

such a high standard as the fuel we had been able to obtain during previous years, and, in consequence, the consumption of coal per engine-mile increased from 56·7 lb. last year to 59·7 lb. this year, while the cost of the fuel increased from 10·77d. to 11·18d. per engine-mile. The total number of tons consumed increased by 36,545 tons, or 8·92 per cent., while the engine-mileage increased by only 3·41 per cent. The fuel position was one which was entirely out of our control, and indeed at one stage during the year we were very fortunate to be able to keep our services intact. Our coal-supplies fell to a very low ebb, and it was only by prompt action in supplementing New Zealand supplies by purchases from Australia that we were able to meet requirements. Provided the disturbing factors which operated during the past year do not recur during the coming year, we may confidently look for a reduction in our fuel bill for 1930–31, though, of course, the position will not entirely right itself until the stocks of the inferior types are exhausted.

As regards cleaning, the decrease under this heading was due to the reduced amount of cleaning that has been done. In time of such acute financial difficulty as we are facing at present it is regrettably necessary to curtail expenditure on such matters as cleaning. We are, however, exploring possibilities of raising the standard of cleaning of our engines while keeping expenditure down to the lowest possible figure. We have fitted a special plant at Dunedin and the experience gained with it indicates that it opens up considerable possibilities in the direction I have indicated, and we now have under consideration the question of providing further plants of the same kind at other depots as we can obtain the necessary finance.

The following statistical figures in connection with locomotive transportation costs may be of interest :—

Averages.				1930.	1929.	1928.
Cost per engine-mile	..	..	..	23·98d.	23·49d.	24·52d.
Cost per train-mile	..	..	..	32·79d.	34·20d.	35·42d.
Cost per engine-hour	..	..	..	237·31d.	232·44d.	240·18d.
Cost per 1,000 gross ton-miles	..	..	..	163·97d.	163·35d.	173·08d.
Engine-miles per engine-hour	..	..	..	9·90	9·90	9·80
Engine-miles per locomotive day (eight hours)	..	..	..	79·20	79·20	78·40
Gross ton-miles per engine-hour	..	..	..	1,447	1,423	1,388

Fuel.	Consumption.		Cost.	
	1930.	1929.	1930.	1929.
	lb.	lb.	d.	d.
Per engine-mile	59·7	56·7	11·18	10·77
Per engine-hour	590·9	561·2	110·66	106·61
Per thousand gross ton-miles	408·3	394·4	76·47	74·92

Examination and Lubrication of Coaching and Wagon Stock.

Expenditure under this heading increased by £9,298, the figures being—1929, £34,710 ; 1930, £44,008.

Early in the year I found that the number of hot boxes which were occurring in the rolling-stock was developing to much too high a figure, and, as a result of my going into the matter with the Chief Mechanical Engineer, it was found that special steps were urgently necessary in order to bring the lubrication of stock up to a more efficient standard. To enable this to be done a special staff had to be taken out of the workshops and put on to the work for a time. Investigations were also made into our methods of lubrication, and various experiments were tried by way of remedial measures. Out of our investigations there emerged the fact that the quality of the packing that was being used by us was not such as to satisfactorily meet requirements, while the question of the type of oil that was in use also presented itself. The prompt action which we took in the matter had very beneficial results, and the position as regards hot boxes commenced steadily to improve, and is now on a much more satisfactory footing. The oil question is still under consideration, and we expect to be able to reach a final decision as to the best quality of oil for our use when the tenders for supplies, which close very shortly, are being settled.

The attached graph shows the position regarding hot boxes. It will be seen that it amply bears out what I have stated above—namely, that the position at the beginning of the year demanded very definite action, and that the steps which we took brought about a very much improved position.