the conversion from steam to electric working having been decided upon, a new station has been designed. The yard will cover 51 acres, with twenty miles of tracks. Two power-houses, each of 40,000-horse power, are under construction. Curtis's steam-turbines are to be used for generating the current. The electric working will extend some thirty miles from the terminus, thus covering the suburban area. The cost of improvements and conversions is estimated at from £8,000,000 to £10,000,000 sterling.

Having completed the inspection of the station, we were conducted to the new subway, which has a mileage of twenty miles. The party were run over the whole system at a high rate of speed, frequently exceeding forty miles per hour. The Interborough Rapid Transit Company work the elevated railway (forty miles) as well as the subway (twenty miles). On heavy days about 1,300,000 passengers are carried on the two systems. The subway is admirably constructed. There are four lines—two for express traffic, and two for slow or local traffic. Each express train comprises five motor-cars and three trailing-cars; each local train comprises three motor-cars and two trailers. Express trains run at an average speed of twenty-five miles per hour. The speed of local trains averages about eighteen miles per hour. All cars are heated and lighted with electricity. The cars are 51 ft. long, and seat fifty-two passengers. End doors are used, sliding side-doors would, I think, have been preferable. The passengers, are, however, very smart in leaving and taking seats, and the stops at various stations are wonderfully short. To give an idea of the power required to operate the subway I quote the following figures: Ultimate generating-capacity at best efficiency, 75,000 k.w; number and power of boilers, 60, 600-horse power; number of reciprocating-engines, 9; capacity of engines, 8,000-horse power; capacity of generators, 5,000 k.w.; number of turbines, three; capacity of turbines, 3,750-horse power. This is an exceptionally fine plant, and is kept in perfect condition. We spent a considerable time looking over this installation, and the delegates generally were much impressed.

The party was then taken across the river by special ferry-boat to Long Island City, where the tunnel shafts and the power-house of the Pennsylvania Railroad, built for the tunnels, is now under construction. The cost of taking the line into New York City and building a new station is estimated at about £10,000,000. The Pennsylvania Company controls 10,500 miles of road, and it has been estimated that the system has under load, and most of it under movement, an average of 100,000 cars per day.

At the conclusion of this very interesting inspection, we again took the steamer to the power-house of the Metropolitan Street (surface) Railway. The system comprises a mileage of five hundred miles, serving a population of 2,500,000. The installation is known as a double-conductor system with metallic return circuit. Being under ground, the feeder-wires and electric conductors are protected from damage by wind and weather. The cost of maintenance is said to be less than the overhead-trolly system. The power-station contains eleven 3,500-k.w.-generating units. Steam is supplied by eighty water-tube boilers, each boiler representing 250 nominal horse-power. The coal supply is taken by steam-shovel and automatic conveyers to the coal-bunkers, which have a capacity of 9,000 tons. From the bunkers the coal descends by gravity to the automatic shovels with which the boilers are equipped. The consumption is about 2·8 lb. of coal per kilowatt, and for the maximum output would be about 718 tons per day. There is another large generating plant in connection with the system, equal to eight generating units of 3,500 k.w. each. We did not inspect this plant.

Having concluded a very interesting visit to the power-house, we returned to the steamer, and were taken for a trip on the river to see the wharves and coal-shipping appliances. A landing was made to inspect the Pennsylvania Railroad terminal at Jersey City, after which we crossed the river and finished a busy day, which commenced at 9 a.m. and terminated at 6 p.m.

On the 2nd May, in company with the other delegates, I left New York for Washington, *via* Philadelphia by the Royal Blue line (Baltimore and Ohio Railway, Philadelphia and Reading, and the Central Railroad of New Jersey). It is a four-track road for many miles, well laid, and the running at the high rate of speed we travelled was excellent. The rails are 100 lb. to the yard. Automatic signals were in use, placed about a mile or a mile and a half apart. The wayside stations are beautifully kept, spare pieces of land being used for flower-beds, shrubs, or grass, the latter being kept closely cut.

The special train which conveyed the delegates to Washington was considered one of the finest and most luxurious which had been seen on any railway. It was drawn by a modern locomotive of great power, and, during part of the run, attained a speed of seventy-five miles per hour. I did not observe any raised platforms at the stations *en route*, and the fine station at Philadelphia, which deals with eight hundred trains daily, was no exception. The train arrived at Philadelphia punctually at 11.15 a.m.

The delegates then proceeded to the Baldwin Locomotive Works. An hour and a half was spent in going over the various shops. The time was quite inadequate, it being impossible to see the shops properly in a day. Having paid a subsequent visit to Philadelphia, I shall later on again refer to the Baldwin Works.

Leaving Philadelphia about 3.45 p.m., we arrived at Washington on time, 6.30 p.m. The travelling was excellent. I noticed several of the cars were fitted with a glass case containing an axe, saw, and a heavy hammer. The case was attached to the ceiling or roof of the car, and was intended for use in case of accidents. The tools would enable passengers blocked in to cut their way out.

Having specially reported on the Congress proceedings, I shall pass on to a brief reference to the American Railway Appliance Exhibition, held at Washington during the sitting of the Congress. It formed a great attraction to the delegates, many of whom spent all their spare time inspecting the numerous exhibits. I was informed that the exhibition was superior to the exhibits shown at St. Louis. There were not so many locomotives, cars, and wagons to be seen, but the list of exhibits was said to be the most comprehensive ever seen in the United States. Electricity was well represented by the two