

Fig. 3.—View Through One Side of Lower Deck, Rosedale Section, Looking East.

pletion of deck slabs, etc., and the bonus is paid or penalty collected at each interval. So far, this contract has been ahead of schedule.

There are two 158-ft. arches, two 240-ft. arches and one 281½-ft. arch in the Don section, measuring from pin to pin. The largest span—over the Don River—is approximately 300 ft. from centre to centre of piers. Approaches, steelwork and three of the five steel arches are in place. The two 158-ft. arches and one 240-ft. arch are in position, totalling 2,700 tons of the 5,700 tons in the whole section. About 60 per cent. of the

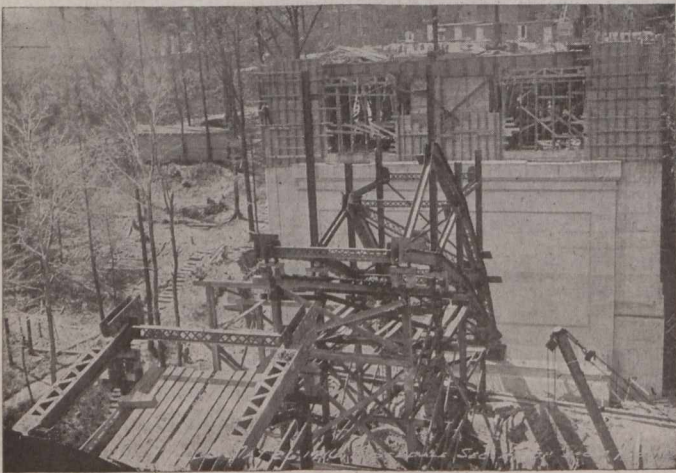


Fig. 4.—Rosedale Section, View of Arch Under Construction. Photo Taken from Pier H.

steel in position has been riveted complete, and the remainder will be riveted before any more is placed in position.

The entire length of the Don section is 2,219 ft.; Rosedale section, 1,484 ft.; Bloor section, 1,564 ft.; totalling 5,267 ft. for the entire viaduct. The height above normal water level, Don River, is 130 ft. The height above the Rosedale Ravine drive is 94 ft. The total width is 86 ft. Considering all proportions, this is said to be one of the largest viaducts in the British Empire. A sum

of \$2,500,000 was voted by the Toronto ratepayers in 1913 to cover the cost of the work, including expropriated land, paving, car tracks, and all other items.

The following figures for the Don section are the engineers' preliminary estimates, and while they have been somewhat altered by actual construction conditions, they are said to be approximately correct, and they give a good idea of the size of the undertaking:—

Total of excavation—Earth, 48,826 cu. yds.; rock, 870 cu. yds.; total, 49,696 cu. yds.

Concrete—1:2:4, 6,900 cu. yds.; 1:2½:5, 27,718 cu. yds.; 1:2¾:5½, 8,726 cu. yds.; total, 43,344 cu. yds.

Concrete reinforcing—Steel bars, 738,700 lbs.; expanded metal, 246,500 lbs.; total, 985,200 lbs.

Structural metals—Steel, 10,875,370 lbs.; cast steel, 362,000 lbs.; cast iron, 108,800 lbs.; lead, 14,780 lbs.; total, 11,360,950 lbs.

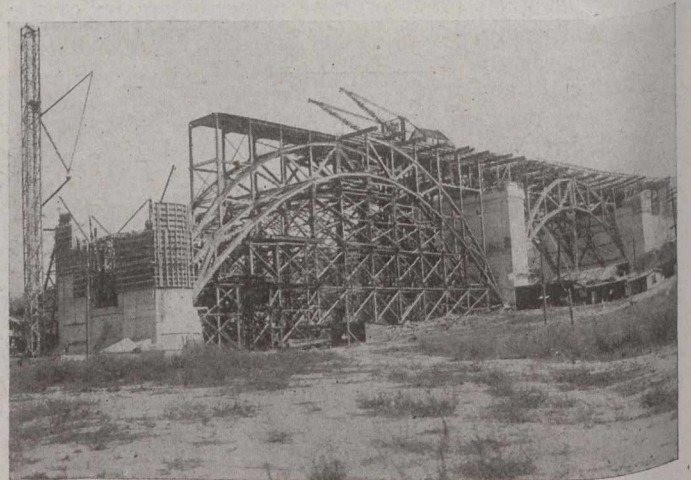


Fig. 5.—Don Section, Construction View of 240-ft. Arch on Falsework, Connecting Piers B and C. The 158-ft. Arch Connecting Piers A and B is Completed.

Granite—2,532 cu. ft.

Waterproofing—Track, 3,721 sq. yds.; roadway, 7,018 sq. yds.; total, 10,739 sq. yds.

Handrail—3,283 lineal feet.

Expansion joints—In floor, 20; in walls, 16; total, 36.

Grubbing—1.2 acres.

The cement for the Don section was supplied by the Canada Cement Co., Ltd., and Alfred Rogers, Ltd. Steel and Radiation, Ltd., furnished the expanded metal; and the Steel Co. of Canada, the steel bars for reinforcing. The greater part of the sand came from the W. T. Godson Co., Greenburn, Ont. Practically all crushed stone was supplied by Alfred Rogers, Ltd., from the Dundas quarries. The steel was fabricated at the plant of the Hamilton Bridge Works. The Dominion Steel Foundries, Hamilton, furnished the steel castings, a near view of which is given in Fig. 11.

The excavation for the piers was open, timber sheeting and Lackawanna steel sheet piling being used, and the material dug out with Hayward buckets. The concrete for the piers was placed by tower and chute, a 1:2¾:5½ mix for the foundations, and 1:2½:5 for the bodies. Fig. 5 shows pier C under construction. The steel work is being erected on falsework by two travellers on the Don section and by derrick on the Rosedale section. The travellers are 18 ft. 6 ins. centre to centre of truss, with a 10 x 12 hoisting engine. Each