

THE 'ELIZABETHAN'

BY

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Judging from some recent articles in Part II of the *Journal*, the Editor must assume that many of its readers have not entirely forgotten their first approach to, and love of, technical matters—playing with trains on the nursery floor! In my case, this assumption is entirely correct. I read of Commander Hodges' experiences with the S.N.C.F. (Vol. II, No. 2—A Trip in 'Le Mistral') with great interest; especially as I had been lucky enough, a few weeks earlier, to have a very similar experience on British Railways. If only as an indication of the achievements of one Region of British Railways, as compared to the S.N.C.F., the following brief details may be of interest.

The occasion was not specially planned or organized. Returning by rail from a duty trip to Edinburgh, I started off as an ordinary passenger in 'The Elizabethan'; a non-stop express from Waverley to Kings Cross. During the summer months, this named express departs each week-day at 0945, arrives 1620, and is therefore scheduled to cover 397 miles in 395 minutes. It holds the world's blue ribbon for the longest run without intermediate stop. A good runner-up is the 'Sud Express' of the S.N.C.F. which, headed by an electric locomotive, is booked to cover the 360 miles from Paris to Bordeaux, with somewhat curious precision, in 4 hours 59 minutes.

Approaching York, I noted a rather weary-looking engineer and his mate passing down the corridor and enquiries confirmed they were the driver and fireman who had been in control for the first three and a quarter hours. Another 'watch', who had started the journey as passengers, had just taken over; access to the engine cab being via a small corridor incorporated in the engine tender. After a brief chat with the 'watch last off', permission was granted (contrary to regulations!) for me to accompany the fireman when he took a jug of tea along to the 'watch-on', later in the afternoon. The question of a suitable rig nearly caused a last minute cancellation but my lounge suit coat was exchanged, temporarily, for the driver's overall jacket, bottoms of trousers were tucked into socks and a towel, borrowed from a restaurant car attendant, wrapped round head and neck, completed the ensemble. I arrived in the engine cab about Grantham and stayed, for 35 to 45 minutes until the train had passed through Peterborough. This included one of the really fast sections of track.

The engine, named 'Golden Plover', was one of the Pacific Class (A4) Locomotives (4-6-2) and built in 1937. Although these locomotives get regular routine maintenance with a major, every 12 to 15 months, at 100,000 miles and, possibly, a reconditioned boiler or similar major renewal at 200,000 miles, their age and present performance speak well for pre-war design and manufacture. Weight of engine and tender, in working order, is 168 tons which includes 9 tons of coal and 5,000 gallons of water in the tender. An average train is made up of 10 to 12 coaches which is an additional 360 tons or more, unladen. Details of the machinery fitted can best be studied when the engine (and observer!) is stationary but power is produced by steam at 250 lb/sq in. working pressure (superheated to a small but unknown extent) expanding in three cylinders, in parallel, each of 18½-inch bore. An average expenditure, per journey, is 7 tons of coal and 12 to 15,000 gallons of water. Initial stocks of the latter are replenished, as necessary, en route by 'scooping' (2,000

gallons a time) from water troughs fitted between the rails at five suitably placed points.

With the relative absence of instrumentation, minimum of controls, a noise level that makes conversation difficult and the realization that this is discouraged (most correctly, if the job in hand is to be completed safely and well), the uninitiated 'passenger' has two alternatives. He can just stand, hold-on, try not to register any fear he may be experiencing and borrow, gratefully, the fireman's chair from time to time. Alternatively, after becoming somewhat acclimatized to his novel surroundings, he can try and study the actions and reactions of the engine crew in relation to the ever changing scene and requirements. Few ordinary passengers, even if they give considered thought to the matter, which is unlikely, can appreciate how much they depend for their safety on, literally, a good pair of eyes, an active brain and the fingers of one hand. The official permitted maximum speed, on my trip, was 90 m.p.h. To maintain an average of over 60 m.p.h. for 6½ hours with many gradients of 1 in 200, special fixed speed restrictions on sections of the permanent way (some as low as 20 m.p.h.), not to mention temporary restrictions due to repairs to track, maximum permitted speed, possibly more, must be a fairly frequent occurrence if the train is to arrive on schedule. It is of interest to note that a sister-locomotive, named 'Mallard', over twenty years ago, set up a world record, for steam trains, of 126 m.p.h. over a five-mile section. This world record still stands. No speedometer was fitted in 'Golden Plover' and there is no obvious requirement. A good, experienced driver knows every inch of his section (a newcomer to a section may spend ten weeks or more learning it as a 'passenger' driver) and can judge speed certainly as well as, if not better than, that recorded by instruments which have been fitted and tried. Although some of the Class are fitted with Automatic Train Control, and this is of limited value to date, as only a relatively short distance of track has been adjusted to suit, the 'Golden Plover' was not fitted with A.T.C. To bring the train to rest, from high speed, takes almost a mile which, even if distant signals are well sited (or sighted !) does not leave much margin for second thoughts. My particular journey was made during one of the few days of English summer. It was not difficult to appreciate that heavy driving rain, cross winds, or darkness makes an additional problem when visibility and reasonable comfort are considered. Both drivers inferred that this schedule was a 'soft number' compared to some when, after four or more hours in poor conditions, eyes are literally popping out of their sockets and drivers are mentally, if not physically whacked. Certainly both had earned, by service alone, a short spell of comparative ease. One, aged 62, had over 40 years' service with railways and was looking forward to driving one of the new Diesel-electric locomotives before retiring to pension at 65.

The fireman, a most apt name, does have brief variations to his routine in the shape of operating the water scoop, tending boiler water level (manual control), etc., but largely, his duty is to shovel coal and still more coal. To shift, even for a short distance on a rigid platform, over a ton an hour for three hours, is not everybody's idea of enjoyment. Add a most unstable jolting platform, a furnace that requires a fair throw and even firing and a rapidly emptying tender which needs regular trimming and it is hard to understand how anyone would volunteer for the job ! Momentarily, I compared the fireman's efforts with those of some ratings when placed in charge of old coal-fired portable boilers. Would an E.O. ever have to worry about the temperature of an admiral's bath water, sodden 'duff' in the galley, or renewal of a fusible plug ? Admittedly, the firemen had 10 to 15 years' practical experience of the job behind them.

The train came to a stand, for a few seconds and for the first time since leaving Edinburgh, about a mile short of King's Cross. The signal department were not ready for us but could hardly be blamed. On stepping out onto the platform, a few minutes later, I noted, from the station clock, we were 30 seconds ahead of schedule.

It is only fair to compare 'crack' express trains of one country with similar trains in another country and, even then, there are many differing circumstances that cannot be resolved into common factors. 'Le Mistral', for example, has in its favour what is probably the best aligned main line of its length in the world. It permits speeds of 80 m.p.h. or more, continuously for 150 miles.

Hodges and the S.N.C.F. clearly win in one respect—cleanliness of accommodation for passengers, but give British Railways a little time. English Electric, and others, according to advertisements, are bringing us better living, and the days of the direct descendants of 'Locomotion No. 1' are numbered. One Firm, at least, is now recording for posterity, on long playing gramophone records, the noises peculiar to steam trains. It is some comfort to know that our great-grandchildren will still have a guide as to the most suitable noise to make, when an 'atomic' Hornby clockwork rounds a sharp curve at speed, and enters a tunnel under the nursery bookcase !
