in bundles to various railway sidings and transported by team to the line. All connections were made by means of galvanized bolts, the required number being delivered with each tower.

An assembling gang, usually consisting of eighteen men including a foreman and sub-foreman, followed the footing gang. Two men from this assembling gang went ahead to break out the bundles and lay out the towers on the ground. The main gang assembled the body of the tower, while the cross-arms were assembled by a gang which followed consisting of three men and a sub-foreman. All bolts were drawn tight and the projecting threads burred with a hammer or centre-punch. This assembling gang working winter and summer could assemble an average of three and one-half towers a working day. Under favorable summer conditions from five to six towers a day were assembled. The average winter and summer labor cost for assembling a double-circuit tower was $10; the maximum cost in winter with heavy snow was $24, and in summer with good weather conditions $6.25 a tower. The single-circuit towers were assembled in summer at an average cost of $7.35 a tower.

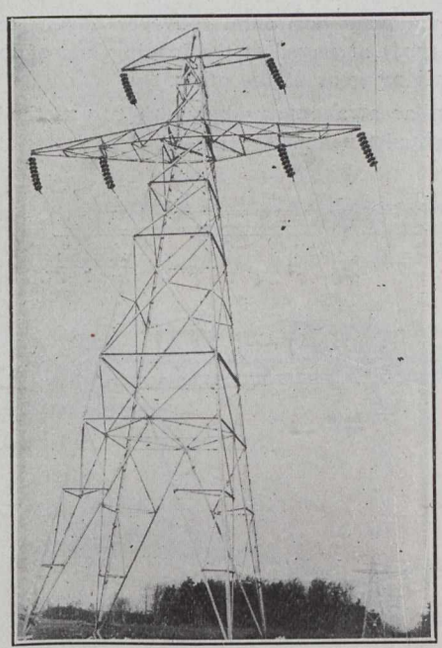

Fig. 8.—Standard Double-Circuit Line Tower.

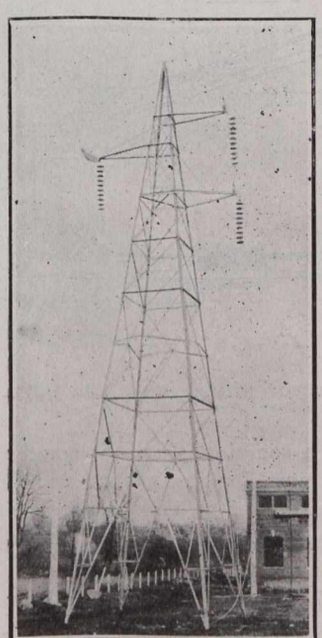

Fig. 9.—Standard Single-Circuit Tower.

The erection gang, consisting of five or six men with a foreman and team, followed the assembling gang. Gin-poles, A-frames and shear-legs were variously employed for the erection of the towers, the shear-leg method, however, was found to be the most satisfactory. (Figs. 6 and 7). The method of erection was as follows: Temporary stiffening struts were bolted to the tower legs; the shear-legs were placed in a vertical position about the centre of the tower base and the toes securely snubbed; a heavy line leading from a set of double blocks was then carried over the shear-legs and attached to the tower just below the lower arm; the blocks were snubbed to "dead-men" and the tower drawn into a vertical position by a team, after which stiffening struts were removed and the tower legs bolted to the footing angles. The average rate of erection under various conditions was about four towers a working day. During the summer and in good country eight towers a day could be erected in straight runs by the erection gang. The average labor cost for erecting double-circuit towers was $4.75 a tower, the minimum cost $2.45. Single-circuit towers were erected at an average cost of $3.50 a tower. All work on single-circuit towers was done in the summer and early autumn.

The double-circuit towers, of the general design shown in Fig. 8, are classified as "standard towers," "line anchor towers," and "corner and long-span towers." General specifications are given in Table II.

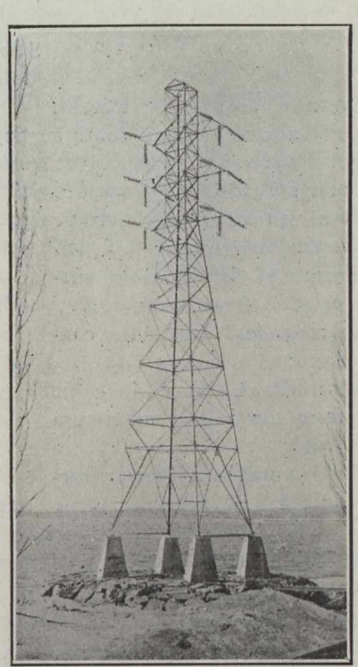

Fig. 10.—Special Tower, Toronto Entrance.

In addition to the standards mentioned on the following page, other special towers required were: Twenty-eight double-circuit towers designed to support the lower conductors 50 feet, 55 feet and 70 feet above ground, and employed for crossing high-tension transmission lines; forty double-circuit towers (Fig. 10) designed to give 70 feet conductor clearance above ground, employed within the corporate limits of Toronto; two double-circuit towers giving 150 feet navigable clearance over the Welland Canal, and thirty-six horn-gap towers 10 feet in height at station entrances.

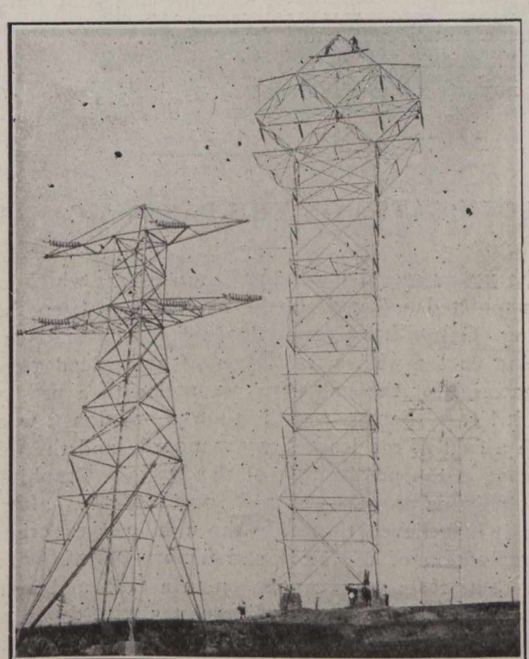

Fig. 11.—Special Tower at Welland Crossing.