

to speak of except at the Queenston end, where five per cent. is encountered in climbing the bluff crowned by the Brock column that memorizes stirring events of the War of 1812. Queenston once left behind, the road follows faithfully every winding of the Niagara river, whose original survey has been clearly adhered to with the object of permitting the visitor to see the rushing waters from every possible point of view. As a matter of fact, the road runs on government property a very considerable portion of its length, and a sum not less than \$10,000 per annum is paid for this privilege, which enables the track to be never more than 60 feet from the edge of the cliff. The first thing that strikes an observer is the British solidity and massiveness of the construction. It is regular steam railroad work, and a little more. The track is built with standard 56 lb. steel C.P.R. rail, with angle fish plates, on 8 by 6 inch cedar and tamarack ties spaced 2 to 2 feet 6 inches apart. The gauge is 4 feet 8½ inches. The track is ballasted with 18 inches of broken rock, obtained from quarries along the line, and carefully tamped down. Over this track the cars roll as smoothly as balls on a billiard table. The road is 60,040 feet long. Of this distance that part between stations 92 and 180 is equipped with tubular steel poles of 6, 5 and 4 inch sections. The remainder of the line is equipped with 7-inch top cedar poles. The maximum distance between poles is 100 feet. In many cases, on curves, and where the feeders are heavy, near the power house, this distance is reduced to 50 and 40 feet. All the steel poles are set in concrete and the wooden poles are set with a concrete footing and 12 inches of concrete around the base. The work of construction in a stern Canadian winter was not child's play. When it begun during the fierce storms of last January, the heavy snows crusted with frozen spray from the Falls, made it extremely difficult to do anything except study the "ice bridge." In many places, four or five feet of pure ice had to be hewn away before the solid rock could be got at.

The trolley wire throughout is No. 00 B. W. G. hard drawn copper, supported on iron brackets, provision being made for an additional bracket where the line is double tracked. I noticed one or two places where the turnout is on a slight descent and where the cars are allowed to make the detour by gravity, without provision for current supply. The plan works very prettily. All the overhead material is of the Thomas-Houston design, and Lieb clips are used except on curves, where the soldered ear has been found more satisfactory. The rails are bonded with No. 0 B. W. G. wire, and half-inch copper rivets, and cross-bonded every fourth rail. Grounds are made in the river by means of No. 00 copper wire attached to a piece of standard rail, and also many places along the track where facilities offered.

Meantime we have scaled the Queenston escarpment and have made our way out through Brock Park, well along the plateau overlooking the gorge against whose fretted strata of shale and limestone the Niagara River tears and plunges. A beautiful panorama unrolls before the flying car, and every moment a new vista opens through the oaks and firs. The road deserves to be called "the electric scenic route of America." Around Queenston, hitherto remote from the beaten tourist path, we obtain unfamiliar glimpses of forest and chasm, but after passing across the lofty trestle at Bowman's Ravine, territory is reached of which the robber hackman has heretofore allowed us to see something on payment of a heavy feudal toll.

The road traverses ground that is hackneyed in more senses than one, but with the advantage that it brings the visitor nearer than ever before to the scenery of the river, and that the journey is made free from dust and touts. The railroad company have purchased most of the attractions along its route, or arranged with the proprietors for a concession in rates to its passengers stopping over, all of which materially cheapens and simplifies the pleasures of Niagara for the multitude.

When we reach the town of Niagara Falls, the road passes

under the railway bridges and thence proceeds, on the very brink of the river, up to the Clifton House, where it enters Queen Victoria Park.

A little higher up at the Horseshoe Falls we come to the handsome stone water power house of the road, with its crenellated towers; and then make a delightful run at the edge of the Upper Rapids, through spray and sunshine, to Cedar and Dufferin Islands, and the Burning Spring Bridge. Here the electric road has a series of three fine iron bridges of its own. The upper portions of the road beyond the Burning Spring bluff overlook the rapids, Goat Island and the cloud of mist rising from the Horseshoe, and afford a distant view of the extensive operations at Port Day, on the American shore, where a few more hairs of the Niagara Gulliver are being pinned down. Just beyond this point are the company's car barns, and thence we glide into the quiet streets of Chippewa, with Buffalo but a few miles away across the smooth and placid water. In about an hour we have made the long portage between the lakes, and have seen all the beauties of that which Father Hennepin described as "a vast and prodigious Cadence of Water."

The electrical equipment of this superb road is entirely the work of the Canadian General Electric Company, of Toronto. The motors, generators, etc., were manufactured at their Peterboro, Ont., shops. The wire was drawn from English copper rods by the Dominion Wire Manufacturing Company, of Montreal, and insulated at Peterboro. The rubber-covered wire used in the power house and in wiring the cars is also the Canadian General Company's wire, known as "C. C." (Canadian Core). The rolling stock equipped consists of four 18-foot ordinary box cars with two W. P. 50 motors; ten open cars measuring 28 feet over all, equipped with two W. P. 50 motors; and ten observation cars measuring 35 feet, mounted on double trucks and equipped with two W. P. 50's. All these motor cars are furnished with controllers of the "E" and "K" type. Besides the motor cars, there are eighteen open and closed trail cars. The work on the motors has been extremely heavy. Thus, ever since the Queen's Birthday (May 24) when the road opened, the motor cars have been run in regular service with a trailer; and the observation cars weigh when loaded about 20 gross tons. A fair load for one of these observation cars is about 110 passengers, with which they would swing up the Queenston five per cent. grade without any sign of strain or effort. No fewer than 17,126 passengers have been carried in one day, and there have been many such tests this season, speaking volumes for the excellence of the apparatus and the shrewdness of the investment. But there has been absolutely no breakdown at all, and I never saw cars that went through their paces better. The neat car bodies are the manufacture of Paterson and Corbin, of St. Catharines. In addition to the cars above mentioned, there is a private car for royalty and editors; and a 20-foot baggage and fruit car will soon be running. The country around for miles is a veritable orchard, and the road will handle large quantities of peaches, grapes, etc., in the near future.

The road is in operation every week day for 15 hours and every Sunday for 12 hours. Cars will run over the whole of the road until the end of October, when the tourist and excursion season ends, and then the outlying sections will shut down.

A pretty feature of the road through the Victoria Park is the placing at the top of each steel pole, under a hood, of a group of five incandescent lights. The effect of these is particularly pleasing from the American side. The cars are also all lighted electrically and have electric head lights.

Along the line there are eight regular stopping places with raised platforms, but halt is also made on call. There are 20 turn-outs, and I think the heavy travel would be helped if there were more. The management is now looking up the subject of block signalling with a view to the quicker handling of its cars.