system and for repairs, is very large, as may be judged from the fact that the regular order for wire

amounts to 150 miles per month. It is the intention also to erect, in the near future, branch exchanges in East Toronto and Parkdale. The Company give employment in this city to 250 persons.

The following extract from the last annual report of the City Engineer of Toronto, will serve to show the extent of the Company's operations in this city:

"From the manager of this branch, Mr. Dunstan, I have been furnished with the following statistics: As an essential feature of their reconstruction work in the central portion of the City, they have erected a new and central Telephone Exchange building on Temperance Street, at a cost in the neighborhood of \$60,000, and it is in every way a thoroughly satisfactory, substantial and fire-proof Telephone Exchange. During the past five months the Company have moved their Yorkville branch to the south-east corner of Yonge and Bloor Streets, and have now at that place a thoroughly modern Exchange, equipped with a metallic multiple switch-board capable of serving 3,000 subscribers. The wires are all brought in under ground to this office to cable terminals which are supplied with the best lightning and electrical arresters. In order to carry out this underground service and comply with the terms of their agreement with the City, the Company have placed a number of poles on side streets and alley-ways, have strung over 300 miles of wire, 300,000 lineal feet of aerial cable, and have brought into use over 31,830 feet of under ground-cable. They have supplied "second" wires to about one-sixth of the total number of subscribers in Toronto, thus giving them the great advantage of quiet metallic circuits, free from noise caused by electric induction. While this work of moving the Telephone Exchange has been going on, the Company on an average have put in about 100 new connections a month, each one of which necessitates the erection of outside line and interior wiring. There are now laid in Toronto 16,183 lineal feet of this Company's under ground conduit, which contains 310,537 feet of duct, each duct being intended for one cable. This amount is made up as follows: 64,857 feet 2½ inch Macdonald duct; 55,312 feet 3 inch Macdonald duct; 190,368 feet 3 inch Wychoff duct, all of which is made of a specially prepared creosoted wood imported from the United States, and in such a manner as to exclude all moisture from the cables. Forty-seven man-holes, six feet square, have been constructed in connection with this conduit system, besides the large area in front of the Company's Central Exchange on Temperance Street, which affords access to this under-ground system. In order to move into their new building on Temperance Street, and work the new metallic system, and otherwise comply with the terms and conditions of their agreement with the City, the Company have to lay about 1,400 feet of conduit, equalling 162,500 feet of duct, and for this they purpose using cement-lined iron pipe, which, though considerably more expensive than creosoted wood, will, it is believed, be more durable and satisfactory. When this is done the Company will be able to remove 784 of their poles from the streets, which now carry 3,867 cross-arms and about 1,300 miles of wire. This new construction work will necessitate an expenditure for under ground metallic line of between \$175,000 and \$200,000; and besides this there will be the work of erecting new distributing routes on the side streets, and building "second" lines to the 3,000 subscribers not yet having a metallic service, and the re-wiring of the interior of each one of these 3,000 dwellings or offices. Besides all this there is the moving of the main Exchange and the setting up of a complicated switch board capable of accom