

4-6-2 PASSENGER LOCOMOTIVE, No. 4501, BELGIAN STATE RYS.

Greenford and Hanwell, stopping at Ealing. The timings of the trains are arranged so as not to clash with the L. & N.W. Ry. service. The first up train, by the way, was a special conveying officials and guests of the G.W. Ry., hauled by No. 2910, "Lady of Shalott," and despite unforeseen checks the run was accomplished within $\frac{1}{2}$ min. of the schedule time of 2 hours.

PACIFIC EXPRESS LOCOMOTIVE, BELGIAN STATE RYS.

THE locomotive shown in the accompanying illustration is one of three built to the designs of M. J. B. Flamme, the talented chief of the mechanical department of the above-mentioned system, all of which are exhibited in the railway section of the Brussels Exposition.

These remarkable machines are a development of the locomotives of Type 9, which were illustrated and described in our issue of June 15th, 1906, page 94, which have given excellent results in practice. There was, however, a need for more powerful engines to work the express service on the line from Brussels (north) to Verviers and Herbesthal, and M. Flamme accordingly designed this Pacific type with four high pressure cylinders and a Schmidt superheater. The leading particulars are as follows: the four

cylinders are each 19 $\frac{5}{8}$ -in. in diameter, with a stroke of 26-in., with piston valves actuated by Walschaerts motion, there being only one set of valve motion on each side acting direct on the valves of the outside cylinders, which have tail rods extending to the front and connected by means of rocking arms to the inside cylinder valve rods. The reversing gear is of the Flamme-Rongy type, steam actuated. The coupled driving wheels are of 6-ft. 6-in. diameter. The boiler is of almost similar dimensions to that of the "Decapod," illustrated on page 122 of our last issue. It has a maximum interior diameter of 5-ft. 11 $\frac{7}{8}$ -in., and is pressed to work at 199 lb. per sq. in., there being four safety valves of the Wilson type arranged in pairs. The boiler contains 230 tubes 16-ft. 5-in. long by 2-in. diameter, in addition to 31 superheater tubes of 5-in. diameter. The heating surface is: firebox 201.30 sq. ft., tubes 2,368.12 sq. ft., total 2,569.42 sq. ft., with a grate area of 53.82 sq. ft. The superheater surface is 692.14 sq. ft. The weight of the engine alone is, light, about 90 $\frac{1}{2}$ tons, and in working order about 100 $\frac{1}{2}$ tons, of which 56 $\frac{1}{2}$ tons rest on the coupled wheels. The tender has a capacity for 5,280 gallons of water and 7 tons of coal. The tractive power exerted by these huge machines is 33,550 lb., and they develop about 2,000 h.p. as a maximum.

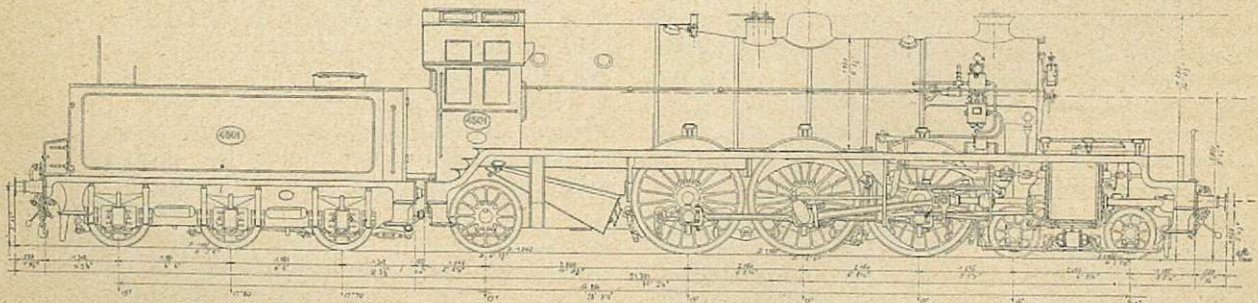


DIAGRAM OF 4-6-2 PASSENGER LOCOMOTIVE, No. 4501, BELGIAN STATE RYS