"Flying Scotsman" at Work Again

Famous Wembley Exhibit Returns to Duty

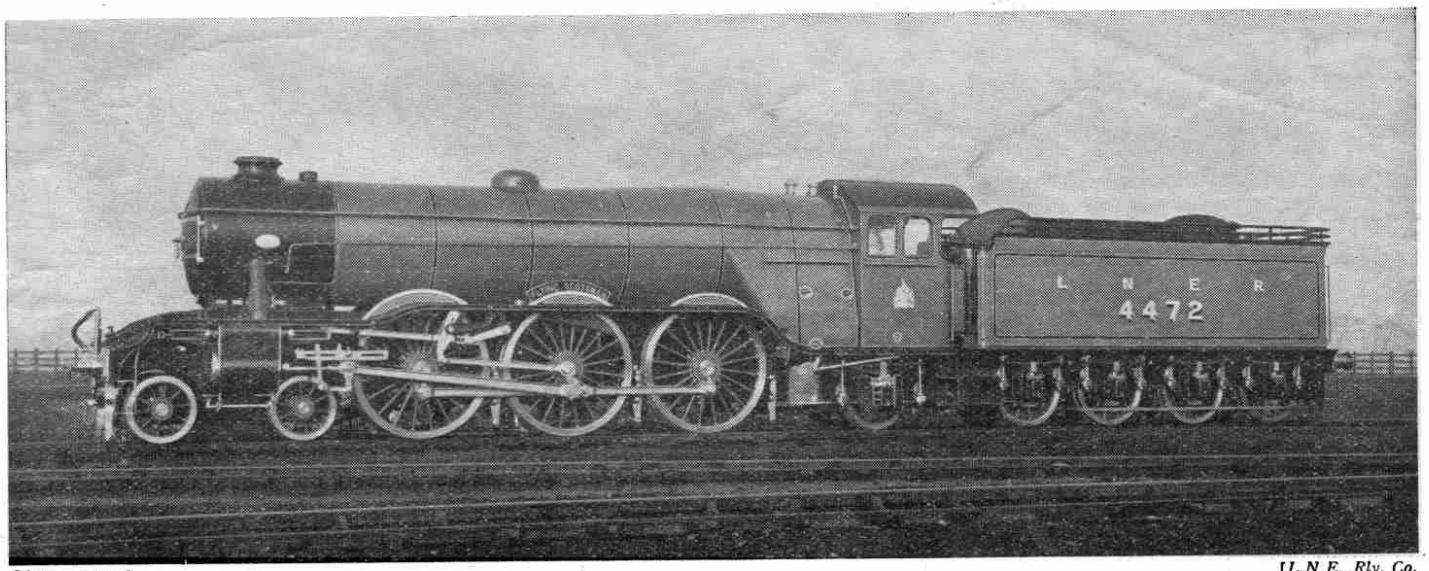

Photo courtesy [*L.N.E. Rly. Co.*

After a long rest at Wembley, this fine L.N.E.R. Three-Cylinder Express Passenger locomotive, the "Flying Scotsman," is back at work again, hauling its heavy loads every day between London and Edinburgh

LAST month we described the rolling-stock of the new "*Flying Scotsman*," claimed to be the most comfortable and luxurious train in the world for passengers paying ordinary fares. Our description of this train would not be complete unless we included some mention of the splendid locomotives that haul it to and from Scotland every day. We illustrate on this page one of the finest, and incidentally the largest, locos in Great Britain. This loco, No. 4472, bears the same name as the train it pulls, and it must be familiar to a large number of our readers. Indeed, many who read these pages have climbed up into the cab of the loco., as it stood silent and dignified in the Palace of Engineering at Wembley. Now it is busy again with its daily task of carrying hundreds of passengers between London and Edinburgh.

Driving Wheels 6 ft. 8 in. diameter

No. 4472 is indeed a handsome piece of mechanism, and no doubt the impression of great power that the design conveys is further increased by the fact that the crown of the fire-box slopes upwards from the cab, while the first part of the boiler drops slightly from the fire-box towards the smoke-box. This brings the smoke-stack in line with the top of the cab, 13 ft. 4 in. from rail level, resulting in a very graceful outline.

As most of our readers know, the "*Flying Scotsman*" belongs to the now famous fleet of the "Pacific" type locomotives (4–6–2), owned by the London & North Eastern Railway Company. Its number denotes that it belongs to the section that was known before the amalgamation as the Great Northern Railway. We may mention in passing that the locomotives of the respective constituent groups of the L.N.E.R. are indicated by their numbers—N.E.R.–1–3,000; G.N.R.–3,001–5,000; G.C.R. and G.N.S.R.–5,001–7,000; G.E.R.–7,001–9,000; N.B.R.–9,001–11,000. The "*Flying Scotsman*" is fitted with a super-heater having a heating surface of 525 sq. ft. which brings the total heating surface, including the 168 boiler-tubes, firebox, etc., to 3,455 sq. ft.

In working-order the engine with tender weighs 148 tons 15 cwt. The steam working-pressure is 180 lbs. per sq. in., and there are three cylinders, each 20 by 26 in. and each driving the centre pair of coupled wheels.

The diameter of the wheels of the leading bogie is 38 in., of the coupled drivers 80 in., and of the trailing wheels 44 in. The 8-wheeled tender carries 8 tons of coal and 5,000 gallons of water.

The locomotive was built to the designs of Mr. H. N. Gresley, Chief Mechanical Engineer to the Company, and has proved very successful; indeed, large numbers of the same type are now in course of erection.

"Atlantic" Locos Outclassed

Although the London & North Eastern Railway did not employ "Pacific" locomotives earlier than 1922, the type has been recognised since 1908. In that year the Great Western Railway introduced the first "Pacific" locomotive in this country in the form of the "Great Bear," which locomotive was described and illustrated in our issue of January 1923.

The term "Pacific" was coined for the 4–6–2 class from the fact that the type was first exploited in that part of the British Empire set in the Pacific Ocean, principally in New Zealand and West Australia, and was singularly appropriate in that it followed the earlier "Atlantic" class, or 4–4–2, originating on the Philadelphia-Atlantic City line in America.

The evolution of the "Pacific" has been very rapid indeed since those days. From the point of view of speed and strength it has proved very satisfactory, and the locos. of this type have entirely outclassed the "Atlantics" in the race to keep pace with the requirements of modern railway traffic. With but few exceptions, the "Pacifics" are now recognised as the standard type for express passenger locomotives the world over.

American "Pacifics"

In the United States and Canada, "Pacifics" are used to haul some of the heaviest express trains over considerable distances, including many exceptionally steep gradients. The "Pacifics" recently built for the Philadelphia and Reading Railroad work fast passenger trains, which often exceed 600 tons in weight, at an average speed of 60 miles per hour over the shorter routes. These locos have boilers of the Belpaire wide fire-box type, equipped with 436 tubes and superheater. The cylinders measure 27 in. by 28 in. and are supplied with steam at a pressure of 205 lbs. per sq. in. The locomotive with tender weighs 467,890 lbs. in working order and exerts a tractive effort of 44,460 lbs.

It is difficult to say whether future railway conditions in this country will necessitate the construction of even more powerful locomotives—and consequently with greater wheelbases—but at present the 4–6–2 arrangement seems to meet the most exacting requirements of passenger traffic.