great American companies—namely, the Westinghouse Company and the General Electric Company. Machinery of all kinds was on view—points and crossings, signals, pneumatic tools, &c. I spent a considerable time at the exhibition, and made notes of some machinery which would be valuable in our workshops. A special feature of the exhibition was the Baldwin Company's locomotive exhibit. It was a large four-cylinder balanced compound engine, very well finished, and a most powerful machine. I was fortunate in meeting the designer of this engine, Mr. Vaulclain, and I had an hour's discussion with him on locomotive practice.

Saturday, the 13th May, was the closing day of the Congress. The last act was to appoint a meeting-place for the next Congress. It was decided to hold it in Switzerland in the year 1910.

During my stay at Washington a visit of great interest was made to the New Union Station at Washington. The estimated cost of this station—£3,600,000—is being defrayed jointly by the Pennsylvania and the Baltimore and Ohio Railway Companies and the Government. When finished the station will be the finest in the United States.

At the close of the Congress the delegates had an invitation from the Associated Railroads to tour through America. Two tours were arranged, one called "the short tour," extending over a period of ten days, and a long tour, lasting fourteen days. Having ascertained that the short tour would be the best business tour, I selected it. One train was set apart for the short-tour party, which numbered sixty, and three trains were told off for the long-tour party, which numbered two hundred. The trains were very fine, the best carriages in the States being placed at our disposal. American railway men considered the trains the finest which had ever been run. The sleeping-accommodation, dining-cars, and all the appointments were excellent. Special locomotives were detailed to haul the trains, and all other trains had to give way to the delegates' trains. The Associated Railroads spared no expense, and took an infinite amount of trouble to make the tour as pleasant and as profitable as possible to the delegates, in which respect there was only one opinion, that being that American railroad companies had been consistently successful. Among delegates there was a general consensus of opinion that the general equipment of these trains was the finest in the world.

The short tour commenced on the 14th May. The delegates left Washington late on that day, slept on the train the same night, and arrived at Altoona the following morning.

After breakfast a start was made to inspect the Altoona workshops and yards belonging to the Pennsylvania Railroad Company. The annual capacity of the shops is 300 new and 1,000 repaired locomotives, 300 new passenger-cars, and 3,600 new freight-cars. The total number of employees in Altoona shops, offices, and yards is 13,032; floor area in acres, 48·03; yard-area in acres, 242·39. The time at our disposal was quite inadequate for a proper inspection. I was fortunate in having as my guide, for a considerable time, Mr. Gibbes, the Chief Superintendent of Motive Power. He was most courteous and gave me much information. The shop-methods I found much the same as is the practice in New Zealand. Electric driving of machinery is much in evidence. A large number of pneumatic tools and hoists were in use and there was ample room for machines, no crowding. Electric cranes for engine-lifting and other purposes were to be seen in every shop where lifting was necessary. In the car and wagon shops a large number of pressed-steel hopper trucks were under construction. The work being turned out in all the shops was good. The company owns 4,668 locomotives, and are adding 500 to their stock.

The locomotive-repairs shops, also at Altoona, are quite distinct from the construction-shops. I saw nothing very special there, except the electric cranes and other lifting appliances, which were excellent. The machinery is not driven by electric motors. These shops are old and there is insufficient room to carry on the business satisfactorily. Saw a large round house or engine-shed. It was being used for repairing engines, not for sheltering them. The engines generally were not so well maintained as in Great Britain or New Zealand, and the cleaning is very indifferent. There are two extensive receiving-yards, one for the west-bound and one for the east-bound traffic, each for loaded trucks. There is also an empty receiving-yard and three classification or sorting yards. Each of the latter is provided with a hump or raised bank; the wagons to be sorted or weighed are pushed up the hump or bank and after weighing are run by gravitation into the various sidings as required. The work was very expeditiously carried out, but a large number of brakesmen were required, as each truck had a brakesman on top to work the brake.

To give some idea of the magnitude of the business done in the great Altoona yards I quote a few statistics: Freight-trains east-bound into Altoona from Pittsburg division during twenty-four hours, 99, or one train every 14½ minutes; freight-trains west-bound from Altoona division in twenty-four hours, 67, equal to one train every 21½ minutes. The average weight of east-bound freight-trains, 2,786 tons, and for west-bound, 1,650 tons. The freight hauled in 1904 was 272,371,096 tons. To deal with this vast business 199,213 cars of various kinds were used. The company has an excellent cab service; as an example I quote Washington, where eighteen four-wheelers, six victorias, and two omnibuses are in use. The total number of employees of all classes in 1904 was 152,135.

After an exceptionally interesting day we left for Pittsburg at 5 p.m., arriving at our destination at 8.45 p.m., the 117 miles having been run without a stop.

Pittsburg is the centre of great industrial enterprises. A sixth of the world's steel production is manufactured there. In 1903 some £8,000,000 worth of electrical and auxiliary manufactures were produced. It is also the home of the air-brake, which is now largely used in all parts of the world, and many other industries too numerous to mention.

To give an idea of the magnitude of the railway business I quote a few figures: In 1902, 76,950,000 tons were transported by rail; the coal production was 36,137,346 tons; steel rails, 712,300 tons, which is not far short the total production of Great Britain; petroleum, 30,000,000 barrels. A network of railway lines surround the city, feeding the various industries with fuel and raw material, taking back the finished product.