

Mr. Aspinall. engines did not run any great distance at one time. With an express engine running long distances, he doubted whether cast-iron valves would give the same results.

Correspondence.

Mr. Park. Mr. J. C. PARK remarked that slide-valve friction had been under consideration for many years on the North London Railway, and that experimental trials, with valves more or less balanced, had been made from 1856 up to the present time, but without success. On the North London Railway, where more than 7,000 stoppages were made daily, the engine-drivers much preferred cast-iron valves, as they were able, without effort, to work the reversing lever quite easily with steam at 160 lbs. per square inch full on; whereas with brass valves they were compelled to partially close the regulator. The wear was as 1 to 3 in favour of iron valves. For the last six years cast-iron valves had been used on the North London line, and he hoped in a short time all the engines would be fitted with them. The valves were made of 1 part of No. 1 Carron and No. 3 Cleator hematite iron, and 2 parts of clean scrap. The average mileage of these valves, if properly lubricated, was 82,491, with a wear of barely $\frac{1}{16}$ inch, whereas brass valves were completely worn out under the same mileage. He would, later on, present fuller details to the Institution on this subject.
