

The transformers and heating plant are housed in the sub-station, to meet the requirements of the Canadian Fire Underwriters' Association.

The twin pipe line crossing Lemieux Island Bridge, shown in Fig. No. 6, consists of fifteen thousand lineal feet of steel pipe of the Lock-Bar type, 7/16 inch thick and 51 inches diameter. This pipe was made in 30-ft. lengths, with the exception of bends

and other specials. The pipes were laid in a trench six to thirteen feet in depth. In the case of a single pipe line the trench had a width of six feet, and for a double line it averaged thirteen feet. Each section of pipe overlapped six inches on the next one, the sections being riveted together with 1-inch rivets at 3-inch centres. Fig. No. 7 shows the pipes being riveted in the trench.

On the bridge the pipe is supported by concrete cross-walls, 10 feet centre to centre, while on the approaches to the bridge and on Lemieux Island it is supported by cross-walls 1 foot wide and 15 feet centre to centre. The pipe

is covered with asphaltum paint and wrapped in burlap. On all the highest points in the pipe line there are 4-inch automatic air valves. Twin 51-inch pipes are laid between Lemieux Island and the intersection of Champagne and Wellington Streets, a distance of 9,247 lin. ft., and a single pipe line from there to Bronson Avenue, a distance of 3,260 lin. ft.

Fig. No. 8 shows the connection between the overland pipe system and the distribution system feeding the city. There are five valves at this point controlling the flow of water.

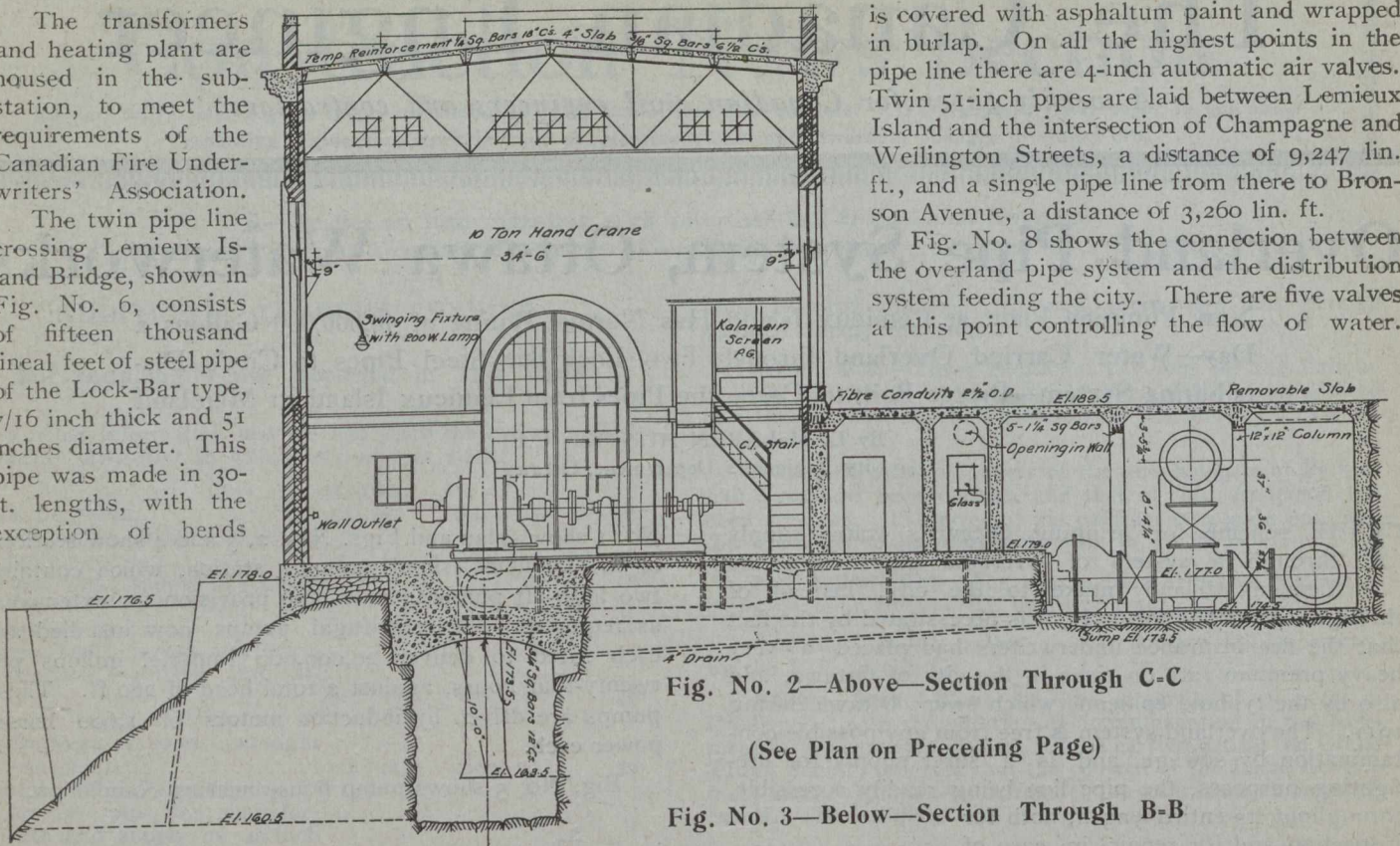
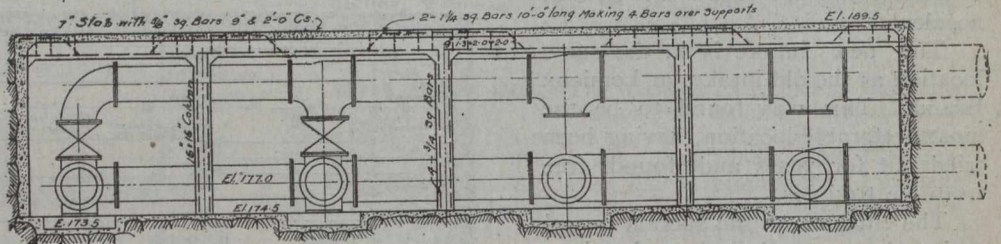


Fig. No. 2—Above—Section Through C-C

(See Plan on Preceding Page)

Fig. No. 3—Below—Section Through B-B



In order to carry the pipes from Lemieux Island to the mainland, a bridge was necessary. This bridge, which was illustrated in the October 4th, 1912, issue of *The Canadian Engineer*, is a four-span reinforced concrete arch bridge, each span 106 ft. long. There are two spans between Lemieux Island and Bell Island, and two between

Fig. No. 4—Section Through A-A of Fig. No. 1